



 **Sunshine Coast**
COUNCIL
CABLE LANDING STATION



Fast Data and Digital Infrastructure – why it is essential to business now, and in the future

Robert Linsdell
Managing Director, Vertiv Australia & New Zealand



Vertiv keeps the digital world running 24 x 7

WE ARE ARCHITECTS OF CONTINUITY



We live in the experience economy

Everything NOW & always ON
Speed of delivery and access everywhere

Personalised service
Tailored to individual needs

Network economy
Trusts peer review



New Ways to Win



AI-driven

20% of customer experiences will include some form of AI

2018



Direct-to-consumer

35% of consumer manufacturers will have direct-to-consumer customer experience teams

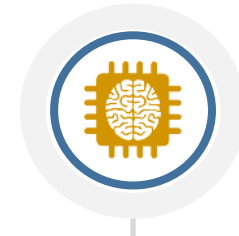
2019



Biometric personalisation

50% of global companies will personalise experience via biometric data

2020



Privacy Reimagined

10% of consumers in developed countries join digital marketplaces where data is shared for VIP services

2021

Digital is everywhere and impacts all industries

Case in point: Australia

More IoT deployments and success stories: IoT begin to deliver value



Tier 1 banks embrace blockchain: ANZ and Westpac trial for commercial property deals



Smart Cities: Adelaide & Canberra lead Government awards SC projects



Increased use of autonomous vehicles in mining and agriculture



Network 2020 Mobile & IoT: Journey towards excellent customer experience



Oceania & Asia: Highest growth in 2017 in colocation data centre



THE THREE ESSENTIALS FOR THE DIGITAL ECONOMY

1. Always On

Think Power, think redundancy, think back up

2. Always Connected

Think Fibre, Think 4G and 5G, think access to high speed low latency connections

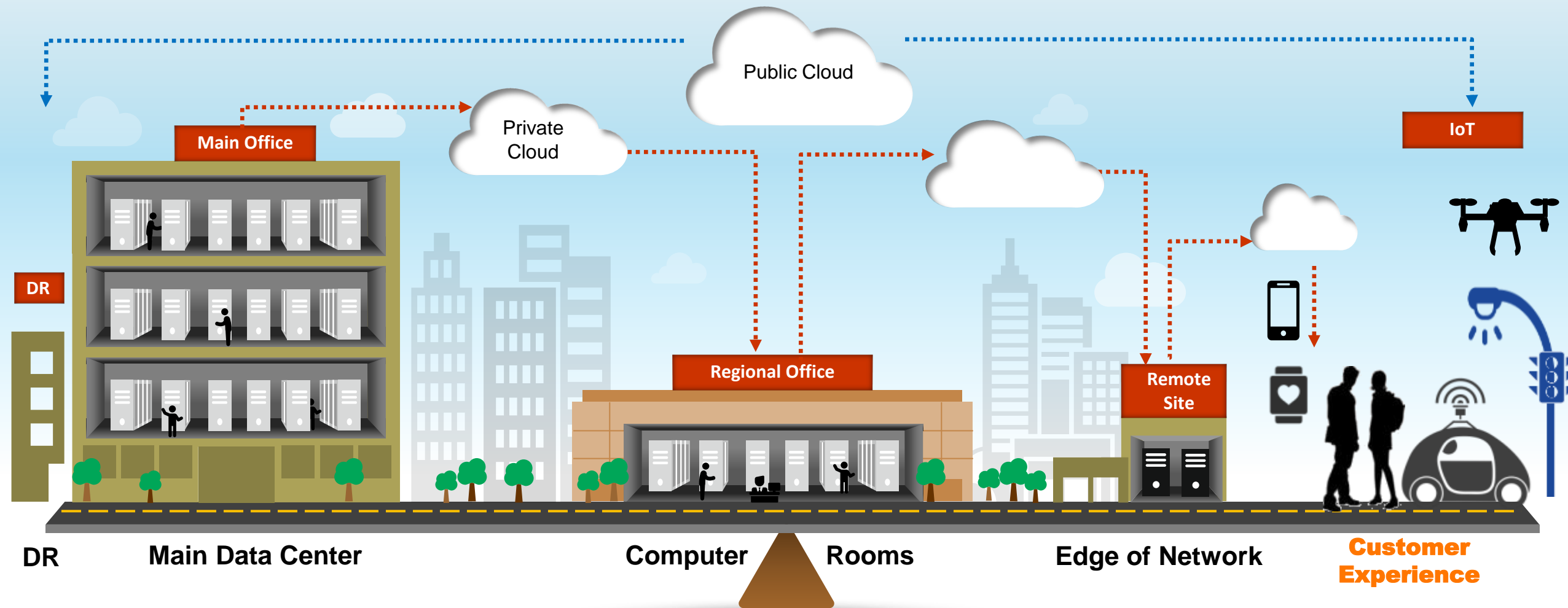
3. Safe and secure

Think physical security, think cyber, think who has access to my data and who do I want to have access to it. Think Privacy.

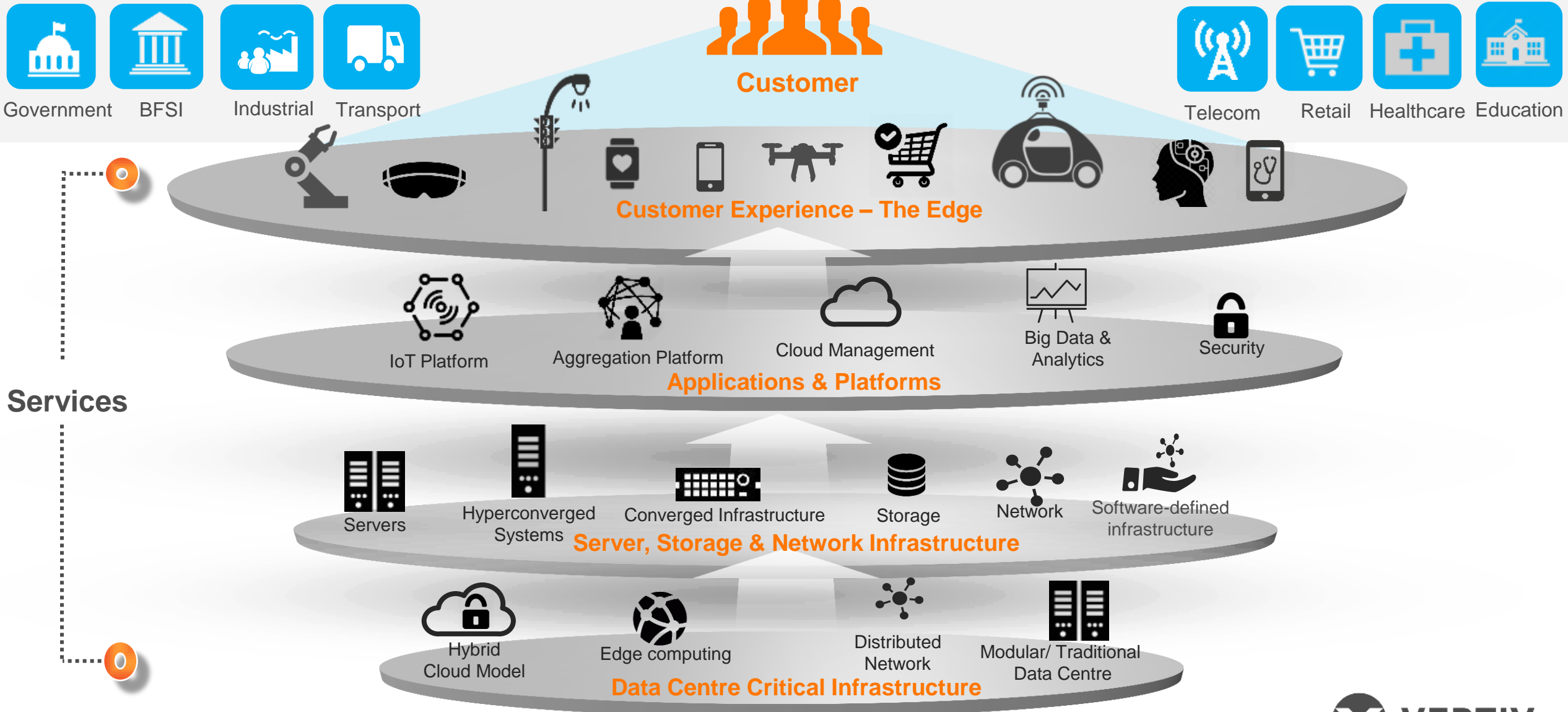
Today's Hybrid IT Infrastructure

A D A P T

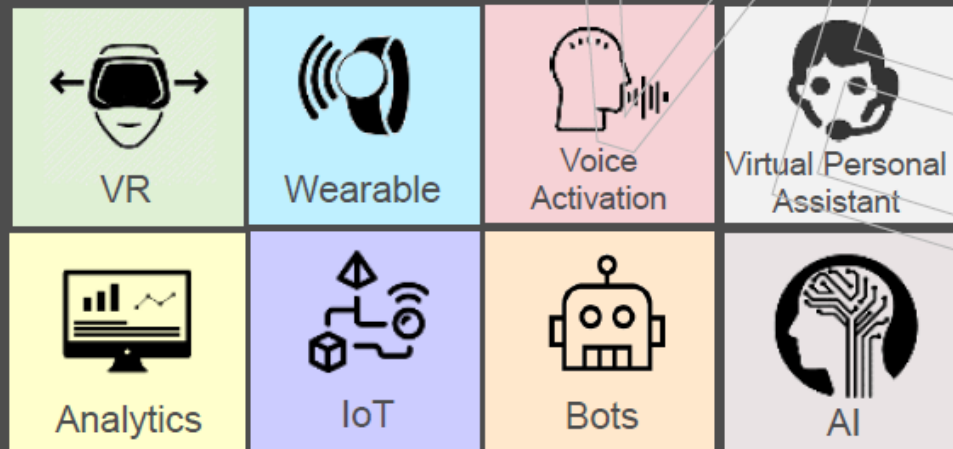
Enterprise level availability from the core to the edge of network



Building blocks of today's digital infrastructure



People have become empowered by technology



Disruptive technologies will become integral parts of our day-to-day customer, employee and other users' experiences



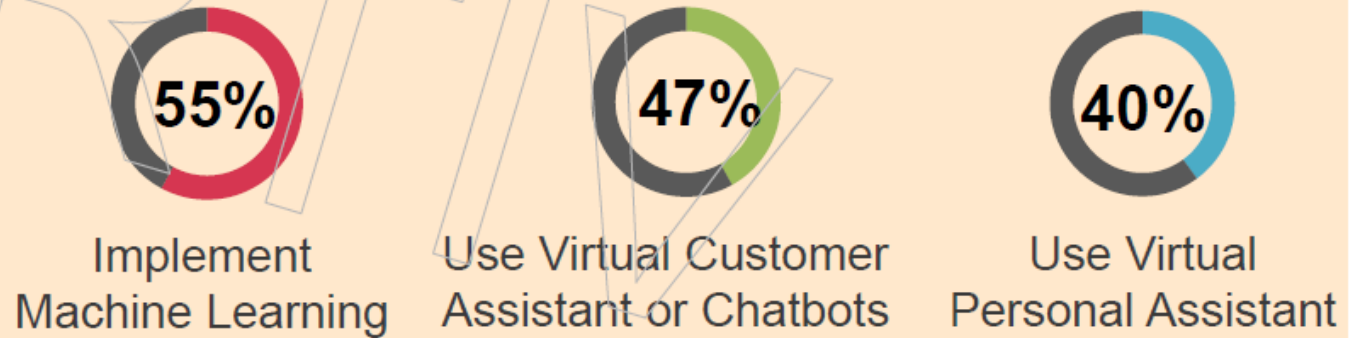
20% of large enterprises...

Will evaluate and adopt AR, VR and mixed reality immersive solutions by 2020 as part of their digital transformation strategy.



AI Technologies are on track to become mainstream CX investments of mature organisations in the next **3 years**

- Gartner Survey



+14% increase in GDP or additional **\$15.7 trillion** by 2030 as a result of AI

Biggest sector gains:

- Retail
- Financial Services
- Healthcare

- PwC 2017, Sizing the Prize

Vertiv Research Identified 4 Edge Archetypes

Data Intensive

Amount of data too great to be transferred over the network

1010101

1101010

- Virtual Reality
- HD Content Distribution
- High Network Costs
- Smart Home / Buildings
- Smart Factories

Machine to Machine Latency Sensitive

Optimised for human consumption



- Website Optimization
- Augmented Reality
- Smart Retail
- Natural Language Processing

Life Critical

Optimization for machine consumption



- Real Time Analytics
- Arbitrage Market
- Smart Security – Facial Recognition
- Smart Grid

Human Latency Sensitive

High risk of injuries caused by machines interacting with humans



- Digital Health
- Autonomous Cars
- Drones
- Smart Transportation & Logistics
- Autonomous Robots

Today's digital business requires a Hybrid IT approach

Reduce time to value



Optimise IT performance



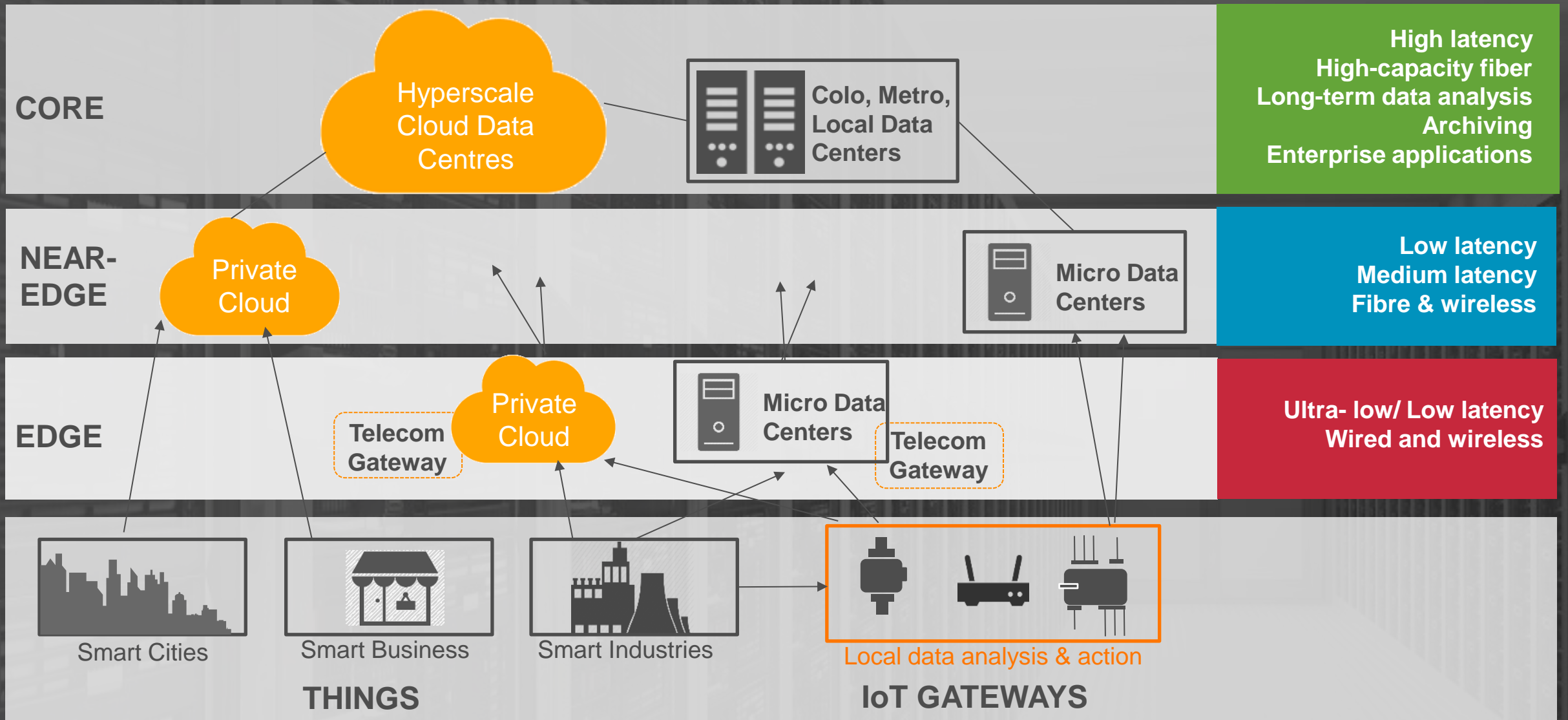
Enhance enterprise agility



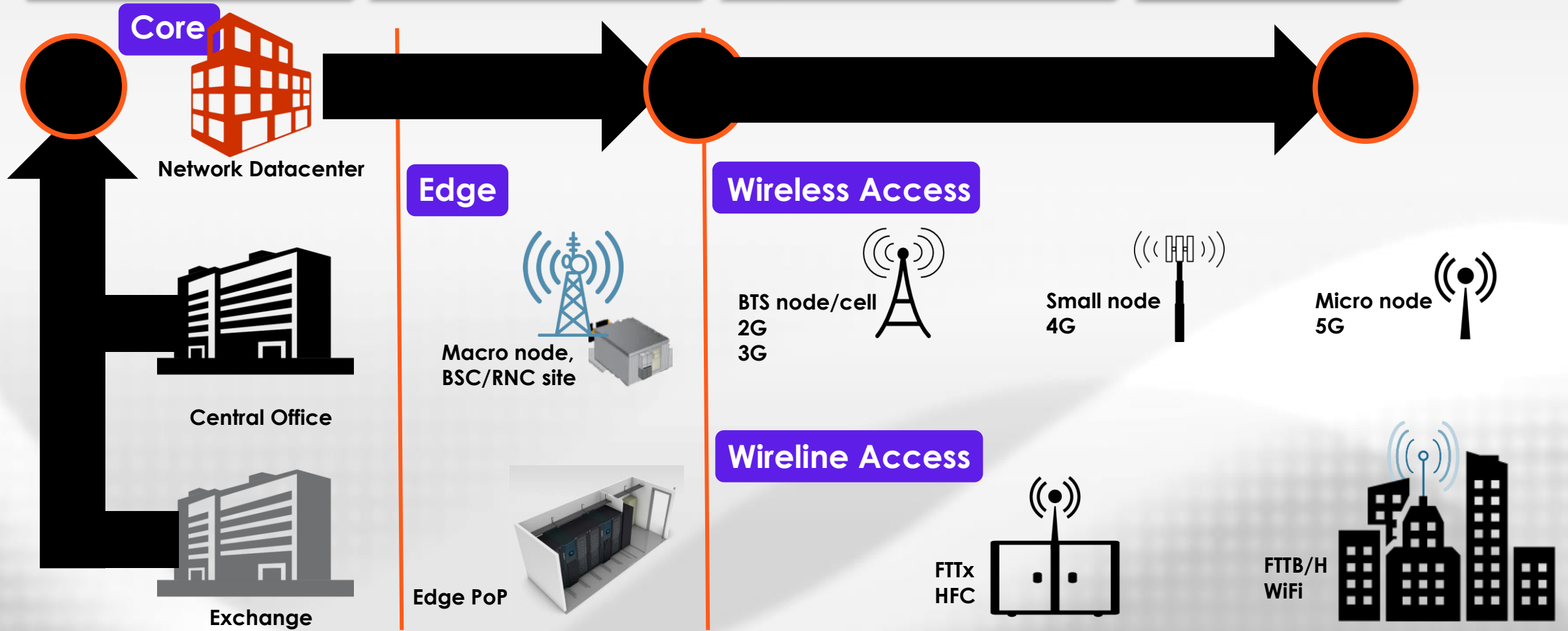
Compliance and Security



Core to Edge Data Centre Strategy for Seamless Customer Experience



DECENTRALISATION DRIVER #1: Network Decentralisation



Density, Technology change, Consolidation

2,300 flights
cancelled due to
“system outage” =
\$ 54 million in lost
revenue

What Price
an Outage?

REVENUE
HIT

Refunded tickets
Missed bookings
Cancelled flights













ADDITIONAL
EXPENSES

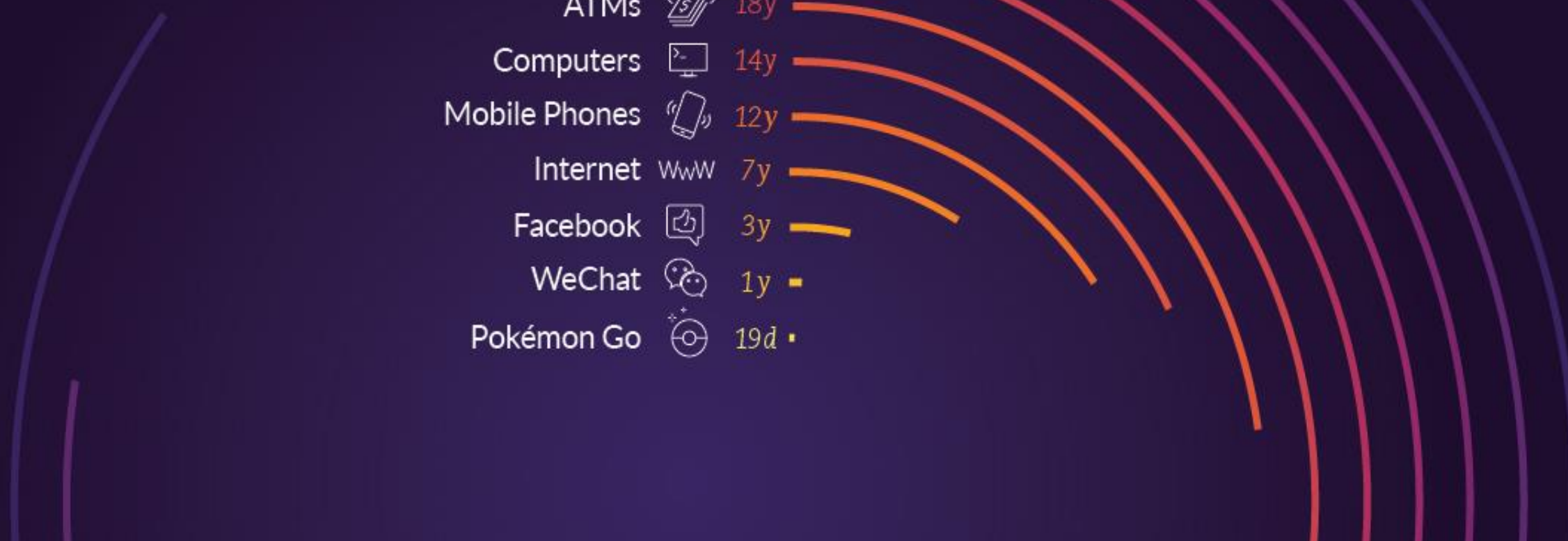
Staff overtime
Passenger hotel /meal
accommodations
Transportation



Historic Speed of Change

Reaching 50 million users

Airlines		68y
Automobiles		62y
Telephone		50y
Electricity		46y
Credit Cards		28y
Television		22y
ATMs		18y
Computers		14y
Mobile Phones		12y
Internet		7y
Facebook		3y
WeChat		1y
Pokémon Go		19d



CUSTOMER EXPERIENCE KPI

Latency Requirements



High-speed
Train



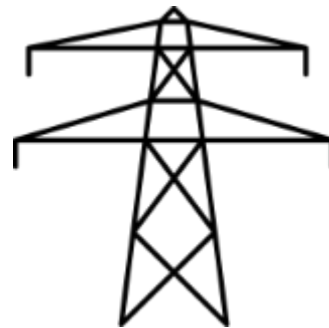
Tactile VR



Autonomous
Vehicles



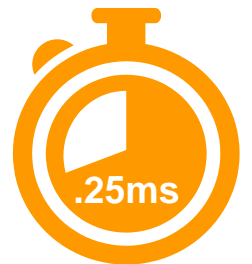
Electric Grid
Control



Remote Surgery
& Examination



Emergency
Communication

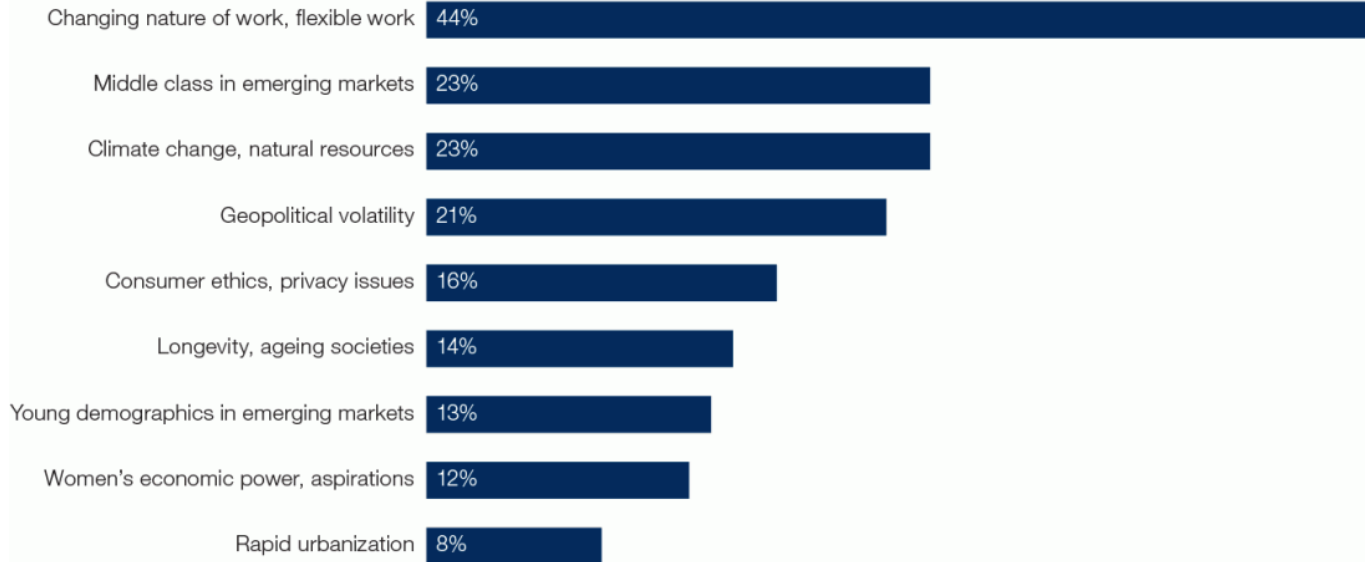


High-frequency
Trading

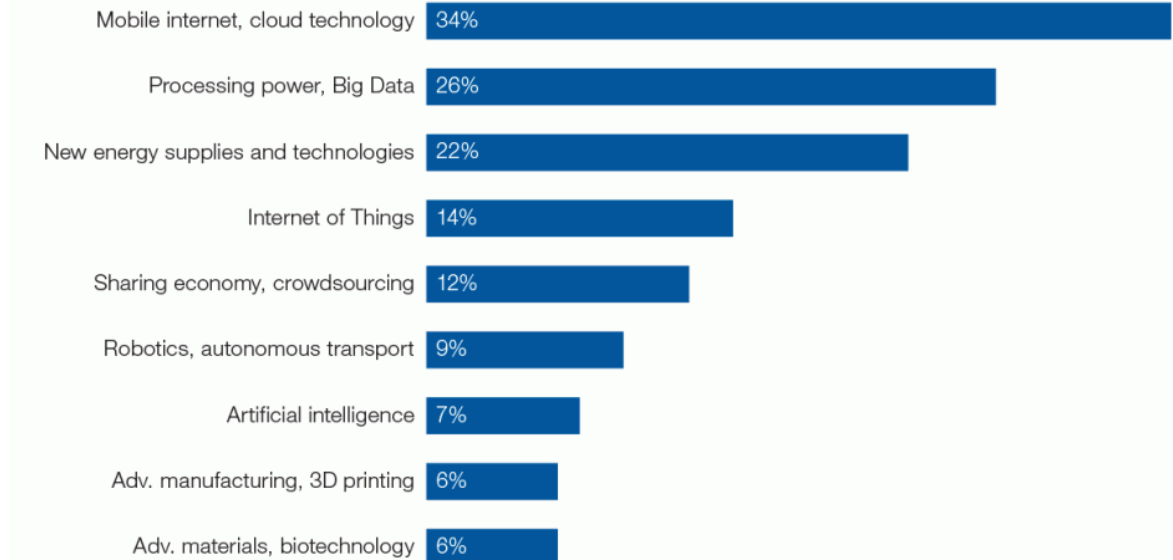


Figure 2: Drivers of change, industries overall
Share of respondents rating driver as top trend, %

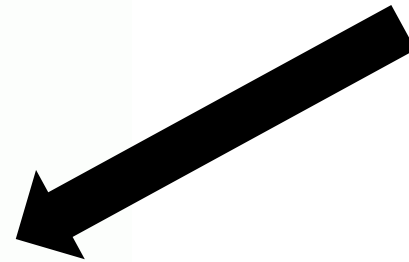
DEMOGRAPHIC AND SOCIO-ECONOMIC



TECHNOLOGICAL



Note all the anticipated growth in industry will all require Connectivity Datacentres and Security



Source: Future of Jobs Survey, World Economic Forum.
Note: Names of drivers have been abbreviated to ensure legibility.



RETAIL



MEDIA



GAMING



HEALTHCARE



UNIVERSITY R&D



SMART CITY

The Jobs Landscape in 2022

emerging
roles,
global
change
by 2022



Top 10 Emerging

1. Data Analysts and Scientists
2. AI and Machine Learning Specialists
3. General and Operations Managers
4. Software and Applications Developers and Analysts
5. Sales and Marketing Professionals
6. Big Data Specialists
7. Digital Transformation Specialists
8. New Technology Specialists
9. Organisational Development Specialists
10. Information Technology Services

declining
roles,
global
change
by 2022



Top 10 Declining

1. Data Entry Clerks
2. Accounting, Bookkeeping and Payroll Clerks
3. Administrative and Executive Secretaries
4. Assembly and Factory Workers
5. Client Information and Customer Service Workers
6. Business Services and Administration Managers
7. Accountants and Auditors
8. Material-Recording and Stock-Keeping Clerks
9. General and Operations Managers
10. Postal Service Clerks

Best practice data centre infrastructure for Government and Smart Cities



Architecting continuity for our customers

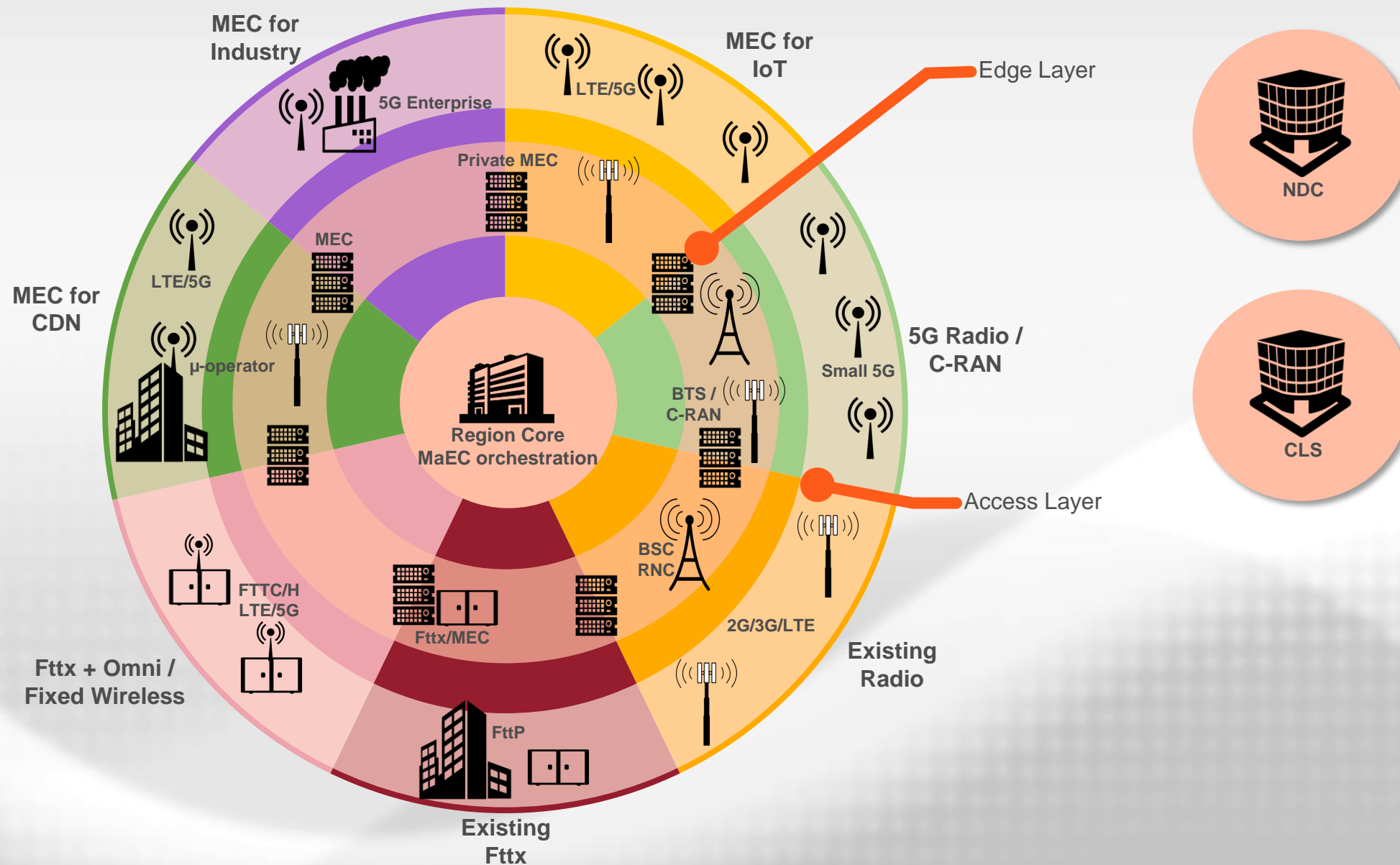


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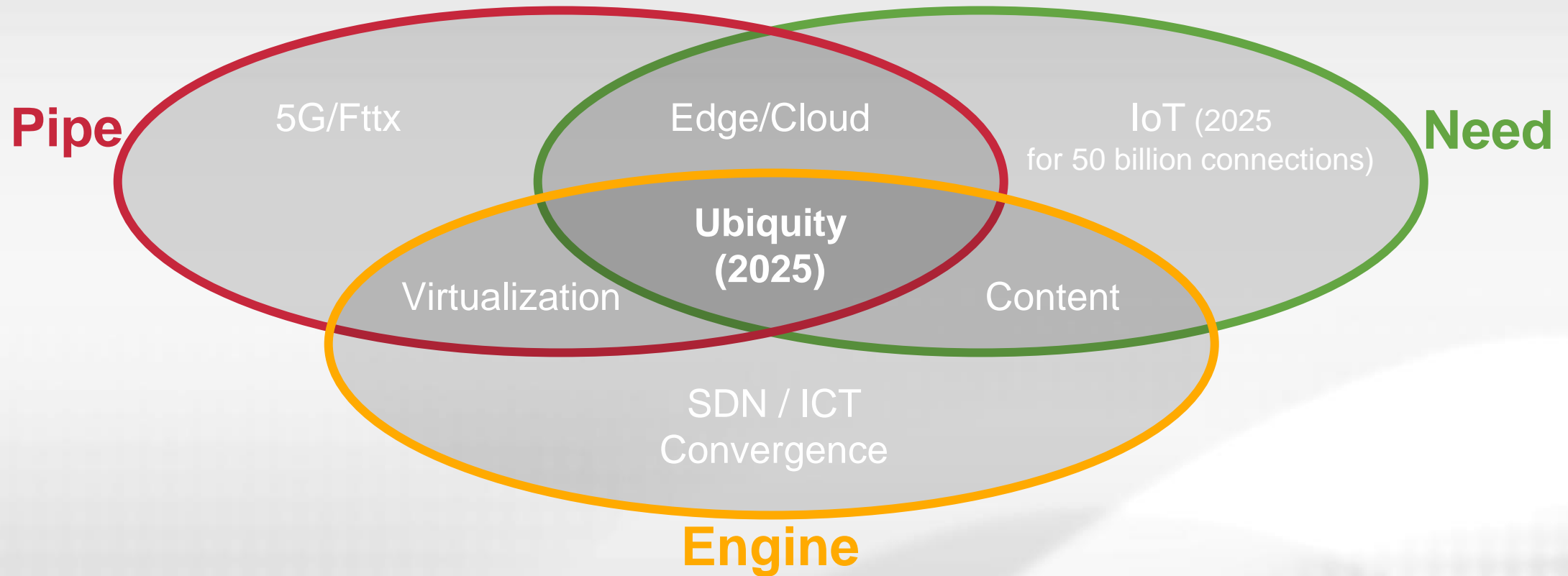
Vertiv enables mission critical applications from the core to the edge



Multi-Region Landscape View 2025



BEYOND 2025: TOWARDS "UBIQUITY"



Smart City activities today are primarily individual solutions, but in time they will all start to join together and work as a cohesive single organism. This graphic demonstrates some of the areas where Vertiv has implemented Smart City related use cases providing the base IT infrastructure.

Syarikat Air Darul Aman (SADA) Sdn. Bhd. Malaysia improves water distribution program and management in Alor Setar installing a 4 rack SmartRow

The edge located datacenter was rapidly deployed, is a small footprint and is scalable. This facilitates metering, IoT, on premise decision making and low latency. The solution is very easily upgraded.

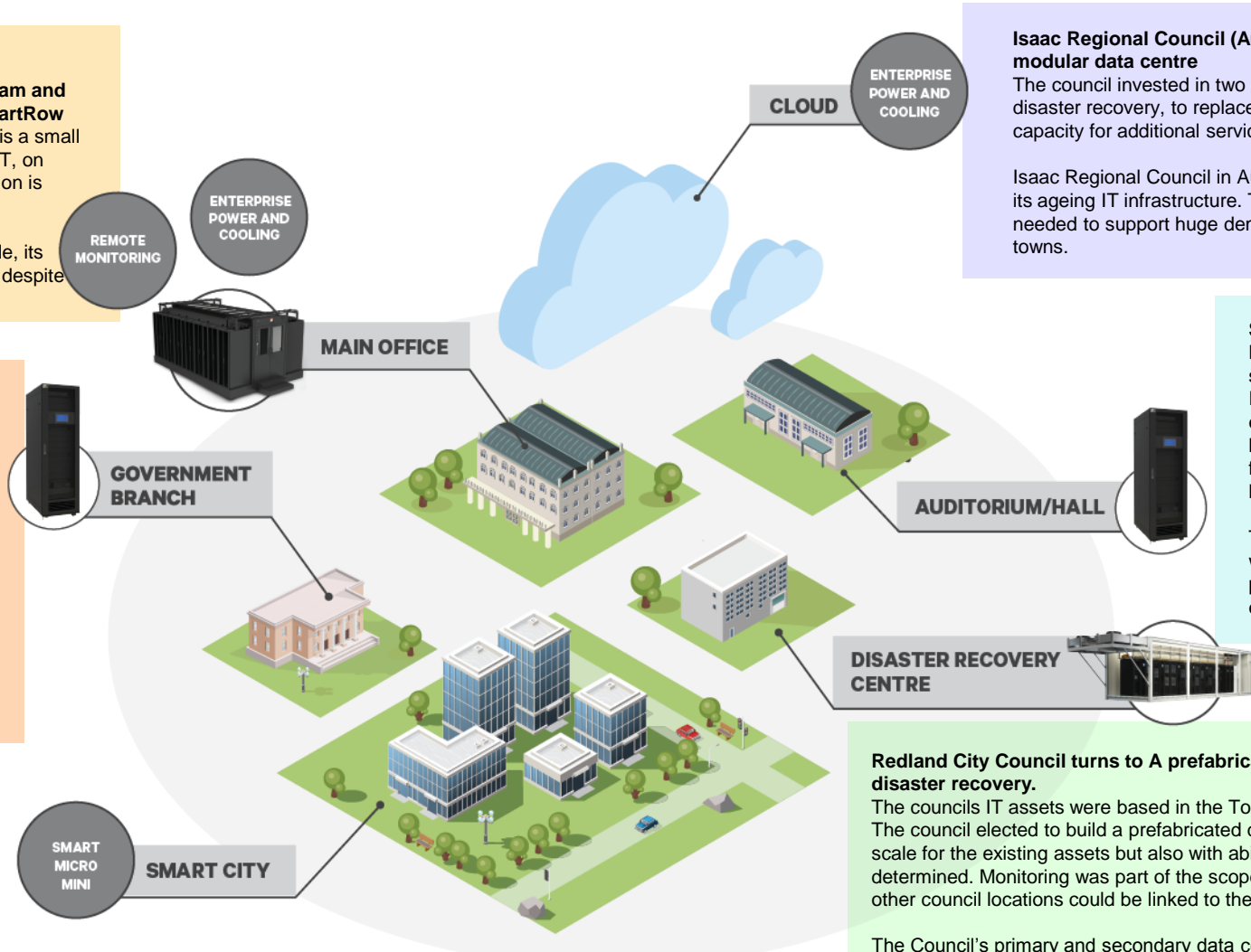
Vertiv's SmartRow was not only efficient and scalable, its small footprint enabled SADA to deploy the solution despite having limited floor area.

Major Government Department in Vietnam turns to DCIM to increase efficiency

Security was a main goal and the data processed very valuable and secure. DCIM was required to manage the Tier 3 data center assets and it was necessary to be securely remote accessed. Opportunity exists for other remote assets to be linked into the datacenter monitoring system.

The agency needed to make its data center more secure and reliable to handle the increasing volume of transactions it manages. With DCIM, the agency was able to enjoy Tier III availability with increased security and availability.

Asia Pacific Smart Cities spend will grow at 17% CAGR between 2018 -2022



Isaac Regional Council (Australia) becomes smart city ready with 2 new modular data centre

The council invested in two prefabricated datacenters, one production, one disaster recovery, to replace its existing ageing IT infrastructure and provide capacity for additional services as they become needed and come online.

Isaac Regional Council in Australia invested in a modular data centre to replace its ageing IT infrastructure. The solution gave the Council the flexibility it needed to support huge demands for IT services, particularly in its populous towns.

Shenandoah County Department (US) of Emergency Communications invests in IT infra for service upgrades

In times of crisis, resilience of the IT infrastructure is essential. Emergency services link directly with hospitals, government departments, police and other functions. And must be interoperable to ensure no lives are lost.

The DC was using an ageing UPS power system that was installed in the 1990s. Faced with degrading power, the department opted for an upgrade to ensure no interruptions in its emergency services.

Redland City Council turns to A prefabricated data centres for increased availability and disaster recovery.

The councils IT assets were based in the Town hall, expensive real estate and restricted in size. The council elected to build a prefabricated data centre on their services site with the capability to scale for the existing assets but also with ability to facilitate smart city functions yet to be determined. Monitoring was part of the scope such that additional smaller microdatacentres in other council locations could be linked to the central data center.

The Council's primary and secondary data centres were approaching the end of their useful life. They weren't tier-rated and were increasingly inefficient and expensive to run. The Council wanted to consolidate into a smaller, more efficiently managed space, which led them to buy a modular data centre that they could install at a depot site.

SMART CITY WILL ENCOMPASS ALL TECH

SUNSHINE COAST COUNCIL CLS

Project Overview

Solution: Full design and build of hybrid Brick & Mortar Ground Floor Plus Modular Build First Floor

- Ground level power room & backhaul room,
- 4 x transmission rooms first floor.
- IT racks x 24
- 300mm CRV+ x 6
- eXM160 x 2

- Netsure DCPS
- RDU based DCIM
- CRAC Units(P1035) x 6,
- P550E generator x 2 by Allight
- Fire detection and Inergen suppression by Wormald
- Access control & security by Prosys

