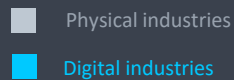


An aerial night photograph of a city, likely Singapore, featuring a wide river and a brightly lit island in the foreground. The city skyline is visible in the background with numerous illuminated buildings. The text 'Driving Industry 4.0 And Beyond...' is overlaid in white on the left side of the image.

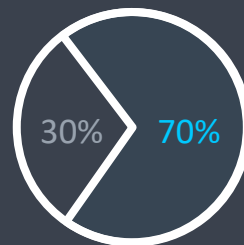
Driving Industry 4.0 And Beyond...

November 2019

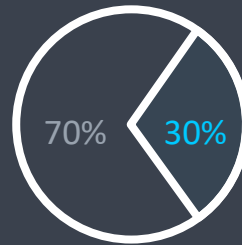
TALE OF TWO INDUSTRIES



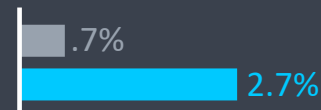
Investment in ICT



Share of GDP



Annual productivity growth
(15 year average)



Source: The Technology CEO Council

Megatrends, challenges and market opportunities

Digital transformation = Cornerstone of the 4th Industrial revolution

Mobile wireless technologies & IoT are 2 key enablers that will help verticals & public sector operations evolve as much it changed people's life in the last decade

0110



Will help embrace today's megatrends...

Managing natural resources



Urbanization impact on infrastructure



Enterprises & public sector efficiency



Globalization of supply and demand



Some industry verticals have massive transformation & gain potential

Energy



Transportation



Industry



Sports and entertainment



Retail



Cities



Speed of innovation with the wider ecosystem



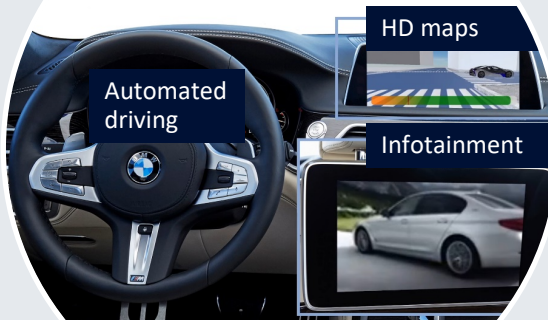
5G smart sea port



Real-time video



5G V2X connectivity



Automated driving

HD maps

Infotainment

BMW GROUP



Rolls-Royce
Power Cars Limited



5G industrial automation



Ultra-reliable,
low-latency connectivity



BOSCH
Invented for life

Traffic lights management, data processing from mobile sensors and virtual reality

Different automotive and public safety slices running over the same network

Coupling advanced interactive robots with wireless perimeter intrusion detection

Smart Industry 4.0 – A combination of dedicated and public networks

LTE & 5G slicing enabling next level of automation and efficiency

Retire legacy WiFi systems in exchange of a robust local network, that works even during backhaul failure

Consume network as a service (in an OPEX model)

Enabling new use cases, e.g. LTE/5G based video surveillance and object tracking

Enterprise needs



**Dedicated & public networks
combined industrial solutions**



Extend the business into Industry 4.0

Attractive business case for LTE (small cell) deployments in enterprise environments

Develop new use cases for LTE and create new customer relationships in preparation for 5G

Operator opportunities



Key take away

Transformation

Automation

Openness

