

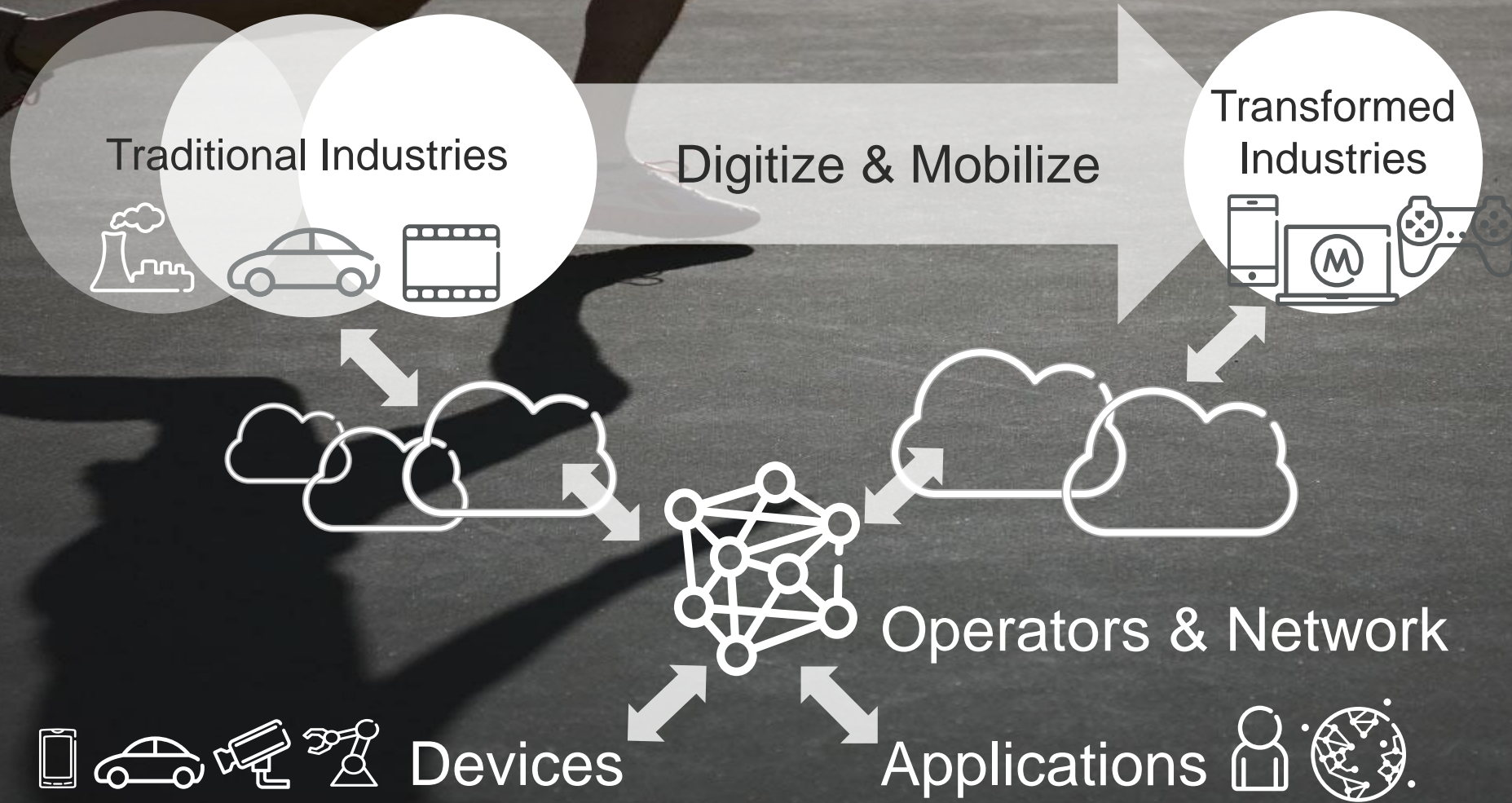


# VILMOS BESKID

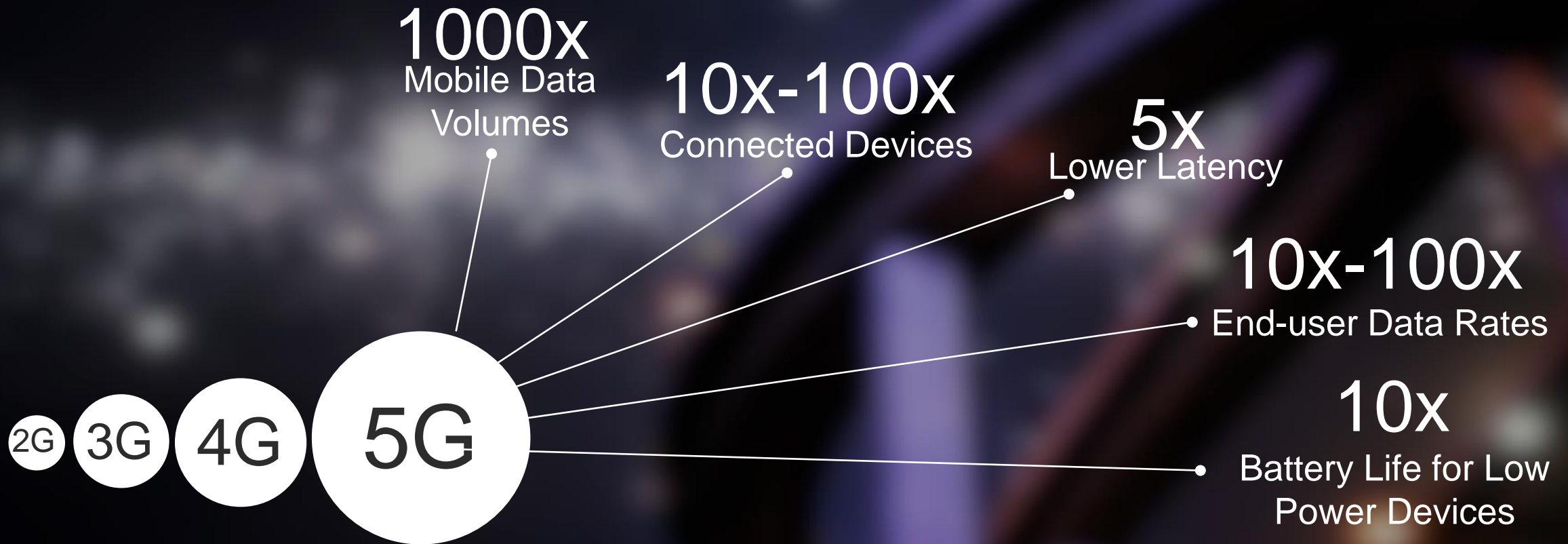
Head of Ericsson R&D Center Budapest

20th September 2017

# INDUSTRY TRANSFORMATION



# EVOLUTION TOWARDS 2020





# 5G IS USE CASE DRIVEN



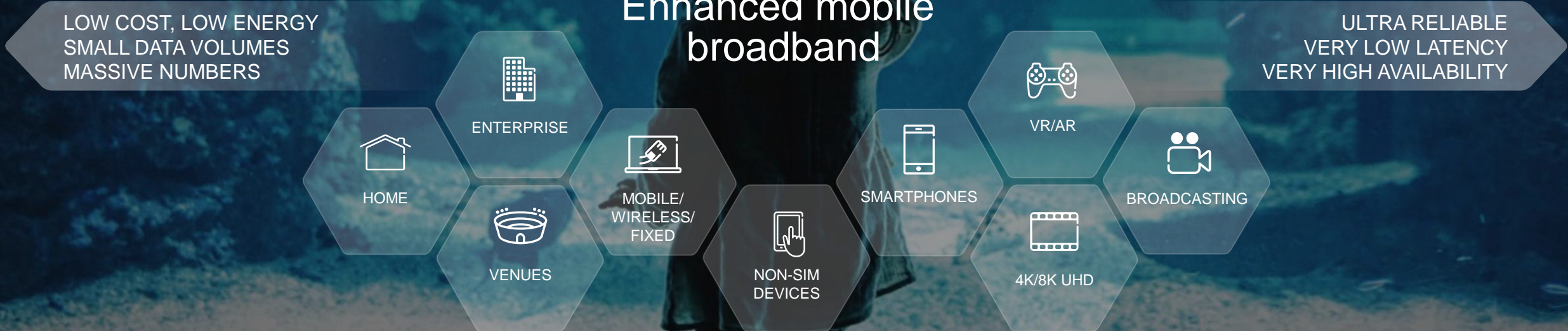
## Massive MTC



## Critical MTC



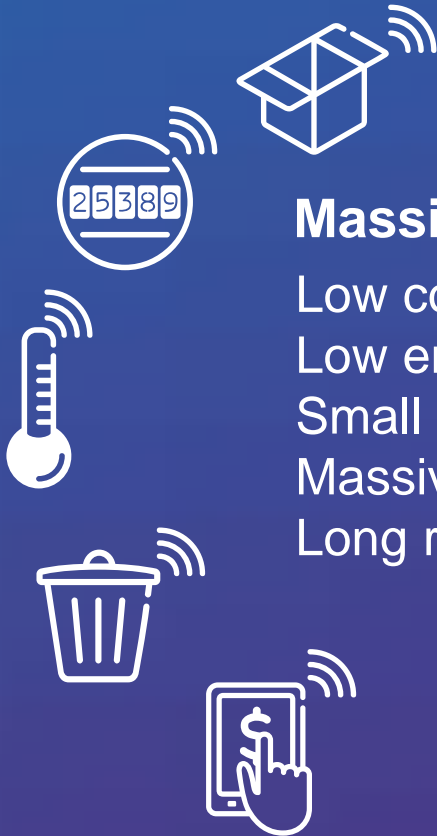
## Enhanced mobile broadband



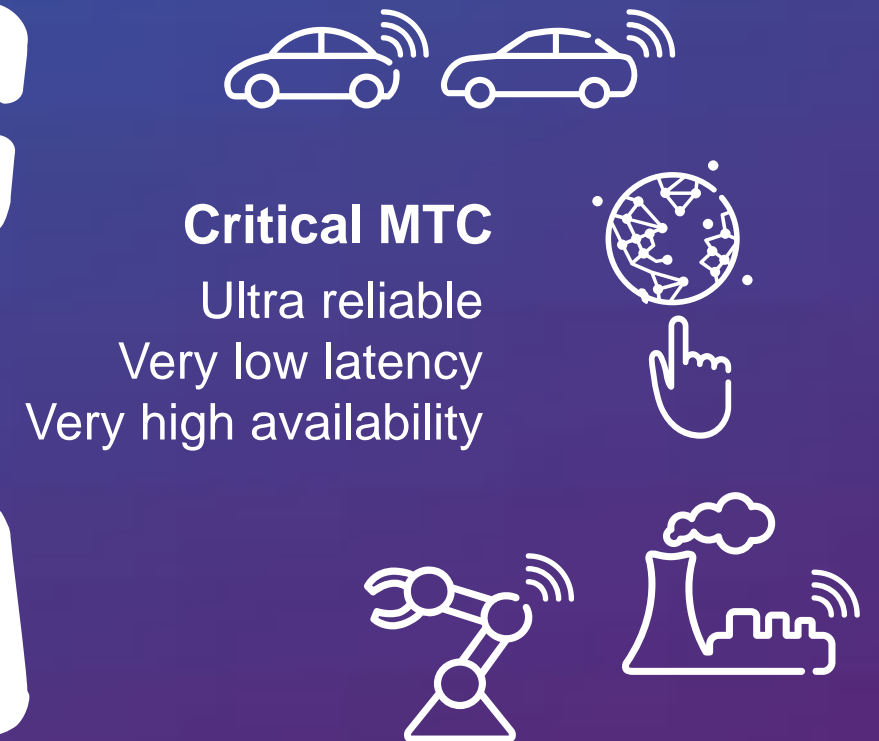
LOW COST, LOW ENERGY  
SMALL DATA VOLUMES  
MASSIVE NUMBERS

ULTRA RELIABLE  
VERY LOW LATENCY  
VERY HIGH AVAILABILITY

# MACHINE TYPE COMMUNICATION



**Massive MTC**  
Low cost  
Low energy  
Small data volumes  
Massive numbers  
Long ranges



**Critical MTC**  
Ultra reliable  
Very low latency  
Very high availability

# USE CASE EVOLUTION WITH SUPPORTING TECHNOLOGY



Current

On the road to 5G

5G experience

Enhanced Mobile Broadband		<p>Screens everywhere</p>	<p>New tools</p>	<p>Immersive experience</p>
Automotive		<p>On demand information</p>	<p>Real-time information vehicle to vehicle</p>	<p>Autonomous control</p>
Manufacturing		<p>Process automation</p>	<p>Flow management and remote supervision</p>	<p>Cloud robotics and remote control</p>
Energy & Utilities		<p>Metering and smart grid</p>	<p>Resource management and automation</p>	<p>Machine intelligence and real-time control</p>
Healthcare		<p>Connected doctors and patients</p>	<p>Monitoring and medication e-care</p>	<p>Remote operations</p>

Technologies	<ul style="list-style-type: none"> <li>Multi-standard network</li> <li>Cat-M1/NB-IoT</li> <li>Cloud optimized network functions</li> <li>VNF orchestration</li> </ul>	<ul style="list-style-type: none"> <li>Gigabit LTE (TDD, FDD, LAA)</li> <li>Massive MIMO</li> <li>Network Slicing</li> <li>Dynamic service orchestration</li> <li>Predictive analytics</li> </ul>	<ul style="list-style-type: none"> <li>NR</li> <li>Virtualized RAN</li> <li>Federated network slicing</li> <li>Distributed Cloud</li> <li>Real time Machine learning/AI</li> </ul>
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# TECHNOLOGY ENABLERS

## ENABLERS



## CRITICAL CONTROL OF REMOTE DEVICES

### 5G radio access

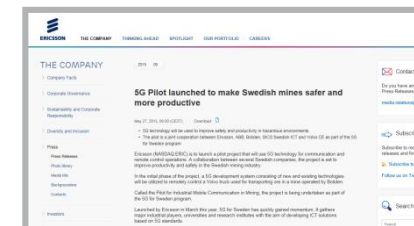
Enhanced radio connections for accessibility and retainability  
Estimate and report about achieved reliability of a connection.  
High node/service availability at least 99.999% node availability  
Uplink for high quality video

### 5G core network

QoS functions to “guarantee” deadlines match  
99.9% accessibility and retainability for comm. services

### 5G management & orchestration

Improve response time for diagnostic questions.  
Meet real-time constraints  
Estimate and report about achieved reliability of a connection.  
The system shall be able to estimate and report about the achieved reliability of a connection (per user, per service).







# ERICSSON

To know more about our 5G visit <http://www.ericsson.com/spotlight/5G>