

VOLVO

The needs and demand on ICT enabled logistics solutions
beyond 2020



Agenda

- General outlook
- Future logistics demands for ICT
- Input to research topics for Horizon 2020
- Sum-up

Change is the law of life. And those who look only to the past or present are certain to miss the future.

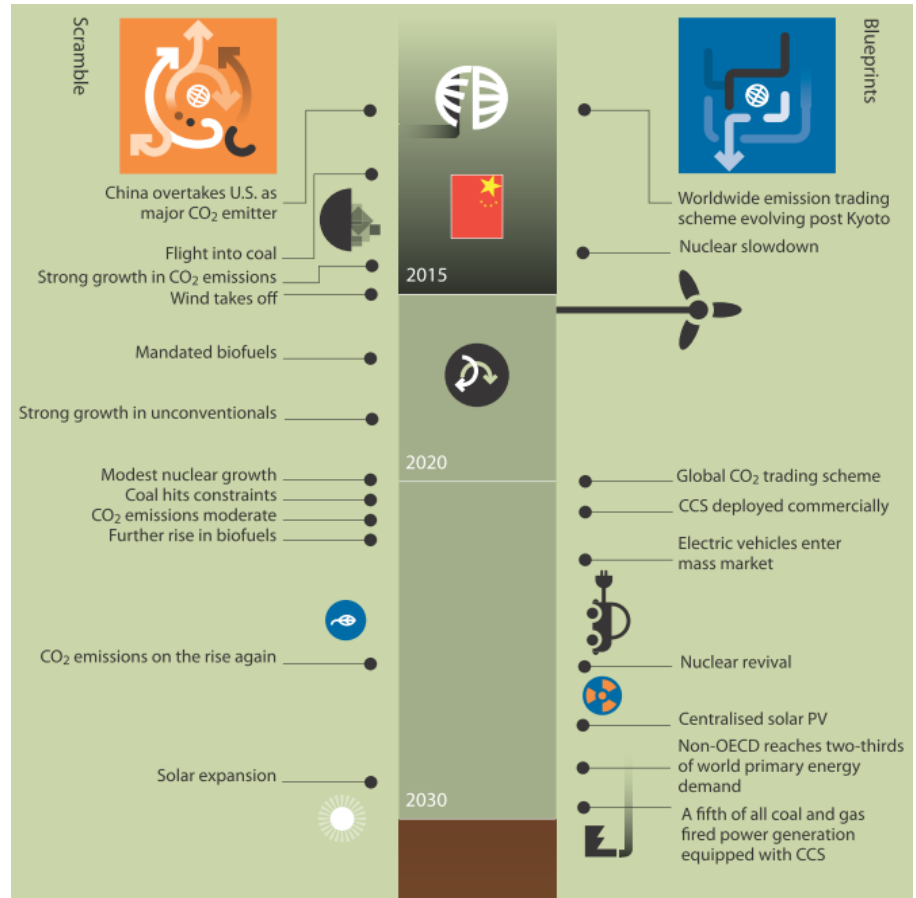
John F. Kennedy

The world in 2050 – two scenarios

Nations & companies scrambling for resources, looking out for their own best interests, or following a blueprint toward a sustainable world ?

The three hard truths:

- Surging energy demand
- Supplies will struggle to keep up
- Environmental stresses are increasing



SHELL energy scenarios: <http://www.youtube.com/watch?v=jQ2uIPeiEYQ>

Scenarios 2050: Logistics implications



- Global transportation supergrid vs. Local production, regional transports and supply
- Supply chain disruptions – supply chain reliability
- Logistics and production outsourced to logistics providers.
- Logistics providers managing cities.
- Automated transport systems.
- Data transfer and security.

Delivering Tomorrow by DHL: http://www.dp-dhl.com/en/logistics_around_us/delivering_tomorrow_logistics_2050.html

Europe depends on an effective and efficient transportation system

- Contributes to 7% of European GDP
- There is still room for improvement in the transport system:
 - Yearly costs of congestion estimated up to 1.5% of EU GDP
 - ERTRAC SRA : 50% more efficient road transportation system by 2030
 - Efficiency, Reliability and Safety



ICT is one key to an efficient transport system!

Demand for ICT solutions from a logistics perspective

- Support sustainable transport solutions
- Real-time information
- Deviation control
- Digital freight information incl. legal documentation



More than anything, we will need collaborative solutions!

Freight transport information vision

- Electronic freight note implemented
- Electronic freight information access
- Electronic notification of freight status
- On-demand



Information entered once when created to ensure quality and reduce administration

Source: ITS Action Plan Sweden by Vägverket, 2010

Research topics for Horizon 2020, ICT for Mobility and Transport

A commercial vehicle perspective

ICT for efficient and seamless goods transportation

Main areas:

- Digital transport information
- Access control and monitoring
- Fleet management
- ICT infrastructure as an enabler of future transport solutions



Digital transport information

- A digital transport ID / passport
- “Intelligent” load carriers, incl. trucks
- “Integration” with shippers’ logistics systems



Access control and monitoring

- Access control in nodes
- Access control / benefits in links
- Integrated yard management



Fleet Management

- Next generation emissions footprint
- Real time dynamic route planning
- Dynamic driver support
- Integrated truck and load carrier management

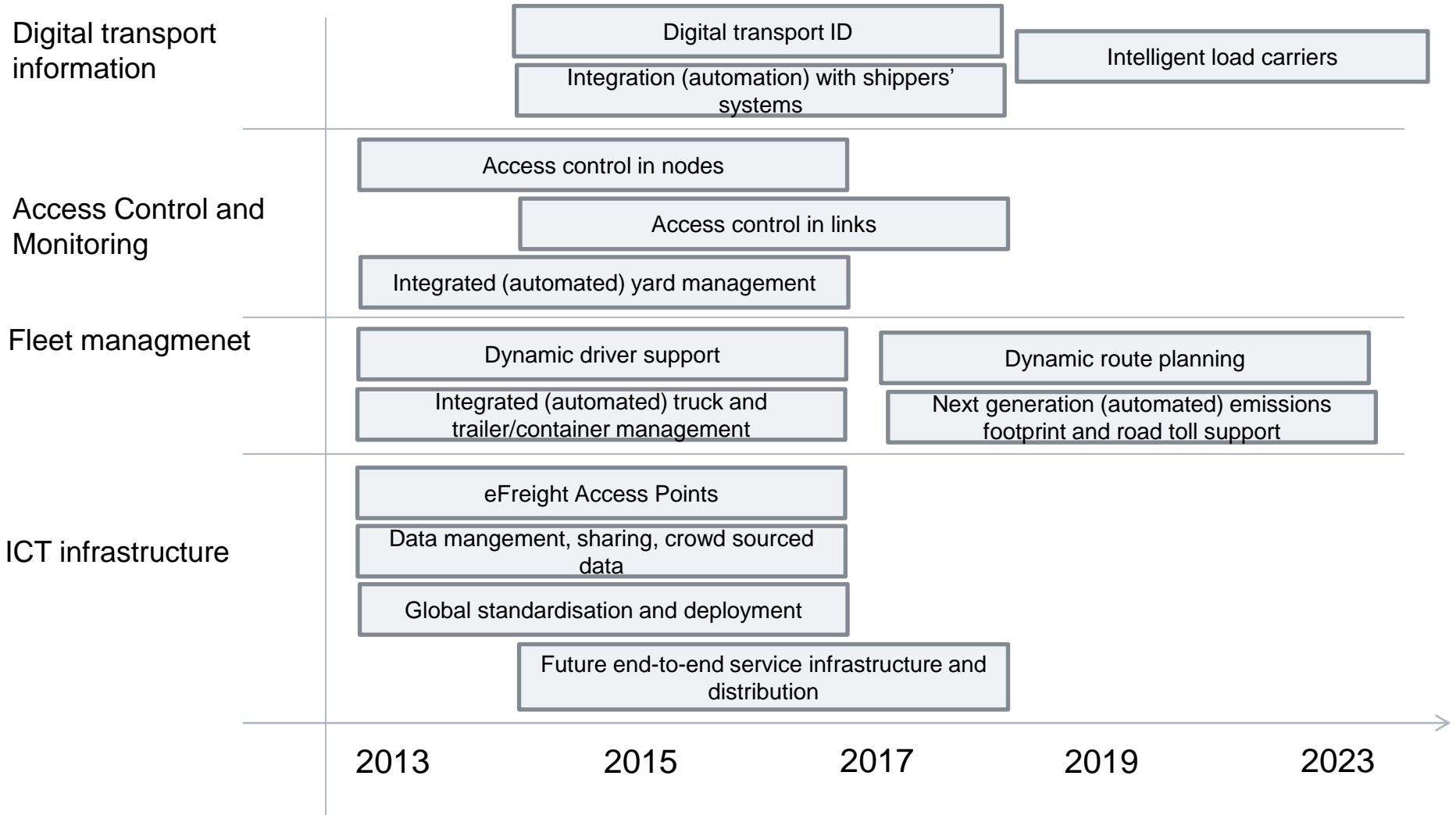


ICT infrastructure & telematics enablers

- eFreight Access Points
- Data: management, security, sharing
- Global standardisation and deployment
- End-to-end service infrastructure and distribution



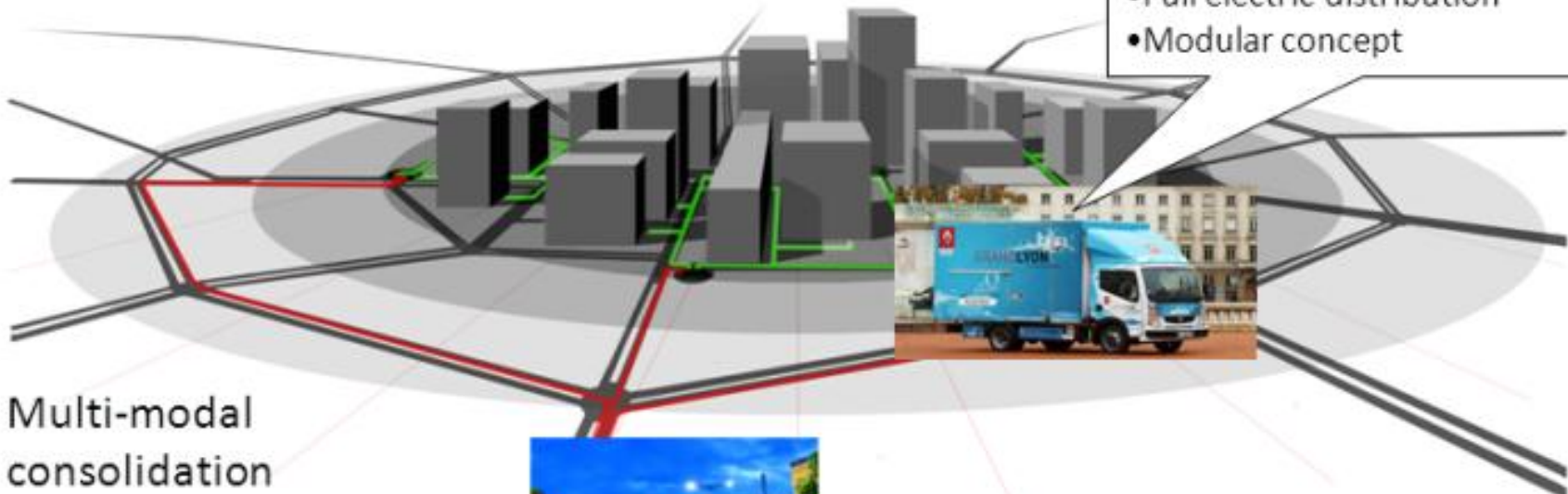
Proposed research and innovation roadmap for Horizon 2020



So what will the world look like in 2030?

Cargo transportation system in 2030

- Full electric distribution
- Modular concept



Multi-modal consolidation center



- Plug.in Truck with range extender
- Night deliveries
- Modular concepts



- Hybrid drivetrain
- High efficient engine (>50%)
- LVC and platooning
- Electric highway (?)

Platooning



Green transport corridors



Electric Road Systems



Automatic city deliveries



To sum up



ICT enabling collaborative logistics and transportation

Questions? sofia.ohnell@volvo.com



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www.volvogroup.com

Advanced Technology & Research, Sofia Ohnell

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