The use of DATEX II in the C-ITS reference architecture

About this presentation

About the C-ITS Reference architecture

C-ITS Services and DATEX II
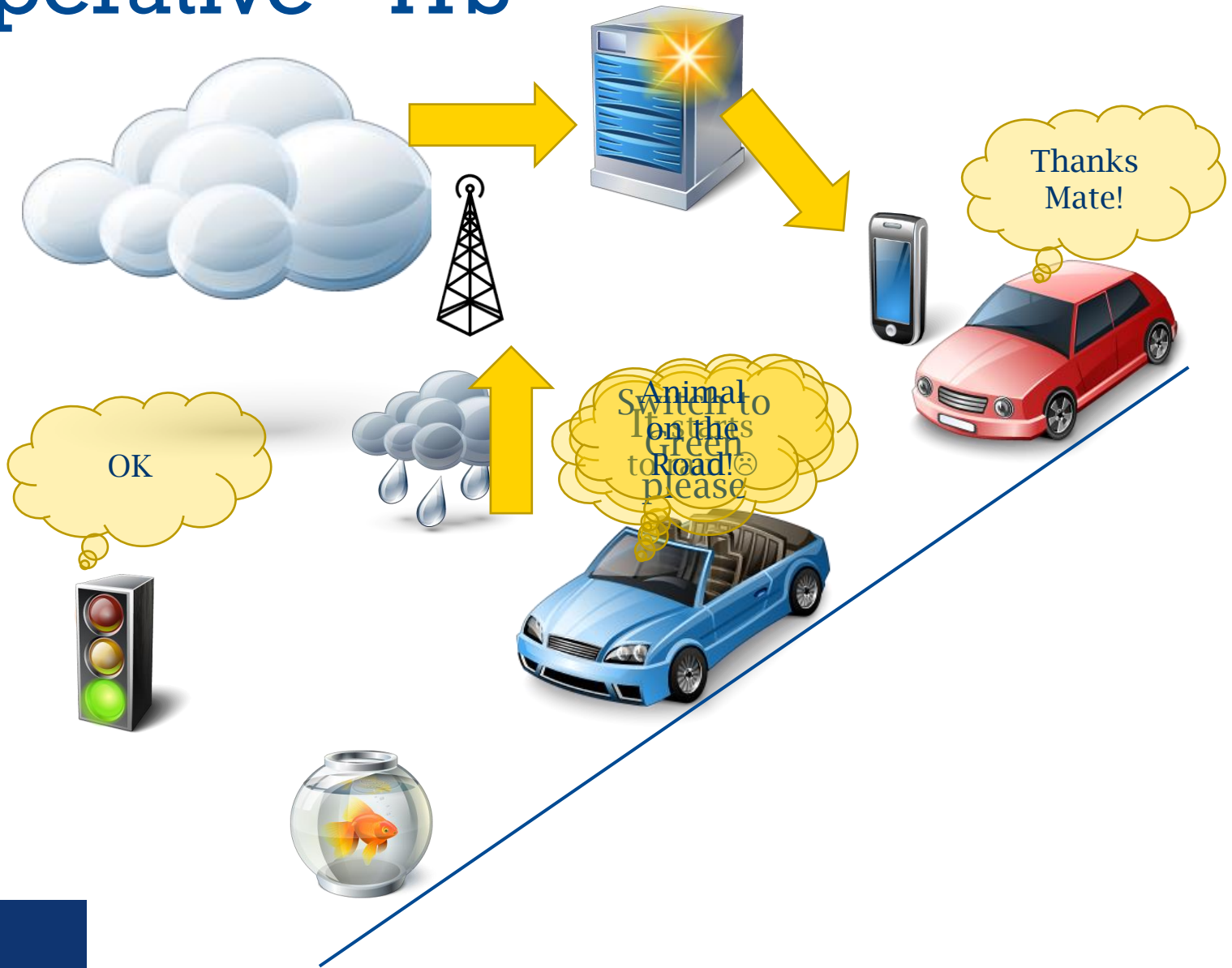
C-ITS input to DATEX II

Conclusions

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The C-ITS Reference Architecture

Cooperative - ITS

C-Roads

Joint initiative of European Member states

Testing of C-ITS Services

Cross-Border Harmonisation & Interoperability

Initiated by 8 EC Member states

Core topic is Service Harmonisation

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European and Local C-ITS Initiatives

DITCM – Dutch Initiative

Converge

Compass4D

MOBiNET

NordicWay

C-The-Difference

Scoop@F
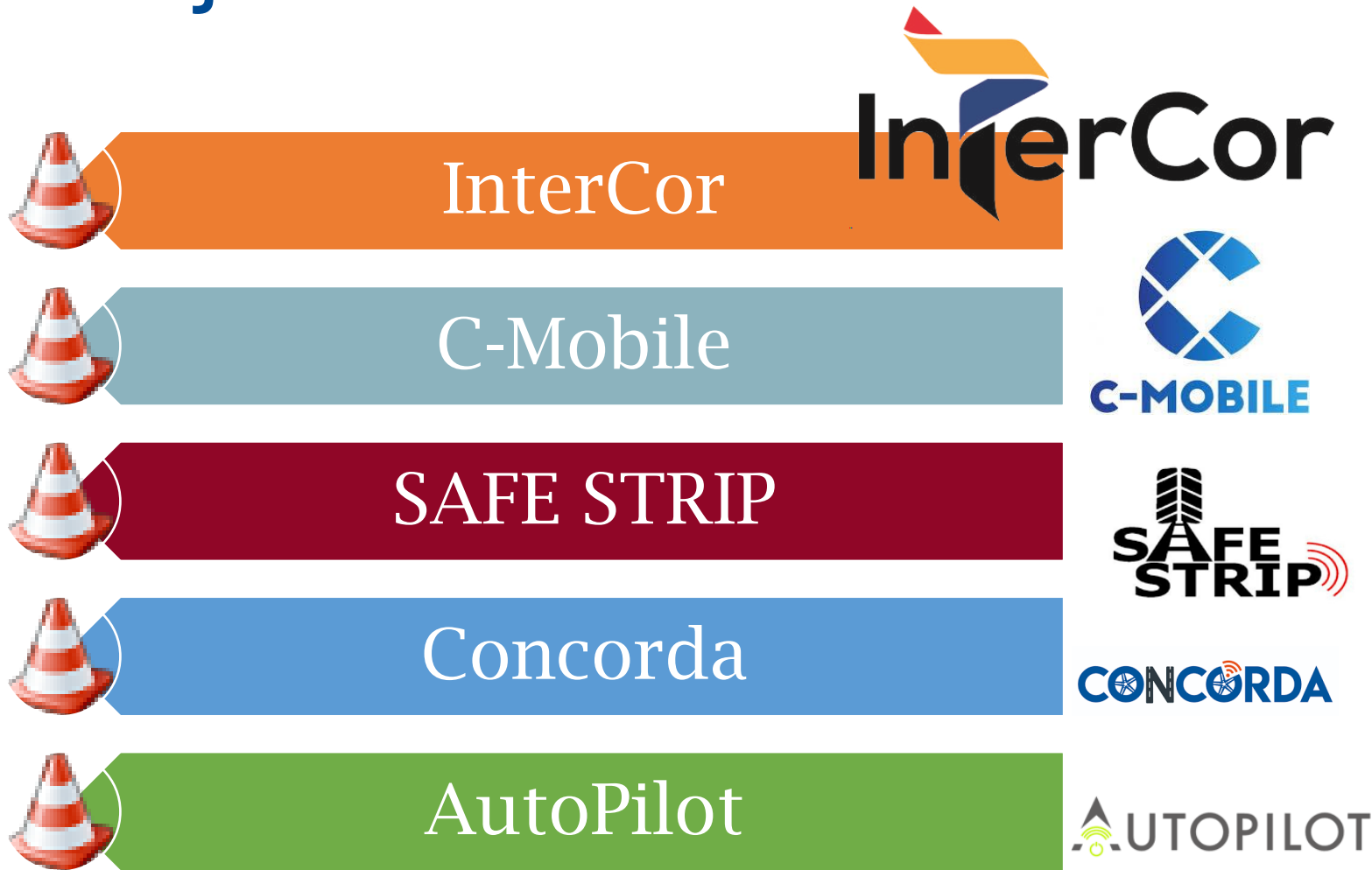
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C-ITS Projects

InterCor

C-Mobile

SAFE STRIP

Concorda

AutoPilot

Example 1 – The C-Mobile Project

Horizon 2020 Project

Focus on C-ITS in Urban environment

Pre-Commercial deployment of C-ITS Services by existing deployment sites

8 European Deployment sites
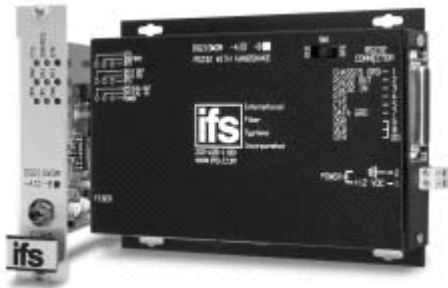
Focus on Interoperability and Standardization

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C-Mobile Deployment Sites

Copenhagen

Newcastle

North Brabant Region

Bordeaux

Bilbao

Barcelona

Thessaloniki

Vigo

Architecture Core Components
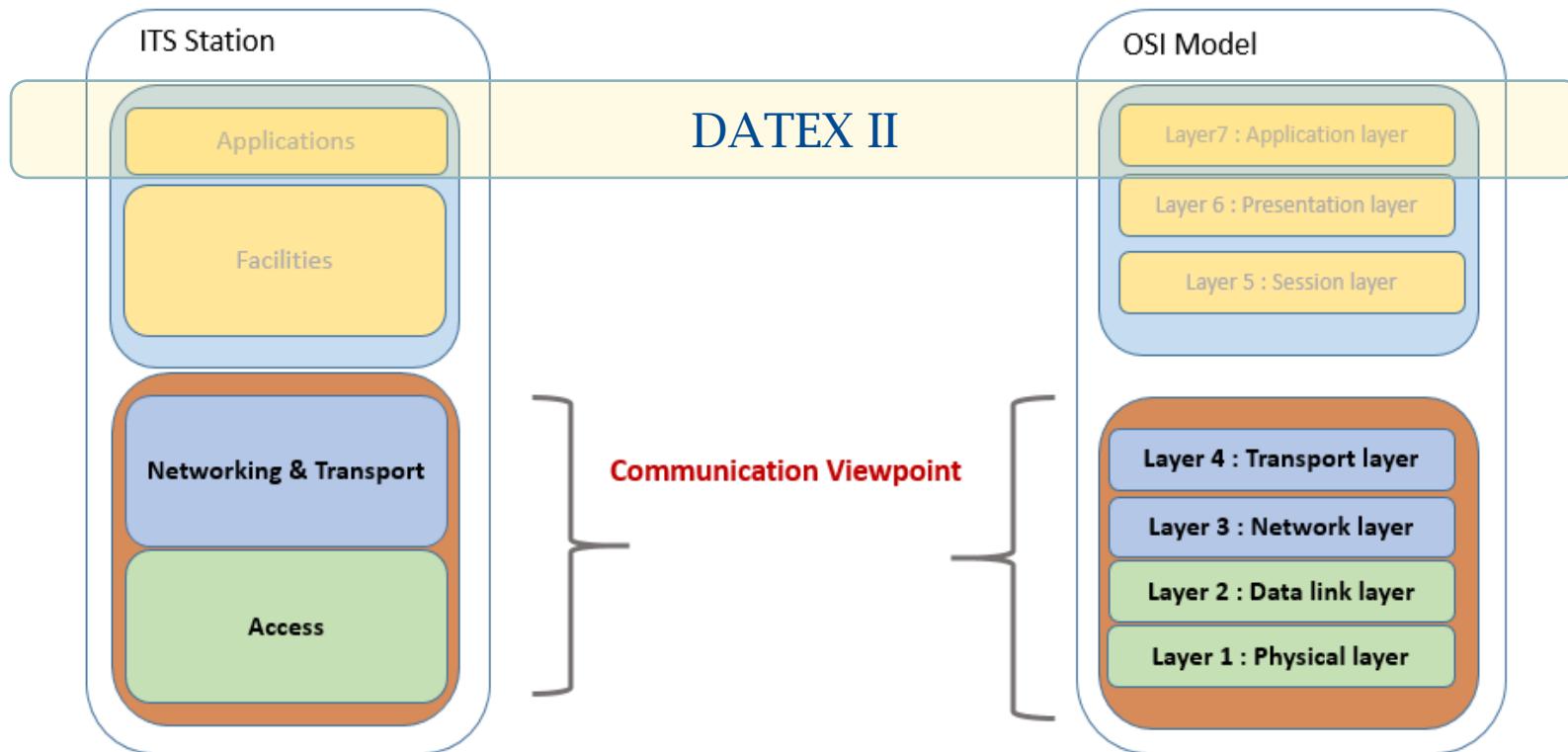

Central System

Vehicle System

Roadside System

Vulnerable Road User

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Related to the OSI 7 Layer model

Example 2 - InterCor

Connecting Europe Facility project (CEF)

Coordinator Rijkswaterstaat

Interoperable Corridors Deploying Cooperative ITS

Focus on Inter-Urban

Connection 3 existing corridors

Standards Used

Cellular

IEEE802.11p

CAM & DENM over Cellular & ITS G5

DATEX II

MAP, SPaT, TOPO over IEEE802.11p

GeoMessaging

DAB, TPEG, TMC

C-ITS Services

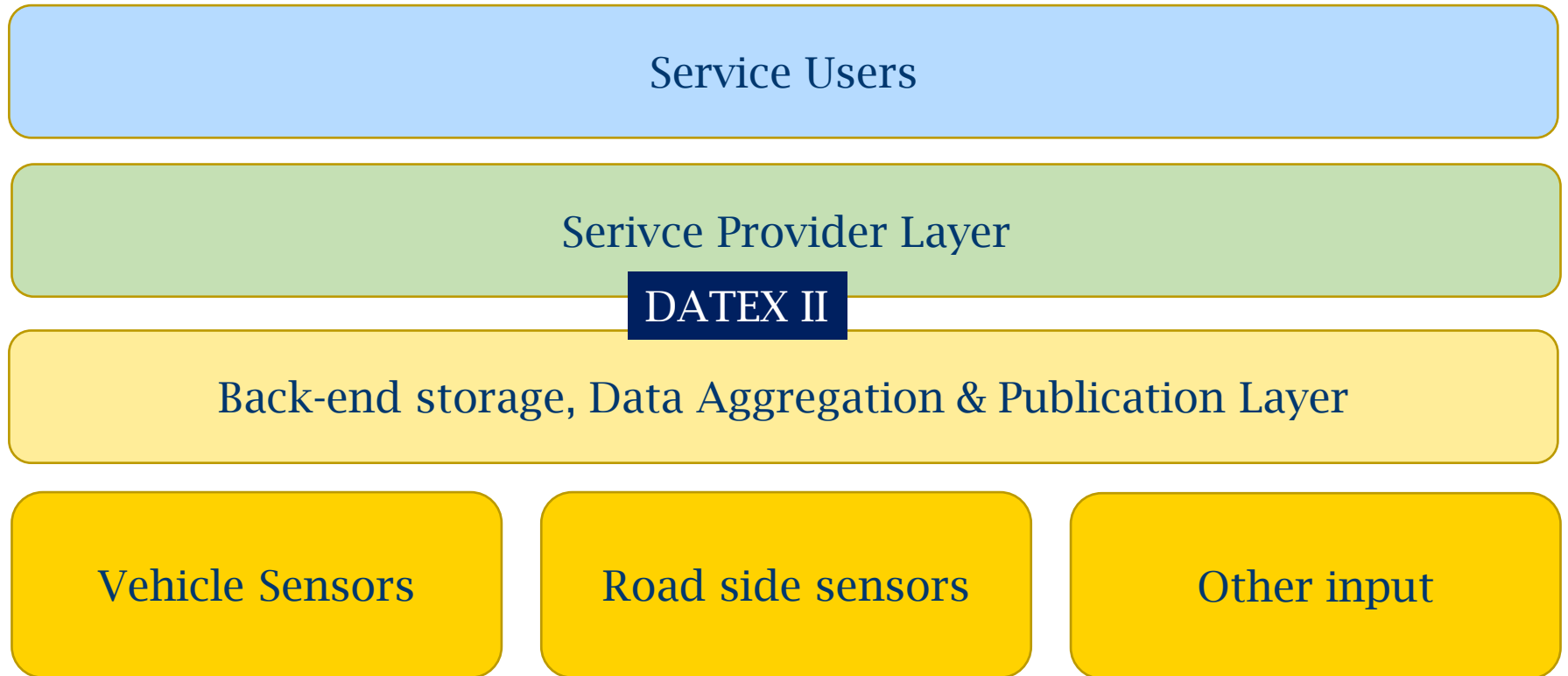GLOSA – Green Light Optimizing Speed advisory

Road Works Warning

Warning System for Pedestrians

Green Priority

Mode and Trip advice

Signal Violation Warning

Emergency Vehicle Warning

C-ITS Service and DATEX II

DATEX II Service Data Feeder

Service Users

Serivce Provider Layer

DATEX II

Back-end storage, Data Aggregation & Publication Layer

Vehicle Sensors

Road side sensors

Other input

DATEX II Usage

Feeder Messages for C-ITS Services

Aggregation of data provided by many (C-ITS) data sources

Towards Automated drive
· Need for accurate and (hard) realtime traffic view
· Continuously updated eHorizon

DATEX has a big future in the Mobility as a Service Concept

C-ITS input to DATEX II

Trends

Increase in Sensor Data/Sensor Fusion

Mobility as a Service

eMobility

Automated Drive

CO_2 Reduction in Urban Areas

Possible DATEX II extensions

Additional information about infrastructure

Information about CO2 reduction regulations in cities

Increased support for eMobility

Information about possible automated vehicles in the vicinity

Availability of shared transport resources

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Alignment with the C-ITS world

C-ITS Projects
- Need for input from DATEX

DATEX
- Need for input from C-ITS

Platforms of interest
- MaaS Alliance
- Sensoris
- TISA Forum

Output of the Interoperability and Standardization working group organized by ERTICO

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Question?

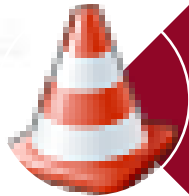How can we realize this interaction process?

Conclusions

Expect an enormous increase in data provided by cars, infrastructure & crowd

The unique ability to extend the specification makes it extremely suitable for C-ITS data needs in the future

Many new evolutions can be supported by DATEX II

Need for continuous interaction between DATEX II and C-ITS Platforms & Projects

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Thanks you for your attention