

# The Technical Facility Domain: Digital and Commercial Impacts

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## Fiber Transport

European Mobile Data  
**500%** Consumption  
increase by **2030**

European Fixed Data  
**400%** Consumption  
increase by **2030**

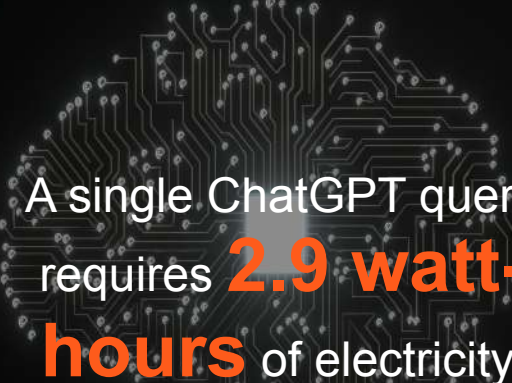
Source: Arthur D. Little

## Energy & Compute Capacity

European Datacenter energy  
consumption **28%** Increase  
by **2030** to  
**98.5TWh**

Source: European Commission

## Generative AI

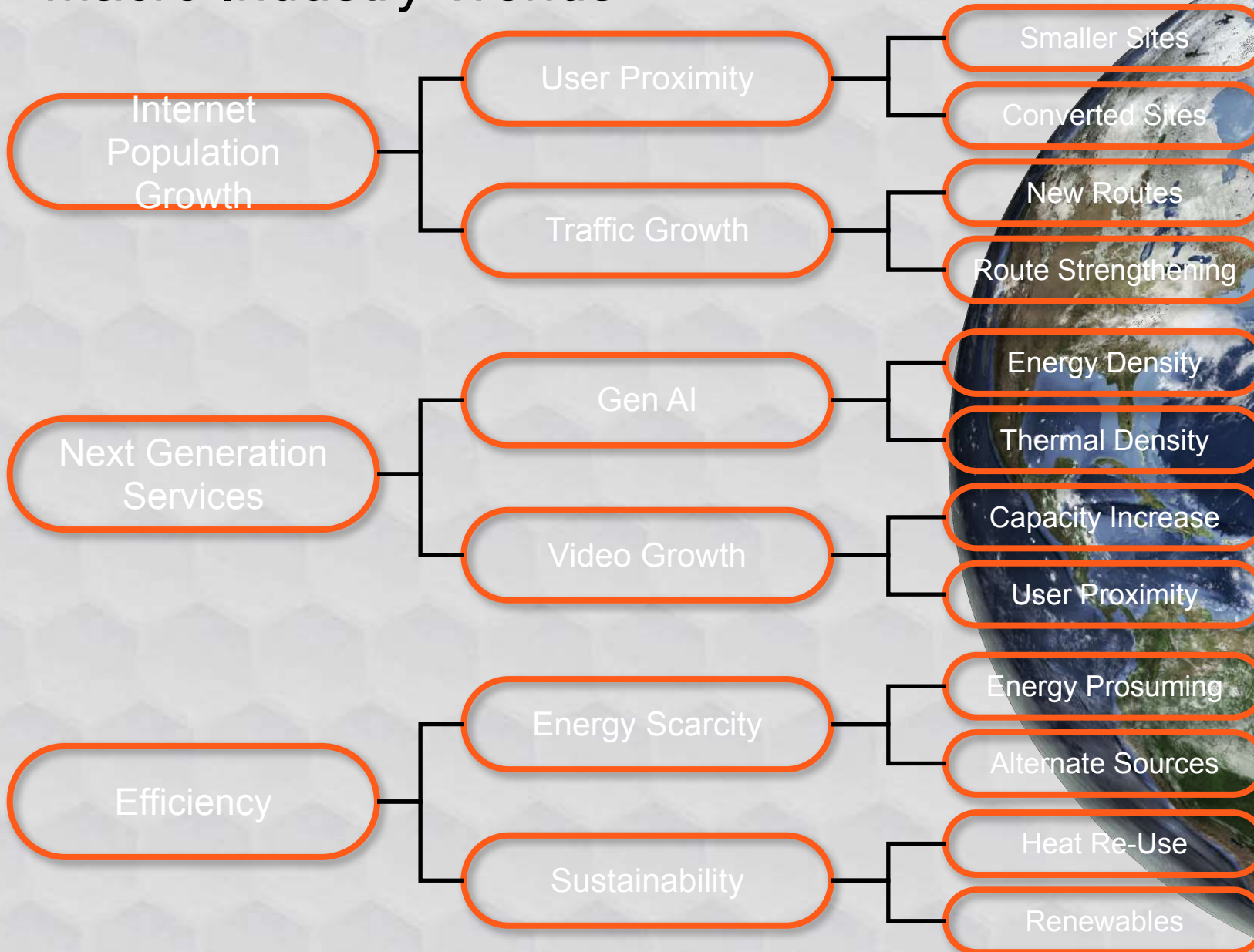


A single ChatGPT query  
requires **2.9 watt-  
hours** of electricity,  
compared with **0.3 watt-  
hours** for a Google  
search.

Source: Goldman Sachs



# Macro Industry Trends





# EMEA DC View

Map showing data center locations across Europe, Middle East, and Africa (EMEA). The map displays a network of connections between various locations, with blue circles indicating the number of data centers at each site. The locations are distributed across Europe, North Africa, and the Middle East, with a high concentration in Western Europe and the Middle East.

- Availability of Land & Power
- Customer Proximity
- Data Security

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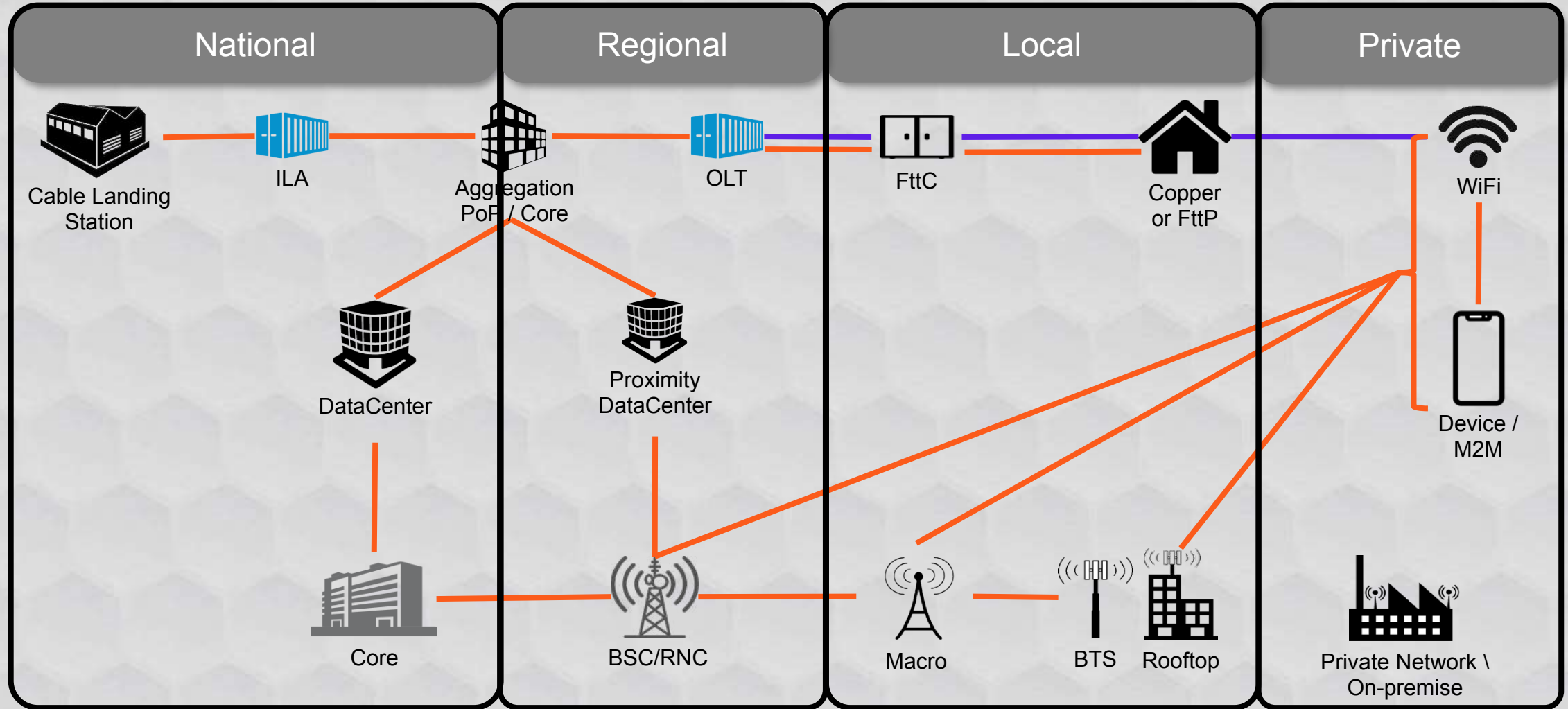
**Source:** [Infrapedia.com](http://Infrapedia.com)

This map, titled "European DC View", illustrates the submarine cable network across Europe. It features numerous orange circles, each containing a letter or number, representing specific data centers or cable hubs. The map shows a dense network of blue lines representing submarine cables connecting various coastal locations. Key locations labeled include Edinburgh, Ballycotton, Cork, Dartmouth, Saint Martin, Penmarch, Dunant, Vigo, Palma, Monaco, Ajaccio, Aranci, and others. The map also shows the Atlantic Ocean, the Bay of Biscay, and the Adriatic Sea. The title "European DC View" is prominently displayed at the top left.



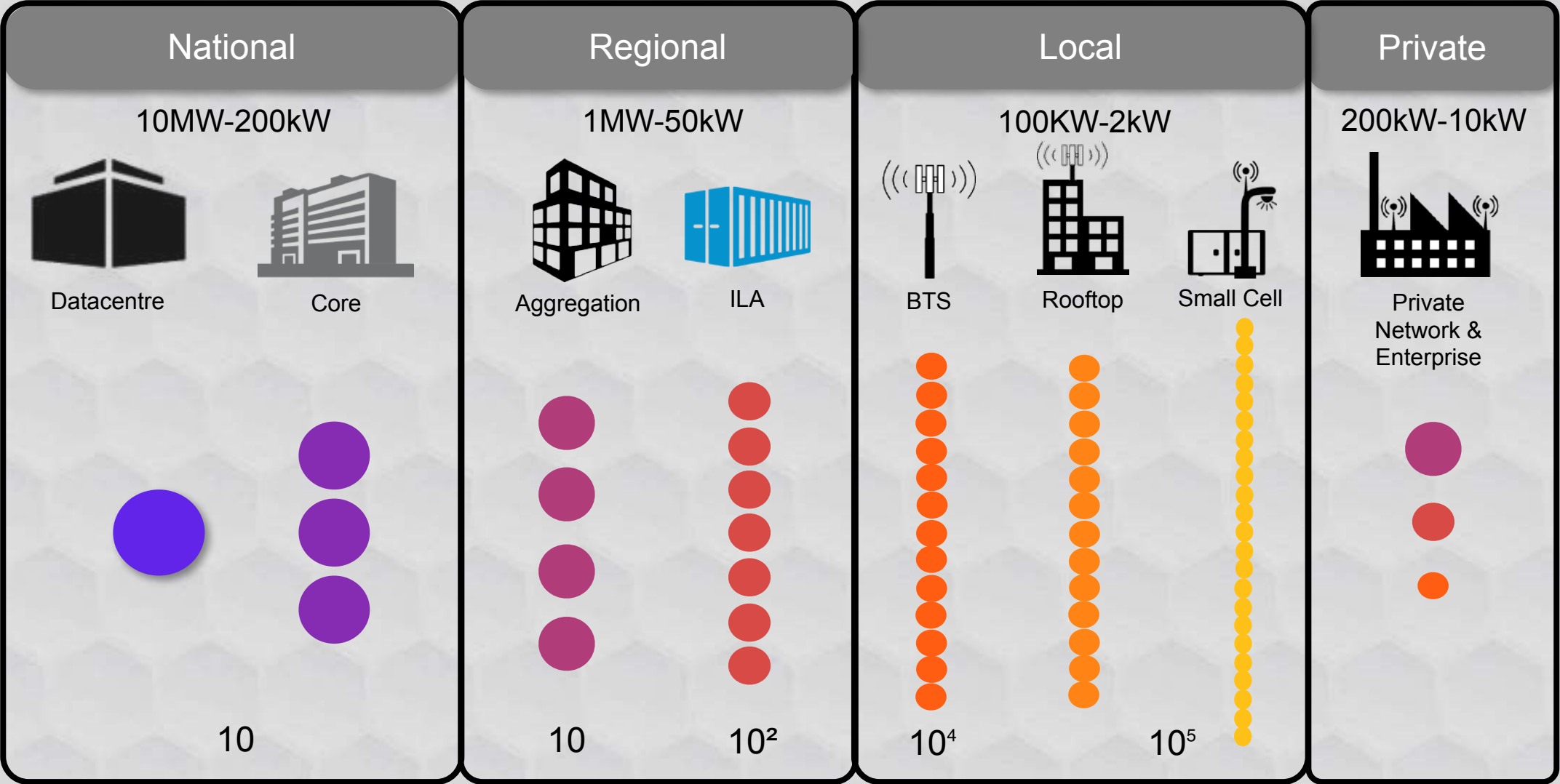
# The Network Landscape

Datacenter, Fixed and Wireless Facilities



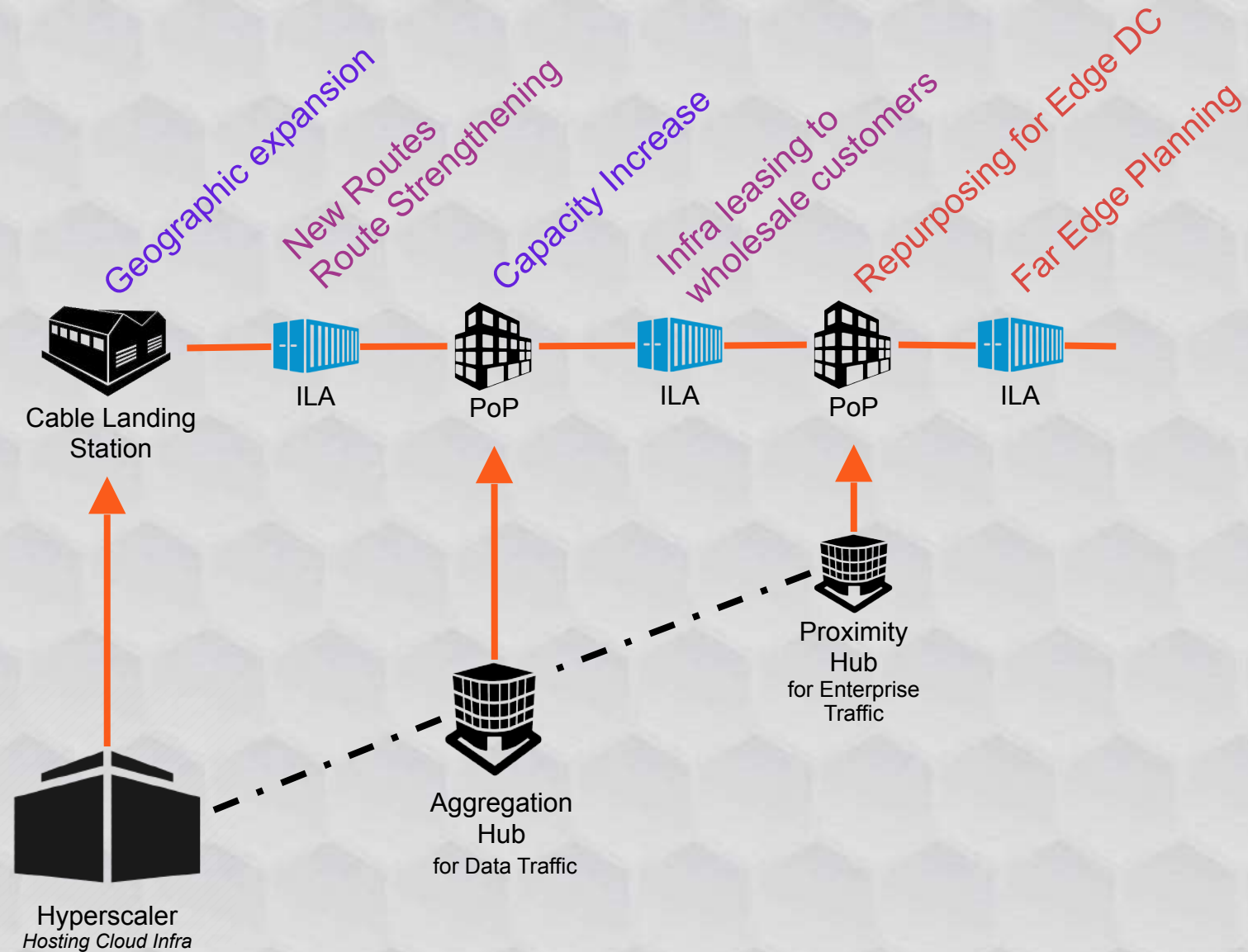
Data is Processed, Stored and Carried through multiple Facility types

# Edge is a Continuum



Processing Propagation across the Landscape

# Blended Facilities | Brownfield Telco & Datacenter



Data Processing Capability Integrated into the Network Fabric

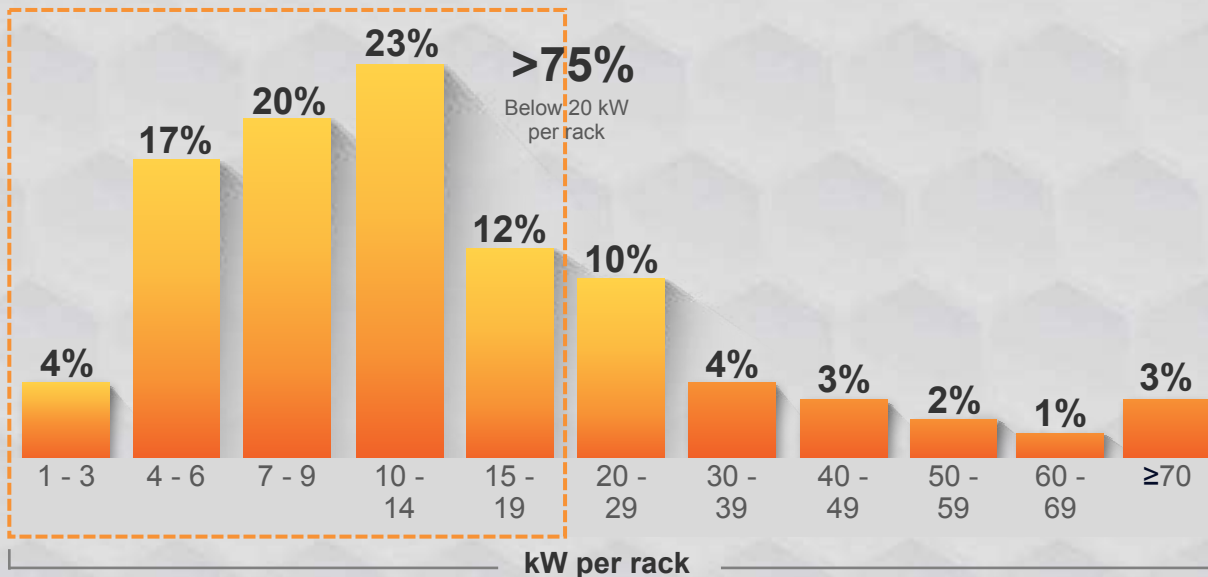
Combined CLS / Datacentre builds for Geographic Expansion

Aggregation sites being re-purposed for Co-Location Tenants

ILA locations being utilised for caching between DC sites

# Power and Thermal Density

Most racks are still in the low-density space



IT managers agree that rack density is on the rise

Cloud / hosting / SaaS provider



Colocation / data center provider



Enterprise data center owner / operator

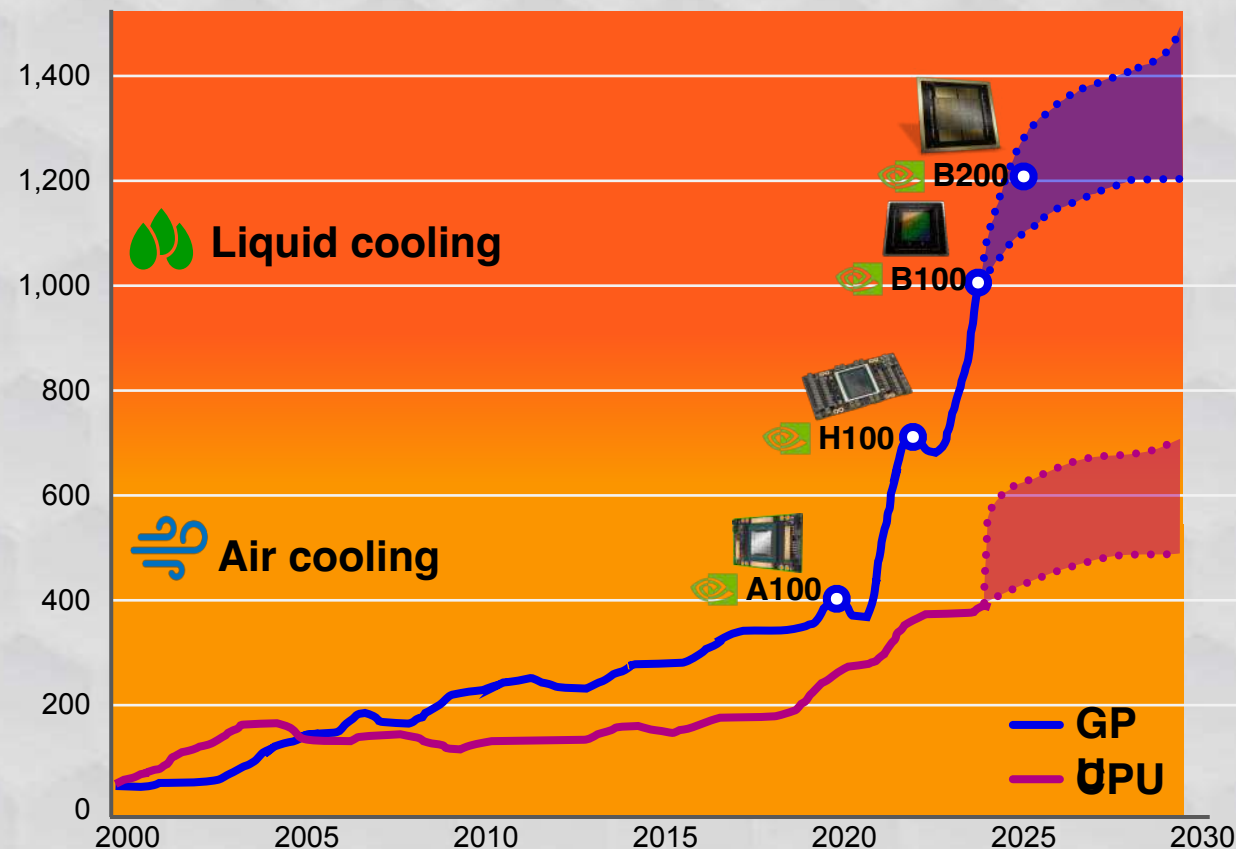


RAPIDLY INCREASED
  SLOWLY INCREASED
  REMAINED THE SAME
  DECREASED

Source: Uptime Institute

## CPU and GPU Consumption Forecast

Thermal Density Power | TDP (Watts)

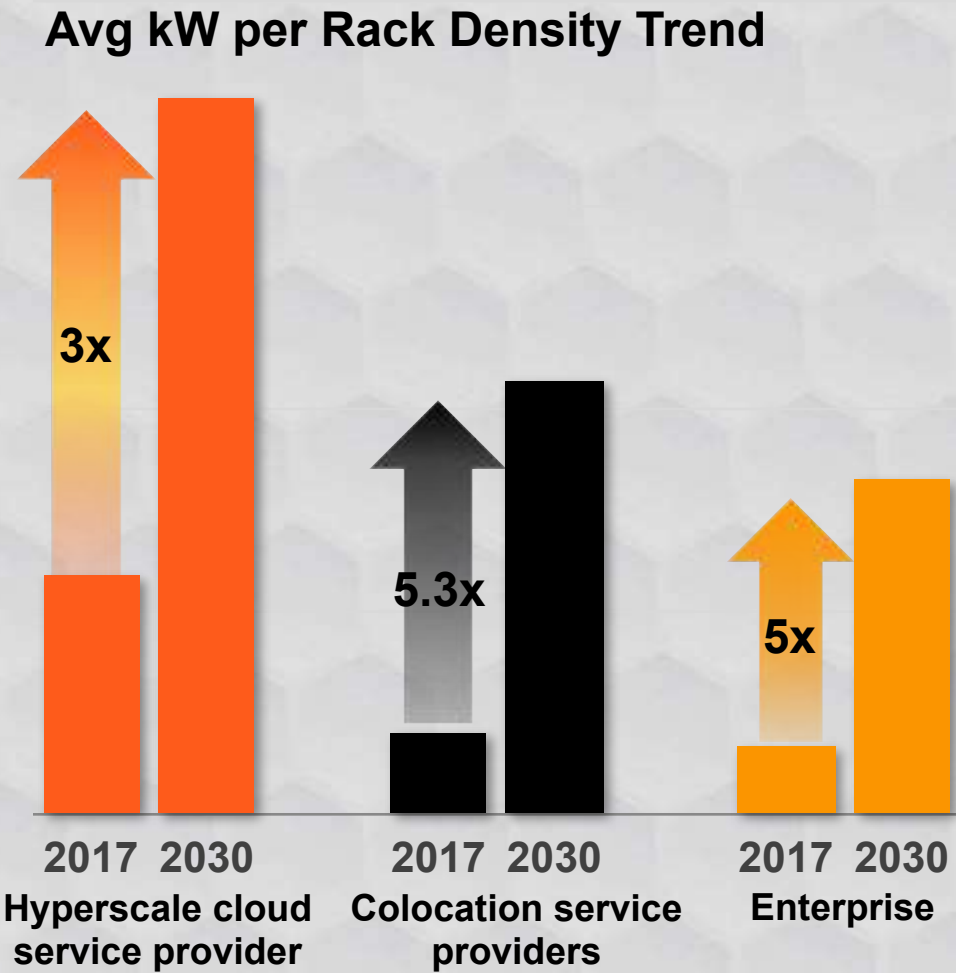


Above 700-800W TDP per chip, liquid cooling quickly becomes a necessity

Source: Omdia



# Liquid Cooling | GPU Workloads



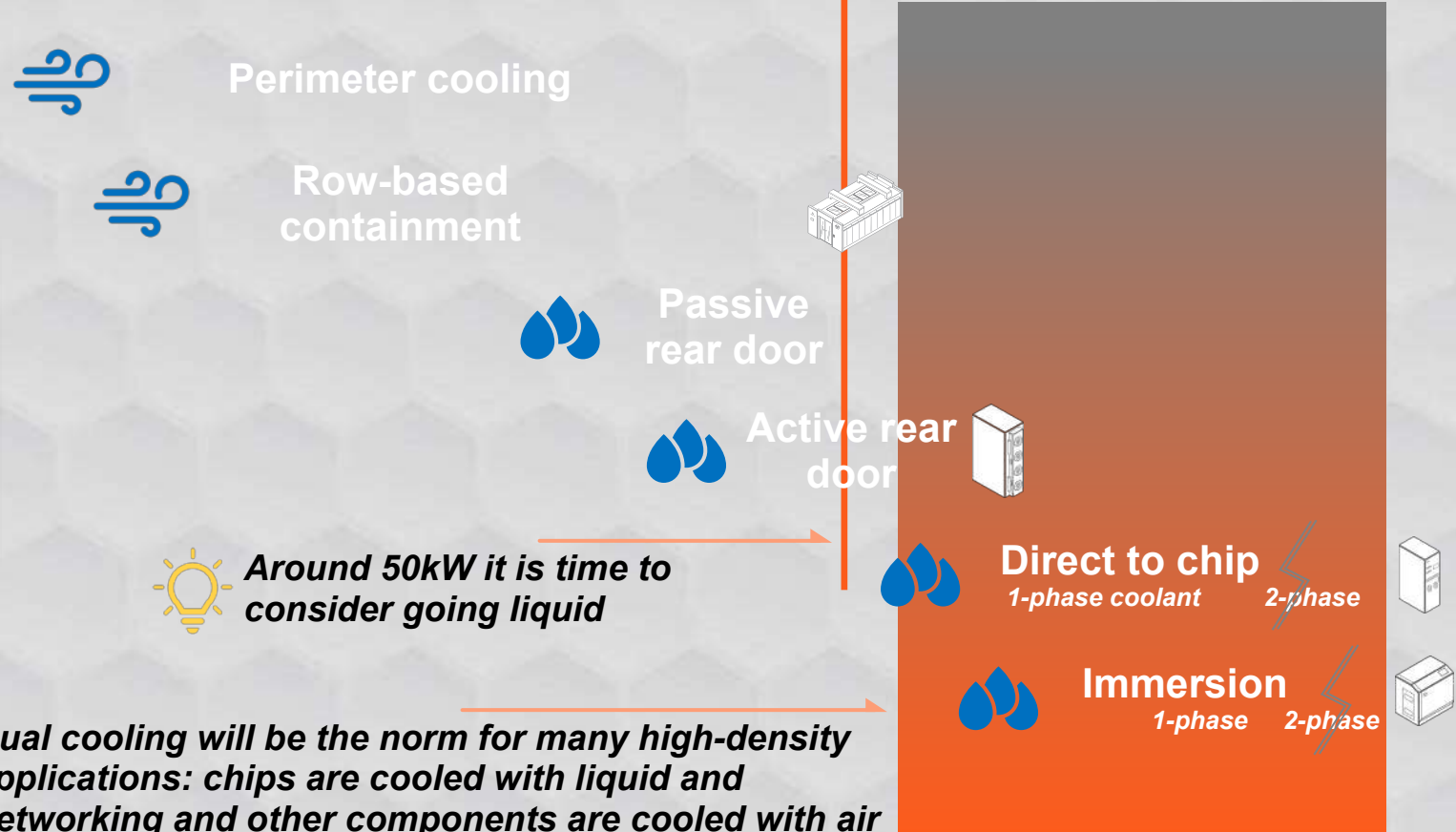
**Low density**  
Up to 10kW

**Medium density**  
10 to 25kW

**High density**  
25 to 80kW

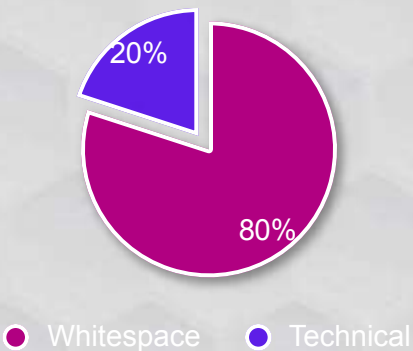
**Extreme density**  
> 80kW

### Required cooling technology

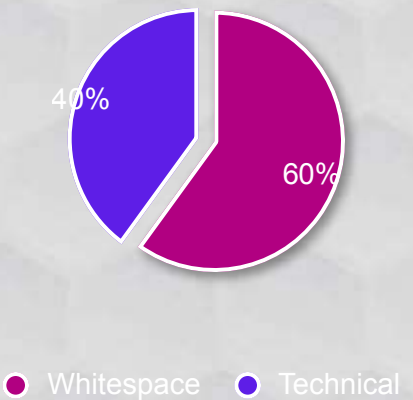


# Space Utilisation Trend

2024



2030



Source: Vertiv Study

# Smart Planning & Solutions



Space allocation for future power needs



Lifecycle planning gap between Whitespace and Technical equipment



Understand how to leverage existing infra retrofitting and have density in mind



Expand partnerships in sales cycle as projects increase complexity.



Close coupled Switchgear and UPS.



Integrated Chiller and Cooling Packages. Heat Re-Use



Rethink Capacity with Lifecycle management. Utility Support & Prosuming

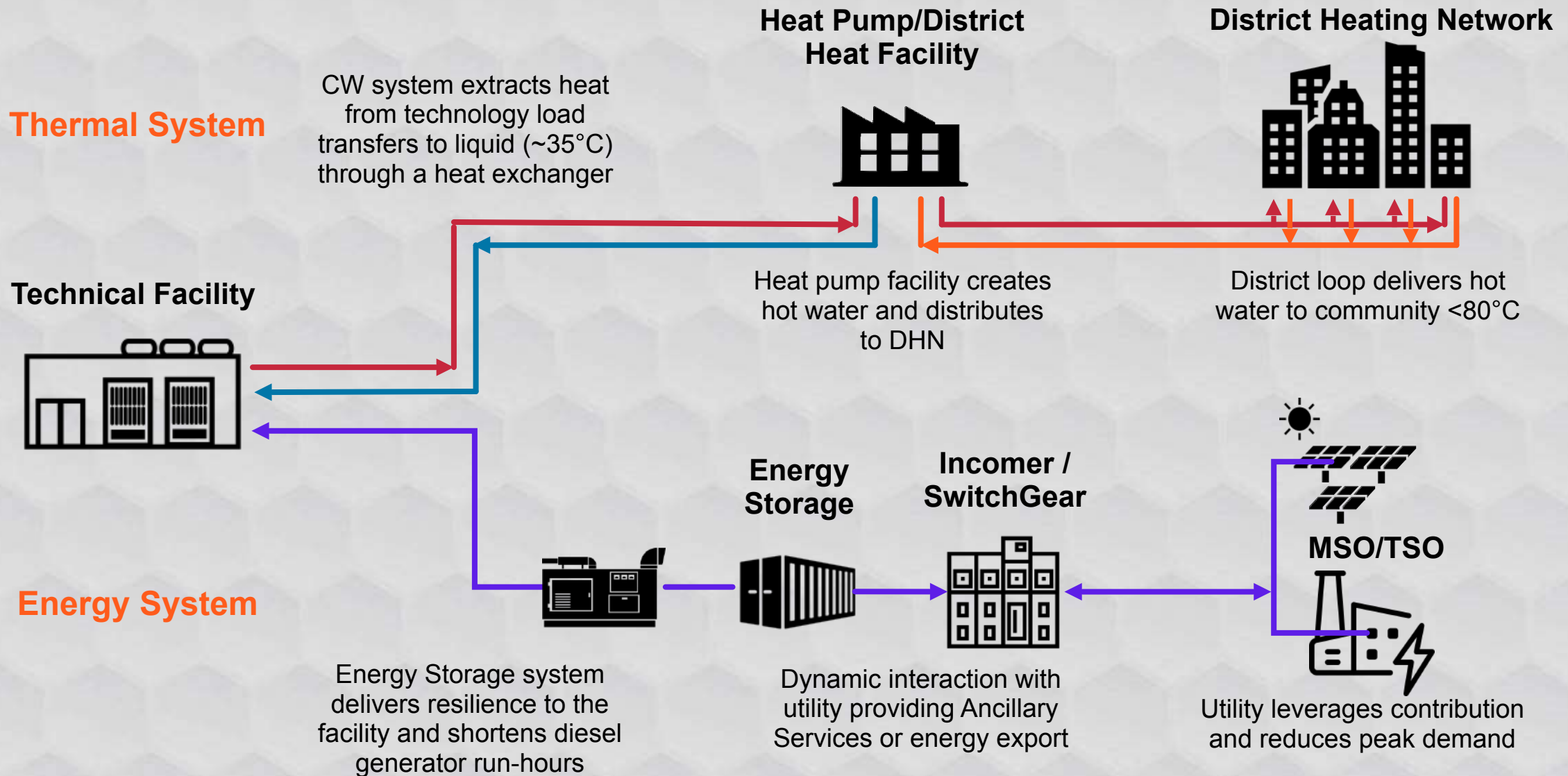


Standardization, modularity and repeatability.



# Energy Transition Ecosystem

Bi-Directional Benefit Between Stakeholders



# Vertiv | Passive Infrastructure Manufacture & Services



## POWER MANAGEMENT

### Description

- Small, medium and large uninterruptible power systems (UPS)
- Industrial-grade UPS
- AC power distribution systems and busway
- Switchgear and Busbar
- 12V to 400V DC and HVDC power systems
- Custom DC UPS systems, DC battery chargers and distribution
- Rack power distribution

### Select offerings



### Brands



## THERMAL MANAGEMENT

- Small thermal systems including room and row/ rack cooling
- Air handling and chiller: large systems located outside the data room that provide climate control



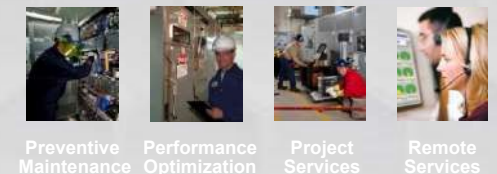
## INTEGRATED RACK SOLUTIONS

- IT and infrastructure management solutions
- Rack PDUs
- Integrated solutions
- Liquid Cooling direct to chip and Immersive systems



## SERVICES

- Diverse array of services to handle ongoing customer equipment and product needs
- Maintenance, project and training services
- Tailored customer offerings





# Combined Solutions for Technical Facilities



Outdoor Environment



Outside Plant (OSP)



Protected Indoor Environment



IT Racks/Smart Solutions



Infrastructure Solutions (IS)

Indoor Environment



Thermal Management, Smart Solutions & Aisle Containment



1 Rack

Application size

100+ Racks

Mobile & TowerCo

Enterprise

Edge

Co-Location

Hyperscale



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