Transport Innovations
Empowered by Big Data

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About TT

EU Horizon 2020 Big Data Value PPP Large Scale Pilot Action
• Demonstrates transformations big data has on mobility and logistics
• Part of

48 members - 18.7 MEUR budget - 30 months duration
About TT

13 pilots in 7 domains

Available data

160 Data Assets
164 TB Data Volume

http://data.transformingtransport.eu
Transport Innovation via Big Data

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<th>Better Customer Experience</th>
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https://transformingtransport.eu/downloads/deliverables

→ D4.3, ..., D10.3 (public summary of pilot results)
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Data-driven decision making in retailing @ Athens International Airport

Advanced big data analytics solutions (Indra INPLAN) to anticipate passenger flow and preferences

Adapt marketing to expected passenger typology per time slot

Use data insights to exploit market niches
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Data analysis of shopping probability

Dwell time frequency

Shopping probability

Dwell time
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Improved driving and travel experience @ CINTRA/Ferrovial-managed highways

- Advanced analytics solutions (Indra HORUS) for improved traffic distribution along road corridor
- Better information and decision tools for road users
- Real-time incident warnings based on novel, fibre-optics sensor technology
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Real-time road incident warnings using novel sensor technology

Fiber-optics-based sensor
(0.88 GB/sec)

Isolating Signals from Noise
(classification, adaptive thresholds, clustering etc.)

Filtered data
(1-5 GB/day
= 3,500 virtual sensors)
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Real-time road incident warnings using novel sensor technology

Individual Mobility Pattern Detection (trucks)

Aggregate Mobility Pattern Detection (traffic jams)
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Predictive analytics for proactive terminal process management
@ duisport inland port terminal

- Run-time visualization of operations to increase terminal productivity
- Enhanced decision support for terminal operators (risk and reliability of warnings)
- Deep Learning for proactive terminal management
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Deep learning for proactive terminal management

Data streams from terminal equipment
(1.3 mio states / month)

Data Integration and Aggregation
(GPS / XYZ mapping; from states to moves)

Integrated data of container moves
(10,000 moves / month)
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Deep learning for proactive terminal management

Cost savings: ca 10%

Conclusions

Opportunities
Deep learning
e.g., RNNs

Data sharing
e.g., TT Data Portal

Challenges
Data protection
e.g., GDPR vs. IPR

Lack of skills
e.g., lack of up ½ million data professionals in 2020 [IDC]

http://data.transformingtransport.eu

http://bigdataprofessional.eu

TT personal data: 1%
TT commercial data: 68%
Thank You!

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