

CARRIER NEUTRAL DATA CENTERS: TERMINOLOGY, SERVICES, OPERATIONS

Wouter van Hulten
Cross-connects and Data Centre Operations
African Peering & Interconnection Forum
25 - 27 August 2015

Wouter VAN HULTEN



interxion™

1998 –

COLORESEARCH
Tracking datacentres worldwide

2008 –

1994



1997

SPEEDPORT NV

2001

swissix
SWISS INTERNET EXCHANGE

2009



2012



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Companies

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Filter by

Assets

- ☐ Companies
- ☒ Datacentres
- ☐ Internet exchanges
- ☐ Points of interest
- ☒ Statistics

Company

Size m²

Min. - Max.

Year constructed

Min. - Max.

Power redundancy

☐ n ☐ n+1 ☐ 2n

Cooling redundancy

☐ n ☐ n+1 ☐ 2n

Carrier neutral

☐ Yes ☐ No ☒ Ignore

Popular cities

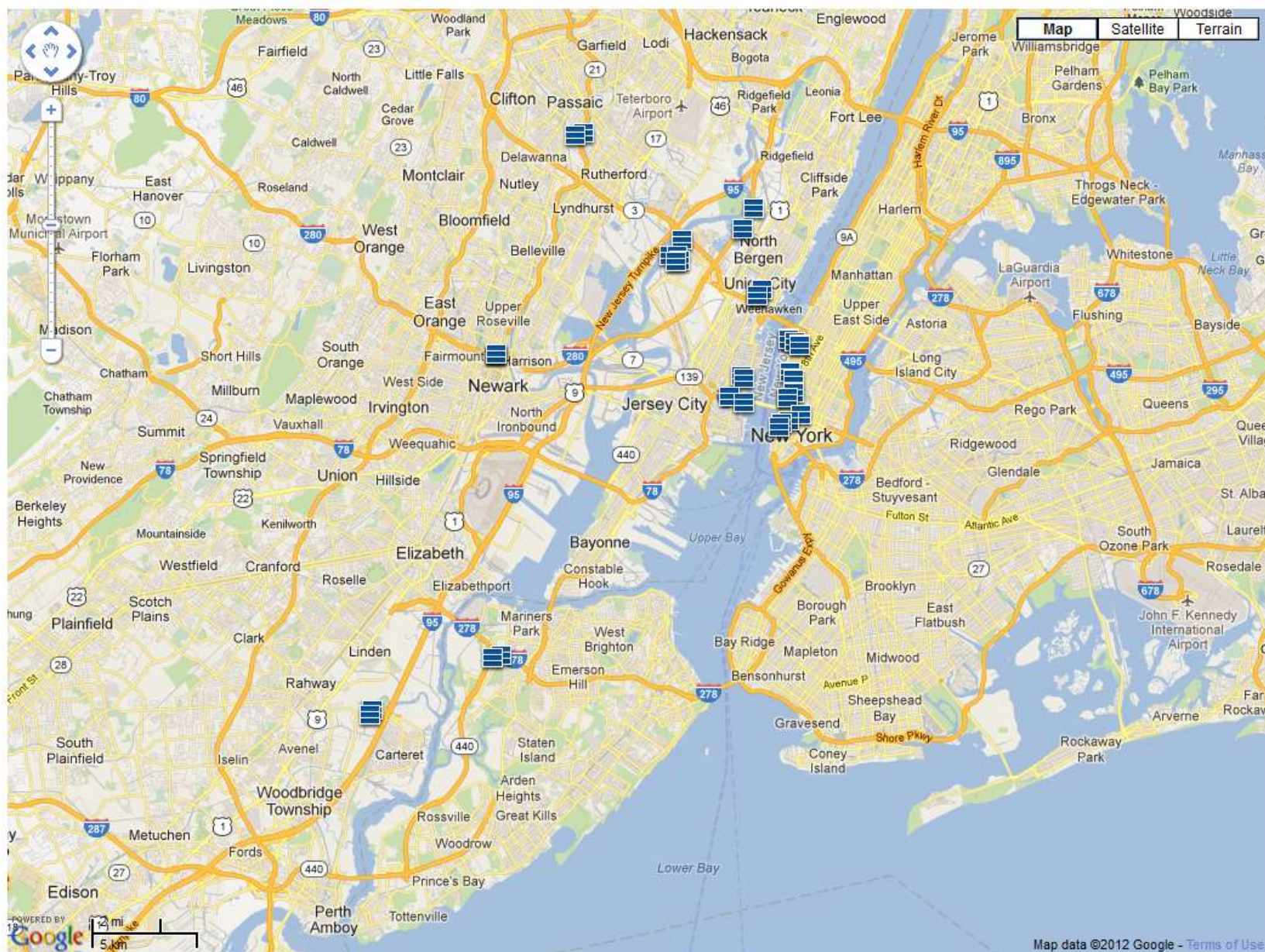
New York

Companies

All

Popular cities

[Amsterdam](#)
[London](#)
[Chicago](#)
[New York](#)
[Singapore](#)



INDUSTRY STATISTICS

3,000,000 **In-house Data Centers** in the USA

4,000+ **Commercial Data Centers** Worldwide

500,000 SQM **Data Center space** in Amsterdam

1,000,000+ **Cross Connects**

ENABLING THE DIGITAL ECONOMY

Understanding the industry enabling the “digital economy” provides a strategic advantage – enabling you to **connect, transact** and **create value**.

Part 1: Terminology & Services

AGENDA

1. Introduction
2. Terminology
3. Services
4. Q & A

INTERXION WHO WE ARE

Leading provider of cloud and carrier-neutral data centre services

- Founded 1998 – the first data centre operator to set up across Europe
- Headquartered in Amsterdam
- Listed on New York Stock Exchange (INXN)

Community

- Over 1.500 customers
- 500+ carriers
- 350+ cloud providers
- 400+ employees



Colocation

- 40 datacentres
- 89.000 Square Meters
- 96.000 MW power
- Cross-connects



Interconnection

- 20 Internet Exchanges
- Financial Hubs
- Content Hubs



Coverage

- 13 cities across 11 countries
- City centre, low latency locations



OPERATIONAL EXCELLENCE

Industry accreditations & memberships

Founding Member

European Data Centre Association

Patron

European Internet Exchange Association

Member

EuroCloud

M&O Stamp of Approval

PAR3 & PAR5 data centres

Cofounder EMEA Chapter

Uptime Institute – availability, tier definition

Contributor Member

The Green Grid – energy efficiency

ISO 27001 & ISO 22301 Accredited

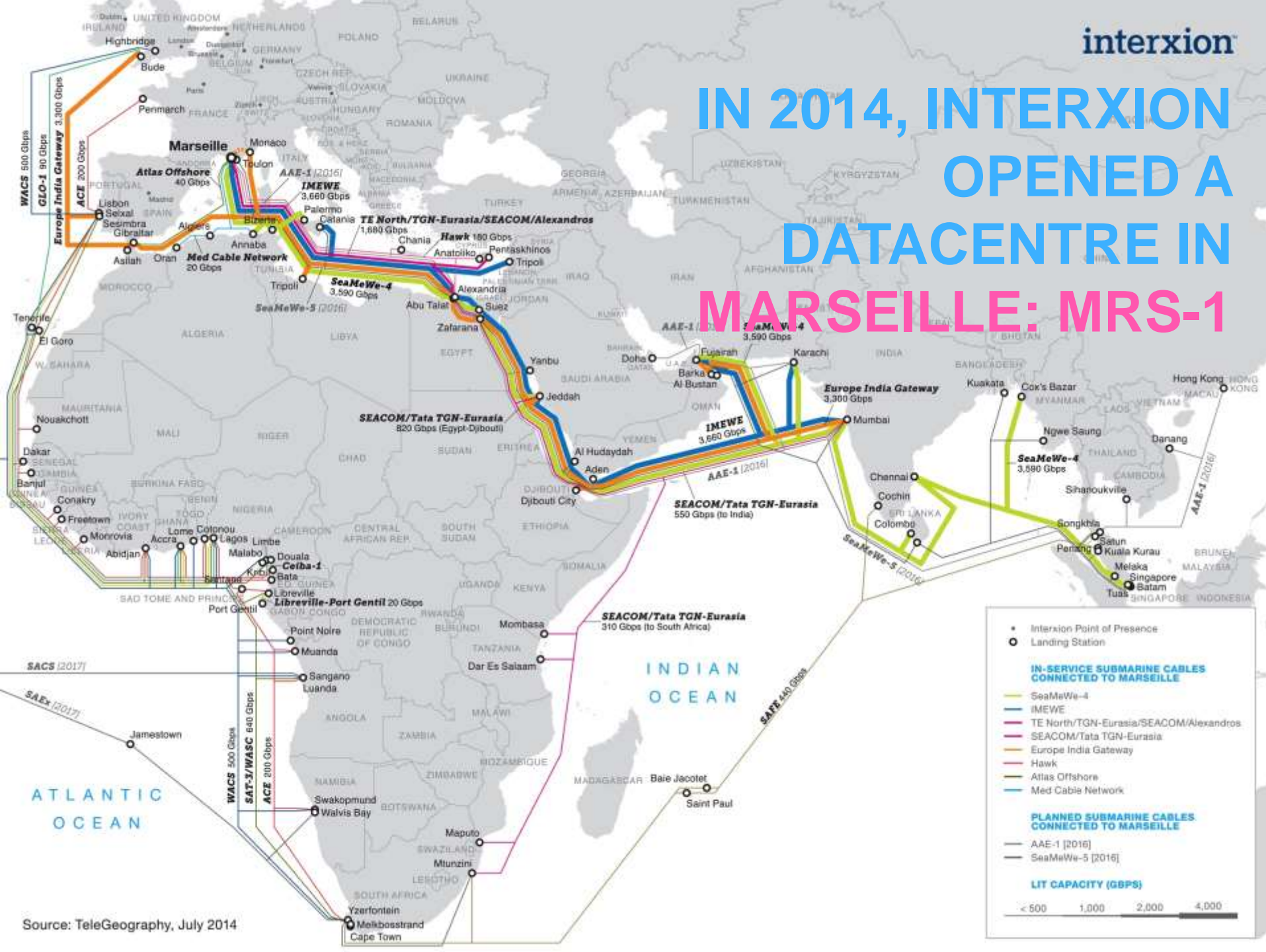
Information Security Management & Business Continuity Management

ITIL V3-accredited Customer Service team

Continuity and service quality



IN 2014, INTERXION OPENED A DATACENTRE IN MARSEILLE: MRS-1



MRS-1: EUROPE CONNECTS TO AFRICA



TERMINOLOGY

DATA CENTRE DEFINITION

- “A data centre is, in simple terms, a facility with the power, space and reliability to house computer servers. [...] A user – whether carrier, corporate or government – could use the data centre to run their own servers, IT applications, online services and disaster recovery (emergency back-up).”

Source: Broad Group

- A carrier-neutral data centre provider is entirely independent of any network, hardware or software vendor.

DATA CENTRE COMPONENTS

■ Customer Space

- Shared Room
- Private Room

■ General

- Reception
- Coffee & WiFi area
- Delivery and Storage area
- Security room
- Operations Centre
- Helpdesk
- Office Space

■ Technical Areas

- Transformer
- Generator
- Main Switchboard
- UPS
- Battery
- Fuel storage tank
- Chillers
- Pumps
- Water tank
- Gas storage
- Meet Me Room
- Building Entry Point

DATA CENTER CATEGORIES

IN-HOUSE

WHOLESALE

NETWORK
OPERATED

MANAGED
SERVICES /
CLOUD

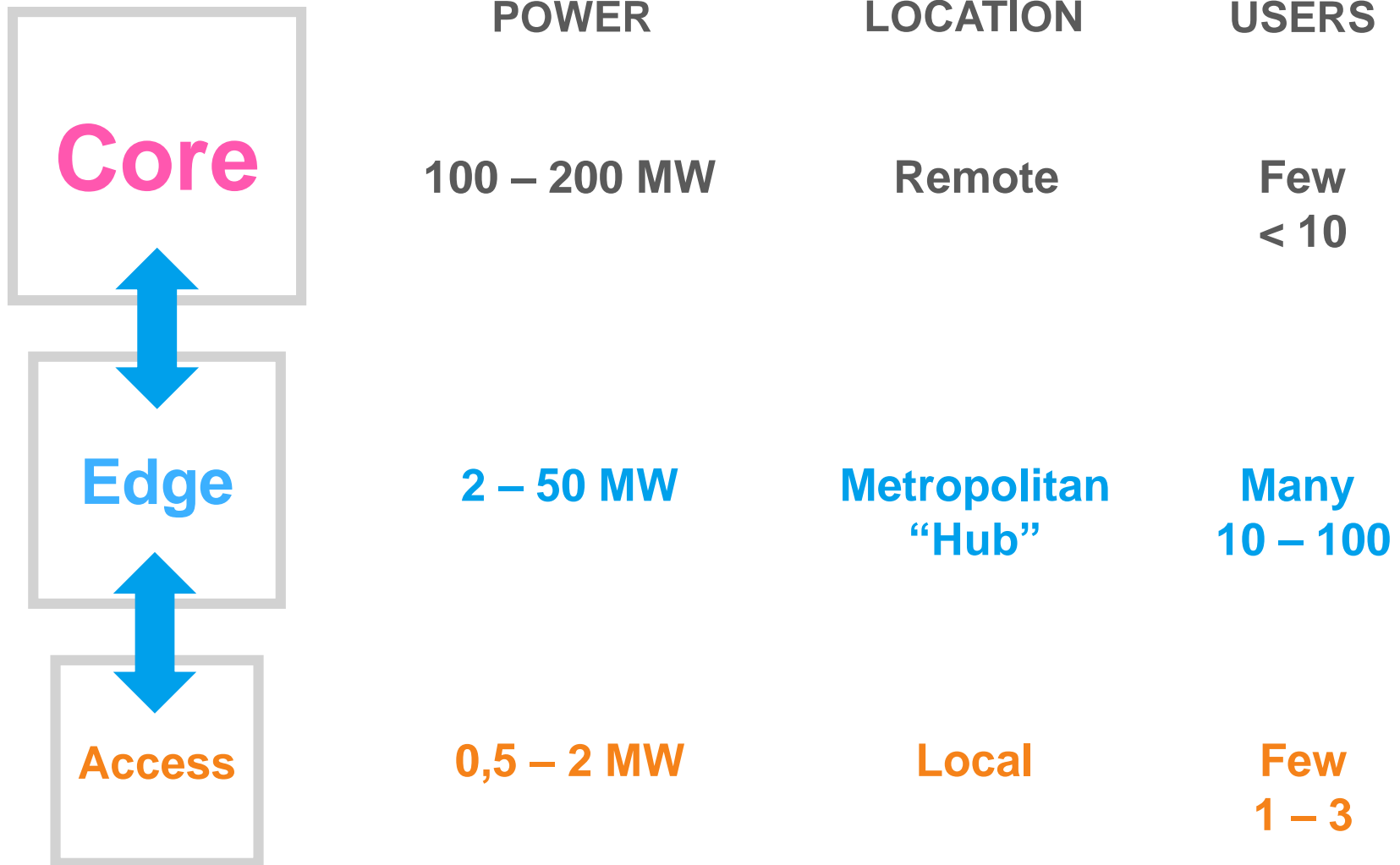
CARRIER & CLOUD
NEUTRAL

- Real estate focus
- Limited connectivity choice
- Limited flexibility

- Application outsourcing model
- Data Center as add-on service
- Limited connectivity choice

- Data Center is prime focus
- Strong Communities
- Rich Interconnection

CORE, EDGE & ACCESS



Google, Pryor Oklahoma
September 2011




Microsoft, Dublin

July 2009

Phase 1: 330,000 ft² / 39,657 m²

5,4 MW growing to 22MW





An aerial photograph of a large, rectangular industrial building with a white metal roof, currently under construction. The building is situated in a rural area with fields and trees. A paved road curves around the building, and a parking lot with several vehicles is visible. Two large white cylindrical tanks are located near the building. The surrounding landscape includes a mix of green fields, brown soil, and clusters of trees.

Apple, Maiden NC
Spring 2011
Holder Construction
500,000 ft² / 46,000 m²



Yahoo, Lockport New York
September 2010

YAHOO LOCKPORT



INTERXION FRANKFURT



INTERXION FRANKFURT, HOME OF DE-CIX



Interxion FRA-1, Frankfurt

1999: 500 m²

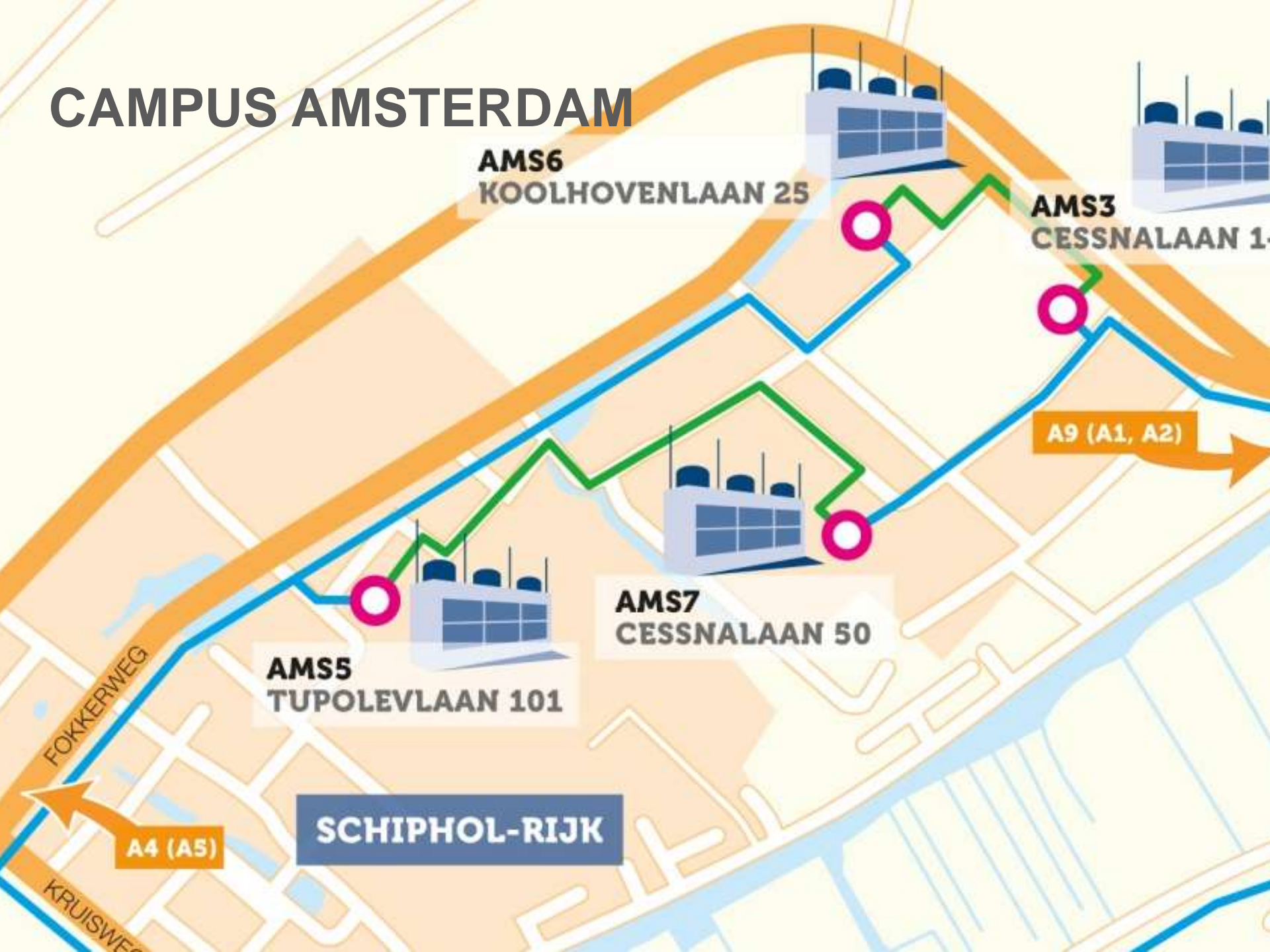
2012: 15,000 m²



INTERXION AMSTERDAM



CAMPUS AMSTERDAM



AMS6
KOOLHOVENLAAN 25

AMS3
CESSNALAAN 1

AMS5
TUPOLEVLAAN 101

AMS7
CESSNALAAN 50

A9 (A1, A2)

SCHIPHOL-RIJK

A4 (A5)

INTERXION PARIS 5



Interxion, Paris 5

RFS: 2009

43,000 ft² / 4,000 m²

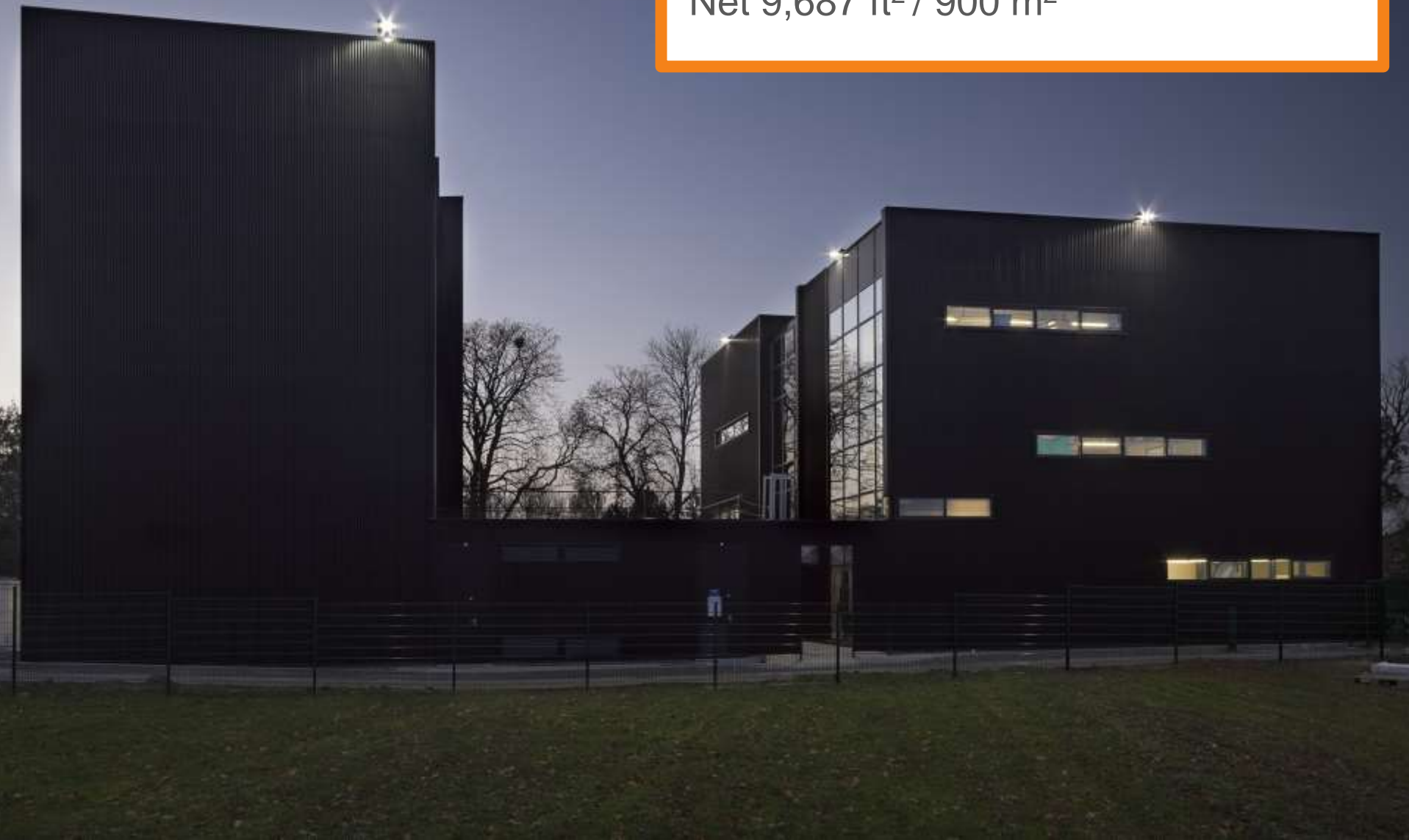
16 MW

INTERXION PARIS 7



ARCHITECTES

Celeste, Champs sur Marne, France
RFS: 2011
enia architectes
Net 9,687 ft² / 900 m²





SHELL, PRE-FABRICATED, CONTAINER ?

- **Shell** – Anyone selling industrial / commercial property
- **Build to Suit** – Construction companies
- **Pre-Fabricated** – Datacentre specialists, construction only
- **Modular Container** – Container based solutions
- **Managed Wholesale** – Real-estate background
- **Managed Commercial** – Datacenter operators

MAINTENANCE & OPERATIONS

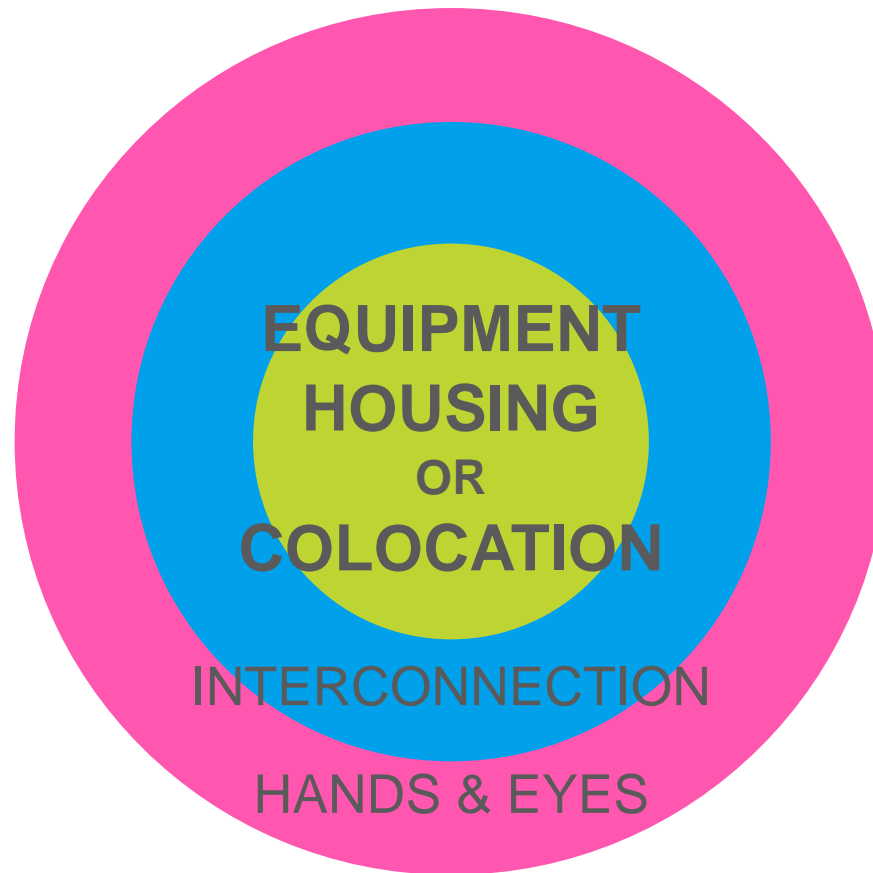


WHY OUTSOURCE YOUR DATA CENTRE ?

1. Scalable capacity helps you stay agile
2. Maintain business focus
3. Skilled engineers on demand

SERVICES

SERVICES



CABINET

- 600 x 1060 footprint
= footprint 2,5 m²
- 42 HU
- Blanking panels
- Cold aisle containment
- Basic level PDU
- Power added separately
- Lock
- Power under raised floor
- Data cabling overhead



CAGE



CAGE



PRIVATE ROOM



MEET ME ROOM



WHY COLOCATE?

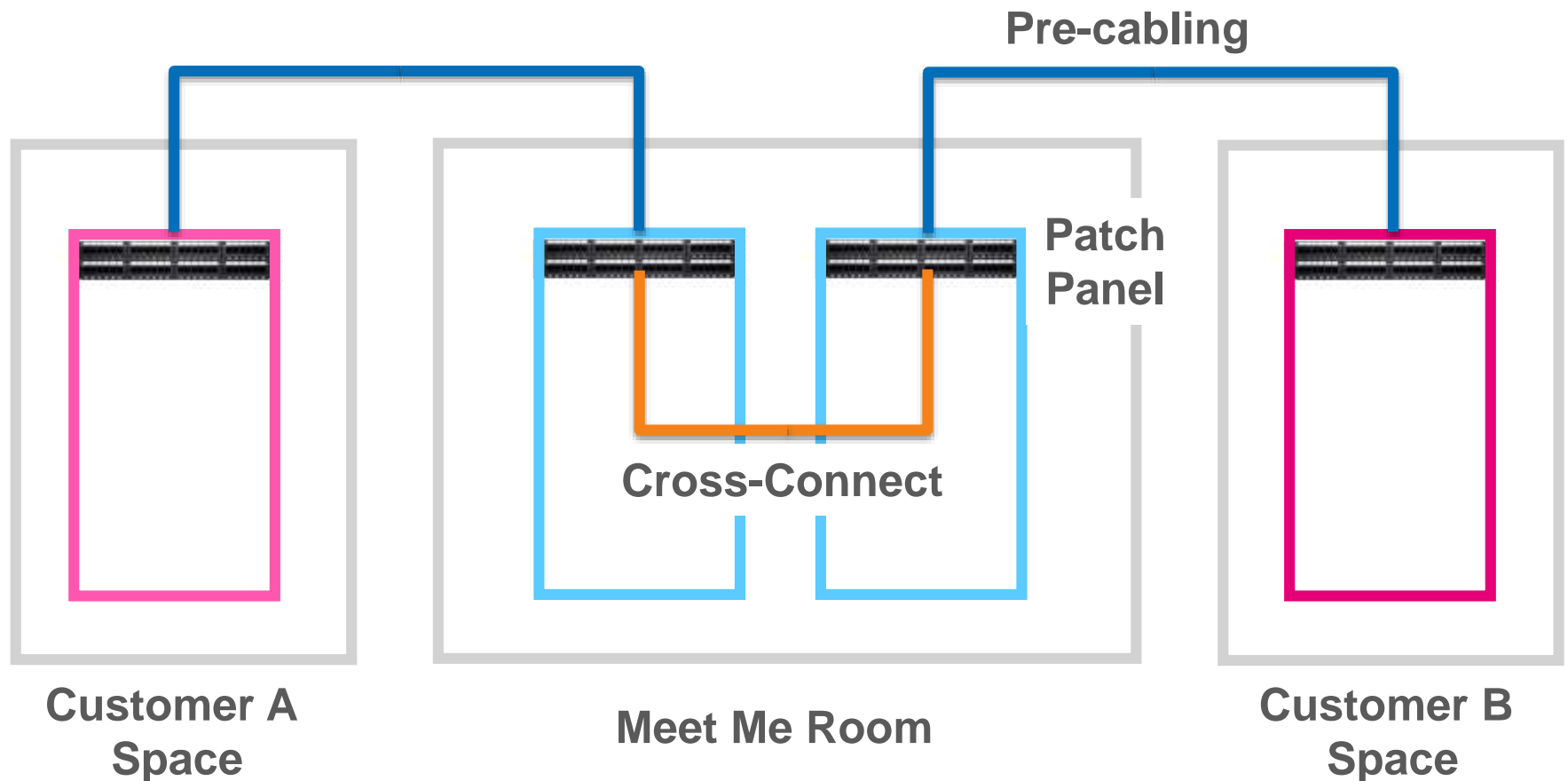
1. Reduce costs
2. Reach and location
3. The right connectivity

INTERCONNECTION



CROSS CONNECT

Direct connections to partners, suppliers and customers in the same or nearby data centres



INTERCONNECTION EUROPE v. US

EUROPE

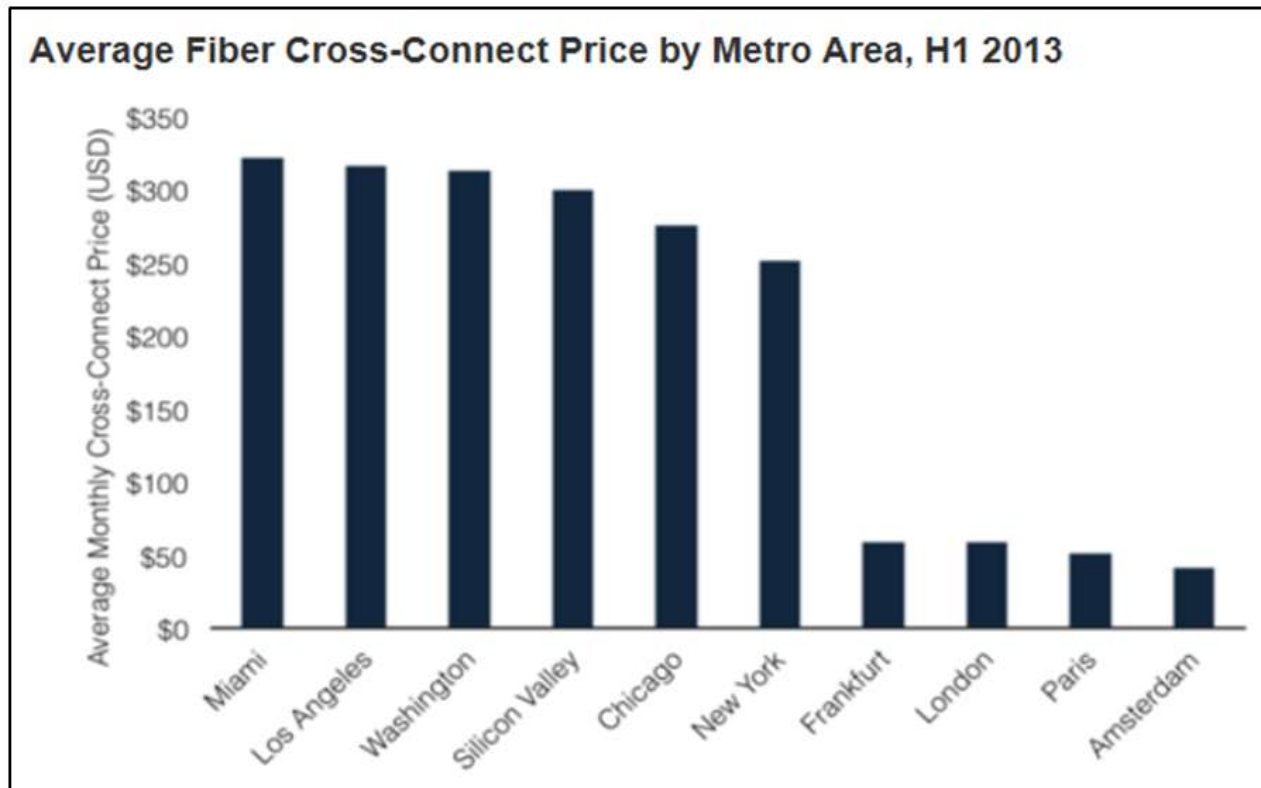
- **Cross-connect** or **private peering**, generally **inexpensive**
- **Not-for-profit IXPs**
 - Public IXPs providing interconnection services to members at cost
 - Typically hosted in data centers of multiple datacentre operators
- A few private IXPs operated by data center operators

US

- **Cross-connect** or **private peering**, generally **expensive**
- **Commercial IXPs**
 - Typically operated by interconnection data centers, single datacenter operator
- **Not-for-profit IXPs**
 - Smaller cities
 - European IXPs expanding to USA: LINX, DE-CIX, AMS-IX

INTERCONNECTION PRICING

Private peering costs in the US are up to six times higher than in Europe.



Source: Telegeography Report, "US, Europe Colocation Pricing Models Vary Significantly", 24 September 2013, available at <https://www.telegeography.com/press/marketing-emails/2013/09/24/u-s-europe-colocation-pricing-models-vary-significantly/index.html/>

WHY INTERCONNECT ?

- 1. Connect to your business partners
- 1. Lower your networking costs
- 2. Reliability and scalability of your infrastructure

QUESTIONS FOR DATACENTER OPERATOR

1. Do you offer you the flexibility needed for **our future requirements**?
2. What about your **location**?
3. How much **experience** do you have?
4. Are you **well connected**?

CONTACT

Wouter van Hulten

woutervh@interxion.com

<http://www.linkedin.com/in/woutervanhulten/>

THANK
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