

# The Internet of Things – and Services

Maintenance?  
Already taken  
care of!

Theft?  
Already  
prevented!

Worries?  
Already left  
behind!

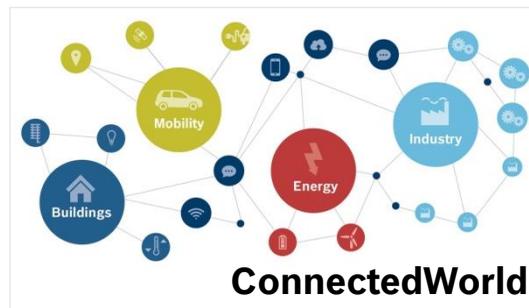
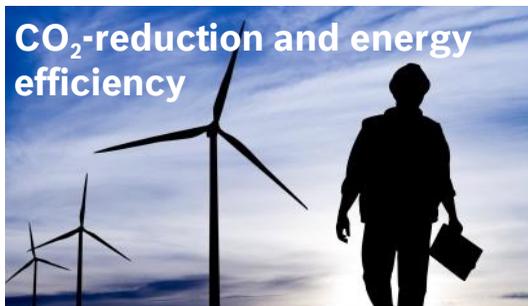
Rainer Kallenbach  
Bosch Software Innovations GmbH



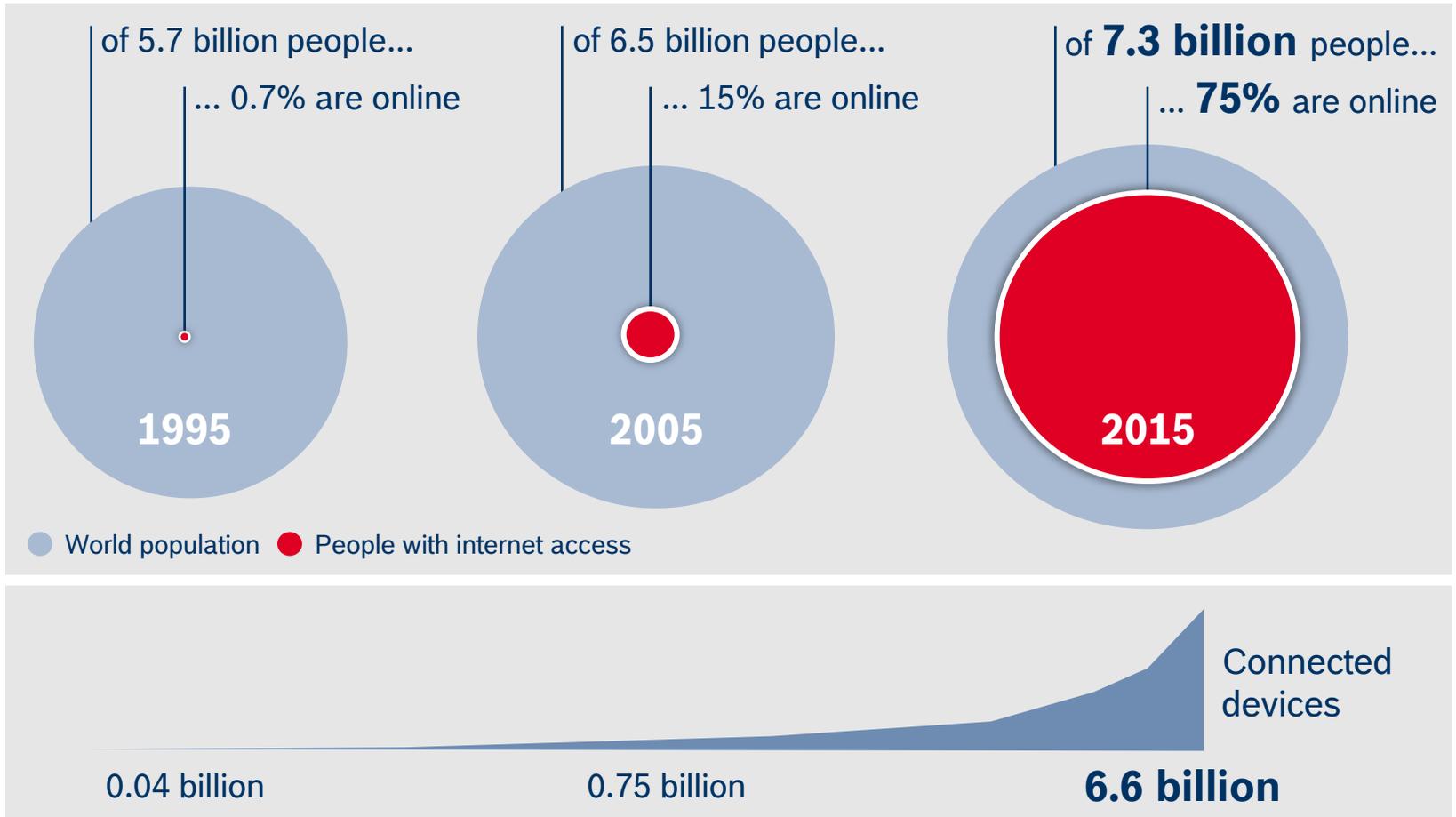
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# The Internet of Things - and Services

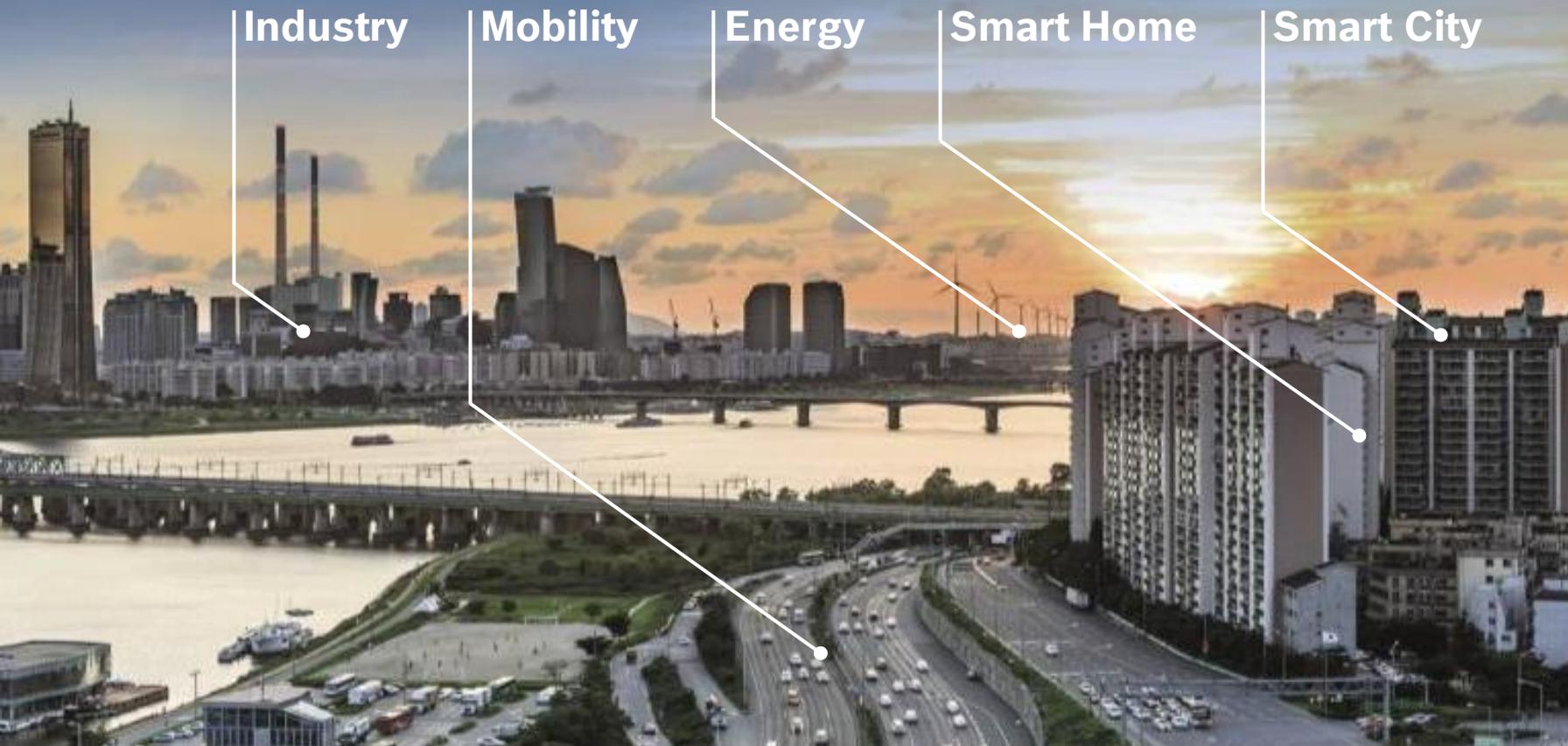
## We are living in a rapidly changing world...



## ... a highly connected world



## Internet of Things Vision: Connected World



Industry

Mobility

Energy

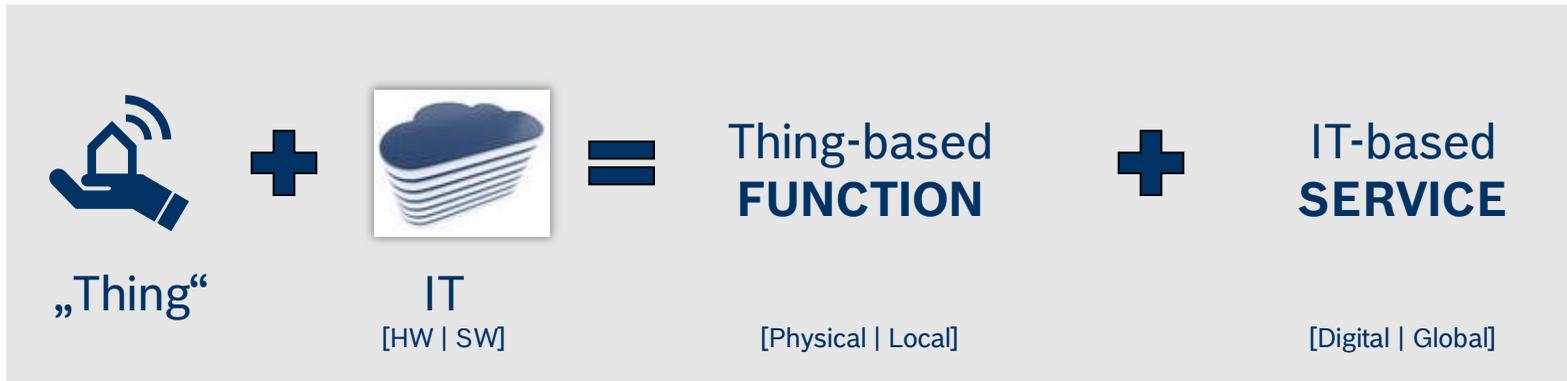
Smart Home

Smart City

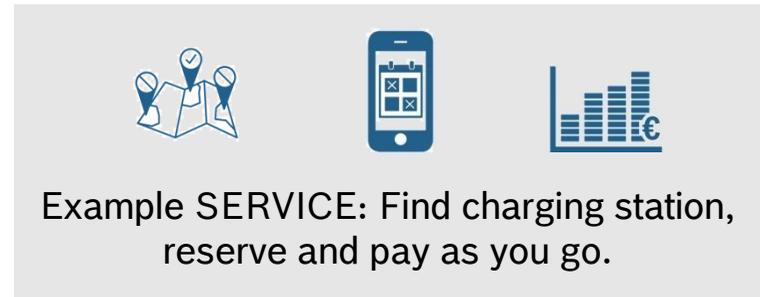
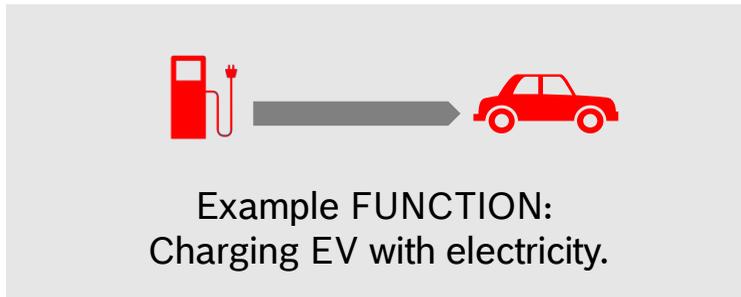


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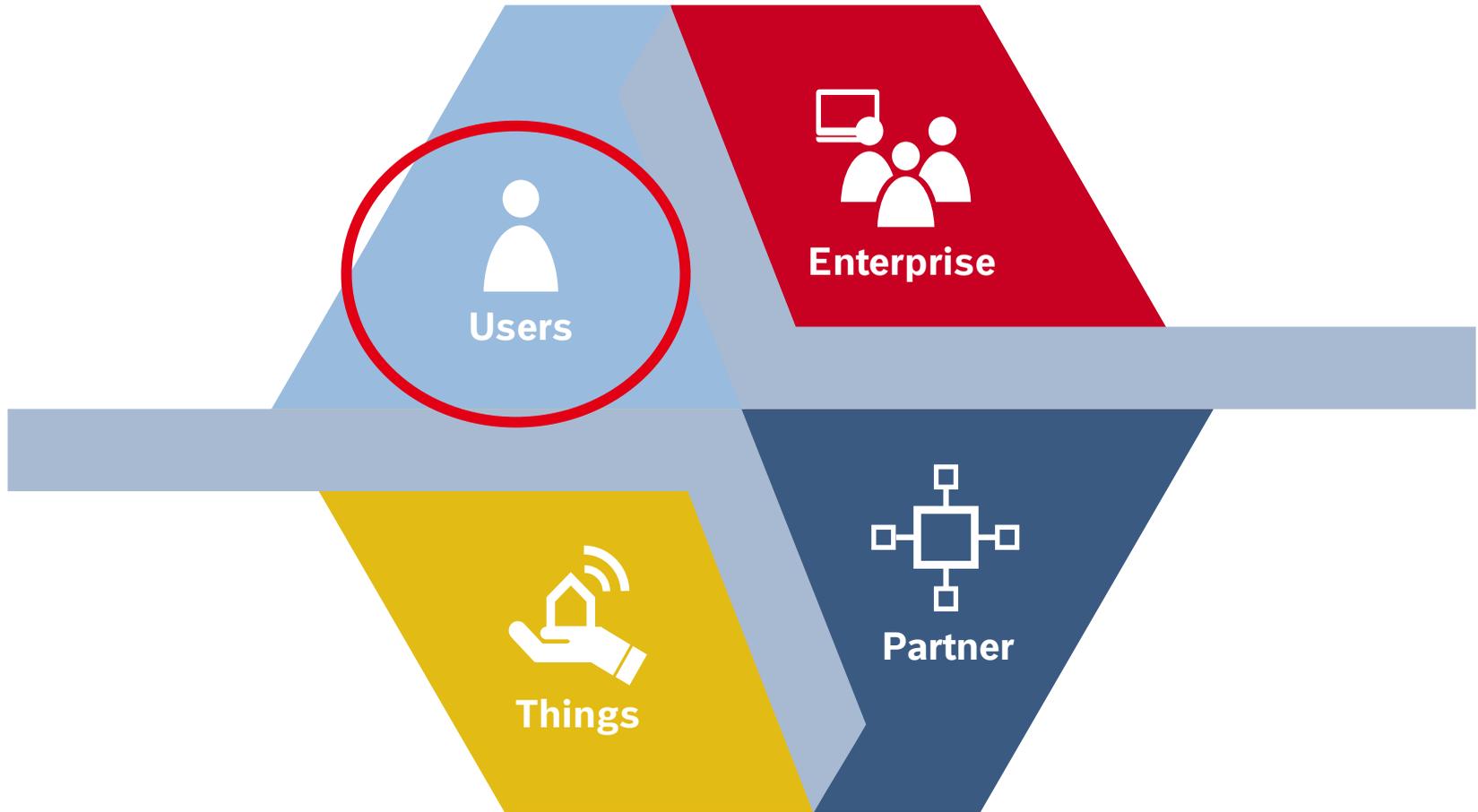
## Connected “smart” things allow new services



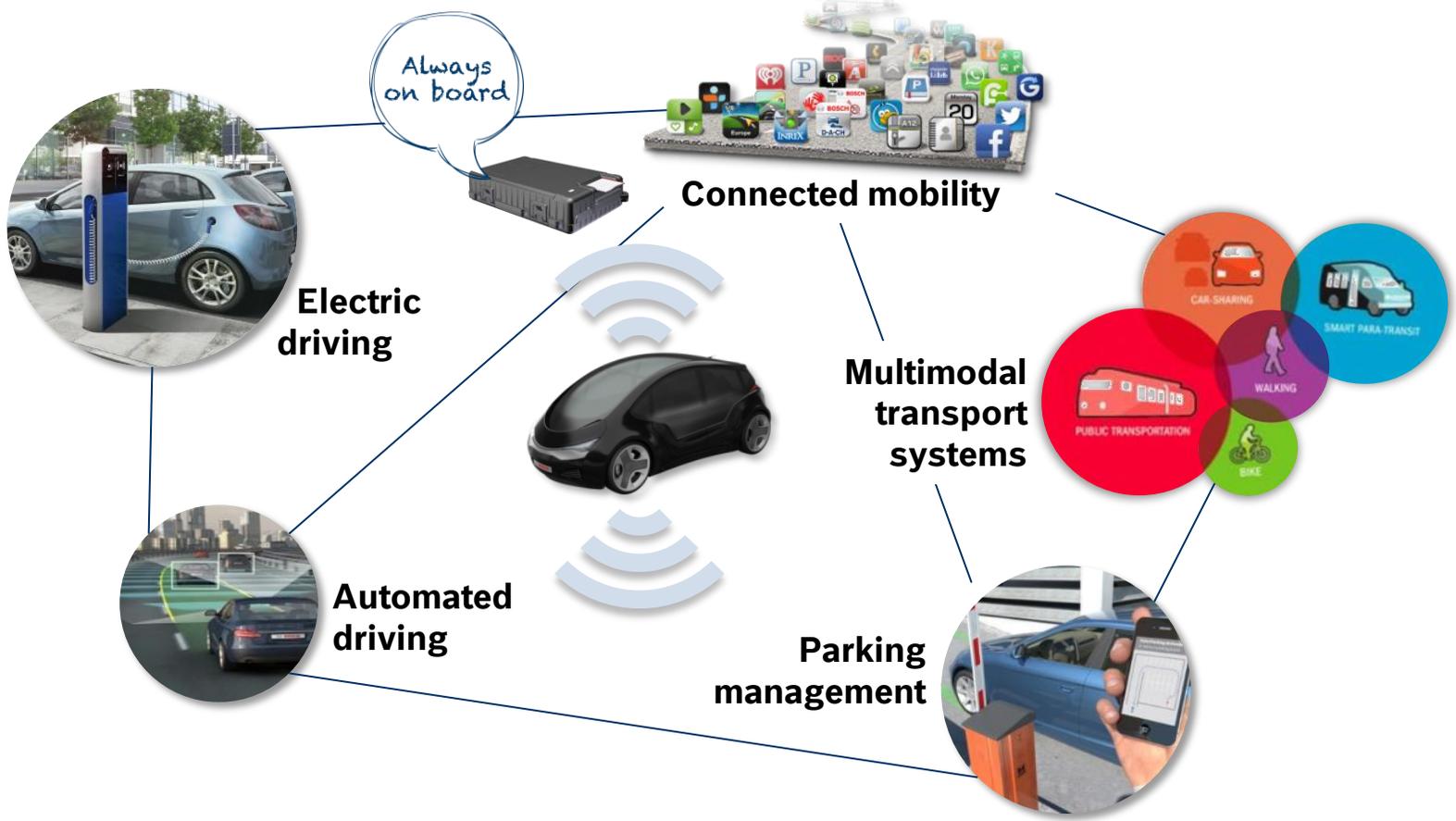
Source: University of St. Gallen, Prof. Dr. Elgar Fleisch



## Connected World Solutions cover 4 Areas



## Future Mobility: electric, automated, connected.



# The Internet of Things - and Services

## Example: Electric Charging Services

Driver

Enterprise



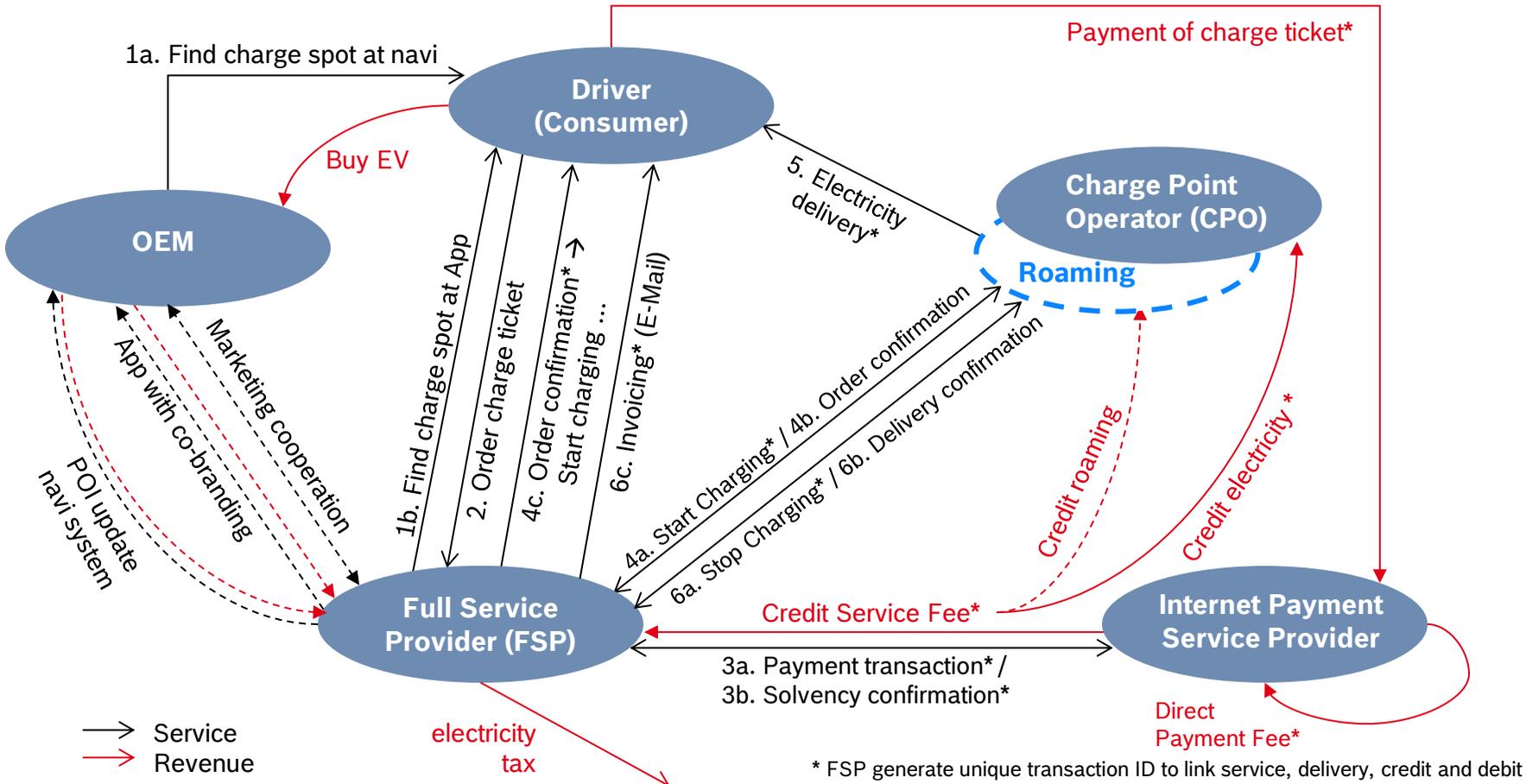
Car

Partner



# The Internet of Things - and Services

## Example: Service “Public Charging – Easy to Use”



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## Example: Fleet Management

### Driver

- Flexible tariffs („pay as you drive“)
- Accident documentation / faster settlements
- Economic driving

### Car

- Minimize depreciation
- Theft/misuse prevention
- Unrestricted vehicle selection

### Enterprise

- Leasing companies, rental, insurances, corporate fleets
- Flexible contracts
- Process efficiency
- Individual reports
- IT Integration

### Partner

- Worldwide partner network
- Hotline and services in over 30 languages
- Efficient resource utilization



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# The Internet of Things - and Services

## Example: Fleet Management Services



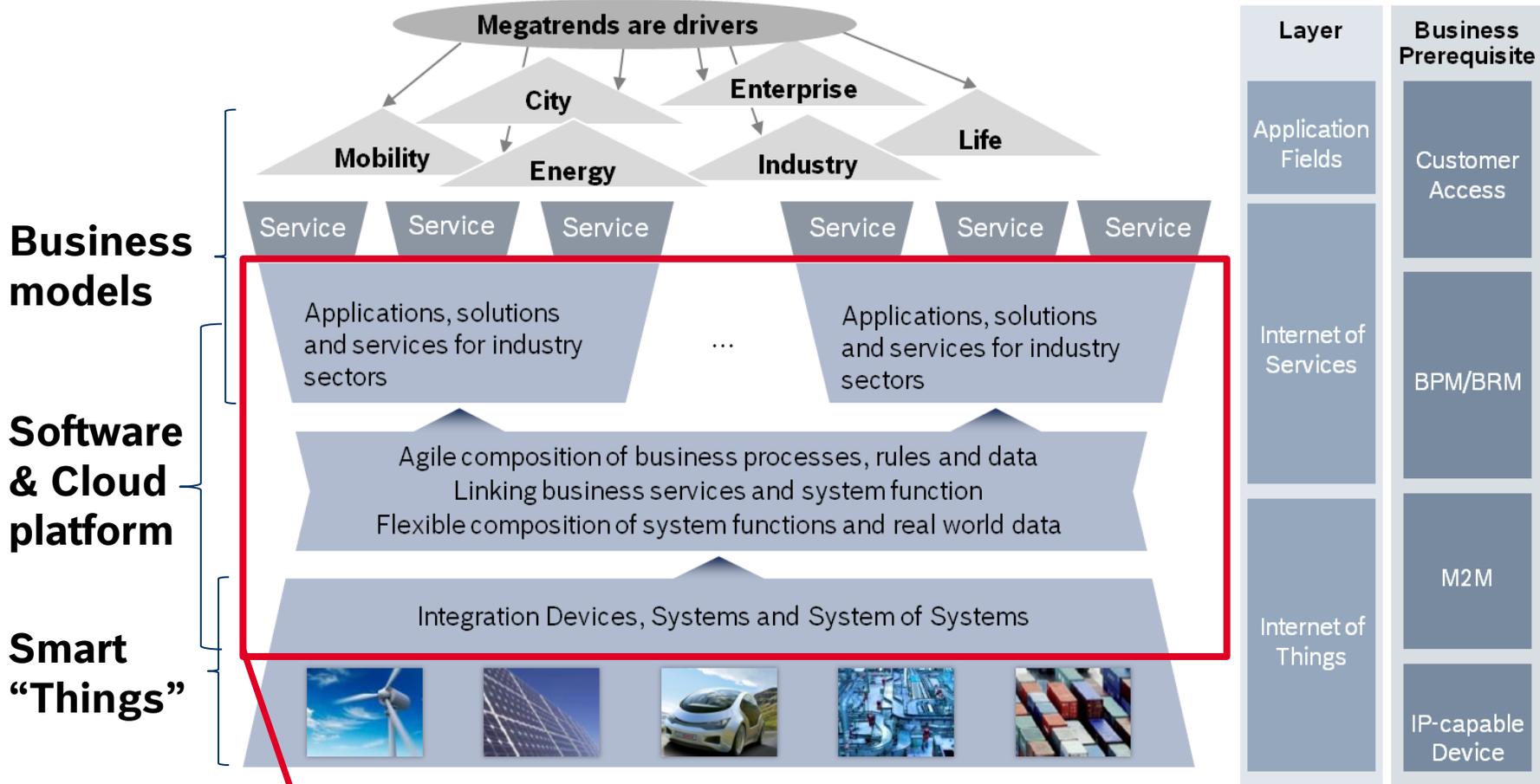
 GPS required

 Agent-based (optional)



# The Internet of Things - and Services

## Bosch is active on three levels in the IoT

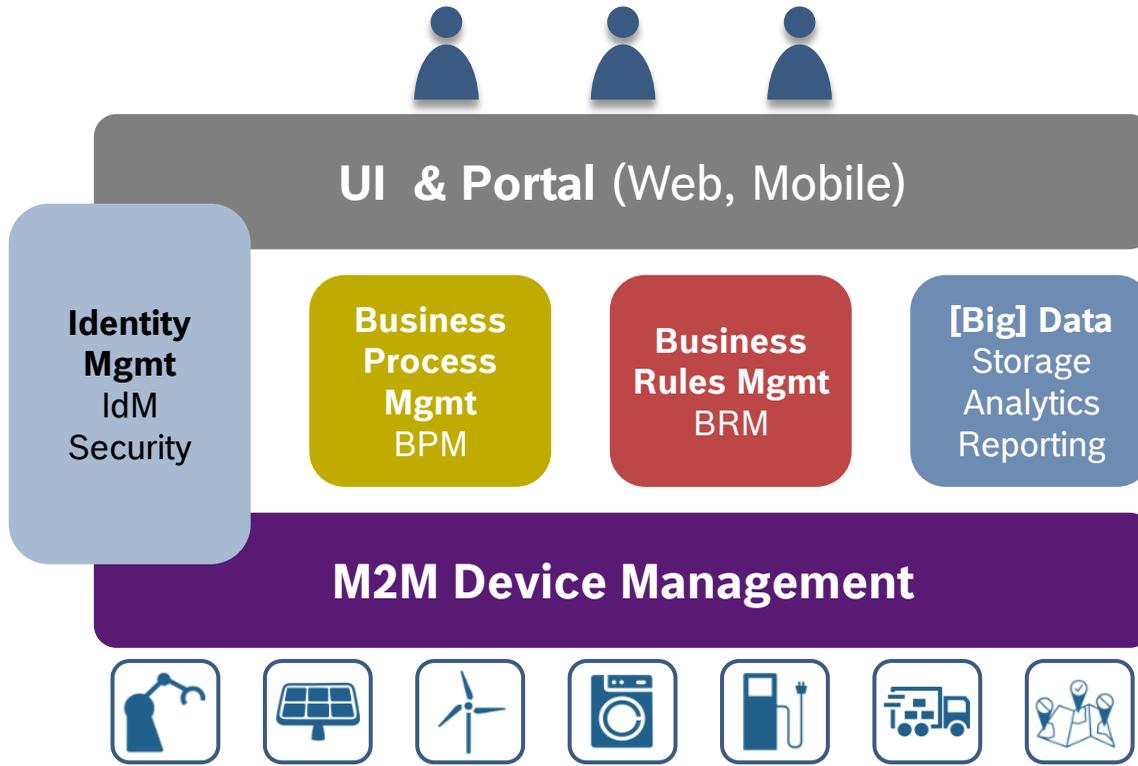


Bosch Software Innovations GmbH



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## The Bosch IoT Suite: Software for Connected World Services



One IoT platform for all domains:

- Smart Mobility
- Smart Home
- Smart Energy
- Smart Industry
- Smart City



## Challenge: Will the user have enough choices and control of “his” data usage?

Owner has or gets ...	Smart Phone	Smart “Thing”
Choice of Device	✓	✓
Choice of “Operating System”	✓	?
Choice of Telco service provider	✓	?
Choice of “Apps” from different sources	✓	?
Choice of business services / providers	✓	?
Only explicitly agreed SW updates	✓	?
Only explicitly agreed data usage	✓?	?
Monitoring of privacy	✓* ?	?

\*Example: [www.cluefulapp.com](http://www.cluefulapp.com)



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## Requirements for widely accepted, successful IoT solutions

### **Technology**

- safety, security and reliability of hardware, software and services

### **Common Platforms**

- open standards as basis for flexible, individual business solutions
- flexibility and ease-of-use for all involved stakeholders

### **Business Ethics and Legal Regulations**

- trustworthy handling of data
- respect for individual's privacy
- transparency and choices for customers regarding services and usage of data

