

THE ROYAL  
SOCIETY  
OF EDINBURGH

# Digital Scotland



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**The U.K. Internet economy is likely to grow by 10 percent per year, reaching 10 percent of GDP by 2015.**

**While the Internet has disrupted several industries, it has empowered many others, especially small and medium enterprises (SMEs).**

- ◇ Proprietary research shows that SMEs which are active online are more successful, growing more quickly and reaching wider markets than their peers.

**Compared with other developed nations, the United Kingdom has high levels of Internet activity, but this strength masks significant regional differences.**

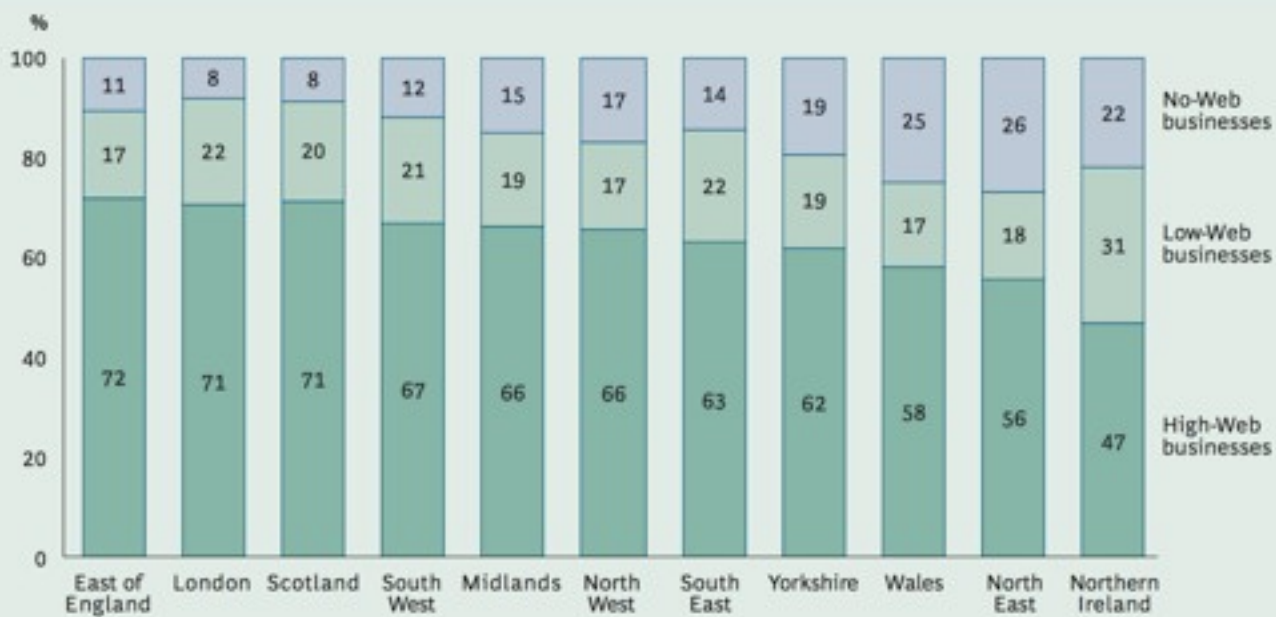
### Exhibit 6. London Is the Centre of Internet Gravity



Sources: BCG survey of 914 small and medium enterprises; Ofcom; U.K. Office for National Statistics; BCG analysis.

Note: The index is scaled so that the United Kingdom's average matches its international e-Intensity Index score.

## Exhibit 8. SMEs in Three Regions Have the Highest Levels of Internet Use



Sources: BCG survey of 914 small and medium enterprises; BCG analysis.

Note: Some totals do not add up to 100 because of rounding.

- ◇ Geographic expansion without the need for a brick-and-mortar presence in new markets
- ◇ Profitable sales of the “long tail” of products to small subsets of consumers
- ◇ Improved automation and information exchange across supply chains to increase efficiency and productivity
- ◇ Greater collaboration with and among customers, suppliers, and partners
- ◇ Increased transparency and a reduction in the ability of parties such as middlemen and brokers to take advantage of information asymmetries

# Benefits

- Health
- Education
- Commerce
- Society



# communication interaction

- symmetric
  - *2-way*
- low latency
  - *interactive*
- high speed
  - *multimedia*



**mobile!**

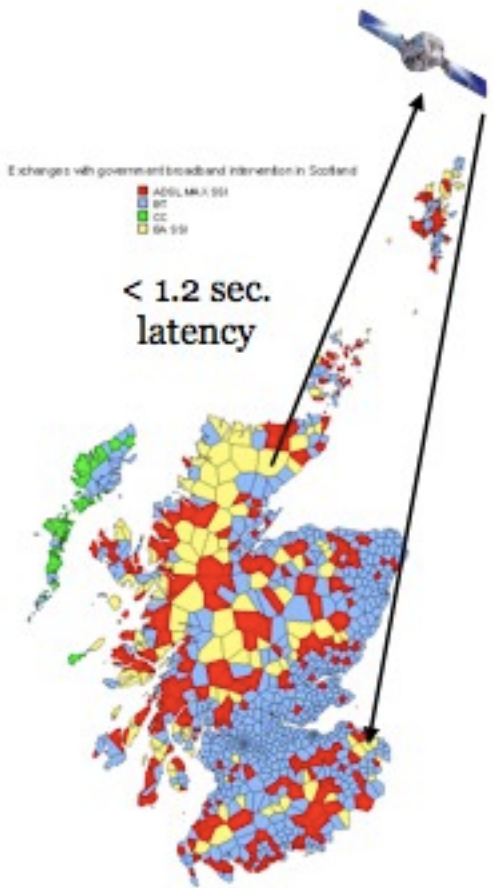
*the issue of the lack of trunk capacity is a real constraint on the promotion of economic development in island and remote rural areas ....* Connecting Scotland 2001

5 Small Towns				
	Population	Public demand (est. next 2-3 yrs)	Private demand (est. current)	Total
Airdrie	37,000	84 Mbs	56 Mbs	140 Mbs +
Elgin	19,000	78 Mbs	23 Mbs	101 Mbs +
Stranraer	11,000	46 Mbs	16 Mbs	62 Mbs +
Selkirk	6,000	33 Mbs	5 Mbs	38 Mbs +
Dingwall	5,000	51 Mbs	6 Mbs	57 Mbs +

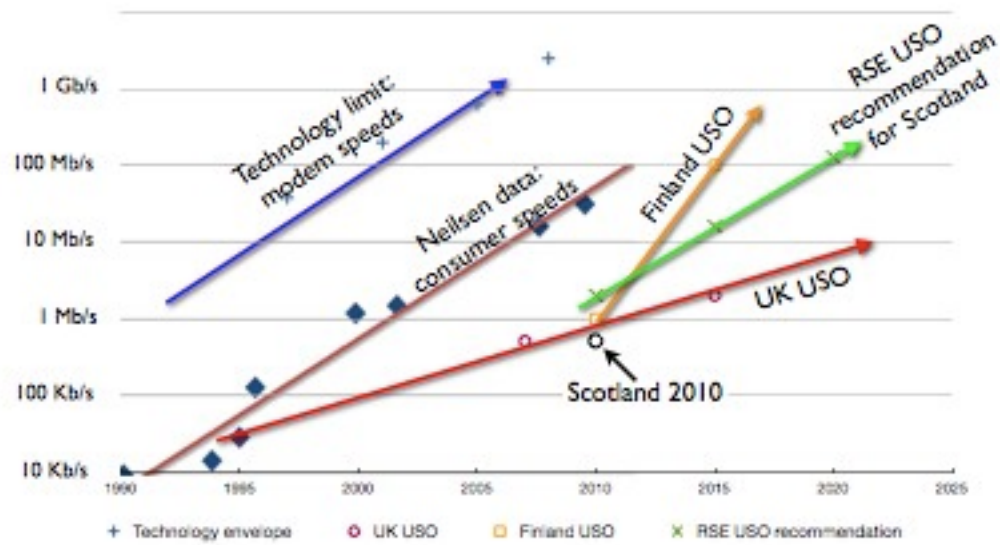
## Broadband Reach Pathfinder

every school reached

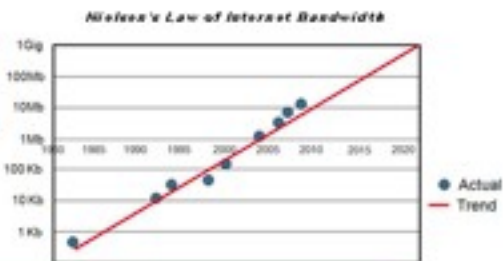
2010
100% ≥ 0.3 Mb/s



# Scotland's ambition?



median speed  
x 8 every 5 years



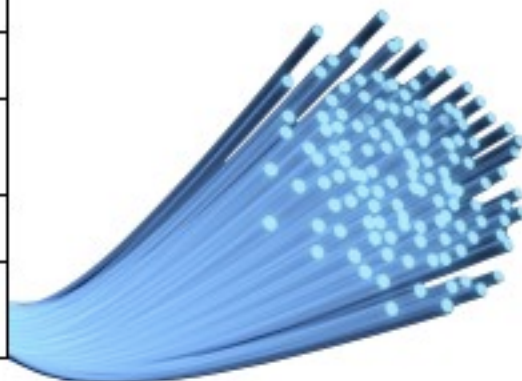
2010	2015	2020	...	2030
0.25 Mb/s	2 Mb/s	16 Mb/s	...	1 Gb/s
2 Mb/s	16 Mb/s	128 Mb/s	...	8 Gb/s ?
16 Mb/s	128 Mb/s	1 Gb/s	...	64 Gb/s ??

*the issue of the lack of trunk capacity is a real constraint on the promotion of economic development, **beyond the centres of our largest cities ....***

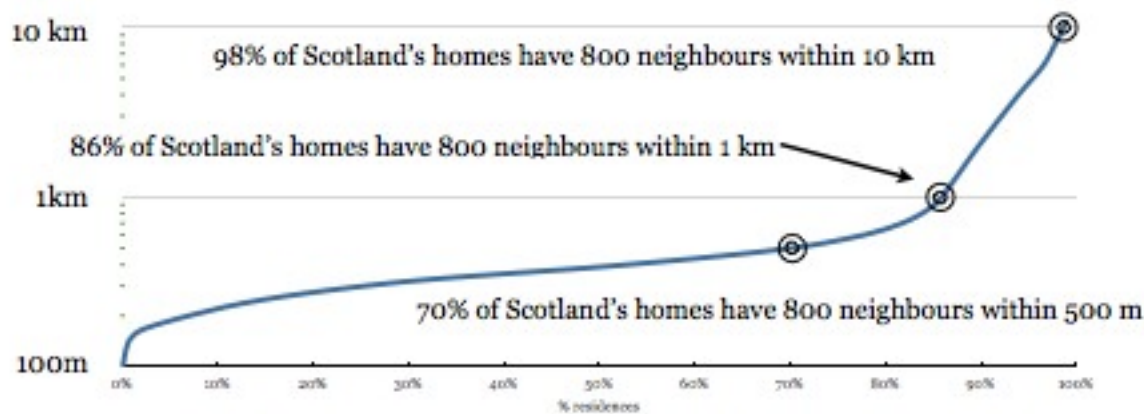
5 Small Towns	Population	demand		
		2010	2015	2020
Airdrie	37,000	1.2 Gb/s	9.25 Gb/s	54 Gb/s
Elgin	19,000	600 Mb/s	4.75 Gb/s	38 Gb/s
Stranraer	11,000	350 Mb/s	3.75 Gb/s	22 Gb/s
Selkirk	6,000	200 Mb/s	1.5 Gb/s	12 Gb/s
Dingwall	5,000	160 Mb/s	1.25 Gb/s	10 Gb/s

**Scotland needs  
fibre to the community**  
every community of more than 2,000  
people should have fibre within reach

	km	Mb/s
VDSL2	< 0.5	< 100
3G	< 1.5	< 10
DSL	< 2	< 25
WIMAX	< 20	< 100
Cable	< 150	< 300
Fiber	> 300	> 10,000,000

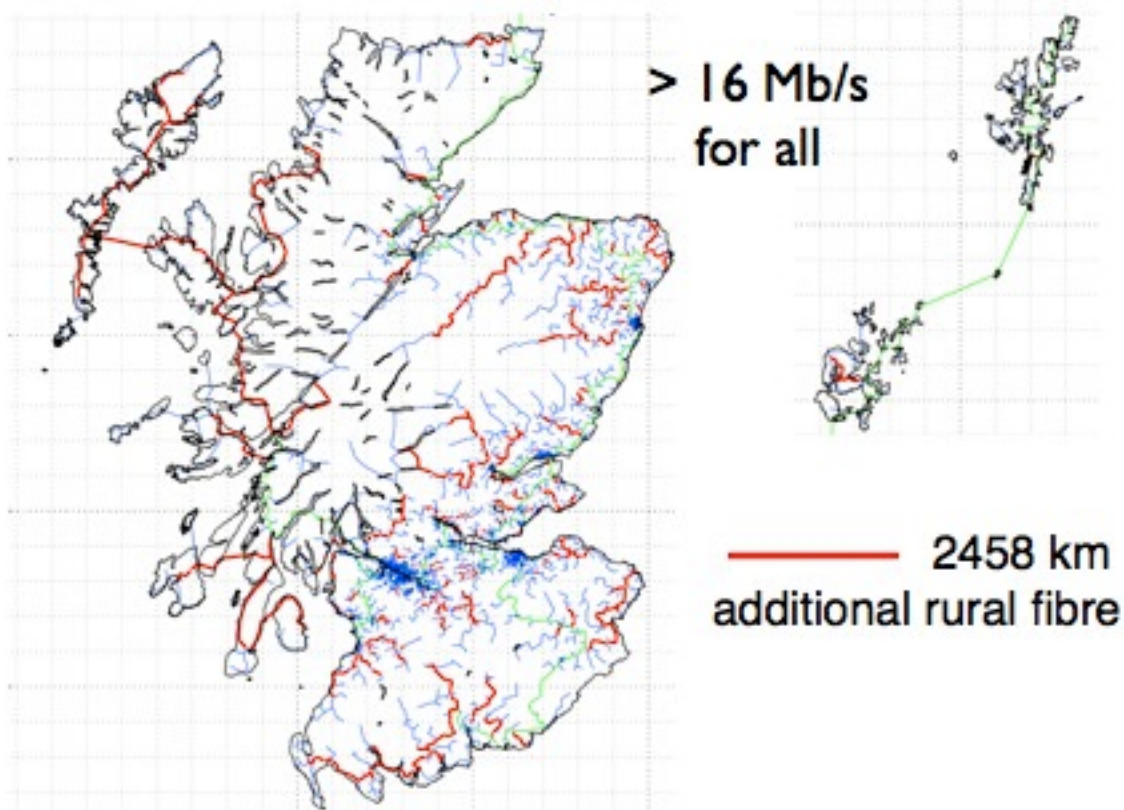


# how close are the neighbours?



- 99% of dwellings in Scotland have
  - more than 800 neighbours
  - within 12,000 metres

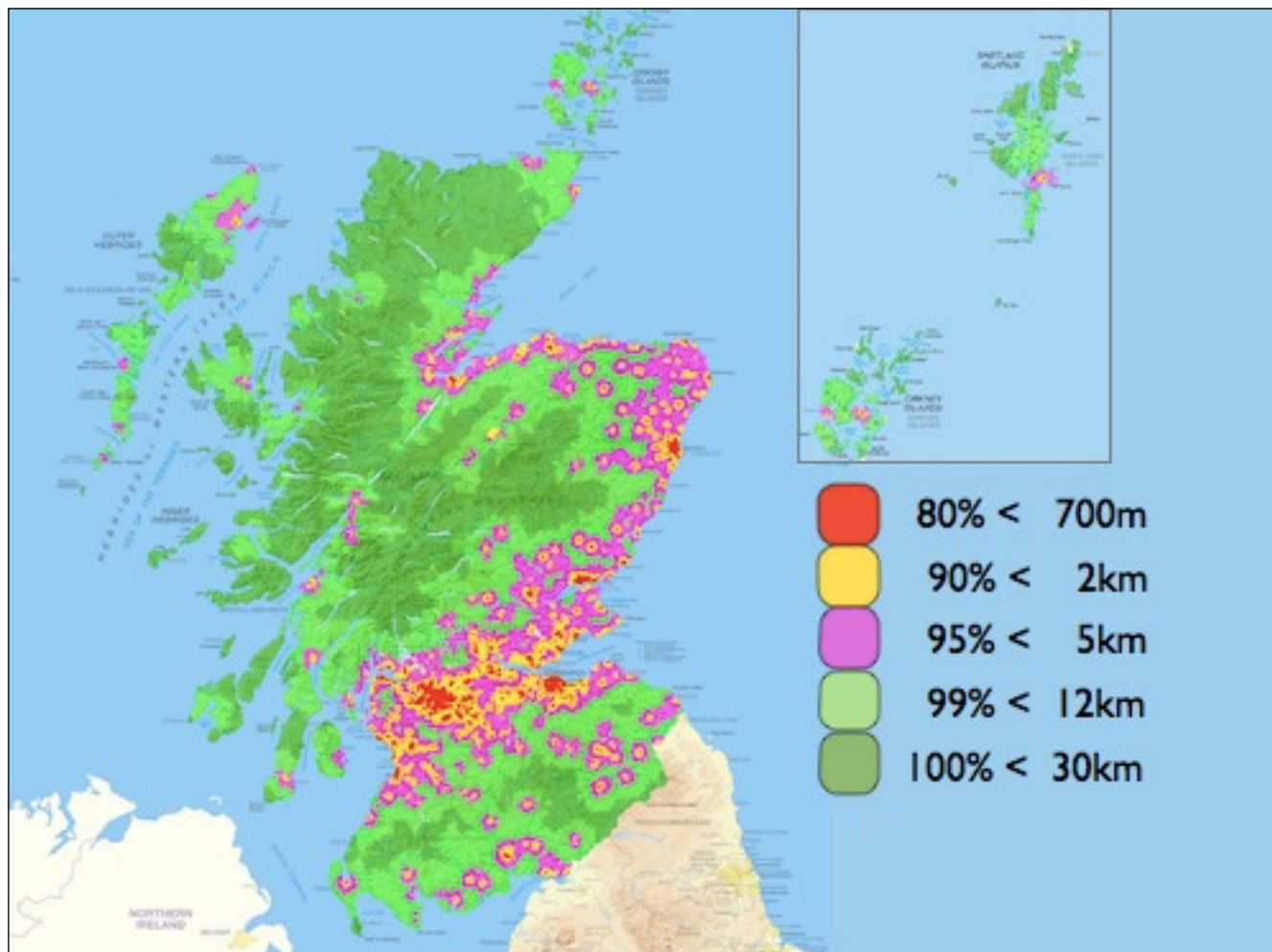
# how much fibre?



# how much fibre?

> 16 Mb/s  
for all

£100m capital  
£10m pa O&M  
£250m to build and  
operate over 15 years



- Broadband infrastructure
- Digital inclusion
- Mobile provision
- Embedded internet
- New business models
- Consumer confidence
- Openness, innovation, inclusion

## Recommendations for the Scottish Government

- 1 Create Digital Scotland Trust
- 2 Adopt an ambitious Digital Scotland Strategy
- 3 Engage with Ofcom and UK government
- 4 Enable universal digital inclusion

<http://bit.ly/digiscot>

Mb/s	2010	2015	2020
minimum	2	16	128
median	8	64	512

