STANDARDS FOR V2X COMMUNICATION AND IMPLICATIONS FOR OEMS AND ITS

FISITA
London

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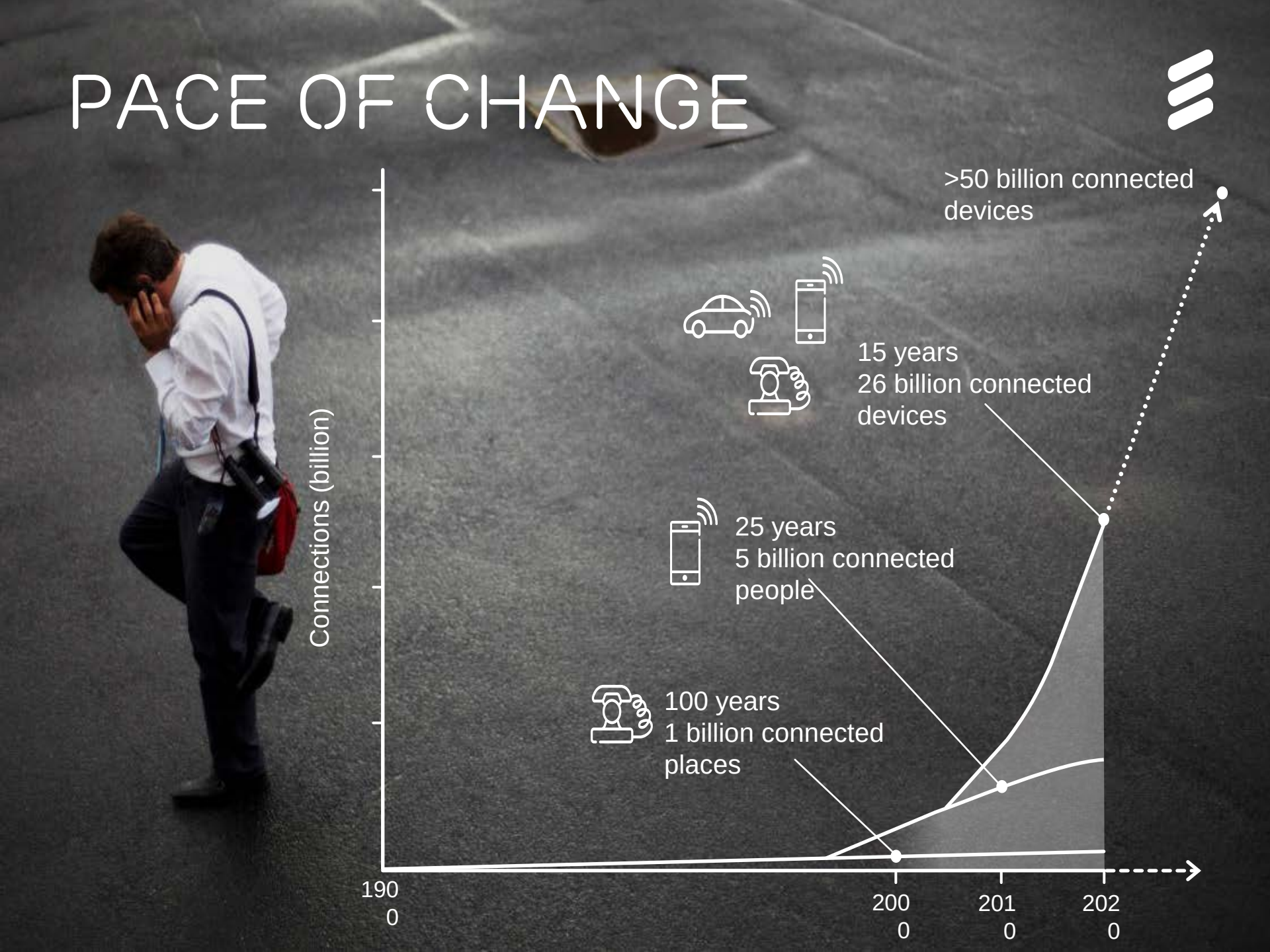
Nov. 12, 2015

PACE OF CHANGE



THE NETWORKED SOCIETY

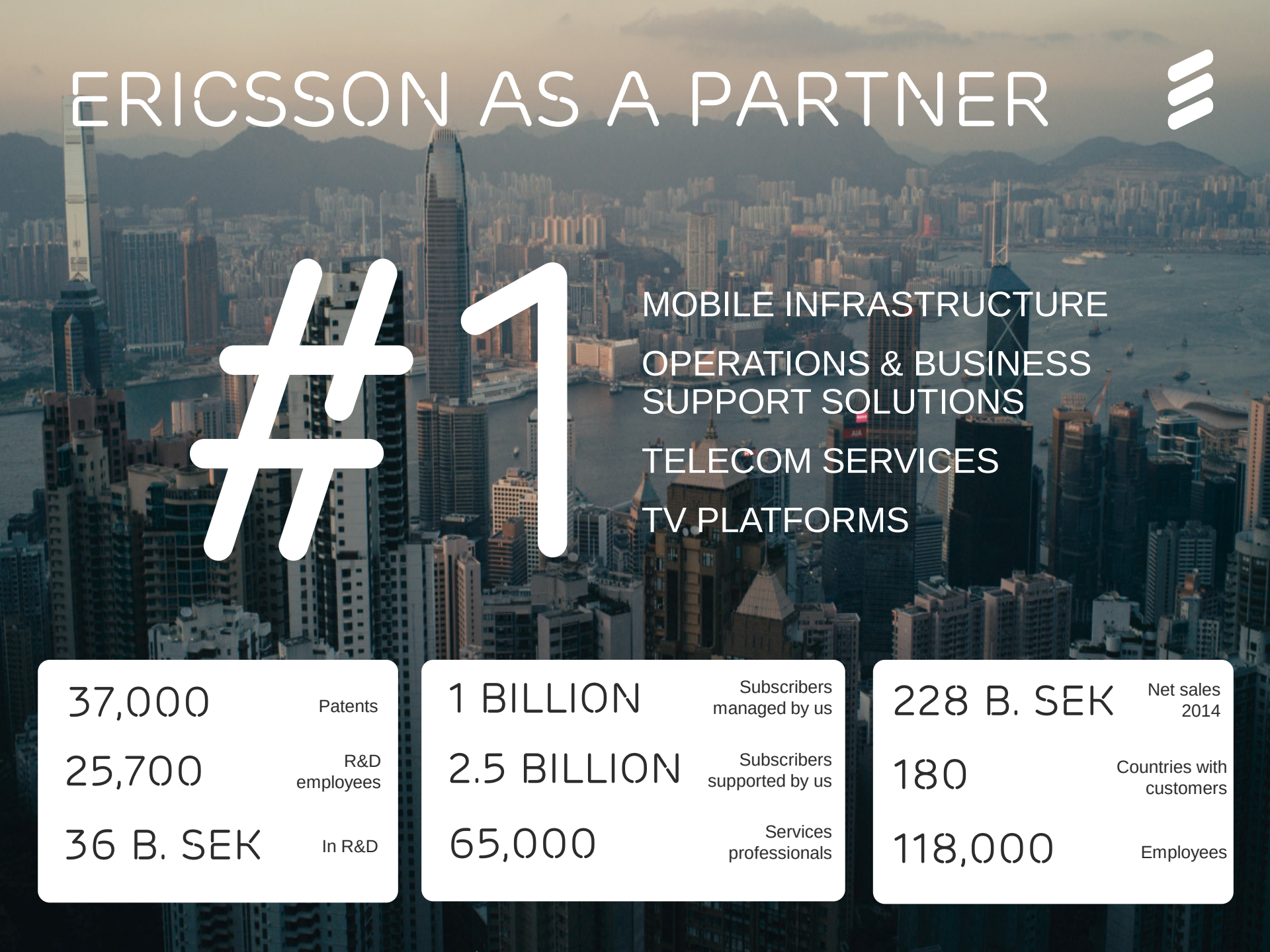
People

Business

Society

= TRANSFORMATION

ERICSSON AS A PARTNER



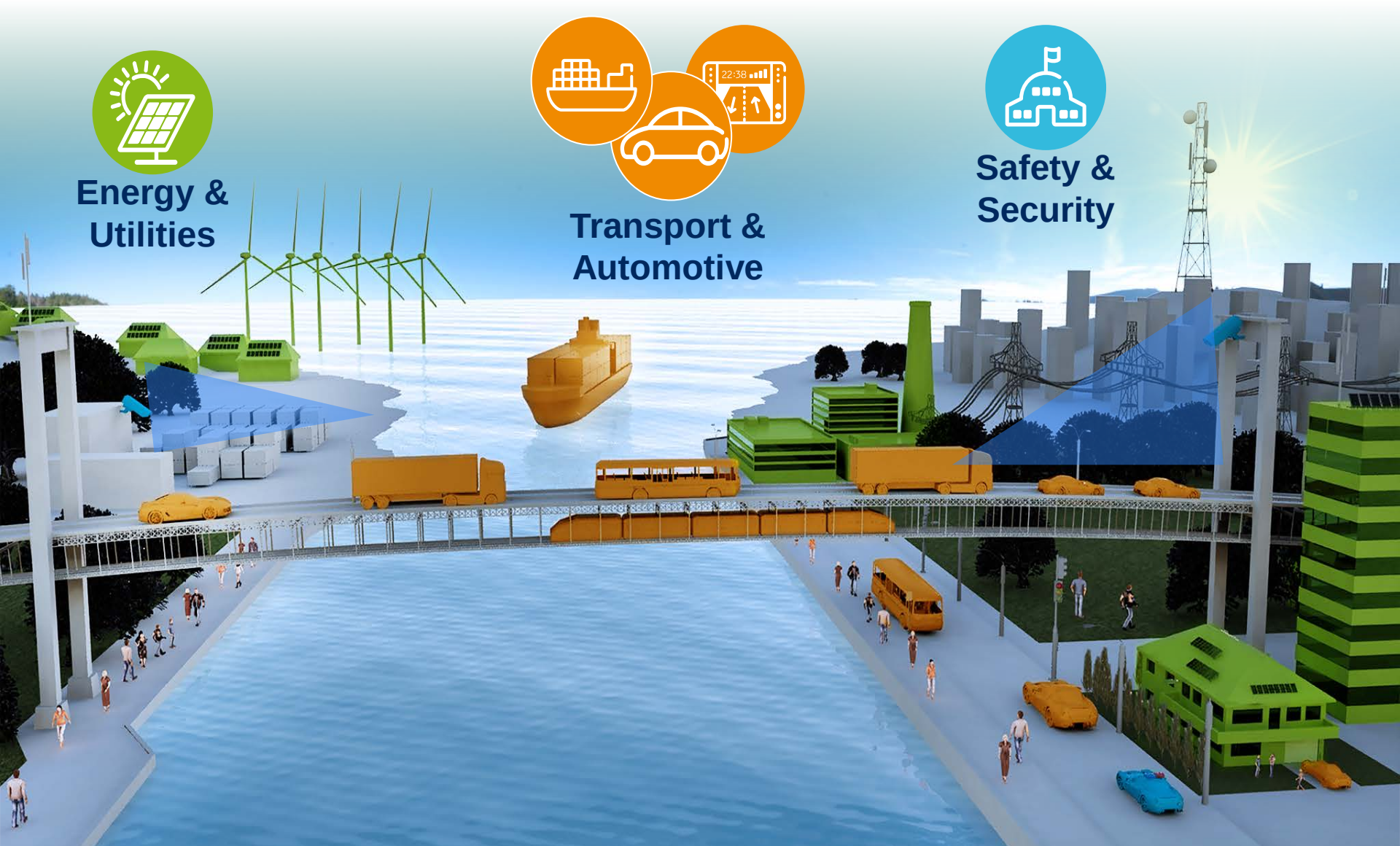
37,000	Patents
25,700	R&D employees
36 B. SEK	In R&D

1 BILLION	Subscribers managed by us
2.5 BILLION	Subscribers supported by us
65,000	Services professionals

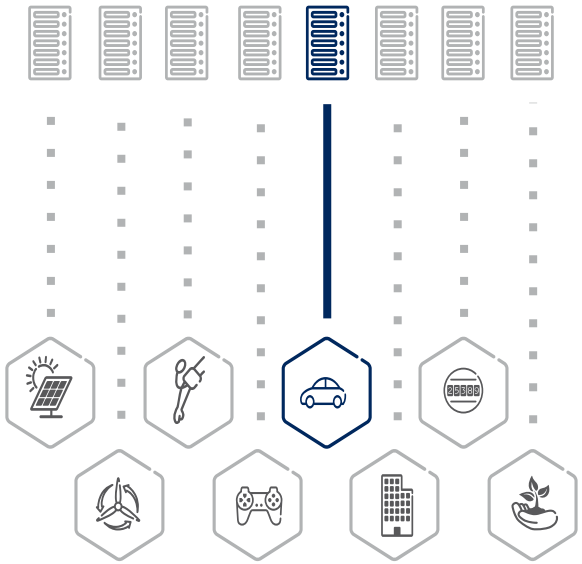
228 B. SEK	Net sales 2014
180	Countries with customers
118,000	Employees

NETWORKED SOCIETY IS FORMING

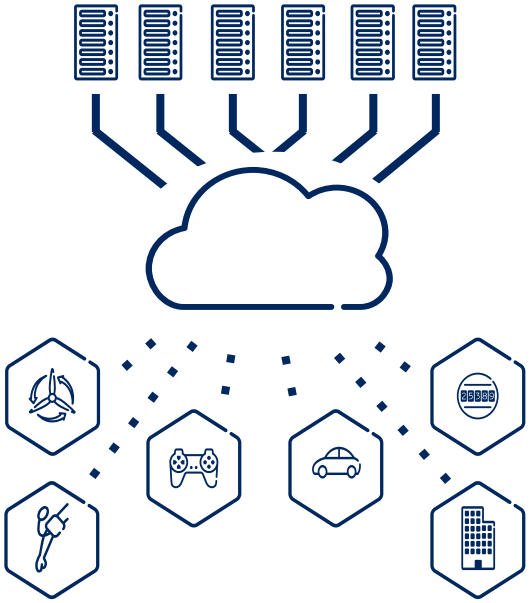
CREATING VALUE FOR BUSINESS, PEOPLE & SOCIETY



FROM SILOS TO STANDARDIZED PLATFORMS AND CLOUDS



In IoT, apps drive business & ecosystems create value



- Stove Pipe Solutions
- Point-to-point Connections
- Devices & Connectivity
- Internal Business

- Driving Innovation
- Ecosystem partnering
- Design with flexibility
- Automation for scale

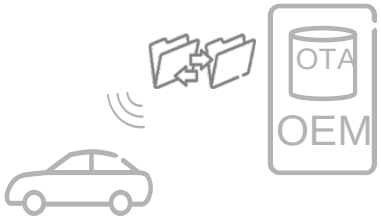
TELEMATICS IS EVOLVING

Customer value

Subscription based

Telematics 1.0

OEM value

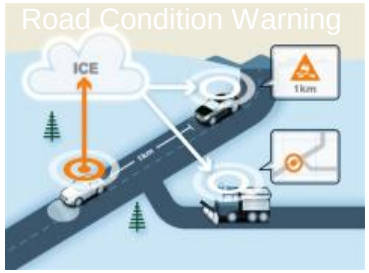


OEM funded

CRM & Customer Interaction

Telematics 2.0

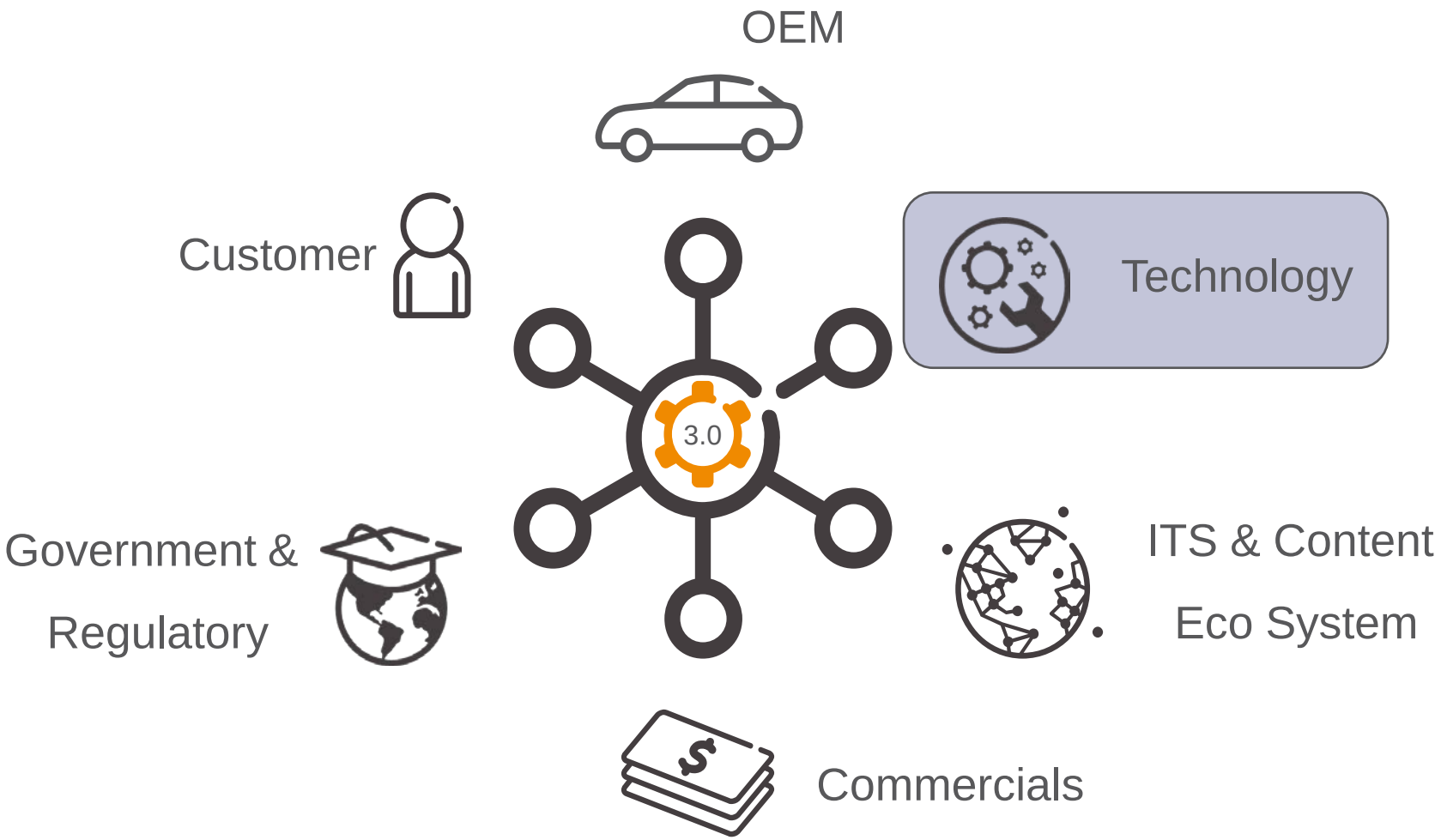
Generating value by connecting the eco system



Variable business models

Telematics 3.0

TELEMATICS 3.0 – THOUGHTS



TECHNOLOGY

- Cooperative “Cloud” Environments
  - How to connect a de-central OEM infrastructure with others
  - E2E security across industry silos is a “must have”
- V2X enables new services capabilities
  - V2I LTE & 5G technology support new service requirements (e.g. real time)
  - 802.11p, DSRC, ITS ETSI G5 provide a way forward for V2V, but some questions remain

CONNECTED VEHICLE CLOUD

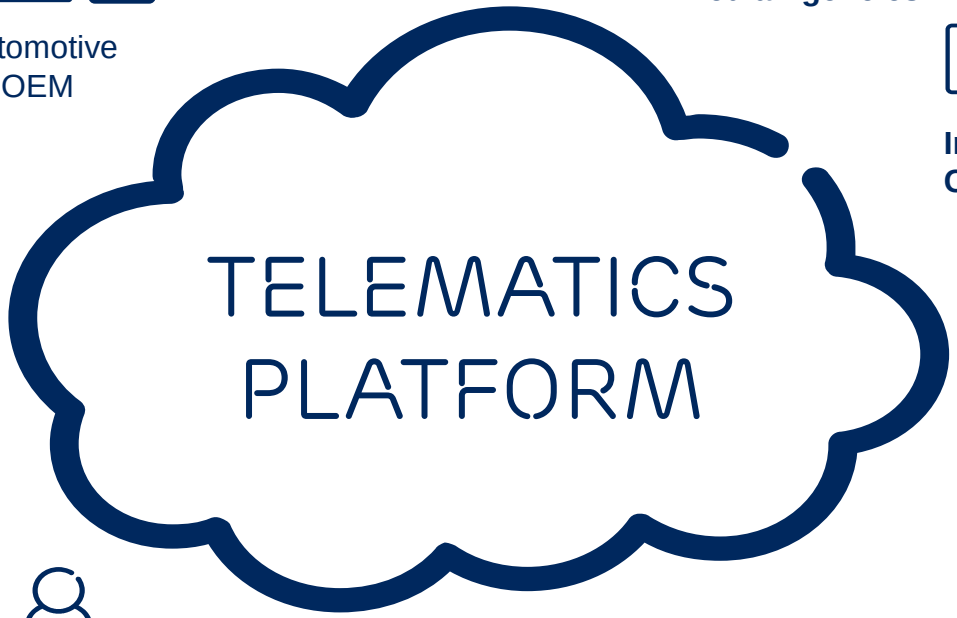
Dealer

Media Agencies

Automotive OEM

Insurance Companies

Driver & Owner



Content Provider
Service Provider
App Developer

Vehicle

Energy / Utilities Companies

Fleet Company

Network Operator

Repair Shop

Support Center

CONNECTED TRAFFIC CLOUD

Connected Traffic Cloud

Traffic Authority

TRAFFIC MANAGEMENT

Connected Vehicle Cloud

OEM

REACHING OUT TO VEHICLES AND ROAD USERS

OEM

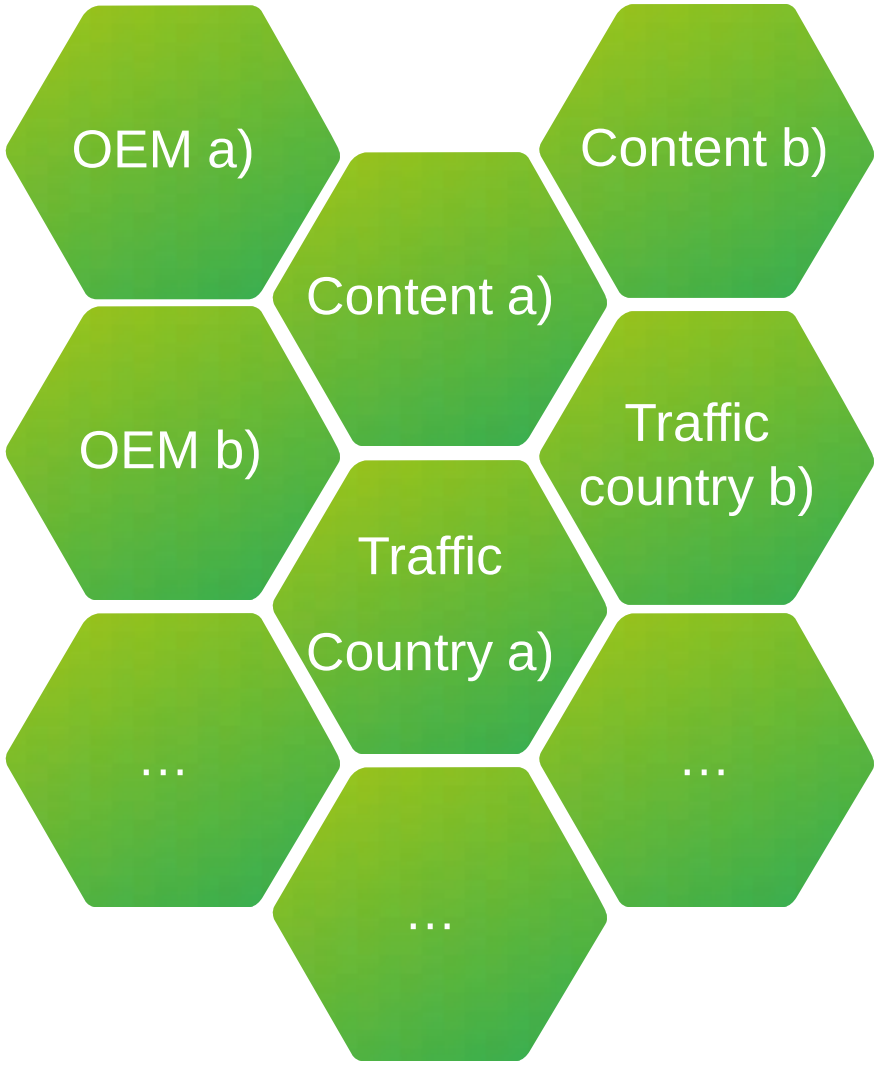
Fleet

Transport & Mobility

Traffic

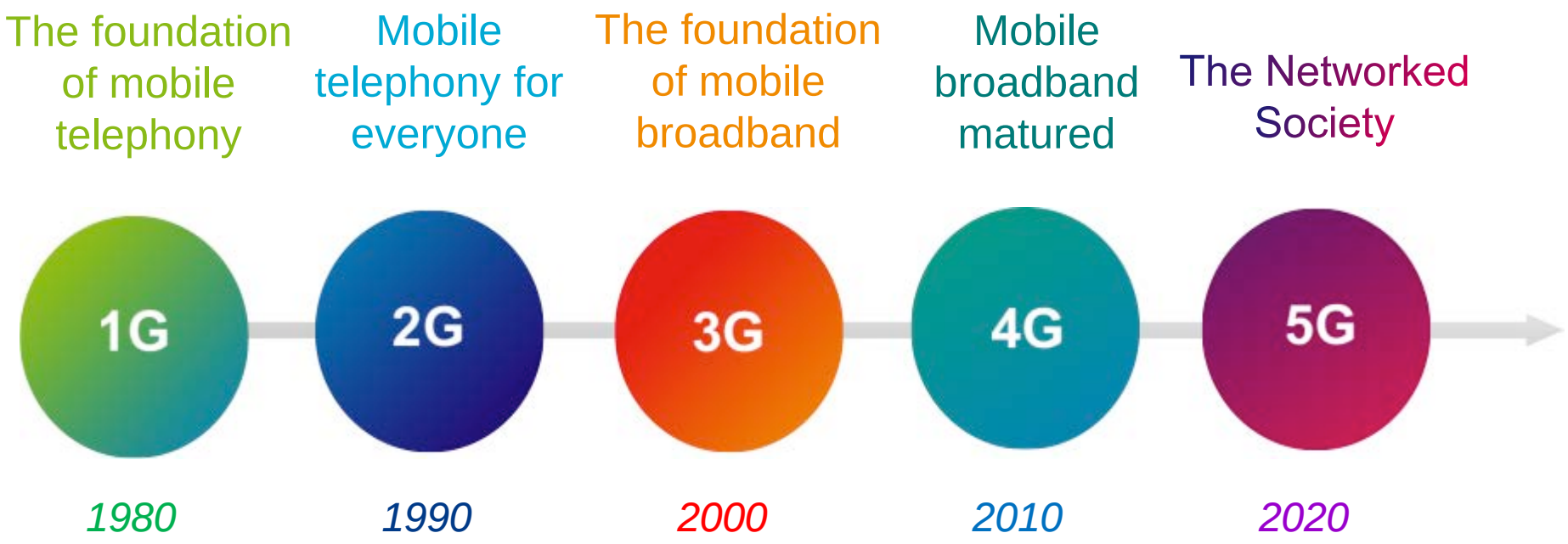
Sharing aggregated anonymous data

INTEGRATION NEED LEADS INTO COOPERATIVE CLOUDS



- Decentralized
  Multi-country, cross-border and cross-authority deployment, with aggregation platforms
- Cross-Domain Interactions
  e.g. Road traffic data, OEM & extended eco system
- Controlled
  Security, code of conduct, policy enforcement needs some alignment

WIRELESS ACCESS GENERATIONS

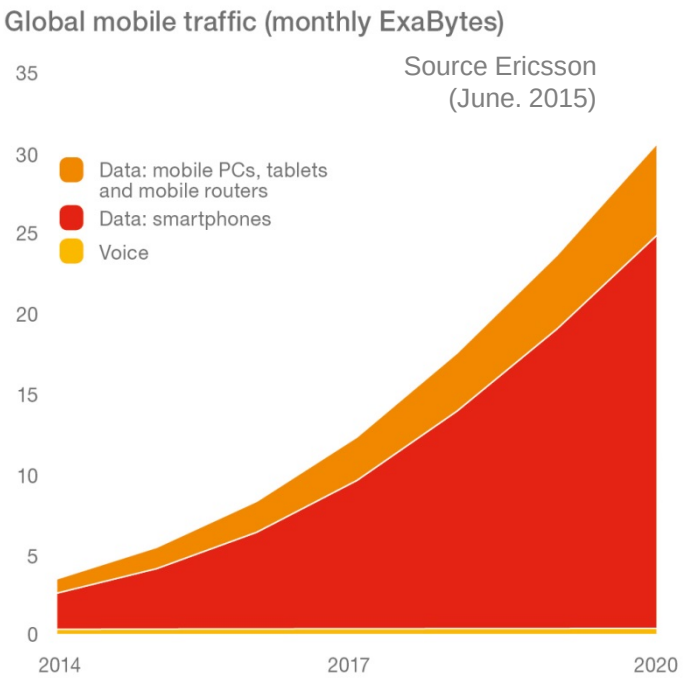


Non-limiting access to information and sharing of data anywhere and anytime for anyone and anything

ERICSSON MOBILITY REPORT

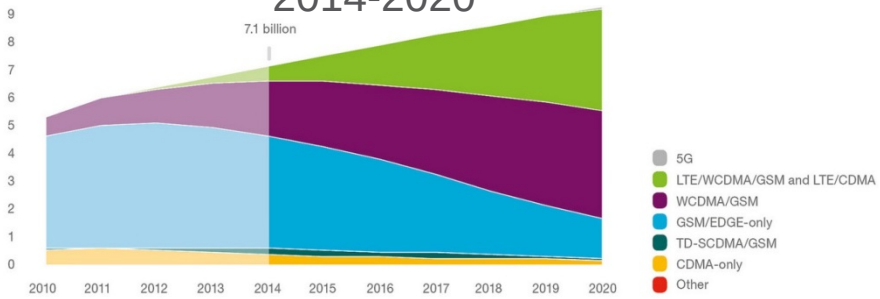
ON THE PULSE OF THE NETWORKED SOCIETY

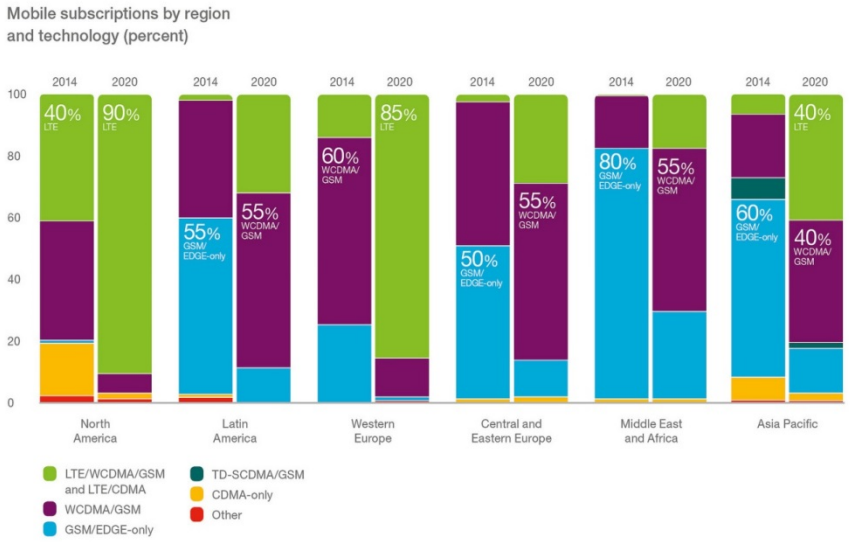
http://www.ericsson.com/ericsson-mobility-report



Global mobile traffic: voice and data, 2014-2020

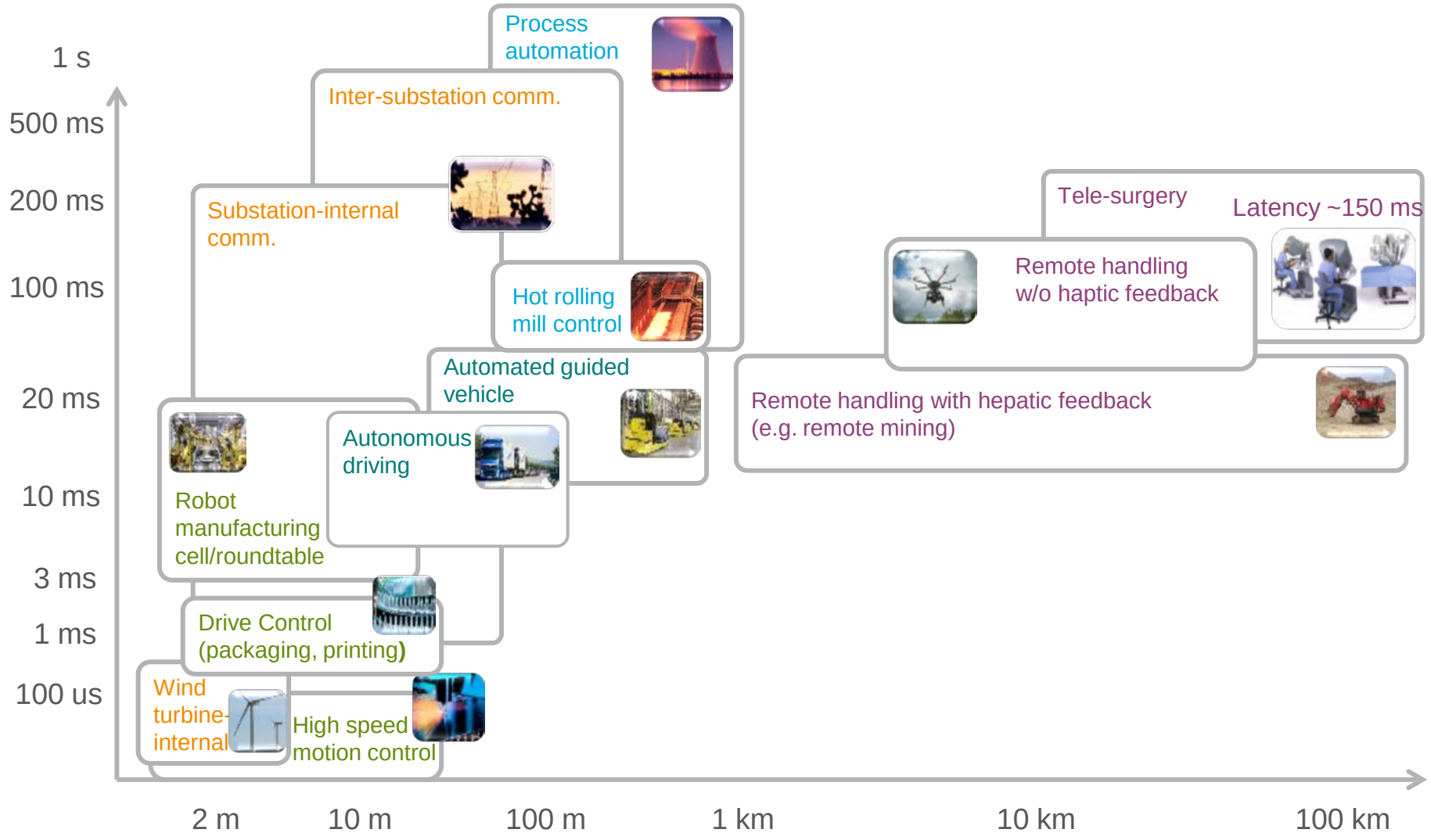
Mobile subscriptions by technology, 2014-2020





CRITICAL MTC

Communication Distance vs. Latency



MTC = machine type communication

RANGE OF REQUIREMENTS

Low cost
Low energy
Small data volumes
Massive numbers

Ultra reliable
Very low latency
Very high availability

Massive MTC

Sensors, actuators

Capillary networks

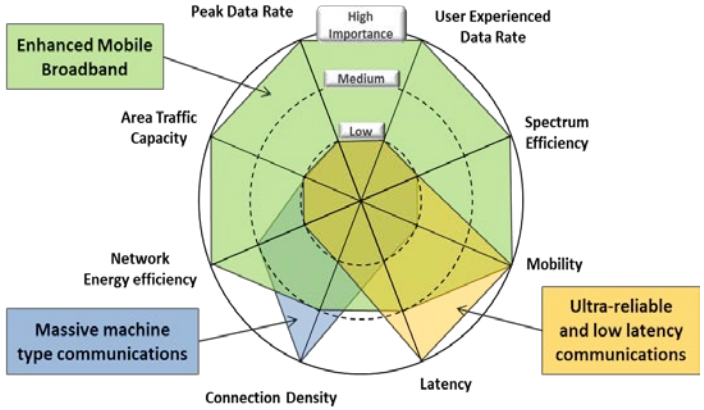
Critical MTC

Traffic safety & control

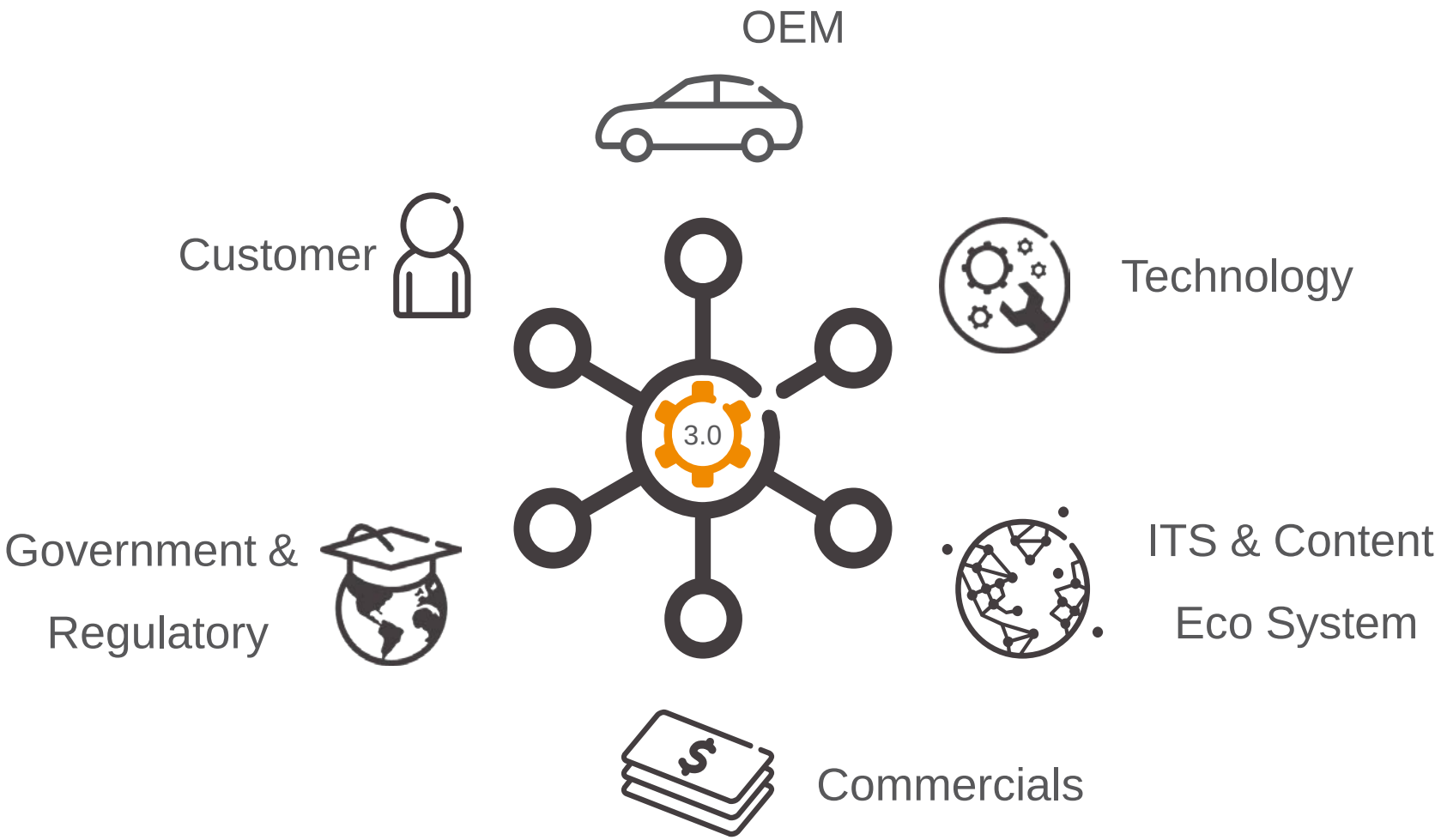
"Tactile Internet"

Smart grid

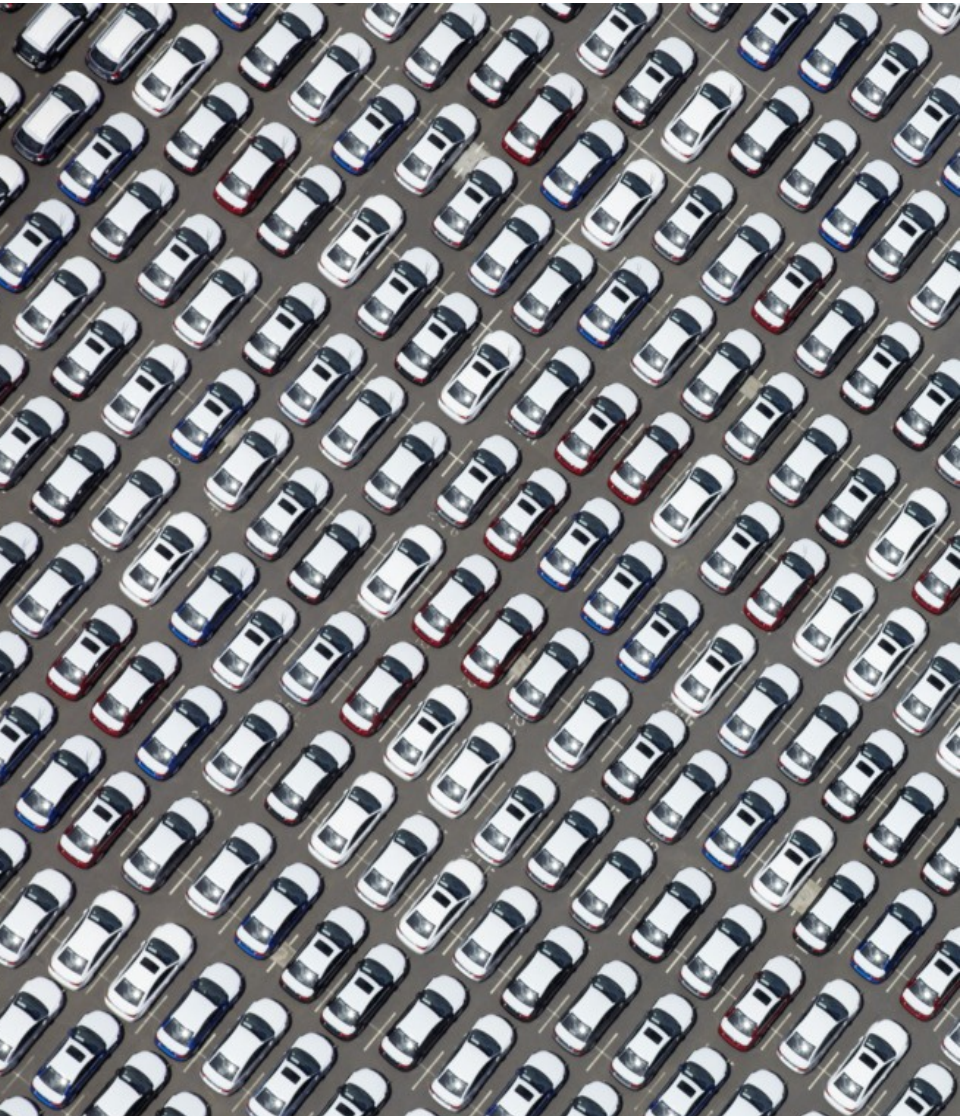
Industrial application



TELEMATICS 3.0 – MOTIVATIONS



OEM MOTIVATIONS



- Speed and innovation of new services
- Maintain control and ownership of customer intimacy
- High-quality, secure solution to avoid warranty costs, liability claims and brand damage
- Future business models might change
- Question existing business models and fill new business models before someone else does (protect business)
- Support OEM core business!

ITS & CONTENT ECO SYSTEM MOTIVATIONS

- ITS:
  - Make traffic smarter, better, safer, more efficient
  - Solution needs to be e2e secure
- Content:
  - Generate value from existing content, generate new content
  - Establish new business models
- Google, Apple, Uber, etc.
  - Get access to user data and monetize it
  - Establish new disruptive business models

COMMERCIALS

- Who will fund such a system?
- Do we believe in a central approach?
- Do we believe in involvement of public authorities on the business side?
- How to share the investments through all parties?
- Central global funding is unlikely

CUSTOMER MOTIVATIONS

- Wants value through better services and functions
- Best possible service for a good price

- But: What a customer values is variable and will change over time

GOVERNMENT & REGULATORY

- The industry would benefit from a global standard and legal framework but that's not likely to happen in time
- Lack of clarity around many regulatory topics – especially on global level
- The industry cannot sacrifice competitiveness by waiting for standards or regulations

TELEMATICS 3.0 CONCLUSIONS

- Standardization will not be sufficient to enable a cross industry cooperative system based on different motivations of the parties and mismatch of innovation speed
- But some standardization is needed and existing (e.g. 3GPP, 802.11p, …) as baseline for cooperation
- New Technology (e.g. 5G, sensors, cloud, …) enable new service capabilities in balance with commercial reality

TELEMATICS 3.0 – PROPOSED FOCUS FOR OEMS

- Execution paradigm
  - Global reach
  - Flexibility & interoperability
  - Reuse building blocks and use of existing enablers and technology -> reduce time to market
  - Agile working model (not waterfall)
  - Scalability and robustness

- Start to build aggregated industry islands that makes commercial sense and agree on security concepts and code of conduct

- Those islands then can be aligned and connected with other consortiums to build a global cooperative environment

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