

ASECAP DAYS



COSTA NAVARINO 2019

Transforming Transport

Big Data and Artificial Intelligence
for traffic and incident predictions on highway

cintra EFFICIENT AND INNOVATIVE SOLUTIONS TO GLOBAL MOBILITY NEEDS

47TH ASECAP STUDY & INFORMATION DAYS

Tomorrow's Mobility...Is Here Today!

*Costa Navarino, Messinia, Greece
29-31 May 2019*

www.asecapdays.com



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the European Union's Horizon 2020
research and innovation programme
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Organized by



WHAT'S THE H2020 PROGRAMME?

H2020 is a European program to modernize the infrastructure in the EU by 2020

www.TransformingTransport.eu

Big data for more efficient transport infrastructures

Funds to attract both private and public entities to conduct R&D in different domains

Main partners for SMART HIGHWAYS domain:
CINTRA and INDRA

7 transportation domains – 13 pilots – 30 months - 47 partners - **18M €**

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

INTEREST FOR CINTRA AS HIGHWAY OPERATOR

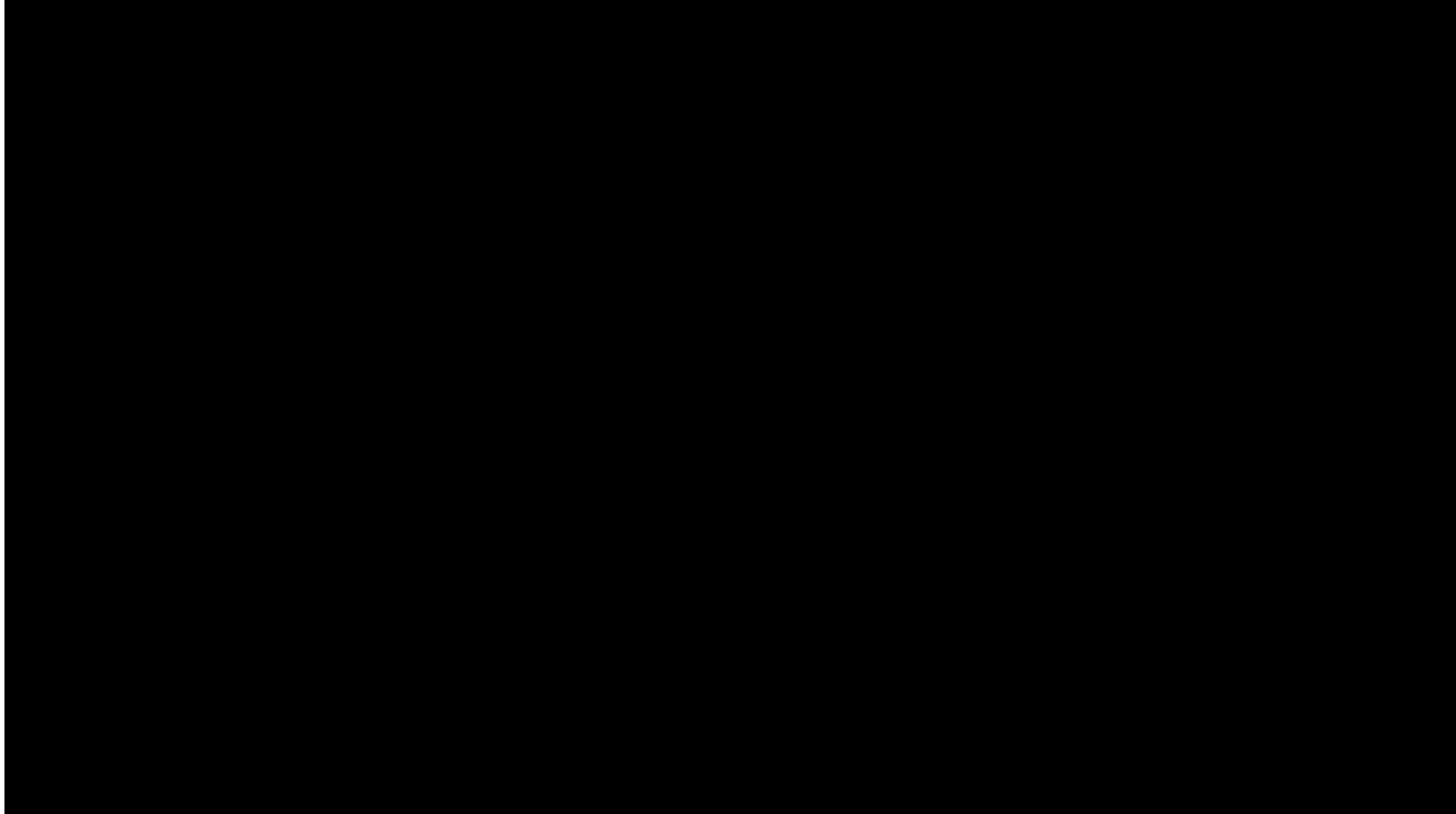
Operational efficiencies

- Accident detection
 - Incident prediction
 - Road invasion alarms
 - Traffic flow prediction
-
- Shorter reaction time – less secondary accidents
 - Better asset maintenance - minimize disruption
 - Safer roads - prevention
 - Operation efficiencies

Knowledge of Customer Experience

- Bluetooth detector network
 - 3rd mobile App (GPS based)
-
- Real time OD matrixes – in and out concession
 - Taylored strategies for new / returning customers

TECHNOLOGIES FOR OPERATIONAL EFFICIENCIES BIG DATA PLATFORM & ONLINE DASHBOARD



TECHNOLOGIES FOR CUSTOMER EXPERIENCE

BLUETOOTH DETECTORS

Create real time **origin-destination** matrixes, repeatedly during the **user's entire life cycle**

Anonymous collection (MAC)
Multiple devices onboard
Segmentation by **car brand**, mobile, audio or navigator.
iOS don't show itself
In and out of concession (DGT approved)
UE might consider MAC as PII soon)
AVG speeds between nodes

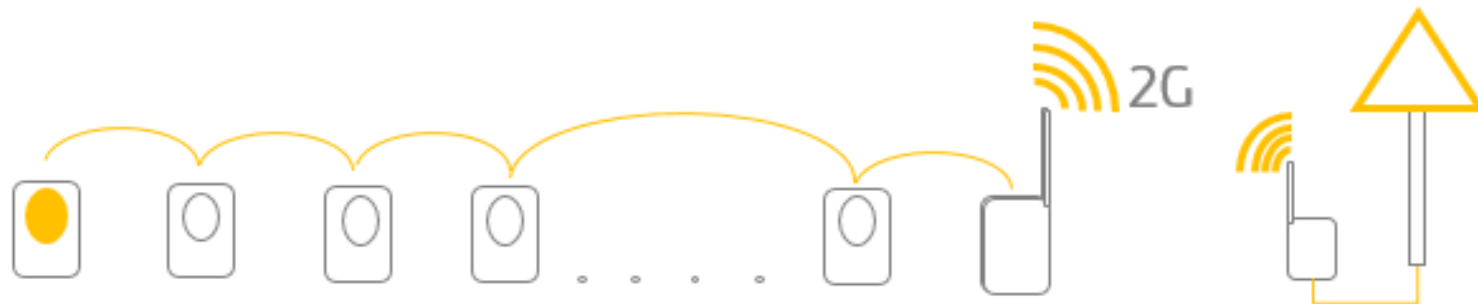
Enhanced user clustering

Clustering users by O-D, **car brand**,
Difficult to identify and score devices
devices onboarded, periodicity and
loyalty

TECHNOLOGIES FOR CUSTOMER EXPERIENCE

ANIMAL ENCROACHMENT

Road intrusion detection through collaborative mesh network



DEPLOYING YOUR OWN BIG DATA SOLUTION? TIPS FROM EXPERIENCE

Data sources - real time integration is never easy
- don't underestimate effort and cost.

Data Quality and Cleansing - preparing datasets to feed algorithms takes up to 80% of time.

Mixed teams perform better: even great data scientists need traffic analyst's expertise.

Procurement takes more time than expected due to data protection laws and NDA.

Exploring **new providers and technologies** opens new possibilities - beyond expectations

Present accuracy of predictions already helps to enhance **safety and UX.**

Algorithms will learn from experts to work unattended soon. A **new mindset** is needed to get advantage of that scenario.

cintra - Transforming Transport – **Smart Highways**

VISIT US at ITS Eindhoven'19 → **stand 0.3 floor plant**

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Project links

www.transformingtransport.eu/

www.facebook.com/TransformingTransportProject/

www.twitter.com/TransformTransp

www.youtube.com/channel/UCoh4IXi0S3v2Jzl4u_UAkGQ

www.linkedin.com/groups/13511078