5G at the Heart of Industry 4.0

MWC Barcelona 2024

Shahid Ahmed
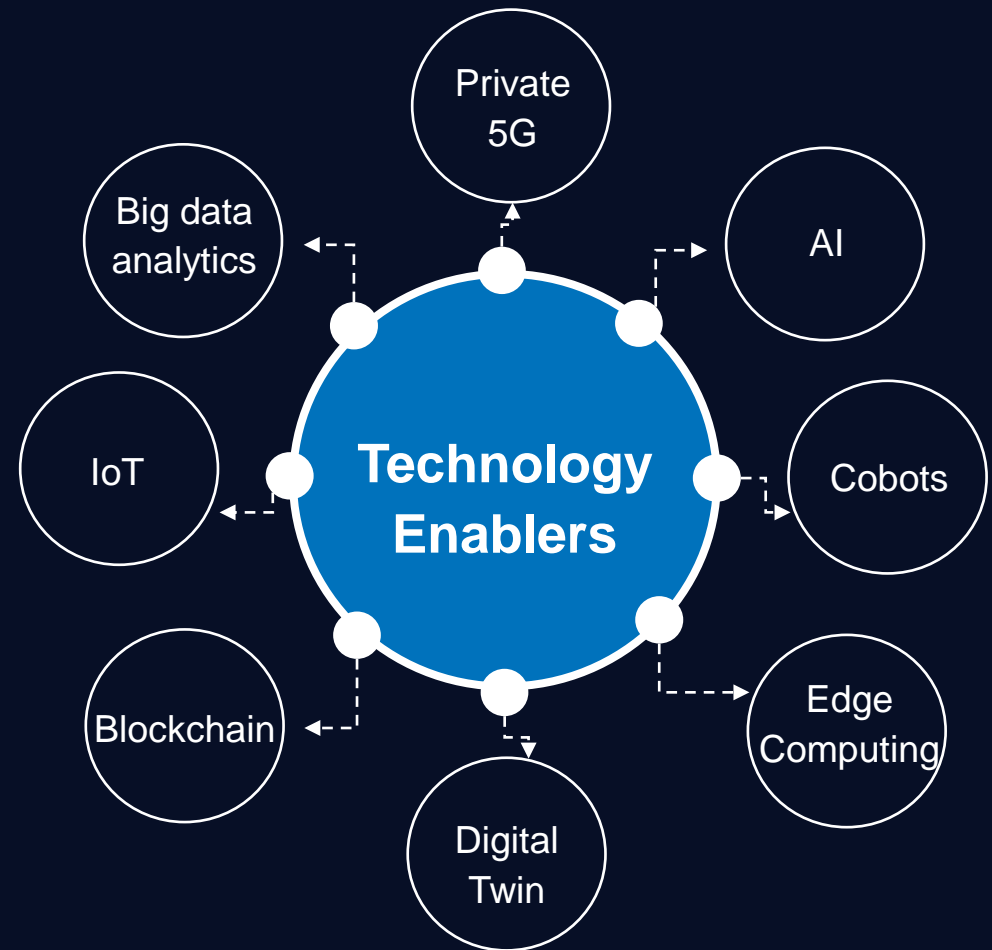Executive Vice President – New Ventures and Innovation

Industry 4.0 market size could reach **USD 336.6bn** with a CAGR growth of **23.1%** by 2027.

Industry 4.0 key technology enablers include **Private 5G**, IoT, Edge Computing and data analytics, AI and Digital Twin
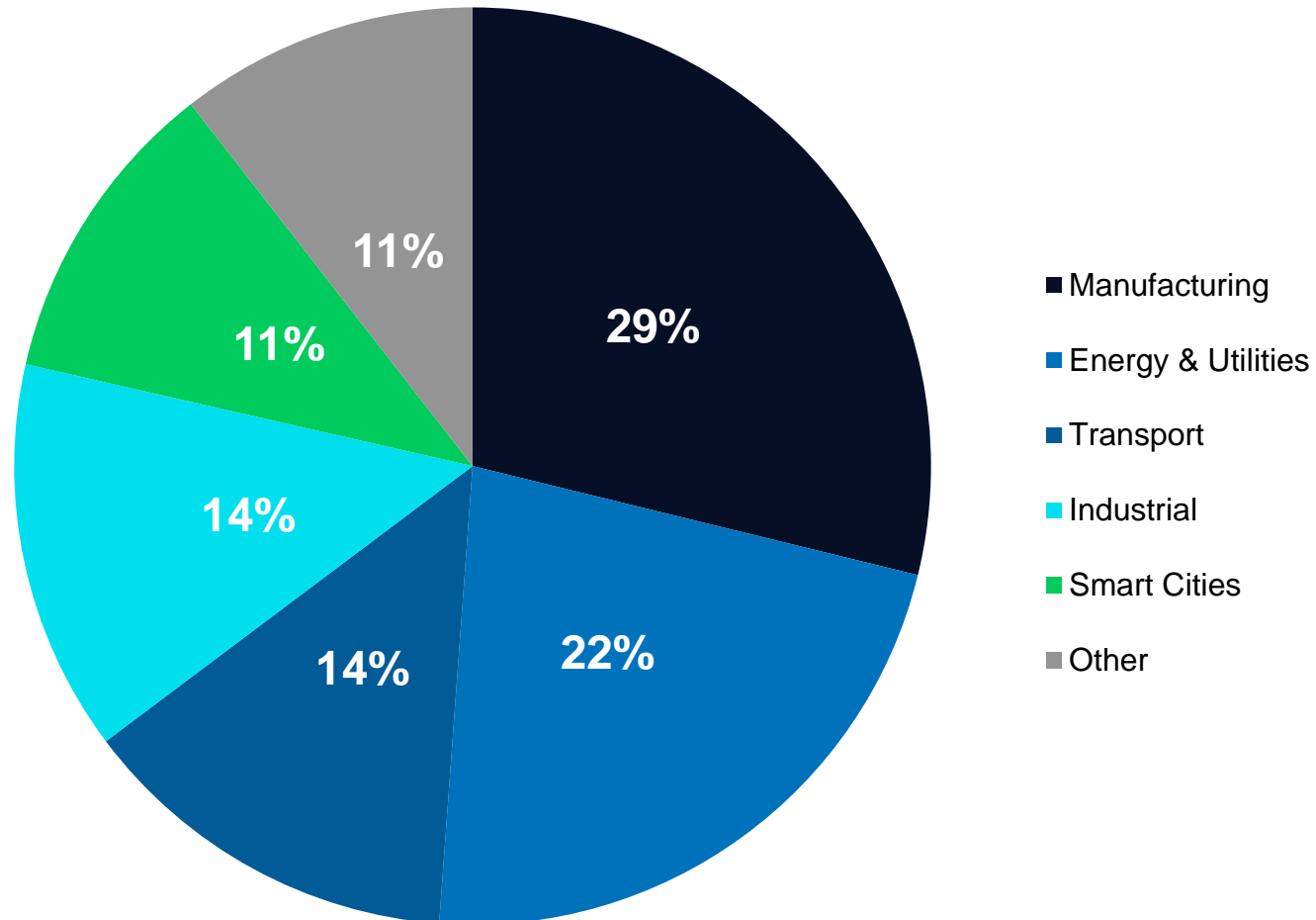
Increasing the operational efficiency is a business challenge that **84%** of enterprises are trying to solve with Industry 4.0

Technology Enablers

- Private 5G
- AI
- Cobots
- Edge Computing
- Digital Twin
- Blockchain
- IoT
- Big data analytics

Manufacturing, energies and utilities and transportation verticals

dominate expected Private 5G deployments by 2027

- ■ Manufacturing
- ■ Energy & Utilities
- ■ Transport
- ■ Industrial
- ■ Smart Cities
- ■ Other

29% — Manufacturing
22% — Energy & Utilities
14% — Transport
14% — Industrial
11% — Smart Cities
11% — Other

Top five use cases of private network deployment

54% Connected workers

42% Physical Security

40% Asset Monitoring

38% Predictive maintenance

35% Asset tracking

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While Cloud services have been adopted by enterprises, AI enablement requires Private 5G infrastructure to unlock applications and devices

Cloud

- Cloud and edge-based data analytics
- Asset management, predictive maintenance, automation
- Local and secured data

Private 5G

- High performance
- Network security and control
- Cost effectiveness
- Mobility and quality of assurance

Industry 5.0

AI

- Enhance operational and production efficiency
- Increased automation with devices and applications
- Vision AI to improve data analysis and error detection

Private 5G Network total cost of ownership

5X ↓ Fewer 5G Access Points required compared to Wi-Fi to cover a single 5m SQFT area

5X ↓ Reduced infrastructure costs for fibre and cabling

10X ↑ Less ingress points, lower risk footprint

2X ↓ Reduced OpEx network management costs

Businesses are shifting their focus to Operational Technologies (OT) from IT

Reliable Connections and Low Latency requirements hampers near real-time automation

Data intensive applications need high **Bandwidth** to download large amounts of data in short period of time
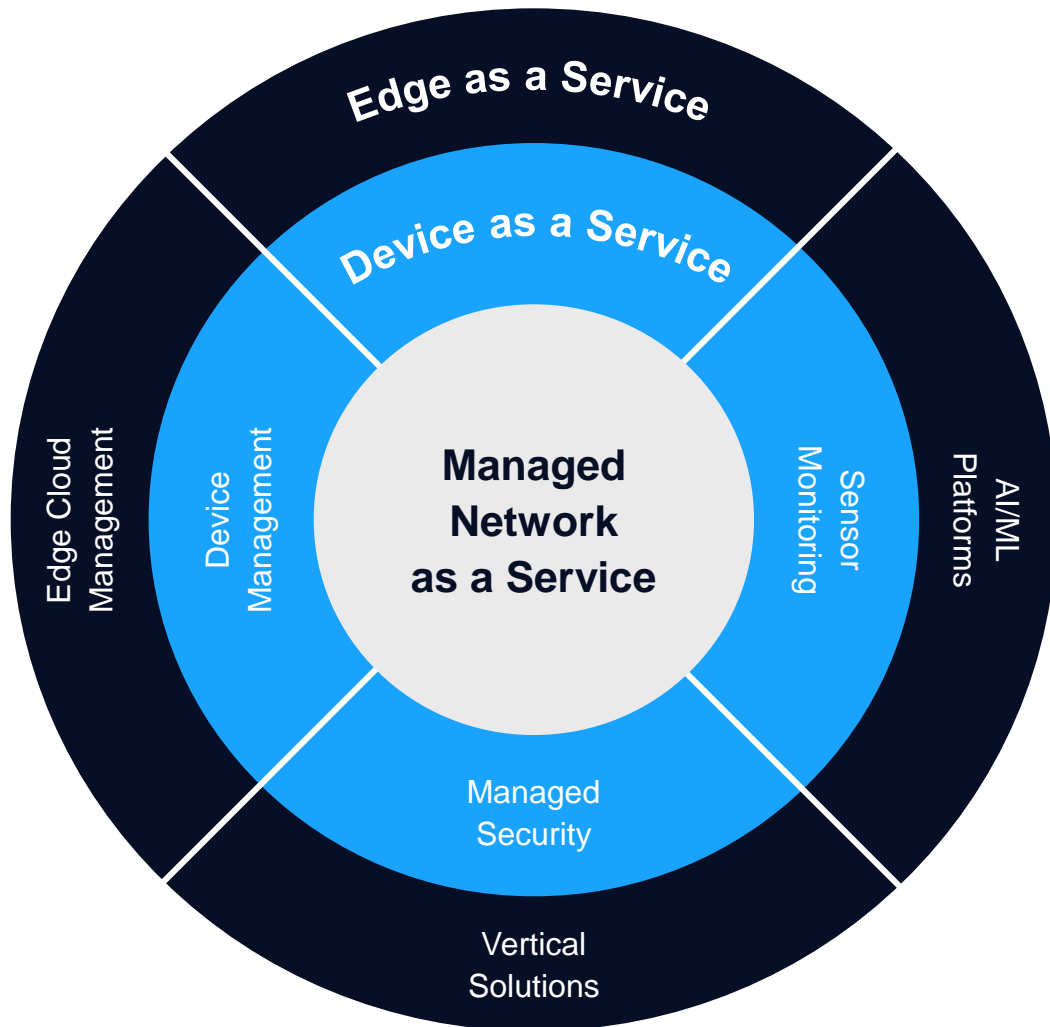
Mobility and **consistent connectivity** are required in challenging environments

Security and privacy can be compromised by data leaving organisation's perimeter

NTT DaTa

NTT Data delivers a turnkey Manage Service Provider Partnership

Edge as a Service

Device as a Service

Managed Network as a Service

Edge Cloud Management

Device Management

Sensor Monitoring

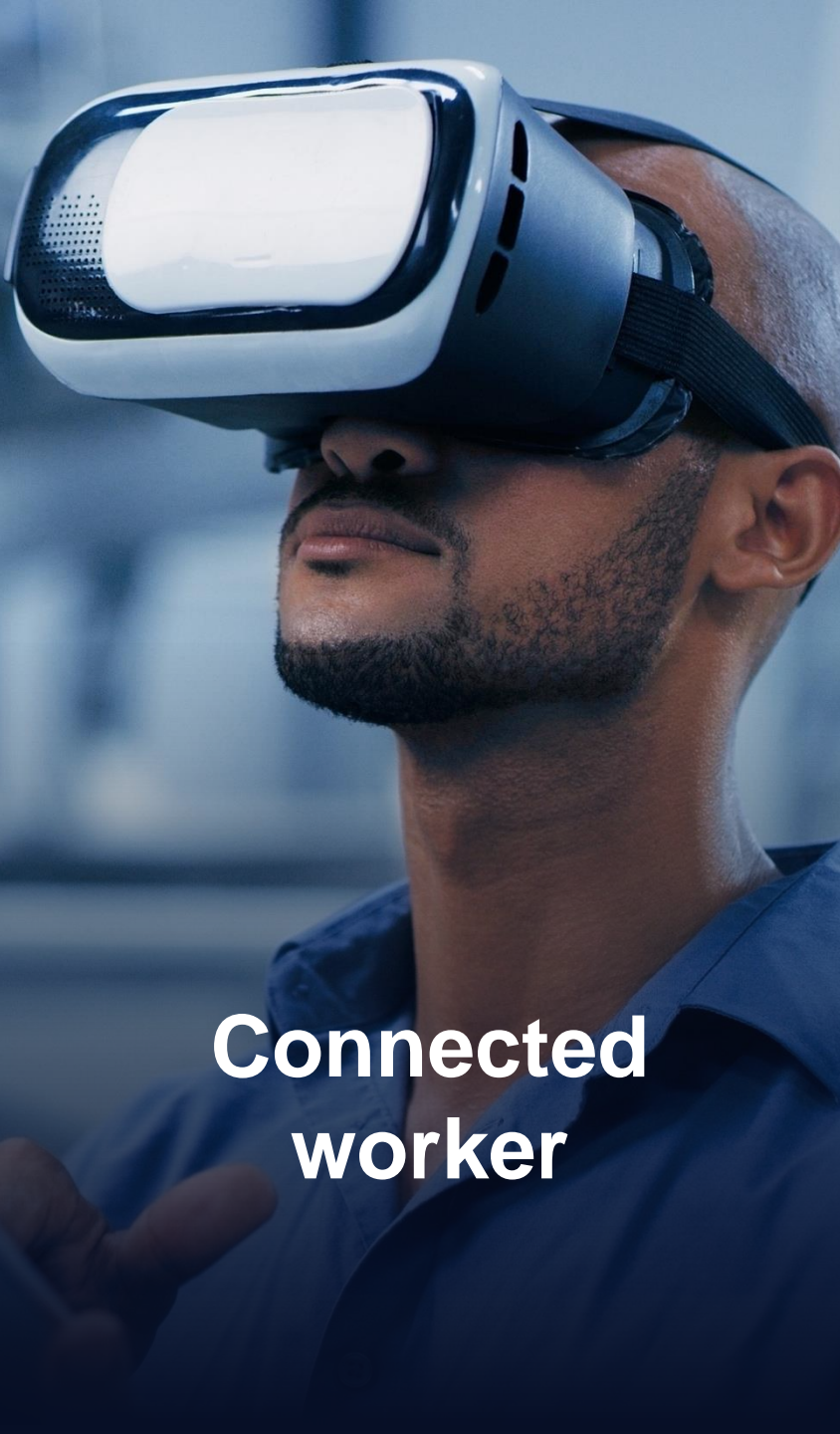AI/ML Platforms

Managed Security

Vertical Solutions

Network & edge compute as a service

Connected solutions as a service

Managed operations and support SLA's

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Connected worker

OTA firmware upgrade "data shower"

Predictive maintenance

Edge AI is poised to revolutionize manufacturing workflows and operations

Real-time decision making

Predictive maintenance

Quality control and defect detection

Optimized energy consumption

Enhanced worker safety

Data privacy and security

Thank you