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Unlocking the benefits of 5G for the enterprise customer

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Why is value creation in enterprise so important?
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5G has a compelling story

10,000 x more traffic
10-100 x more devices
↓1 x millisecond latency
10 years M2M battery life
M2M ultra slow cost
↑10 Gbit/s peak data rates
↑100 Mbit/s wherever needed

5 Key drivers of value

1. Capacity
2. Reliability
3. Latency
4. Bandwidth
5. Efficiency

Source: c|net
Value to be unlocked with 5G by enterprise vertical

$4.3tn in value to be unlocked through identified use-cases

- Public Sector
- Financial Services
- TMT
- Healthcare
- Industrials
- Consumer Goods & Retail

Manufacturing $605bn
Technology $373bn
Transport / Mobility $348bn
Entertainment & Media $120bn
Mining $27bn
Healthcare $405bn
Utilities $67bn
Aerospace & defence $96bn
Insurance $226bn
Logistics $390bn
Professional services $606bn
Finance $606bn
Retail $850bn
Pharma $27bn

Value to be unlocked (as % of current revenue)

Time horizon for commence of value unlocking (years)

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Case study 1: Manufacturing

Today

- Planning & scheduling
- Inbound logistics
- Raw material inventory
- Quality & safety
- Machining setup
- Tooling management
- Work under management
- Manufacturing process
- Finished goods inventory
- Outbound logistics
- Distribution

5G vision

- AI Based planning
- Edge computing
- Connected machines
- Setup and adjustment
- AR enabled workers
- Streaming diagnosis
- Preventative maintenance

High-bandwidth, low latency

- Linear process
- Long lead times
- Susceptible to breakdowns
- High potential for waste

- Highly agile process
- Responsive to customer demand and specifications
- “Always-on” – no breakdowns
- High efficiency & agility
Case study 2: Healthcare

**Current**
- Symptoms
- Self-assessment
- Treatment
- Surgery
- Pharmaceuticals
- Re-assessment
- Management
- Customer tracking

**5G vision**
- Real-time diagnosis
- Streaming diagnosis
- On-going detection of changes
- Connected machines
- Sensors detecting vital KPIs
- Delay leading to potential damage
  - Arrange consultation
  - Tests
  - Diagnosis

**Symptoms**
- Linear
- User initiated
- Wait times leading to user apathy/damage/spreading
- Treatment orientated

**Treatment**
- Surgery
- Pharmaceuticals

**Re-assessment**
- Linear
- User initiated
- Wait times leading to user apathy/damage/spreading
- Treatment orientated

**Management**
- Linear
- User initiated
- Wait times leading to user apathy/damage/spreading
- Treatment orientated

**Customer tracking**
- Linear
- User initiated
- Wait times leading to user apathy/damage/spreading
- Treatment orientated

**5G vision**
- Responsive to customer demand and specifications
- Prevention orientated
- High efficiency
- Helping us live healthier and longer

**Notices**
- Immediate video consultation
- No wait time
- Automatic initiation of treatment
- Drone delivery
- Surgery
- Pharma
- Tele-surgery if needed
- Notification of work and family
- Notification of healthcare platform
- No user involvement
Case study 3: Mobility

5G vision

Today

- Customer gets in car
- Customer drives car (3 hours)
- Customer reaches destination
- 1 hour traffic jam

- Customer hails AV robo-taxi
- Car picks up goods/dinner from drive-by station
- Car interfaces with city traffic system, saves 30 min of connection
- Smart traffic hub updates optimal flow model
- Car enters in-car video-meeting with new client
- High board wide connection to corp. VPN
- Customer watches favorite series
- Orders dinner online in vehicle
- Orders groceries in vehicle
- Checks news & social media

- Productive time/remote work (1.5 hours)
- Creates productive, interactive time
- New businesses are able to tailor products for this new market

- Contains vast amounts of unproductive, invaluable time
- Low opportunity for new business models

- New retail / entertainment
- 0-2 hours

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The DNA of an enterprise 5G use case

**Machine enhanced decision making**
Minimising human error and improving the quality of decision making

**Visualisation**
Providing operations personnel or customers with deep knowledge and experience overlays

**Intelligent efficiency**
Ubiquitous access to data and computer power, reducing friction and wastage, while enhancing quality

**Data rich**
Unleash new business models through the vast amounts of additional data from sensors

**Agile automation**
Providing automation with minimal trade off of customisation, flexibility or quality

**Trusted connections**
Providing critical services/products with secure data and network uptime
How to be an Outpacer in 5G Enterprise

1. Don’t be a 4G thinker anymore

2. Understand 5G Enterprise DNA

3. Recognise timing of roll-outs will vary, and so will the creation of value

4. Enterprise divisions need to be insight led and agile in their product creation

5. Collaborate…unlocking the value drivers (the DNA) will require you to co-create…
Åsa Tamsons
Ericsson
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Discussion
Terry Halvorsen
Samsung Electronics

CIO & EVP
IT & Mobile
B2B
Discussion
Vivek Badrinath
Vodafone Business

CEO
AMAP
Vodafone is leading the way in 5G

Spain | Ireland | UK | Germany | Italy | Qatar | New Zealand
5G use cases for businesses

- Private Networks
- Mobile Edge Computing
- Automotive
Private Networks

Technology

MEC  Cloud
4G & 5G  Fixed Backhaul
Mission Critical
IoT Sensors
Mobile Devices

Applications

Remote Operated Equipment
Robotics
Asset Monitoring
End-to-End Secured Network
Connected Worker

Partners

centrica storage
ABB
e-novia
POLITECNICO
MILANO 1863
Mobile Edge Computing

**Technology**
- MultiCloud
- 4G & 5G
- SDN
- Analytics
- AI & ML
- IoT
- Private Networks

**Applications**
- Gaming
- Augmented/Virtual Reality
- Video Analytics
- Image/Video Recognition
- Stadium Experiences

**Partners**
- IBM
Automotive

Technology

V2X  IoT  5G New Radio

Video  MEC

Analytics

Applications

Smart Traffic Jam Warning
Vehicle approaching warning
Cooperative Cruise Control
Connected Ambulance
“See through car in front”

Partners

BMW  SAP  Continental

VOLKSWAGEN  BOSCH  aws
Discussion
Q&A