# Update from INEX

Ireland's IP Hub



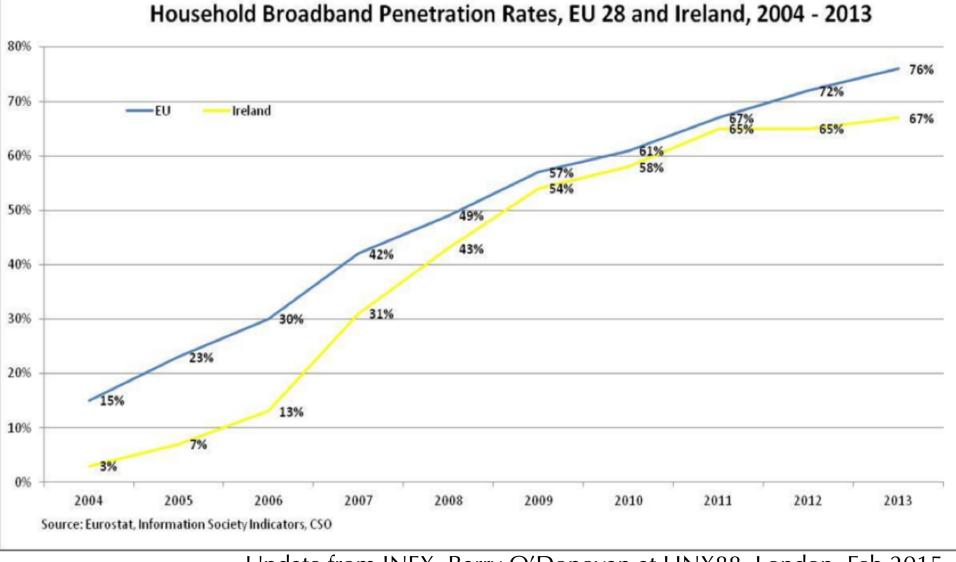
# Agenda

- Overview of Broadband in Ireland
  - As at Q3 2014
- Ireland's Telecoms Infrastructure
- Dublin & Dublin's Silicon Docks FDI
- INEX



#### **National Broadband Overview**

- Population of ~4.6m in ~1.6m households
- Residential penetration rate of 67%



Update from INEX, Barry O'Donovan at LINX88, London, Feb 2015

# i n e x i n t e r n e t

#### **National Broadband Overview**

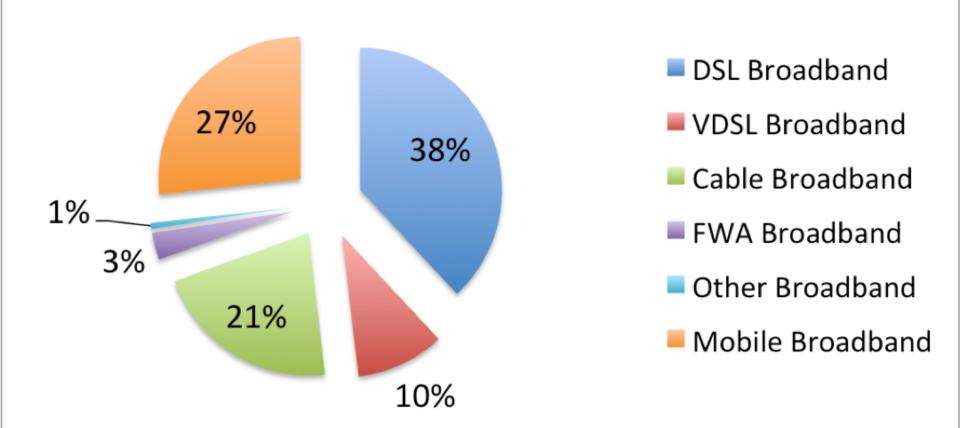
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  - For comparison, UK has ~87%
- Total subscriptions: 1,693,400 (17% business)

# internet

#### **National Broadband Overview**

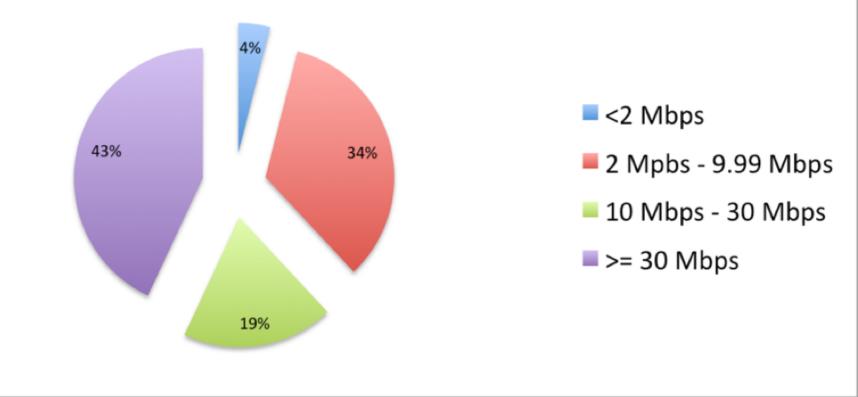
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- Residential penetration rate of 67%
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- Total subscriptions: 1,693,400 (17% business)
- How does broadband break down by:
  - Type?
  - Operator?
  - Speed?



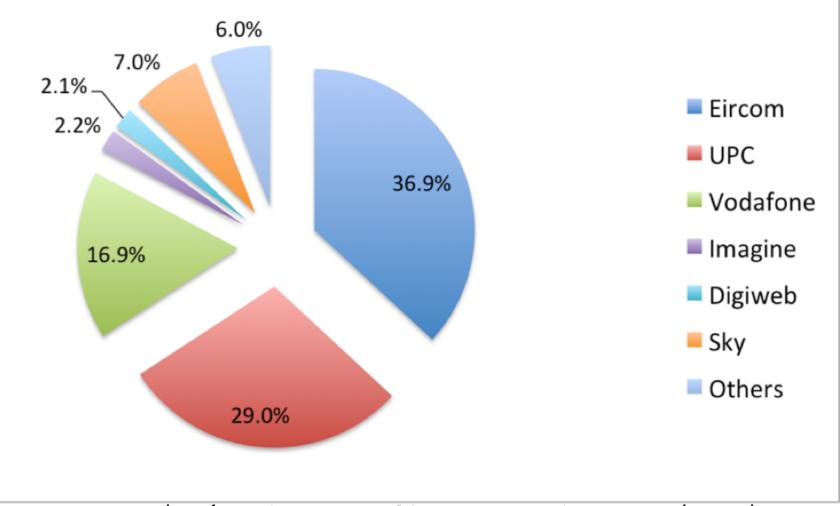


Update from INEX, Barry O'Donovan at LINX88, London, Feb 2015

## Fixed Subscriptions by Contracted Download Speed

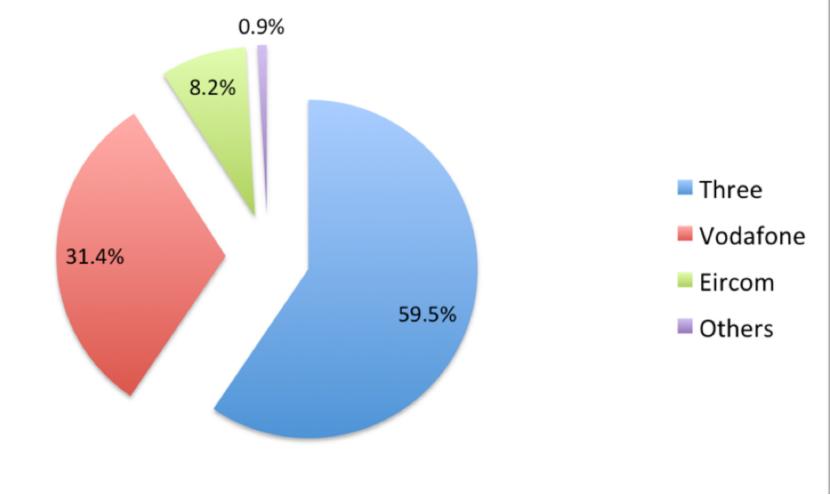


### **Fixed Broadband Market Share**



Update from INEX, Barry O'Donovan at LINX88, London, Feb 2015

### **Mobile Broadband Market Share**



Update from INEX, Barry O'Donovan at LINX88, London, Feb 2015





# Light Pollution Map

Belfast

**Greater Dublin** 

Area

Galway

Limerick

Waterford

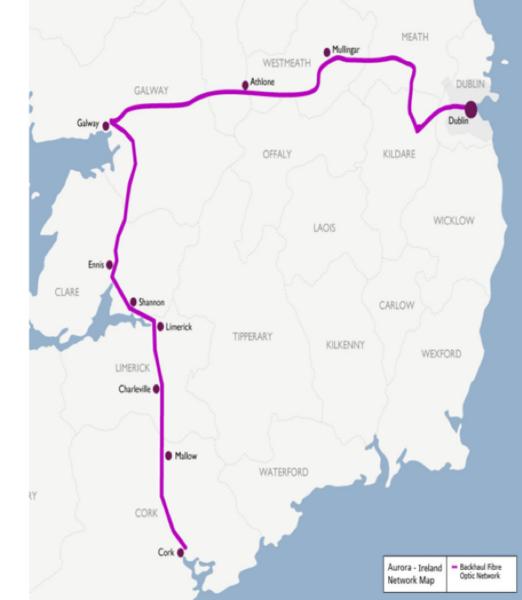
Cork



#### **National Dark Fibre**

### **Utilities:**

Aurora Telecom



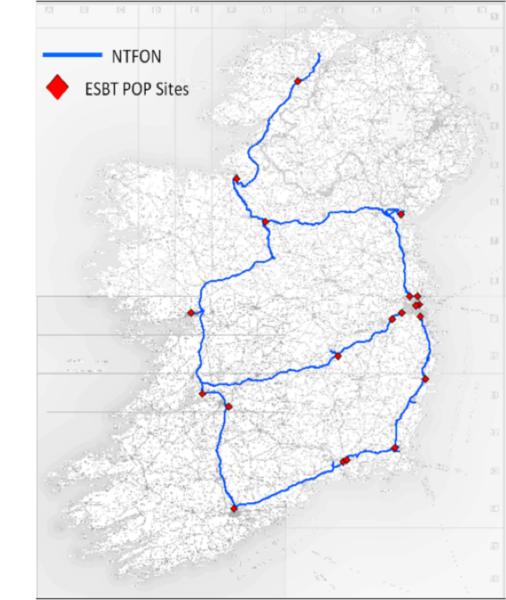
## **Utilities:**

- Aurora Telecom
- CIE



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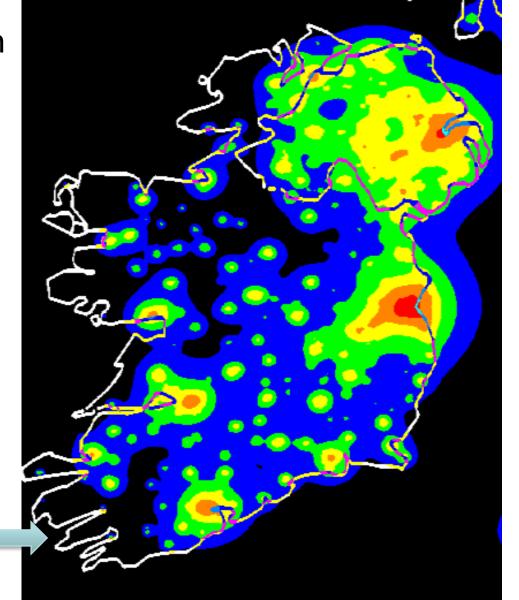
- BT Ireland
- Eircom

... and others.



# Light Pollution Map

Kerry International Dark Sky Reserve – one of only 3 gold tier reserves on the planet and only one in the Northern Hemisphere



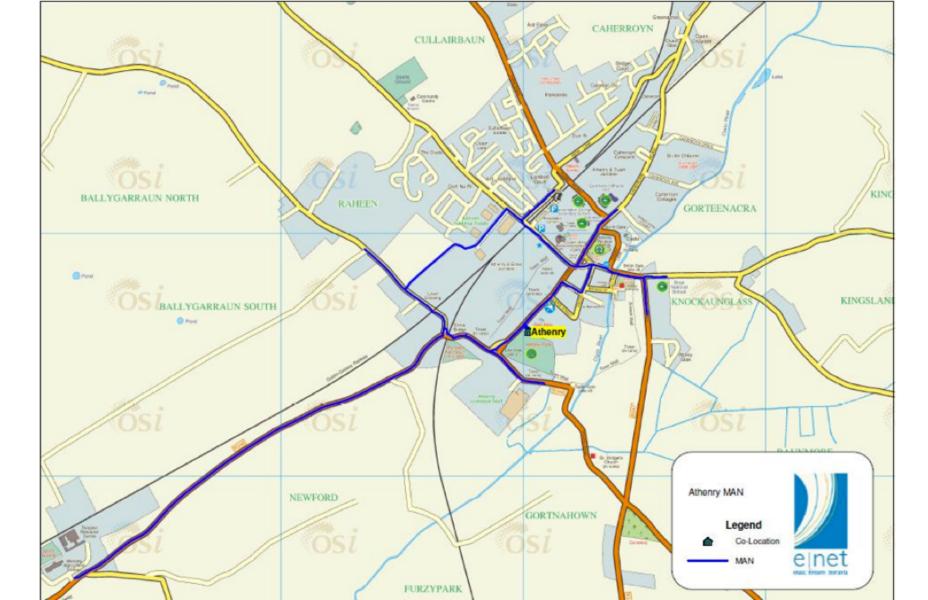


# Metropolitan Area Networks

- Open access fibre network in 94 towns and cities
- State funded and owned, operated by enet
- enet operates as a wholesale only provider
- Each MAN has a co-location facility with antenna space

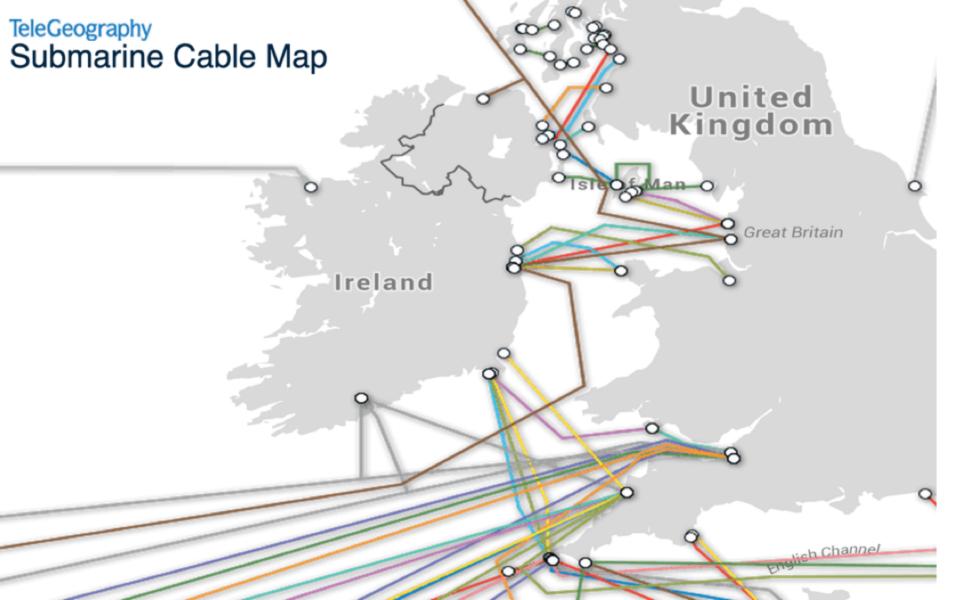






# International Connectivity i next neutral exchange

Mostly through the UK...



# International Connectivity internet neutral exchange

- Mostly through the UK...
  - Is this a good thing?





# UK spy base GCHQ tapped Irish internet cables

Snowden documents reveal how British intelligence target Irish internet traffic



http://www.irishtimes.com/business/technology/uk-spy-base-gchq-tapped-irish-internet-cables-1.2019492

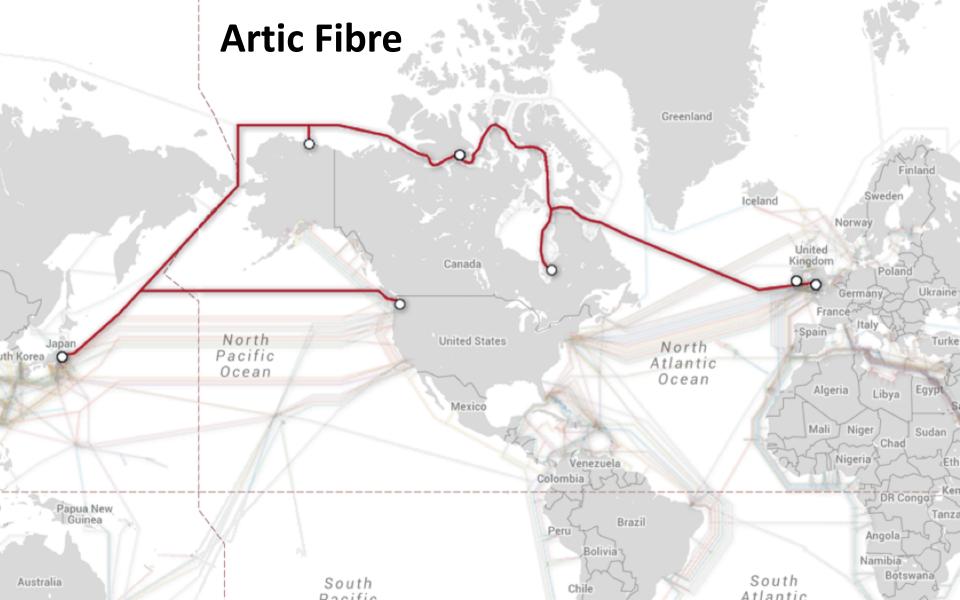
# Government accused of cowardice over tapping of cables

'Will the Government continue to award contracts to firms that have been complicit with the UK government in spying on our conversations?'



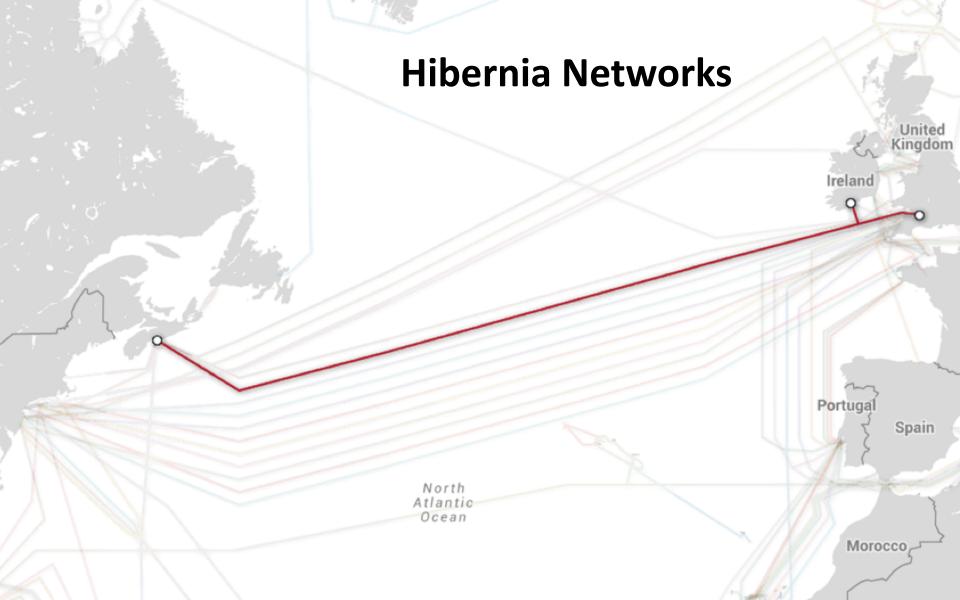
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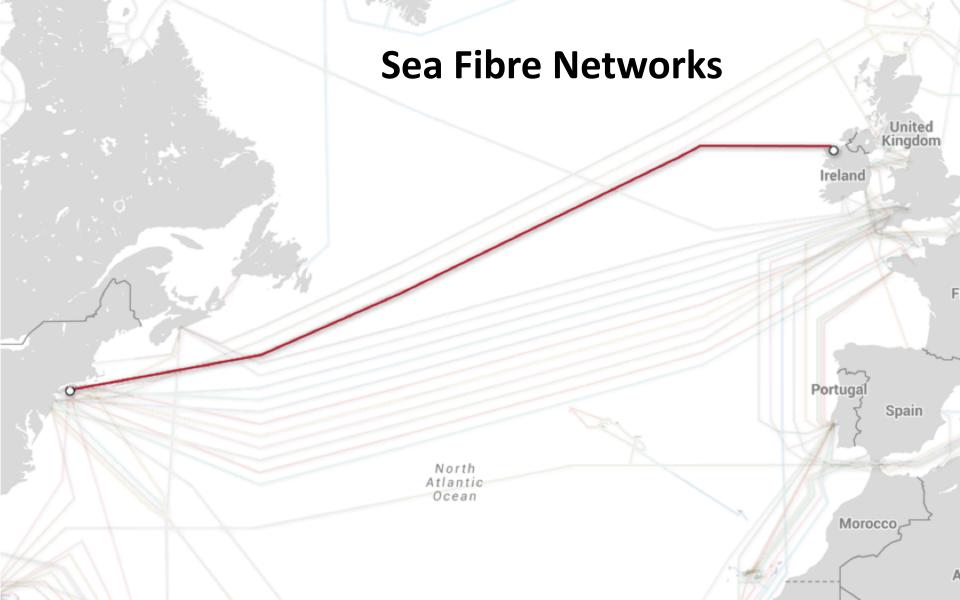
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### International Connectivity

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  - Is this a good thing?
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  - Sea Fibre Networks (New York Mayo) (RFS: Jan 2016)



- internet neutral exchange
  - Is it cheaper to get uncontended 1GbE from:
    - somewhere in Ireland to Dublin?
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- ~80 Kms from Dublin:
- ~220 Kms from Dublin:

€2,500 / month

€4,500 / month\*

\* Sole operator under regulatory price control

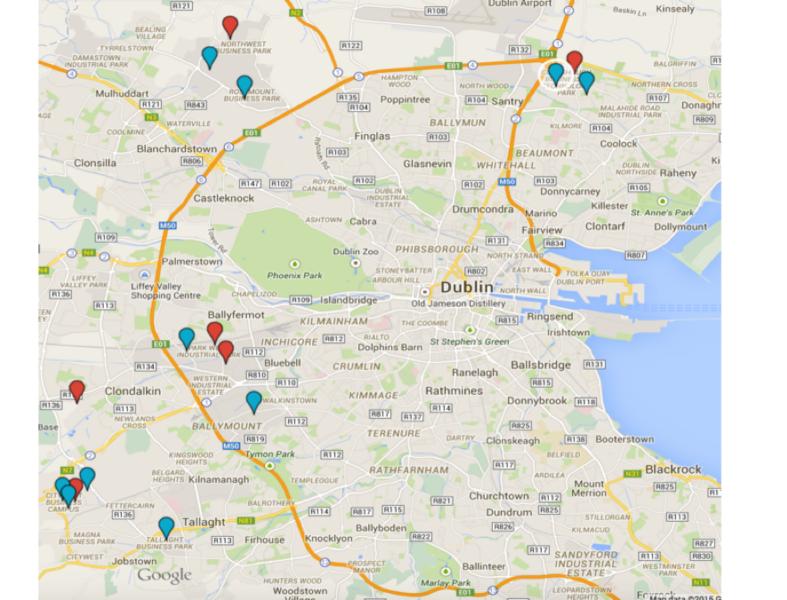
internet neutral exchange

- Is it cheaper to get uncontended 1GbE from:
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  - London to Dublin?
- <sup>©</sup> ~80 Kms from Dublin: €2,500 / month
- <sup>©</sup> ~220 Kms from Dublin: €4,500 / month\*
- ~500 Kms from London to Dublin: €700 / month

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- Most ISP / CDN activity on the island is centered around Dublin
  - One data centre in Cork and some in Belfast
- In Dublin, it's then mainly located around the M50



# Dublin and "Dublin's Silicon Docks" internet neutral exchange

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- In Dublin, it's then mainly located around the M50
- IDA is the state body responsible for FDI
  - 200 IDA Supported ICT businesses here in Ireland
  - Directly employing over 35,000 people
  - Many more ICT companies here that are not IDA clients
- Dublin's "Silicon Docks"





What makes Ireland different?

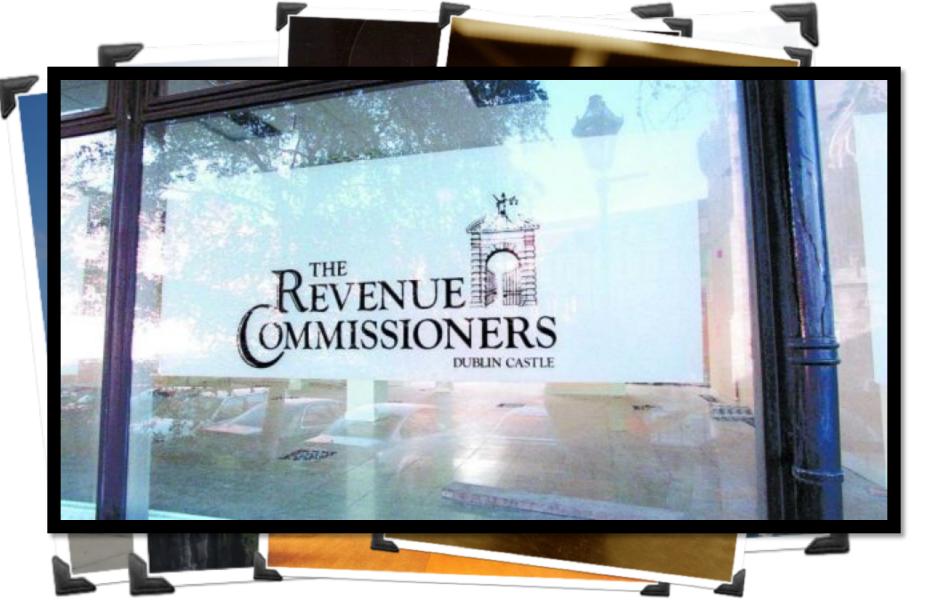
















- i nex
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  - 3 x Telecity, 2 x Interxion, 1 x Vodafone (formerly C&W)







Telecity send a marketing email with the subject line "need data centre diversity?" Assuming body reads "enjoy it while you can!"



2:28 PM - 12 Feb 2015



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  - MRV LD800 WDM transmission equipment (upgrade planned)

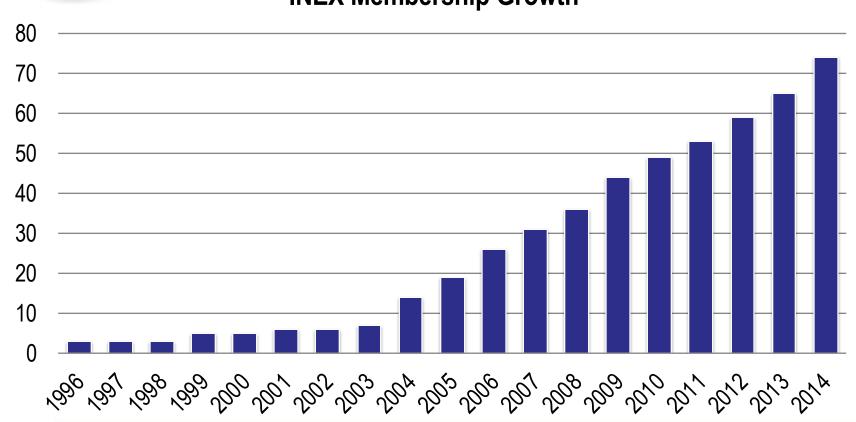


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- Currently 74 members (up and to the right graph alert...)

### i nex

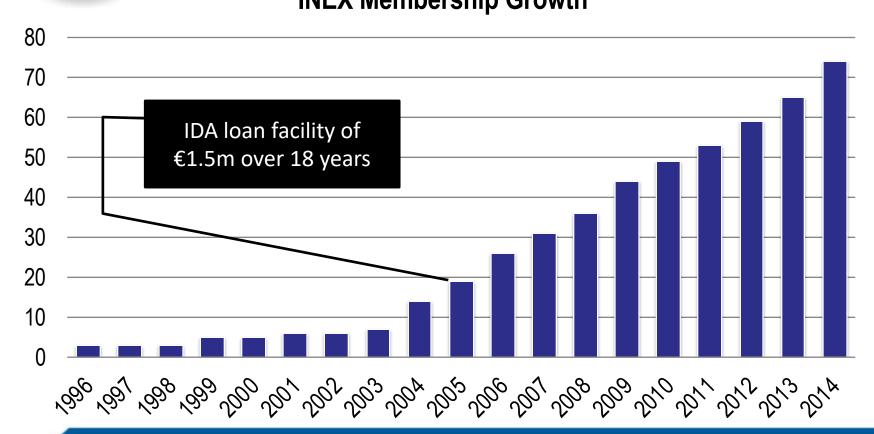
### Go Big, or Go Home

### **INEX Membership Growth**



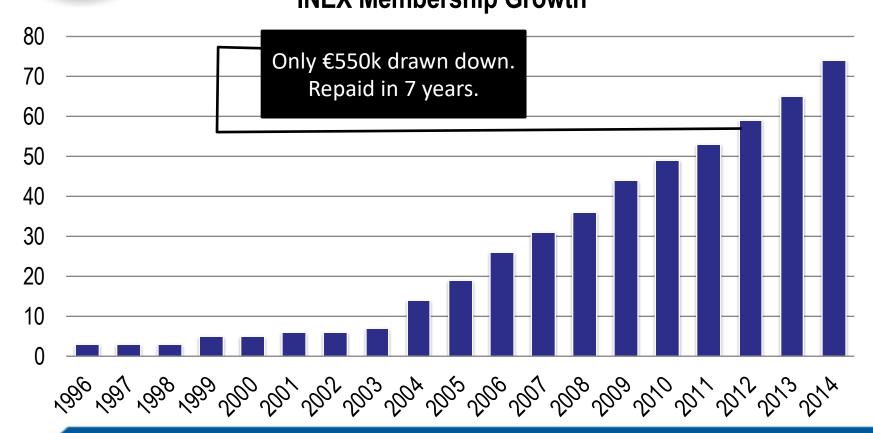
### Go Big, or Go Home





### Go Big, or Go Home









Well, we think this probably wins as the most interesting way an IXP has joined the 100Gbit traffic club. #peering



# Membership Costs i n e x i n t e r n e t n e u t r a l e x c h a n g e

- INEX has reduced fees for eight years running on all port speeds
- Membership: €1,000 / annum
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- Reseller program launched
  - 60:40 split on port revenue
  - Hibernia Networks is our first reseller!
  - Riot Games have just been approved as out first resold customer!

### Full stack management system for IXPs:

- Admin and member portal
- End to end provisioning system
- Teaches, implements and ensures best practice
- Fully loaded with IXP tools and features
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### Goals of IXP Manager are:

- Zero touch provisioning and configuration
- Do more with less
- Provide excellent service to our members

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- In use in many IXPs now:
  - LONAP, BCIX, Gambia, Kenya, a number of IXPs in Australia, Chicago,
     Portland, Texus, Florida (FL-IX), and more..

#### **Outreach**

- We're small but we like to help others:
  - IXP Manager
  - Twinned with Gambia (Euro-IX / ISOC project)
  - Serbian IXP workshop (ISOC)
  - Montenegro IXP workshop (ISOC)

### **INEX – Why join?**



- For CDNs the proposition is obvious:
  - Access to ~99% of Irish eyeballs in the South
  - Plus a number of NI ISPs and service providers
- For ISPs:
  - Access to indigenous Irish content
  - Access to content producers where that content is produced:
    - Microsoft's EMEA network, Amazon AWS EU-West, Yahoo!

### Thank you!



barry.odonovan@inex.ie @ComePeerWithMe @barryo79