



ERICSSON

# Foundations of CPS

## Intelligence, Connectivity and Cloud

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Patient A.  
Blood pressure:  
160/100  
Measured at home

Doctor booked

Street light armature  
#42:13, lamp 2

Work order sent  
to Streets & Parks dept.  
Juni 4, 2012  
2:34 PM

Blinking bulb at  
157 Highstreet  
Message sent to  
caretakers

Booking  
confirmed

High levels of  
particles in oil  
Book service?

A1 northbound  
Congestion: 18 km/h  
Suggest alternative route?

Loaded  
units:  
1500

Remaining units:  
4500  
Estimated departure:  
2:55 PM

Plant1 too dry!  
Message sent  
to dad

Cyclist  
approaching  
Change to  
green signal

Great!

CO<sub>2</sub>-emission:  
Below target value





SENSORS  
EVERYWHERE



BROADBAND AND MEDIA  
EVERYWHERE



SMART VEHICLES,  
TRANSPORT



INFRASTRUCTURE, MONITOR  
AND CONTROL



CRITICAL CONTROL  
OF REMOTE DEVICES



INTERACTION  
HUMAN-IOT

# 5g

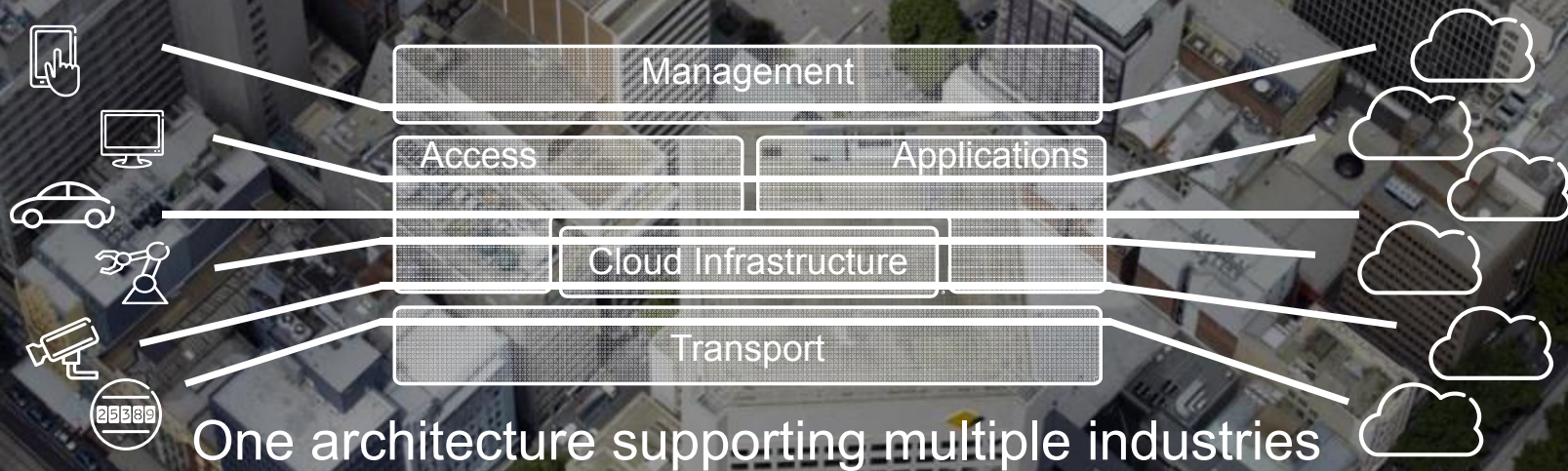
USE CASES





# What is 5G – what will it bring

## A Network for the Networked Society



# ONE DAY IN THE LIFE OF A MEDIUM SIZED NETWORK (~10M CUSTOMERS)



Web pages  
700,000,000



Internet sessions (PDP)  
66,000,000



Videos  
40,000,000



Radio sessions (RAB)  
120,000,000



+200 more types  
of events



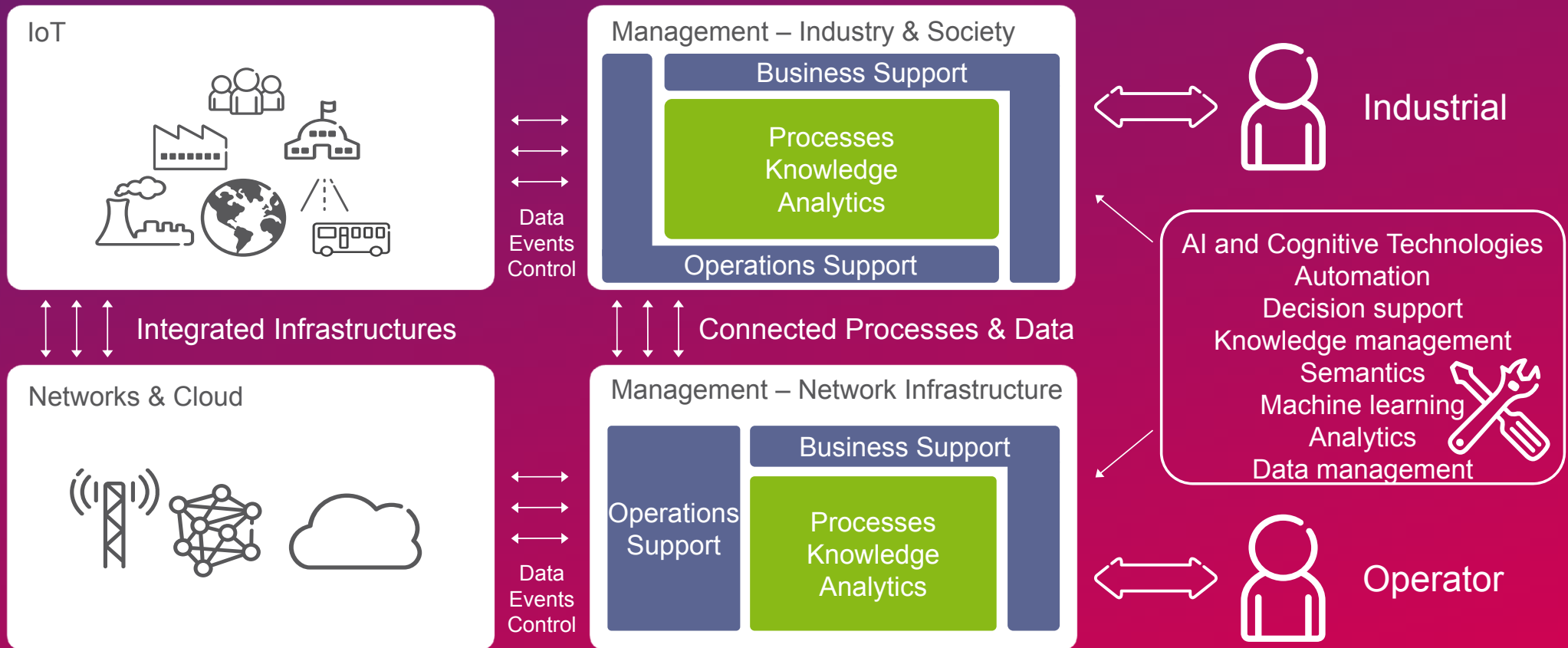
Handovers (HSDSCH-CC)  
300,000,000

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Sum data  
10→100 TB/day

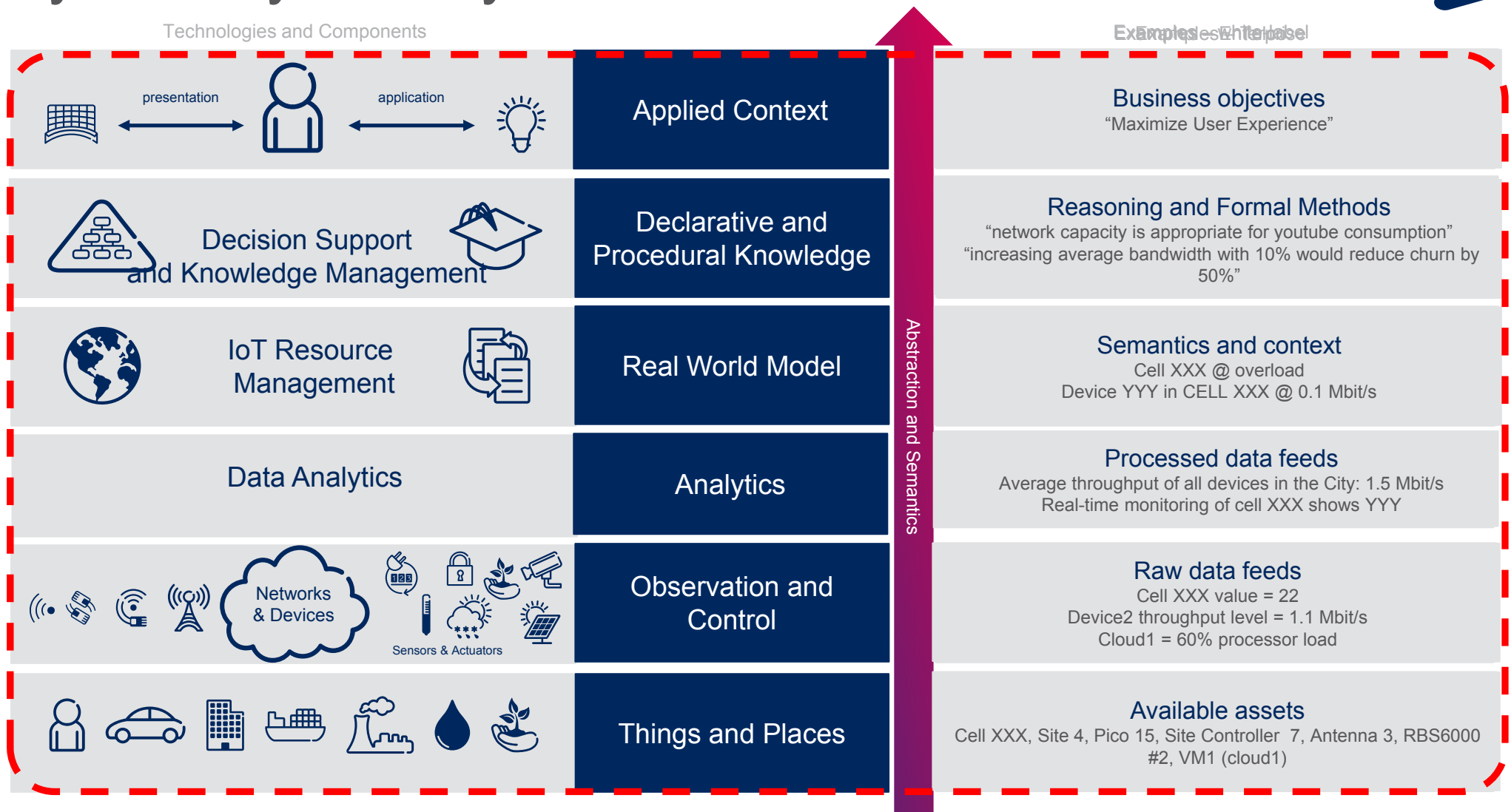
Real-time data rate  
100,000→1,000,000  
events/second

# Integrated Management





# Systemic view on Management and Operations of a Cyber-Physical System





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