

# Role of edge in enabling digital transformation within the industrial sectors

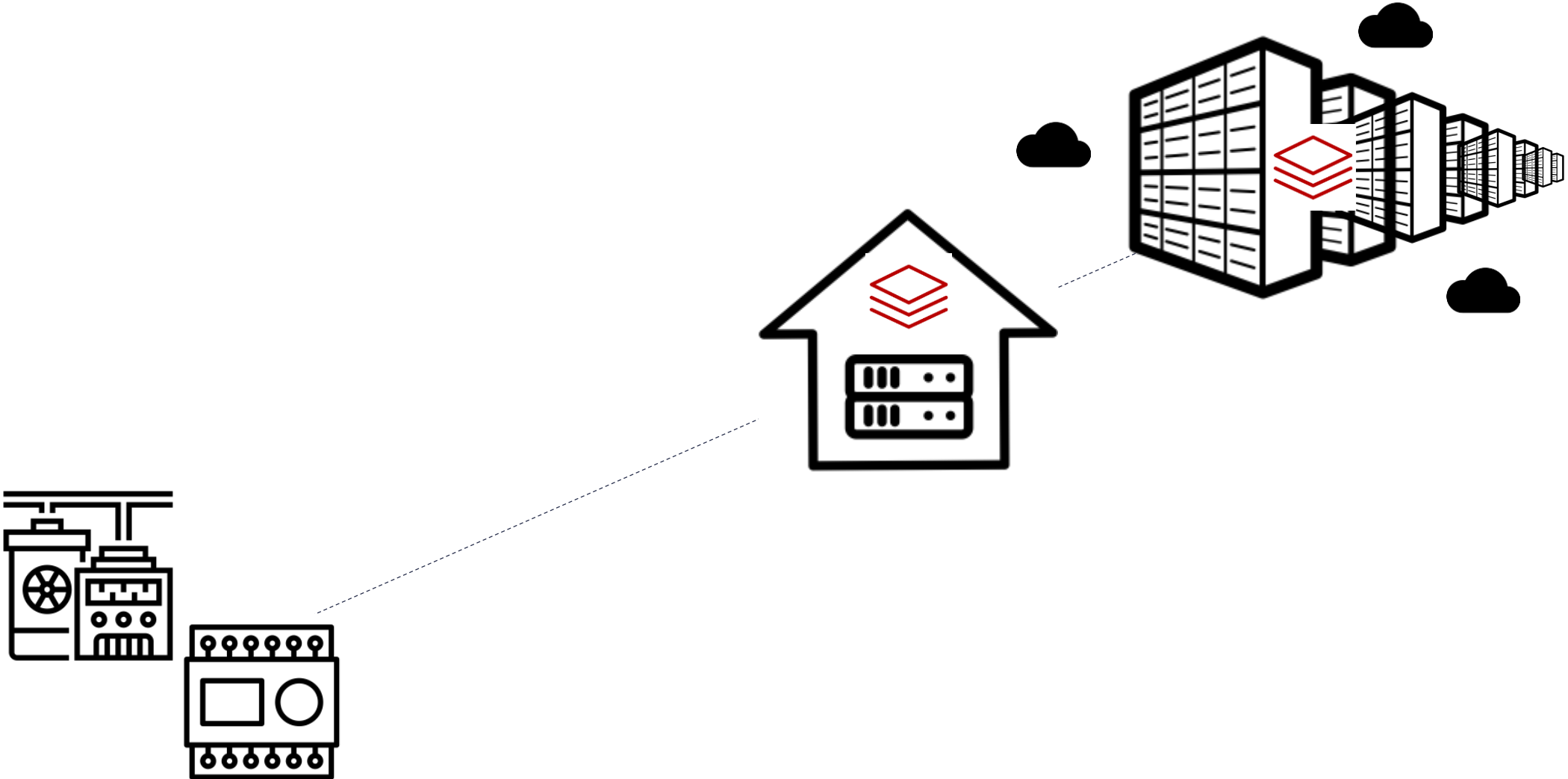
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# Previously, enterprises either hosted applications in a data centre or software was integrated into the appliance



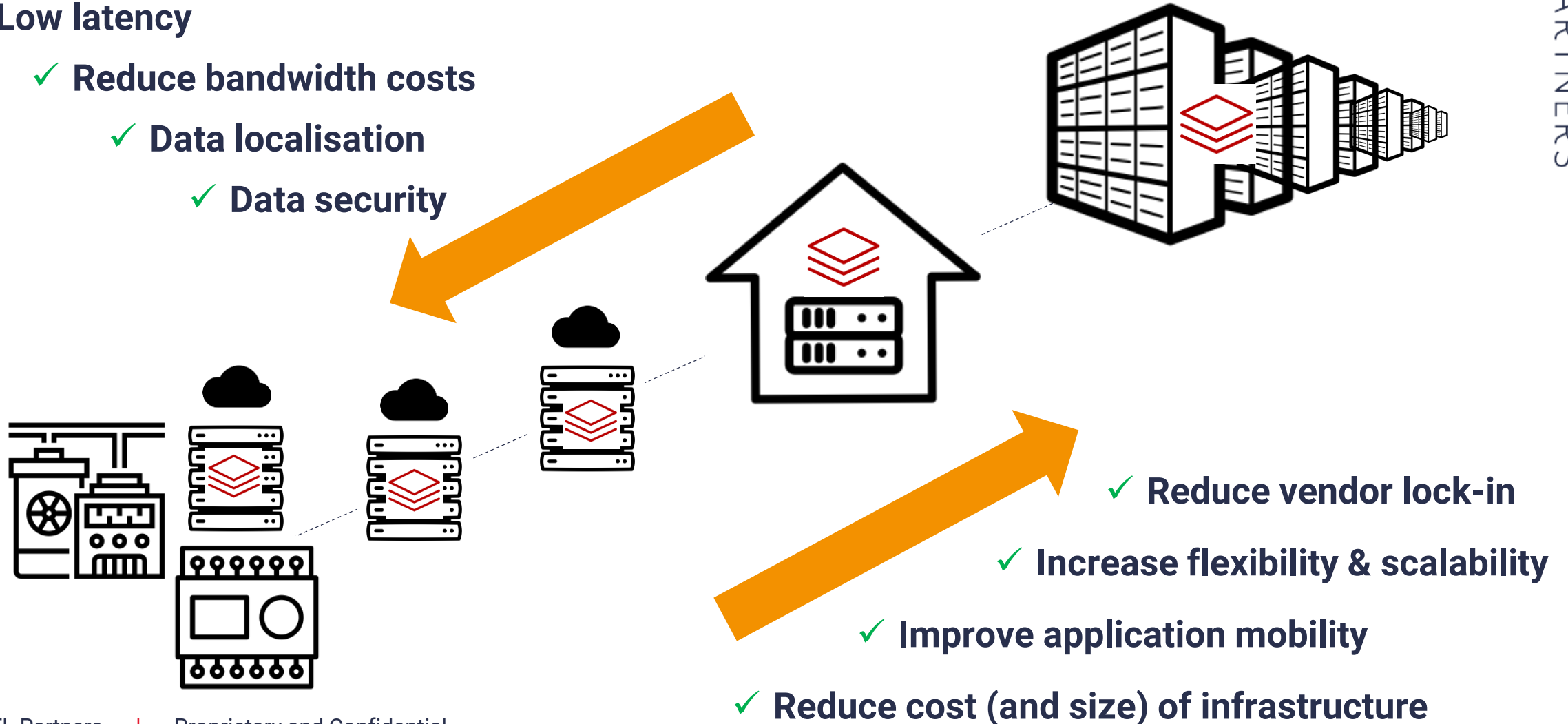
# Edge computing allows enterprises to deploy applications closer to the end-user/source of data

✓ Low latency

✓ Reduce bandwidth costs

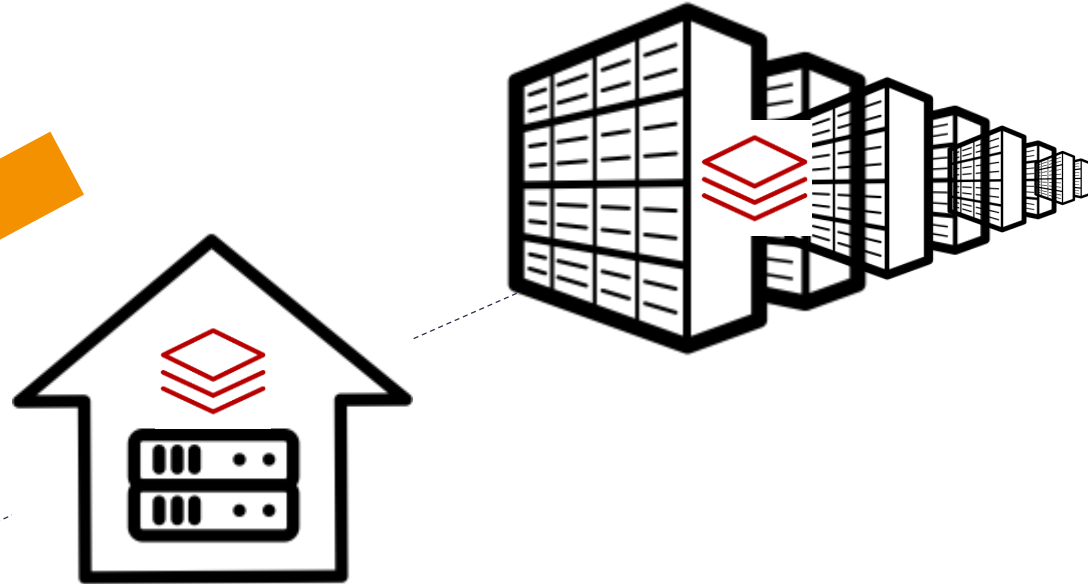
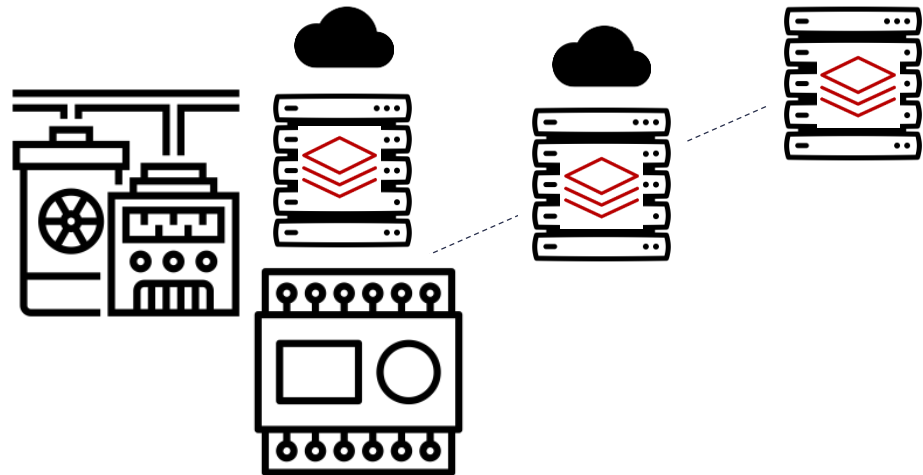
✓ Data localisation

✓ Data security



# Another way of looking at the benefits of edge is combining the capabilities of both local and cloud computing

## Local compute capabilities



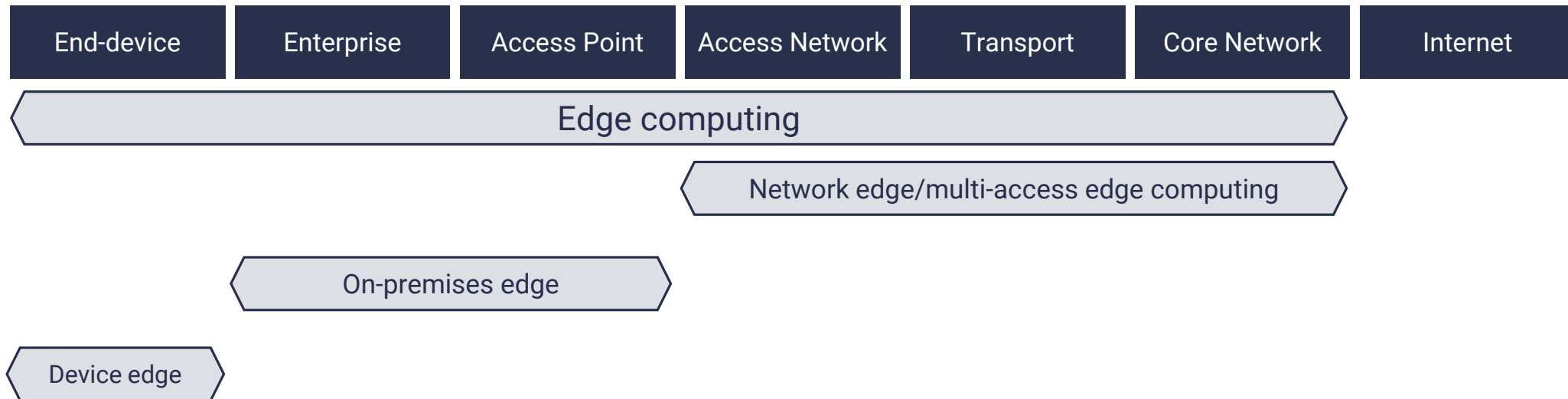
## Cloud compute capabilities



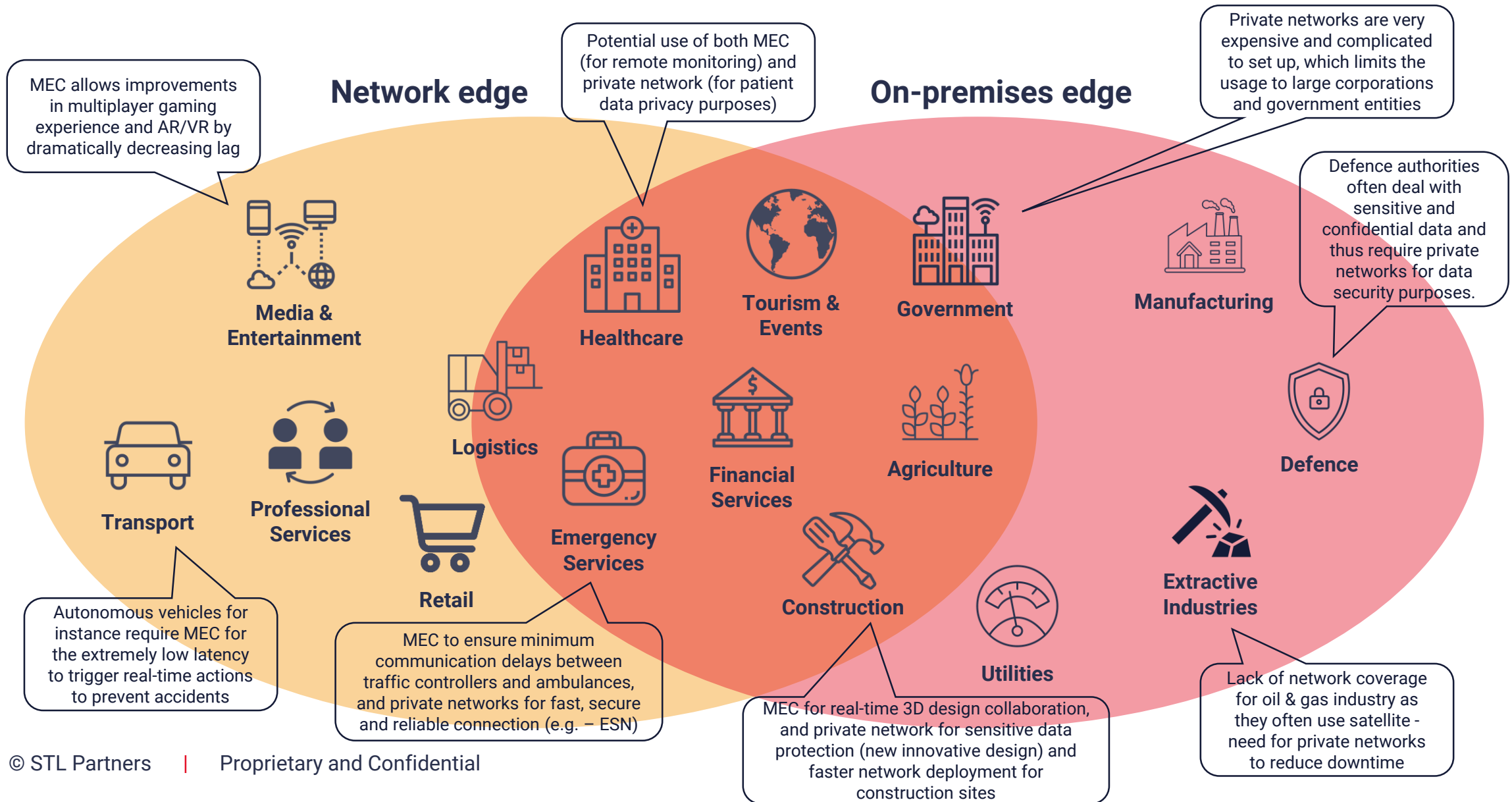
# Where is the edge? Depends on who you are or who your customer is

Edge computing brings processing capabilities closer to the end user/device or the source of data

*Location of compute workloads/processing*



# Different industries can be suited for different types of edge



# Edge computing is a key part of enterprises' digital transformation

☞ In mining, customers buy every dime that you make. As soon as something stops working or stops the supply chain, you start bleeding cash.

Leading oil, gas and mining group

☞ The focus is always going to be on control and automation – the stuff owned by the OT guys – they've been doing this for forever and a day.

Edge platform provider to manufacturing & extractives

☞ We have our own role in helping our customers to reduce the cost per barrel through the services we provide, so digital transformation is a part of that

Leading oilfield services provider

## Improving efficiencies



Reducing waste and defects

☞ Our digitalisation and innovation initiatives focus on becoming more efficient, reducing downtime and reducing bottlenecks.

Major automotive group



Increasing asset lifetime

☞ The focus is always going to be on greater control and automation – the stuff owned by the OT guys – they've been doing this for forever and a day.

Edge platform provider to manufacturing & extractives



Minimising time / maintenance & repair costs

☞ At the end of the day, it is all about how we can improve services we provide to customers, on top of the products they already have out there.

Leading aero/auto engineering group



Run operations more efficiently (automation)



Servitisation

☞ We can now move towards a leasing model where batteries are leased for an amount of time so the customer won't have to worry about having to replace the battery – it's already in their contract.

Leading battery manufacturing group



Data-driven product development

## New business models

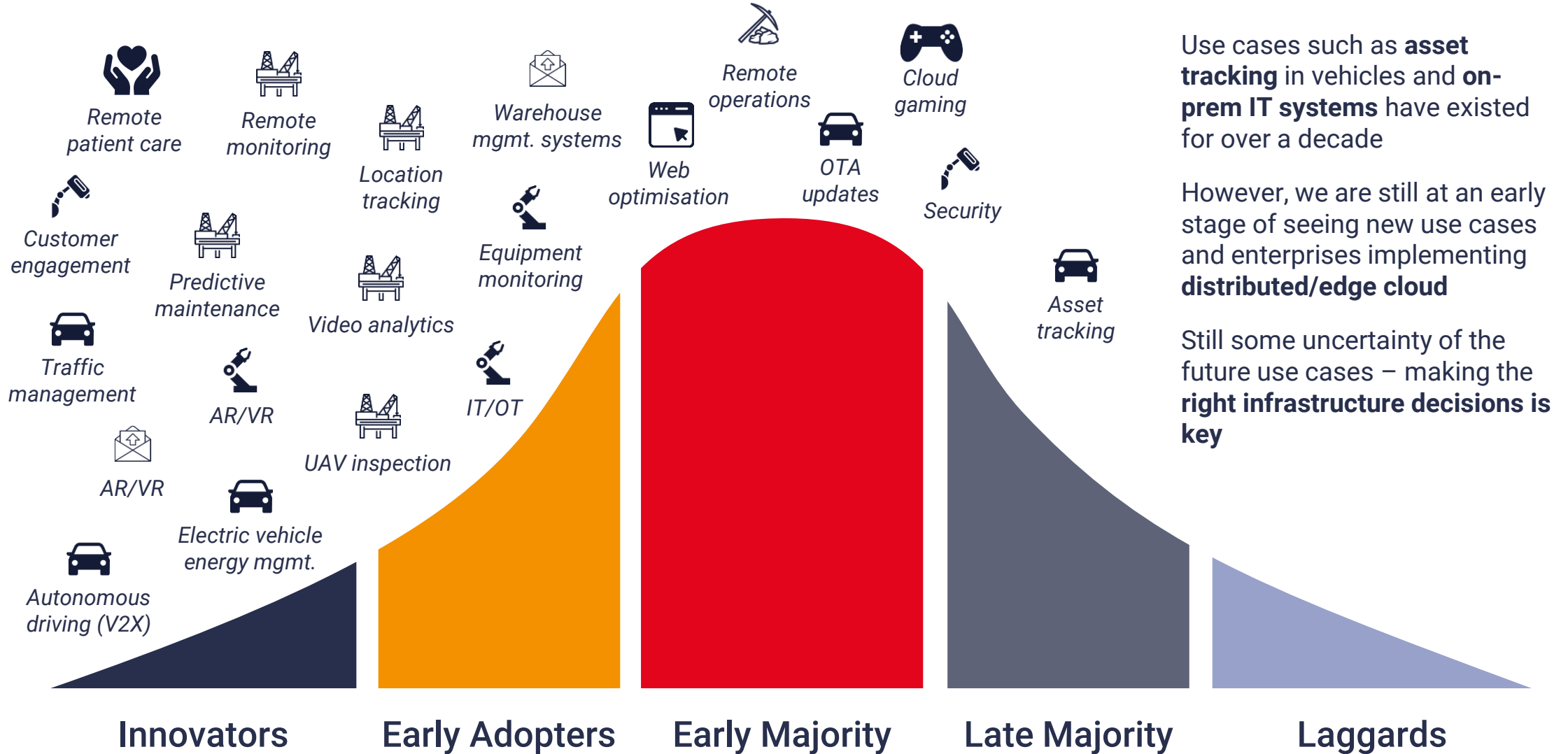
# The key drivers for edge computing depend on industry-specific factors: e.g. mission criticality, regulations etc.



Factor	Manufacturing	Oil, gas & mining	Connected Car	Smart cities	Healthcare	Retail	Logistics
Low latency & reliability	✓	✓	✓	✓	✓	✓	✓ ✓
Reduced backhaul	✓ ✓	✓ ✓	✓ ✓	✓ ✓			
Data localisation	✓	✓ ✓	✓		✓ ✓	✓	✓
Scalability			✓			✓	
Light device						✓ ✓	
Mobility			✓				
Resilience			✓ ✓		✓		



# Most new use cases are still at an innovation/early adopter stage of using edge computing/cloud

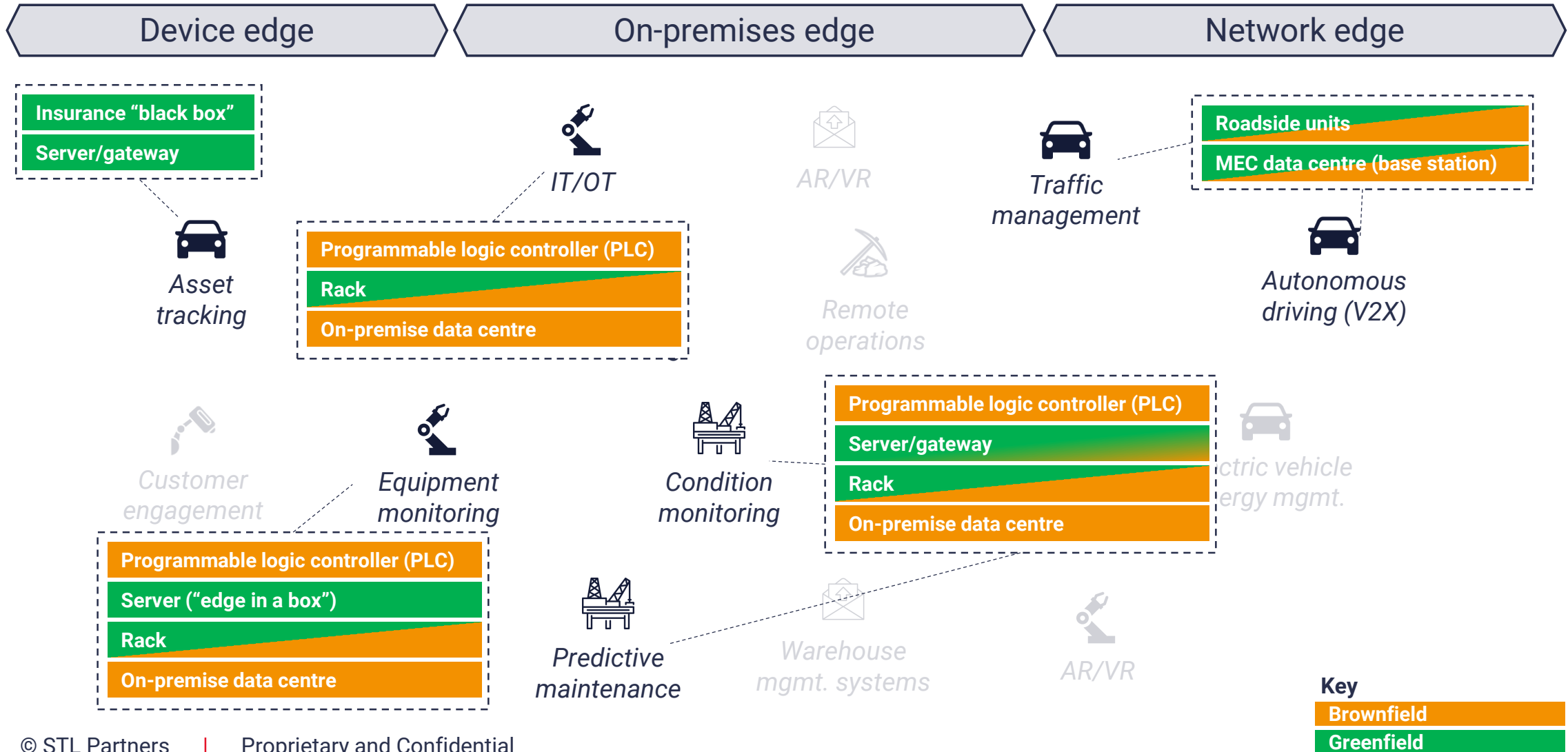


Use cases such as **asset tracking** in vehicles and **on-prem IT systems** have existed for over a decade



















However, we are still at an early stage of seeing new use cases and enterprises implementing **distributed/edge cloud**

Still some uncertainty of the future use cases – making the **right infrastructure decisions is key**

# How is edge compute being deployed? Both brownfield and greenfield deployments



# Many industrial edge use cases today centre around analysing data for longer term insights rather than real-time

OT									
	OT								
	<table border="1"> <thead> <tr> <th>Non-critical use cases</th> <th>Mission-critical use cases</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> <li>Current deployments of many edge use cases <b>do not use data insights in real-time</b>; insights are fed in at the operations or MES level (closer to the IT domain) rather than at the field level</li> <li><b>The value of edge is more in collecting, filtering and analysing data</b> e.g. IoT use cases where there are vast quantities of non mission-critical data</li> <li>However, <b>use cases can benefit from the move to becoming more real-time</b> – will see this evolution over time</li> </ul> </td> <td> <ul style="list-style-type: none"> <li>Edge applications that process data and <b>feed insights directly back into OT at the field level</b> must work in real-time, and are likely to be mission critical</li> <li>Often <b>more bespoke since they integrate with proprietary systems</b> - requires an understanding of highly specialised equipment or processes</li> <li><b>Automation key</b> to enable direct feedback - as automation develops will see more critical use cases put on edge</li> </ul> </td> </tr> <tr> <td> <p><b>Example use cases</b></p> <div style="display: flex; align-items: center; gap: 10px;"> <div style="border: 1px solid orange; padding: 5px; text-align: center;">               Production data analysis - AI/ML           </div> <div style="border: 1px solid orange; padding: 5px; text-align: center;">               Machine vision           </div> <div style="border: 1px solid orange; padding: 5px; text-align: center;">               Predictive maintenance           </div> <div style="border: 1px solid orange; padding: 5px; text-align: center;">               Asset tracking           </div> <div style="font-size: 2em; color: orange;">➔</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">               Precision monitoring &amp; control           </div> <div style="border: 1px solid black; padding: 5px; text-align: center;">               Remote operations           </div> </div> </td> <td></td> </tr> <tr> <td> <p><b>Rate of adoption</b></p> </td> <td> <ul style="list-style-type: none"> <li>Non-critical and solution does not need to be as bespoke - likely to be adopted earlier</li> <li>Reluctance to move to edge since companies want to maintain control of critical industrial processes</li> <li>OT vendors are the control point – adoption depends on them</li> </ul> </td> </tr> </tbody> </table>	Non-critical use cases	Mission-critical use cases	<ul style="list-style-type: none"> <li>Current deployments of many edge use cases <b>do not use data insights in real-time</b>; insights are fed in at the operations or MES level (closer to the IT domain) rather than at the field level</li> <li><b>The value of edge is more in collecting, filtering and analysing data</b> e.g. IoT use cases where there are vast quantities of non mission-critical data</li> <li>However, <b>use cases can benefit from the move to becoming more real-time</b> – will see this evolution over time</li> </ul>	<ul style="list-style-type: none"> <li>Edge applications that process data and <b>feed insights directly back into OT at the field level</b> must work in real-time, and are likely to be mission critical</li> <li>Often <b>more bespoke since they integrate with proprietary systems</b> - requires an understanding of highly specialised equipment or processes</li> <li><b>Automation key</b> to enable direct feedback - as automation develops will see more critical use cases put on edge</li> </ul>	<p><b>Example use cases</b></p> <div style="display: flex; align-items: center; gap: 10px;"> <div style="border: 1px solid orange; padding: 5px; text-align: center;">               Production data analysis - AI/ML           </div> <div style="border: 1px solid orange; padding: 5px; text-align: center;">               Machine vision           </div> <div style="border: 1px solid orange; padding: 5px; text-align: center;">               Predictive maintenance           </div> <div style="border: 1px solid orange; padding: 5px; text-align: center;">               Asset tracking           </div> <div style="font-size: 2em; color: orange;">➔</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">               Precision monitoring &amp; control           </div> <div style="border: 1px solid black; padding: 5px; text-align: center;">               Remote operations           </div> </div>		<p><b>Rate of adoption</b></p>	<ul style="list-style-type: none"> <li>Non-critical and solution does not need to be as bespoke - likely to be adopted earlier</li> <li>Reluctance to move to edge since companies want to maintain control of critical industrial processes</li> <li>OT vendors are the control point – adoption depends on them</li> </ul>
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# In order to accelerate edge computing adoption, these barriers need to be overcome



IT vs. OT decision-making responsibility



Education and industry culture



Data compliance and regulation



Edge hardware for OT/industrial/enterprise needs



Making the business case: cloud vs. edge



Fragmented partner ecosystem

# So, what's next? How should companies kickstart their edge computing journey?

1

## Build a business case

- Define your business drivers / KPIs for using edge (cost, performance, agility)
- Assess which applications need to use edge and which will need cloud across IT & OT
- Evaluate the investment required to implement edge computing

2

## Define your guiding principles to future proof infrastructure

- You won't know what your edge applications will be from Day 1
- Avoid mistakes of the past – less proprietary, more open infrastructure
- Flexibility is an inherent benefit of cloud – bring it to the edge

3

## Select the right partners

- Different technologies are coming together partners will need to support – 5G, IoT, AI
- The right partners are those who are engrained in the ecosystem and can bring others too – across applications, software, hardware and services

# Thank you

Please feel free to reach out if you have any questions:

[yesmean.luk@stlpartners.com](mailto:yesmean.luk@stlpartners.com)

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# STL Partners advises companies on their strategies and puts them to action by engaging customers effectively



# STL has built a centre of excellence around edge computing and been advising businesses on this for over 3 years

Unrivalled expertise and experience...

Supported 3 major telecoms operators to develop a commercial strategy for edge computing

*"STL brings edge expertise. They understand that landscape across telco and other ecosystems."*

Head of Commercial & Partnering - Global MNO

*"We worked closely with STL in true partnership to deliver high quality, actionable insights that were not available elsewhere."*

Head of Cloud Edge - European MNO

*"The consulting team produced high-quality output that could be repurposed in a wide variety of ways."*

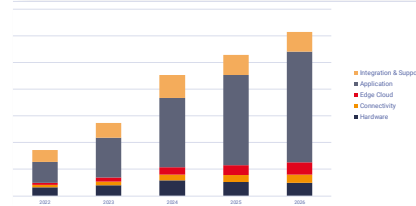
Product Manager - global software company

Advised global telco on hyperscaler partnership negotiation worth €0.5M

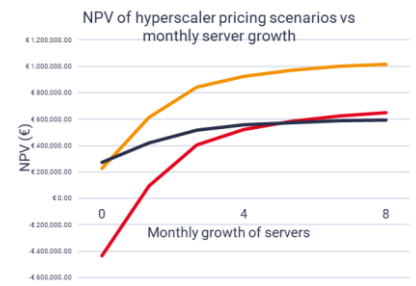
Interviews with over 50 enterprises and solution providers across different industries

Team of experts: leading industry analysts and consultants, IoT practitioners & cloud specialists

...and an industry-leading edge knowledge centre



STL Partners' Edge Computing Ecosystem Tool



Database of 150+ use cases for MEC, private networks edge and on-premises edge

Interactive model for forecasting use case revenues

Ecosystem tool mapping 80+ vendors across the edge value chain

MEC site ROI model & hyperscaler negotiation tool