

The state of the Data Centre Market to 2012

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AGENDA

- 1. About BroadGroup**
- 2. The two sides of the data centre market**
- 3. Where will it end**
- 4. Green and Data Centre Europe attendee feedback**
- 5. Conclusions**

About BroadGroup

Consulting – strategic and customized works for users, operators, vendors, investors and others involved in data centres. From business and financial modelling and commercial due diligence to demand drivers and market evolution.

Research – Focused research reports, multi client studies, Data Centre News (free), country and regional reports, green data centres, power challenges, needs of financial users, dark fibre, country reports, managed services, peering exchanges, telecoms connectivity

Events – Power and Cooling, Data Centre Investment Forum, Data Centres Asia, Dark Fibre, Telecom Finance Middle East, Managed Services + new announcements

Portals – datacentres.com, wholesaletelecoms.com, tmtfinance.com, darkfibreconvention.com

#1 Data Centre research and consultancy

“We see a neutron star collapse of data centres”

Death of the data centre

What is the real lifecycle of a data centre built today with current technology to meet current IT needs (investors and operators still use 15-20 years)

After server virtualization, with application and storage virtualization, will a next-gen data centre make current build obsolete?

Will new 'products' such as Sun 'data center in a box' cause obsolescence?

If an average data centre uses the same power as a small town, and DEFRA/EU legislation is as predicted by pessimists, can anyone justify a new data centre build?

Why should a company run its own data centre?

Consolidation/improving data centre efficiency is the name of the game

HP – from 85 to 6

Belgacom – from 21 to 2

VMWare example (Lycos Germany) – before and after

270m²

90m²

>1,500 servers

300 servers

CPU load 15%

CPU load 65%

>120 racks

<40 racks

>20 vendors

<10 vendors

IT vendors pushing for power efficient and data centre efficient solutions

Virtualized data centre

Storage, network and application virtualization

Cloud computing

Data centre audits and efficiency tools

Management tools

Power efficient chipsets, servers and cooling systems

Innovation in design

Mega data centres

Pushing data centres up agenda – vendors

‘Flavour of the month’

Technology refresh in ‘environmentally friendly’ products

Automate and ‘next-gen’ the data centre

Position themselves as having strong green credentials

Influence standards and best practices in data centres

Develop data centre eco-system such as HP buying EYP

Cisco seeking data centre partners

BUT – on the other side - demand drivers

Data growth

Disaster recovery and business continuity

Compliance and regulation (more to come such as MIFID)

Video and new media

Greater usage of broadband and Internet

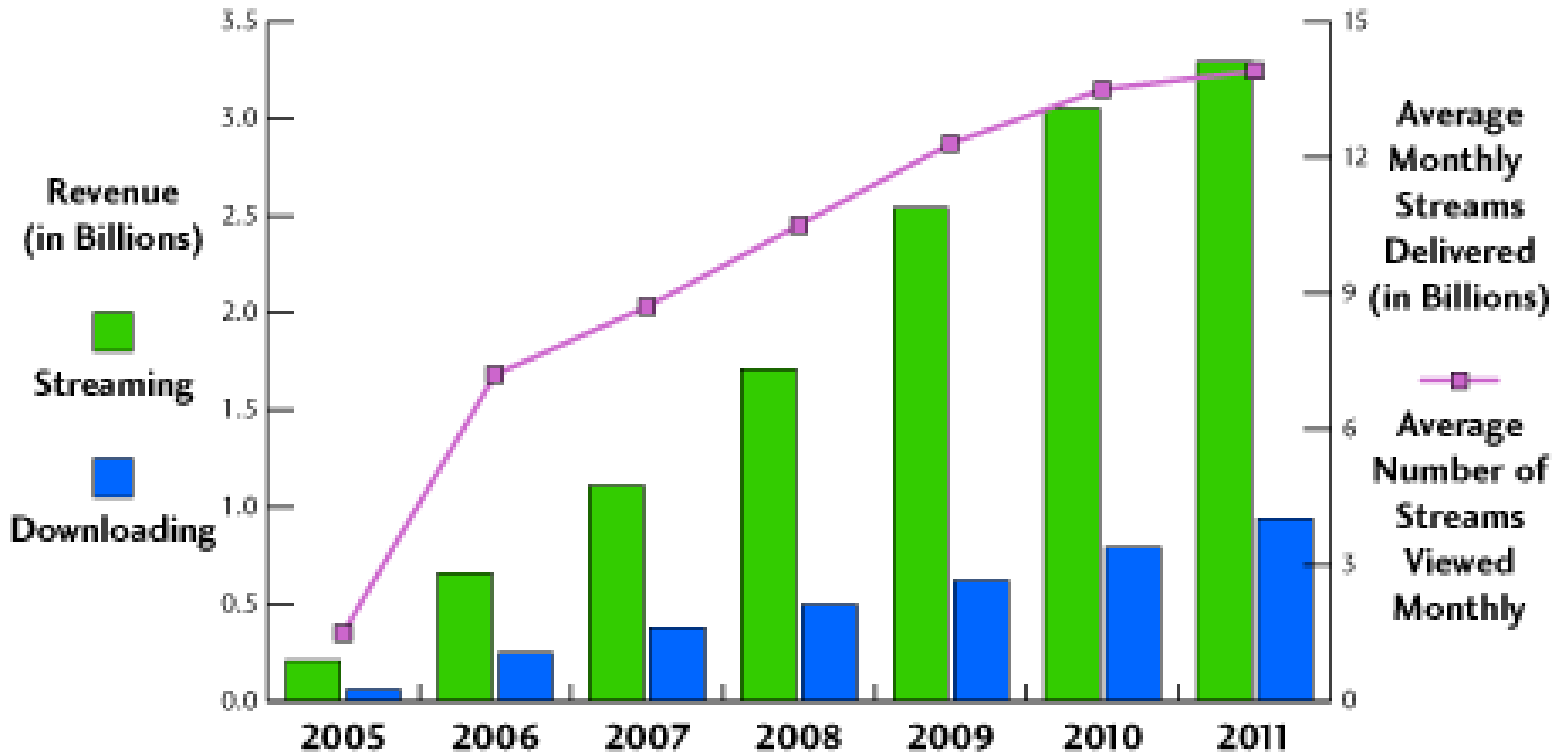
More complex software

Blade servers

Lack of power, low utilization rates and upgradeability of data centres

Vertical specific factors

Global market for Internet video (\$ bn)



Source: Yankee Group

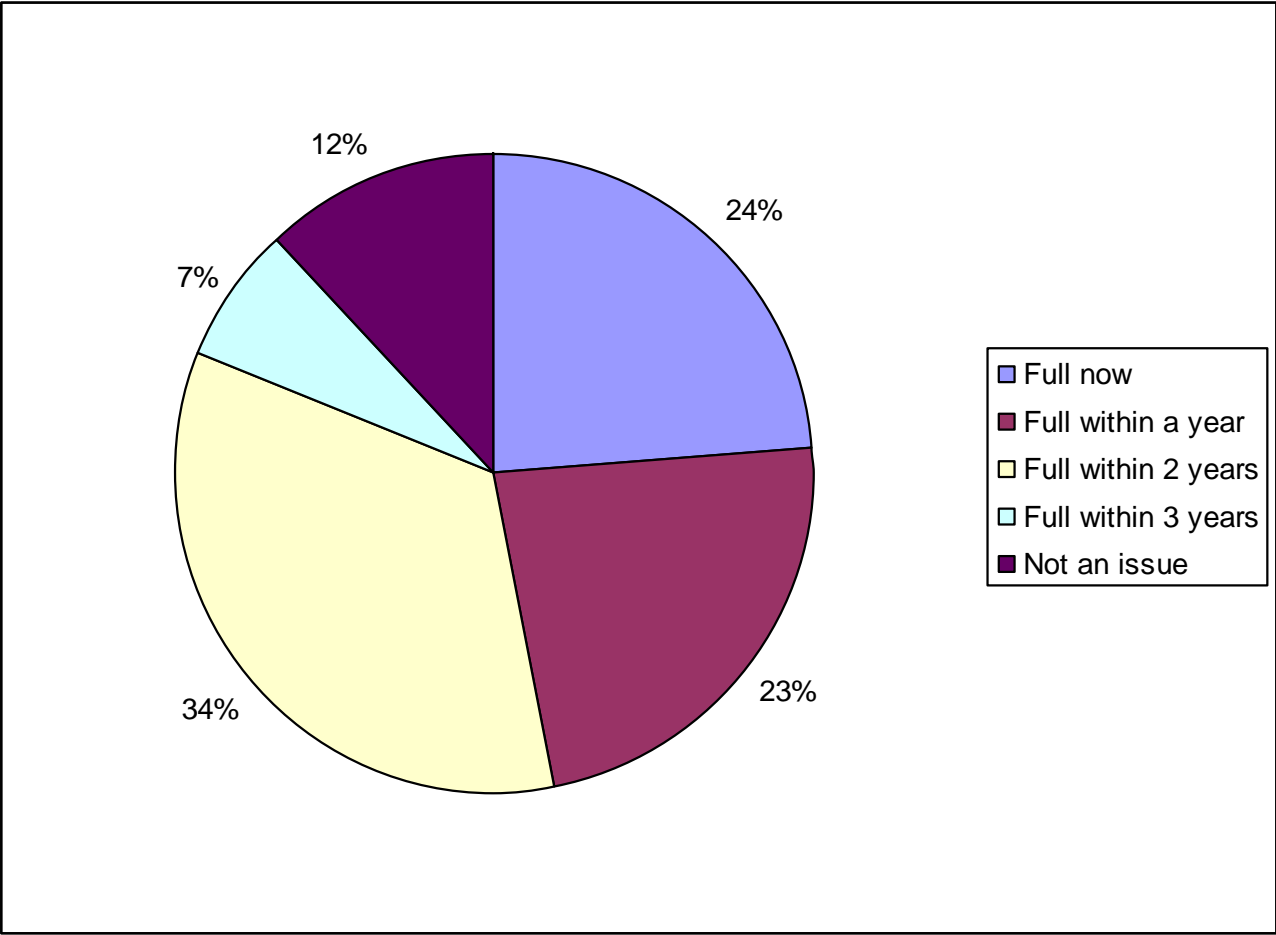
Cisco: Internet traffic growing 61% a year 2007-2012

BroadGroup research - demand

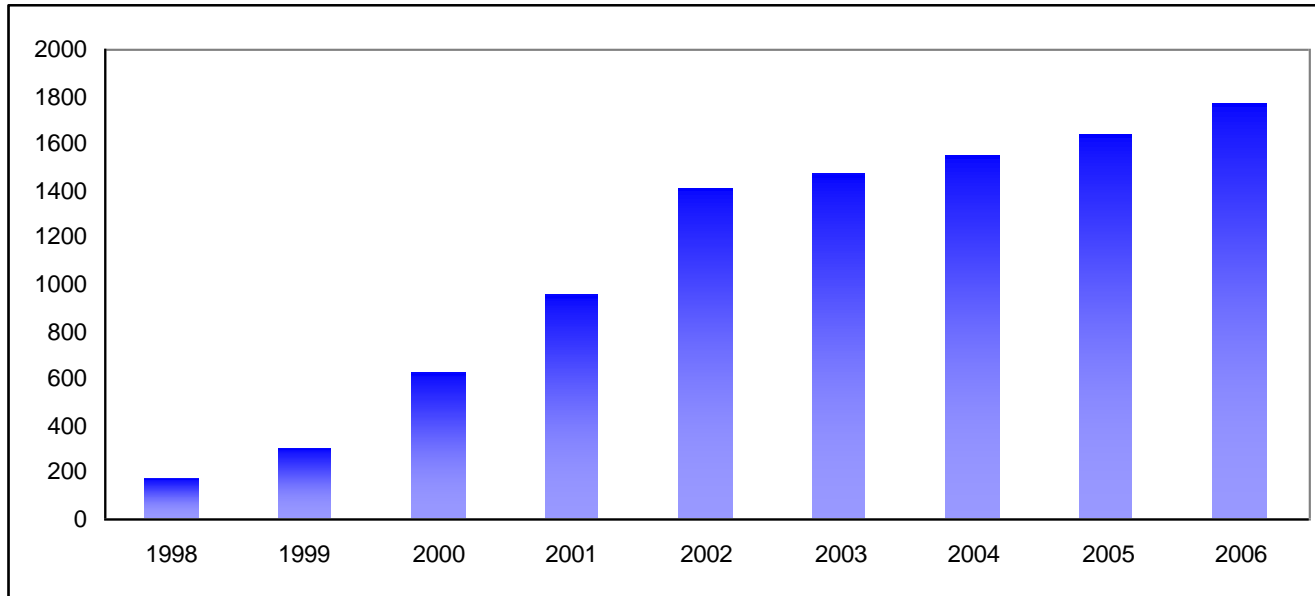
- **Banks seeing 50-100% annual growth in data requirements**
- **YouTube accounts for anything from 2-10% of all Internet traffic – BBC iPlayer 3-5% of UK Internet traffic**
- **Disaster recovery and business continuity – driven by standards such as BS25999**
- **Storage, compliance, collaboration, broadband etc**
- **Impact of blade servers**

Data centres have become the ‘pain point’ for many enterprises

State of market – data centres owned by UK banks



Lack of new carrier neutral data centre build in London after dot com

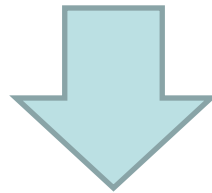


Pushing data centres up agenda – corporate users

Now a pain point - GVA Grimley estimates 4.9m ft² UK-wide data centre demand

Existing facilities ill-equipped for current requirements

Expensive, inefficient and environmentally weak



Data centres still often stuck between IT and FM

Now an issue for CIO/CTO – and CSR/marketing !

Some US corporates have CTO with power costs as part of bonus scheme

Pushing data centres up agenda – third party operators

Strong demand – ‘chicken and egg’ as third party offerings previously ignored as of poor quality – new investment grows market opportunity

Investor interest high – Telecity float - £500m+ - 30% premium – IX Europe share price on next slide

Money for new build – Telecity 100,000ft² in London, COLT 210,000ft² in Welwyn etc

Telcos suddenly interested – basis for hosted services?

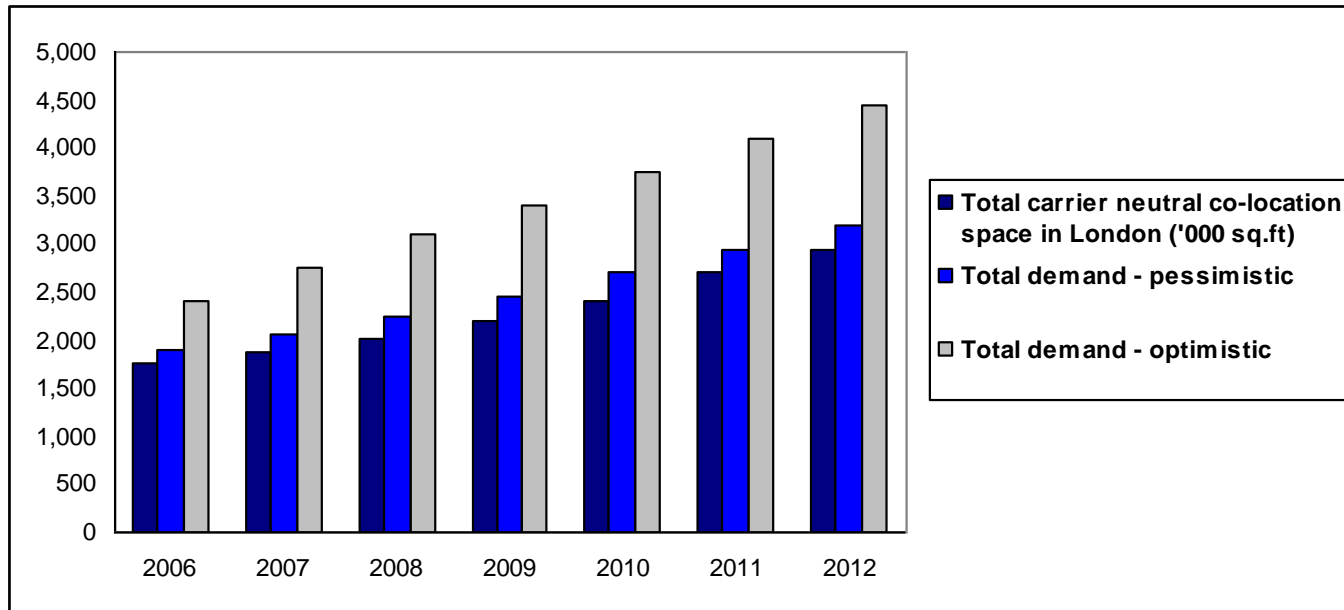
Utility computing – Google, Amazon, Flexiscale, Alchemy, UtilityServe

Move from co-location to managed services – 3-5X revenue/square foot?

The limits of technology innovation

- **Most data centre managers interviewed by BroadGroup do not see virtualization as a panacea – tend to see more as a ‘short term sticking plaster’ – extra capacity quickly used up and additional challenges in terms of management, I/O and storage**
 - **Challenge often at least as big on cultural/organizational side – bringing data centre thinking into IT strategy – auditing data centre and ‘charging’ by department**
 - **Clear message from BroadGroup Power and Cooling event that you need a ‘holistic approach’ – often very difficult to implement**
- “There is no Moore’s Law when it comes to Mechanical and Engineering issues”**
- Data centre manager*
- **Often limited thought on power – by far #1 issue in data centre**

The London problem



No new data centre planning permission for 18 months in London

New major third party data centre investment plans

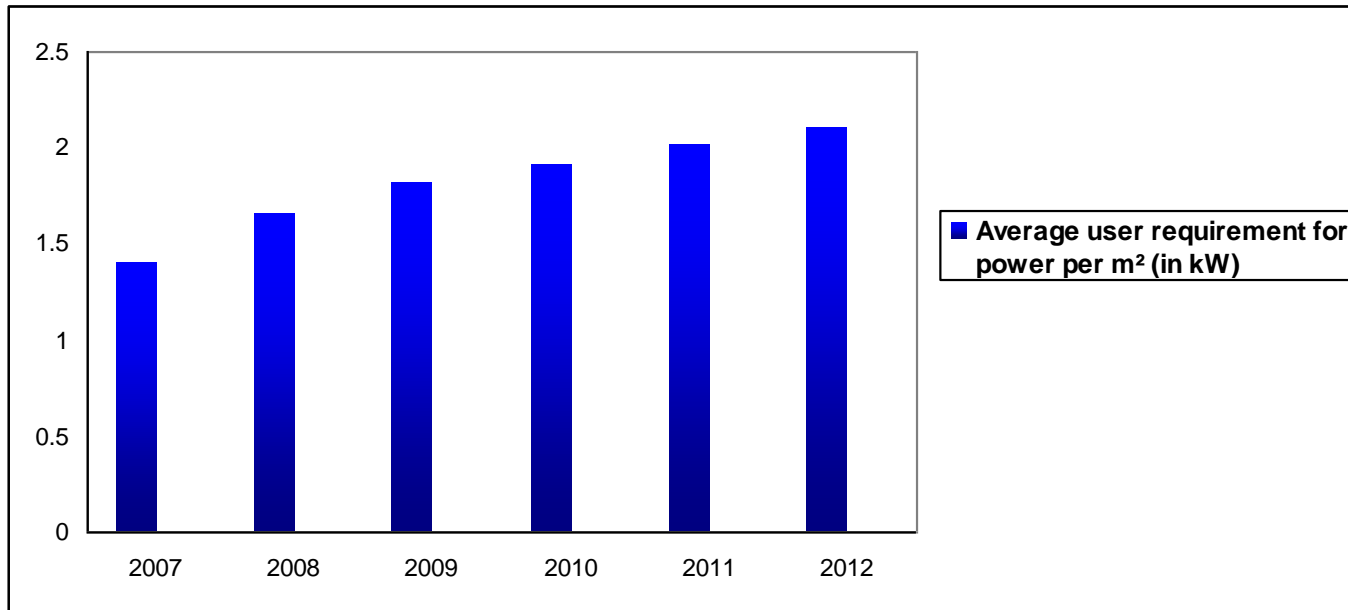
Provider	Location	Size
Ark Continuity	Corsham, Bath	200,000ft2
e-shelter	Saunderton, Bucks	400,000ft2
BNB	Ely, Cambridge	600,000ft2
Next Generation Data	Newport, Wales	750,000ft2
Internet Villages International	Lockerbie, Scotland	3,000,000ft2

Power – the blade impact

	Legacy Server Requirements	High-Density Server Requirements
Power per server	2 kW to 3 kW per rack	More than 20 kW per rack
Power per floor space	40 kW to 80 kW per square foot	700 kW to 800 kW per square foot
Cooling needs — chilled air flow around a server	200 cfm to 300 cfm	3,000 cfm

Source: Gartner (August 2006)

Power – the more realistic assessment

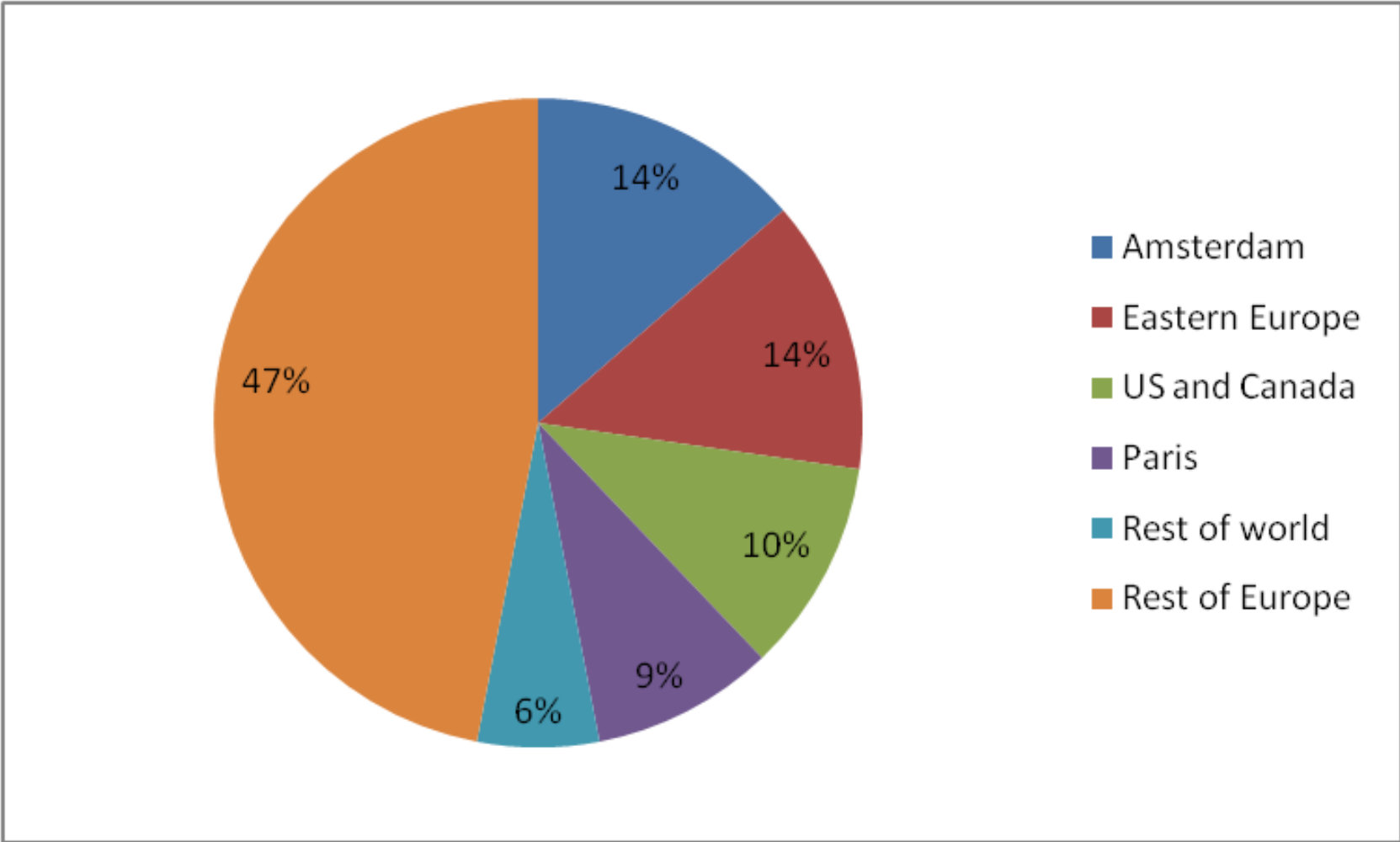


1.Power

2.Power/space availability

3.Green issues

Location issues – European input



Why be in the UK

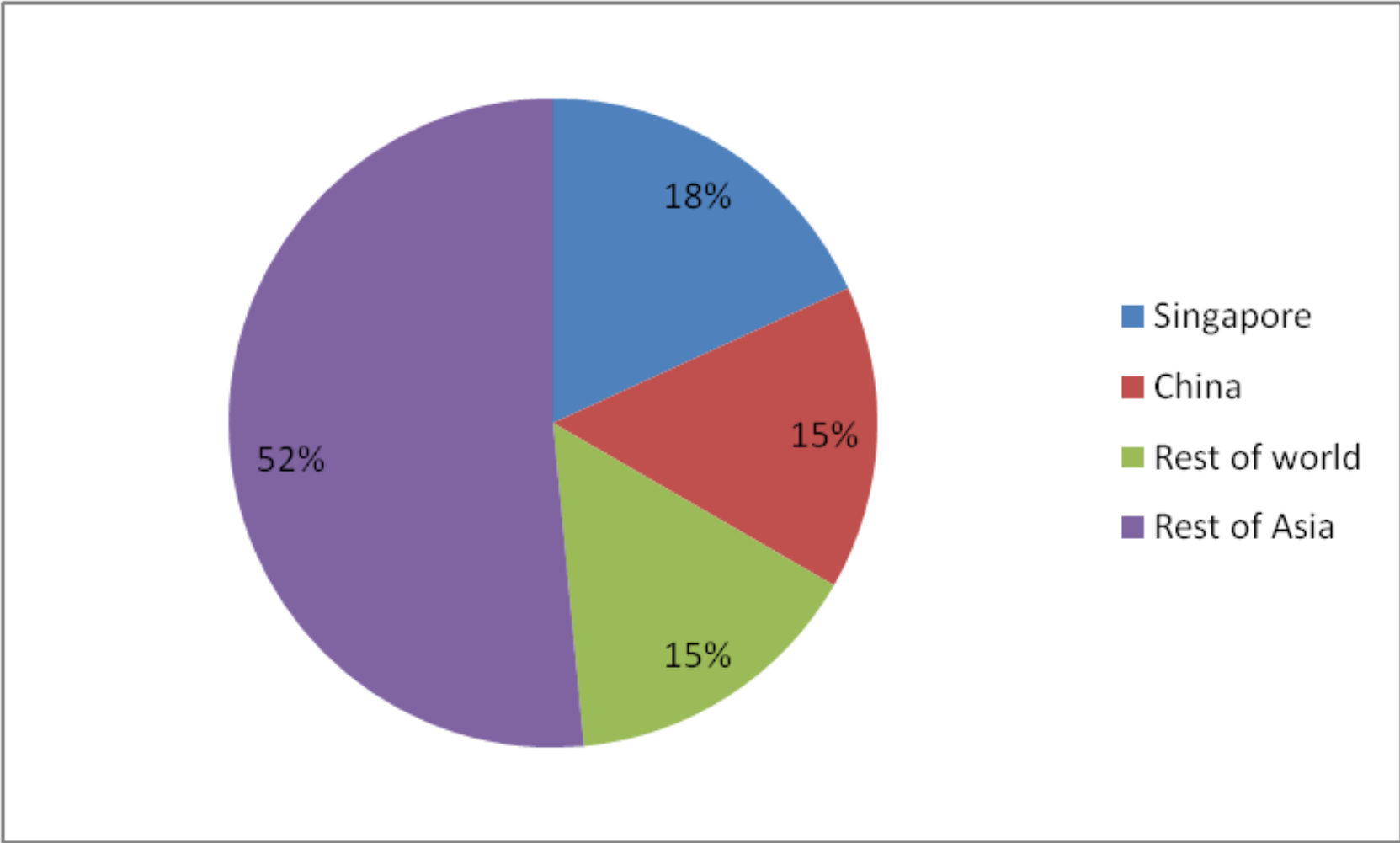
Is latency really such an issue? Can I only ensure reliability by being able to drive to my data centre?

Where does the UK get power from after 2015-2017 (nuclear plant decommissioning)?

For a global company, can the data centre be anywhere in the world?

Favourite tactic of Invest Iceland in the UK: sell to CFO as they see the financial benefit, and to CEO/marketing department as they see environmental benefit – don't go near IT !

Location issues – non-Europeans



The multitude of 'green' issues

- 1. Ill-conceived regulations and standards**
- 2. Lack of clarity**
- 3. Lack of independent verification and benchmarks**
- 4. Lack of holistic view**
- 5. Lack of education and awareness**
- 6. Recycling concerns**
- 7. Different regulations in differing markets**
- 8. Competing industry groupings and initiatives**

The 'greenwash' effect



Conclusions

- **Start the debate**
- **Data centre investment clearly not immune from broader economic challenges**
- **Vendors pushing to cut costs on data centre spend**
- **But demand remains strong, ‘solutions’ exaggerated, new facilities changing market, and still long-term requirements beyond 2012**

Conclusions

Data centres becoming far more important for companies

Initial steps often made in cost savings – further and more far-reaching changes next step

Cultural and organizational challenges at least as large as technology ones

Environmental issues not a ‘red herring’ but key

Massive investor interest in third party facilities but some danger of ‘boom and bust’

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