



Canal &
River Trust

Keeping people, nature & history connected

Investing in Opportunities



This project has received
European Regional
Development Funding
through INTERREG IV B.



INTERREG IVB

Numericanal WP1a2

Availability and Use of Communication
Technologies in the UK

Navigation specific systems

Automatic Identification System – AIS

The AIS system is in use around the UK in coastal and tidal waters. There is no compulsory requirement for this system on leisure craft on our inland waterways

River Information Services - RIS

No UK involvement in the RIS initiative and does not appear to be deployed in the UK.

Other Technology dedicated to Navigation Support

The other main system for communications, signalling and information exchange in support of navigation on the waterway is the Marine band VHF radio systems. Again these are predominantly in tidal waters; however there is use on the inland waterways. Mainly canals such as the Gloucester & Sharpness, through river navigations like the Aire & Calder or Weaver navigation, where there is a presence of freight traffic. Also on tidal sections of the rivers, Thames, Humber and Mersey and the Severn and Witham estuaries

Generic Communication Technologies

Mobile telephone network

In the UK there are three main mobile telephony systems the older 2G (generally on GSM 900, GSM 1800 frequencies), the most prevalent 3G and the emerging new 4G networks.

Wi-Fi Networks

Wi-Fi networks are the emerging wireless broad band technologies and there is a building network of free access Wi-Fi “Hot spots”. These networks tend to prove faster and more reliable than 3G broadband and with the increasing free access, it is worthy of mention.

Mobile networks

- There are many mobile operators and providers in the UK. However there are basically 4 network providers. They are, O2, Vodafone, 3 (Three) and EE (the new 4G supplier who is parent to Orange and T -mobile). All the other operators have a “virtual” network which means that they are tied in to one of the four for their network provision.

Popular Virtual network operators

| Mobile Operator | Network provider |
|-----------------|----------------------|
| Asda Mobile | Vodafone |
| Blyk | EE, T- Mobile/Orange |
| BT Mobile | Vodafone |
| Giffgaff | O2 |
| Lebara Mobile | Vodafone |
| Talk Mobile | Vodafone |
| Tesco Mobile | O2 |
| Vectone | EE, T- Mobile/Orange |
| Virgil Mobile | EE, T- Mobile/Orange |

Mobile Network predictive coverage maps for main Network providers

O2 - 3G Network



EE (T-Mobile / Orange) 2, 3 & 4G Network coverage



Mobile Network predictive coverage maps for main Network providers

Vodafone 3 G Network

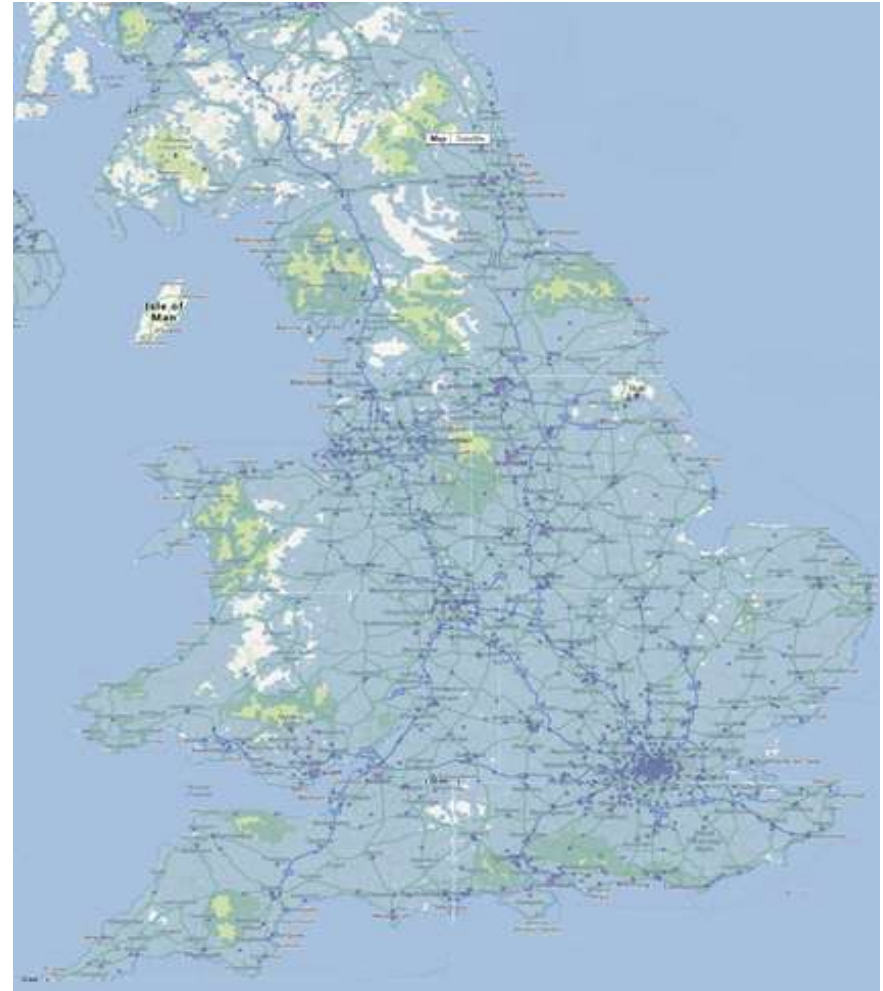


3 (Three) Network coverage 2 & 3G



Wi-Fi Open Networks

- The emergence of free Wi-Fi is currently predominantly in urban areas and again available through a number of providers and many offer Wi-Fi access in public places.
- By way of example, BT Wi-Fi (formally known as BT Openzone) has more than 4.5 million Wi-Fi hotspots throughout the UK and Ireland, plus another 3 million overseas through BT Fon. This network will only increase, BT Wi-Fi hotspots have increased by 40% in the last year alone.
- In broader terms there are several providers who are starting to offer free Wi-Fi access. For example a pan European provider would be “the cloud” which is already widely spread in town centres. These hot spots tend to be easily found with a search from the device. However there are of course lots of “Apps” available to help find hot spots and free Wi-Fi.



Mobile networks in Ireland

The mobile network situation in Ireland is included here to give a fuller picture as there is currently no partner on the project for Ireland.

In Ireland, again there are four main network providers, being O2, Vodafone, 3(Three) and Meteor (who are the mobile arm of Eircom, Irelands National telecoms provider).

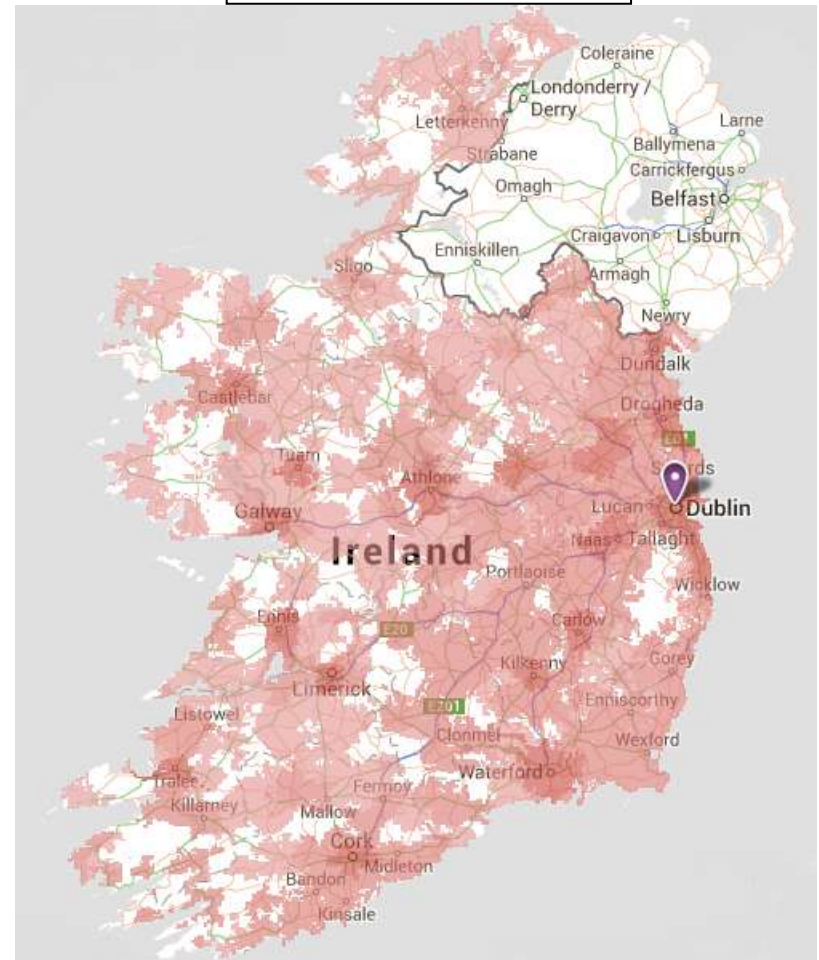
There is no nationally available free access Wi-Fi network currently in Ireland.

Mobile Network predictive coverage maps for **Ireland's main** Network providers

O2.ie - 3G Network

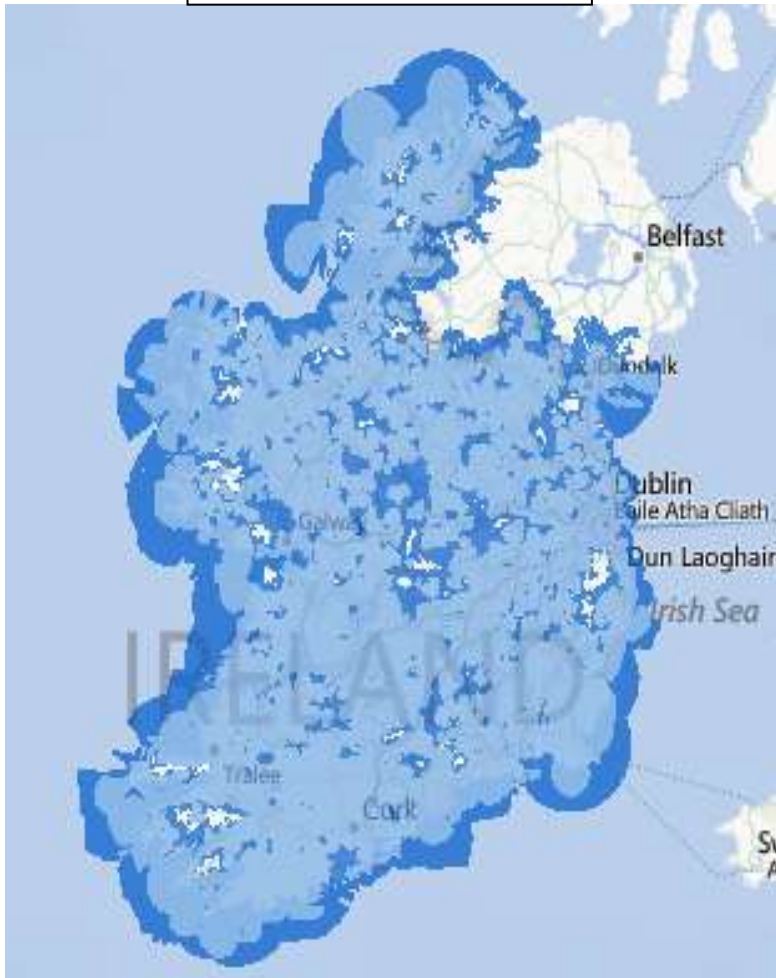


Vodafone.ie - 3G Network

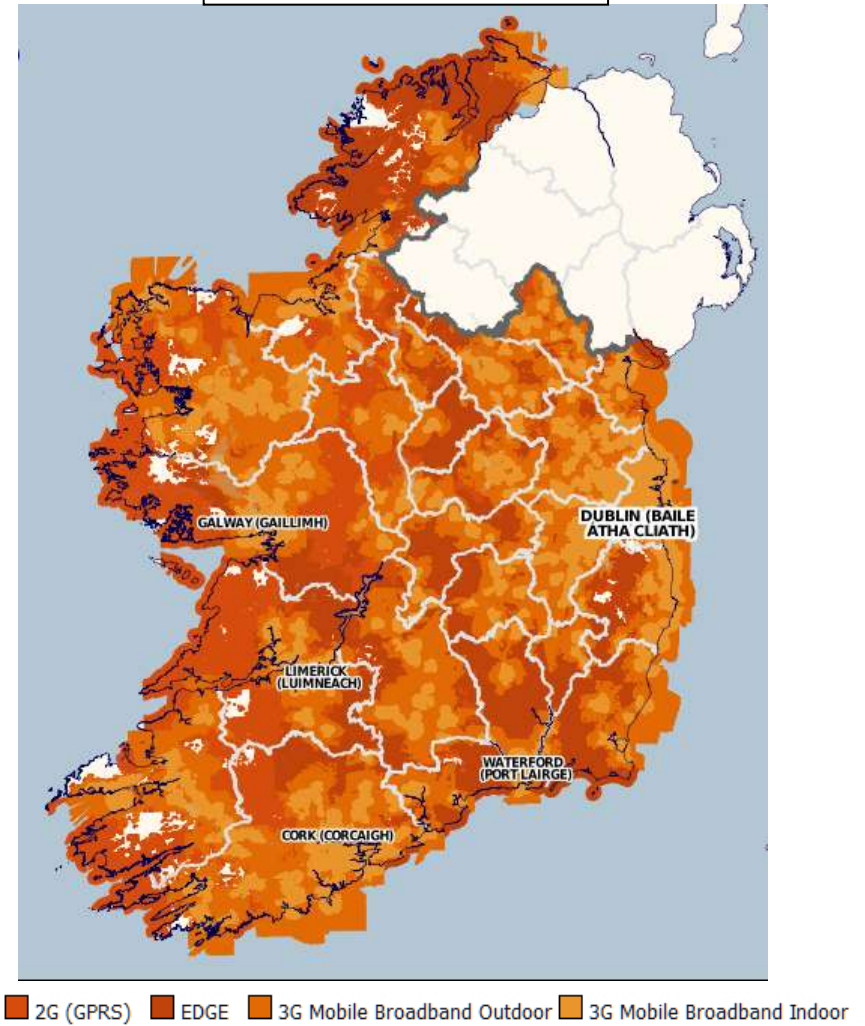


Mobile Network predictive coverage maps for Ireland's main Network providers

Three.ie -3G Network



Meteor mobile - Network



*Someone asked me the other day
“why predictive maps?”*

*With all mobile technologies they
are subject to atmospheric and
environmental effect. So non of
the coverage is guaranteed, these
maps are an indication of the
coverage which should be
available*