

## **Mobile Phone and Broadband Taskforce**

### **Submission by Imagine Communications Group**

We note from your recent statements that it is your intention to, where possible, seek to accelerate the provision of NGA high speed broadband services to homes and business across Ireland and that you are considering interim solutions to accelerate the delivery of much needed high speed broadband to Regional and Rural areas. In this regard we note that ComReg are involved in his process.

We are fully supportive of and happy to contribute to these initiatives. We are a long established operator in the market with considerable experience in Fixed, Fixed Wireless and Mobile infrastructure and service provision in Ireland and internationally. We are also the largest operator of Fixed Wireless services and the *only* existing operator providing NGA services in Rural Ireland using the latest advanced Fixed Wireless technology TD LTE Advanced.

With regard to your initiative and objectives, you may not be aware that in May of this year Imagine commenced the rollout of our 30Mb to 100Mb High speed LTE NGA Broadband service and is already providing services in 34 large areas covering hundreds of Rural townlands not included in the governments map which identify where a commercial service was not expected to be provided and this is currently being extended to a further 15 areas. Reflecting the significant demand and need for high speed broadband, only initially marketed locally, over 50,000 customers across the country have registered their interest in the service.

**For details of the service, existing coverage and availability please refer to our website [www.imagine.ie](http://www.imagine.ie)**

As we speak, this service is transforming the lives of users who had poor or no broadband and were facing the uncertainty of having to wait up to 6 years for a high speed broadband service. We are actively engaged with TD's, Councillors and other interested groups to extend the benefits to other communities.

I am delighted to inform you that we have already identified 200 additional locations covering some 650,000 homes and businesses where it is commercially viable for us to provide service and we would be willing to do so. While being fully supportive of the aspirations of the NBP we fully agree with your initiative and the need to accelerate the rollout of high speed broadband in the interim.

The Imagine network will be operated on an open wholesale basis to encourage competition, choice and diversity at the retail level and to facilitate existing local wireless operators.

### **About NGA Fixed Wireless and TD LTE**

LTE is the state of the art in wireless technology and delivers NGA services to customers when deployed as a Fixed (rather than mobile) solution. Using such a wireless connection is particularly effective in delivering NGA services in less densely populated (Regional and Rural) areas where alternatives are technically restricted or uneconomic to deploy.

As a founder of the Global LTE initiative (GTI) with industry leaders including China Mobile and Softbank, Imagine have championed the benefits of LTE as an NGA technology that can significantly accelerate the availability of high speed broadband in Regional and Rural areas. As part of the taskforce, Imagine

clearly detailed the benefits of the developing LTE technology as a solution for rural Ireland and for almost 3 years we have been seeking clarity on the continuing availability of the spectrum required for us to rollout the service nationally.

You will note that LTE Advanced Fixed Wireless is not only recognised by the EU as one of the technologies that is specified for the delivery NGA high speed broadband but this is the technology being adopted globally to deliver high speed broad in rural areas. In fact, there is a growing trend internationally supporting the deployment of Fixed Wireless and in particular LTE for high speed broadband services.

While LTE Advanced is now being deployed extensively in Asia and Europe as an alternative to fixed services notably both Google Fiber and the Australian Governments National Broadband Network are switching to LTE Advanced as an alternative to Fibre to accelerate the delivery of high speed broadband services.

Google Fiber has recently announced that it is switching the focus of its high-speed internet plans from fibre-to-the-premises service (FTTH) to wireless technology to accelerate its project to improve internet access across the US that has taken six years to reach just six cities. It will be deploying LTE wireless which requires less expensive and time-consuming construction work and it is putting fibre projects on pause in Portland, Oregon, and San Jose in Silicon Valley. It is also changing its broadband strategy in the newest cities to join the programme.

The Australia National Broadband Scheme was going to be mainly fibre similar to the Irish NBP but has run seriously behind and over-budget. NBN, the vehicle charged with delivering the scheme is now using Fixed Wireless LTE since mid-2015 to deliver the service and over 500,000 and growing homes and businesses are now set to receive their government subsidised broadband connection using this technology in place of the originally intended fibre roll out. In this regard the importance of the availability of LTE advanced infrastructure and services to the Irish economy and in particular to rural Ireland cannot be underestimated. It is critical to accelerate the availability of much needed NGA broadband services in Regional and Rural areas and as a complementary interim solution to quickly deliver high speed broadband to homes and businesses in these areas.

Given the importance of delivering such services it could be expected that everything possible would have been done to ensure the availability of this technology as an NGA solution in rural Ireland and to ensure and facilitate investment. Unfortunately, and inexplicably, this has not been the case.

### **Spectrum Allocation for NGA Fixed Wireless**

With regard to your initiative and under the heading of  
IV. Subgroup on Regulation, Policy and Networks Spectrum Availability (Regulation and Policy)

To provide Fixed Wireless LTE services requires spectrum licenced by ComReg. In November 2014 ComReg announced its intention to reallocate the 3.6GHz spectrum licences currently in use and available for Fixed Wireless LTE Advanced services when they expired in July 2017. The speculation by ComReg as to the possible uses of this spectrum for mobile and the lack of any clarity as to the availability of how much spectrum, if any at all, for fixed wireless has delayed investment and actively prevented the delivery of high-speed broadband to Rural Ireland.

### **Responsibility of the Minister:**

The responsibility for this disjoint between ComReg and stated government policy rests squarely with the office of the Minister. While recognising that *“the Regulator is independent in its function and it discharges those functions in accordance with its statutory obligations”* in the discharge of these duties and in accordance with its statutory obligations ComReg must give consideration to and actively implement Government Policy Directives notified to it by the Minister and as provided for under the Telecommunications Act.

Despite the significant importance of the delivery of high speed broadband in Ireland, remarkably the current policy directives to ComReg in this area have expired and to date no Minister has issued an updated Government Policy Directive which would allow ComReg in the award of spectrum to consider delivery of high speed broadband (NGA) as a national priority. In the absence of any updated Government Policy Directive in the performance of its function and statutory obligations ComReg specifically refers to and relies on an *expired* 2003 Directive and while ‘aware’ of government policy, under its statutory obligations, ComReg is neither enabled nor compelled to implement government policy without receiving an updated policy directive from government. This failure of government to act to meet its obligations cannot easily be reconciled with its stated objective to act to enable delivery of broadband by commercial operators as soon as possible.

Despite bringing this matter to the attention of the previous and current Minister, to date, no such Policy Directive has been issued and we reiterate our call that this matter be addressed a matter of absolute urgency.

The impact of the uncertainty and risk as to the availability and allocation of spectrum has had - and continues to have - a real and significant impact on the market in terms of investment and commercial deployment of NGA Fixed Wireless in rural Ireland.

Despite this uncertainty we in Imagine have committed limited investment and commenced the rollout of our LTE network in rural Ireland as proof of capability and willingness to invest. Initially launched only through local marketing activity and social media the interest and demand for the service has already been very significant with over 50,000 people registering their interest in receiving the service. We have already launched this service in 35 areas and this will rise to c. 50 areas by October of this year. Already many thousands of homes and businesses who could not previously get reliable high speed broadband are now connected and enjoying a service they would otherwise not have available for many years – if ever! With already committed further investment of €300m subject ONLY to clarity on retaining the required spectrum we can significantly increase the rate of rollout to more areas in rural Ireland and deliver high speed broadband there much earlier than any other possible approach. As far as we are aware, we are the only operator actively rolling out commercial high speed broadband to rural Ireland today and it is inexplicable why the state is not fully supportive of and engaged with us in helping us to deliver this much needed service to citizens in rural Ireland.

However, the current situation remains that in the absence of an updated Policy Directive to ComReg the proposed 3.6GHz Spectrum Award process still does not recognise high speed broadband (NGA) as a national priority for spectrum allocation, makes no provision to ensure the availability of any spectrum for NGA Fixed Wireless services and provides no *“investment certainty and service continuity”*. In fact, as recognised by other operators, including Vodafone, the current proposed award process and associated uncertainty is likely to lead to unintentional ‘crowding out’ of Fixed Wireless from the process. This will halt delivery of high speed broadband in rural Ireland.

It is now a matter of critical national interest that Government immediately issue to ComReg an updated “Government Policy Directive” clearly outlining government policy which identifies delivery of NGA grade high speed broadband as a priority. Failure to do so cannot be reconciled with stated government policy and public commitment to doing everything possible to get high speed broadband to rural Ireland.

### **Barriers to Network Rollout – Access to State Assets**

It was an identified critical need in the original NBP<sup>1</sup> report that there was a real contribution that could be made by making better use of available state assets. It is deeply regrettable and disappointing that to date nothing meaningful has been done to address this matter.

At present, some state agencies make some of their assets available to the telecommunications industry. The basis upon which this is done varies considerably and some activities are commercialised (e.g. ESB, RTE) where others are more ad-hoc. It should be noted that merely because a state (or semi-state) agency offers assets does not in itself imply that this is being done in support of any Government Policy objective with respect to broadband. Often it can merely satisfy the agencies commercial mandate or merely be an opportunistic exploitation of assets to make a contribution to the agency’s overall budget.

It can be assumed that in areas where there is a properly functioning market such as Dublin then the market will find an appropriate level and no intervention from government would be necessary or appropriate. However, it is in those intervention areas that has a marginal or no business case that the contribution of state assets to supporting government policy has the most opportunity to make a meaningful contribution. In these marginal areas there cannot be said to be a properly functioning market and there is often little or no alternative to using a state asset. The deployment of infrastructure is an activity that has significant up-front costs and in areas where there is a marginal business case the scale of these upfront costs can have a significant impact on a decision on whether to invest or not. Consideration must be given by government to strongly encourage all state agencies to be as flexible as possible in making their assets available to support private sector investment in broadband. Such flexibility should include flexibility in contract terms and conditions (including minimum contract periods, etc..) as well as price and a willingness to explore risk sharing mechanisms such as asset rental paid, for example, as a percentage of revenue.

Imagine believe that the use of existing passive infrastructure is one of the challenges of any company looking to deploy either wired or wireless networks. There is no doubt that access to state assets could expedite and benefit the rollout of broadband in rural Ireland and if priced appropriately provide a cost effective solution in many cases. This is particularly important the more rural the infrastructure intended to be deployed.

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<sup>1</sup> Page 13 “Potential Contribution of State Entities” – “Delivering a Connected Society – A National Broadband Plan for Ireland”

What is absolutely critical is that there be a clear and common process and timeline which all passive infrastructure holders adhere to overcome the significant existing hurdles that exist in accessing this infrastructure. The approaches of state and semi-state owners of such infrastructure have widely varying processes and requirements. In some cases, there is absolutely no inclination whatsoever to permit access to 'their' infrastructure and are uncooperative or simply unwilling to provide access. Alternatively, the conditionality they apply can sometimes be prohibitively onerous and consequently prevents commercial operations from using them.

It is critical that there be in place a reliable database of available state infrastructure that operators can access. Similarly, it is very important that the terms and conditions that apply to operators accessing this infrastructure be the same for all. For example, 'volume discounts' naturally favour large operators and are disproportionately disadvantageous to small operators or operators who are in a growth phase. This is most likely to be the case in areas where it is established that no currently viable NGA service exist. The fact that agencies such as ESB have commercial ventures that exploit such infrastructure is unhelpful and can give rise to potential conflicts of interest between their role as a semi-state organisation supporting the roll out of NGA and their commercial ambitions or those of their commercial partners. This must be policed openly and transparently to avoid any issues which might otherwise endanger the ambitions of the NBP.

The infrastructure that should be contained within the database should include

- 1) State Buildings / Rooftops
- 2) Existing communications infrastructure (fibre, towers, masts, etc.)
- 3) ESB towers and Poles
- 4) Enet Masts and fibre Poles
- 5) Any other fibre asset owned by semi-state bodies
- 6) Any asset owned by an operator within a state aid funded area that could be used for providing wholesale services.

The best way of providing this information is by way of a database with open access. There are several examples within Ireland of national assets being run in a wholesale manner in an independent, open and transparent way that is not clouded by retail activities.

### **GARDA Masts**

Of particular concern in relation to the deployment of wireless infrastructure is the substantial number of masts located in Garda Stations. These masts were originally built by Esat Digifone and are used by O2. While in regional and rural areas these masts are located in prime locations, due to an historical contractual dispute they are not available to other operators. Making these sites available would significantly improve both Fixed Wireless and mobile coverage.

### Consumer – Engagement and Demand Stimulation

The National Digital Strategy detailed many useful strands of engagement with citizens to actively promote getting online and stimulate demand that will support the delivery of NGA services. These included inter alia;

- Ways to convey in popular broadcast media the specific advantages and utility for citizens of digital engagement. The objective would be to resonate with target audiences and approaches might include prominent broadcasting of the benefits of digital engagement; a focus on why digital engagement should appeal to those not yet digitally engaged; interviews with key players or those with an interesting story to tell about different ways their lives have been enhanced by digital.
- A focus on the journey to online trading for a small business and the outcomes
- Explore the potential of using the appeal of archive material and new innovative forms of content to enhance the appeal of digital engagement
- Partnering in a marketing campaign aimed at driving more widespread digital participation
- Support creative and technology sector development of digital services

These and other more localised forms of engagement with rural communities would be of assistance in supporting the commercial delivery of high-speed broadband to areas in rural Ireland. For example, government could provide coordination of areas of active interest in securing broadband services that can be served by commercial operators such as Imagine or any other company willing to invest in an area. An initiative to specifically encourage and facilitate local interest groups would be extremely beneficial and practical. Ultimately commercial investment can only be sustained where sufficient demand for a service exists and this can be difficult to quantify in rural areas where by definition demand is distributed over a wide geographic area. Imagine is willing to actively participate in such initiatives and is prepared to partner with government agencies to promote, identify and quantify demand and follow through with deployment of our 100Mbps service in such selected locations.

### **About LTE and Imagines interim solution?**

LTE is a global standard that provides significant economies of scale and allows affordable high speed broadband to be deployed in areas where the economics of fixed infrastructures like fibre and cable simply do not work. It's all IP architecture from End-to-End allows for scalability nationally and it is supported in many frequency bands from 900MHz to 3.5 GHz. It is being combined with other modes and in multiband devices (800 MHz, 900 MHz, 1.8 GHz, 2.1 GHz) allowing for seamless interoperability with other LTE networks all within one device. Spectrally it is very efficient with current peak download speeds of 110 Mbps and 10 Mbps upload in a 20 MHz channel and a committed global roadmap into the future showing speeds of 1.6GHz from equipment vendors like Huawei and Nokia Siemens Networks.

Using standard based TD-LTE protocol ensures that future developments will enable customers to be offered even faster speeds as the technology continues to evolve. The published standards and vendor roadmaps show significant improvement in speed and capacity through 2020.

Imagine realise that to date the focus on LTE has been in the context of mobile networks. However, this focus on mobile omits the fact that 4G LTE, properly designed as a fixed wireless network, is successfully

delivering NGA services today in many countries around the world. In addition, LTE is also recognised by the EU as a technology capable of delivering NGA services.

The European Commission has also issued detailed guidance on the application of state aid via its draft guidelines and wireless broadband was added to these guidelines as a suitable technology. In particular, LTE Advanced was singled out as a suitable technology for providing NGA services. These guidelines have been adopted by countries across Europe and wireless now forms an integral part of the mix of technologies that provide NGA services to the regional and rural parts of Europe.

### Compliance to Standards

Imagine's solution only uses hardware solutions from tier 1 vendors and is carrier grade and totally compliant to the 3GPP LTE Advanced standards. These solutions have been already been deployed numerous times by major operators of both fixed and mobile wireless networks globally in both 3.5GHz spectrum and other radio bands.

### TD-LTE deployed as fixed wireless

A TD LTE network deployed as a Fixed Wireless Access network using the same standardised LTE advanced infrastructure and technology being deployed around the world by both fixed and mobile operators to deliver all-IP services with fixed TD-LTE devices with high powered antennas can enable NGA services beyond the reach of fibre or cable and can be the primary method of delivering NGA services in regional and rural Ireland.

In summary, Imagine believe that our fixed 4G LTE-A wireless service offers:

- A comparable platform to FTTC in capacity and speed terms
- A superior broadband platform to FTTC in terms of distances from the cabinet
- A more cost effective solution than FTTC in many locations.

One of the additional advantages of fixed wireless 4G networks versus FTTC is that it can be rapidly be deployed in a given area and then incremental capacity can be added as demand grows.

Imagine believes that a rational and reasonable approach to deploying NGA services in the regional/rural areas is to

- Deploy coverage quickly via wireless
- Where FTTC or fibre is available use wireless to improve coverage beyond that available from the cabinet
- As demand increases this can be addressed by:
  - Deploying extra channels on existing infrastructure
  - Deploy additional sites for extra capacity
- As demand continues to increase and when the business case for wired is proven, existing wireless technologies can be integrated as part of the overall solution continuing to service those areas out of wired reach or provide infill in the wired coverage areas thus protecting investment.