

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!

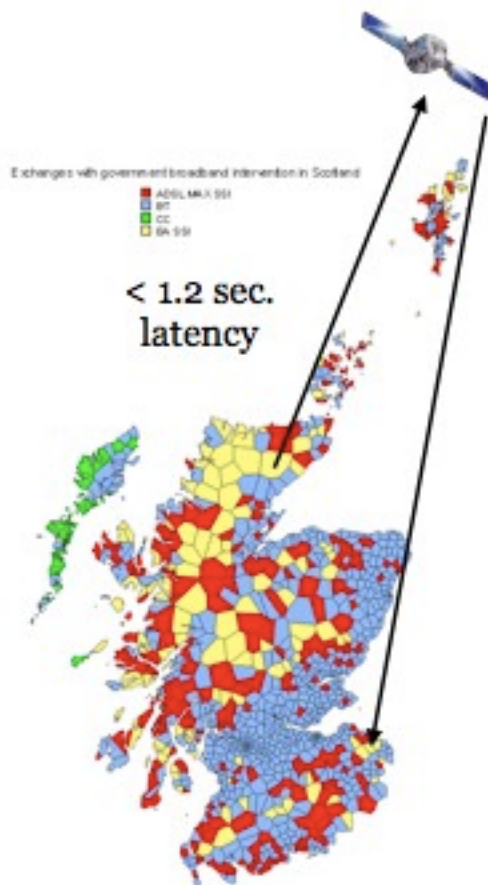
the issue of the lack of trunk capacity is a real constraint on the promotion of economic development in island and remote rural areas Connecting Scotland 2001

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 +

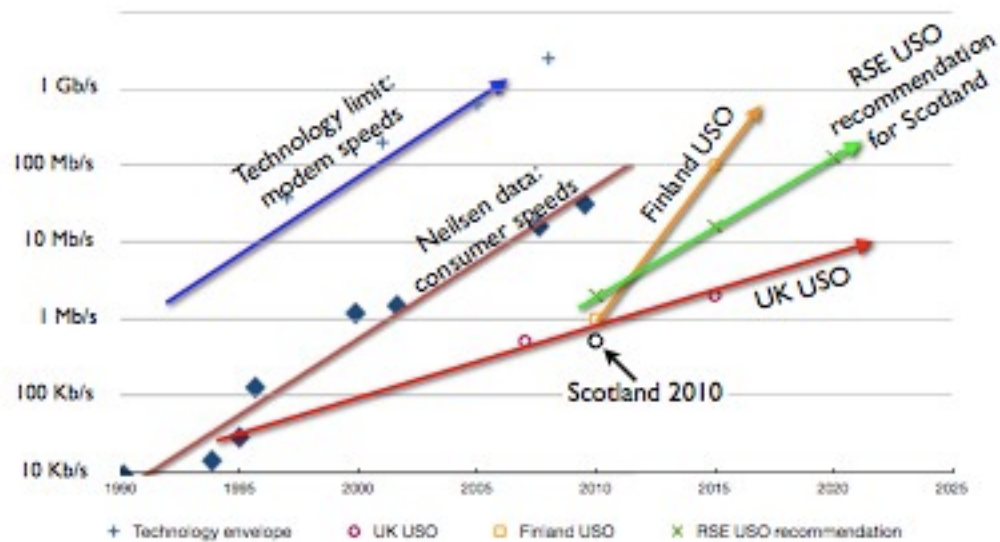
Broadband Reach Pathfinder

every school reached

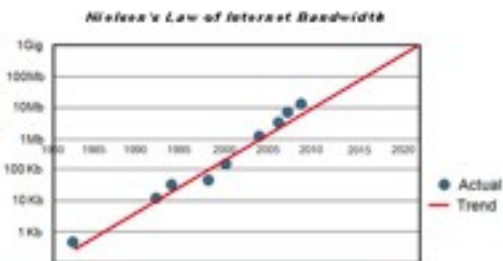
2010
100% ≥ 0.3 Mb/s



Scotland's ambition?



median speed
x 8 every 5 years



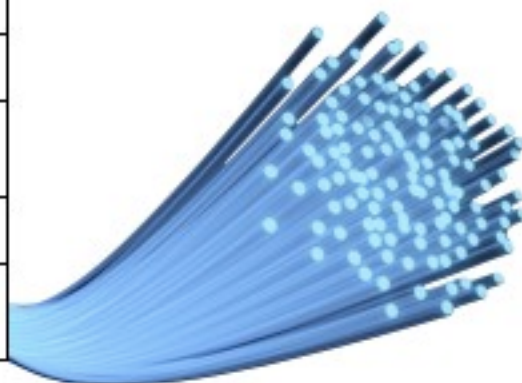
2010	2015	2020	...	2030
0.25 Mb/s	2 Mb/s	16 Mb/s	...	1 Gb/s
2 Mb/s	16 Mb/s	128 Mb/s	...	8 Gb/s ?
16 Mb/s	128 Mb/s	1 Gb/s	...	64 Gb/s ??

*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***

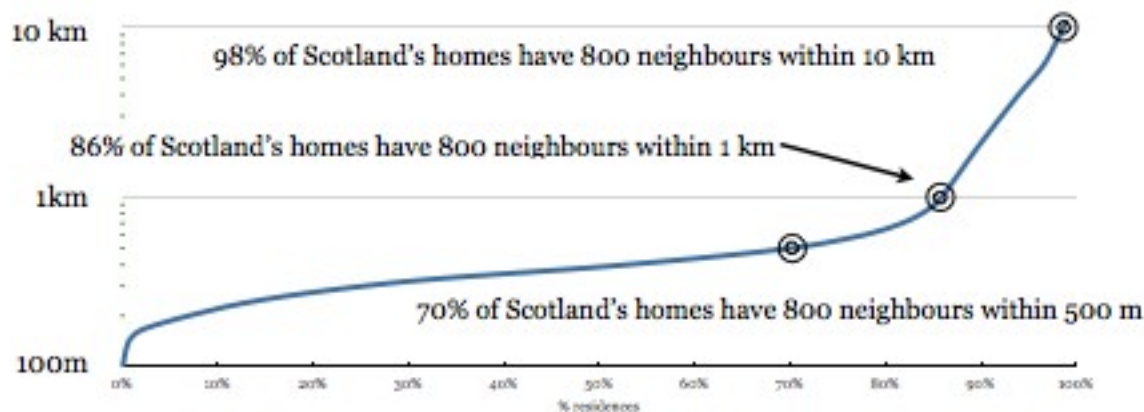
5 Small Towns	Population	demand		
		2010	2015	2020
Airdrie	37,000	1.2 Gb/s	9.25 Gb/s	54 Gb/s
Elgin	19,000	600 Mb/s	4.75 Gb/s	38 Gb/s
Stranraer	11,000	350 Mb/s	3.75 Gb/s	22 Gb/s
Selkirk	6,000	200 Mb/s	1.5 Gb/s	12 Gb/s
Dingwall	5,000	160 Mb/s	1.25 Gb/s	10 Gb/s

**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

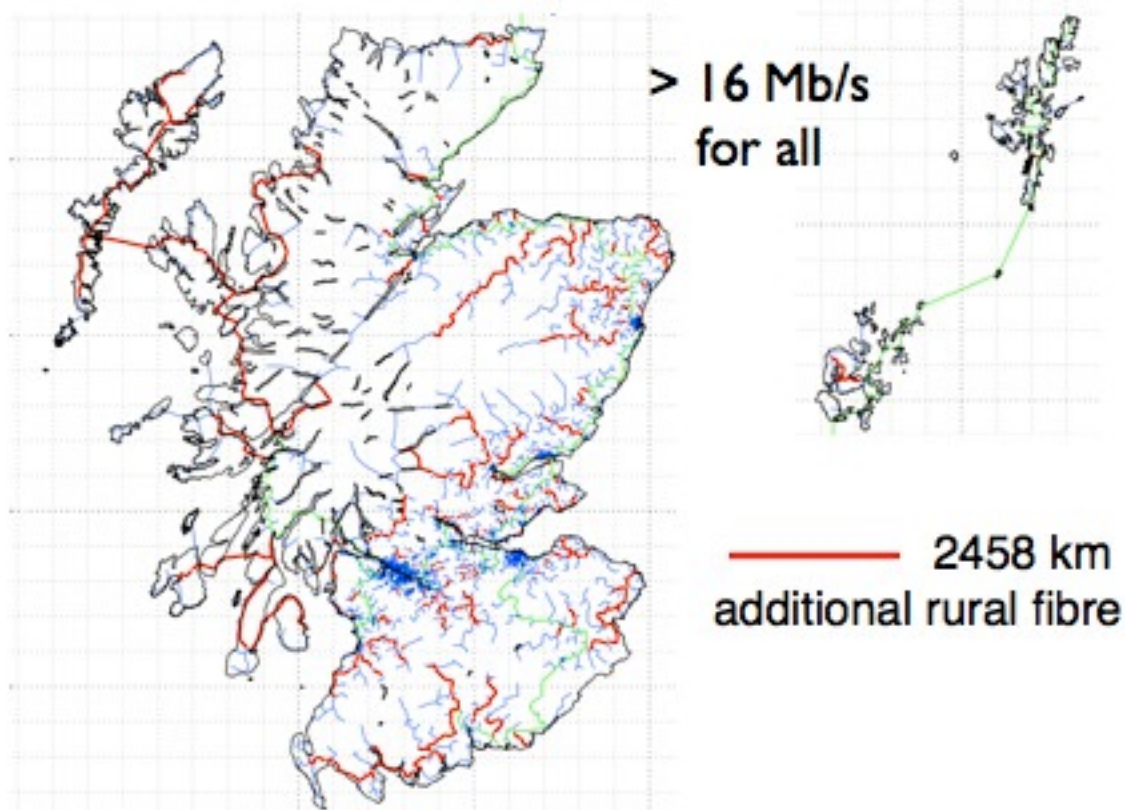


how close are the neighbours?



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

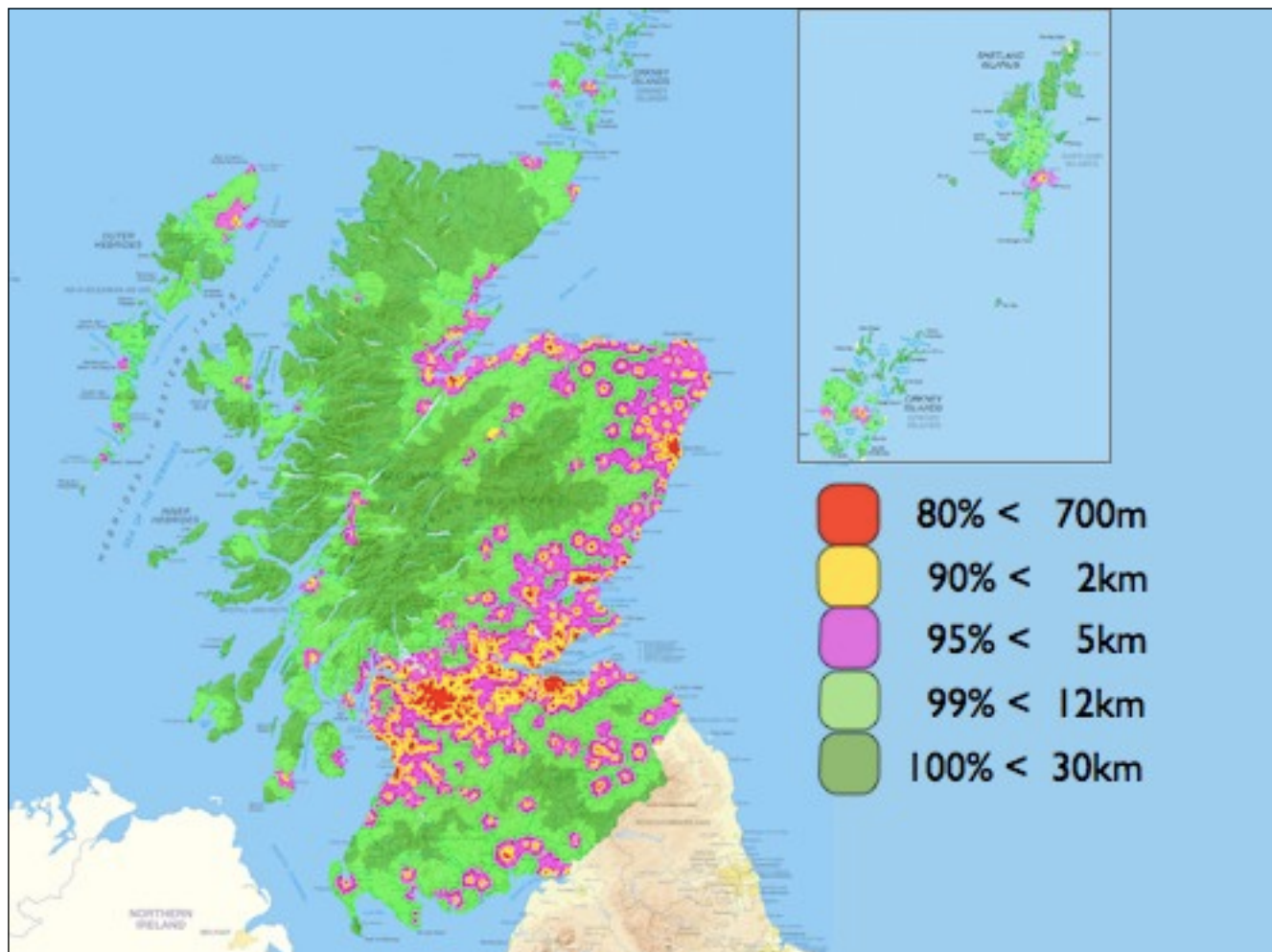
how much fibre?



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

