

Deputy Hildegard Naughton TD
*Chairman, Joint Committee for Communications,
Climate Action & Environment*

**Carrigaline,
Cork,
10th July 2018**

Re: Correspondence concerning evidence given to committees of the Houses of the Oireachtas by the Department of Communications, Climate Action and Environment and An Post about the National Postcode System (Eircode) and its usage by An Post

Letter 3 WRT Eircode's Use for Purposes Other than Postal Services

Chairman,

In his response to your Committee of 15th Sept 2017, Mr. King suggested that Eircode was just as much designed for other purposes as it was for An Post and Postal Services. In my own response to the Committee dated 20th February 2018 I conclusively demonstrated that by reference to the Postal Act, the Eircode design Document and the Eircode contract (as well as other sources) this was not the case.

In your Clerk's letter of 11th June 2018, you concede that Eircode was "**PRIMARILY**" for An Post but you suggest that it was also for any other use which the Minister considered appropriate. As far as I am aware, nothing has been presented to your Committee since May 2017 showing evidence of the Minister for Communications considering and passing as appropriate any such other use for Eircode requested of him since it was launched in April 2014. If such exists, which is doubtful, then it should be presented to you.

It is also suggested that an unseen Gov decision in Oct 2013 supports use of Eircode for those purposes. However, Eircode was never designed for those other purposes. We know from references attached to my letter dated 20th Feb 2018 Eircode was designed for primary use as a POSTcode for An POST and other named codes, one of which was already proven useful for non-postal applications (Loc8 Code), were dismissed from consideration prior to the Postcode tender by consultants contracted to advise DCCAIE on the matter in a published document dated Oct 2010. See Reference L3_1 attached. These were dismissed because Consultants insisted that the desired code must satisfy An Post mail sorting requirements to the exclusion of others.

If the National Postcode was to be suitable for other purposes, why then were other coding systems not allowed to be in the competition and fully considered? In Oct 2010, Loc8 Code was already the 1st location code globally to have been adopted by a mainstream GPS/navigation company and the world leader in SatNav manufacture at the time;- Garmin.

Loc8 Code was also supported by Enterprise Ireland after significant due diligence and technology evaluation for its suitability for such other uses. Loc8 Code was later offered for free to the State in May 2013, long before the long-delayed Eircode procurement process was over, but it still was never considered – see Reference L3_2 attached.

Why was it that in the Irish Times on 4th Jan 2011, several days before the postcode procurement started, one code, identifiable as Loc8 Code, was singled out and prejudged as unsuccessful before the process ever began. This Irish Times article is referenced in Letter 2 but also added here again as Reference L3_3.

So other codes which could have been suitable for the other non-postal applications were excluded for consideration because the intended code had to suit An Post's requirements only, and yet, we now have it confirmed from your investigations to my complaint and Letter 1 (attached), that the chosen code is not actually used by An Post for those purposes.

We also know from the Postcode Design document, referenced in my letter of 20th Feb last, that Eircode was designed to a specification identified by An Post to suit their needs, with acknowledgement that such a design would hamper use for third parties and other purposes. See Reference L3_4 attached. This extract contains an admission that to be useful for other purposes, the services of Value Added Reseller (VAR) IT providers would have to be engaged to modify the code.

Several Months after Eircode was rolled out, a company which was part of the Capita Eircode design and delivery contract commenced promoting an alternative code to the logistics industry which aimed to resolve issues with Eircode which had also been previously identified by that industry. The **alternative code** had structure, sequencing and hierarchy; - all of which were features ruled as undesirable by An Post and publicly claimed as impractical by DCCAE and its contractors. See Ref L3_5 attached. This new code was contained in an app which also promoted another 3rd party location code from a UK Company which was a competitor in Ireland to those coding systems previously ruled out for consideration in the postcode tender. DCCAE both then and now continues to promote the app which contains 2 alternative codes on its website, to be used for non-postal applications. The app and its 2 inherent alternative codes is actively supported by DCCAE though no competitive process for these codes was ever undertaken – see Reference L3_6 attached. This being the case, it is both disingenuous and misleading of DCCAE to suggest that Eircode satisfies applications other than postal services.

The **Freight Transport Association of Ireland** had appeared in front of your predecessor Committee in Nov 2014 to explain that Eircode was unsuitable for its members' applications. See Reference L3_7 attached. As a counter to this, the owner of **Nightline Couriers**, Mr. John Tuohy, appeared in front of your predecessor Committee on 10th December 2014 to state that his company would be implementing Eircode. Whilst Nightline drivers may indeed make use of Eircode if provided by a customer, Nightline appears not to have ever fully implemented Eircode into its logistics sorting, route management or delivery systems and it is notable that Mr. King does not claim them as a user in any of his replies.

In his replies, Mr King does claim the ambulance service as an Eircode user. This is indeed correct; however, if Eircode was designed to be used for non-postal applications as claimed, then the **Ambulance Service** would not have had to adopt Loc8 Code in January of this year to satisfy that purpose. See Reference L3_8 attached. It will also be noted that the contract for Eircode contains no reference to emergency use, so Capita are under no obligation to ensure that its Eircode systems are available 24x7 to ensure availability if required in an emergency. It is also established that the Emergency Services were not consulted in the design of Eircode and the code itself was never tested to ascertain suitability for emergency response before roll-out. I have had the responsible officer in a University campus contact me to seek a solution to the fact that less than 50% of the buildings on his campus have an Eircode. The ones that do not have an Eircode are ones that an An Post postman does not call to and therefore, do not have the postal service code. From a Health and Safety prospective this is a concern to the property officer who has been unable to resolve the problem with Eircode. 10's of 1000's of buildings, structures, locations where people work, recreate or congregate across the State have no Eircode because a Postman does not call to them. Therefore, Eircode does not satisfy wider Health and Safety and Public Safety needs of our society.

Mr. King also makes reference to **Google** supporting Eircode. However, to fully support Eircode, Google would have to adopt official Eircode Postal addresses alongside the codes and it has not done that; - it uses its own variant property addresses instead which differ, often markedly, from the official addresses. This causes confusion for users, especially for those not familiar with an area. Google would also have to update its Eircode database every quarter to match the Eircode database updates for new properties. Google has not updated its Eircode database since March of 2017 meaning that 10's of thousands of new properties given an Eircode by An Post in that time are not supported by Google Maps. Google has not indicated when or if it will update, but in recent months it has relaunched its own "**Plus Codes**" location coding system, which is a competitor to Eircode for all non Eircode properties and all non-postal applications.

TomTom is also referenced as an Eircode user. However, TomTom does not currently make Eircode available to consumers in its SatNav products. TomTom's competitor, Garmin, continues to support Loc8 Code as a free standard feature on its consumer SatNavs and has committed to maintaining this well into the foreseeable future.

For some time now, it has become a requirement for those seeking first-time **Broadband** connections to have an Eircode. However, new homes/buildings may not be allocated an Eircode or have it included on the relevant provider's address database for 6-9 months after the property is first occupied and after An Post has confirmed a continued occupation. This means that home and business owners are left without related services because the facility to quickly allocate an Eircode was not agreed to in the design. An Post maintains its control over the allocation of Postal Addresses and related Eircodes; - thereby making Eircode and its inherent processes unsuited to a non-postal application like this - see Reference L3_9 attached.

It is for the same reason that the CSO has run into difficulty in using Eircode to calculate the number of new builds during a given period, though Mr King also refers to the CSO as a user. See Reference L3_10 attached.

Those without an Eircode are also having difficulties in getting car and property insurance for the same reasons.

If Eircode was designed to be used just as easily and successfully for non-postal applications, then these issues would not be occurring and, specifically, it would not be left to An Post to dictate who gets an Eircode and when; - based on their postal needs and related restrictions, rather than on the basis of the needs of wider use cases.

Meanwhile, Government Departments and State agencies continue to spend tax payers' funds to implement Eircode. See Reference L3_11 attached which shows that the **Department of Social Protection spent over €300,000** on implementing Eircode in 2017, even though the current Minister stated that there would be no significant additional cost for doing so. **The Department of Transport also spent over €300,000** between 2016 and 2017 under the false apprehension that An Post were using Eircode to deliver mail and that by implementing it for the Driver License Scheme it would improve "**postal delivery accuracy**". See Reference L3_12 attached.

HSE Emergency planners have to undertake minute planning for major emergencies in key State infrastructure and major industrial sites across the country. In the southern region, across the south coast of Ireland, Loc8 Code has been used for this purpose since 2012. Reference L3_13 indicates Loc8 Code continues to be used for this purpose as Eircode is unable to satisfy related requirements.

Chairman, it is clear therefore, that once again you and your Committee have been misled. Eircode was not designed to satisfy the purposes listed above and that are now claimed of it, as it is flawed in some major way for all as indicated. Not only is Eircode unsuited to these applications but so also is it the case that proven options were not considered and, in some cases, were blocked from being considered or from developing a related business (see my Letter 2 attached). In this regard alone, the DCCAE can be indicted for not ensuring the best value for money for the Irish Taxpayer and for deliberately seeking to undermine native Irish SME's.

The evidence presented to you in this Letter, and all previous presented by me to your Committee, shows that Eircode was designed by and for **An Post only**. No evidence of consultation with potential 3rd party users is given or referred to in the Eircode Design document approved by then Minister Pat Rabbitte. For the record, I personally raised many other issues relating to Eircode when I appeared in front of your predecessor Committee on 30th June 2015. Many of the concerns I raised at the time have since been vindicated, including the likelihood that other codes would emerge and be required to satisfy the needs of our society as Eircode would be unable to fulfil them on its own. I also predicted that An Post would make little use of Eircode for Postal Services. My presentation to the Oireachtas is attached as Reference L3_14

Unqualified assurances were given to the Oireachtas that An Post would make full use of it in all their postal operations by May 2015 and we now know that this is not the case. Those assurances were given in the context of the FTAI (mentioned above) having raised significant concerns to the same Oireachtas Committee weeks before.

In relation to all the other non-postal applications, such as those of the FTAI's members, as shown in Reference L3_4 attached, An Post decided that Eircode could only satisfy other applications by 3rd party users having to engage VAR IT services to adjust the code afterwards; - thereby making it expensive and cumbersome to do so. Minister Howlin's official approval for Eircode in Dec 2013, in accordance with the Act, required that it be the best for the job. It is not as it is neither usable by An Post nor for any of the non-postal users listed above.

The Irish people and its political representatives are being taken for fools.

You have a choice Chairman,

- a. let the record show that these issues were highlighted by this credible and competent witness with conclusive references; - but ignored
- OR**
- b. recognise that you are charged with oversight and DCCAE and its Officials must be held answerable for the serious issues raised.

It is unlikely that Eircode will ever be withdrawn or replaced at this point, but it is important that for the future DCCAE must ensure proper governance and value for money for all procurement it undertakes on behalf of the taxpayer. It is also important that SME's who may well already have the solution required at a much lower cost never again be blocked from participating in procurement as a result of non-compliance with EC rules or non-adherence to recognised and recommended best practice. This is all the more important since DCCAE is currently involved in a procurement process for the National Broadband Plan which, like with Eircode, is subject to a "collaborative" tender process and again, like Eircode, there is only a single bidder. Your Committee should be gravely concerned about this based on the information I have provided to you over the last 14 months or so. Consideration of DCCAE's failures to deliver high speed cross-border Broadband as identified in the Bytel Report as completed by the C&AG in Northern Ireland the Republic of Ireland should justifiably exacerbate those grave concerns – See Reference L3_14 attached. It is clear from the EC and C&AG investigations into Eircode as well as the Bytel report that DCCAE suffers from a profound lack of appropriate expertise and related governance and oversight capabilities. It would appear that they are also readily prepared to mislead, obfuscate and even to vilify individuals in order to hide these known shortcomings.

Therefore, for the sake of the Irish taxpayer, I hope that you choose option "b" above.

Can I request that you would advise which option you have chosen at your earliest convenience after considering this and associated letters in detail?

I further request that this letter be read in conjunction with all other letters from me on this matter as issued on the same date (as attached).

Yours Sincerely,

Gary Delaney

MSc (NT), FRIN, FCSI, FRICS, Lt NS (Ret'd)

Attachments:

Cover Letter & Letters 1 and 2 with References

1. Introduction

The following briefing note has been put together in support of the meeting with the Secretary General of the Department of Communications, Energy and Natural Resources (DCENR) to provide a brief overview of the National Postcode System (NPS) project and to discuss the merits of releasing a Prior Information Notice (PIN) for the procurement of the NPS at this time.

It specifically addresses the following:

- o The difference between postcodes and location codes – including their application to the mails sector;
- o An update on the position of An Post with regards to the NPS;
- o An update on the position of the Data Protection Commissioner; and
- o The rationale and benefits of publishing a PIN at this time.

2. Postcodes vrs. Location Codes

Whilst not of direct relevance to the main objective of this note, it is believed beneficial to briefly present an overview of the difference between location codes and post codes as there is currently a good deal of discussion and debate associated with the relative merits of a "postcode" as recommended by the National Postcode Project Board in 2006 (the baseline for our current work) versus a 'GPS based location code' as currently offered by companies such as Loc8code and Go-Code.

What is less well communicated or understood however is the fact that it is only the postcode system as currently defined by the NPPB that can be fully integrated with existing and future mails sortation (automatic, video coding and manual) solutions, and thus fulfil the first objective of the NPS as summarised above.

This is because mail sortation and delivery at any volume works on the basis of a hierarchical outwards and inwards structure as briefly outlined below.

Assuming a mail item is posted in Cork for delivery to Dublin the following high-level process takes place:

- The mail item is sorted at the Cork Mail Centre (usually automatically) and is identified as a mail item for Dublin. It is bundled with all other Dublin mail items and transferred to Dublin – this is called the outwards sort;
- The mail item is sorted at the Dublin Mail Centre (usually automatically) in order to identify the correct Delivery Sub Unit (DSU) - office. It is bundled with all other delivery unit items and transferred to that delivery unit – this is called the inwards sort;
- The mail item is sorted at the delivery office (usually manually - some automatic route sorting can take place at the mail centres) in order to identify the delivery route to which it belongs - this is called the route sort; and
- The mail item is re-sorted at the delivery office (manually by the postman) to correctly sequence it for delivery during his/her walk - this is called the sequential walk sort.

It is thus necessary for any postcode system that can be used for the above listed process to facilitate as a minimum the outwards and inwards sortation process both automatically and manually, and ideally also enabling route and sequential walk sort by taking into consideration and easily communicating the hierarchical structure that forms this basis.

The postal sector model as recommended by the NPPB is designed to respect this hierarchical structure, whilst reflecting existing physical and administrative features, and is thus compliant with the above and similar in concept to all existing postcodes (e.g. an individual undertaking a manual sort of a mail item with a postcode D12 546 intuitively knows that the mail item is destined for the Dublin 12 DSU and block face 546, in turn enabling them to sort directly to route level assuming that a block face does not straddle a route) – this is not to say that it is not innovative as the potential to uniquely identify individual buildings (e.g. D12 546 XYZ) shall afford further opportunities to both postal (e.g. sequential walk sorting) and non-postal applications (e.g. emergency vehicle response).

The 'GPS based location code' on the other hand, simply converts a set of easting's and northing's into an alpha-numeric string using as a basis a proprietary algorithm, paying no such attention to physical features and hierarchies - indeed it could be argued that it provides little (if any) added value as no additional information (that is required for mail sortation and is of benefit to a variety of other commercial applications) is created during the process.

Using as a basis the previous example a location code of a structure such as W8N-82-4LK provides no meaningful reference to:

- The correct mail centre - outwards sortation is not permitted for anything other than automatic sorting;
- The correct DSU - inwards sortation is not permitted for anything other than automatic sorting;
- The correct route - route sortation is not permitted; and
- The sequencing within that route - sequential walk sorting is not permitted.

It is important to note that whilst a location based code can theoretically be used to assist automatic sortation, in the event that An Post were to develop and maintain a look-up table associating location coordinate to delivery office, this is practically impossible due to a variety of factors including:

- The negative impact that such a system would have on their automatic sort rate; and
- The inability to use the code for video or manual sorting - they cannot run parallel sortation mechanism for these procedures and, as such, would always refer to the address element instead of the code. Note - large flats and parcels (mail items that are increasing in volume) require manual sortation at all points in the process.

It is also the case that many of the other advantages being mentioned in association with location codes (e.g. emergency response) do not acknowledge many of the deficiencies associated with the location code or the fact that alternative solutions already exist (e.g. in context of emergency calls technology is available to automatically derive the location of the call for both fixed and mobile calls, rendering the need for a location based code obsolete).



As such, it is our firm recommendation that the conclusions and recommendations of the NPPB with regards to the format of the postcode continue to be followed as this report presents the most comprehensive and considered assessment of postcodes undertaken in Ireland.

3. Position of An Post

An Post have committed to commence the incorporation of postcodes into their mails process as soon as the technical specification of the NPS is finalised and the Postcode Address Database developed, and subsequently to commence its use as soon as the required

Attempts were being made last night to contact his wife, Patrycja, who returned home to Poland recently for a brief holiday. The couple have one daughter, Olivia who is 18 months old. The parents have been resident in and bouquets of flowers were placed at the spot where he died.

"We are absolutely stunned, shocked and saddened," a close friend said.

A man who wished to be called Karol worked with Mr Nowakowski in Hillbilly's. "He was a very hard worker. He



One resident who lived near where the hit and run occurred said she was inside her home and heard a bang.

"He was just lying here on the side of the road," she said.

"It is very sad. I couldn't sleep after it happened last night."

the attack is connected to an attack on another friend of Dunne, Derek McLoughlin, who escaped injury on Tuesday morning after the gunman's weapon jammed as he was about to open fire.

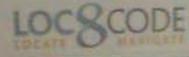
Happy Birthday Minister Rabbitte
 Your Gift This Year.....and thereafter is:-
Loc8 Codes FREE for the Irish People
 to use as Modern National Address & Post Code System
 From
Loc8 Code Ltd (an Irish company supported by Enterprise Ireland)
 An Post and your Department have wasted 8 years trying to do what we have already done and proven for all modern location based requirements



- So Minister Rabbitte, We are Ready to Give You a Gift which is:**
- a modern & technology based "All-Ireland" Address Code;- better than any Post code worldwide
 - already contributing to public safety as used with the emergency services & Local Authorities
 - proven and already in use with State, commercial, courier and ecommerce organisations
 - already helping tourists and the tourism industry
 - helping to significantly reduce our vehicle generated carbon footprint
 - "best of breed" and already used by Garmin, the Global experts in finding places.
 - independent of existing postal or distribution operations but suitable for use by everyone
 - already fitted to An Post's GeoDirectory & can be easily incorporated into their existing sorting process
 - capable of saving tax payers' money and generating significant revenue for the State
 - guaranteed Irish and guaranteeing Irish jobs, with significant export potential

No need to waste time
ON YET ANOTHER expensive Post Code Tender process....
 Minister Rabbitte your **FREE Gift is ready to use... contact us any time to arrange delivery**

Loc8 Code is a Robust, Non Random, Validateable Coding System Suitable for all Location Based Requirements!
 To the Irish Public, Businesses, Tourists, Emergency Services: log on and start using Loc8 Codes now!



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Loc8 Code

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Pat Rabbitte TD, Minister For Communications, got a FREE Address Code, also usable as a Post code, for his birthday today from Loc8 Code Ltd..... extract from announcement on Irish Independent 17th May 2013, page 15 shown below — with Gary Delaney and point8 Apps for Loc8 Code.

Tag photo Add location Edit



Write a comment...



The Irish Times - Tuesday, January 4, 2011

Postcodes could be introduced across State by year's end

HARRY McGEE Political Correspondent

POSTCODES ARE likely to be introduced throughout the State by the end of the year, following Government clearance for the tender process for the project to begin.

The Cabinet agreed to the procurement system for the national postcodes at its last meeting before Christmas, Minister for Communications Eamon Ryan has confirmed. The process to award the contract for the project – with estimated costs of less than €15 million – will be completed by summer.

Mr Ryan said the introduction of postcodes will lead to significant savings and efficiencies for the State. It would deliver more comprehensive statistical and geographical data, as well as open up new revenue streams, particularly for An Post.

The Government has approved the recommendations of consultants that the postcodes should be alpha-numeric, incorporating letters and numbers.

Dublin is the only location in the State with postal codes. Ireland is the only country in the EU, or among OECD countries, that does not have a nationwide postcode system.

Mr Ryan said one of the most important features of the system would be “memorability”. In practice that means a location will be identified by its initials, in a manner roughly analogous to the vehicle registration system.

The system will also retain elements of the existing Dublin post codes. The current postcode of Dublin 7 could begin D07 and continue with numbers that pinpoint the location to a particular property. Similarly, the postcode for addresses in other areas will contain letters that readily identify the area, followed by a series of numbers that pinpoint the property. Possible permutations might include: GLY (Galway); CK (Cork); and KKY (Kilkenny).

A departmental briefing paper refers to two models – a “postal sector” model and a location model – being combined. The postal sector model would divide the country into post towns (identified by letter) and each post town into groups of approximately 40 to 50 properties (identified by number). There would be approximately 200 post towns.

The paper says the model is capable of being refined into a location-based code – in other words identifying each individual property within a post town. It says this hybrid model will provide the basis for the procurement for a national postcode system.

Several companies developing global positioning technology – notably Garmin – have devised all-Ireland digital address codes that provide precise addresses. While these codes will not provide the basis for the national system, the Department of Communications said these companies were free to tender. The department believes the availability of codes will

ensure more efficient sharing of information between agencies and companies. It also says it will help the Central Statistics Office unlock more data and help emergency services.

The main issue that has divided the Cabinet relates to whether the codes should be in Irish or English. The document discloses the Minister has received representations from Irish language organisations, arguing in favour of the Irish version of the post-town name.

Mr Ryan recommended the Irish language version of post-towns should take precedence, insofar as it did not lead to difficulties in disseminating the postcode to the public because of major differences between Irish- and English-language versions of post towns, duplication or other operational difficulties. In Gaeltacht areas, the letters would refer to the Irish placename.

Mr Ryan said memorability would be important. “I think it should be something you retain in your mind, a postal code that can make sense for the area and is not just a random series of letters and numbers.”

Page 15-16 of the Eircode design document quotes the USP (An Post) as stating:

Furthermore, the USP has confirmed that structure/hierarchy within the last four characters of the postcode will not improve mail delivery and so, would not be desirable. The USP does

not require hierarchy/sequencing of the Unique Identifier for manual sortation purposes, and it is expected that VAR services will provide IT solutions to other organisations to assist any alternative manual sortation method that they may have.

Page 49 states:

The USP have confirmed that structure/hierarchy within the last four characters of the postcode will not improve mail delivery (and may cause dis improvement over time) and

This design Document was approved by then Minister Pat Rabbitte in April 2014 & then formed the basis of the Eircode official launch on 28th April 2014

Ref L3_5

Eircode alternative 'is not on offer' to courier industry

Monday, May 23, 2016

A company that formed part of the consortium that introduced Eircode has denied that a new delivery code it has offered the courier industry is an alternative to the controversial postcode system.



However critics say they are 'frustrated' that this new code is being offered when its design was exactly what they had requested in the run-up to Eircode's launch, only to have their suggestions 'rubbished'.

Autoaddress, a member of the Capita Consortium chosen by the Department of Communications to design, develop and introduce Eircode, has recently met with companies in the transport industry to discuss the development of a Small Area Code (SAC) to facilitate deliveries.

Eircode's controversial design, which sees random codes assigned to individual houses, was criticised by courier companies and digital rights advocates prior to its introduction last year.

The Freight Transport Association of Ireland (FTAI) said Eircode adds time and cost to courier companies' deliveries instead of providing the savings promised.

Companies such as FedEx, UPS and DHL had previously told the Oireachtas Committee on Communications that they would not use Eircode because of its design.

The FTAI, which represents many of these companies, told the committee that Eircode was 'useless' to its members. It urged the adoption of a structured postcode that would establish areas whose codes run sequentially, such as the postcode being used in the UK.

However despite this, the Department of Communications went ahead with the randomised design. Last year the Comptroller and Auditor General said the cost of implementing Eircode came in at €38m and that "it is not clear that benefits to the value projected will be achieved as a result of the implementation of Eircode".

Autoaddress has since met with companies to discuss the new SAC, which bears similarities to the type of postcode used in the UK, and FTAI general manager Neil McDonnell said his members were "very impressed" with the proposal.

"Indeed one of the attendees at the briefing was consulted as an operator by the National Postcodes Project Board (NPPB) in 2006, and the SAC proposal was in line with what operators thought they were going to get 10 years ago.

"Despite the fact that operators were impressed by SACs, they were frustrated that the company which rubbished the industry requirement for a structured/hierarchical code for over a year was now proposing a structured/hierarchical code," Mr McDonnell said.

"Aside from the fact that it should not be up to industry players to generate their own delivery code — that's what the National Postcode Project Board process was meant to do — if SACs are hidden, and not state-backed, we'll be back to square one because each company will go its own way with its preferred solution," he said.

Autoaddress denies that SAC is an alternative to Eircode, or that the proposal is an indication Eircode is not being used by delivery

firms.

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firms.

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patients property along with the position of the ambulance on a digital map to the emergency. The dispatcher can then direct the Ambulance to the correct location facilitating a much speedier access to care. Ambulance emergency requests are to various locations, urban and rural, some of which are quite isolated. The use of Eircodes assists in the rapid identification of non-unique addresses. NAS considers Eircode to be very important information in responding to emergency calls – in particular the 35% non-unique addresses which had caused significant operational geographical challenges.

The Emergency Call Answering Service (ECAS) have also updated their systems and changed processes to enable the use of Eircodes when presented by callers. ECAS currently answers all emergency calls made to 112 and 999. The Eircode when entered will display the geographical address and Geo Co-ordinates alongside the pre-existing caller information. ECAS will verify the address of the emergency with the caller and will make it available to the relevant Emergency Service.

Use the [Eircode Finder tool](#) to locate the unique Eircode for your property.

Find and share unlimited Eircodes for FREE

AUTOADDRESS has launched a free Eircode app for Apple and Android devices, available on Google Play Store and Apple App Store. This App is a useful way to find Eircodes and share precise address locations. This app will benefit delivery drivers, sales people, service engineers and the general public to accurately locate properties and get directions using Eircode.

On Autoaddress you can find and share an Eircode by SMS, email, or any messaging app. When you download the Autoaddress App, the receiver will instantly get the address, distance and travel time estimate from their location, and can use any navigation app on their phone (e.g. Google Maps, Apple Maps, TomTom) to get accurate directions direct to your door.

For delivery drivers - you can save your deliveries in the Autoaddress App. The app optimises your route by arranging your deliveries in the most efficient order. You can record your successful delivery (or if you were unable to deliver) saving the time of day and distance from the delivery location for verification.

Links to where you can access the app for free - ['App Store'](#) or ['Play Store'](#)

More on Eircodes

Find your Eircode

Ref L3_7

Freight Transport Association of Ireland



The Joint Committee on Transport and Communications on the difficulties its members have with the proposed “Eircode” postcode.

5 November 2014

The Joint Committee on Transport and Communications on the difficulties its members have with the proposed “Eircode” postcode.



FTA Ireland is grateful for the opportunity to present to you, the members of the Joint Committee on Transport and Communications on the difficulties its members have with the proposed “Eircode” postcode.

EXECUTIVE SUMMARY

Eircode, the proposed national postcode for Ireland, is intended for public launch early in 2015. Ireland is the last country in the OECD to get a postcode. FTA Ireland and its members want a postcode; however a bad postcode is not better than no postcode.

While Eircode will prove to be a valuable database for addresses, as a postcode it is of minimal utility, its use will not be mandatory, and is likely to enjoy limited public support. In the paper below, we will set out why this is so.

The members of this Committee have the opportunity, months ahead of the public launch of Eircode, to forestall the spending of public monies on another ill-thought, poorly executed project. A modern national postcode will encourage the growth of e-commerce and m-commerce solutions within Ireland’s smart economy.

Ireland should adopt a location-compatible or geo-based code for its national postcode.

EIRCODE: UNDERSTANDING THE DIFFERENCE BETWEEN AN ADDRESS DATABASE AND A POSTCODE

FTA Ireland formally welcomed the introduction of a national postcode by Minister Pat Rabbitte in October 2013. However, it was not until member companies were briefed by Bearing Point Consulting in May of 2014 that difficulties emerged with the structure and utility of Eircode. An objective description of these issues was provided by Karlin Lillington in the Irish Times, available at Annex I.

Eircode is a unique identifier postcode composed of two components, a three-character routing key (equivalent to Dublin’s current 24 postal districts, which will be retained) and a four character alphanumeric property identifier. Eircode is optimised for the delivery of postal mail (although An Post does not require postcodes to deliver mail) and for the high-level collection of data.

From the information currently available to FTA Ireland and its members, Eircode is clearly formatted and offered to the market as a highly elaborate and detailed address database. It tackles the problem of non-unique addresses by assigning a unique identifier to each private and commercial address. It will provide a high degree of information and functionality to direct mail marketers, utilities providers, academic institutions, the Revenue, social welfare services, the HSE, the Department of Education, the CSO, banks, and charitable institutions. In short, anyone who deals with high-level population data, “big data”, or who interacts with the public and customers via postal mail, will be satisfied with Eircode.

However, the companies represented here today do not fall into those categories, and crucially, they interact directly with people at their home address, their business, or in the field.

While Eircode tackles the significant problem of non-unique addresses (NUA) in Ireland, by assigning each a unique identifier, this information alone will not be sufficient to find such as address. In its own ECAD Product Guide, Eircode states: “N.B. For a NUA address, it is impossible to match to a unique record in the ECAD and assign an Eircode... Knowing the address isn’t sufficient information to determine the Eircode.”

The Joint Committee on Transport and Communications on the difficulties its members have with the proposed “Eircode” postcode.

Only postal addresses will be allocated an Eircode. *Workshops, farm buildings, windmills, piers, jetties, fields, large fixed assets, lay-bys, points of interest, lanes, archaeological sites, roads, natural features, intersections, accident black-spots, pylons, parks, motorways, antennae, wells, graveyards, pumping stations, viewing points, manholes/utility access points, car-parks, beaches, level-crossings, transformers, bridges, forests, bogs, lakes, playing pitches, cycle-tracks, picnic areas, public toilets, walkways such as the Wild Atlantic Way:* None of these things can be allocated an Eircode unless they also constitute a personal or business address. Nor can they be referenced as being close to an Eircode, without someone disclosing a personal address. It is a solution that is obsolete before it is even launched.

FTA Ireland has produced a policy position on Eircode, which states in summary:

1. A national postcode is an absolutely essential part of a country’s soft infrastructure.
2. Being the last country in the OECD to adopt a postcode should mean that Ireland has the most advanced form of postcode available.
3. Eircode falls far short of the desired requirements of a postcode set down by the Joint Oireachtas Communications Committee in 2010. (See Annex II)
4. Eircode falls far short of the tendered requirements for a national postcode as set out in the National Postcodes Project Board in 2006. (See Annex III)
5. Rollout of Eircode as our national postcode will preclude the development of leading edge geo-based e-commerce, m-commerce and social media solutions.
6. Eircode, if it is launched as Ireland’s national postcode in Q2 2015, will be a massively wasted opportunity to have a best in class, leading edge, location-based solution.

FTA Ireland summarises the difficulties associated with Eircode as follows:

- No engagement or consultation took place with industry on the technical specification and structure of Eircode.
- It is structurally optimised for postal mail business to postal addresses. It is not designed for navigation or location operations by entities interacting directly with those addresses (or the emergency services).
- It is a postal solution only- no letterbox, no Eircode.
- It is a database solution: it creates a closed commercial solution, contrary to NPPB tender spec.
- Perusal of the Eircode ECAD Product Guide issued on 29th October suggests it is structurally similar to the GeoDirectory, with aliases added.
- Search, navigation and location are only possible through an intermediate software solution. Human interrogation of an Eircode, other than at postal district level, is impossible.
- Eircode is not scalar: It exists only at two levels of granularity- postal district, and unique identifier- (private property or business). No intermediate level of detail that would indicate a townland or street exists.
- Eircodes will not be in public view on street corners, etc. Each property on a street will have a unique, invisible Eircode.
- Eircode’s fitness for purpose as a postcode has either (a) not been independently assessed by DCENR, or (b) if it has been assessed, FTA Ireland understands that this assessment may have been carried out by one of the consultancies assigned to the project board. (The December 2013 tender by DCENR has not yet been closed, or its results announced). Clarity is required from DCENR on this point.

The Joint Committee on Transport and Communications on the difficulties its members have with the proposed “Eircode” postcode.



- The unique identifier aspect of Eircode will be likely to discourage private use of Eircodes- to give one’s Eircode to anyone is to give one’s precise address. It is no different to disclosing one’s Revenue Property ID. The fact that use of Eircodes will be optional will compound this problem.
- Pricing of the Eircode ECAF/ECAD files is a serious problem, but not the substantive issue: the companies below have technical reservations with Eircode, even if provided free of charge. They do not use GeoDirectory now in order to locate their customers. Other than a more comprehensive approach to address aliases, Eircode offers no significant functionality differences over the GeoDirectory.
- The reluctance of consumers to part with a PPSN for Irish water should serve as a warning to the Committee that people may be reluctant to part with unique identifying data.
- The privacy concerns for private individuals, coupled with the non-mandatory nature of Eircode, could significantly impede its rollout to the general public.

As FTA Ireland has a number of competitor companies presenting to the Committee, commercial or price sensitive data cannot be disclosed. However, data seen by FTA Ireland suggest savings in excess of €20m annually from these companies alone if they had a postcode structured for navigation. Such savings would immediately be reflected into lower parcel, freight and transport costs for Irish consumers and businesses.

Operationally, the ECAD file for Eircode is very large (2GB). By comparison, the TomTom Mapcode algorithm and tables (example provided in Annex IV) for all of planet Earth take up 240KB. This is a significant handicap for hardware devices that typically have a memory of 4GB to 8GB.

A “nested”, “sequential” or “hierarchical” postcode makes sense to the human brain, and does not need a computer to interpret it or sort it. Examples of these types of code are shown in Annex IV. Mapcode, Loc8code, GoCode and Openpostcode are modern, location-based solutions available right now. We have given examples in Annex IV of three addresses in the locality of Dáil Éireann, to show how a “man-in-van”, or on a bicycle, could use these codes. Note that these solutions are scalar, and capable of providing a greater or lesser level of data. Thus a person ordering a pizza delivery could give a precise location to a delivery man, but the same person on a social network or using a dating app could revert to an area postcode. These concepts are explained in lay terms in a Chartered Institute of Logistics and Transport Submission to DCENR in 2013, available at: (http://www.cilt.ie/images/stories/CILT_Submission_on_Postcodes.pdf)

In Annex V, we show how the UK postcode progressively refines the address for our sister trade association in Belfast. The current UK postcode dates from 1959, and will be 56 years old when Eircode is launched.

ACTION REQUIRED:

Eircode should be retained as a unique identifier for Revenue-gathering and utility-billing purposes. This would give an Eircode the status of a PPSN number (or electricity MPRN number) for private and commercial properties, not for public view.

In parallel, a scalar geo-based or location-based postcode, which could be expressed as a small local area or as a unique identifier, should be provided as Ireland’s national postcode.

The Joint Committee on Transport and Communications on the difficulties its members have with the proposed “Eircode” postcode.



Who We Are:

Palletxpress is a freight distribution Network established in 2004 with 25 members (Transport and Haulage companies) strategically located throughout the Country.

What We Do:

We provide an overnight hub and distribution service for all types of palletised freight throughout the UK and Ireland. Our customers range from blue chip companies (Healthcare products) to general Groupage for large, small and medium size companies to the sole trader all over the country. We ‘network or tranship’ the freight at our premises in Dublin on a nightly basis, and deliver this freight locally the following day.

Number of People Employed:

Directly we have 20 people employed, but we have ‘members’ (subcontractors) whose headcount would exceed 1,000 people between driving and administrative staff.

Why We Won’t Use Eircode:

It is crucial for any distribution method that the process is simple, easy to use and IT friendly. For this to be the case, it is essential that any coded system is run sequentially or on a recognisable and logical pattern. The random nature of the Eircode design does not allow for efficient and logical routing practices. In fact the only beneficial aspect to this system is the first three digits; after that it’s of little practical use.

The Cost of the Missed Opportunity:

We are currently sourcing a new IT System. Unfortunately it will not be possible for us to integrate Eircode into our distribution module within this new system. We are trying to save on unproductive administration and unnecessary time consuming activities. Although Eircode may provide specific recognisable areas similar to Dublin postal districts, there will be no pattern or logic within them to help us to deliver to them. This industry has been waiting on a ‘smart’ solution to this problem for so many years.

We have an opportunity to learn from other jurisdictions that have been through this process. Why would we not learn from their mistakes and roll out a system that is designed for purpose, easy to use and understand?

Tom Carr

MD

Palletxpress

The Joint Committee on Transport and Communications on the difficulties its members have with the proposed “Eircode” postcode.



Who We Are:

UPS first entered the Irish market in 1988 through a joint venture with Walsh Western Express, which UPS acquired in 1989.

What We Do:

UPS of Ireland offers a wide range of small package express, next day and time specific services (domestic and international) as well as a range of air, ocean and road freight services.

Number of People Employed:

In Ireland, UPS has 744 employees on the payroll. This includes 662 full time and 82 part time employees.

Why We Won't Use Eircode:

From the known structure of Eircode (from publically available information on www.eircode.ie) UPS of Ireland will not use the Eircode for practical reasons. The most important is that the unique identifier part of the code (the last four digits) is random and not sequenced. For the logistics and retail sectors that provide B2B as well as B2C delivery, this means that service will not be improved through the Eircode. A sequenced post code is needed to allow for the more efficient loading of vehicles as well as delivery times. UPS of Ireland does not currently use the An Post GeoDirectory for the same reason outlined above.

The Cost of the Missed Opportunity:

A sequenced post code would provide efficiency gains through a reduction in routes, fuel, inside handling, address corrections and missorted packages.

Our Key Message to the Committee:

If Ireland proceeds with the Eircode, it will be a missed opportunity. A change to the Eircode enabling a sequenced code would be hugely beneficial to companies and consumers.



Who We Are:

Entity name: Federal Express Europe Inc. – Irish Branch
Address: Unit 3- A/B Airways Industrial Estate Cloghran, Dublin 9, Ireland

FedEx started serving Ireland in 1986 from Dublin Airport

What We Do:

FedEx provide international pickup and delivery services, including customs clearance for all business sectors; SMEs, multinational organisations and residential customers.

Number of People Employed:

138 x FTEs, 50 x sub-contractors (includes open positions).

Why We Won't Use Eircode:

FedEx will not be able to use Eircode as it does not include any sequential formatting logic which our systems require. Practically it will not help us route, or make deliveries any quicker.

The An Post GeoDirectory is not used because a system of postcodes is required as above.

There has also been no transparency of the costs involved in using Eircode.

The Cost of the Missed Opportunity:

A logically formatted postcode system would significantly reduce numbers of re-works/re-attempts of deliveries. It would also shorten the delivery time at each stop

Our Key Message to the Committee:

FedEx requires a postcode system which is logical and follows a geographical format, it also needs to be easy to use and understand, the same as other countries with existing postcode systems.



Athlone Business Park, Dublin Road, Athlone, Co. Westmeath
Tel: 090 6420500 • Fax: 090 6494831/2
• Web: www.dpd.ie

From: Brendan O' Neill, CEO, Interlink Ireland Limited (trading as DPD Ireland)

Re: Postcode Introduction to Ireland

DPD Ireland, previously branded **Interlink Ireland**, was founded in 1986.

DPD Ireland has the following profile:

- Largest domestic business to business and business to consumer parcel carrier in Ireland
- DPD operates on a 32 county basis
- Fully automated sortation hub in Athlone
- 38 depots throughout the island of Ireland
- Over 800 full time equivalent employees in the network

DPD Ireland provides a distribution system for customers of all sizes and profiles, from the very small shipper to large customers distributing thousands of parcels daily. Through the DPD network, these customers bring their products to market on the island of Ireland and across Europe.

DPD Ireland supports the introduction of postal codes to Ireland.

However, DPD has the following concerns with the proposed Eircode solution:

- No engagement took place with the established parcel carriers before the system parameters were designed; this was despite written requests by the Chief Executive of DPD to Ministers of the Environment.
- From the information available to date, it appears that the so called “routing key” i.e. the outer part of the code, is based on, or close to, the existing postal areas. To quote the Eircode website it “is not directly linked to counties, towns”
- The “unique identifier” is random; thus two adjacent properties can have entirely unrelated codes.
- New properties, and properties missed in the initial mailing of Eircodes, will not immediately have Eircodes.

DPD Ireland will engage with the proposed Eircodes; however DPD Ireland will only gain limited benefit from the Eircode solution as proposed due to the limitations outlined above.

The summary view of DPD Ireland is as follows:

- Ireland needs a system of postcodes
- Codes should respect county boundaries
- The code should contain a primary code, respecting county boundaries; every subsequent digit should define a smaller and smaller area within that primary code; the full code should identify a number of buildings (other than large commercial buildings which could have a unique code)
- Individual houses should not have unique codes

30 October 2014

The Joint Committee on Transport and Communications on the difficulties its members have with the proposed “Eircode” postcode.



Who We Are:

DHL Express has been in operation in Ireland since 1979 and is the leading player in the International Express market in Ireland. DHL provides express delivery services to and from over 220 countries worldwide. Our role is to facilitate international trade and we work with importers and exporters – and those companies seeking to expand their businesses internationally – to help them get their product to their customers wherever in the world they may be.

What We Do:

The DHL Express core service offer is to provide international air express services to and from Ireland to over 220 countries worldwide. We also provide international road express services across Europe and domestic express services around Ireland. We operate three dedicated charter aircraft into and out of Ireland each working day to support our Air Express Services.

On the ground the DHL Express infrastructure is market leading in Ireland. Our state of the art DHL Express Hub at Dublin Airport Logistics Park is the focal point of the Irish operation. It has a fully automated shipment sorting system which has a capability to handle over 7,000 parcels per hour using our self-developed postcode system of one postcode per street.

Number of People Employed:

348 Full Time Employees and 200+ dedicated sub-contractors

Why We Won't Use Eircode:

To implement Eircode in its current format, the DHL Express IT infrastructure will require bespoke software development on many internal and external (customer-facing) systems. Unlike the rest of the world's postcodes, Eircode doesn't fit into our global IT platform.

In particular, the granularity of the routing key is inefficient due to its large geographic coverage based on the national postal sort centres and in turn becomes redundant. Also the non-sequential unique identifier creates significant logistics and IT challenges. To put this into context, DHL currently has 3.4m postcode-ranges in its databases for all countries in the world that operate a postcode. With Eircode we would need to add a minimum of 2.2m entries just for Ireland which adds its implementation costs as well as risk.

Furthermore, with Eircode's current format it is not possible to identify an address from just 'reading' the postcode. On that basis it will be easier to use the address lines we currently use to-day.

The Cost of the Missed Opportunity:

It is impossible to put an actual cost on the missed opportunity. As things stand given the very strong likelihood that we will not use Eircode, at least in the medium term, no benefits will accrue to our business i.e. we cannot improve our sortation accuracy or delivery efficiency.

Our Key Message to the Committee:

Unless Eircode facilitates recognition of the address / district location and includes a sequential code we will not be in a position to deploy it. On that basis it adds no value to our business.

The Joint Committee on Transport and Communications on the difficulties its members have with the proposed “Eircode” postcode.



Who We Are:

BOC Gases Ireland Ltd. Established in Ireland for over 50 years

What We Do:

Our main business is providing Industrial, Medical and Special Gases to our customers in Ireland. Our business consists of business to business but also business to customer deliver services. Our customer base is wide and includes both major and minor customers consisting of electronic, pharmaceutical, medical devices, hospitals, veterinary, food producers, Universities, Homecare patients, hospitality customers including hotels, pubs and restaurants etc. etc.

Number of People Employed (include sub-contraction):

Circa 250FTE employees in ROI plus 120FTE employee in NI. The operations is supported by circa 100 critical contractors from time to time.

Why We Won't Use Eircode:

Deliveries are scheduled through bespoke systems for the different service offerings. One of our scheduling systems uses grid references from the Ordinance Survey Maps which is accurate to 1 km outside of Dublin. For Dublin city again the Ordinance Survey maps is used but is more accurate down to the street level. Neither of these two systems are ideal. We are planning on changing some of our systems over to Paragon in the near future.

The Cost of the Missed Opportunity:

Transport and labour costs today continue to be very challenging, and a modern postcode system will help maximise efficiencies and competitiveness.

Our Key Message to the Committee:

Please don't make the same mistake with Eircode as previous Governments have with the Electronic Voting Machine Fiasco.

Eircodes will not be of any use to us delivering fuel or industrial gases to many of the remote agricultural and industrial premises we deliver to. Many of these are not located near any office or business location.

ANNEX I

KARLIN LILLINGTON Irish Times Business Section: 4th September 2014

Ireland, one of the few remaining countries without postcodes, is to get them next year. But the unusual format chosen for them, in a long-running Department of Communications project managed by consultants Bearing Point, remains controversial.

Critics say the opportunity has been missed to use Ireland’s clean-slate status to produce a technologically innovative postcode system that would be at the cutting edge globally; similar to the competitive leap that was provided when the State switched to a digital phone network in the 1980s, well ahead of most of the world.

Instead, say organisations such as the Freight Transport Association of Ireland (FTAI), the proposed seven-digit format of scrambled letters and numbers is almost useless for a business sector that should most benefit from a proper postcode system: transport and delivery companies, from international giants like FedEx and UPS down to local courier, delivery and service supplier firms.

Because each postcode will reveal the exact address of a home or business, privacy advocates are concerned that online use of postcodes could link many types of internet activity, including potentially sensitive online searches, to a specific household or business.

Random numbers

“We should enjoy a huge technological leap on everyone else by being able to engineer a unique, greenfield solution,” says Neil McDonnell, general manager of FTAI. “In fact, there is no component of Eircode that could not have been devised by the Royal Mail using quill and ink in 1857, when London got progenitor post codes.”

He says the codes – unlike those in the UK or US – are a peculiar combination of being both too general and too specific for anything other than delivering mail or identifying individual premises for water charges, property taxes or other property-related Government and local-authority duties.

The proposed Eircodes comprise an initial set of three numbers and letters that identify one of 139 large “post town” geographical districts across the state. This is followed by a mix of four alphanumeric characters that identify an exact premises: either a household or a business.

But the last four characters are totally random. Though they identify a given building, they carry no relationship to any adjacent buildings, unlike in the UK, where the second part of the postcode identifies a cluster of 15-20 neighbouring buildings.

That means someone sorting packages in Ireland could not look at a parcel and know it should go in a specific group for delivery. Nor could someone spot errors on the basis of postcode – as could easily be done in the US or UK – if a package has been sorted into the wrong van, destined for the wrong village, for example.

The Joint Committee on Transport and Communications on the difficulties its members have with the proposed “Eircode” postcode.



The postcodes make little sense on their own. For any functional purpose, they have to be used with a proprietary database that associates the unique seven-digit Eircode with An Post’s own GeoDirectory, in which properties are identified by longitude and latitude, similar to GPS systems such as TomTom or Garmin.

But many businesses are likely to balk at buying an Eircode database, which is expected to cost around €5,000, when they may already have bought the GeoDirectory, enabling them to continue to operate without Eircodes.

Call for a sequenced code

Many parcel and service delivery companies already using Garmin or TomTom may also see little advantage to using an Eircode unique identifier system.

“Postcodes are long overdue and there are many advantages in having a good postcode system. But from an industry standpoint, the unique identifier doesn’t really add any advantage,” says Niall Cotton, head of deliver for BOC Gases.

“I can’t see it giving any advantage in the supply-chain to deliver to customers. And we’d possibly have to get in a third party [software company] to link the database to our existing scheduling systems.”

Richard Currie of UPS told *The Irish Times* that the company is “focused on enabling commerce around the globe. It is in this spirit that we request the Eircode system be changed from random unique identifiers to a sequenced code. This would enable improved deliveries and collections, which would have a clear benefit to businesses and consumers in Ireland. Without this change, an opportunity is lost.”

The problem, from a number of standpoints, is the way in which Eircodes are constructed, says Antoin O Lachtnain of privacy advocates Digital Rights Ireland. From a privacy standpoint, the general concept of using a unique identifier for each home and business is not necessarily an issue. “You get all sorts of benefits, such as faster delivery of things you’ve bought,” he says.

But a hierarchical code (as in the UK; in which each successive part of the code narrows in on the location of the address) makes more sense from a privacy standpoint and in facilitating deliveries.

A hierarchical code lets a postal worker, parcel sorter, or delivery service know a constrained geographic area at a glance. It also enables internet users to search for a service or calculate a delivery charge before placing an order by using only the initial segments of the code, without having to reveal the entire postcode.

With Eircodes, a full unique code would have to be entered as the initial segment refers to an enormous area. The full code – and hence, full address – could then be linked to a cookie left on a device, he says.

“Under data protection rules that isn’t supposed to happen, but the question is, how closely will that be adhered to? People should have a choice of how much information they want to reveal on a query, as opposed to giving a full code, as needed for the delivery of an actual order.”

The Office of the Data Protection Commissioner has said that Eircodes, as proposed, will work within data protection regulations, but O Lachtnain questions that.

He adds that structuring a code from a random-order mix of both numbers and letters is probably the worst possible approach, because it is harder for people to remember a random mix of both, especially

when no meaning is attached to the position of a number or letter, and it is easy to make errors in reading or transcribing one. And because the code isn't hierarchical, it's impossible to spot likely errors.

“You're now depending on a computer assigning the right sort-code to parcels. It just makes the whole thing more problematical and increases error rates. And anything that potentially introduces mistakes risks increasing costs and delivery delays.”

Confusing system

That's what concerns Cotton. His business “is all about efficiency, and scheduling, and customers with time windows. You want to know as a customer what time something is being delivered. Postcodes should give you some advantage. But [Eircodes] certainly aren't going to meet the demands for a sophisticated and efficient system.”

Both McDonnell and O Lachtnain say a hierarchical system linked to GPS-type geocodes would make more sense.

“We could then be the testbed for lots of geo-commercial applications,” says McDonnell.

O Lachtnain says Eircodes go against the drive internationally for taxpayer-funded databases available free or at nominal cost, as part of the growing “open data” movement, enabling third parties to create innovative services and apps around them.

Instead, the proposed system seems dependent on funding itself through proprietary database sales.

Both believe that a random, non-hierarchical unique identifier code, coupled with a proprietary database, will give Ireland a confusing system that will probably have to be rethought in coming years.

The Government has stated that the use of Eircodes – due to launch in the middle of 2015 – will not be mandatory.

“But then,” asks McDonnell, “what's the point?”

ANNEX II

EIRCODE VS THE OIREACHTAS POSTCODES REPORT

It should be a public code, not “hidden”.

NON-COMPLIANT. It is not a public code, it is a randomised alpha-numeric string, only available to those companies who pay the postcode provider. Even the word “Eircode” is a privately-owned trademark.

It should be structured down to specific areas.

PARTIALLY COMPLIANT. It divides Ireland into 139 post towns, but these are equivalent in size to Dublin’s current 24 postal districts. There is no navigation component present in the standard file, and longitude/latitude only in the ECAD file.

It must be easily memorised.

PARTIALLY COMPLIANT. The Eircode should be easily memorised, but only the first three characters will be common between adjacent addresses. Also, because Dublin postcodes are allocated odd-number: Northside; even-number: Southside, a digit error in the post-town string could divert mail to a valid address on the wrong side of the city.

It must solve the problem of non-unique addresses in Ireland.

COMPLIANT. By allocating every postal address a unique identifier, it appears to solve this problem for postal mail providers.

It must be neutral between operators.

NON-COMPLIANT. It is not neutral. Basing Eircode on the An Post GeoDirectory cements the postcode system with the incumbent mail provider.

It should be self-financing at minimal cost.

NON-COMPLIANT. It provides minimal added value, and no navigation component, to users at a cost of up to €5,000 per user for the ECAF file. Without a navigation component, there is no economic rationale for any logistics, passenger or parcel carrier to adopt this system, even if it was provided free of charge.

It should address “ownership” issues for the national postcode.

NON-COMPLIANT. It addresses the ownership issue in an unacceptable manner. It transfers (for €8.27m) the GeoDirectory from a semi-state operator to a private consortium.

It should be appropriate to the needs of the smart economy, and future-proof.

NON-COMPLIANT. It is in the smart economy requirement that Eircode departs most greatly from the postcode principles. While Eircode claims to be a location code, it does not, in fact, encode location. It provides a unique, random reference number for each postal address in the GeoDirectory, where a long-lat is provided for that address (i.e. it provides a “look-up” function). However, long-lat coordinates will be provided only to those who pay for the “ECAD” file (cost unknown).

ANNEX III

EIRCODE VS NPPB TENDER

This is a public postcode that will be publicly available, accessible and usable;

NON COMPLIANT- it exists as part of a commercially-provided database. Eircodes will also be unique to addresses. Data protection concerns may limit their accessibility and usability.

It is structured at the level of small spatial areas with each blockface containing a number of properties – which can be set at any level that is deemed appropriate;

NON COMPLIANT- the smallest grouping is equivalent to current Dublin postal districts (which are maintained). No intermediate granularity other than unique address.

It is developed in a way that ensures blockfaces respect electoral division boundaries;

?- Not relevant in the commercial sense in any case.

It has six characters, three of which will be easily memorable as they relate to the Post Town of the property.

NON COMPLIANT- revised to seven characters, but adjacent properties will share only three. No more informative than your current ability to describe yourself as living in Dublin 1 or Dublin 14. How often will you use your Eircode- as often as you use your PPSN?

It is future orientated and is specifically designed to accommodate the household growth that is being experienced in Ireland both through development and redevelopment;

NON COMPLIANT- While it can accommodate future growth without difficulty, it is a static format (in the same sense that a PPSN is a static construct, useful only as an address identifier, not a location identifier)

It has adopted the core principles of the postcode models that are in place across the international postal market and therefore is well grounded in an available and viable technological solution;

NON COMPLIANT- It contains no “nested” element, no hierarchy, and holds only two levels of data- large post town and unique letter-box address.

It does not require individuals to change their address structure with elements such as the existing Dublin postal district coding structure being accommodated within the postcode itself;

COMPLIANT

It is neutral between postal operators, with each operator having the ability to aggregate blockfaces of properties in any way that suits their operation;

NON COMPLIANT- Eircode maintains An Post’s Dublin postal districts, does it retain the remainder? We have no data on the structure of the non-Dublin districts/routing keys. It appears to be a repackaged version of the GeoDirectory. It therefore favours the incumbent.

It is also able to adapt to the emerging technological and legal environment with a geo-coordinate dimension allowing integration with GPS technologies and a code structure that will support future development of the postal sector itself.

NON COMPLIANT- makes no concession to emerging solutions, is a database solution only. Any value-added propositions will require intermediate solutions to interrogate a database. The “Geo” element in Eircode is a reference to its long/lat on an OSI map only. It will therefore be as useful to the logistics/delivery sector as the An Post GeoDirectory is now.

The Joint Committee on Transport and Communications on the difficulties its members have with the proposed “Eircode” postcode.



ANNEX IV: PROPRIETARY AND AVAILABLE POSTCODES

	Leinster House	Royal College of Physicians	Buswells Hotel
TomTom Mapcode	BMYW.1QP	BMYW.1XW	BMYW.1GR
Loc8code	NP6-09-30D	NP6-78-41D	NP6-21-41D
Openpostcode	KFX-797P	KFX-784M	KFX-78FW
GoCode	L2P-X9D6	L2P-NXKQ	L2P-X58X
Eircode (TBC)	D02-XXYT	D02-4426	D02-A5H3

The Joint Committee on Transport and Communications on the difficulties its members have with the proposed “Eircode” postcode.

ANNEX V: A “NESTED” POSTCODE (UK)

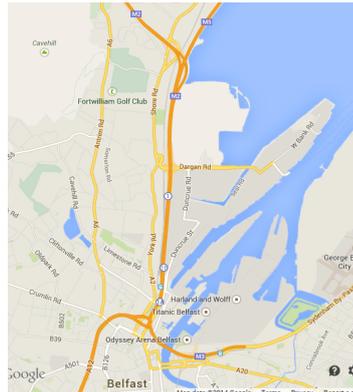
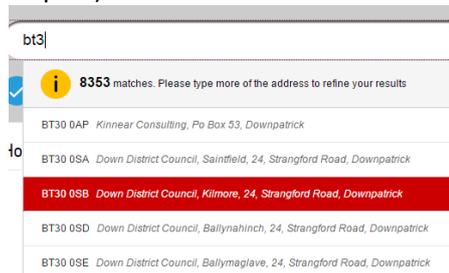
EXAMPLE:

Locating FTA Ireland’s sister association in Belfast.
Postcode BT3 9ED

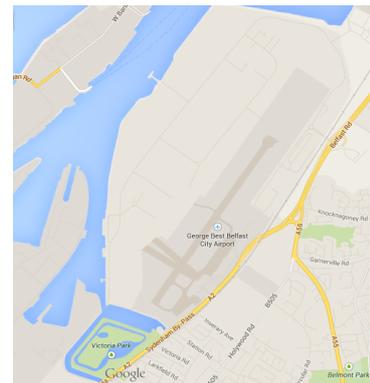
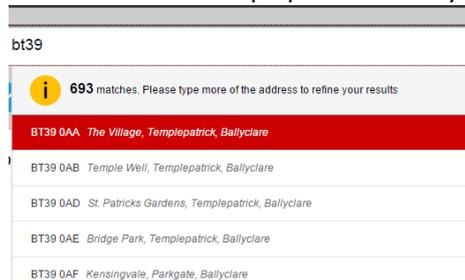
BT: covers all of Northern Ireland



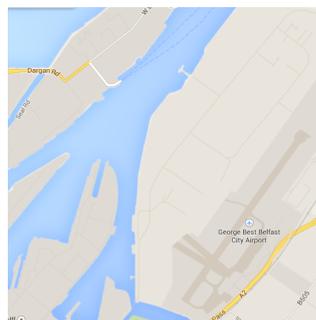
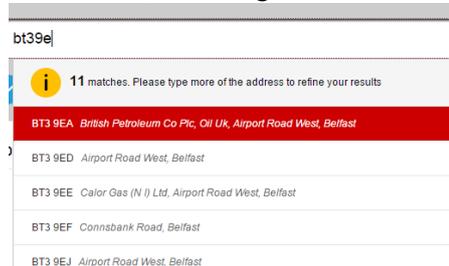
BT3:
Belfast Harbour estate (including Belfast City Airport)



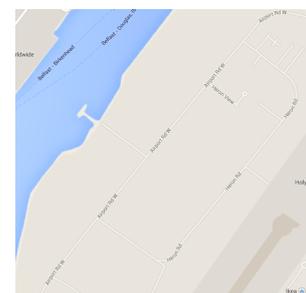
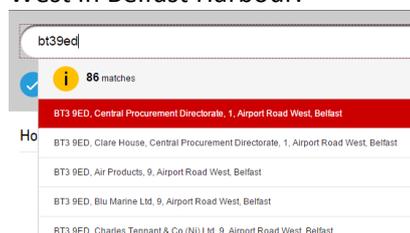
BT39:
693 matches in Templepatrick & Ballyclare areas



BT39E:
11 matches, including five streets



BT39ED:
86 matches, all unique addresses in Airport Road West in Belfast Harbour.



Notes



Ireland

FTA Ireland
Unit 1
Airport Business Park
Cloghran
Co Dublin

Telephone: 01 8447516
Fax: 01 8447801

Website: www.ftai.ie

Registered in Ireland Number: 487041

11.14/MB

Ref L3_8

Emergency Times

Date Published : February 1st, 2018 **Published By :** admin

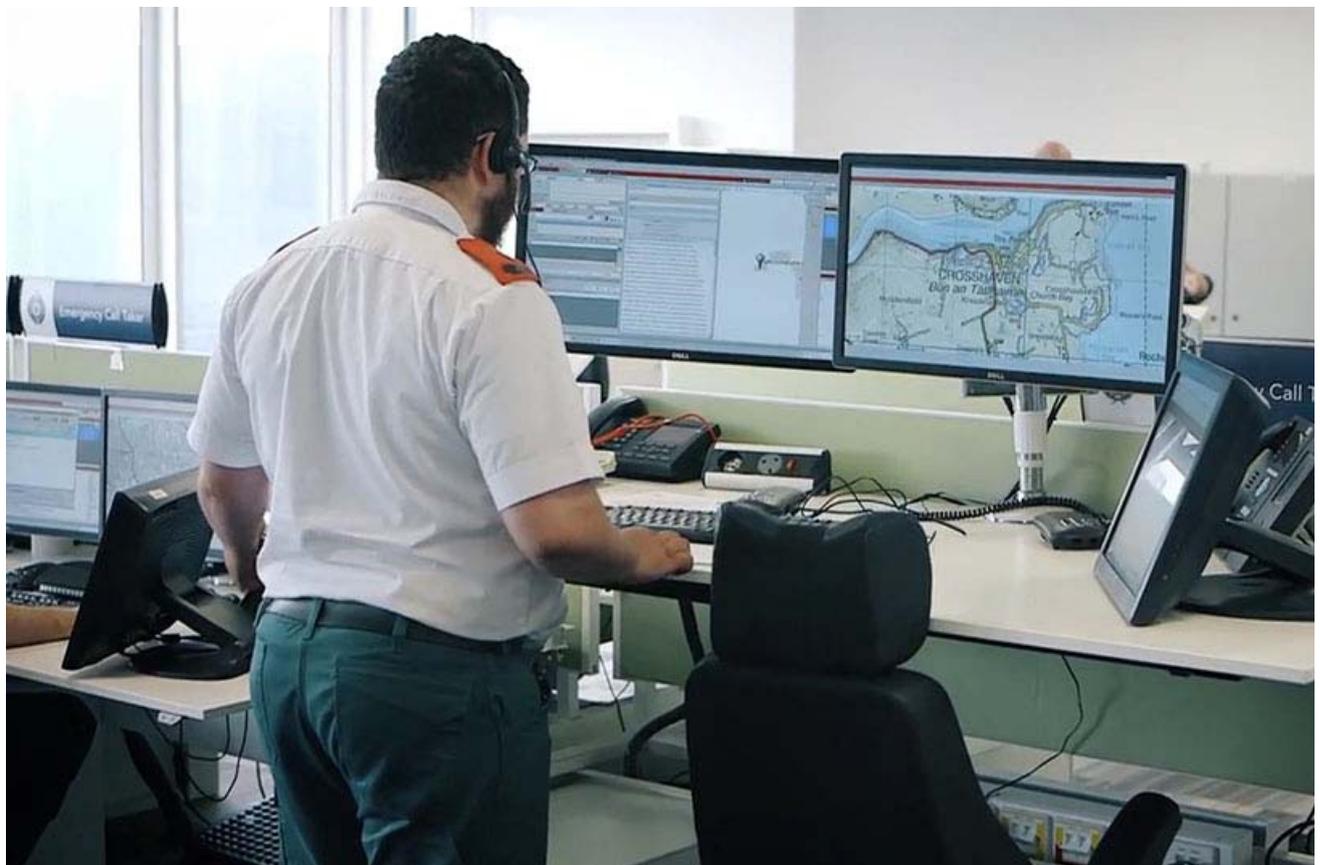
Ambulance Service crews can identify locations with no postal address more efficiently

Operational Managers within the National Ambulance Services (NAS) are supporting Public Safety Location Code technology, called Loc8. Loc8 Code Ltd is a Cork based company formed by GPS, Navigation & Mapping specialists in 2009.

It ensures that First Responders are dispatched quickly and accurately to emergency sites throughout Ireland. The technology simply requires any location to accurately identify non-postal locations on a map.

The National Ambulance Service uses the Public Safety Location Code (Loc8) technology.

Controllers at the Ambulance Service's National Emergency Operations Centre (NEOC) are now trained to dispatch Emergency Ambulance Resources using the latest Public Safety Location Code (Loc8) technology. The unique built-in error checking software enables the Computer Aided Dispatch (CAD) system to generate a map with a precise location code. It is this location code that assists crews to go directly to a location – first time. Whether it's up a mountain or in the middle of an industrial site using Loc8 technology ensures the emergency site can be reached with near pinpoint accuracy.



Pic: (NAS National Emergency Operations Centre)

Pat McCreanor, Chief Ambulance Officer at the National Ambulance Service said “We welcome any technology which assists us with patient care and helps us get to the patient quicker. The Public Safety Location Code (Loc8) will assist in getting to non-Eircode, non-postal address locations where people attend, pass-by, work or recreate.”

Location codes are being progressively added to safety signage on a range of public and private spaces such as Emergency Planning locations, Life Buoys and Assembly Points. Senior officials within Emergency Management and Health & Safety operations across all sectors are aware of the benefits of this system.

Members of the public are being urged to familiarise themselves on how to use the free and effortless location code, which will also assist with emergency situations. Furthermore, Garmin Satnavs from 2010 onwards support Loc8 Code as an in-built feature. “The simplicity and accuracy allows the emergency services to quickly and efficiently effect a successful rescue” said Lt Cdr John FM Leech, CEO Irish Water

Safety.

For temporary structures or undeveloped spaces, ranging from Public Events to Construction sites there is no scope, in a crisis, for guesswork or confusion into finding a precise location. The Public Safety Location Code (Loc8) system is increasingly being relied upon by emergency services – It's a matter of saving lives.

About Loc8 Code Ltd

Loc8 Code Ltd is a Cork based company formed by GPS, Navigation & Mapping specialists in 2009. It is Enterprise Ireland supported and focuses on Navigation & Geo-intelligence with particular interest in Public & Workplace safety. It has been assisted in its research, development and implementation by Garmin Inc. from the outset. The concept for Loc8 Codes was first suggested publicly in early 2006 and it evolved through research & development from then up to July 2010 when Loc8 Codes were formally launched in the Science Gallery in Trinity College, Dublin by TV presenter, writer & actor Charley Boorman.

Further information can be found at www.loc8code.com

← Back to Previous Page

 **eir: Tracey**



Verified representative



Join Date: Sep 2015

Posts: 1,412

[Report Post](#)

Originally posted by **ZA2IE** >

I've been living in a newly built house since 8th of May the Address was registered for Eircode with An post 3 times, Once by the developer, once by me and once by my wife. We have been pushing to get our eircode from them ever since, always getting the same nonsense response about eircodes only being updated every quarter (first warning bell going off), but ok fine... not long to wait as it should still be early enough to be added to june/july period list of eircodes to update.

Then i get told a week ago that An post has forwarded necessary details to Eir to be updated but that because there wasn't enough people in the estate yet the eircode will be pushed out to the next period! What Bull\$#!t is that!

I have been living without any services that others take for granted since 8th of may! I can't phone, tv, broadband, postal deliveries are a nightmare and until recently was also struggling to get my bins collected!

I find the lack of regard for my urgency pathetic and the fact that it takes 3 months to update a database with my details and to link it to an eircode screams "3rd world" to me! But to be told that the company responsible for putting me on the map (literally) wasn't bothered because there weren't enough people!?!?! The backwards thinking and poor attitude to peoples living conditions caused by absurd delays in being allocated an eircode is ridiculous. whoever is responsible for the way eircodes are assigned and registered should be ashamed of themselves! Eir as a company should do more, A LOT MORE, supportive and pull their fingers out of their arses to get me my eircode! The fact that i have no choice but to wait for my eircode regardless of my desperation and the unlikelihood of any miracles being performed enrages me even more! the people responsible for eircodes being assigned are seriously taking the piss! However should anyone from Eir reading this have a workaround to give me an eircode so i can rejoin civilized society please PM me so i can start living my life again.

This type of "issue" should not be happening, I think its about time you did something to fix it because its not going to fix itself.

Ref L3_10

Eircodes wanted at planning stage

Friday, June 15, 2018

Eircodes may need to be issued to all potential new dwellings from the moment a planning application is submitted for them even if they are not subsequently built.

The Central Statistics Office has recommended assigning the post codes from the very start in order to make tracking and counting of new homes more accurate.

The recommendation is one of several made by the CSO as it published its first quarterly new dwellings completion statistics compiled under a new counting method that shows figures previously published by the Department of Housing were substantially over-stated.

Statisticians also want a tightening up of the Building Energy Rating programme which could help provide an accurate count of new homes if it wasn't flouted by a significant number of self-build one-off homes.

They also want the State to address an anomaly whereby some shared dwellings, such as student accommodation, are not included in the ESB domestic connections data which can also give a good indication of the number of new homes built.

Kieran Culhane, CSO senior statistician, said that the counting method now adopted was more robust but it still had limitations.

"This report is an important first step," he said. "Further engagement with key stakeholders will be essential."

The disparity between the figures previously published by the department and those now compiled by the CSO ranged from a 25% over-count in 2017, when the department's figure was 19,271 but just 14,446 new dwellings were actually completed, to a 50% over-count in 2014.

The discrepancies were due to the department's reliance on ESB connections alone as an indicator of new dwellings completed. That method exaggerated the number of new dwellings in 2017 by 4,825.

More than half of those were not new but reconnections, a quarter related to previously counted houses in ghost estates, and the rest to properties connected to the domestic ESB system even though they were not dwellings.

Housing Minister Eoghan Murphy accepted the revised figures but reiterated that 18,000 new homes became available last year once the vacant homes and ghost estates brought into use were counted.

Completions have risen steadily over the past seven years — from 6,989 in 2011 to 14,446 in 2017 with last year's output a dramatic increase of 46% on 2016.

Three-quarters of the new homes completed last year were in urban areas and Dublin and Cork had the most completions overall with 5,602 and 1,402 respectively.

Meath and Kildare were next with 1,108 and 985, while Longford and Leitrim had the fewest, at 73 and 75.

The Institute of Professional Auctioneers and Valuers said the figures were long overdue but unsurprising.

Chief executive Pat Davitt said: "What was well known is now officially known.

"Now that we have figures upon which we can rely, decision-makers need to get on with cutting the impediments to home building."

The high cost of finance for builders and developers was one such impediment, said Mr Davitt.

Written answers

Tuesday, 20 June 2017

Department of Communications, Energy and Natural Resources

Postal Codes



Eoin Ó Broin (Dublin Mid West, Sinn Féin)

Link to this: [Individually](#) | [In context](#)

1746. To ask the Minister for Communications, Energy and Natural Resources the estimated costs for adapting information technology systems to include Eircode for departmental mail; the number of Departments that have adapted their information technology systems to implement Eircode; and the cost to the exchequer in this regard. [27007/17]



Denis Naughten (Roscommon-Galway, Independent)

Link to this: [Individually](#) | [In context](#)

Capita Business Support Services Ireland, trading as Eircode, was awarded a 10 year contract in December 2013 to develop, implement, maintain and promote the use of the National Postcode System "Eircode". The contract provided for a programme of public sector database encoding with Eircodes for 15 public sector bodies that have frequent interaction with the public. Prior to the Eircode launch approximately 80million public sector database records were encoded with Eircodes, costing €11.5m (VAT inclusive).

Public sector bodies have used their regular on-going ICT software upgrades to incorporate Eircodes as part of other changes to their systems. The cost of adapting systems to use Eircodes is a matter for individual organisations, though Departments have indicated that this has resulted in **no significant cost to those bodies.**

Written answers

Tuesday, 21 February 2017

Department of Agriculture, Food and the Marine

Information and Communications Technology



Catherine Murphy (Kildare North, Social Democrats)

Link to this: [Individually](#) | [In context](#) | [Oireachtas source](#)

561. To ask the Minister for Agriculture, Food and the Marine the cost of upgrading information technology systems and-or databases to incorporate the use of Eircode; if the use of Eircode is mandatory in his Department; and if he will make a statement on the matter. [8625/17]



Michael Creed (Cork North West, Fine Gael)

Link to this: [Individually](#) | [In context](#) | [Oireachtas source](#)

The total cost of upgrading ten major computer systems in the Department to facilitate Eircode is estimated at **€276,375** from 2014 to date. The use of Eircode is not mandatory but the Department has run a number of promotion campaigns, including at the National Ploughing Championships in 2015 and 2016 to encourage farmers to update their contact details to include Eircodes, and further initiatives are planned. In addition, the Department has provided a self-service facility on its online services portal (www.agfood.ie) for farmers to provide their Eircode. The Eircode provides a means of unambiguously identifying and locating our customers and this is particularly useful in the case of rural areas where there are many instances of non-unique names and addresses in a particular townland.

Written answers

Tuesday, 20 June 2017

Department of Transport, Tourism and Sport

Postal Codes



Timmy Dooley (Clare, Fianna Fáil)

Link to this: [Individually](#) | [In context](#)

1875. To ask the Minister for Transport, Tourism and Sport the amount spent by his Department on designing, implementing and supporting the Eircode system in each of the years 2011 to 2016 and to date in 2017, in tabular form. [28147/17]



Shane Ross (Dublin Rathdown, Independent)

Link to this: [Individually](#) | [In context](#)

My Department's National and Vehicle Driver File (NVDF), which contains details of registered vehicles and licensed drivers in this country, is fully capable of accommodating and processing Eircodes. The Departments online systems, including which enables vehicles be taxed online, can also accommodate Eircodes.

The cost of making the necessary NVDF software and other operational adjustments required is set out below in tabular form, as requested.

Year	2011	2012	2013	2014	2015	2016	2017 (Year to date)	Total
Cost (inc VAT)	€0	€0	€0	€18,988	€69,860	€264,211	€61,341	€414,400

Written answers

Tuesday, 21 February 2017

Department of Social Protection

Information and Communications Technology



Catherine Murphy (Kildare North, Social Democrats)

Link to this: [Individually](#) | [In context](#) | [Oireachtas source](#)

307. To ask the Minister for Social Protection the cost of upgrading information technology systems and or databases to incorporate the use of Eircode; if the use of Eircode is mandatory in his Department; and if he will make a statement on the matter. [8638/17]



Leo Varadkar (Dublin West, Fine Gael)

Link to this: [Individually](#) | [In context](#) | [Oireachtas source](#)

My Department undertook a business study in 2015 to ascertain what the ICT implications of introducing the Eircode would be and this cost **€5,701.56** (excluding VAT).

The cost of the contract for the ICT work to implement Eircodes was **€298,890** inclusive of VAT. The project was completed on time and within budget.

Furthermore, my Department has the Eircode Address Database (ECAD) service to provide ongoing validation of postcodes with addresses. The ECAD provides access to geocodes as it is correlated directly with GeoDirectory X Y co-ordinates. My Department expects this to be particularly useful for future ICT projects.

The use of Eircodes is not mandatory in my Department, although they are collected for consistent and accurate recording of address details.

Written answers

Friday, 16 September 2016

Department of Transport, Tourism and Sport Postal Codes



Jim Daly (Cork South West, Fine Gael)

Link to this: [Individually](#) | [In context](#) | [Oireachtas source](#)

1814. To ask the Minister for Transport, Tourism and Sport the efforts his Department and agencies under its remit have made to use Eircode when communicating with households via An Post; and if he will make a statement on the matter. [25878/16]



Shane Ross (Dublin Rathdown, Independent)

Link to this: [Individually](#) | [In context](#) | [Oireachtas source](#)

My Department's primary interest in the project relates to the National Vehicle and Driver File (NVDF) which contains data, including address particulars in respect of the 2.59 million licensed vehicles and 2.74 million driving licence holders in the country. The NVDF system has been fully enabled for vehicle records to process Eircodes with an estimated 40% of the vehicle database populated with an Eircode. The driving licence elements are currently been implemented and are expected to be delivered by the end of Q4 2016.

The NVDF system issues 10 million postal items annually, all of which have been modified to use Eircodes. In addition the NVDF processes in the order of 10,000 addresses updates daily and procedures have been put in place for the public to update their Eircode in the relevant systems such as Online Motor Tax. The NVDF will benefit from the National Post Code (Eircode) System by increasing postal delivery accuracy which is important in ensuring that key postal items such as Motor Tax disks and Penalty Point notices get delivered to the correct address.

In relation to the agencies under my Department's remit, this is a matter for the agencies themselves and I have forwarded the Deputy's question to the agencies for their direct response. If the Deputy does not receive a reply within ten working days, he should contact my private office.



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Emergency Management Office
Eye, Ear & Throat Hospital
Western Road
Cork
Tel: (021) 4921622/24
Fax: (021) 4921627
E-mail: peter.daly1@hse.ie

19th March, 2014

TO WHOM IT CONCERNS

We have been asked to comment on Loc8 Codes and their use in Emergency Management in this region.

We find them very useful, so much so, that we have incorporated Loc8 codes into all the external emergency plans for critical installations in the region; ports, airports, Seveso sites, key assets and critical infrastructure. Even with the introduction of implementation of a National postcode we hope to continue to use on Loc8 Codes since many locations that we need to clearly identify do not have and will never have a letterbox code or indeed a postal address.

We have used them over the past two years and have found them to be precise and they can be used with SatNavs to save valuable time locating and navigating to specific points anywhere on the island of Ireland.

We have found them particularly useful in reducing inputting errors since they have an alphanumeric format rather than an all-decimal or the more traditional degrees and minutes which may be unfamiliar to general users or emergency staff under stressful conditions.

Yours sincerely,

A handwritten signature in blue ink that reads "Peter Daly".

Chief Emergency Management Officer

HSE South

Ref L3_14

**PRESENTATION ON EIRCODE
&
A NATIONAL POSTCODE**

TO

**OIREACHTAS JOINT COMMITTEE ON TRANSPORT &
COMMUNICATIONS**

BY

GARY E. DELANEY

MSc(NT), FIN, FIS, Lt NS (Ret'd)

CEO LOC8 CODE & GPS AND POSITIONING CONSULTANT

**LEINSTER HOUSE
DUBLIN**

30 JUNE 2015

**PRESENTATION ON EIRCODE & A NATIONAL POSTCODE
TO OIREACHTAS JOINT COMMITTEE ON TRANSPORT & COMMUNICATIONS**

30 JUNE 2015

1. Background & Qualifications Gary Delaney

I am appearing in front of the Oireachtas Joint Committee on Transport & Communications as an expert in navigation, positioning, GPS, mapping and as someone who uniquely has the experience of delivering a solution which is similar to a National Postcode across all of the island of Ireland over the last 5 years. Loc8 Code is successfully used by many both private and commercial users across the island. No other address coding system has been similarly successfully used and deployed in Ireland and I have unique experience beneficial to the Committee in their considerations in that regard.

I am a professional naval navigator, having been an officer in the Irish Navy for almost 20 years, but I am also a land surveyor and experienced land navigator. I have a Masters Degree with Distinction in Navigation Technology. I am an Elected Fellow of the Royal Institute of Navigation and of the Irish Institution of Surveyors, soon to be part of the Royal Institute of Chartered Surveyors. I have used, specified, installed, trained and supported GPS, Mapping, Positioning systems and multiple coordinate systems for the Tourism, Fisheries/Angling, Agriculture, Forestry, Water Infrastructure, Oil Exploration, Hydrographic Surveying, Marine Navigation, Military, NGO, Emergency Services, legislative enforcement for criminal/war crimes/humanitarian investigation and academic industries for over 35 years in Ireland (North and South), Lebanon, UK, Central, Western & Southern Africa, Middle East and Seychelles and I work regularly for the Irish State as an expert witness in investigations where position evidence is required. I have supported Garmin Satnav users in Ireland for at least 10 years. I have researched and been directly involved in the issue of an Irish National address coding system since before 2005 and my ideas on the matter are on the public record since then. I have supported commercial and private users of Loc8 Code for over 5 years. I therefore, appear before you as a recognised expert in Navigation and GPS and modern postcode requirements. The exercise of using a national postcode for mail, logistics, tourism, emergency services and commercial and personal travel is one related to the science of Navigation and as Eircode has mistakenly been designed to be totally dependent on GPS for even the most basic uses, I am more qualified to speak on all aspects of this matter than most in Ireland. Nobody with such experience was involved or consulted in the design of Eircode but the benefit of all that experience was used in the design of Loc8 Code.

2. Eircode for the Ordinary Citizen or Visitor

- a. Ireland does not need a postcode for sorting mail. The An Post's mail business is in permanent decline and Liam O' Sullivan of An Post told this committee that the Eircode postcode will not lift their current 98% efficiency in any way. They have long said they do not need a postcode to do their job. So the requirement of a modern postcode must focus elsewhere;- on logistics on the emergency services, on tourism and on the Irish citizen themselves. Nowhere in anything that has been said by successive Ministers, Department of Communications Officials, Consultants, Advisers or the Eircode contractors themselves has focused on the usability of Eircode for the ordinary person in the street, whether local or visitor. Often in attempting to justify the design of Eircode, it has been said that people will easily remember their own. However, this is not a key measurement of a postcode. Instead, it is whether people can remember or use someone else's postcode and this is not the case for Eircode. It is on this basis that people in Ireland will decide that Eircode is of little use to them and that decision, and whether Eircode is a success or not, is not the Ministers or

anyone else's other than one for the Irish people themselves. Yet, not one verifiable or documented user trial or focus group for Eircode has ever been carried out with ordinary citizen users. To be successful, like every other postcode in the world, a postcode must have basic functionality for the ordinary user. By looking at it they must be able to identify and visualise small geographic areas or localities. Only very recently, it was revealed that the first 3 characters of Eircode will not do that – it will not identify definitive areas and 80,000 properties around Limerick city and suburbs into the surrounding county area will have the same first 3 characters (routing key). To the ordinary user, current address information like O'Connell Street, "Limerick City" or "Dooradoyle" has, and will continue to have, more meaning than an obscure and undefined routing key. As for the rest of the code;- no human can do anything with that;- not even a postal sorter or a postman. So, basic interpretation by a citizen or a visitor user, such as deciding if a code is close to them or simply nearer to or further away from another code, is not possible by looking at an Eircode. They will not be able to decide if they were there or in the same locality before;- thereby making the code less than useless to the person who is paying for it through their citizenship and their taxes. This basic functionality should not need any technology other than the human brain to achieve with a workable and useful public postcode. A coordinate system such as Latitude and Longitude which has been in existence for hundreds of years has more functionality in these basic ways than Eircode. A UK postcode which is more than 50 years old has this basic capability and it is the reason that it is still in wide and popular use, even though it has other limitations and was designed in a different century. I must emphasise that Loc8 Code has these basic functionalities built in also, so that it can be used in simple ways without any technology at all.

3. Independent International Assessment of Eircode By GADA

- a. I draw the Committee's attention to the recently published Assessment of Eircode by Charles Prescott, Executive Director of the Global Address Data Association (GADA), the Address and Postcode experts, based in the USA. I know that the Clerk of the Committee passed this document on to every member during last week, so there is no need to go into it in detail. However, it must be said that it is an indictment of Eircode which it says is not even a traditional postcode let alone the "Historic", new "global standard" or "next generation" postcode that was claimed by those behind Eircode. It reiterates many criticisms of Eircode that I and others have been making for some time but which have been dismissed and ignored to date. One paragraph from the document states: *"So Ireland ends up with something that can't really be called a postcode system, except in part for the first bit. The second bit appears to be a system for random scattering of unrelated letters and numbers, which aren't even posted on buildings. Sadly, it appears there were no address experts involved in the final design process. One is reminded of the old adage about a camel being a horse designed by a legislative committee"*. I disagree with Mr. Prescott only on one point in this extract and that is where he suggests that the first part of Eircode is in some part like a postcode. In my estimation, explained later, that part, the Routing Key, relates in no way to a normal postcode and in fact achieves nothing of which it was required to do. However, the main point is that GADA's assessment effectively identifies Eircode as a disaster which will make Ireland a laughing stock if implemented.
- b. On the basis of this independent assessment alone, it is difficult to understand how Eircode could be let proceed at this point.

- c. The full GADA report can be found on line here: <http://www.globaladdress.org/wp-content/plugins/download-monitor/download.php?id=98>

4. Irish National Postcode History

- a. Ireland started talking seriously about a postcode in 2003. Aside from our unfit-for-purpose property addressing system, one of the reasons that serious consideration of a postcode commenced at that time, was because the EU mandated liberalisation of the postal market was on the way and industry leaders successfully made a strong and valid argument that a postcode would be necessary to level the playing field for competition in the event of liberalisation as one of the main issues was that An Post controlled the addressing system and controlled access to its interpretation. In 2006, a deadline for implementation of a postcode of Jan 2008 was set and every deadline set has been missed since then.
- b. In my opinion, the reason deadlines have been missed is because An Post and the CWU did not want a postcode introduced as it would assist competition and result in job losses. The CWU made these arguments against a postcode in their 2012 annual report. An Post has repeatedly said that they did not want or need a postcode and called it “a 20th century solution to a 21st century problem”. In a recent RTE Prime Time investigative piece on Eircode, John Tuohy of Nightline referred to this as “a protectionist stance” on behalf of An Post. The full Prime Time piece can be seen on line here: <https://www.youtube.com/watch?v=o4fEow6ASqY>
- c. Since the foundation of State, neither the Post & Telegraphs nor An Post made any effort to improve our property addressing system or introduce a postcode even though a postcode happened in the UK in 1960’s and in Northern Ireland in the 70’s. Instead, they developed an alternative approach to a postcode through the use of “postal” addresses and “post towns” which had the effect of removing true geographic intelligence from many addresses especially in rural areas, making them even more difficult to find without the assistance of An Post’s interpretation through the local knowledge of postmen and, in recent years, through An Post’s own commercial address database product called the Geodirectory. All of this disadvantages ordinary people and commercial organisations who want to find addresses around the country and especially couriers who are now competing directly with An Post in the parcel market. The parcel delivery business is rapidly growing as a result of internet sales and it is the only delivery element of An Post’s operation that is currently making profit.
- d. In 2012, whilst actively competing in the postcode tender and whilst Eircode was being agreed, An Post won a landmark judgement in the High Court allowing it to continue to change addresses as part of its postal address and post town approach. It can be deduced, therefore that An Post intends to continue using its traditional approach to mail sorting and this is confirmed by instructions to occupants of South Roscommon earlier this year when it aggravated locals by telling them they should use “Athlone” and “Co. Westmeath” as part of their address to ensure mail is delivered. It must be emphasised that An Post had helped agree the detail of the Eircode design at that point and knew it was on the way, so if they intended to use it in a meaningful way they would have availed of that opportunity to avoid creating bad press for itself in Roscommon.

- e. Over 12 years after first committing to implementing a National postcode we still do not have one and what is proposed in Eircode will not level the playing field as originally intended and nor will it improve Ireland's property addressing system. See my article specifically on this matter;- "Postcodes- WRONG WAY TURN BACK" (How Eircode will make Ireland's Property Addressing Worse instead of better) online here: <http://www.loc8code.com/news/postcodes-wrong-way-turn-back> Instead, Eircode will help to maintain An Post's control over Irish property addressing and its related advantage over its competitors. Some say that we have spent nearly 13 years designing Eircode but in fact we have spent 8 years watching the idea of a postcode being objected to by An Post and the CWU, a further 3 years negotiating a way forward and only a few months of the final few years since then agreeing the dysfunctional nature of Eircode such that it will be barely useful for An Post themselves and not at all useful for anyone else. Once again, as John Tuohy suggested on that Prime Time piece, Eircode is no more than the result of An Post protectionism, supported and encouraged by the CWU. A Labour party recommendation for a GPS based code as identified by then Deputy Liz Mc Manus TD in her comprehensive report on postcodes to this Committee in April 2010, supported by then Committee member Deputy Simon Coveney TD, has been discarded in favour of a political solution to a technical problem and the original purpose of the proposed National postcode has been long since lost in time and the protectionist agenda.

5. Legitimacy of Eircode

Eircode has questionable legitimacy for the following reasons:

- a. It fails to satisfy many, if not all, of the requirements of the intended National Postcode as set out by the National Postcode Project Board (NPPB) in 2006. These recommendations were arrived at after wide and documented consultation by the contracted consultants including with my own Company GPS Ireland in 2005. The full report in which these recommendations are made is on the DCENR website here: <http://www.dcenr.gov.ie/NR/rdonlyres/9A989A87-03EA-484E-B0F5-446FCF037D1A/0/NationalPostcodeProjectBoardRecommendationofNPPBonImplementationofPostcodesReport2006.doc> Very specifically, a postcode which is structured to at least small spatial areas (including splitting up postal areas of Cork, Limerick Cities and others) and which is also postal operator neutral as recommended has not been delivered. The full recommendations of the NPPB in its 2006 report officially formed the basis of the procurement process started in Jan 2011 and Eircode differs greatly from the majority of these recommendations. It is normal where the final procured product specification is to differ greatly from that specification laid down in the official tender PQQ, that the tender would be recommended.
- b. In multiple reports during the period 2006-2010 by the contracted consultants, PA Consultants, and also published on the DCENR website, the ABC 123 postcode model was recommended for adoption. This model was also stated as that required in the official tender specification. It was the subject of much media discussion between 2008 and 2011 and I personally have a letter from former Minister Eamonn Ryan TD in which he insists that this was the recommended model and that he had no plans to change it. PA Consultants wrote a letter to the Sec. Gen DCENR in Oct 2010 insisting that the proposed ABC 123 model be adopted as it would support both inward and outward manual sorting of mail, something which they identified as

essential for a postcode to be a postcode. However, inexplicably Eircode greatly differs from this model in both the “ABC” and the “123” element. The ABC element of the proposed design was to correspond to 219 clearly defined An Post post town areas, however the equivalent first 3 characters of Eircode (the Routing key) deliberately does not define any areas at all and is related to only 139 “Principal” post towns thereby leading to a situation, as previously mentioned, that up to 80,000 properties in Limerick will have exactly the same routing key which does not reflect “at least small spatial areas” as recommended by the NPPB. It also means that the routing key on its own would be difficult to use for manual sorting as it does not immediately match the approximate 200 post towns that An Post currently has. In this case, the post town reference that An Post requires in the postal address would also be required to manually sort to that level, explaining why An Post is insisting, and will continue to insist, on the postal address being used and why using Eircode would present additional manual sorting challenges rather than minimising them. It is also one of the reasons why An Post is unlikely to make much use of Eircode for manual sorting;- contrary to PA Consulting’s specification. Of course, it is obvious that no human could manually sort using the last 4 characters of Eircode whose visual randomness can only be resolved by a database via computer technology. Of course, the full Eircode could be used for an automated sort but currently it is impractical for An Post to sort to better than Delivery Office level at its Hubs and only the Routing key is needed for that. There is no automation at Delivery Office level so that the last 4 random characters of Eircode, to identify the postman’s walk and the final destination address, can’t be used for manual sorting there either. Eircode does not, therefore, satisfy any of the specified or recommended features. Once again, it is normal where the final procured product specification is to differ greatly from that specification laid down in an official tender PQQ, that the tender would be recommended.

- c. Paragraph 66 (2) of the Communications Regulation (Postal Services) Act 2011 states as follows: *“The Minister may, with the prior consent of the Minister for Public Expenditure and Reform, enter into a contract with one or more than one person for the development, implementation and maintenance of a system (in this section referred to as the “national postcode system”) for the allocation, dissemination and management of postcodes for the purposes of, or relating to, the provision of postal services and the use of the national postcode system by other persons for such other purposes as the Minister considers appropriate”*. When questioned about his consent for the Eircode contract in PQ [12279/15](#), Minister Brendan Howlin TD stated that the terms of that consent were:
- i. that the procurement was conducted in accordance with public procurement requirements
 - ii. that the winning tender represented value for money
 - iii. that the contract complied fully with the requirements of the Communications Regulation (Postal Services) Act 2011
 - iv. that the costs could be met from within the voted allocations of the Department of Communications, Energy and Natural Resources going forward.

There are many strong arguments that can be made that none of these 4 terms of consent have been fulfilled. However, picking just one, in relation to item no. iii the Act states as follows in Paragraph 66 (3):

The contract referred to in subsection (2) shall specify the terms and conditions relating to the development, implementation and maintenance of the national postcode system and, in particular, shall specify—

(a) the conditions subject to which postcodes may be made available,

(b) the conditions relating to the protection of intellectual property rights,

and

(c) the conditions (including conditions as to the making of charges) subject to which the national postcode system may be made available to any person who may wish to use it.

As the contract for Eircode has not been made publicly available, in spite of being sought, it is not known if these conditions have been met and in PQ [12280/15](#) Minister Alex White TD fails to confirm that they all have been satisfied.

For these reasons, and because all of the listed terms of the Communications Regulation (Postal Services) Act 2011 and the terms of Minister Howlin's consent may not have been fulfilled, Eircode has no verifiable legitimacy in relation to these elements of the Act.

- d. Very significantly, in Paragraph 66 (1) of the same Act, which is available here on line: <http://www.irishstatutebook.ie/2011/en/act/pub/0021/sec0066.html#sec66>, the National Postcode System is defined as follows: *““postcode” means a code consisting of numbers or other characters or both numbers and other characters that identifies the locality of an address and, where appropriate, the geographic location of an address”*

This definition specifically requires that the selected postcode identifies a locality. This is in keeping with the Universal Postal Union's definition of a postcode which states: *“a postcode is a ‘unique, universal identifier that unambiguously identifies the addressee's locality and assists in the transmission and sorting of mail items.”* The NPPB's technical design document for a National postcode specifically refers to localities as a key element of the recommended postcode. The document is available online here: <http://www.dcenr.gov.ie/NR/rdonlyres/F4CFBA0B-36C4-4996-9975-3FB8437460F3/0/NationalPostcodeProjectBoardTechnicalDesignReport2006.doc> In the National Postcode Design Report v4.0, prepared by Capita in collaboration with An Post and completed in May 2014, under Paragraph 1.4.6 Headed “Design Principles” and referring to the Routing Key it states: *“For all other areas [thereby excluding existing Dublin Postal areas just discussed] the Routing Key should not refer to or be associated with the geographic place name or locality in the Irish or English language”*. Throughout the document, much emphasis is placed on the fact that the Routing key will not identify any county, town or any form of defined area. Therefore, as it is clear that Eircode does not identify a locality as required by the legislation, it will not be a legitimate postcode as currently defined. Furthermore, as An Post's existing post town system has High Court sanction and more closely conforms to the postcode definition (it defines a locality and uses the required characters for post town name and Dublin postal areas Dublin 1-Dublin 24), it can be argued that it alone has true legitimacy as a postcode under the Act.

- e. Therefore, if Eircode is implemented in its current manifestation, it appears that Ireland will have two postcodes in operation, one operated by An Post which has

High Court confirmed legitimacy, and the proposed Eircode with extremely questionable legitimacy and which could be legally challenged with apparent ease. The State may, therefore, have great difficulty in insisting on Eircode being used as a property identifier in interactions with its agencies into the future and there also may well be significant implications for the amendments to the Act in the Bill related to Privacy and Data Protection aspects of a postcode currently making its way through the Houses of the Oireachtas.

6. Further Eircode Design Considerations

- a. Eircode bears no resemblance to NPPB or consultants recommendations, it does not satisfy the terms laid down in the postcode procurement tender PQQ of Jan 2011 and rather than being designed since 2003, it was clearly designed in a collaboration between Capita & An Post (the winner and runner up in the postcode tender) in a few months ending May 2014 after the €27m contract had been awarded to Capita and its consortium bid members in December 2013. The design was argued and justified without reference to other postcodes in use worldwide, a needs assessment, international postcode expertise or recognised expertise in navigation, coordinate, positioning or GPS technologies. The National Postcode Design Document v4.0, referred to earlier, is not available online but is available in hard copy and was referred to in the RTE Prime Time investigative piece mentioned earlier. That piece indicates that the document refers to An Post and their specific requirements no less than 100 times and gives no evidence of consultation with any other postal (including parcel) operator in relation to design requirements. This indicates that Eircode's design is not "neutral between postal operators" as recommended by the NPPB in 2006 and as required as result of reference to those requirements in the Jan 2011 tender PQQ. Whilst it is clear that detailed and wide consultation was undertaken to arrive at the NPPB recommendations and selected ABC 123 model in 2005/2006 and this is published on the DCENR website, there is no published evidence of detailed and meaningful consultation with stakeholders, other than An Post, on the design of Eircode. Furthermore, whilst the DCENR website contains details of multiple design and cost benefit analysis studies for the 6 character ABC 123 postcode model intended up to 2011, no such analysis has been equally verifiably undertaken for the 7 character Eircode.
- b. The majority of the contract awarded to Capita and its consortium members is not related to Eircode design at all. Most is related to an address database design, client database matching, cleaning and updating, roll out and ongoing maintenance of the database. A response to queries from the Public Accounts Committee on the matter from DCENR, published on line here: [http://www.oireachtas.ie/parliament/media/committees/pac/correspondence/2014-meeting1310307/\[PAC-R-1444\]-Correspondence-3B.1---Mr.-Eamon-Molloy-Irish-National-Postcode-System.pdf](http://www.oireachtas.ie/parliament/media/committees/pac/correspondence/2014-meeting1310307/[PAC-R-1444]-Correspondence-3B.1---Mr.-Eamon-Molloy-Irish-National-Postcode-System.pdf) indicates that only €2m of the total €27m (7%) is actually being spent on the postcode aspect of the contract itself. This makes it very clear that Eircode is more about creating an address database and maintaining it than actually developing a useful postcode. In keeping with this, many of the Public briefings on Eircode given by Capita and its Consortium members on the subject have been more about the databases, ECAD and ECAF than the Eircode postcode itself. The only notable relevant technical expertise within the consortium is a company which specialised in acting as a reseller for An Post's Geodirectory database and this may explain why Eircode has become more about renovating an existing address database rather than designing and developing a useful postcode.

This was clearly demonstrated earlier this year when, 1 year after it was supposed to happen, businesses and registered interested parties were sent “Eircode sample Data” but this turned out not to contain any Eircode samples whatsoever. Instead, it was more related to the design, structure and content of the related address databases and no reason was given when this was questioned. Ireland needs/needed an improved version of An Post’s Geodirectory and investment was need in that, but this contract was supposed to be about the design, roll-out and management of a National postcode NOT an address database and it would appear that allocated finances have been spent on the wrong product!

- c. Eircode, as designed, is not a modern or “next generation” postcode and could have been introduced a century ago but would not have been as it has no public usability functionality. It is neither a property numbering system that orders and identifies properties visually nor a postcode which guides humans to a locality and then to a destination. A modern postcode, like all modern technology would use the useful elements of existing technology as a foundation and add new capabilities based on modern requirements and approaches. Eircode has ignored all previously recognisable and useful postcode features and has delivered an unstructured collection of characters without useful purpose or foundation. Taking the UK postcode, as used in Northern Ireland, as a recognisable example, here are two postcodes:

- i. BT4 1PW
- ii. BT4 1PY

Simple visual inspection intuitively tells you that both are very close together and by simple iteration without any prior knowledge you would be able to know that another postcode BT 1PP is in the same area and probably close also. All three are 3 separate streets adjacent to each other;- Sydenham Park and Gardens in Belfast City area. Minimal experience in the area and with the postcode would tell you that the iteration is not always perfect as there are crossover points, exceptions and special cases, but, in general, an ordinary person can make good use of this postcode system in their daily lives without special technology in the following ways:

- iii. It is easy to tell if one postcode is in close proximity to another without any technology and simply by visual inspection.
- iv. When arriving at a street with one postcode you can iterate whether you are getting close to or further way from a street with another postcode and therefore adjust your direction of travel accordingly.
- v. By experience you can determine the close locality of the postcode by inspection of the first 4 characters.
- vi. If you move from BT4 1 to BT4 2 you have moved into an adjacent locality, in this case another small and distinct neighbourhood of Belfast.
- vii. You can easily present the code areas on a paper or electronic map for general management and decision making
- viii. As localities are distinct and clearly defined, basic commercial divisions and territories such as franchisee areas can be organised using them
- ix. You can judge easily whether you were in the locality before and if so easily visualise how to get there
- x. As you go to a postcode, you can use the locality clues in the code to visualise areas, streets and landmarks on the way;- thereby supporting natural human navigation techniques. The human never naturally navigates

by absolute destination but by the key landmarks and neighbourhoods on the way. Clues in the postcode to these initiate recalled knowledge of previous journeys and experiences which help find the way and even in strange areas this information is quickly amassed.

- xi. You can visually put postcodes into a rational geographic order for visits by eye
- xii. For large numbers of postcodes you can put them into a rational geographic order using readily available and easily used software such as Excel.
- xiii. Because the UK postcode identifies a street/small locality rather than an exact property, features and destinations that do not receive mail from the Royal Mail also have a useful street level postcode as they are all accessed in some way from a road/street.

All of these basic features make a postcode very useful in ordinary people's daily lives and contribute greatly to its acceptance and widespread adoption. Whilst it is acknowledged that there are other related problems with the UK postcode to be resolved, there is no reason not to ensure that these basic capabilities are not included in a modern postcode. In fact, they are absolutely desirable. Eircode has none of them and seems to have been designed in isolation of knowledge of their existence. Loc8 Code on the other hand includes all of them whilst delivering many new features, leveraging off modern technology to satisfy modern requirements. A related article on LinkedIn by myself titled "Ireland and a National Postcode - The Modern Navigation Requirement" is online here:

<https://www.linkedin.com/pulse/ireland-national-postcode-modern-navigation-gary-delaney?trk=prof-post>

- d. As Eircode has none of the basic functionality of well-established and recognised postcodes, it is totally reliant on technology for interpretation. As an elective consumer product this could be excused but as a piece of National infrastructure designed and implemented for and by the State, it is unforgivable. The State and its agencies have a duty of care to its citizens which dictates that it must look beyond use of national infrastructure in normal conditions when it is designing and implementing. It is for this reason, and as a result of internationally accepted Health & Safety practice that the NRA (on behalf of the State) has implemented SOS phones along motorways across Ireland. If we were to follow the commercial approach indicated by Mr. Liam Duggan of Capita in the Prime Time piece on Eircode referred to earlier, we would assume that everyone always has a working phone with coverage and a suitable app loaded and the State through the NRA would not need to concern itself with its citizens' or visitors' welfare anymore and forget about the network of SOS phones it has established as just a waste of money. But experience in the 9/11 attacks in New York showed that mobile phone networks crash due to overload in a time of disaster and it is for that reason, emergency services across the world, including our own, no longer rely on public mobile networks for emergency communications, but use the dedicated Tetra network instead. It is for this reason, therefore, that the NRA install SOS phones along major roads for the public to use. It is for this reason that designing a National Postcode, Eircode, that is dependent on an always up-to-date database which normally would require good communications for access to it over the internet so as to use it in an "app", is foolhardy and a dereliction of duty of care to its citizens and visitors on behalf of the State. Furthermore, its design such that only properties that have mail delivered by a Postman means that those very same SOS phones cannot have an Eircode to help identify location. It is clear therefore, that Eircode was designed in the absence of

wide and meaningful consultation and without a basic stakeholder needs assessment. There are hundreds and thousands of locations across Ireland that citizens and visitors travel to and congregate at every day that cannot be allocated an Eircode and for that reason, the health and safety of those people has not been considered in the design of Eircode. Mr Duggan, in the Prime Time piece indicated that these were “non core” applications for a National Postcode. Every location on a farm in Ireland is a workplace under the Health & Safety Acts and in those workplaces there were more fatalities and injuries than any other workplace last year, something which is now the focus of attention for National agencies. This is absolutely core to the safety of our population and its economic success. The National Ambulances Service(NAS) being able to get to the site of a farm accident quickly and efficiently is now a major concern and Eircode is unable to assist because of its design. Daily, across Ireland the Fire Services has to be prepared to react to forest fires and it must be able to find its way quickly via 10's of thousands of possible access points to those forests. The forest owners must have them precisely located for insurance purposes and this is core to them, to the Fire Services and to an important economic activity across the country. Yet Eircode has been designed deliberately not to include this type of requirements on the advice of An Post who has no mandate or responsibility to be advising on such matters. In relation to road traffic accidents, there is a suggestion also that Eircode is not a requirement in these instances because a new technology called eCall will soon be mandated for vehicles by the EC. Aside from the fact that eCall is not due for another 2 more years, (the NPPB made its postcode requirement report in 2006) it will only be for new vehicles and it will not support witnesses calling to verify the location and nature of an accident. Those who have been involved with technology for automatically raising an alarm in the maritime world are aware that such systems can result in frequent false alarms. Third party, verification by witnesses is therefore vital to help determine if an automatic alarm from eCall is genuine or not. Mass produced automatic alarm systems have the potential to be a significant drain on emergency services resources if not managed and such management will include the use of 3rd party witness information. Therefore, excluding consideration for the support for RTA's along our National road network from the design of Eircode on the basis of the arrival of eCall is not rational in any respect. Of course, eCall too will rely on mobile phone networks and coverage issues will always be a concern.

So in all these cases there is no legitimate reason for excluding related capability in the Eircode design. They are equally “core” considerations as much as that of designing a postcode for a rapidly declining mail business on the almost sole recommendations of An Post who will have very little use for the postcode themselves anyhow. Of course, it is not possible to cover all possibilities to perfection with a postcode design but understanding what core issues are is a good starting point.

- e. As the implementation of Eircode is not part of a simultaneous campaign to fix the Irish property addressing system, Eircode will not be visible on properties. The large volume of ambiguous addresses in Ireland is quoted ad nauseam by those promoting Eircode as some sort of justification for the Eircode design. Firstly, the solution to the ambiguity problem is proper management of property addresses and their use, as discussed in my paper “Irish Postcodes;- WRONG WAY TURN BACK” referred to earlier. Secondly, those quoting the problem do not really understand what it means in practice. It means that that finding the correct locality of an

address is difficult in many cases, made more difficult by An Post removing true geographic clues in many cases by insisting on post town based postal addresses, and when you get to a group of properties because there are no visual markings (more difficult at night) it is impossible to visually decide which one is the correct one. This is why An Post prefers to use local knowledge and owner names as the basis for delivery. Eircode will not resolve this visual ambiguity problem at all, and the problem is much higher than quoted because many who do have property numbers do not display them at all. This is all a mild inconvenience for the occasional traveller in Ireland but a major cost to businesses and a major risk to life for the emergency services who, because of reorganisation, are rapidly losing the benefit of local knowledge. Because Eircode has no visual intelligence built in, because it has no useful inherent localities that can be displayed on road signs and on street furniture such as poles, bridges, SOS phones, directional and speed signs and much more, the user of an Eircode has to be totally dependent on technology to resolve ambiguity and find a property. I have already covered the difficulties with depending on the mobile phone network, but also Eircode is totally dependent on GPS for its interpretation even in most basic ways. Those who have professional experience with GPS will be aware that:

- i. It will not navigate the user to the Eircode for an apartment in apartment block which has its own Eircode but the block itself has none.
- ii. Depending on receiver type, software, satellite networks used, enhancements, form of transport deployed on, environment and the skill of the user, it may not be able to distinguish one building from another whether they be adjacent, back to back, one over the other or across the street from each other.
- iii. Those who navigate in the professional world, are well rehearsed in the idea that one technology must be used in conjunction with others in order to avoid errors, delays and issues related to equipment failure. In the professional world it is well recognised that the GPS signal is very vulnerable to interference and denial whether deliberate or accidental. To counter this vulnerability, backup including with enhanced non satellite based technologies, are being implemented. These are unlikely to be available for personal devices for quite some time. Some background information to this is available online here: <http://gpsworld.com/bill-supports-elor-an-as-gps-backup/>

As result, the very fact that Eircode is totally dependent on GPS for even basic use, will make it often unsuitable to resolve address ambiguity and extremely vulnerable to being unusable in certain circumstances. As a key piece of National infrastructure, therefore, it is poorly designed to meet the needs of the emergency services and those who would unwittingly try to develop and grow their businesses based on its capabilities. It has no failsafe. A failsafe for a National postcode is the ability to use it in a manual way – by eye and by reference to signage and maps. Again, as Eircode has no inherent visually intuitive and iterative qualities and because it has no defined areas or useful localities, it cannot be used by eye or in a useful way by reference to signage or paper maps. Loc8 Code does not suffer from these issues because of it is designed to recognise these requirements.

- f. This issue relating to the fact that the last 4 character of Eircode being visually random is also frequently raised. Whether Eircode should be sequential or not was

first raised by Capita themselves in their design considerations post contract award in Dec 13 to May 14. In response, An Post said they did not need it for postal purposes and therefore recommended that it should not be applied. Strangely they recommended the opposite for the Routing Key. An Post did not recommend a sequential code because they will never use the unique identifier (last 4 characters of Eircode) for delivery;- they will continue to use occupants' names and local knowledge to achieve deliveries. However, no consideration of the requirements of other national stakeholders was taken into account.

The truth is that an exact sequential code is not required at all. The human brain is more than flexible enough to deal with imperfect sequences. All it needs to know is whether it is getting closer or moving further away so it can adjust the direction of movement and to judge rough proximity as it can do with the UK (NI) postcode samples mentioned earlier. Of course, if a postcode is designed on the basis of a geographically aware grid system, as Loc8 Code would propose, then order is naturally accommodated even if the property count is densified. The natural order of a grid based system is displayed by a comparison between Eircode and Loc8 Code for a street in Dublin in Annex A attached. Perfection in this regard is not needed or possible so all that is required is clues as to order, proximity and adjacency. In the case of apartments, as the code provides no useful purpose for locating the apartment, it is enough to provide a code for the apartment block and continue with the use of an apartment number as a unique identifier which is recognised international practice. If not to be unreasonably over dependent on GPS, then locality, street and property signage is required also and as this is not possible or proposed in the case of the Eircode implementation, then discussion about potential broken sequences if made sequential is a moot point and no more than a red herring. Mind you, a suggestion that the solution to the potential of occasional and mildly problematic broken sequences is to make something completely visually random is pure irrational nonsense. Again, for all these reasons, Eircode does not resolve address ambiguity.

- g. The deliberate exclusion of localities from Eircode, contrary to legislative requirements, and the resulting limitations of the code have already been covered. In the NPPB recommendations of 2006 referenced earlier, this requirement is referred to as the code being "structured to at least small spatial areas" However, one of the arguments used against implementing this has been the idea of introducing "postcode ghettos". Whilst the term used exaggerates the nature of the issue being raised, the general concept is understood. This concept occurs when areas are notionally and manually grouped, normally on the basis of a postal operation. The choice to not provide useful localities in the code at all because of this is not justified under any circumstances. The solution is an easy one. It is to not make the defined areas notional or operational but instead to achieve them in a purely geographically mathematical way. In this way, they cannot be argued or negotiated. As a result, property groups such as streets and estates may well be split by the divisions but this enhances the deliberate mathematical quality, and it removes the human tendency to try establish associations by structural similarity and any possibility for change lobbying. This is achieved successfully in Loc8 Code and the resulting localities are small enough to be useful on their own and also by aggregation. Eircode's approach to the solution makes the code less than useful. Furthermore, as routing areas are optionally and operationally expansive with no defined boundaries or extents (no geographic centre or limiting polygon) and applied, not by area association but, by which postman will serve an individual

house, it opens the possibility that a Routing Key can be bought. It also means that a routing key cannot be anticipated in advance of allocation of a full Eircode for a new or temporary build and it lends itself to the idea that routing keys can be negotiated to appropriate the value of newly zoned green field sites. It is easy to conceive a situation where properties and business owners at the external limit of the proposed Limerick 80,000 property Routing Key would seek to be included so as to ensure their address appears to be associated with Limerick City rather than county;- something that can be especially valuable for a business. Once again, I believe Eircode has taken the wrong approach to its design and thereby contributed to the less than useless nature of the code.

- h. Eircodes refer to occupied property geometric centres. For most real applications, logistics, emergency services, services provider etc, it is the location of the property entrance that is more desirable and appropriate. A modern postcode which is to be used for other than mail delivery must have the flexibility to deal with this requirement. Eircode does not have this flexibility whilst Loc8 Code does.
- i. Mr. John Touhy, of Nightline is quoted as suggesting that Eircode “ is structured so that any tweaks which are required can be made over time”. He made this comment to Post & Parcel in opposition to Meath County Council’s unanimous call for the code to be scrapped. The full report is online here: <http://postandparcel.info/65076/news/county-council-calls-for-irish-communications-minister-to-reopen-eircode-tendering-process/> Firstly, if it is the case that after 13 years of postcode boards, consultants reports, tenders and design considerations we accept that tweaks would be required after implementation, then we also must accept that those who are responsible really have not done their job. Saying that a postcode will have to be tweaked after implementation is akin to accepting that a red and green Luas line will be built unconnected and at some point in the future there will be enormous disruption and cost to make the connection that was always required. Every little tweak to a postcode will cost money and inconvenience to all users;- updating sortation systems, procedures, software, databases, navigation systems and even company stationary. I can understand Mr. Tuohy’s frustration to see something delivered after what he calls “An Post’s protectionist stance” but implementing a bad postcode is not made better by “tweaking” it after implementation.
- j. Finally, the Eircode design is no more than a paper/desktop exercise. It is has never been subjected to a real world proof of concept or trialling. In April 2014, PA consultants were awarded the oversight contact, part of which was to ensure that the code itself was fit for purpose. Given that they previously identified the ABC 123 code as the optimised solution for Ireland and insisted that the only suitable postcode was one that supported manual inward and outward sorting, it is difficult to understand how they could assess Eircode as fit-for-purpose. However, neither public report nor statement on fitness for purpose has ever been made by PA Consulting. In every other country where a postcode has been implemented, a Pilot in a small geographic area to prove the design and implementation plan has been run first. If it is to be done at all, the “tweaking” suggested by Mr. Touhy should be done after a limited pilot test. In his evidence to this Committee, Mr. Touhy but significant emphasises on piloting the code and the implementation phase, but his recommendations in this regard appear to have been overlooked. Mr Touhy’s related recommendations are online here:

<https://www.kildarestreet.com/committees/?id=2014-12-10a.561#g586> Contrary to Mr Touhy's recommendations in relation to a pilot, none is proposed for Eircode as it is suggested that it is not required because "An Post already knows how to deliver mail". This makes it clear that the purpose of Eircode is neither to enhance An Post's operation nor to offer useful functionality to anyone else.

7. Main User Groups & Support for Eircodes

As Eircode only applies to properties where mail is delivered, 100's of thousands of sites where locals and visitors visit and congregate daily across the country will not have an Eircode and therefore, many sectoral needs, including Health and Safety needs, related to all those using these locations have not been addressed by Eircode. A non-exhaustive list of these sites is contained in Annex D. The reaction of many user groups to Eircode and its limitations has been well covered in the media and presented to this Committee, so my detailed input on their behalf is not required. However, it is appropriate that I would make some notes on related issues:

a. The Emergency Services

In order to respond to an Emergency 999/112 call our emergency services must first have a call routed to them via ECAS, the Emergency Call Answering Service which is contracted by COMREG and currently delivered by BT. The need to collect location information in relation to a call starts with them. If they are not supporting Eircode, then this will present problems for all of the related services;- Gardai, Fire Service, Ambulance Service & Coastguard. In an initial consultation document on Caller Location ID, published by COMREG earlier this year, two things became obvious in relation to Eircode:

1. The telecoms companies, including Eircom and BT who provide ECAS services, had very little information on Eircode, suggesting that they had not been consulted or briefed, in spite of the fact that when Eircode was announced in early 2014 much was made of its uses for the emergency services.
2. They were not in a position to confirm that they would adopt and support Eircode, both because of 1. above and because it was not mandatory to use and may not achieve wide use.

The point is also made in the report, that when location information is transmitted electronically the means by which location information is expressed is not important as it is not being handled manually. However, it is highlighted that in every emergency scenario there is a possibility that location information may well have to be communicated manually or verbally to someone in the emergency response chain. It is for this reason that a national coding system capable of being used for this purpose and in all cases, whether postal property or not, should be adopted. Eircode is not suitable for this purpose, whilst Loc8 is and is already being used. The full report is available on line here:

http://www.comreg.ie/publications/emergency_calls_-_caller_location_information_setting_criteria_for_accuracy_and_reliability.583.104711.p.html

Attached as Annex B, find a letter from an Emergency Planning Manager in the HSE who coordinates the response of the emergency services, the Local Authorities, major National agencies and major industries for major emergencies. The letter indicates that Loc8 has been successfully used for their purposes for some years and

that they will continue to do so even if Eircode is implemented. This highlights that those behind Eircode have failed to consult with the major emergency needs of the State and missed a unique opportunity to introduce a national postcoding system which is capable also of serving these needs.

- ii. Gardai :- I have installed Garmin Satnavs on Garda vehicles to be used with the inherent Loc8 Codes feature for the locations of elderly and otherwise vulnerable people. Before the units could be used, the Garmins with the coding system had to undergo evaluation and testing in the College in Templemore. Those who might suggest that the Gardai are supporting Eircode probably are not aware that to be able to adopt and use Eircode, the code and the device it is to be used on would have to go through several approval steps first before adoption in vehicles.

- iii. The Fire Service;- As mentioned earlier, the Fire service in Ireland has to be able to get to a particular forest entrance quickly when called every day. This is as much part of their core responsibility as house fires. There are 10's of thousands of private and State owned forest entrance points across the country and all of these need to be quickly identifiable. This cannot be done by Eircode because of the limited design focus but it is already being done in some cases by Loc8 Code. It would be expected that before the Fire Services could support and adopt Eircode they would have to test it for their needs. It is not clear that that has ever happened, and if so it should have happened as part of a proof of concept in real and simulated scenarios before the Eircode design was finalised.
It is also noted that part of the budget allocated to Eircode by DCENR is being spent on updating databases in State agencies. However, no funds have been made available to the Fire Services or the Local Authorities where they reside for the specific implementation of Eircode.

- iv. The National Ambulance Service (NAS);- Much has been made of claims that the NAS is supporting Eircode. I attach as Annex C a letter from the Director of the NAS dated 14th November 2014 where he states that he never said that Eircode would address all his Service's needs in terms of rapid access to patients and he goes on to say that he is not in a position to discuss the subject in depth. This letter was issued at a time when evidence was being given to this Committee that Eircode had full NAS support. It is very clear that no Director of any State agency, especially one involved in the delivery of emergency patient care, would make a decision to support a new technology without having an in depth knowledge of it. Nor would they consider investing in that technology without extensive testing. I am sure that if testing had taken place, then the NAS director would then be in a position to talk about Eircode's uses and benefits for his organisation in depth and, it is my information that Eircode has never been tested in real or simulated scenarios, from ECAS call to arrival at the call destination, by the NAS.
It is also noted that part of the budget allocated to Eircode by DCENR is being spent on updating databases in State agencies. However, no funds have been made available to the NAS for the specific implementation of Eircode.

- v. The Coast Guard;- The Coast Guard does not attend to where mail is delivered and therefore, Eircode has little value to it. It's responsibilities extend along waterways in all of offshore, coastal and inland areas and can therefore, use a coding system along beaches, coastal paths, inland waterways, lakes and bathing areas, piers and marinas and Loc8 Code is being used on ringbuoys with the support of Irish Water Safety in some of these areas.

It is also noted that part of the budget allocated to Eircode by DCENR is being spent on updating databases in State agencies. However, no funds have been made available to the Coast Guard for the specific implementation of Eircode.

b. Logistics Sector

This sector is likely to be the largest day to day user of a postcode with the most value to be gained from one;- including allowing it grow and manage itself efficiently in response to the significant demand for its services over recent years. It competes directly with An Post in the lucrative parcel market, the only element of the delivery market where An Post currently generates profit. The needs of the sector have been loudly represented by the FTAI to this Committee and they have indicated that they will not be using Eircode. Their needs extends from to high end route optimisation needs to react to the growth in online purchases and home delivery markets, to the man in the man scenario who has needs very similar to the ordinary citizen and visitor user. He expects to be able to look at a postcode, compare to another to make simple decisions and visualise basic order and routes without recourse to any technology, as explained by reference to the UK postcode earlier. With the basic functions of a postcode identified, a van or truck can be successfully loaded in the order of a day's work by eye.

In understanding the needs of this sector, it is important to understand that it does not always deliver to properties and even if it does, very often it is more interested in entrances and access points rather than property centres. Very often, if delivering to retail outlets, this is not achieved by arriving at the shop front along a busy main street, but instead by approaching from a side or rear entrance. Eircode does not have the flexibility to deal with this requirement, but Loc8 Code can. This is as much a core use of a postcode as a postman delivering door to door using local knowledge without any need to refer to the postcode at all.

It is not appropriate that the Minister and his officials be prepared to plough on with Eircode, ignoring the concerns of the FTAI and its members on the basis of the support of only one representative of this sector. As explained previously, the same representative has suggested that Eircode has emerged from an An Post protectionism stance and may need tweaking after implementation. He also expressed concern about the implementation of Eircode and recommended that it should be subjected to a pilot but this part of his comments has been ignored.

c. Farming & Forestry

Members of this sector contribute enormously to the Irish economy, yet Eircode does not apply to most of the areas they work in. Every farm and forest is a workplace subject to Health and Safety law and practice. In 2014, farms suffered 30 fatalities and therefore are the subject of a major focus to improve Health and Safety. Part of this has to be to ensure the Ambulance Service can find their way to casualties quickly. The Fire Service has to be able to get to forest entrances quickly and both services have to be able to get to forest infrastructure where more and

more of the general public and tourists are recreating nowadays. There is a duty of care on the state to support these requirements but Eircode has failed to even consider them as “core” or important let alone satisfy them. Loc8 Code has the flexibility to address these needs.

d. Tourism, Angling & Heritage

These sectors contribute enormously to the Irish economy and in many cases Eircode will not support their requirements. The angling sector alone contributes more than €1 Billion annually to the economy. By its nature, related sites are remote and not served by Eircode even though there is also an obvious health and safety need associated with them. Signage with a coding system in the same way as Loc8 Code has done for ringbuoys would solve this problem. An example of this is shown in Annex E

e. Irish Citizens & Visitors

It has been well established in this document that Eircode offers little to ordinary people on a day to day basis. Because of this, Eircode is unlikely to enjoy wide adoption and take-up amongst the general population. For this reason it will also not be normally sought by business interests during transactions for fear of annoying or inconveniencing their customers and possibly resulting in a loss of a sale especially in online retail scenarios.

f. An Post

It is pretty clear that An Post will make very little use of Eircode in their operations;- Hubs, Delivery Offices and by Postmen for deliveries. It is true however, that An Post controlled the design of Eircode and ensured that:

- i. Eircode is of little use to competitors or society in general
- ii. That it only serves where An Post delivers mail
- iii. That the related databases are based on Postal addresses rather than true geographic addresses
- iv. That the related databases can only be kept up to date using An Post’s services including postman’s knowledge and intelligence and via their own product Geodirectory
- v. That their post town postcode system will continue to be used
- vi. That Eircode will be optional and therefore infrequently used
- vii. That An Post maintains the right to adjust postal addresses
- viii. That An Post has achieved legislative support to maintain a database containing addresses and personal information for property occupiers
- ix. That the playing field has not been levelled by a postcode after liberalisation of the postal market as originally intended when a postcode was first seriously considered in 2003
- x. That the postcode does not support small spatial areas and is not neutral between postal operators as recommended by the NPPB in 2006.
- xi. That An Post will receive an ongoing revenue from Eircode

8. Eircode Implementation

Loc8 Code has its own proposals as to how it would implement a National postcode which have never been heard. I do not propose to reveal those proposals here but I would like to highlight briefly why Eircode may well have a communication plan but has no National postcode implementation plan.

- a. As previously stated, Eircode proposes no pilot as has been undertaken in every other country when a postcode was to be implemented. The Emirates, Uganda and Tanzania are recent examples where a postcode pilot was carried out prior to full roll-out.
- b. In an implementation plan, both citizens and businesses would form a key part of proofing and testing in advance of confirming the design
- c. Recognised and popular related consumer technology companies would be included in implementation plans. Neither Garmin nor Tomtom have plans to deliver Eircode on their systems at launch. In both cases, previous proposals put forward by the person who lead the Capita bid for Eircode were dismissed by them.
- d. Government agencies and Local Government would be fully briefed on all aspects of the proposed postcode including potential hic-cups and objections with related budgets and supports in place to deal with these. No such briefings, plans or budgets are in place.
- e. For full implementation, there would be a plan to implement related signage across the country. There are no plans and no budgets for Local Authorities or the NRA to implement related signage in their areas of responsibility.
- f. There would be negotiated and agreed cross Government agency plans and procedures for implementing the postcode in its widest possible sense. Formal plans would be in place with the NRA, HSA, RSA, Local Authorities, Business and representative bodies to ensure the postcode is adopted, required and used within their organisations
- g. Public representatives, Ministers, TD's, Senators, Councillors & County managers would be briefed on potential pitfalls and objections and all would be ready to deal with them.
- h. There would be failsafe plans determining exactly how the postcode could be used in the absence of technology such as mobile phone networks & GPS.
- i. A summer launch when many are away from their homes would not be planned
- j. Plans to deliver postcode details to property owners as well as occupiers would be in place;- private owners and landlords and Local Authorities included.
- k. Contracted milestones and factors for measuring success would be in the public domain
- l. There would be associated plans to control and manage the National property addressing system with a related State agency in place.

9. Implications of an Unsuccessful Eircode Implementation

- a. With the continued centralisation of Emergency response control and the continued loss of local knowledge, an opportunity to maintain and improve response times, health and safety and public safety for Irish workers, citizens and visitors will have been lost
- b. Misinformation about the capability and functionality of Eircode will lead to further complacency about the control and management of Irish property addressing and, with the projected increase in population resulting in a potential 50% increase in the number of properties over the next 30 years, there is a real potential of risk to lives because of the combined lack of functionality of the postcode and property addressing in association with the centralisation of emergency response.
- c. No level playing field in the postal (parcel) market with no fair competition, resulting in a missed opportunity to improve delivery performance and costings for businesses and the public and to support economic growth to the full potential of what remains a rural economy

- d. Logistics businesses will be unable to deal with the rapid growth in deliveries from online sales in an efficient way;- thereby adding to costs, limiting growth and adding to customer dissatisfaction.
- e. The potential to encourage visitors and tourist to explore more of the country away from the main arteries using a flexible and functional postcode will have been lost
- f. An opportunity to fully support people working from home and in non-urban areas will have been lost
- g. An opportunity to add a key part of National infrastructure will have been lost and a second chance is unlikely to present itself for decades if ever
- h. Neither the State nor Irish Business will receive a return for its investment in Eircode
- i. Eircode will only be used in interactions with the State with respect to property based taxes and charges but even this can be challenged as under the current legislation Eircode has questionable legitimacy.

10. Conclusions

Eircode is not the postcode recommended, tendered for, needed, wanted or one that will be used. It has been suggested that it is merely the result of an An Post protectionist stance, causing it to be of little use to themselves and of no use to anyone else. Contrary to suggestions, it is not the result of economy wide and detailed consultation. It is not business or citizen friendly. It will not successfully resolve Ireland's ambiguous addressing problem. It has been widely criticised, including recently by a competent international association in form of GADA but there appears to be an intention to steam roll it through and ignore, without engagement, all concerns and criticisms. The person responsible for leading the winning Capita bid for Eircode recently referred to Eircode on his own website as a traditional postcode and therefore not the historic and next generation code that has been claimed. There appears to be a significant degree of misleading information presented in public by those promoting and supporting Eircode. Its design is without even basic functionality and without the capability to be used in core elements of Irish society and economic activity. It has never been tested or proven in real scenarios for the applications it is supposed to support. If implemented, Eircode will not support the economic development and job growth that a good modern postcode has the potential to do.

It is difficult to understand how Eircode can be allowed to proceed on the basis of information previously presented to this Committee, on the basis of the recent international GADA assessment and on the basis of this presentation. For all these reasons, Eircode implementation should be now halted in favour of an immediate enquiry/review.

11. Recommendations

I would urge the Committee to take time to read this presentation in detail. A National Postcode & Eircode is a very technical subject and it needs detailed examination of all the facts so that the correct decisions are made. Given the detailed criticisms of Eircode that this Committee has now heard from multiple organisations, it is incumbent on it to react and make its own urgent recommendations. Those recommendations should be in two parts as follows:

a. Related to Halting Eircode Implementation

- i. It is not too late to halt Eircode. Only €2m has been spent on the code itself so it is easily replaced and Loc8 Code has offered its proven and tested coding system to be adopted as a National system for FREE on two previous occasions. All other expenditure related to Eircode is not wasted and can be used with any postcode and the contractors can be maintained, probably with simply the addition of a postcode supplier

- ii. Based on information identified here, Eircode may not have the legitimacy in relation to the Communications Regulation (Postal Services) Act 2011
- iii. Ireland can do a lot better than Eircode
- iv. Ireland is already becoming the focus of international attention for the wrong reasons (akin to PPARS and eVoting) because of Eircode, so stopping it will save our National image and a very large potential waste of resources and opportunity.
- v. If halted, Eircode and the process must be subjected to an immediate independent review with the view to quickly identifying an alternative postcode

b. Related to Letting Eircode Proceed

- i. The Comptroller and Auditor General is currently investigating Eircode and has stated to the Public Accounts Committee that his office will decide whether to report or not in September 2015. It is reasonable to suggest that Eircode should not proceed until this decision is made
- ii. The contract for Eircode must be released and assessed. There is no legitimate reason to suggest it is commercially sensitive and details in the contract must be confirmed to ensure compliance and legitimacy with respect to the Communications Regulation (Postal Services) Act 2011 and the terms of Minister Howlin's consent for Eircode given in accordance with Act.
- iii. Eircode should not proceed until it is officially declared Fit-For-Purpose by PA Consulting in accordance with the oversight contract awarded in April 2014. Such a declaration should be accompanied by appropriate justifications and methodologies.
- iv. Eircode cannot be tweaked after roll-out so a Pilot test in a limited geographic area to identify any related issues and make corrections to the code and the implementation plan must be undertaken.
- v. This Committee should invite Mr Prescott of GADA to appear before it and on completion make recommendations with respect the future of Eircode
- vi. A proper National implementation plan for Eircode to include all relevant National agencies (NRA, RSA, HAS, HSE, Local Authorities etc) should be published to include how Eircode will be displayed in buildings;- public and private for safety purposes.
- vii. An Eircode for apartments is not required and an Eircode for apartment blocks must be provided
- viii. Failsafe solutions for the use of Eircode must be published as part of implementation
- ix. Misinformation about the capability of Eircode must be countered so that no further complacency in relation to the management of National Property addressing is encouraged thereby causing an increased potential for loss of life in emergency scenarios.
- x. A National Address Agency must be established to separately fix property addressing and related standards and to ensure that new addressing for the 1 million new properties and buildings projected over the next 30 years is to the highest international standards with public safety as the number 1 concern.
- xi. The Geodirectory and related ECAD/ECAF databases should all then be combined and entrusted to the National Address Agency for the future.

- xii. All IP related to Eircode must be ensured to be in the ownership of the State. It is understood that the trademark for Eircode is currently owned by Capita.
- xiii. If Eircode does not apply to many areas, there is a need for the State to take responsibility for another additional coding system to address the needs of these areas. If not, there will be multiple codes in circulation with related confusion to the point that none will be useful. It should also be ensured that those who have in any way contributed to Eircode are not involved in developing, promoting or delivering any competing coding systems.

Gary E Delaney

MSc (NT), FIN, FIS, Lt NS (Ret'd)

CEO Loc8 Code Ltd & GPS & Positioning Consultant

Annexes A, B, C, D & E attached below

Comparison Loc8 Code (NP5-15-TL7) & Proposed National EIRCODE (D12 MK23)

(Loc8 Code Exact – EIRCODE as per design as announced with examples by GAMMA for Dublin)



Loc8 Code: NP5-15-TL7

EIRCODE: D12 MK23

NP5 - Zone, TL7 – Locality with Checker (similar house to house),

D12 – Postal District (recognisable Dublin only),

15 - Precise Location Code (Property ID)

MK23 – Random Coded Property ID No. within District



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

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Eye, Ear & Throat Hospital
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Cork
Tel: (021) 493 2000
Fax: (021) 493 2001
E-mail: em@hse.ie

19th March, 2014

TO WHOM IT CONCERNS

We have been asked to comment on Loc8 Codes and their use in Emergency Management in this region.

We find them very useful, so much so, that we have incorporated Loc8 codes into all the external emergency plans for critical installations in the region; ports, airports, Seveso sites, key assets and critical infrastructure. Even with the introduction of implementation of a National postcode we hope to continue to use on Loc8 Codes since many locations that we need to clearly identify do not have and will never have a letterbox code or indeed a postal address.

We have used them over the past two years and have found them to be precise and they can be used with SatNavs to save valuable time locating and navigating to specific points anywhere on the island of Ireland.

We have found them particularly useful in reducing inputting errors since they have an alphanumeric format rather than an all-decimal or the more traditional degrees and minutes which may be unfamiliar to general users or emergency staff under stressful conditions.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Peter Keane".

Chief Emergency Management Officer

HSE South



Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive



25th November 2014

[REDACTED]

Re: Eircodes

Dear Mr [REDACTED]

I would like to acknowledge receipt of your numerous emails in relation to the Eircode initiative that at present is being developed.

At no stage has the NAS or myself outlined that this system is the answer to all our needs in relation to rapid access to patients etc, however it is a mechanism that will assist and fill the void that exists at the moment.

Whilst I appreciate that you and your company have reservations and concerns regarding the system that will be introduced, I would recommend that you refer to the Department of Communications, Energy and Natural Resources, 29-31 Adelaide Road, Dublin 2.

This department is the lead agency on the rollout of this initiative and any and all concerns should be directed there. As such I would not be in a position to discuss the initiative in the depth that you may require.

Yours sincerely

Martin Dunne
Director
National Ambulance Service

Seirbhís Náisiúnta Otharcharranna
Teach Dara, Ascaill an Crann Teile, Páirc na Mílaoise, Nás na Rí, Co. Chill Dara

WHAT'S NOT AN ADDRESS & WILL NOT GET AN EIRCODE

Milking Parlours, Farm Fields Beaches & Bathing Areas, Inland Waterways, Piers, Marinas & Berths
Forest Entrances & Walks, Walking Trails Masts, Wind Turbines Picnic & Tourist spots, Heritage
sites, Outdoor Music & Sporting events Farmers Markets, Car Boot Sales, Grain Silos Water
Infrastructure Work Workshops Outdoor Carparks Emergency RV Points, SOS telephones On
Motorways Bridges, Luas Stops, Lay-By's Road Accident Sites, Rail Accident Sites Level Crossings
Popular Angling Spots Play Grounds Many Churches & Graveyards Except for Admin Buildings on
Industrial, Education, Health, Accommodation, Sporting, Military & Tourist Campuses Roadways,
Construction sites, Ghost estates, Houses under construction thousands of GAA, Soccer & Rugby
pitches around Ireland – SO THOUSANDS OF BUILDINGS, WORKPLACES AND PLACES WHERE
LOCALS AND TOURISTS CONGREGATE DAILY AROUND IRELAND WILL NOT HAVE AN EIRCODE
SIMPLY BECAUSE A POSTMAN DOES NOT VISIT. IT IS A DISMISSAL OF WORKPLACE HEALTH &
SAFETY AND PUBLIC SAFETY NEEDS. IT IS A DERILICATION OF THIS GOVERNMENTS DUTY OF CARE
TO ITS CITIZENS AND VISITORS



Notes:



**Comptroller and Auditor General
Special Report**

**Management of a Cross-Border
Broadband Initiative: the Bytel
Project**

Report of the Comptroller and Auditor General

Department of Communications, Energy and Natural Resources

Management of a Cross-Border Broadband Initiative: the Bytel Project

I have, in accordance with the provisions of Section 9 of the Comptroller and Auditor General (Amendment) Act 1993 carried out a review of the management of a cross-border broadband initiative (the Bytel project).

This report was prepared on the basis of information, documentation and explanations obtained from bodies and persons referred to in the report and on work carried out by the Northern Ireland Audit Office. The Department of Communications, Energy and Natural Resources, the Special European Union Programmes Body and the Department of Enterprise, Trade and Investment (Northern Ireland) were asked to review and comment on the draft report. In addition, extracts from the draft report were sent for comment to Bord Gáis Networks. Where appropriate, the comments received were incorporated in the final version of the report.

References to any third parties (named or otherwise) are incidental to the purposes of assessing the performance by the Department of Communications, Energy and Natural Resources of administrative functions. Consequently, the report should not be read as constituting any comment, opinion or judgement by me in respect of any third party.

I hereby submit my report for presentation to Dáil Éireann in accordance with Section 11 of the Act.



Seamus McCarthy
Comptroller and Auditor General
3 March 2015

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Abbreviations

DCENR	Department of Communications, Energy and Natural Resources
DETI	Department of Enterprise, Trade and Investment (Northern Ireland)
ERDF	European Regional Development Fund
EU	European Union
NIAO	Northern Ireland Audit Office
SEUPB	Special European Union Programmes Body

Summary

Summary

The Special European Union Programmes Body (SEUPB) is one of six cross-border bodies set up as part of the Good Friday Agreement. The main role of SEUPB is to manage cross-border European Union (EU) structural funds programmes in the border region of Ireland and in Northern Ireland. SEUPB is audited jointly by the Comptrollers and Auditors General in Ireland and Northern Ireland.

Interreg is an EU programme whose objective is to stimulate co-operation between EU regions through measures carried out on a cross-border basis. It is financed through the European Regional Development Fund (ERDF), with co-financing provided by member states. As the designated managing authority, SEUPB was responsible for the management and delivery of the Interreg III programme in Ireland.

Interreg III ran from 2000 to 2006 and all projects funded under the programme had to be finalised by the end of 2008 (later extended to June 2009). 74% of the Interreg III funding was provided by the EU, with the balance (26%) provided by the two member states (referred to as co-financing). The proportion of co-financing varied for different projects. The co-financing provided by member states is referred to as matching funds.

This report examines a project (the Bytel project) that aimed to provide high-speed broadband connectivity linking Belfast, Craigavon, Armagh, Dundalk and Dublin. It was intended that this project would be funded under Interreg III, but due to an irregularity, it was withdrawn from the programme. The project's withdrawal after the June 2009 deadline for expenditure to be committed to Interreg III meant that the €3.79 million which it was expected would be recovered under the Interreg programme could not be recouped, and could not be replaced by other eligible projects.

The report is the result of a co-ordinated examination between the Office of the Comptroller and Auditor General and the Northern Ireland Audit Office (NIAO).

The Bytel Project

The Bytel project received funding under a specific Interreg III measure that aimed to improve inter-regional economic infrastructure, including broadband communications. SEUPB appointed the Department of Communications, Energy and Natural Resources (DCENR) in Ireland and the Department of Enterprise, Trade and Investment (DETI) in Northern Ireland, as joint implementing agents for that measure.

In October 2004, Bytel Networks Limited (Bytel), a Belfast-based company, was offered funding of €4.3 million for the project against estimated total project costs of €12.4 million – the maximum potential grant funding based on the 35% upper limit grant rate. The grant offered comprised €3.79 million of ERDF funding and €0.51 million in matching funding. €2.27 million was provided by DCENR, including all of the matching funding, and €2.03 million by DETI.

Grants totalling €4.3 million were paid to Bytel between December 2004 and December 2005. However, a consultant's review in 2013 concluded that the cost of delivering the project was considerably lower than €12.4 million, on which the €4.3 million grant was based. The consultant concluded that Bytel had incurred total costs of €3.93 million and on this basis the maximum grant payable would have been just under €1.4 million.

EU funding for Interreg III was recouped through claims for payment from the ERDF. In 2012, the Bytel project was withdrawn from the final payment claim following a detailed review by consultants commissioned by SEUPB who concluded that 97% of the expenditure claimed by Bytel was not eligible for grant aid under the Interreg programme.

The total loss to the Irish Exchequer from the Bytel project is €2.27 million. This comprises €1.76 million in Exchequer funding to Bytel on the understanding that it would be eligible for reclaiming under Interreg III and €0.51 million in matching State funding that was also paid to Bytel.

A forensic review by consultants in 2011 identified serious weaknesses in the management and oversight of the project by the joint implementing agents. However, an evaluation in 2013 found that the project had achieved its objectives.

Roles of joint implementing agents

The two Departments disagree about the responsibilities each had in relation to the project.

Both Departments had equal responsibility for administering the programme under the terms of the service level agreements that each had with SEUPB. However, DCENR has stated that, in practice, either it or DETI took the lead role in the day-to-day handling and processing of payment claims for individual projects, and that the Department exercising the lead role was referred to as the 'lead implementing agent'. DCENR stated that, in its view, DETI was the lead implementing agent for the Bytel project.

DETI, on the other hand, states that the role of lead implementing agent was not defined for Interreg III and that each Department had equal responsibility as joint implementing agents.

While there are indications that an informal arrangement was in place making DETI the lead implementing agent, DCENR had clear responsibilities under its agreement with SEUPB. Controls over project payments were further complicated by the appointment by DETI and DCENR of a managing agent, Western Connect, to provide technical, legal and financial expertise on the appraisal, selection and implementation of the measure.

Project assessment and appraisal

In June 2004, the first proposal submitted by Bytel was rejected for support. A revised application was assessed in July 2004 and narrowly passed the threshold required for funding of projects. There were a number of shortcomings in the appraisal.

- There were weaknesses in the definition of what was to be delivered by Bytel and a lack of clarity over the source and ownership of the assets required to deliver the project.
- There was little evidence in the appraisal to support project costs.
- A partnership between Bytel and a company called Aurora Telecom (Aurora), which the project proposal indicated was to contribute €7.8 million of value to the project, was viewed as critical to the project's success. However, neither of the two Departments appear to have engaged with Aurora to confirm that a partnership existed between it and Bytel.

Change to project specification

Under the terms of the letter of offer from DETI and DCENR, Bytel was required to get approval from the two Departments for any significant project changes.

In December 2004, two months after the Departments issued their letter of offer, Aurora withdrew its offer of support from the project. By this time, €1.6 million had already been paid to Bytel. In September 2005, Bytel entered into an agreement with a company called Eircom UK under which Eircom UK would provide access to its existing infrastructure in Northern Ireland and, in exchange, Bytel would undertake to complete additional fibre cable laying in Northern Ireland.

This agreement changed the nature of the project from building a network on existing cables (infrastructure) to a project where Eircom UK delivered bandwidth (service). The effect of the agreement was also to reduce the total costs of the Bytel project by €4.8 million or 39%. Despite these changes, no review of the project or of the offer of grant support was carried out and no written approval was issued to proceed with the revised project.

Checking and authorising of grant claims

Service level agreements between SEUPB and the two Departments required that grant payments made by SEUPB to the project were based on claims that had been verified by the joint implementing agents and approved by them as eligible expenditure.

Between November 2004 and November 2005, Bytel submitted four grant claims totalling €4.3 million. The final claim — for €2.07 million — contained no back-up or verification evidence. Despite this, the claims were paid in full.

DCENR relied on DETI and on other advisors for assurance that expenditure claimed by the project promoter was valid, and considered that it had no role in this area. The approach taken by DCENR showed a lack of awareness of the risks in circumstances where it was placing reliance on others for assurance about the validity of payments and there was no evidence to show that it had put appropriate controls or checks in place.

Handling of allegations about the Bytel project

In June 2006, a director of Bytel made allegations to DETI regarding false accounting practices and withdrawal of funds which should have been ring fenced for the Bytel project. DETI conducted an internal investigation and concluded that no further action was necessary. However, DETI's investigation was not sufficiently rigorous and independent and its finding was not supported by adequate evidence or supporting documentation.

DCENR was made aware of the allegations by email from DETI in June 2006 and was encouraged by DETI to attend a meeting with the person who had made the allegations. No representative from DCENR attended the meeting, but it was provided with minutes of the meeting. Internal DCENR documents indicate that it was satisfied that DETI had checked that the Bytel claims were legitimate and that the project would deliver in accordance with the letter of offer.

In 2008, a whistleblower made further allegations about the project to the NIAO, which passed the allegations on to DETI for investigation. DETI commissioned an external review of the project which was completed in September 2009. The consultant found that DETI would probably be required to declare an irregularity to the EU in relation to the project. However, DCENR was only informed of an alleged irregularity in December 2010.

Subsequently, a further review of the project, commissioned by SEUPB on behalf of a committee of representatives of relevant departments, was carried out. The report, in March 2012, found that

- 97% (€4.2 million) of the €4.3 million paid to Bytel should not have been paid as it was based on ineligible expenditure
- the management of the project was inadequate in a number of respects including the authorisation of grant payments against expenditure which was clearly ineligible, or which became ineligible once the project changed or about which serious questions should have been asked
- there had been a failure to properly investigate the 2006 allegations and a failure to act in a timely way on the issues raised by the whistleblower in June 2008.

Communications between the implementing agents

Communications between DCENR and DETI, as joint implementing agents, were carried out on an ad hoc basis. This was inappropriate for an important inter-regional infrastructural project which was in receipt of grants of €4.3 million and for a sub-measure with an €8 million overall spend. The failure to put appropriate communication arrangements in place may have been a contributory factor to the poor sharing of information with DCENR by DETI.

Report

1 Introduction

- 1.1** The Special European Union Programmes Body (SEUPB) is one of six cross-border bodies set up as part of the Good Friday Agreement. The main role of SEUPB is to manage cross-border European Union (EU) structural funds programmes in the border region of Ireland and in Northern Ireland. SEUPB is audited jointly by the Comptrollers and Auditors General in Ireland and Northern Ireland.
- 1.2** Interreg is an EU programme whose objective is to stimulate co-operation between EU regions through measures carried out on a cross-border basis. It is financed through the European Regional Development Fund (ERDF), with co-financing provided by member states. As the designated managing authority, SEUPB was responsible for the management and delivery of the Interreg III programme in Ireland.
- 1.3** Interreg III ran from 2000 to 2006 and all projects funded under the programme had to be finalised by the end of 2008 (later extended to June 2009). Grants were paid to beneficiaries through SEUPB, using advance funding provided by the EU and funds drawn from the relevant government departments in Ireland and Northern Ireland. SEUPB submitted claims for reimbursement of the ERDF element of the funding and, on receipt of payment from the European Commission, SEUPB repaid those amounts to the departments.
- 1.4** Interreg III included a measure – sub-measure 2.1 C – that aimed to improve inter-regional economic infrastructure, including broadband communications. SEUPB appointed the Department of Communications, Energy and Natural Resources (DCENR)¹ in Ireland and the Department of Enterprise, Trade and Investment (DETI) in Northern Ireland, as joint implementing agents for sub-measure 2.1 C.²
- 1.5** Both DCENR and DETI signed service level agreements with SEUPB. The responsibilities of the two Departments as set out in the service level agreements were identical. DCENR had responsibility for funds payable from its Vote, and from the State's allocation of Interreg III funding, including administering grant applications, authorising grant payments and advancing funds to SEUPB.
- 1.6** In 2004, a Belfast-based company, Bytel Networks Limited (Bytel), was approved for grants totalling €4.3 million for a proposed project to provide very fast broadband connectivity between Belfast, Craigavon, Armagh, Dundalk and Dublin.³ The estimated total cost of the project was €12.4 million.
- 1.7** SEUPB paid Bytel grants totalling €4.3 million between December 2004 and December 2005. DCENR advanced funds of €0.5 million to SEUPB. In addition, €3.8 million was paid from the Interreg III funding allocation – €1.8 million from DCENR's allocation and €2.0 million from DETI's.

¹ The Department of Communications, Energy and Natural Resources is the current title of the Department. In 2004, its title was the Department of Communications, Marine and Natural Resources.

² The operational programme for Interreg III provided that the managing authority could delegate certain functions in relation to management of the programme to implementing bodies, provided that it was assured that sufficient and sound management and financial control systems were in place.

³ Bytel Networks Limited is a limited company within the Bytel group of companies and was established for the purposes of delivering the broadband project.

Allegations about the Bytel Project

- 1.8 In 2006, a Bytel director raised concerns with DETI in relation to the management of the project. DETI conducted an internal review of the allegations and concluded that no further action was necessary. DCENR was aware that allegations had been made and accepted the findings of the internal review.
- 1.9 In 2008, the Northern Ireland Audit Office (NIAO) received allegations from a whistleblower about the Bytel project and forwarded these to DETI which commissioned an external review of the project.
- 1.10 Under the terms of the service level agreement with SEUPB, DETI was obliged to submit a copy of any report commissioned in relation to Interreg programme expenditure, and immediately to notify SEUPB and DCENR of any potential funding irregularities. This did not happen during 2008 or 2009.
- 1.11 In May 2010, DETI notified SEUPB of a potential irregularity but provided no substantive details. SEUPB informed DCENR of an alleged irregularity by email in December 2010.
- 1.12 DETI formally notified SEUPB of the alleged irregularity in February 2011. The Chief Executive Officer of SEUPB informed the Accounting Officer of DCENR of the alleged irregularity in February 2011.

Action Taken

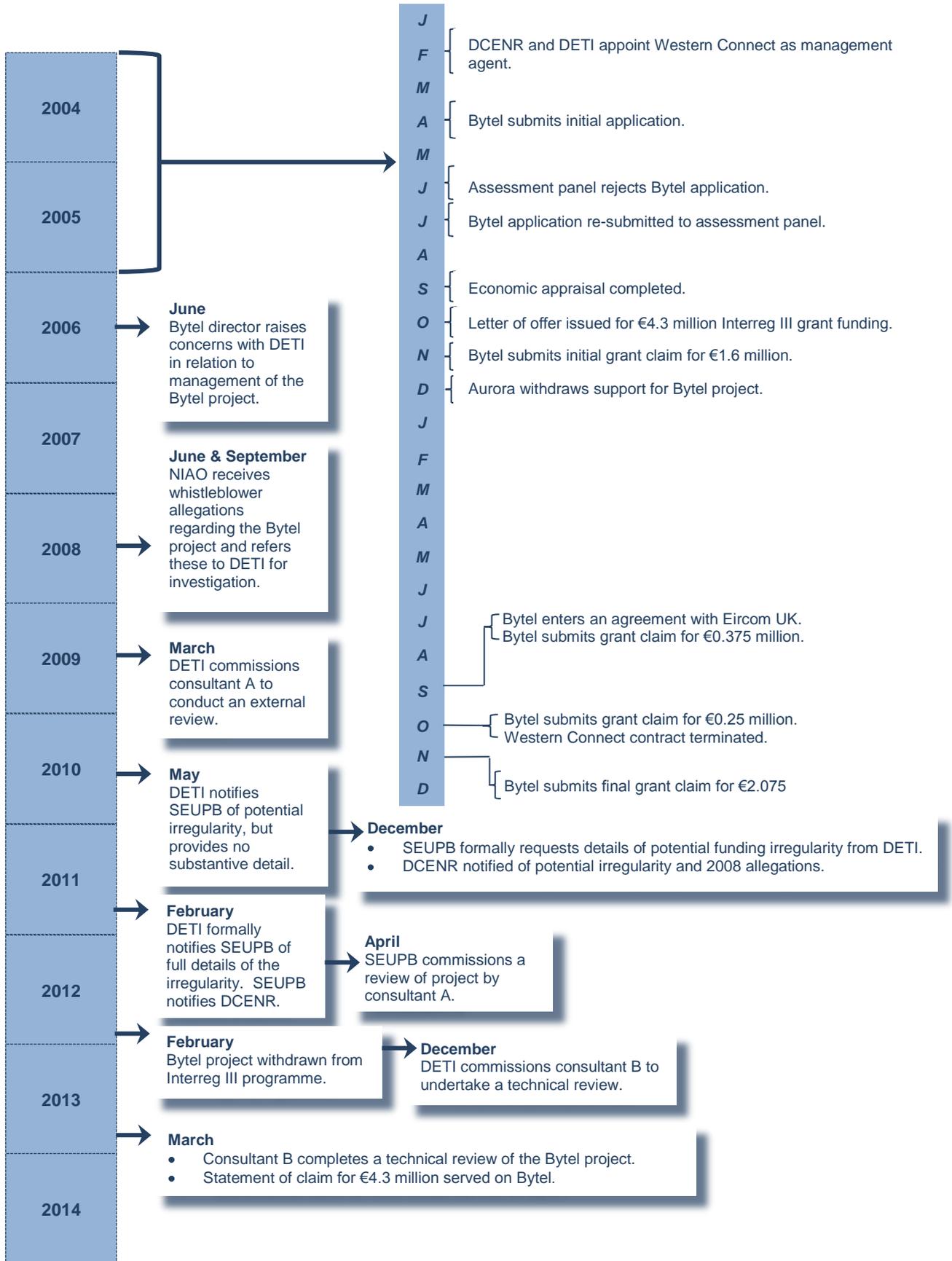
- 1.13 In April 2011, SEUPB commissioned an independent report to review all aspects of the project in terms of appraisal, funding eligibility, implementation, monitoring and post-monitoring procedures.
- 1.14 An interim draft report was completed in August 2011. The report was completed in March 2012. It concluded that 97% of the €4.3 million grant payments to Bytel did not satisfy Interreg III funding eligibility criteria. Based on the findings of the independent report, a decision was taken by the review committee to withdraw the project from the Interreg III claim to the EU.¹ Thus, the expected funding of €3.8 million from the ERDF was, ultimately, not received.

Timeline of Events

- 1.15 Figure 1.1 presents a timeline summarising the events.

¹ Members of the committee included representatives from SEUPB, DCENR, DETI, the Department of Finance and the Department of Finance and Personnel.

Figure 1.1 Timeline of key events in the Bytel Project



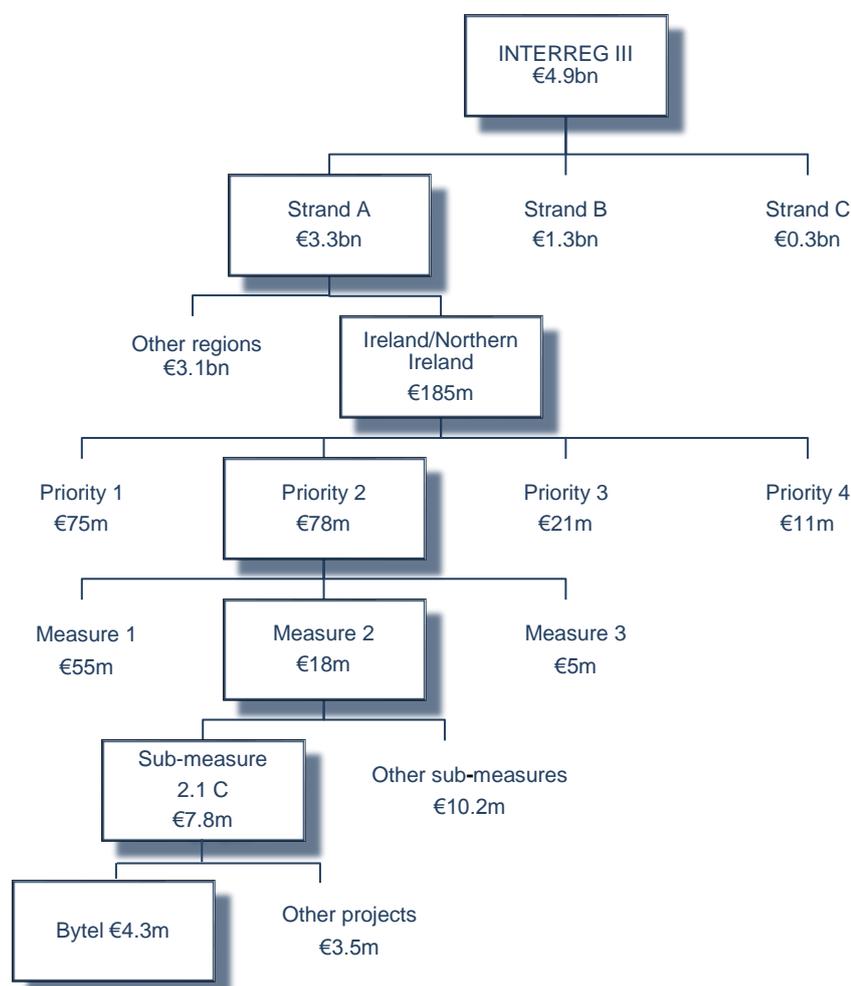
Focus of the Report

- 1.16** This report considers the role of DCENR in the management of the Bytel project.
- 1.17** Given that DCENR approved payment of grants of €4.3 million in funding to a project for which it was found that 97% of grant payments were ineligible, the examination also considers to what extent DCENR has taken steps to prevent a similar recurrence.
- 1.18** This report is the result of a co-ordinated examination between the Office of the Comptroller and Auditor General and the Northern Ireland Audit Office. Given the nature of the issues being examined, such an approach ensured as complete and comprehensive an examination as possible. As Bytel was located in Northern Ireland, the detailed work in relation to the grant payments was carried out by the NIAO. The NIAO's report is attached as an appendix to this report.

2 EU Interreg III Programme

- 2.1** The overall aim of the EU Interreg III programme, which covered the period 2000 to 2006, was to "address the economic and social disadvantage which can exist from the existence of a border, by promoting the creation of programme networks involving, and also benefiting, local communities".¹
- 2.2** Total EU funding for Interreg III, across the EU, was €4.9 billion. The programme consisted of three strands.
- Strand A – cross border co-operation between adjacent regions (67% of the funding): the aim of this strand was to develop cross border social and economic centres through common development strategies.
 - Strand B – transnational co-operation (27%): the aim of this strand was to promote better integration within the EU through the formation of large groups of European regions.
 - Strand C – inter-regional co-operation (6%): this strand aimed to improve the effectiveness of regional development policies and instruments through large scale information exchange and sharing of experience.
- 2.3** Under Interreg III rules, projects had to be co-financed by the EU and member states involved in the projects. Member state contributions are referred to as matching funds.
- 2.4** The EU allocated €137 million for cross-border projects in Ireland. This amounted to 2.8% of EU funding available under the Interreg III programme. Ireland and Northern Ireland allocated matching funds of €48 million – 26% of the total funding of €185 million allocated to the programme.
- 2.5** The available funding was allocated to a number of projects under each of the Interreg III strands. Around €8 million was allocated to a specific strand A measure described as 'supporting physical infrastructure and the environment – inter regional economic infrastructure' (sub-measure 2.1 C). The Bytel project was funded under that measure (see Figure 2.1). The grant allocated to the Bytel project (€4.3 million) represented 55% of the total funding available under the specific measure. The other projects funded under this sub-measure were
- the Armagh Monaghan Digital Corridor pilot proposal (€ 0.93 million)
 - Northwest Community Connect project (€0.25 million)
 - Blackwater Valley broadband (€0.16 million)
 - a project linking the Northern Ireland Regional Area Network (higher education sector) to Ireland's National Education and Research Network (€0.51 million)
 - a broadband awareness campaign (€1.68 million).
- 2.6** In the Interreg III programme, projects could not be fully grant funded. The maximum grant available for the Bytel project was 35% of eligible project expenditure. Expenditure incurred on projects was deemed eligible or ineligible by reference to a letter of offer and applicable EU regulations.

¹ Special EU Programmes Body (2003) INTERREG IIIA Mini Guide.

Figure 2.1 INTERREG III (2000 – 2006) funding allocation sequence

Source: Special EU Programmes Body

Notes: a Priorities – key strategic objectives aimed at specific policy areas.

b Measures – activities supporting the delivery of Interreg priorities.

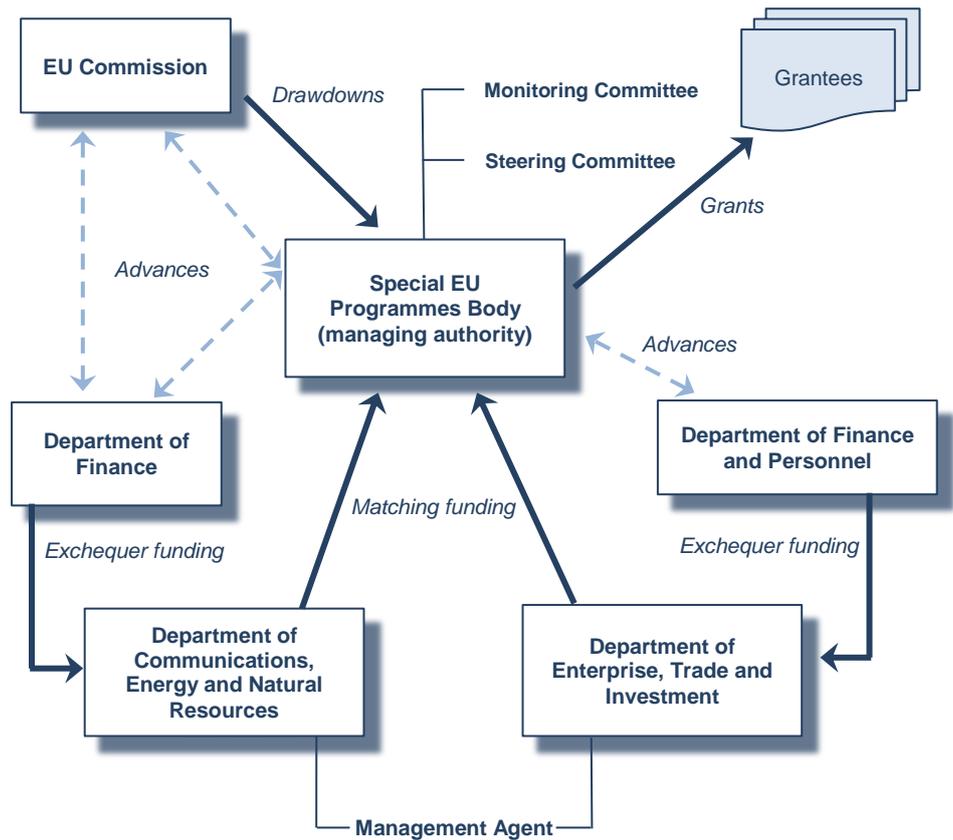
Programme and Project Oversight

- 2.7** An overview of the complex arrangements put in place for the administration and funding of the Interreg III programme in Ireland is set out in Figure 2.2.
- 2.8** SEUPB was the designated managing authority and paying authority for the Interreg III programme for Ireland/Northern Ireland. Those roles in respect of Interreg I and Interreg II had been performed by the Department of Finance in Ireland and the Department of Finance and Personnel in Northern Ireland.

Managing Authority

- 2.9 As managing authority, SEUPB had overall responsibility for implementing the Interreg III programme on the island of Ireland. Under EU regulations, SEUPB was required to put in place financial processes and procedures to ensure effective delivery of the programme. This included the establishment of a central payments system and the appointment of joint implementing agents for each programme measure.
- 2.10 As the managing authority, SEUPB set up an Interreg III monitoring committee which consisted of thirty members, including representatives from the Department of Finance, the Department of Finance and Personnel, the European Commission and the Border Midland and Western Regional Assembly. The role of the committee was to oversee the Interreg III programme. The monitoring committee met on 14 occasions between 2000 and 2008.

Figure 2.2 Overview of arrangements for administration and funding of the Interreg III programme in Ireland and Northern Ireland



Source: Office of the Comptroller and Auditor General

- 2.11** In line with EU regulations, SEUPB also appointed a steering committee which consisted of 19 members, including representatives from the Department of Finance, the Department of Finance and Personnel, and from trade unions, and three advisors from Enterprise Ireland, Invest NI and Intertrade Ireland. The primary function of the steering committee was to select projects for Interreg III assistance. The committee met 23 times over the course of the programme (between 2003 and 2006). The committee recommended funding of €4.3 million for Bytel in November 2004.
- 2.12** Other SEUPB managing authority responsibilities included ensuring projects were selected in accordance with criteria approved by the monitoring committee, preparing implementation reports for submission to the EU and performing control checks on at least 5% of programme expenditure.

Paying Authority

- 2.13** As a paying authority, SEUPB was responsible for managing a dedicated Interreg III bank account, issuing advance payment requests to the implementing agents, compiling and certifying claims to the EU for drawdown of ERDF funds and disbursement of grant payments to Interreg III project promoters.

Implementing Agents

- 2.14** Joint implementing agents were government departments or other suitable agencies entrusted with responsibility for the implementation of the Interreg III Programme in accordance with a service level agreement with SEUPB.
- 2.15** SEUPB appointed DCENR and DETI as joint implementing agents to administer sub-measure 2.1 C. The implementing agents were jointly obliged to facilitate funding applications, undertake project assessment, verify project expenditure, authorise grant payments and monitor and review projects.
- 2.16** While both Departments had equal responsibility for administering the programme, DCENR has stated that, in practice, either it or DETI took the lead role in the day-to-day handling and processing of payment claims for individual projects, and that the department exercising the lead role was referred to as the 'lead implementing agent'. DCENR stated that, in its view, while there was no written agreement with DETI about its role as lead implementing agent, de facto, DETI assumed and operated in this role for the project.¹
- 2.17** DETI, on the other hand, stated that the role of lead implementing agent was not defined for Interreg III and that each department had joint responsibilities as joint implementing agents.
- 2.18** The relationship between DCENR and DETI was not formalised for the Interreg III programme and it was not referred to in the bilateral service level agreements with SEUPB. Officials of the Departments met on an ad hoc basis, as required, regarding the implementation of projects.

¹ DCENR stated that it was the lead implementing agent for the Broadband Awareness Campaign and that DETI was the lead implementing agent for the other projects funded under the sub-measure.

Recoupmnt of ERDF Funds

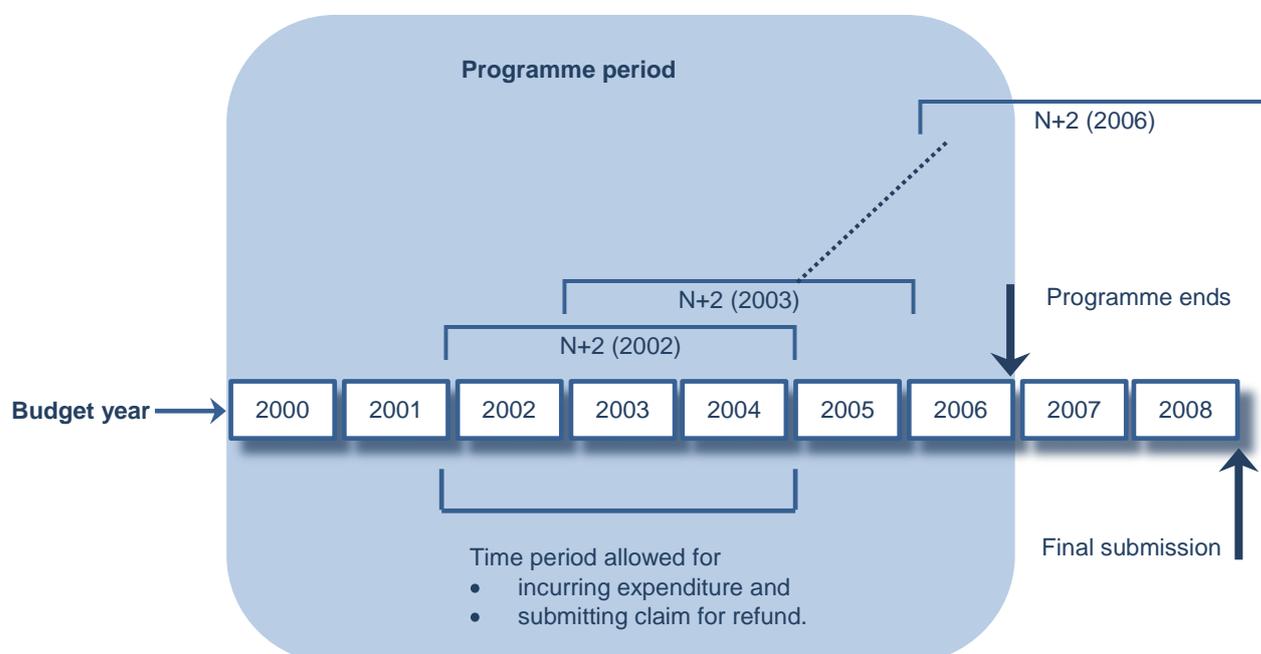
- 2.19** Funding of EU programmes is managed through a complex process of initial advances from the EU, advances from national Exchequers, matching national funding and subsequent claims submitted to the EU for drawdowns based on verified grant expenditure. Budgets are allocated to time periods and time limits are imposed through the 'N+2' rule (see Figure 2.3), to control the process, and to avoid peaks in spending at the end of the programme.

Figure 2.3 Time limit for spending funds – the N+2 rule

An EU regulation – referred to as the N+2 rule – requires member states to spend funds, at a programme level, by the end of the second year following the year in which they are allocated.^a Unspent allocations are automatically withdrawn by the Commission. The N+2 rule was applicable to the Interreg III programme. If an N+2 target for a specific measure is not met in any year, the available funds may be spent on another measure in the programme. The N+2 target is calculated on a cumulative basis over the life of a programme.

The N+2 rule is intended to avoid a peak of project commitments towards the end of a programme, but it also creates a risk of weakened financial controls, as member states strive to ensure all available funding is fully expended within the two-year timeframe.

The Interreg III programme period covered the years 2000 to 2006. However, due to start up delays, the programme was not launched until November 2002.



Source: Office of the Comptroller and Auditor General

Note: a Article 31.2 of Regulation 1260/1999.

- 2.20** The EU advanced to SEUPB €9.6 million (7%) of the total Interreg III allocation to fund initial payments. Because of delays in processing claims and drawdowns, additional funds were advanced to SEUPB from voted Exchequer funds by the Department of Finance and the Department of Finance and Personnel. Assuming no disallowances or withdrawal of claims, these advances were repayable to the Departments, once all claims were settled.
- 2.21** Over the period 2004 to 2010, SEUPB could have recouped a maximum €137 million ERDF contribution in respect of the Interreg III Ireland programme. However, the full amount was not recouped, due to the decision to withdraw the Bytel project from the Interreg III claim after the closing date for the programme.¹ If the project had been withdrawn prior to the close of the programme, there may have been an opportunity to take actions that could have resulted in some or all of the undrawn funding being utilised in other projects.
- 2.22** By late 2013, when SEUPB received the final ERDF receipt from the EU Commission, SEUPB had recouped €133 million in respect of 27 claims for Interreg III projects. The claims ranged from €61,000 to €30.5 million. Of the €133 million recouped by SEUPB for Interreg III projects
- Ireland received €61.6 million (46%), and
 - Northern Ireland received €71.2 million (54%).
- 2.23** Prior to 2008, the Irish Exchequer's share of ERDF funding for project claims was paid directly to SEUPB – initially through an advance of 7% of the total programme funding and then through drawdowns of funds in respect of grants paid to project promoters.
- 2.24** From 2008, the Department of Finance began to pay the Exchequer's share of ERDF funding to SEUPB.² SEUPB repaid the Department when it received ERDF funding following submission of grant claims. When the claim in respect of the Bytel project was withdrawn, SEUPB reduced the amount it recorded as repayable to the Department of Public Expenditure and Reform by €1.76 million. SEUPB pointed out that it had no mechanism to recoup payments directly from DCENR.

¹ The closing date for Interreg III was extended from June 2008 to June 2009.

² In 2011, this function transferred to the Department of Public Expenditure and Reform.

3 Role of the Department of Communications, Energy and Natural Resources in the Bytel Project

3.1 Formally, DCENR and DETI had joint responsibilities in regard to the measure under which Bytel was funded. These are set out in identical service level agreements between each Department and SEUPB. The agreement between SEUPB and DCENR is dated August 2004 and that between SEUPB and DETI is dated October 2004. Under the agreements, each Department had responsibility for, inter alia,

- administering grant applications by, and offers of grants to, project promoters
- authorising grant payments.

Appraisal of Project Proposal

3.2 In February 2004, Western Connect, a Derry-based technical consultancy company, was appointed by the joint implementing agents to act as a management agent for Interreg measure 2.1 C. Western Connect provided technical, legal and financial expertise on the appraisal, selection and implementation of the measure. Western Connect provided these services until October 2005. The total paid to Western Connect was €138,000.

3.3 In April 2004, in response to a call by SEUPB for project proposals, Bytel Limited submitted an application for grant funding for a project that would use existing underground ducts and cables owned by a proposed project partner, Aurora Telecom (Aurora), to provide high speed broadband which would initially link Belfast, Craigavon, Armagh, Dundalk and Dublin, with subsequent phases to be agreed.¹ The application envisaged total project costs of €13.2 million and sought grant funding of €5.9 million under the Interreg III programme.

3.4 The application was rejected by a panel comprising two staff from Western Connect. In July 2004, Bytel Limited submitted a revised application, with lower project costs. The application was subject to a project assessment and an economic appraisal. DCENR and DETI were represented on the evaluation panel for the project assessment. In order to reach the economic appraisal stage, the project had to pass a threshold of 60 marks (out of 100) in the assessment. Overall, it scored 61 – just one above the threshold. The application scored four out of five for the north-south nature of its application (to be delivered through its proposed partnership with Aurora).

3.5 The economic appraisal was completed in September 2004. The appraisal recommended that, subject to key risks identified in the appraisal being addressed, the project should be funded. The risks identified included

- the capacity of Bytel to deliver the project (assessed as low risk)
- lack of demand for the completed network and
- failure of the relationship between Bytel and Aurora - considered not to be a high risk, on the basis of a letter from Aurora that it would provide the fibre optic cable required for the project.

¹ Aurora Telecom is a subsidiary of Bord Gáis Networks, which operates under the aegis of DCENR.

- 3.6** In October 2004, a letter of offer from DCENR and DETI to Bytel committed grant funding of €4.3 million against total project costs of €12.4 million, the maximum potential funding based on the effective 35% grant rate.
- 3.7** The project appraisal, including the economic appraisal, is reviewed in detail in Appendix A.¹ That review highlights a number of shortcomings in the appraisal.
- There were weaknesses in the definition of what was to be delivered by Bytel and a lack of clarity over the source and ownership of the assets required to deliver the project.
 - There was little evidence in the economic appraisal to support project costs (hardware, software and infrastructure).
 - Although the partnership with Aurora was identified as being important for the delivery of the project, neither DETI nor DCENR engaged with Aurora to confirm its partnership with Bytel.²

Project Partnership

- 3.8** DCENR pointed out that an Aurora senior projects manager had, at a meeting in June 2004 with DCENR, DETI and Bytel, confirmed that it supported the Bytel project. However, no partnership agreement was discussed or agreed between Aurora and Bytel in relation to the project. A letter from the project manager to DETI in November 2004, stated that Aurora intended to install fibre optic cable from Dublin to Belfast by December 2005, which would be available for the 'extreme broadband project'. (The letter made no explicit reference to Bytel).
- 3.9** Bord Gáis Networks commenced a strategic review of Aurora (its subsidiary) in October 2004, and decided in December 2004 to withdraw its offer of support from the Bytel project – two months after the letter of offer issued from the Departments. By this time, the first payment of €1.6 million had already been made to Bytel.
- 3.10** The Accounting Officer stated that as DCENR regarded DETI as lead implementing agent, it was not DCENR's role to request from Aurora confirmation regarding the Bytel project.

Change to Project Specification

- 3.11** Following protracted negotiations, Bytel entered into agreements in September 2005 with Eircom UK under the terms of which
- Eircom UK was to provide certain access rights to its existing infrastructure in Northern Ireland
 - in exchange, Bytel was to undertake to complete additional fibre cable laying in Northern Ireland.

Both of the exchange transactions were valued at €3 million. The agreements reduced the total Bytel project costs by €4.8 million to €7.6 million.

¹ See part two of the report at Appendix A.

² Aurora was to deliver €7.8 million, or 63%, of the assets required to complete the project.

- 3.12** Under the terms of the letter of offer, Bytel was required to get approval from DETI and DCENR for any significant project changes. In September 2005, Bytel informed DETI and DCENR of project delivery changes. Notwithstanding the very significant change to how the project was to be provided and the 39% reduction in the project funding requirement, no review was carried out and no written approval was issued to proceed with the revised project. The Departments did not issue a revised letter of offer.
- 3.13** From a technical perspective, the nature of the project changed between November 2004 and November 2005 from building a network on existing fibre cables (infrastructure) to a project where Eircom UK delivered bandwidth (service).¹ SEUPB has pointed out that it was not informed of the significance of the change in the nature of the project.

Time Limits for Spending Funds in 2004

- 3.14** The telecommunications measure which funded the Bytel project had an N+2 target requiring payments totalling €1.6 million by December 2004. In July 2004, the DCENR official dealing with the Interreg III telecommunications measure noted in an internal DCENR document that there was a possibility of missing the N+2 target, as no expenditure had been incurred on any projects in 2004. The official noted that there was a strong possibility of meeting the N+2 target if the Bytel project application was approved for funding. In the event, the letter of offer to Bytel issued in October 2004.
- 3.15** The Accounting Officer has stated that the internal document noted that there would be a full, independent appraisal of the Bytel project, and that DCENR did not ensure the approval of the Bytel project in order to meet the N+2 spending target.
- 3.16** The Bytel project commenced in early November 2004. Notwithstanding the fact that the project commencement date was just three weeks in advance of the 2004 N+2 deadline of 2 December 2004, a claim for €1.6 million was submitted by Bytel and verified by Western Connect prior to the deadline. This claim included €1.3 million for equipment that was not subsequently used for the project under the revised contract with Eircom UK. The letter of offer had specified the items for which grant funding would be available and had noted that no Interreg funding was available for that equipment.²

Payment of Claims

- 3.17** Bytel submitted four grant claims totalling €4.3 million (based on expenditure of €12.4 million) to SEUPB between November 2004 and November 2005. The initial claim, which accounted for 37% of the total grant allocation paid of €4.3 million, was submitted within three weeks of the letter of offer in October 2004. Notwithstanding that the level of grant funding for the project was 35% of total project costs, the first payment represented 100% of costs to that date. Claim details are set out in Figure 3.1.

¹ Based on the report of a technical review of the project by independent consultants, completed in March 2013.

² The letter of offer stated that the offer and subsequent grant draw down were subject to strict adherence to the project budget. The budget indicated that the equipment (€1.3 million), subsequently funded in the first payment, was to be fully funded by Bytel.

Figure 3.1 Bytel grant claims

Claim	Date submitted	Date paid	Amount paid €000
Claim 1	15 November 2004	2 December 2004	1,600
Claim 2	16 September 2005	13 October 2005	375
Claim 3	25 October 2005	8 December 2005	250
Claim 4	11 November 2005	8 December 2005	2,075
Total			4,300

Source: Department of Communications, Energy and Natural Resources

- 3.18** DCENR contributed €0.51 million (matching Exchequer funding) of the €4.3 million grant allocation to the Bytel project. In addition, €1.76 million was paid from the State's allocation of ERDF funding (to be claimed as eligible expenditure under the Interreg III programme). DETI contributed Interreg funding of €2.03 million to the project (see Figure 3.2).¹

Figure 3.2 Bytel funding

Funding Source	DCENR €m	DETI €m	Total €m	
Interreg allocations	1.76	2.03	3.79	88.2%
Matching Exchequer funding	0.51	–	0.51	11.8%
Total	2.27	2.03	4.30	
	53%	47%		

Source: Department of Communications, Energy and Natural Resources

- 3.19** The service level agreements between SEUPB and the two Departments required that grant payments made by SEUPB to the project were based on claims that had been verified by the joint implementing agents and approved by them as eligible expenditure. DCENR has pointed out that it regarded DETI as the lead implementing agent and, as such, DETI had responsibility for checking and processing claims. In the event
- The first two grant payments made by SEUPB were authorised by DETI and Western Connect. These two payments included €232,000 of matching funding provided to SEUPB by DCENR.
 - The final two claims were approved by both DETI and DCENR. These included the balance (€273,000) of the matching funding.

DCENR signed authorisation forms for the release of the matching funding it had provided to SEUPB for making payments to Bytel around the same dates the grants were paid to Bytel (November 2004, October 2005 and December 2005).

¹ Under Interreg III rules projects had to be co-funded by member states. The Ireland Interreg III programme was 25% co-financed. The proportion of co-financing varied for different projects.

- 3.20** Notwithstanding that it directly approved, or was aware of, total payments of €4.3 million (including €2.27 million of Irish funding) in respect of the project, there was no evidence to show that DCENR sought the supporting documents or assessments of the claimed expenditure in order to give it assurance about the validity of the claims.
- 3.21** A detailed review of the checking and authorisation of the grant claims by DETI is set out in Appendix A.¹ The review found that the time pressures created by the N+2 deadline contributed to the poor quality of the checking of grant claims for the project and that the checking and verification of the grant claims was inadequate.
- 3.22** In addition to grant claims being checked, the project was subject to a number of controls in accordance with EU requirements
- December 2004 – an SEUPB certification spot check to ensure that there was adequate documentation to support payments made
 - February 2005 – an Article 4 review was undertaken by Western Connect. Further Article 4 reviews were undertaken by DETI in March and July 2007²
 - June 2006 – an Article 10 review was completed by external consultants.³ This review identified issues regarding the project structure and procurement documentation. The issues are highlighted in part three of Appendix A.

Ineligible Expenditure

- 3.23** EU funding for Interreg III is recouped through claims for payment from the ERDF. However, in 2012, the Bytel project was withdrawn from the final payment claim following a detailed review by consultants (consultant A) commissioned by SEUPB who concluded that 97% of the expenditure claimed by Bytel was not eligible for grant aid under the Interreg programme. Reasons for the expenditure being considered ineligible included
- lack of evidence about the existence and valuation of equipment purchased for the project
 - procurement of equipment from a company closely related to Bytel
 - non-utilisation of equipment in the completed project
 - costs incurred that were outside the scope of the project
 - inadequate documentation to support claimed expenditure of €17.8 million⁴ in the final grant claim – the documentation provided consisted of a single page statement which was neither signed nor dated, and had no back-up or verification evidence.

¹ See part three of the report at Appendix A.

² Article 4 reviews are expenditure checks performed on all EU funded projects to ensure expenditure incurred is eligible and in compliance with EU regulations.

³ Article 10 reviews check the effectiveness of management and control systems and compliance with EU regulations.

⁴ See paragraph 3.20 in Appendix A.

Views of the Accounting Officer of DCENR

Approval of Project Expenditure

- 3.24** In regard to its role in approving project expenditure, a document from DCENR points out that¹
- DCENR had no role in the verification, examination, approval or auditing of any of the project expenditure. That responsibility was contracted out to Western Connect in the first instance and was subsequently assumed by DETI as lead implementing agent.
 - DCENR's only involvement in the ongoing financial management of the Bytel project was the approving of the release of monies from Ireland's ERDF pool and from its own funds (matching funding), on foot of requests to do so from SEUPB. DCENR fully complied with and acted upon the advice of those charged with carrying out the inspections and audits at all times in the process.
 - DCENR depended on the evaluations carried out by the technical advisors to the project, by SEUPB and, subsequently by DETI. DCENR had no involvement in the vouching of expenditure and trusted that all vouching was done in accordance with best practice.
 - At no point did pressures to make payments in order to meet Interreg requirements about the timeframe within which allocated money must be spent lead to any cutting of corners by DCENR. At all times, DCENR understood all payments to be valid, properly checked and appropriate to the project.
- 3.25** In regard to the €1.3 million included in the first payment claim for equipment that was not subsequently used on the project and that the letter of offer identified as not being grant-eligible, the DCENR document notes that it did not consider that the equipment was any less essential for the Eircom UK network than it would have been for the Aurora network. DCENR had not been made aware that the equipment was not required under the Eircom UK contract.

Comments by SEUPB

- 3.26** SEUPB stated that the DCENR document conveys an erroneous impression of the role of SEUPB, as responsibility for the assessment, approval, monitoring and evaluation of projects lay with the joint implementing agents. SEUPB pointed out that it had no role and had no access to technical advisors in relation to this project. SEUPB also stated that while it did procure an economic appraisal on behalf of DETI, the appraisal was assessed and approved in the first instance by DETI economists and subsequently by economists in the Department of Finance and Personnel supply section.
- 3.27** In the case of the Bytel project, SEUPB does not believe that N+2 pressures can be used as an excuse for what has happened. The joint implementing agents were aware that N+2 was a key management objective when they took up the responsibility for the management of that part of the programme. Adequate foresight and planning would have ensured that this did not happen.

¹ The document was drawn up in October 2011 in response to a draft version of the consultant's report of March 2012 which had been commissioned by SEUPB.

DCENR's role as implementing agent

- 3.28** Notwithstanding that both DCENR and DETI had identical responsibilities under the service level agreements each had with SEUPB, the Accounting Officer has pointed out that, in practice, for administration of each Interreg III project, one of the Departments took the role of lead implementing agent. He stated that DETI was the lead implementing agent for the Bytel project and, in that role, was responsible for the regularity of expenditure on the project.
- 3.29** The Accounting Officer also stated that he does not agree that both DETI and DCENR were responsible for checking that the claims submitted by the project promoter were correct, eligible for grant and due for payment. He stated that it was not DCENR's function to check the supporting documents with claims from Bytel – it was the responsibility of either Western Connect as managing agent or DETI as lead implementing agent for the project to do this before approving payments. For the first two grant payments, Western Connect and DETI signed the payment forms and DCENR did not countersign them. For the remaining two payments, Western Connect was no longer involved and both DETI and DCENR signed the payment forms.
- 3.30** There was no written agreement between DCENR and DETI, nor was there any other documentation, setting out the responsibilities of each Department where one Department took the role of lead implementing agent. However, in support of his comments, the Accounting Officer noted that the main documentation on the Bytel project was held in Belfast and the payment claims from Bytel were vouched and checked in Northern Ireland. The first two payment claims were not forwarded to DCENR for countersigning. Payment authorisation forms were sent to DCENR for release of DCENR's match funding for making payments to Bytel.
- 3.31** In regard to assurance about the validity of claims, DCENR stated that Western Connect (as managing agent) gave general assurances about the controls it used in relation to the certification of expenditure claims from Bytel and another telecoms project at the time – for example, Western Connect stated that it checked original invoices and bank statements, matched equipment against invoices, ensured that expenditure was eligible under the terms of the letter of offer and that costs were reasonable. DCENR did not receive specific assurance about the Bytel claims.

Handling of Allegations about Bytel Project

- 3.32** Allegations were made to DETI in 2006 when a director of Bytel raised concerns in relation to a colleague regarding false accounting practices and withdrawal of funds which should have been ring fenced for the Bytel project. DETI conducted an internal review of the allegations and concluded that no further action was necessary, on the basis that the claims submitted by Bytel
- were for products and services that were eligible for Interreg support
 - were in respect of expenditure actually incurred and
 - had been supported by invoices and bank statements.

- 3.33** Further allegations were made about the project by a whistleblower to the NIAO in 2008. The NIAO referred these to DETI for investigation. DETI commissioned an external review of the project, which was completed in September 2009.
- 3.34** Notwithstanding a requirement under the terms of its service level agreement with SEUPB to inform it and DCENR of any report commissioned in relation to Interreg programme expenditure, DETI did not notify SEUPB about concerns with the project until May 2010 when it informed it that the grant paid to Bytel 'may be ineligible' for ERDF funding. DCENR was not made aware of a potential irregularity until late 2010 or of the detailed Bytel issue until February 2011.
- 3.35** A review of the investigations that were carried out found that¹
- DETI's investigation of the June 2006 allegations, that the claims submitted by Bytel were valid, was not sufficiently rigorous and independent and its finding was not supported by adequate evidence or documentation.
 - In response to the whistleblower's allegations in 2008, DETI's internal audit unit concluded an initial investigation in early 2009 which identified concerns about the adequacy of documentation supporting the grant claims and engaged a consultant (consultant A) to carry out further investigations. In September 2009, the consultant concluded that "there are a number of significant issues arising in relation to the eligibility of the expenditure claimed in respect of this project and therefore in relation to the efficacy of DETI's oversight and monitoring role. On the basis of the limited information available to me to date, I consider that DETI will, more likely than not, be required to declare an irregularity in relation to the project". Notwithstanding this finding, DETI did not notify SEUPB or DCENR of the whistleblower's allegations or of the consultant's September 2009 findings until December 2010.²

DCENR's Knowledge of the Allegations and Investigations

- 3.36** DCENR was made aware of the 2006 allegations by email from DETI in June 2006. The email noted that all payments to Bytel had been properly vouched and that the allegations seemed to mainly concern how Bytel had been allocating the money from Interreg. DETI noted that a meeting was scheduled with the person making the allegations, and expressed the view that DCENR should be represented at the meeting.
- 3.37** Notwithstanding DETI's view, no representative from DCENR attended the meeting. DCENR was provided with minutes of the meeting and an internal DCENR document notes that DETI's main concern was whether the claims for payment made by Bytel were legitimate and whether the project would deliver in accordance with the letter of offer – DETI had checked the claims and did not have any concerns in that respect.
- 3.38** DCENR was not informed of the 2008 allegations until December 2010 when the Chief Executive Officer of SEUPB wrote to DETI making inquiries about a potential irregularity in the Bytel project that had been flagged. The letter was copied by SEUPB to DCENR.

¹ See part four of the report at Appendix A.

² The consultant was subsequently commissioned by SEUPB to carry out the in-depth review of the project.

- 3.39** On foot of this, a committee of representatives of relevant departments was established to review the project.¹ In April 2011, SEUPB, acting on behalf of this committee, commissioned a review of the project by an independent consultant (consultant A). The report arising from the review was received by DCENR in March 2012. Some of the main findings of the review were
- 97% (€4.2 million) of the €4.3 million paid to Bytel should not have been paid as it was based on ineligible expenditure.
 - The management of the project was inadequate in a number of respects including the authorisation of grant payments against expenditure which was clearly ineligible, or which became ineligible once the project changed or about which serious questions should have been asked.
 - There had been a failure to properly investigate the 2006 allegations and a failure to act in a timely way on the issues raised by the whistleblower in June 2008.
- 3.40** The Chief Executive Officer of SEUPB pointed out that while 3% of the expenditure could be deemed to be eligible, the most prudent course of action was to withdraw the whole project from the final claim for payment to the European Commission for Interreg III. This course of action was endorsed by the review committee, which agreed to withdraw the project in its entirety from the programme.
- 3.41** The effect of withdrawing the project from the programme at that stage was that the €3.79 million which it was expected would be recovered under the Interreg programme could not be recouped, and could not be replaced by other eligible projects.
- 3.42** In response to a letter from SEUPB, the Accounting Officer of DCENR wrote to the Chief Executive Officer pointing out that
- DCENR relied on DETI to carry out the detailed checks and on DETI's recommendation in this respect. He noted that DCENR countersigned some of the expenditure claim forms but pointed out that there was an important distinction between the roles of DCENR and DETI.
 - Until December 2010, DCENR had no knowledge of, or involvement in the whistleblower allegations made in 2008, the issues summarised in the consultant's report (consultant A) in September 2009 or the failure to share concerns about the Bytel project with stakeholders on a timely basis.
 - In relation to the achievement of the project's objectives, DCENR had relied on a post-project evaluation carried out by independent consultants in 2007. That evaluation had not identified any shortcomings in the Bytel project and concluded that the project's technical objectives had been met.

¹ Members of the committee included representatives from SEUPB, DCENR, DETI, the Department of Finance and the Department of Finance and Personnel.

Post Project Evaluation

- 3.43** Notwithstanding the withdrawal of the project from the claim for Interreg III funding, two evaluations found that the project had achieved its objectives.
- A post-project evaluation in 2007 found that appropriate, functioning equipment to prevailing industry standards had been installed at all points of the network. However, the March 2012 consultant's review (consultant A) found that the evaluation had some fundamental weaknesses.
 - Following the 2008 whistleblower's allegations, and the decision to withdraw the project from the Interreg programme, a DETI-commissioned review in 2013 found that all seven objectives of the project had been met.
- 3.44** While the 2013 consultant's review (consultant B) found that the project delivered its objectives, it also found that the cost of delivering the project was considerably lower than €12.4 million, on which the 35% grant paid to Bytel (€4.3 million), was based. The consultant concluded that Bytel had incurred expenditure of €3.93 million (including the €3 million transaction with Eircom UK). On this basis, the maximum grant payable would have been just under €1.4 million.¹

Communications between DCENR and DETI

- 3.45** DCENR stated that communications between it and DETI, as joint implementing agents, were carried out on an ad hoc basis. Some emails, other notes and minutes of three project meetings were made available to the examination.² DCENR attended two of the meetings. None of the minutes of the meetings refer to key issues including the withdrawal of Aurora and its impact on the project. The allegations made about the project all arose after the last of the meetings. In addition, seven status reports about Measure 2.1 C were drawn up by Western Connect between June 2004 and April 2005. Five of these reports related to the period before the issuing of the letter of offer to Bytel (in October 2004).
- 3.46** Some failures in communication are evident
- the apparent lack of awareness of DCENR of the possible withdrawal of Aurora as project partner
 - the failure of DETI to keep DCENR informed at the earliest opportunity of issues that arose – in particular, the whistleblower's allegations in 2008.

Loss to the Irish Exchequer

- 3.47** The total loss to the Irish Exchequer from the Bytel project is €2.27 million. This comprises
- €1.76 million in Exchequer funding to Bytel on the understanding that it would be eligible for reclaiming under Interreg III
 - €505,000 in matching State funding that was also paid to Bytel.
- 3.48** The Accounting Officer has pointed out that there were real benefits from the Bytel project and the total expenditure should not be considered a loss.

¹ See part five of the report at Appendix A.

² The meetings were held in June 2004, September 2004 and September 2005.

Follow-up Action

- 3.49** In December 2010, the Departmental Solicitors Office in Northern Ireland issued a court writ on Bytel. In March 2013, a statement of claim seeking recovery of the full amount of €4.3 million in grants paid on the broadband project was served on Bytel. Any monies recovered will be apportioned as appropriate between DCENR and DETI.

Conclusions and Recommendations

- 3.50** While there are indications that an informal arrangement was in place making DETI the lead implementing agent, DCENR had clear responsibilities that were set out in an agreement with SEUPB. There are a number of areas where DCENR should have applied more rigour to its approach.
- DCENR relied on DETI and on other advisors for assurance that expenditure claimed by the project promoter was valid, and considered that it had no role in this area. The approach taken by DCENR showed a lack of awareness of the risks, in circumstances where it was placing reliance for assurance about the validity of payments it was making on others, and there was no evidence to show that it had put appropriate controls or checks in place. DCENR should have sought appropriate documentary evidence to support the payments it was making, particularly in circumstances where payments were being made close to the time limits for spending allocated funds. Given the deficiencies in the documentation and checks made by DETI, found in the subsequent investigations, this kind of approach might have brought issues about the project to DCENR's attention at an early stage.
 - A significant part of the project costs were associated with the proposed project partner and these fell significantly when the new project partner became involved. DCENR should have sought a re-appraisal of the project at this point. The documents indicate that DCENR's focus was mainly on the delivery of the project and not on the validity of the costs when the project partner changed.
 - When the first allegations were made about the project in 2006, DCENR accepted an assurance from DETI that it had checked the payment claims made by Bytel but did not seek any documentation or evidence to support this. In addition, DCENR chose not to attend a meeting with the person who had made the allegations and thus missed an opportunity to probe the allegations and to draw out potential evidence.
- 3.51** The arrangements for communications between the implementing agents were informal and inappropriate for an important inter-regional infrastructural project which was in receipt of grants of €4.3 million and for a sub-measure with an €8 million overall spend. The failure to put appropriate communication arrangements in place may have been a contributory factor to the poor sharing of information with DCENR by DETI.

Recommendation 1

A formal project appraisal should take into account all of the key risks that are critical to the project's success and identify how these are to be addressed. Where successful delivery of a project is dependent on a partnership approach by project promoters, the partnership agreement should be reviewed as part of the appraisal.

Accounting Officer's response

Agreed. This is now standard procedure for projects under the Interreg IV programme. It should be noted that the Bytel project appraisal identified "*Risks and Uncertainties to be Addressed*", including the risk of the Aurora partnership falling through, which it regarded as low risk in view of the letter from Aurora stating their commitment to the project.

SEUPB's Chief Executive Officer's response

Agreed. These events refer to a programme period that is completed and closed. New implementation arrangements have been put in place for the successor programme (Interreg IV) and clear guidelines exist for both the appraisal of projects and review of partnership arrangements. A detailed analysis of lessons learned from both programmes has been carried out to inform recommendations from SEUPB in relation to the assessment, approval and monitoring of projects for the Interreg V programme (2014 to 2020).

Recommendation 2

In circumstances where a project approved for grant-funding is subject to significant change, a formal project re-appraisal that considers both the project's objectives and revised costs should take place and appropriately approved revised terms of offer should be issued.

Accounting Officer's response

Agreed. More formal project steering boards were put in place for the monitoring of projects under the Interreg IV programme and DCENR takes an active oversight role in each project.

SEUPB's Chief Executive Officer's response

Agreed. Recommendations have been made by SEUPB in relation to the technical monitoring of projects for the new programme period 2014 to 2020 that take account of this recommendation. Changes had already been introduced into Interreg IV arrangements to ensure that these events could not be repeated.

Recommendation 3

In circumstances where there are joint implementing agents for a project, DCENR, if it is not acting as the lead implementing agent, should put robust processes in place in order to assure itself of the validity of grant claims prior to authorisation of payment.

Accounting Officer's response

Agreed. The roles under the relevant EC regulation (which was not in place for Interreg III) need to be respected i.e. where one body is designated as lead partner, it is a matter for that body to discharge the functions assigned to it as the lead partner. Having said that, in the management of a project under the Interreg IV programme where DCENR is not the lead partner/lead implementing agent, written assessments of payment claims by internationally recognised technical consultants were reviewed by DCENR before payments to the contractor were approved.

SEUPB's Chief Executive Officer's response

Agreed. The use of implementing agents for programme delivery was discontinued for the programme period 2014 to 2020. The system of verification of expenditure has been radically changed since Interreg III. A robust, centralised system of verification has been introduced, quality controlled and checked by a centralised financial control unit and certifying authority, and audited by the audit authority, who carry out regular sample checks on claims for expenditure before certifying to the European Commission as to the robustness of the control systems in place.

Recommendation 4

Joint implementing agents should put formal arrangements in place to ensure that key decisions about a project are agreed by both parties and adequately recorded. The communication arrangements should include protocols for ensuring that all key issues that arise are made known to both implementing agents.

Accounting Officer's response

Agreed. By way of example, there is a formal partnership agreement in place between DETI and DCENR for the implementation of a project under the Interreg IV programme (2007 to 2013), and project management procedures include an internal communications plan.

SEUPB's Chief Executive Officer's response

Agreed. However, the use of implementation agents for programme delivery has been discontinued for the programme period 2014 to 2020.

Recommendation 5

Effective controls should be put in place to ensure that grant claims that are submitted close to payment deadlines are adequately examined and tested to ensure their validity.

Accounting Officer's response

Agreed. Reputable technical consultants have been introduced where relevant to examine grant claims and verify expenditure to ensure the validity of expenditure claims.

SEUPB's Chief Executive Officer's response

Agreed. The introduction of a robust, centralised system of verification of claims for expenditure for the programme period 2007 to 2013 has ensured that N+2 pressures cannot be used as an excuse to set aside the need for high standards in governance.

Appendix A



Northern Ireland Audit Office

Cross-border broadband initiative: the Bytel project

Published 03 March 2015

This report has been prepared under Article 8 of the Audit (Northern Ireland) Order 1987 for presentation to the Northern Ireland Assembly in accordance with Article 11 of the Act.

K J Donnelly
Comptroller and Auditor General

Northern Ireland Audit Office
03 March 2015

The Comptroller and Auditor General is the head of the Northern Ireland Audit Office employing some 145 staff. He, and the Northern Ireland Audit Office are totally independent of Government. He certifies the accounts of all Government Departments and a wide range of other public sector bodies; and he has statutory authority to report to the Assembly on the economy, efficiency and effectiveness with which departments and other bodies have used their resources.

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Abbreviations

BTI	Bioscience and Technology Institute
CPD	Central Procurement Directorate
DARD	Department of Agriculture and Rural Development
DCENR	Department of Communications, Environment and Natural Resources (RoI)
DCMNR	Department of Communications, Marine and Natural Resources (RoI)
DETI	Department of Enterprise, Trade and Investment
DFP	Department of Finance and Personnel
DoF	Department of Finance (RoI)
DSO	Departmental Solicitors Office
ECA	European Court of Auditors
ERDF	European Regional Development Fund
EU	European Union
JIA	Joint Implementing Agents
NIAO	Northern Ireland Audit Office
NSMC	North South Ministerial Council
PAC	Public Accounts Committee
PACE	Police and Criminal Evidence
SEUPB	Special EU Programmes Body
SLA	Service Level Agreements

Glossary of Terms

Article 4 review	Article 4 reviews examine the delivery of goods/services within an EU supported project, whether the expenditure claimed for has actually been incurred and the project's compliance with EU regulations. An Article 4 review is required for all EU funded projects.
Article 10 review	Article 10 reviews check the effectiveness of management and control systems and the project's compliance with EU Regulations. Article 10 reviews are undertaken for a sample of EU funded projects.
Benefit/Contribution-in-kind	EU Commission Regulation (EC) No 448/2004 states that in-kind contributions are eligible expenditure for EU assistance, provided that they consist of the provision of land or real estate, equipment or materials, research or professional activity or unpaid voluntary work.
Nortel racks	Equipment which is used as part of a telecommunications networking system.

Executive Summary



Executive Summary

Introduction

1. This report examines a cross-border broadband project which aimed to provide high speed connectivity linking Belfast, Craigavon, Armagh, Dundalk and Dublin. The project promoter was Bytel Ltd and the company established a subsidiary, Bytel Networks Ltd, to deliver the project.
2. The project received funding from the European Union (EU) Interreg III programme under a measure to improve inter-regional economic infrastructure. The Special EU Programmes Body (SEUPB) implements the policies of the North South Ministerial Council (NSMC) and was accountable to the European Commission, the Northern Ireland Executive and the Irish Government for the management and delivery of the Interreg programme. Departmental responsibility for SEUPB lies with the Department of Finance and Personnel (DFP) in Northern Ireland and the Department of Public Expenditure and Reform in Ireland. SEUPB appointed the Department of Enterprise, Trade and Investment (DETI) in Northern Ireland and the Department of Communications, Environment and Natural Resources (DCENR) in the Republic of Ireland¹ as Joint Implementing Agents (JIAs) for the measure which funded the Bytel project.
3. In October 2004, the JIAs offered Bytel funding of €4.3 million against estimated total project costs of €12.4 million. The funding package comprised €3.74 million from the Interreg III programme and €0.56 million of match funding from DCENR. The split of total project funding was €2.1 million from DETI and €2.2 million from DCENR.
4. A technical review of the project commissioned by DETI in 2012 and completed in 2013 concluded that although the project delivered was different from that originally proposed, the project objectives included in the Letter of Offer were achieved. There were also a number of additional benefits, including access to important broadband networks which had largely fallen dormant and improvement in network resilience in the Republic of Ireland.
5. Actual total project costs were significantly lower than the planned €12.4 million. The technical review suggests €3.9 million. Although the JIAs were aware of changes to the project in 2004 and 2005 they did not assess their financial impact nor re-assess the level of grant payable. The full €4.3 million of assistance was paid to Bytel between December 2004 and December 2005.
6. A forensic review by consultants commissioned in 2011 and completed in March 2012 identified serious weaknesses in the JIAs' management and oversight of the project. This confirmed that 97 per cent of expenditure on the project was irregular for EU grant. The project was withdrawn from the Interreg programme in March 2012.

1 Until June 2007, DCENR was named DCMNR (Department of Communications, Marine and Natural Resources).

7. DETI began legal proceedings in November 2010 to recover €4.3 million grant paid. These proceedings are ongoing.

Key findings

8. There were major failings in the handling of the project. In particular:

Project assessment and appraisal

9. The assessment and appraisal process was not sufficiently robust. The project was initially assessed in June 2004 and rejected for support. The project was re-assessed in July 2004 and narrowly passed the threshold for funding of projects. A significant factor in the assessment was a proposed partnership with Aurora Telecom which brought €7.8 million of value to the project and which was viewed as critical to its success. However, the strength of this relationship was not tested and Aurora's withdrawal from the project in December 2004 resulted in the specification and costs changing significantly.
10. There was a lack of clarity over the source and ownership of project infrastructure assets. In particular, it was unclear how Bytel could fund its contribution-in-kind for the project.
11. The actual costs of delivering the project were significantly lower than those set out in the original proposal but grant was paid on the basis of that proposal.

Checking and authorising grant claims

12. The JIAs were responsible for checking and approving grant claims. Between November 2004 and November 2005, four grant claims were submitted for a total of €4.3 million. These claims were paid in full.
13. There were pressures on the JIAs to pay grant within tight EU deadlines. Two claims which accounted for €3.67 million of the grant paid were submitted immediately before deadlines. This created a risk that ineligible expenditure would be funded or that items which were not supported by proper documentation would not be challenged. The evidence suggests that the JIAs' primary responsibility to ensure that expenditure was eligible for grant funding became secondary to the need to ensure that grant was paid.
14. Bytel's first claim included €1.3 million for hardware known as Nortel racks. This claim was paid in full by the JIAs. However, this expenditure was not eligible under the terms of the Letter of Offer and the required approvals to ensure its eligibility were not sought or received. The value of the asset was never independently or conclusively verified. Furthermore, it was never used in the project and whilst consultants who reviewed the project in 2012 considered it appropriate in 2004 to have relied on an appraisal valuation of €1.3 million, in light of the evidence which has emerged since then, they concluded that this valuation was

Executive Summary

not credible. There is evidence from a number of sources that the likely procurement cost of the equipment was €30,000. Grant was also paid in respect of other expenditure which was ineligible under the Letter of Offer; for example, €239,000 for cabling work undertaken which was outside the scope of the original project.

15. The final claim consisted of a one-page statement from Bytel outlining its high level valuation of €17.8 million for a benefit-in-kind contribution to the project. Bytel was paid grant of €2.07 million in respect of this. No evidence was provided in the claim to support the valuation. There are significant concerns over the valuation, existence, ownership and completion of the assets and infrastructure referred to in the claim.

The investigations

16. Allegations about the project were made by a director of the company in June 2006. These referred to anomalies in the accounts of Bytel and a related company (XMCC), XMCC ordering supplies on Bytel's behalf, the withdrawal of Interreg funds from both companies by Bytel directors and the claiming of grant for assets not owned by Bytel.
17. DETI did not carry out a sufficiently robust and independent examination of these allegations. The investigation was carried out by DETI Telecommunications Branch which had responsibility for managing the project, including

processing grant claims. It concluded that there were no matters for concern. However, subsequent reviews have identified significant concerns with grant claims and the payment of grant which should have been evident to the investigation.

18. Further serious allegations about the project were made to the NIAO by a whistleblower in June 2008. The allegations were referred to DETI. An initial review of the whistleblower's allegations by DETI Internal Audit in January 2009 identified significant concerns. A further review in September 2009 by consultants commissioned by DETI considered that the Department would, more likely than not, be required to declare an irregularity to the EU in relation to the project.
19. DETI did not notify SEUPB of these issues in a timely manner. In 2006, DETI told SEUPB that there were no matters of concern arising from the allegations made about the project. The Department did not notify SEUPB of the 2008 whistleblower allegations or the findings of the September 2009 consultants' review until February 2011. A full forensic review of the project was then commissioned by SEUPB on behalf of key stakeholders.

Value for money

20. The Bytel project delivered poor value for money. The total grant paid to Bytel was €4.3 million. However, the

technical review commissioned by DETI in December 2012 concluded that Bytel had incurred total costs of €3.93 million to deliver the network. It also reported that Bytel had received €3 million from Eircom for work carried out on Eircom's Saturn Ring network².

21. The project's withdrawal from the Interreg programme in March 2012 resulted in DETI and DCENR having to fund €2 million and €2.3 million respectively. The final deadline for commitment of expenditure to the Interreg III programme was June 2009. Had Bytel been withdrawn earlier, there may have been an opportunity to seek mitigating actions that could have resulted in some or all of the Interreg funding being utilised in other projects. DETI and SEUPB told us that this would have been challenging. However, the withdrawal of the project after the deadline meant that SEUPB was unable to re-allocate Interreg grant of €2 million in respect of DETI and €1.76 million in respect of DCENR. This funding was lost to both member states.
22. In September 2009 the Bytel assets were sold to Hibernia Atlantic and incorporated within Project Kelvin³. Under the terms of the Letter of Offer, the sale of the assets should have triggered clawback of the grant paid to Bytel. This did not happen. DETI did not receive confirmation that the Bytel assets had been sold until the technical review was completed in 2013.

2 The Saturn Ring network consists of 400km of fibre which provides access to the principal cities and towns in Northern Ireland.

3 Project Kelvin involved the provision of a submarine connection into Northern Ireland from a transatlantic cable. It also created a 'terrestrial' network around Northern Ireland, and into the Republic of Ireland covering a range of towns including Armagh, Dundalk and Drogheda. Total project costs amounted to €29.6 million, €22.2 million of which was met through ERDF funding.

Part One:
Introduction and Background



Part One:

Introduction and Background

The Bytel project

- 1.1 This report examines the Bytel project which aimed to provide high-speed broadband connectivity linking Belfast, Craigavon, Armagh, Dundalk and Dublin. The project was supported by the European Union (EU) Interreg III programme, which ran from 2000 to 2006.
- 1.2 The Interreg III programme was financed under the European Regional Development Fund (ERDF). Its main objective was to stimulate co-operation between EU regions. The Special EU Programmes Body (SEUPB) implements the policies of the North South Ministerial Council (NSMC) and was accountable to the European Commission, the Northern Ireland Executive and the Irish Government for management and delivery of Interreg III. Departmental sponsorship for SEUPB lies with the Department of Finance and Personnel (DFP) in Northern Ireland and the Department of Public Expenditure and Reform in the Republic of Ireland.
- 1.3 The Bytel project was assisted under a specific Interreg III priority measure which aimed to improve inter-regional economic infrastructure. The Department of Enterprise, Trade and Investment (DETI) in Northern Ireland and the Department of Communications, Environment and Natural Resources (DCENR) in the Republic of Ireland⁴ were appointed as Joint Implementing Agents (JIAs) for this measure by SEUPB.
- 1.4 In February 2004, following a competitive procurement process led by DFP's Central Procurement Directorate (CPD), DETI and DCENR appointed a management agent (Western Connect) to provide technical, legal and financial expertise on the appraisal, selection, monitoring and implementation of Interreg III projects.
- 1.5 In April 2004, Bytel Limited, a Belfast-based company, applied for Interreg III funding for a cross-border high-speed broadband project. This application was assessed by Western Connect and initially recommended for rejection in June 2004, due to a range of concerns which included high project costs and doubts as to whether it represented value for money. However, the Interreg IIIA Steering Committee, whose function was to select projects for assistance, deferred a final decision on support for the project. The JIAs, Western Connect and Bytel subsequently worked to address the concerns over the project. In July 2004, the application was re-assessed and passed the assessment threshold required to secure funding.
- 1.6 Following the re-assessment, the project application was approved by the Steering Committee on the basis of a positive recommendation by the JIAs and the approval of the economic appraisal. A Letter of Offer was issued jointly by DETI and DCENR to Bytel Networks Ltd⁵ in October 2004. This provided funding of €4.3 million against estimated total project costs of €12.4 million. The level of approved funding was 35 per cent of

4 Until June 2007, DCENR was named Department of Communications, Marine and Natural Resources (DCMNR).

5 Bytel Networks Ltd was a subsidiary of Bytel Ltd set up to deliver the cross-border broadband project funded by Interreg III.

total project costs, the maximum rate for Interreg grant.

- 1.7 The funding package offered comprised €3.74 million from the Interreg programme and €0.56 million of match funding from DCENR (**Figure 1**). The full €4.3 million of assistance was subsequently paid to Bytel between December 2004 and December 2005.

Figure 1: Grant funding offered for Bytel project⁶

Funding Source	€ million grant	% of total grant
DETI (Interreg funding)	2.09	48.6%
DCENR (Interreg funding)	1.65	38.4%
Anticipated Total Interreg Funding	3.74	87.0%
DCENR Match Funding	0.56	13.0%
Total Assistance	4.30	100%

Source: SEUPB

- 1.8 In June 2006, a Bytel director contacted DETI and made a number of allegations about the management and delivery of the project. DETI carried out an investigation and concluded that there were no issues for it to address. This proved subsequently not to be the case.
- 1.9 In June 2008, the Northern Ireland Audit Office (NIAO) received whistleblower allegations about the project and

referred these to DETI for investigation. Whilst providing more comprehensive detail, some of these allegations broadly mirrored the concerns raised in 2006. The whistleblower alleged that:

- despite Bytel's very limited financial resources (annual profit of £30,000), two of its directors had each given personal sureties of £250,000, which helped ensure that the company was awarded the Interreg grant;
- the proposal for the project involved using equipment which was acquired by another Bytel-related company (XMCC) for "tens of thousands of euros" and then sold on to Bytel for over €1 million. The valuation of over €1 million was part of Bytel's Interreg grant claim but the equipment was never used in the project;
- Interreg grant of over €1 million which was paid to Bytel was immediately transferred to its related company (XMCC) and two Bytel directors took a payment of €100,000 each from this. XMCC then loaned Bytel €0.5 million to complete work on the project which allowed payment of further grant. XMCC only traded with Bytel; and
- the completed project did not create any new infrastructure but instead leased existing services.

⁶ The total actual amount paid for the Bytel project was €4.3 million in line with the initial offer. However, this was broken down as DETI (Interreg funding) €2.03 million, DCENR (Interreg funding) €1.76 million and DCENR (Match funding) €0.51 million.

Part One: Introduction and Background

- 1.10 The Department's internal auditors completed a review of the whistleblower's allegations in January 2009. Following consultation with the Departmental Solicitors Office (DSO), Internal Audit appointed consultants (Consultants A) to review Bytel's four grant claims. The consultants reported in September 2009.
- 1.11 The September 2009 review confirmed that there were significant concerns about the sourcing and valuation of project assets and equipment, the eligibility of claimed expenditure and the limited documentation to support grant claims. Consultants A concluded that: *"there are a number of significant issues arising in relation to the eligibility of the expenditure claimed in respect of this project and therefore in relation to the efficacy of the Department's oversight and monitoring role"*. The consultants considered that the Department would likely be required to declare an irregularity in relation to the project, but highlighted the need for additional work to determine the quantum of this and the scope for recouping grant.
- 1.12 DETI did not notify SEUPB of concerns with the project until May 2010, when it submitted a report which indicated that there was *"a potential irregularity"* with the €4.3 million grant provided to Bytel. DETI concluded that all grant was potentially irregular and that the wording of the notification reflected the need for further work to determine the quantum of the irregularity. DCENR was informed of the irregularity in December 2010.
- 1.13 In February 2011, DETI provided SEUPB with a detailed description of the nature of the irregularity and of the findings from Consultants A's review. Following this, SEUPB immediately informed all relevant accounting officers of the irregularity and established a Stakeholder Project Board⁷. SEUPB also commissioned a forensic review of the project by Consultants A.
- 1.14 The forensic review concluded that €4.17 million (97%) of the €4.3 million grant paid to Bytel was ineligible for Interreg assistance. The review also identified significant shortcomings with the management of the project:
- the project had not been properly defined at the outset;
 - although the approach to delivering the project and its costs had changed significantly shortly after the October 2004 Letter of Offer, a revised offer was not issued; and
 - ineligible grant expenditure had been authorised and paid due to inadequate checking and scrutiny of grant claims.
- 1.15 Based on the outcome of the review, the Project Board agreed to withdraw the project in its entirety from the Interreg programme. The project was withdrawn from the programme in March 2012. Consequently DETI and DCENR had to fund all €4.3 million assistance paid to the project.

⁷ The report was commissioned on behalf of the Interreg Stakeholder Project Board which comprised SEUPB, DETI, DCENR, DoF and DFP.

1.16 A technical review of the project commissioned by DETI in 2012 concluded that it had delivered the stated objectives set out in the Letter of Offer. In particular, although the project as initially specified would have provided broadband connectivity to the east coast of Ireland, the completed project also provided additional points of presence in Omagh and Londonderry and improved the resilience of the network in the Republic of Ireland through connections at Bridgend and Letterkenny. The review also found that the project provided enhanced connectivity and had improved competition to the Northern Ireland telecoms market.

1.17 However, the technical review found that the actual project costs were substantially less than those set out in the original proposal. The assistance of €4.3 million paid to Bytel was based on estimated total project costs of €12.4 million. The technical review estimated that total expenditure on the project was €3.93 million. It also reported that Bytel had received €3 million from Eircom for work undertaken on Eircom's Saturn Ring network.

1.18 **Appendix 1** provides a timeline of the main developments associated with the Bytel project.

- the appraisal of the project;
- management and oversight of the project, with particular emphasis on the checking of grant claims;
- the investigation of concerns which were raised about the project; and
- the outcomes and overall value for money delivered by the project.

1.20 In key respects, the findings of our examination of Bytel bear significant similarities to issues raised by the Public Accounts Committee's (PAC's) May 2012 report on the Bioscience and Technology Institute (BTI). That project received £2.2 million funding from DETI, the Industrial Development Board, the Industrial Technology and Research Unit and the International Fund for Ireland. In particular, both projects exhibited shortcomings in respect of appraisal, project monitoring and checking of grant claims.

Methodology

1.21 Our examination drew on the findings of the forensic review of the project completed for the project's key stakeholders by Consultants A in March 2012 and the technical review completed for DETI by Consultants B in March 2013. We also:

- reviewed DETI and SEUPB documentation; and

Scope of our examination

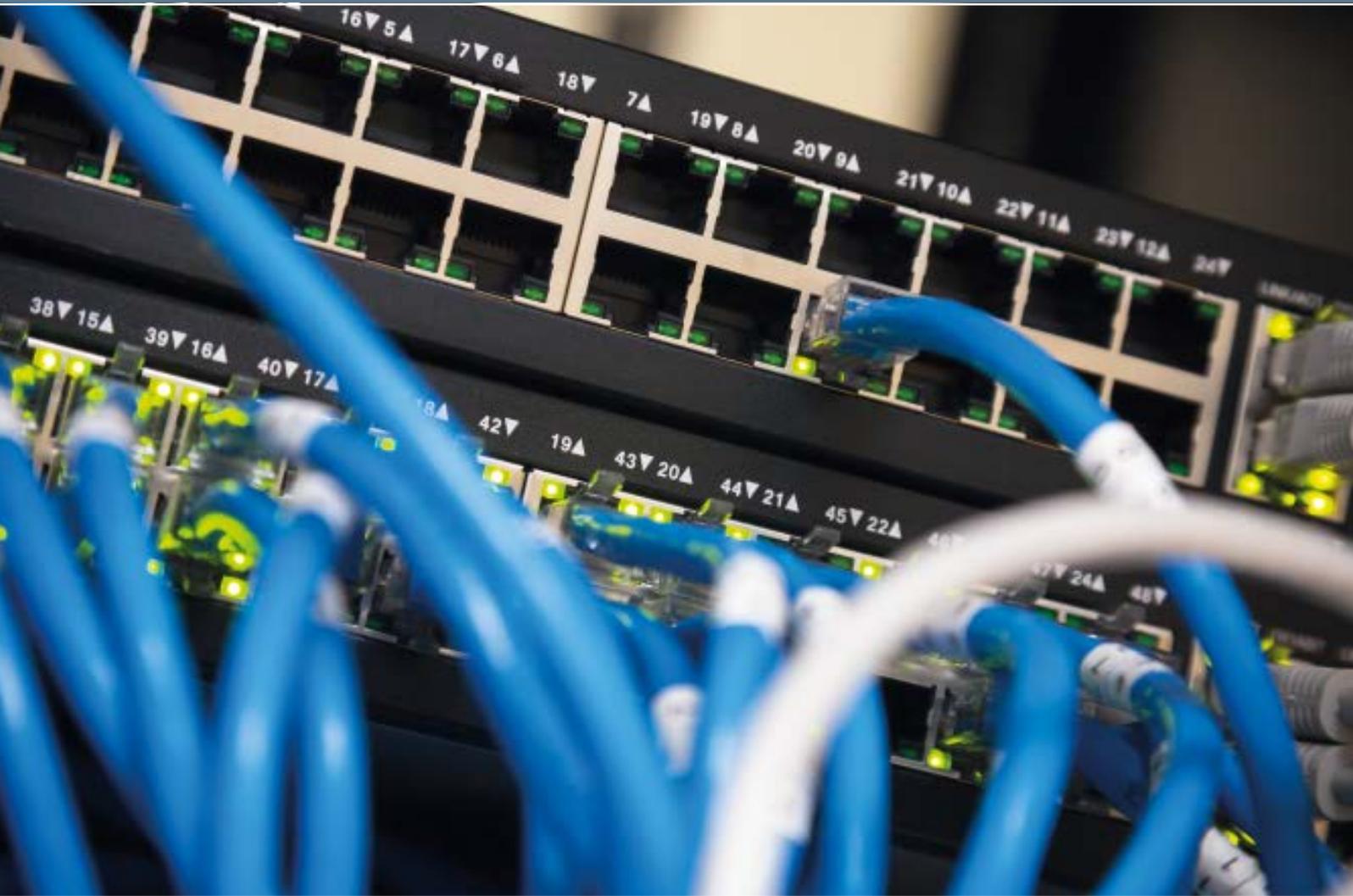
1.19 We examined the following areas:

Part One: Introduction and Background

- obtained information from key DETI and SEUPB officials and the lead consultant who carried out the forensic review.

This report is the result of a co-ordinated examination between the Northern Ireland Audit Office and the Office of the Irish Comptroller and Auditor General. Given the cross-border nature of the issues examined, this approach ensured that the review was as comprehensive as possible. The report of the Irish Comptroller and Auditor General is included as an annex to this report.

Part Two:
Assessment and Appraisal of the Bytel project



Part Two: Assessment and Appraisal of the Bytel project

The Bytel project was subject to an assessment and appraisal process

2.1 This section of the report considers the assessment and appraisal of the Bytel project.

2.2 Individual Service Level Agreements (SLAs) between SEUPB and the JIAs set out the relative responsibilities of each body for Interreg III supported projects. The SLAs placed responsibility on the Departments for:

- assessing and appraising projects;
- issuing offers of grant;
- agreeing required outcomes with project promoters;
- project monitoring;
- checking grant claims and approving grant payments, including vouching eligibility of expenditure incurred and ensuring claims were supported by all relevant supporting information⁸; and
- post-project evaluation.

2.3 In February 2004, DETI and DCENR appointed Western Connect as a management agent to oversee elements of the application and assessment process for projects supported by the Interreg IIIA telecommunications measure. Western Connect's role ended in October 2005, when the EU budget for technical assistance was

exhausted. The project was ultimately approved for funding by an Interreg Steering Committee on the basis of the assessment work undertaken by Western Connect, DETI, DCENR and the economic appraisal.

More detailed probing at the assessment stage may have led to the project not being approved for funding

2.4 Applications for proposed Interreg III projects were subject to an initial two-staged assessment process. Projects which passed the initial assessment were then subject to an economic appraisal process. The appraisal was considered by the Steering Committee for a final funding decision.

2.5 The Bytel project was initially assessed in June 2004 by a panel comprising two staff members from Western Connect. Bytel's application for Interreg support was rejected for reasons which included:

- the project did not meet Interreg criteria;
- project costs were excessively high and did not provide value for money (the project had total estimated costs of €13.15 million and Bytel was seeking assistance of €5.9 million);
- concerns over the applicant's financial position given the level of investment being sought; and

8 For the Bytel project, Western Connect checked and vouched the first two grant claims against the supporting documentation. DETI performed this role for the last two claims.

- insufficient detail as to what was included in the benefit-in-kind from Aurora, valued at €6 million, being brought to the project.

2.6 In our view, the initial assessment identified key risks which later crystallised and undermined the delivery of the project. In particular, the project was subsequently delivered for a fraction of the original estimate of costs and the benefit-in-kind from Aurora did not form part of the completed project.

2.7 Following this initial rejection, the JIAs, Western Connect and Bytel engaged in efforts to address the concerns. Revisions to the proposal included reduction in the estimated project costs to €12.4 million. In July 2004, the Bytel proposal was again submitted for assessment.

2.8 The project narrowly passed the threshold required to proceed to economic appraisal stage. A key element in favour of the project was the north-south nature of the application, to be delivered through a proposed partnership with Aurora Telecom. The evaluation panel relied upon a letter from Aurora which was signed by a senior projects manager. The letter indicated a normal commercial transaction with Bytel. At that time, the evaluation panel had no reason to doubt the authority of the senior projects manager to make commitments on behalf of Aurora. However, no internal approvals for a formal agreement or partnership had been given within Aurora or Bord Gáis (Aurora's parent company). No formal

agreement or partnership was ever established between Aurora and Bytel.

2.9 A technical review of the project, completed by Consultants B for DETI in 2013, concluded that, before approving the project for support, the assessment panel should have obtained confirmation from Board level in Aurora of its relationship with Bytel. We endorse this view.

2.10 This case highlights the risks associated with projects which are heavily dependent on the contribution of a third party. It is crucial that the nature and strength of a partner's commitment, or the existence of a formal agreement, is validated. Aurora was to contribute €7.8 million of infrastructure and assets to the Bytel project and its withdrawal in December 2004 led to the project definition being changed significantly. This was a significant factor in the serious concerns which arose subsequently over the funding and management of the project.

There were shortcomings with the project definition and economic appraisal

2.11 It is good practice to establish the project definition at an early stage of the appraisal, setting out the objectives, scope and deliverables of a project. There was a particular need for a robust project definition for the Bytel project,

Part Two:

Assessment and Appraisal of the Bytel project

given its technical nature and use of a complex mix of assets and infrastructure.

2.12 Consultants A identified weaknesses with the Bytel project definition, including a lack of clarity over the source and ownership of assets required to deliver the project. They concluded that the commercial rationale for the project was unclear: specifically, the project definition did not set out how the Bytel companies, with limited finances, could fund their contribution-in-kind, or why Aurora was contributing €7.8 million assets to a project from which it was set to derive no economic benefit. Subsequently, a letter from Aurora to DETI (in November 2004, after the project appraisal was completed and the Letter of Offer issued) set out a number of benefits which would accrue to the company.

2.13 The economic appraisal did not probe these matters in any depth. Nevertheless, the appraisal did address a number of key risks and uncertainties associated with the project. In particular, the appraisal identified a lack of clarity over the nature of the relationship between Bytel and Aurora. It recommended that the Letter of Offer for the project include a condition that the basis of the relationship be a normal commercial arms length agreement. This would have helped to confirm the largest source of match funding for the project. However, no such provision was included in the Letter of Offer.

2.14 There were some shortcomings with the appraisal. Although the project was highly complex in nature, the appraisal team did not include sufficient technical expertise and consequently, it fell short in accurately identifying project infrastructure costs. It estimated likely cabling costs as €7.8 million; the subsequent technical review by Consultants B concluded that the project could have been delivered with cabling costs of €1.95 million. In our view, the appraisal tended to rely on information provided by Bytel, with only limited independent verification of this.

2.15 We also consider that more detailed probing of a number of key issues at the assessment and appraisal stage could have alerted the JIAs, Western Connect and the Interreg Steering Committee to clear warning signs over the viability of the proposed project. In particular, more information should have been sought on:

- how Bytel proposed to fund its share of project costs;
- whether Aurora had formally entered into an arrangement with Bytel, through which it would contribute almost €8 million of assets to the project; and
- the source and cost of the project's assets and infrastructure.

2.16 Had these risks been addressed at the assessment and appraisal stage, we consider that the serious issues which arose subsequently over the

implementation of the project could have been avoided.

The project was not re-appraised and eligible grant funding levels re-calculated when the specification changed significantly

2.17 The Letter of Offer issued by DETI and DCENR to Bytel Networks Ltd in October 2004 provided funding of €4.3 million against estimated total project costs of €12.4 million. The level of funding was 35 per cent of total costs and represented the maximum available Interreg grant rate. Of the total costs, €7.8 million (63 per cent) related to assets and infrastructure to be provided by Aurora Telecom. However, in December 2004 Aurora withdrew from the project.

2.18 After the withdrawal of Aurora, Bytel entered into discussions with Eircom. Following protracted negotiations, Bytel and Eircom entered into agreements in September 2005.

2.19 Under the agreements Eircom would lease bandwidth to Bytel in return for Bytel completing work for Eircom on the network. Both transactions were valued at €3 million.

2.20 Aurora's withdrawal and the subsequent agreements with Eircom represented a major change to the technical specification of the project which altered fundamentally the revenue and capital

costs. The Eircom agreement reduced total project costs from €12.4 million to €7.6 million. In addition, the change in technical specification also resulted in equipment known as Nortel racks, which had been valued at €1.3 million within the economic appraisal, no longer being required to deliver the project.

2.21 Under the terms of the Letter of Offer, Bytel was required to receive approval from the JIAs for any significant project changes. These included changes to the scope, delivery or aim of the project, sources and amounts of funding and changes to estimated expenditure or revenue. Where claims differed significantly from the original application and approval was not received for these, the Letter of Offer stated that assistance paid could be deemed invalid and partially or fully recouped from the project promoter.

2.22 DETI and DCENR were aware of the changes to the project but did not assess the financial impact of Aurora's withdrawal. In August 2005, DCENR notified SEUPB of the change from Aurora to Eircom. However, SEUPB told us that the significance of this change to the project was not communicated to it. Most importantly, there is no documented evidence that Bytel was given formal approval to proceed with the revised project.

2.23 A standard review of the project in 2006 to assess compliance with EU Regulations noted that the project had changed and that approval was

Part Two: Assessment and Appraisal of the Bytel project

required. At the time, DETI's response was that there had been no significant change to the project. DCENR and SEUPB were notified to that effect.

2.24 In our view, the significant changes to the project should have triggered a re-appraisal and a re-assessment of the grant offered. However, the JIAs did not take these steps and the €4.3 million grant approved for the original proposed project was paid in full. Consultants A concluded that this was "*a fundamental failure in [the Departments'] oversight of this project*".

2.25 There are important lessons to be learned from the assessment and appraisal of the Bytel project. Previous reports by PAC, including the Committee's review of BTI (paragraph 1.20), made recommendations on similar themes. We consider that the issues raised by the Bytel project indicate that some recommendations need to be re-enforced.

Recommendation 1

Processes have changed significantly in relation to implementation of the current Interreg programme. Nevertheless, there are a number of key lessons to be learned from this project:

- where a partnership is central to the delivery of a project, the nature and strength of the partnership must be confirmed;
- risks and issues of concern identified at appraisal stage should be managed through relevant conditions in offers of assistance. Funding should not be released to projects until conditions are met; and
- when a project is subject to significant change, a re-appraisal must always be undertaken by the funder; where the change has financial consequences, the amount of eligible grant must be re-calculated and relevant revisions made to the offer of assistance.

Part Three: Checking and authorisation of grant claims



Part Three: Checking and authorisation of grant claims

- 3.1 This part of the report assesses arrangements for the checking and authorisation of Bytel grant claims, drawing on the findings of Consultants A and Consultants B.

DETI and DCENR were responsible for checking grant claims and approving payments

- 3.2 In its role as management agent, Western Connect checked and vouched the first two grant claims against supporting documentation supplied by Bytel. This function was performed by Bytel. This function was performed by DETI for the final two claims. Following the checking and vouching of claims, DETI signed payment authorisation forms for all four claims. Western Connect countersigned these forms for the first two claims, and DCENR for the final two. These forms stated that expenditure incurred was correct, eligible and due for payment. Between November 2004 and November 2005, four claims totalling €4.3 million were submitted for the project. These were paid in full (**Figure 2**).

There were pressures on the Joint Implementing Agents to pay grant within tight deadlines

- 3.3 All EU funding programmes are subject to an annual spending target known as N+2. This requires funds to be spent within two years of allocation or potentially be lost by member states. This places an onus on member states and all parties involved in the programme to ensure available funding is fully utilised. However, it may also create the risk that financial control is weakened. For example, N+2 pressures have the potential to lead to ineligible expenditure being approved for payment or grant claims being processed without adequate supporting documentation.
- 3.4 N+2 pressures were particularly keenly felt within Telecommunications Branch. The Bytel project accounted for a significant proportion (almost 55 per cent) of DETI's overall Interreg telecommunications budget and the importance of Bytel expenditure to meet N+2 expenditure targets was referred to in DETI internal correspondence. In October 2005, the DETI Board was informed that achievement of the N+2

Figure 2: Bytel grant claims

Claim	Date submitted	Date paid	Amount paid €
1	15 November 2004	2 December 2004	1,600,000
2	16 September 2005	13 October 2005	375,000
3	25 October 2005	8 December 2005	250,000
4	11 November 2005	8 December 2005	2,075,000
Total			4,300,000

Source: NIAO, based on review of Bytel grant claims

target would largely be dependent on expenditure from the Bytel project.

3.5 The first and the final grant claims together accounted for 85 per cent of grant paid for the project. These two claims were submitted in November 2004 and November 2005 respectively. There is evidence that this created tension between the JIAs' need to ensure that grant was paid and their primary responsibility to ensure that expenditure was eligible for grant funding. For example:

- the Letter of Offer dated 28 October 2004 required that €1.6 million of funding be spent by 19 November 2004, only 22 days later; and
- the first three grant claims were paid at 100 per cent rather than the overall grant rate of 35 per cent.

3.6 Consultants B, who reviewed the project for DETI in 2013, highlighted the very short period between the Letter of Offer and the first deadline for grant expenditure. The consultants concluded that *"the ambitious nature of the timetable, coupled with the real and immediate prospect of losing the grant funding, could have placed inordinate pressure on those involved to achieve a positive result so that the project could proceed"*.

3.7 In our view, the submission of two large claims so close to the N+2 deadlines created the risk that ineligible expenditure would be funded or that

items which were not supported by proper documentation would not be stringently checked or challenged. In practice, there were significant shortcomings within the grant payment process which raise serious concerns over the regularity of the payments to Bytel.

The checking and verification of Bytel grant claims was inadequate

Grant Claim 1 (€1,599,877 – November 2004)

3.8 Bytel's first grant claim for almost €1.6 million was paid in full by DETI. Some €1.3 million (81 per cent) of the claim related to Nortel racks (paragraph 2.20). A number of serious concerns were subsequently identified with the claim for this equipment, in relation to the eligibility of the equipment for grant funding, the valuation of the equipment, its procurement from a Bytel-related company (XMCC) and its non-use in the completed project (**Figure 3**).

Part Three: Checking and authorisation of grant claims

Figure 3: Summary of findings on Nortel equipment

Issue	Findings	NIAO Conclusions
<p>The Nortel equipment was ineligible for Interreg funding</p>	<p>The project Letter of Offer stipulated that the cost of the Nortel equipment would be fully met by the project promoter and that no Interreg contribution would be made towards this. However, Bytel claimed and was paid €1.3 million of grant for the equipment.</p> <p>It was originally intended that Bytel would make a payment of €1.8 million to Aurora Telecom as part of the agreement between the parties, and that this would form part of the first grant claim. However, the agreement was not in place to allow this to happen. In the face of the possibility of EU funding being lost due to an impending N+2 deadline, the JIAs agreed that the Nortel racks could be grant-aided within the first claim. The proposition was that this grant payment would be deducted from subsequent claims so that the overall grant offered would not be exceeded; however, this did not happen.</p> <p>SEUPB was also notified that the JIAs had agreed that the Nortel equipment should be grant-aided.</p> <p>A report on a project verification check in 2006 recorded that the necessary process for revision of budgets had been followed to allow this equipment to be funded.</p>	<p>There is no evidence available to demonstrate that the relevant approvals were obtained to allow this equipment to be grant-aided.</p>
<p>There is insufficient evidence of the physical inspection of the Nortel equipment</p>	<p>DETI records refer to the equipment having been inspected by Western Connect. However, there is insufficient evidence to demonstrate how Western Connect verified the existence of the equipment. Consultants B found that, at the time of the first grant claim, DETI had raised concerns with Western Connect and Bytel over the existence of the equipment and the importance of not paying for equipment in advance, but did not receive full answers to the questions raised.</p> <p>DETI Internal Audit found that vouching of the Bytel grant claims had not involved any physical examination of equipment. The Nortel equipment was unavailable for inspection during the post-project evaluation in 2007.</p>	<p>There is insufficient evidence to support the physical inspection of an asset for which €1.3 million grant was paid.</p>

There is evidence that the equipment's value was substantially less than the €1.3 million claimed

The economic appraisal of the Bytel project included a €1.3 million valuation for the Nortel racks. This amount was subsequently claimed by Bytel and paid. However, this valuation was based on information provided by Bytel and was an estimate of the likely costs of acquiring new Nortel equipment. It did not reflect the actual cost of the equipment procured for the project and for which grant was being claimed. DETI Internal Audit's observation in January 2009 that the economic appraisal had only consisted of a reasonableness check on project hardware costs illustrates the limitation of this valuation.

There is considerable doubt over the credibility of the €1.3 million valuation for the Nortel equipment. Consultants A, who reviewed the project in 2012, believed that on balance, it was appropriate in November 2004 to have relied on the economic appraisal valuation of €1.3 million for this equipment. However, in light of information that emerged since then, these consultants concluded that a €1.3 million valuation was not credible. They also concluded that the equipment was not used in the project. In 2008, a whistleblower alleged that the equipment cost €30,000. Evidence that the equipment cost substantially less than €1.3 million was also identified by Consultants A and B, and DETI Internal Audit (**Appendix 2**).

The JIAs failed to obtain reliable evidence of the actual cost of equipment purchased before paying grant.

€1.3 million grant was paid for equipment which, in all likelihood, was procured for €30,000.

Part Three: Checking and authorisation of grant claims

The Nortel equipment was procured from a Bytel-related company

All items within the first claim, including the Nortel racks, were obtained from XMCC, a company owned and controlled by the Bytel chairman and registered at Bytel's address.

There is no evidence of a legitimate reason for Bytel's use of XMCC. If expenditure for items supplied by XMCC had been genuine, then Bytel could either have declared these as a benefit-in-kind and had them subject to an independent valuation or produced relevant third party supplier invoices. In the absence of a credible explanation, Consultants A suggested potential reasons for Bytel using XMCC to procure items for the project were:

- to support claims for ineligible expenditure;
- to lend credibility to the value being claimed for equipment; and
- to support a contention that expenditure was actually incurred.

We asked DETI whether it was aware of the use of XMCC to supply items for the Bytel project and what steps it took to ensure that such an arrangement was properly scrutinised and managed. DETI told us that in order to meet N+2 deadlines and avoid the project being abandoned, the Nortel equipment which was originally to be introduced to the project as a benefit-in-kind was brought into the project as capital equipment against which grant could be claimed. XMCC invoiced Bytel Networks Ltd for the supply of the equipment. DETI also stated that the JIAs grant-aided Bytel Networks Ltd for the equipment in good faith and there was no indication at the time that the equipment was not going to be used in the project.

In our view, DETI and DCENR should have sought an independent valuation of the equipment in these circumstances.

There is no satisfactory explanation as to why items were procured through XMCC.

The use of a related company to supply goods and services was not subject to an effective challenge by DETI.

The claim was paid solely on the basis of invoices from XMCC and without any third party evidence to demonstrate the source and acquisition cost of the equipment.

<p>The Nortel equipment was never used in the project</p>	<p>The requirement for the Nortel equipment had been identified as part of Bytel's proposed arrangement with Aurora. However, Aurora's withdrawal from the project in December 2004 and Bytel's signing of agreements with Eircom in September 2005 significantly changed the project's technical specification. As a result, the Nortel equipment was not required and was not used in the completed project.</p>	<p>The project should have been re-appraised following Aurora's withdrawal and the offer of assistance revised (paragraph 2.24). This would likely have highlighted the change in project costs and funding and the fact that the grant-aided Nortel racks were not used in the project.</p>
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Source: NIAO

- 3.9 The review of the project by Consultants A in March 2012 concluded that all of the expenditure claimed for in the first grant claim was ineligible for Interreg support. This was due to the use of XMCC to provide goods and services, the acquisition of items before the Letter of Offer was issued, lack of evidence of proper tendering and procurement and the absence of evidence to support the purchase and valuation of items claimed for (**Appendix 3**).
- 3.10 With regard to the Nortel equipment, we are concerned at the failure to:
- seek and obtain the necessary approval to ensure that equipment was eligible for assistance before paying grant;
 - obtain sufficiently reliable and independent evidence of the actual value of equipment;
 - challenge the use of a Bytel-owned company to supply the equipment and obtain the original supplier's invoice;
 - ensure that the Letter of Offer was revised when the delivery partner and technical specification changed significantly; and
 - re-coup grant when it became clear that the equipment would not be used within the project.

Part Three:

Checking and authorisation of grant claims

3.11 We also consider that stronger scrutiny and challenge should have been exercised over the other items within the claim, particularly where there was no evidence of tendering or that third party suppliers were paid for goods and services.

3.12 The JIAs' management agent, Western Connect, checked the first two Bytel grant claims. DETI told us that, at the time of checking the claims, the JIAs had no concerns about the quality of service provided by the management agent. However, in our view, the issues identified subsequently with this claim indicate that the quality of checking carried out was inadequate. Western Connect's role as management agent ceased in October 2005, when EU funding for technical assistance was exhausted.

Grant Claim 2 (€375,050 – September 2005)

3.13 Some €322,464 (86 per cent) of the second grant claim related to payments to contractors for laying ducts and fibres on the broadband network.

3.14 Consultants A identified some issues around the eligibility of relatively small amounts for grant payment but deemed €368,420 (98 per cent) of grant paid to be eligible for Interreg support (**Appendix 3**).

Grant Claim 3 (€250,189 – October 2005)

3.15 Almost all (€238,591 or 95 per cent) of the third grant claim related to payments to a contractor for laying ducts.

3.16 Consultants A concluded that €243,018 (97 per cent) of grant paid in this claim was for ineligible expenditure (**Appendix 3**). Most significantly, a claim for payment of €238,591 for cabling work undertaken in Londonderry was deemed to be outside the scope of the original project.

Grant Claim 4 (€2,074,864 – November 2005)

3.17 The final grant claim related to a benefit-in-kind⁹ to the project related to ducting, fibre connections and the provision of internet points of presence at ten locations on a 120km route between Belfast and Dublin. Bytel valued this at €17.8 million. The company claimed, and was paid, €2.07 million grant in respect of this. The grant paid was effectively the balancing figure required to draw down the total €4.3 million grant approved for the original project.

3.18 The claim consisted of a one-page statement which contained only a high level valuation of the benefit-in-kind (**Appendix 4**)¹⁰:

- provision of 120km ducting and sub-ducting from Belfast to Dublin (€16 million);

9 An EU Regulation introduced in 2004 states that in-kind contributions are eligible expenditure for EU assistance, provided that they consist of the provision of land or real estate, equipment or materials, research or professional activity or unpaid voluntary work.

10 As part of the fourth grant claim, Bytel stated that it had included a map of the network duct route as supporting documentation. DETI told us that it was unable to locate a copy of this map.

- continuous fibre connection along the route (€1 million); and
 - internet points of presence at ten locations (€0.8 million).
- 3.19 The reviews by both Consultants A and Consultants B expressed significant concerns over the valuation, existence, ownership and completion of the assets and infrastructure which formed the basis of the claimed benefit-in-kind (**Figure 4**).

Figure 4: Summary of conclusions by Consultants A and Consultants B on the final grant claim

Issue	Concerns
Valuation	<p>The €17.8 million valuation for 120km of ducting was far in excess of the costs outlined within the project application, economic appraisal and Letter of Offer, which amounted to €7.8 million for 195km of ducting.</p> <p>Previous claims had related to project infrastructure but the final claim sought payment for a service (Eircom bandwidth) which was not provided for under the terms of the Letter of Offer.</p>
Existence and Ownership	<p>There were no third party invoices to support claims for civil engineering works. There was no evidence that Bytel had carried out these works, with the possible exception of some work in or around Belfast and Armagh. Rather than creating the infrastructure, Bytel had seemingly entered into agreements with infrastructure owners to gain access to existing assets. However, the grant claim submitted by Bytel was based on the cost of creating broadband capacity, rather than the leasing costs actually incurred.</p>
Completion	<p>The project was incomplete at the time when the final grant claim was submitted and a dedicated link between Dublin and Dundalk was not in place until some months later. Despite this, Bytel claimed, and was paid, grant for contributing points of presence at these locations.</p>

Source: Consultants A and Consultants B

Part Three:

Checking and authorisation of grant claims

3.20 The €17.8 million benefit-in-kind within the final grant claim effectively represented Bytel's valuation of the broadband network provided, rather than the actual costs incurred in delivering it. Consultants A concluded that Bytel's calculation of the benefit-in-kind was "*incorrect and illogical*" and found no evidence to support the values attributed to it. Consequently, the consultants deemed that all €2.07 million grant paid in the final claim was ineligible.

3.21 The final claim was based solely on the balance of grant remaining and was intended to draw down the maximum €4.3 million grant approved at the outset of the project. We agree with Consultants A that the decision to approve payment of over €2 million grant on the basis of a single page of documentation, which contained only a high-level breakdown of the benefit-in-kind, was inexplicable. Specifically, the JIAs did not:

- challenge the paucity of documentation provided for such a large claim or seek appropriate evidence of what was actually delivered and the actual costs incurred; and
- question how Bytel, with its modest financial turnover and poor trading performance, would have the resources to contribute a €17.8 million benefit-in-kind to the project.

3.22 Western Connect reported to the JIAs in October 2005 that the final claim would complete drawdown of the remaining Interreg grant. The JIAs were content to pay out the balance of grant at that time and, following the checking of the claim and supporting documentation, payment authorisation forms were signed by both Departments as being correct, eligible and due for payment.

A number of reviews failed to address the concerns with the project

3.23 In addition to grant claims being checked, the project was subject to a number of controls in accordance with EU requirements:

- December 2004 – an SEUPB certification spot check to ensure that there was adequate documentation to support payments made;
- February 2005 – an Article 4 review (see glossary) was undertaken by DETI's management agent. Further Article 4 reviews were undertaken by DETI in March and July 2007; and
- June 2006 – an Article 10 review (see glossary) was completed by external consultants to check the effectiveness of management and control systems and compliance with EU Regulations.

3.24 These reviews offered further opportunities to identify and address any

underlying concerns with the project at a relatively early stage. However, only the Article 10 review identified issues associated with the changes in the project structure and partnerships and the absence of procurement documentation for items which had been claimed for.

3.25 Whilst the Article 10 review had raised queries over the procurement of the Nortel equipment, it had ultimately placed assurance on the valuation provided within the economic appraisal. The consultants who undertook the review told us that they had received assurance from Western Connect that a public procurement process was not followed for the purchase of the Nortel racks because the single supplier arrangement in place had been approved by both it and DETI.

3.26 The Article 10 review also concluded that there was a need for formal written approval for the changes in the project structure which had been brought about due to Aurora's withdrawal. However, Consultants A concluded that SEUPB, which was responsible for following up on the implementation of Article 10 recommendations, had accepted an assurance from DETI that a new Letter of Offer for the project was not required as *"there was no change to the funding package"*.

3.27 In our view, this assurance was incorrect given the substantial implications for funding resulting from the changes in the delivery partner and technical specification of the project. We consider

that SEUPB should have sought a more detailed breakdown of the cost structure of the revised project to help it determine whether the Article 10 recommendations had been properly addressed and whether the offer of assistance should be revised.

There are fundamental lessons to be learned from the checking of the grant claims

3.28 There are a number of key lessons to be learned from the checking of the grant claims.

Recommendation 2

In checking and authorising grant claims for payment, public bodies must apply a high level of diligence and challenge over key risk areas. In particular, public bodies should review their guidelines and processes for checking grant claims to ensure that:

- risks and pressures created by deadlines for payment of grants are effectively managed. Where feasible, public bodies should seek to ensure that grant claims are not submitted very close to deadlines and that proper checking of claims is carried out;
- appropriate evidence is retained of the physical inspection of significant assets on which grant is claimed;
- clear guidance is provided on the circumstances in which the use of a related company is permissible and what steps should be taken to manage this, including the need for reliable evidence for the value

Part Three: Checking and authorisation of grant claims

of goods and services provided by related companies; and

- guidance is clear on the evidence required to validate the existence, ownership and valuation of benefits-in-kind before claims are authorised for payment.

In addition to ensuring that the best practice for reviewing and checking grant claims is clearly set out in relevant guidance and procedures, it is important that funding bodies ensure that staff managing grant programmes comply with the required standards.

Part Four:
The investigations of the Bytel project



Part Four:

The investigations of the Bytel project

4.1 This part of the report reviews the investigations undertaken in response to allegations about the Bytel project.

DETI did not carry out a meaningful investigation of allegations received in 2006

4.2 During 2006 a dispute arose between two directors of Bytel. In June 2006, one of the directors contacted DETI with a number of allegations about the operation of the company and the delivery of the extreme broadband project. The director alleged that:

- there were anomalies in the accounts of Bytel and its related company, XMCC;
- XMCC had ordered supplies on Bytel's behalf;
- Bytel directors had withdrawn funds from both companies which should have been ring-fenced for the Interreg project; and
- in claiming grant, the project promoters had stated that value was delivered from assets which were not owned by Bytel.

4.3 DETI Telecommunications Branch carried out an investigation of the allegations in July 2006. The investigation concluded that all claims submitted by Bytel were in respect of expenditure incurred and that the claims had been supported by

the correct invoices and bank statements. The investigation also concluded that claims submitted were for products and services which were eligible for Interreg support.

4.4

The forensic review of the Bytel project by Consultants A concluded that DETI's 2006 investigation and its conclusions were seriously flawed. The consultants considered that the assertions from the 2006 investigation, particularly in relation to the final grant claim in which over €2 million was paid on the basis of a single page of supporting documentation, were completely at odds with the reality of the situation. The consultants also concluded that the review was not sufficiently independent and should not have been undertaken by Telecommunications Branch, as it was responsible for the project's oversight and the authorisation of grant payments.

4.5

We endorse this view. The investigation did not adequately address the wider allegations relating to anomalies in Bytel accounts and the alleged withdrawal by Bytel directors of Interreg grant from company funds, and its findings were not supported by adequate evidence and supporting documentation.

4.6

Subsequent reviews of the project identified significant concerns over the grant claims, including the procurement of goods from a Bytel-related company, non-compliance with relevant tendering requirements, absence of third party invoices for goods and services procured and the paucity of documentation to

support the final grant claim. It is difficult to see how the DETI investigation in 2006 could have concluded that there were no matters of concern.

4.7 Senior management in DETI were alerted to the 2006 allegations. However, they relied on the assurances provided by Telecommunications Branch and no further investigations were initiated at that stage. In our view, the allegations were sufficiently serious to have warranted a much more rigorous and independent investigation than was actually undertaken. A detailed independent review at this stage would have highlighted serious concerns and the need for a comprehensive forensic investigation. Instead, the investigation which followed was unduly protracted.

4.9 In September 2008, the whistleblower provided further information to the NIAO that the companies involved were:

- Bytel Ltd;
- Bytel Networks Ltd; and
- XMCC – a company registered at the same address as Bytel Ltd and owned and controlled by the Bytel Ltd Chairman.

Serious allegations were made by a whistleblower in 2008

4.8 In June 2008, two years after the Bytel director had reported concerns to DETI, the NIAO received allegations from a whistleblower about an unnamed DETI-sponsored project which was funded by Interreg (**Figure 5**). NIAO referred the allegations to DETI for investigation. Neither SEUPB nor its sponsor departments in Northern Ireland and Ireland were made aware of the whistleblower allegations at this time. DCENR also told us that it was not informed of the allegations.

Part Four:

The investigations of the Bytel project

Figure 5: Summary of 2008 whistleblower allegations

In 2004, Bytel Ltd had turnover of £0.5 million to £1 million, and a declared annual profit of £30,000. This company, which was totally owned by one person (Director A), had applied to deliver an Interreg project which offered the opportunity to claim a “multi-million € grant”.

Bytel Networks Ltd was set up to deliver the project, with shares issued on the basis that 40 per cent belonged to Bytel Ltd, 20 per cent to Director A, 20 per cent to Director B (who became Managing Director of Bytel Networks Ltd) and 20 per cent equally among four minority shareholders.

Bytel Networks Ltd submitted a formal proposal to DETI to deliver the Interreg project. Although neither Bytel company had any funds, Director A and Director B each gave personal sureties of £250,000. Bytel Networks Ltd was awarded the project.

XMCC (a dormant business owned by Director A) was re-activated, with Director B given a 50 per cent shareholding. The proposal for the Interreg project being delivered by Bytel Networks Ltd involved using equipment which, in its prime, would have been very expensive. XMCC acquired this for “tens of thousands of euros”, and then sold it to Bytel Networks Ltd for over €1 million. Assets from Bytel Ltd were also sold to Bytel Networks Ltd via XMCC, but Bytel Ltd continued to use these. These assets and equipment formed part of the first Interreg grant claim.

Interreg grant of over £1 million was paid to Bytel Networks Ltd but was immediately transferred to XMCC and Director A and Director B both took an initial payment of €100,000 each from this. XMCC then loaned Bytel Networks Ltd €500,000 to complete work on the project which allowed payment of further grant. XMCC never traded with any company other than Bytel Networks Ltd.

Source: NIAO

4.10 The whistleblower alleged that Bytel Networks Ltd had purchased various items of equipment from XMCC for €1.6 million in November 2004, including the Nortel racks for €1.3 million. However, the whistleblower stated that XMCC had acquired this equipment, which was virtually obsolete, for €30,000. XMCC inflated the true value of this equipment so that Bytel Networks Ltd could claim €1.3 million grant from DETI.

Initial reviews of allegations identified issues of concern

4.11 In January 2009, DETI’s Internal Audit completed an initial review of the allegations. Internal Audit identified concerns over the sourcing and valuation of equipment and assets, the checking of grant claims and possible non-compliance with Interreg grant requirements. A key finding from the review was that grant of €2.07 million was paid on the final claim on the

basis of a single page of supporting documentation which provided no evidence of expenditure incurred by Bytel to deliver the project. In our view, Internal Audit identified the main issues of concern associated with the management of the project.

4.12 In March 2009, Internal Audit commissioned Consultants A to undertake further investigatory work. The consultants were asked to:

- review background papers;
- visit Bytel to vouch documentation in support of claimed expenditure;
- verify the delivery of products and services and confirm that funded assets had been used for the purposes intended;
- verify the relevance and accuracy of expenditure incurred to the project; and
- assess compliance with the Letter of Offer and EU Regulations.

4.13 This work was completed in September 2009 and confirmed cause for concern around the project. In particular, the draft report prepared by the consultants highlighted:

- the use of invoices from a related company (XMCC) to claim grant funding, with no confirmation of the actual expenditure to the third party suppliers of the equipment;

- the ineligibility of grant claims related to hardware, including the Nortel racks, and ducting work in Londonderry;
- a paucity of documentation to support the final grant claim and valuation of equipment claimed; and
- whether it was appropriate to claim grant for a benefit-in-kind.

4.14 The consultants concluded that there were significant issues arising in relation to the eligibility of the expenditure claimed and therefore in relation to the efficacy of the Department's oversight and monitoring role. The consultants considered that the Department would, more likely than not, be required to declare an irregularity in relation to the project. However, they also highlighted that the quantum of any irregularity, and the potential for recouping grant from Bytel would require a more detailed understanding of correspondence between the project's key stakeholders, and of Bytel's financial status.

Further substantive investigation of the project was not commissioned until 2011

4.15 In September 2009, Internal Audit told the consultants that it would refer the findings to DETI senior management. Internal Audit also held further discussions with the consultants in 2010

Part Four:

The investigations of the Bytel project

about the potential to commence a further detailed PACE investigation¹¹ of the issues around Bytel. However, this further investigation did not commence. In February 2011, DETI notified SEUPB of the consultants' draft report. SEUPB immediately notified all relevant accounting officers of the irregularity and established a Project Board comprising all stakeholders. SEUPB also commissioned a forensic review of the project by Consultants A.

DETI did not disclose serious concerns about the project to SEUPB and DCENR nor declare an irregularity in a timely manner

4.16 SEUPB guidance issued in 2003 sets out the action to be taken in response to the identification, recording, reporting and investigation of irregularities¹² involving EU Structural Funds. This guidance placed responsibility on Implementing Agents to notify SEUPB of irregularities. In cases where irregularities give rise to grave concern over the use of public monies, the guidance required SEUPB and accountable departments to be notified immediately.

4.17 In our view, from at least 2008 there were clear concerns over the grants that had been paid to the Bytel project. However, DETI did not notify SEUPB or DCENR of the serious concerns in a timely manner. It was also slow to formally declare a potential irregularity on the project and report the full details of this to SEUPB.

4.18 In 2006, DETI had informed SEUPB of the allegations made by a company director about the project. However, it also told SEUPB that its review of these allegations had found that all grant payments were in order and these had been made in respect of expenditure already incurred and which was supported by receipts and bank statements. In our view, these assurances did not reflect the facts of the case.

4.19 DETI discussed the allegations and the investigation of the irregularity with SEUPB in June 2010. However, it did not notify SEUPB of the 2008 whistleblower allegations or the findings of the draft report prepared by the consultants, until February 2011. This was at odds with DETI's responsibilities under its SLA with SEUPB, which required it to submit to SEUPB any audit report in relation to programme expenditure. DETI has attributed these delays to staffing issues within the Department at that time. In our view, the failure to share crucial information about the Bytel project with SEUPB in a timely manner prevented a timely investigation of the project.

4.20 In May 2010, DETI submitted a Structural Funds Irregularity Report, the first notification to SEUPB of any concerns about the project. This stated that €4.3 million of Bytel grant "may be ineligible" and referred to "a potential irregularity". The report did not provide any substantive information or conclusions on the nature of the irregularity. DETI told us that this

11 An investigation which would comply with the requirements of the Police and Criminal Evidence (Northern Ireland) Order 1989.

12 Interreg guidance states that an irregularity within the programme includes any administrative or financial mismanagement that comes about either by act or omission whether or not there is an actual loss of funds.

was attributable to the fact that the consultants' September 2009 report had concluded that further work was required to assess the extent and nature of the irregularity.

- 4.21 After receiving the Irregularity Report, SEUPB requested more details from DETI throughout the second half of 2010 but obtained no further information. In September 2010, DETI Internal Audit confirmed the potential irregularity to SEUPB but no details were disclosed. DCENR was not informed of the potential irregularity until December 2010.
- 4.22 In September 2010, Internal Audit provided an unqualified audit opinion for the Interreg programme which included the Bytel project. Given the very serious concerns which were apparent with the project at that time, we asked DETI for the basis on which Internal Audit had formed this view. DETI's Internal Audit had carried out tests on the reconciliation of expenditure to accounting records, the performance of control checks and declaration of irregularities. As a result of these tests, Internal Audit determined that it was appropriate to provide an unqualified opinion but also to specifically highlight the Bytel project in its overall conclusion. This noted that the potential irregularity of €4.3 million remained open pending the outcome of an investigation of the eligibility of programme expenditure.
- 4.23 SEUPB wrote to DETI in December 2010 requesting clarification and

further information and, in February 2011, DETI provided SEUPB with a detailed description of the nature of the irregularity and the findings of the consultants' review. Subsequently, SEUPB, with the approval of other key stakeholders¹³ commissioned the comprehensive forensic review of the project by Consultants A.

Opportunities to identify and address problems with the project were missed

- 4.24 We are concerned at the length of time taken to raise an irregularity and to commence a full investigation into the project, given the serious nature of the allegations made. The investigatory process was unacceptably protracted and a number of opportunities were missed to initiate decisive action much earlier than February 2011. As early as 2006, concerns were raised about the project. In January 2009, Internal Audit had identified sufficient concerns to warrant a detailed investigation and this was underpinned by the initial report by Consultants A in September 2009.
- 4.25 DETI told us that it has learned a number of important lessons from the investigation process. These include:
- the need for specialist advice to assist significant investigations, particularly where these are technical in nature;

13 Stakeholders included DETI, DCENR, DFP, DoF, NIAO and the Central Investigations Unit of DARD (a unit which provides advice to SEUPB in cases of suspected fraud).

Part Four: The investigations of the Bytel project

- a requirement for regular structured reporting to an oversight forum to oversee progress in significant investigations, with regular meetings scheduled and minuted;
- the need to consult public sector counter-fraud specialists at an early stage in an investigatory process; and
- the need for qualified external technical assistance in the appraisal, implementation, mid-term and post-project evaluation stages of complex projects. The Department noted that the technical review it commissioned in 2012 was key to establishing the facts around the project.

Recommendation 3

Policies on investigation of whistleblower allegations should be reviewed to ensure that guidance reflects best practice and is being applied appropriately. In particular, those charged with handling whistleblower allegations should ensure that all relevant stakeholders are informed at the earliest opportunity. Where allegations are of a serious nature and involve suspected misuse of public money, a properly resourced forensic investigation should be undertaken at the earliest possible stage.

Part Five:
Value for money



Part Five: Value for money

5.1 In this part of the report, we assess whether the Bytel project achieved its objectives and delivered value for money.

The initial post-project evaluation was very limited and did not assess key aspects of the project

5.2 A post-project evaluation of the Bytel project was completed for the Joint Implementing Agents (JIAs) in December 2007. This reported positively in respect of some project outcomes, such as the installation and integrity of the network, the functionality of network points of presence and the economic benefits accruing from the project.

5.3 The evaluation comprised two parts - a technology assessment and a commercial impact assessment. The technology assessment took the form of site inspections at the Bytel sites and the commercial impact assessment was based on an interview with Bytel. Overall, the evaluation provided only a limited assessment of the project.

5.4 Consultants A's review of the post-project evaluation concluded that it did not comply with Green Book¹⁴ standards and exhibited some basic weaknesses. For example, it:

- provided only a vague analysis of the project's economic impact which was based on discussions with Bytel staff; and

- did not consider actual costs incurred against planned costs, nor conclude on the degree to which individual project objectives in the Letter of Offer were achieved.

5.5 The limitations of the post-project evaluation were acknowledged by the senior consultant responsible for undertaking it, indicating to Consultants A that it had been "a very light review". The consultants who undertook the evaluation told us that it considered that it had been completed in accordance with the scope of services required by the JIAs who had not raised any concerns about the appraisal at the time. In our view, the JIAs should not have accepted such an incomplete evaluation and should have challenged its basic weaknesses.

A technical review concluded that the project achieved all its stated objectives and helped improve broadband infrastructure in Northern Ireland and the Republic of Ireland

5.6 In view of the significant concerns which had emerged over the course of the project, DETI commissioned Consultants B in December 2012 to carry out a technical review, to consider the outcomes achieved by the project and identify the associated costs incurred by Bytel in delivering it. The consultants concluded that all seven objectives for the project included in the Letter of Offer were achieved (**Figure 6**).

¹⁴ The Northern Ireland Practical Guide to the Green Book is the relevant Department for Finance and Personnel guidance for Northern Ireland Central Government bodies undertaking Post-Project Evaluations.

Figure 6: Summary of achievement of project objectives

Project objectives	Was the objective achieved?
<ul style="list-style-type: none"> To provide extreme broadband connectivity linking Belfast, Craigavon, Armagh, Dundalk and Drogheda. 	Yes
<ul style="list-style-type: none"> To provide local access in the border counties to extreme broadband services by the use of flexible break out points from the network. 	Yes
<ul style="list-style-type: none"> To provide business, education and research and development users with extreme broadband services to pursue complex applications which would not otherwise be feasible. 	Yes
<ul style="list-style-type: none"> To create a platform for more competition and lead to more uniformity of bandwidth service charging throughout Ireland. 	Yes
<ul style="list-style-type: none"> To provide an independent locally-owned all Ireland fibre network which will enable connectivity by cross border county businesses to European and global networks. 	Yes
<ul style="list-style-type: none"> To create a multi-fibre network which will allow users, both individual and businesses, choice in their bandwidth supplier and expand the potential range of applications due to extreme broadband services. 	Yes
<ul style="list-style-type: none"> To contribute towards stimulating demand for broadband by businesses in the area, contributing to the competitiveness of those businesses and the regional economy as a whole. 	Yes

Source: Consultants B

5.7 The Letter of Offer also set out seven specific outcomes which were anticipated from the project (**Appendix 5**). Consultants B concluded that all of these had been achieved to some degree, with particularly strong outcomes delivered in some aspects:

- all areas covered within the completed Bytel network, including the cross-border region, had been provided with a competitive pricing structure for broadband services;

- internet service providers had been incentivised to operate in the border area; and
- the improvement of internet connectivity in the border counties had made a substantial improvement to removing the perceived artificial telecommunications barrier which existed in broadband services prior to 2006.

Part Five: Value for money

5.8 In addition to the objectives and outcomes set out in the Letter of Offer, Consultants B considered that the completed Bytel network delivered a number of additional benefits. These largely centred around the Eircom agreement having provided access to the strategically important Saturn Ring network in Northern Ireland which, in the mid-2000s, had largely fallen dormant.

5.9 Whilst the proposed Aurora agreement would only have provided connectivity to the east coast of Ireland, the use of the Saturn Ring network facilitated access to the north-west. This resulted in additional network points of presence in Omagh and Londonderry which were not envisaged within the application or Letter of Offer, and the resilience of the network in the Republic of Ireland being improved through connections at Bridgend and Letterkenny.

5.10 Consultants B also concluded that the re-opening of the Saturn Ring network acted as a catalyst for other benefits to the local digital telecommunications industry which materialised subsequently. For example:

- it was pivotal in ensuring that Eircom re-entered the Northern Ireland telecommunications market, thereby improving competition; and
- it facilitated the completion of important downstream telecommunications projects - in September 2009, the sale of Bytel assets to Hibernia Atlantic ensured

that Project Kelvin¹⁵ could be completed. As well as extending the network from Armagh to Omagh, Londonderry and Letterkenny, Project Kelvin provided connectivity from the North Atlantic to the north of Coleraine, onward to Southport and back to Dublin through submarine links (**Appendix 6**).

5.11 The evidence provided by Consultants B suggests that the completed Bytel project delivered a number of important benefits and made an important contribution to the development of broadband infrastructure in both Northern Ireland and the Republic of Ireland. However, this in itself does not provide assurance that the project delivered value for money.

The original project was significantly over-specified

5.12 The economic appraisal and Letter of Offer for the project identified total project costs of €12.4 million. However, the technical assessment undertaken by Consultants B concluded that this was €5.36 million higher than required to deliver the project's stated objectives. The consultants found that the cabling costs set out in the economic appraisal were very high (€7.8 million) and estimated the cost of the cabling required at only €1.95 million.

5.13 The consultants also estimated that the cost of the actual network delivered

15 Project Kelvin involved the provision of a submarine connection from a transatlantic cable into Northern Ireland. It also created a 'terrestrial' network around Northern Ireland, and into the Republic of Ireland covering a range of towns including Armagh, Dundalk and Drogheda. Total project costs amounted to €29.6 million, €22.2 million of which was met through ERDF funding.

by Bytel was €3.93 million. Eircom also paid Bytel €3 million for work undertaken on Eircom's Saturn Ring network. We consider that this illustrates that the original project, with total costs of €12.4 million, was significantly over-specified. The subsequent delivery of a project for a fraction of these costs raises questions over the technical assessment and estimate of costs for the original project.

- 5.14 In our view, a more robust and effective technical assessment as part of the appraisal of the original project should have identified the scope for delivery at significantly lower costs with a proportionately lower level of grant required.

The failure to re-appraise the project resulted in grant being significantly overpaid

- 5.15 Bytel claimed, and was paid, the full €4.3 million grant approved for the original proposed €12.4 million project. However, Consultants B estimated that it only incurred total expenditure of €3.93 million to deliver the revised project. This sum included €3 million paid by Bytel to Eircom for the lease of bandwidth.
- 5.16 The agreements between Bytel and Eircom required Bytel to complete fibre cabling work on Eircom's Saturn Ring network. Eircom paid Bytel €3 million for this work.

- 5.17 The Letter of Offer for the project stipulated that grant was only to be provided in respect of actual eligible costs. If the JIAs had applied this condition, the amount of grant to be paid to Bytel would have been considerably less than the €4.3 million actually released.

- 5.18 Under the terms of the Letter of Offer, the €3 million paid to Eircom was ineligible for Interreg funding as it did not relate to the original project. Had the project been re-appraised when its technical specification changed and the expenditure under the Eircom agreements been classified as eligible, the maximum grant payable would have been €1.38 million (based on 35 per cent of €3.93 million total costs incurred, but excluding any benefit-in-kind). This is €2.92 million less than was actually paid (**Figure 7**).

Part Five: Value for money

Figure 7: Summary of Estimated Project Costs and Grant payable to the Bytel project

	Cost € million	Maximum grant rate as % of costs	Maximum grant € million	Excess grant paid € million
Original Project Definition (including benefit-in-kind of €7.8 million)	12.4 (estimated)	35%	4.3	–
Delivered Project (including payment to Eircom and excluding benefit-in-kind)	3.93	35%	1.38	2.92 (4.30 less 1.38)

Source: NIAO

DETI and DCENR incurred substantial costs and losses

5.19 In February 2011 a meeting of key stakeholders¹⁶ agreed that a full forensic investigation was required to address the outstanding issues with the project. SEUPB commissioned Consultants A in April 2011 to review all aspects of the irregularity.

5.20 The consultants' report was completed in March 2012. As a result of the findings (**Appendix 7**), the project board confirmed that all expenditure on the Bytel project should be declared irregular and that the project be withdrawn from the Interreg programme. This meant that DETI had to fund €2 million in assistance paid to the project with DCENR funding the balance of €2.3 million. It also helped ensure that there was no duplication of EU funding in respect of Bytel and Project Kelvin¹⁷.

5.21

The final deadline for expenditure to be committed to the Interreg III programme was June 2009 (extended by the EC from December 2008). Had the decision to withdraw Bytel from the programme been taken at an earlier stage, there may have been an opportunity to seek mitigating actions that could have resulted in some or all of the Interreg funding being utilised in other projects. This could have ensured that both Northern Ireland and the Republic of Ireland utilised their full entitlement to Interreg funding. DETI and SEUPB told us that, in practice, this would have been challenging, given the long development and implementation timeframes associated with Interreg programmes. However, the withdrawal of the project after this deadline meant that SEUPB was unable to consider the re-allocation of Interreg grant of €2.03 million in respect of DETI (€1.76 million in respect of DCENR was also foregone). This EU funding was lost to both member states.

16 As well as SEUPB, the other stakeholders included DETI, DCENR, DFP, DoF, NIAO, SEUPB Internal Audit and a representative from the Central Investigations Unit of DARD (a unit which provides advice to SEUPB in cases of suspected fraud).

17 In 2009, Bytel sold assets to Hibernia Atlantic which helped facilitate the completion of Project Kelvin (another Interreg supported project). In January 2010, the European Court of Auditors identified potential concerns that the Bytel assets sold to Hibernia may have been grant-aided twice by Interreg.

- 5.22 Despite the serious allegations and concerns raised about the project in both 2006 and 2008, an appropriately detailed and probing investigation into Bytel was not completed until March 2012. DETI told us that it is by no means certain that an earlier investigation would have progressed quickly enough to a point whereby a decision could have been made to withdraw Bytel from the programme within sufficient time to identify a replacement project. In our view, an earlier investigation would have alerted the JIAs and SEUPB to the project irregularities. It is likely that this would have resulted in the project being withdrawn from the Interreg programme much sooner and that available EU funding could then have been re-directed to other projects.
- 5.23 In our view, the payment of the full €4.3 million assistance by DETI and DCENR and the loss of a further potential €3.79 million EU funding represented a disappointing outcome. While the project delivered significant benefits to the broadband infrastructure in Northern Ireland and the Republic of Ireland, the maximum grant payable should have been restricted to €1.38 million (**Figure 7**).
- 5.24 Under the terms of the Letter of Offer, if the grant-aided assets were sold within four years of the grant being paid, then all grant was to be repaid. The sale of the assets by Bytel to Hibernia Atlantic in September 2009 (paragraph 5.10) should have triggered the clawback of grant. However, the JIAs did not initiate action to recover the grant paid. The review by Consultants A completed in March 2012 could not conclude on whether Bytel had sold grant aided assets and this was only confirmed to have been the case when the technical review was completed by Consultants B in 2013.
- 5.25 Given the significant overpayment of grant and loss of available EU funding, we conclude that the project provided poor value for money. Had DETI taken decisive steps to investigate the concerns around the project sooner and more robustly and to respond effectively to the findings of reviews, we consider it likely that a much more cost-effective outcome could have been achieved.
- 5.26 SEUPB told us that, for the 2007-2014 Interreg programme, the system of implementing agents to administer Interreg-funded projects was replaced with a centralised system of project monitoring and verification of expenditure and the use of lead partners for project implementation. Within this process, SEUPB told us that rigorous systems of project monitoring and vouching and verification of expenditure have been established.
- DETI has ongoing legal proceedings to recover the €4.3 million grant paid to Bytel**
- 5.27 In view of the concerns identified by its review of the project, DETI Internal Audit sought initial legal advice from the Departmental Solicitors Office (DSO)

Part Five: Value for money

in February 2009 on the potential to clawback grant from Bytel. The DSO advised that a full and independent vouch of project expenditure should be undertaken and, in March 2009, DETI Internal Audit commissioned Consultants A to undertake this review (paragraph 4.12).

5.28 Having assessed the findings of this review, DETI told us that it instructed the DSO to issue a writ against Bytel for the recovery of all €4.3 million grant paid to the project. However, although the consultants' review was completed in September 2009, DETI did not instruct the DSO to issue the writ until November 2010. The writ was served on Bytel in November 2011. DETI told us that it had taken so long to instruct the DSO to issue and serve the writ because the draft report completed in September 2009 had not reached a definitive conclusion on the eligibility of grant. At that time, DETI told us that it intended to engage Consultants A to undertake follow-up work, and that the writ was issued in December 2010 to protect its interests. As the full investigation by Consultants A was still ongoing, and the writ was valid for one year, this was served on Bytel in November 2011.

5.29 DETI did not issue a full Statement of Claim¹⁸ against Bytel until March 2013. DETI told us that preparation of a full Statement of Claim required the completion of the review by Consultants A, and the technical review being undertaken by Consultants B to be progressed to a sufficient extent to

inform the claim. To date, Bytel has not responded.

5.30 DETI also told us that it had examined other projects in which Bytel was involved and which were funded by the Interreg telecommunications measure. It has identified no concerns.

Shortcomings within the Bytel project mirror those in another DETI-sponsored project

5.31 In May 2012, the Public Accounts Committee (PAC) reported on the reasons for the failure of the Bioscience and Technology Institute (BTI) which received £2.2 million funding from DETI, the Industrial Development Board, the Industrial Technology and Research Unit and the International Fund for Ireland.

5.32 In a number of respects, the shortcomings identified by PAC for BTI are similar to those of the Bytel project (see **Figure 8**):

18 A Statement of Claim is the written statement of a plaintiff, setting out their case, the facts they intend to rely on and the relief they seek, to the defendant.

Figure 8: Comparison of shortcomings identified in the BTI and Bytel projects

BTI	Bytel
Within the BTI appraisal, there was uncertainty around the sources of funding and estimates of project costs.	The Bytel appraisal and project definition contained insufficient evidence to support the valuation of project hardware, software and infrastructure, and there was a lack of clarity over source and ownership of project assets.
BTI was not re-appraised following a significant change to its specification.	The Bytel project was not re-appraised following a significant change in the project's technical specification and costs.
To meet funding deadlines, DETI amended the BTI Letter of Offer to ensure that equipment worth £350,000 was eligible for grant. However, this equipment was never subsequently used in the project.	Grant of €1.3 million was paid for equipment which was not eligible for Interreg support and which was not used in the project.
Project monitoring of BTI by DETI and Invest NI was, in the view of PAC, virtually non-existent.	The standard of project management and oversight by the JIAs of the Bytel project was poor.
There were significant shortcomings with the checking of grant claims. In particular, DETI did not challenge the lack of tendering to procure goods and services and the lack of third party invoices to support claimed expenditure.	The Bytel grant claims were not subject to adequate checking. Key assets were not physically inspected, adequate documentation was not provided to support claims and valuation of equipment provided for the project by a related company was not challenged.

Appendix 1:

(paragraph 1.18)

Timeline of main developments with the Bytel project

Date	Development
April 2004	Bytel Ltd submits Interreg IIIA application seeking €5.9m grant against €13.1m total project costs.
June 2004	Assessment panel rejects Bytel project application.
July 2004	Bytel project application re-submitted to assessment panel. Approval for up to €4.5m grant provided. Project approved by the SEUPB Steering Group.
October 2004	Letter of Offer issued for project for total grant of €4.3m (based on €12.4m total project costs).
November 2004 – November 2005	Four grant claims submitted for a total of €4.3m. Grant claims paid in full.
June 2006	Bytel director makes allegations to DETI about the delivery of the Bytel project.
June and September 2008	NIAO receive whistleblower allegations about the Bytel project and refer these to DETI for investigation.
January 2009	Internal Audit review of whistleblower allegations concludes that further investigatory work is required.
March 2009	DETI Internal Audit commission Consultants A to review Bytel grant claims.
September 2009	Consultants A's initial report received by DETI Head of Internal Audit.
May 2010	DETI reports irregularity on Bytel project to SEUPB but provide no substantive detail on this.
November 2010	DETI instructs DSO to issue a writ for €4.3m against Bytel.
December 2010	SEUPB writes to DETI formally requesting details of the Bytel irregularity.
February 2011	DETI advises SEUPB of full details of the irregularity and the existence of Consultants A's initial report. Meeting of representatives (DETI, DCENR, SEUPB, DFP, DARD, DoF - Rol and NIAO) approves commencement of full forensic audit of the Bytel project.
April 2011	Consultants A appointed to undertake forensic review.
August 2011	Consultants A produce an initial draft report detailing findings of forensic review.
November 2011	DETI serves writ for €4.3m on Bytel.
February 2012	Consultants A final draft report.
March 2012	Final report produced by Consultants A. Bytel project withdrawn from the Interreg programme, meaning that all €4.3m assistance provided for the project is met by DETI (€2m) and DCENR (€2.3m).
March 2013	Technical review of Bytel project completed by Consultants B. DETI serves Statement of Claim against Bytel.

Source: NIAO

Appendix 2:

(paragraph 3.8 and Figure 3)

Summary of findings on the value of Nortel equipment

Source	Findings
Consultants A	<ul style="list-style-type: none"> • There were indicators that XMCC made a significant profit on the acquisition cost of the Nortel racks. XMCC's 2005 accounts showed that a considerable surplus which had been made by the company that year was distributed to Bytel shareholders. This would potentially support an allegation made by a whistleblower in 2008 that XMCC acquired the Nortel equipment for €30,000 and sold it to Bytel Networks Ltd for €1.3 million (paragraph 4.10 and Figure 5). • Consultants A sought information from the Bytel chairman on the procurement, ownership and condition of the equipment. The consultants considered that they did not receive satisfactory answers to their questions and indicated that the equipment was effectively useless and required significant restoration work if it was to be used. The consultants concluded that <i>"there is significant uncertainty over the actual economic value of the Nortel equipment in 2004 and a very strong suggestion that its value was less than €1.3 million"</i>. Based on evidence available, the consultants stated <i>"it appears that the cash cost of the equipment to the Bytel family of companies was only €30,000"</i>.
Consultants B	<ul style="list-style-type: none"> • There were serious concerns over the €1.3 million valuation of the equipment and no available third-party invoices to substantiate its true value.
DETI Internal Audit	<ul style="list-style-type: none"> • XMCC's 2005 accounts indicated that the company may have sold an asset for significantly more than it had cost. • Bytel was unable to produce an original supplier invoice for the equipment.

Source: Consultants A and Consultants B and DETI Internal Audit

Appendix 3:

(paragraphs 3.9, 3.14 and 3.16)

Details of expenditure deemed ineligible by Consultants A's review of Bytel grant claims

Note – this analysis does not include the 'Nortel racks' (Grant Claim 1), the duct laying undertaken in Londonderry (Grant Claim 3) or the claimed benefit-in-kind (Grant Claim 4) as these have been reviewed in detail in Part 3 of the report.

Grant Claim 1

Type and value (€) of equipment and services claimed for	Reasons for ineligibility
Rent - €38,344	Bytel premises were owned by SDL (another Bytel-related company). Whilst there was written confirmation that SDL received this money from XMCC, there was insufficient detail to verify the calculation and reasonableness of the rental charge.
Air Conditioning - €7,775	This expenditure was incurred prior to the Letter of Offer being issued, and the need for the equipment was not identified in the Letter of Offer. There was also a lack of evidence that the supplier was paid for the work, and that proper tendering procedures were followed.
Cisco Equipment - €193,565	The need for the equipment was not identified in the Project Application, Economic Appraisal or Letter of Offer. There were also concerns that a proper procurement process was not followed, and no evidence that the supplier was paid for it.
Duct Structure - €60,287	The supply of this equipment pre-dated the Letter of Offer, and, again, there was no evidence that the supplier was paid. There was also insufficient detail in the Letter of Offer and Economic Appraisal to confirm that this expenditure related directly to the anticipated capital project costs.

Appendix 3: (continued)

Grant Claim 2

Type and value (€) of equipment and services claimed for	Reasons for ineligibility
Insurance €5,750	The claim submitted for €20,750 was supported by a third party invoice and by a copy bankers draft showing payment had been made to the broker. However, as the Bytel appraisal and Letter of Offer only allowed insurance costs of €15,000, €5,750 was deemed ineligible.
Power Units €900	The power units were required to power the Nortel racks. As the Nortel equipment was not used in the project, the claim for €900 was deemed ineligible.

Grant Claim 3

Type and value (€) of equipment and services claimed for	Reasons for ineligibility
HP Cabinets €4,427	This equipment was re-invoiced through XMCC. As these cabinets were to be used to house the Cisco equipment (see Grant Claim 1), this expenditure was also deemed ineligible.

Appendix 4:

(paragraph 3.18)

Copy of final Bytel grant claim

RE: Bytel Contribution to North South INTERREG Project

Bytel Networks Ltd (BNL) is providing the following asset as a matched contribution to the north south cross border project. The asset specified below is the property of Bytel Networks and will continue to be an integral part of the north south business for the duration specified by INTERREG. It is important to note that the provision of this BNL owned asset is central to our ability to deliver extreme broadband services to the INTERREG region.

The Bytel Networks contribution to the project is as follows:

Description	Value
120 KM Duct route from Belfast to Dublin including sub duct	€16,000,000
Continuous fibre connection along the route	€1,000,000
Internet Points of Presence at Benmore (Belfast), NISP (Belfast), Bryson Street, (Belfast), Heron Road (Belfast) Portadown, Dundalk, Drogheda, City West (Dublin), Armagh and Newry	€800,000
Total	17,800,000

In total, the value of our contribution is €17,800,000

BNL confirms that the finalized cost model for this project is as follows

Source of Funding	Value	Percentage
Bytel Contribution	17,800,000	80%
INTERREG Grant	4,300,000	20%
Total	22,100,000	100%

BNL is happy to have the existence of the duct network audited at any time during the project and we have included a map of the duct route as supporting documentation for the verification of this claim.

Appendix 5:

(paragraph 5.7)

Specific outcomes anticipated from the Bytel project which Consultants B considered were achieved

- Provide an all-Ireland flat pricing structure for connectivity based upon €50k per 100mb per annum.
 - Reduce the costs for broadband services in border counties as a result of the pricing structure.
 - Encourage the emergence of internet service providers in the border area based on the pricing structure above.
 - Facilitate Small and Medium Enterprises in the border economy participation in the global economy by providing a 'pay as you go' pricing model for start-ups / SMEs.
 - Remove the artificial telecommunications barrier in broadband services.
 - Provide equal / fair access to extreme broadband services to border communities.
 - Encourage cross-border working within and between businesses.
-

Appendix 6:

(paragraph 5.10)

Potential overlap between Bytel and Project Kelvin

1. In September 2009 (almost four years after the final Bytel grant claim was paid), Bytel Networks Ltd completed an Asset Transfer agreement with Hibernia Atlantic UK Limited. The agreement governed the sale of infrastructure assets which included ducts, sub-ducts and tubes and fibres in Belfast, Portadown, Armagh, Monaghan, Omagh, Strabane and Londonderry.
2. This Asset Transfer helped facilitate the completion of Project Kelvin, which was being delivered by Hibernia Atlantic. Project Kelvin involved the provision of a submarine connection from a transatlantic cable into Northern Ireland, together with the creation of a 'terrestrial' digital network in Northern Ireland, and the Republic of Ireland, which covered a range of towns including Armagh, Dundalk and Drogheda. Total project costs amounted to €29.6 million, €22.2 million of which was met through ERDF funding.
3. In January 2010, an inspection by the European Court of Auditors (ECA) raised a number of queries relating to the procurement of Project Kelvin. Whilst discussions with SEUPB, DETI and DCENR helped resolve almost all of the substantive issues raised by the ECA, an issue relating to a potential overlap between Bytel and Project Kelvin remained unresolved. Essentially, the ECA were concerned that some of the assets used by Hibernia to complete Project Kelvin had previously received Interreg funding during the Bytel project.
4. As part of its forensic review of the Bytel project, Consultants A examined the available documentation and concluded that on the basis of this documentation alone, it was not possible to determine whether there was any overlap of assets between the two projects. Consultants A indicated that engagement with the relevant asset owners, technical advice and a physical inspection of assets would be necessary to conclude on this matter. However, on the basis of its technical review, Consultants B concluded "*it is our opinion that all of the assets that were built under the Bytel Extreme Broadband Project were later transferred to Hibernia Atlantic under the Asset Transfer agreement*".
5. Ultimately, the withdrawal of the Bytel project from the Interreg III A programme in February 2012 helped ensure that there was no duplication of EU funding in respect of Bytel and Project Kelvin (see paragraph 5.20).
6. Consultants B also examined the financial details of the Hibernia / Bytel Asset Transfer. Whilst estimating that the total costs of all assets transferred was €5.27 million, they noted that the "*consideration*" paid by Hibernia to Bytel for these had only amounted to €1 million, together with any eligible VAT. On the basis of Consultants B analysis, Hibernia had therefore acquired the Bytel assets for around 20 per cent

This apparent use of EU funding twice for the same assets would have represented a breach of European legislation.

Appendix 6: (continued)

of the total cost of completing these. Consultants B also estimated that whilst the total cost of the Bytel assets built under the Interreg funded Extreme Broadband Project was €512,118, these assets were sold to Hibernia for €97,000 (around one-fifth of their estimated cost).

Appendix 7:

(paragraph 5.20)

Review of eligibility of Bytel grant expenditure by Consultants A

The initial findings of the consultants' review were reported to stakeholders in August 2011. The investigation identified significant shortcomings with the management of the project, which included:

- the failure to define the project properly at the outset;
- the failure to re-appraise the project and issue a new Letter of Offer when the approach to delivering the project changed significantly; and

- authorisation and payment of grant for ineligible expenditure which was attributable to inadequate checking and scrutiny of grant claims by DETI.

Based on a strict interpretation of the conditions of the Letter of Offer and the relevant EU Regulations, the consultants concluded that €4.17 million (97 per cent) of the €4.3 million grant should not have been paid to Bytel. Only €131,457 (3 per cent) of expenditure claimed was deemed eligible for Interreg assistance.

Summary of review of eligibility of Bytel grant expenditure by Consultants A

Grant Claim	Expenditure claimed (€)	Ineligible expenditure (€)	Eligible expenditure (€)
1	1,599,877	1,599,877	0
2	375,070	6,650	368,420
3	250,189	243,018	7,171
4	17,800,000	17,800,000	0
Total	20,025,136	19,649,545	375,591
Grant payable at 35% of eligible expenditure			131,457

Source: Consultants A