Transforming Transport

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Challenge & Barriers

• **One of the most-used industries in the world and in EU...**
  – 15% of GDP (source: KLU), employment of **11.2 million persons** in EU-28 (source: DG MOVE)
  – **3,768 billion tonne-kilometres** and **6,391 billion person-kilometres** in EU-28
  – Key contributor to emissions: **4,824 megatonnes CO2** (source: DG MOVE)

• **Need for paradigm shift!**
  – A 10% efficiency improvement = EU cost savings of **100 B€** (source: ALICE ETP)
  – Big Data expected to lead to **500 billion USD** in value worldwide in the form of time and fuel savings, and savings of **380 megatons CO2** in transport and logistics (source: OECD)

• **But: Current Situation**
  – Only 19% of EU transport and logistics companies employ Big Data / AI solutions as part of value creation and business processes, and 70% do not plan to do so in the future (source: Price Waterhouse Coopers)

• **Current Barriers in the Transport Sector**
  – Data awareness to collect, store and analyse the data
  – Data access to exploit the real value of data - **great percentage of the** transport infrastructure were built years ago
Transforming Transport

13 pilots in seven domains, covering all transport sectors

- Smart Highways
- Smart Airport Turnaround
- Ports as Intelligent Logistics Hubs
- Proactive Rail Infrastructures
- Sustainable Connected Vehicles
- Integrated Urban Mobility
- Dynamic Supply Networks
Smart Highways Pilot

- **Smart Highways Domain:**
  - Norte Litoral Highway (Ferrovial – Cintra)

- **Pilot Objective:**
  - Understand the traffic conditions

- **Data Source:**
  - Optical fiber-based sensor

- **Challenge:**
  - Exploit the information from a buried **FO cable** (1.5-3 meters)

- **Big Data Analytics to**
  - Detect and Monitor Heavy vehicles
  - Detect Road condition
  - Detect Accidents (guardrail + traffic slowing)
Smart Highways pilot

Time

Distance

Sensor: Fiber Optical

Identify Heavy Vehicles
Smart Highways Pilot

Big Data Analytics can:

- Identify **type of vehicles**, detect vehicles **speed changes**
- **Hits in the railguard**
Big Data Analytics Value

“Addressing real transport needs”
“Creating awareness of data economy”

“Unlocking the potential of transport data”
Big Data Analytics Value

“Creating New Business Models”

“Developing New Devices”
Thanks!

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