



SMARTFREIGHT concepts and technology

ECITL 2014 – Investor´s session
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Hans Westerheim
SINTEF ICT

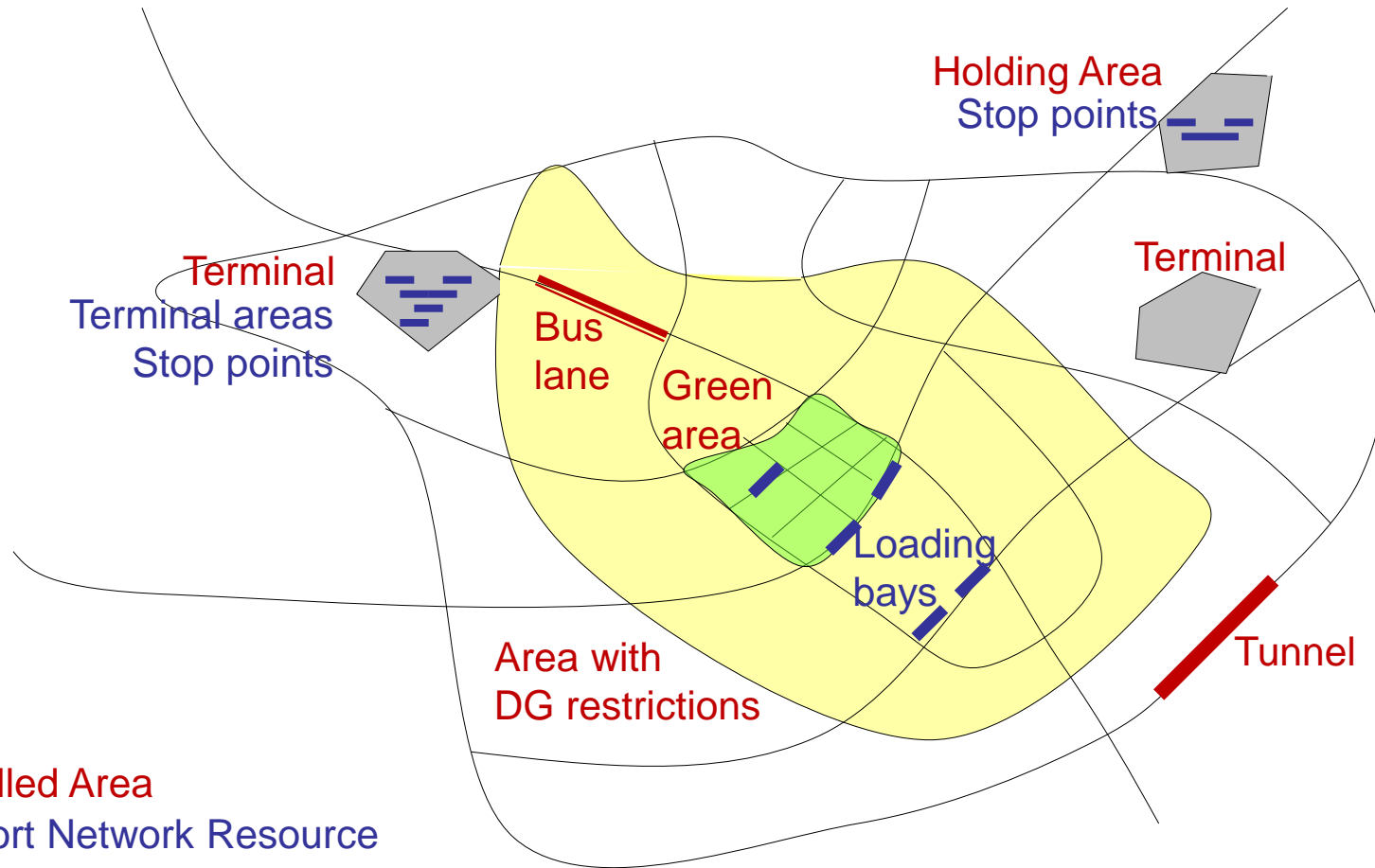


Executive Summary

- ❑ A generic and holistic approach
 - Stakeholders
 - Specification according to ARKTRANS
 - Concepts
 - System components and CVIS
- ❑ Developed applications
 - Access control
 - Goods monitoring (incl. dangerous goods)
 - Resource booking
- ❑ Integration of traffic and transport
 - Traffic management
 - Freight distribution management
- ❑ Transport companies, fleet operators
- ❑ Drivers
- ❑ Managers of the urban traffic
- ❑ City in general / society
- ❑ Retailers and cargo owners
- ❑ Resource managers (e.g. those managing accesses to resources like loading bays)
- ❑ Technology providers



Transportation network

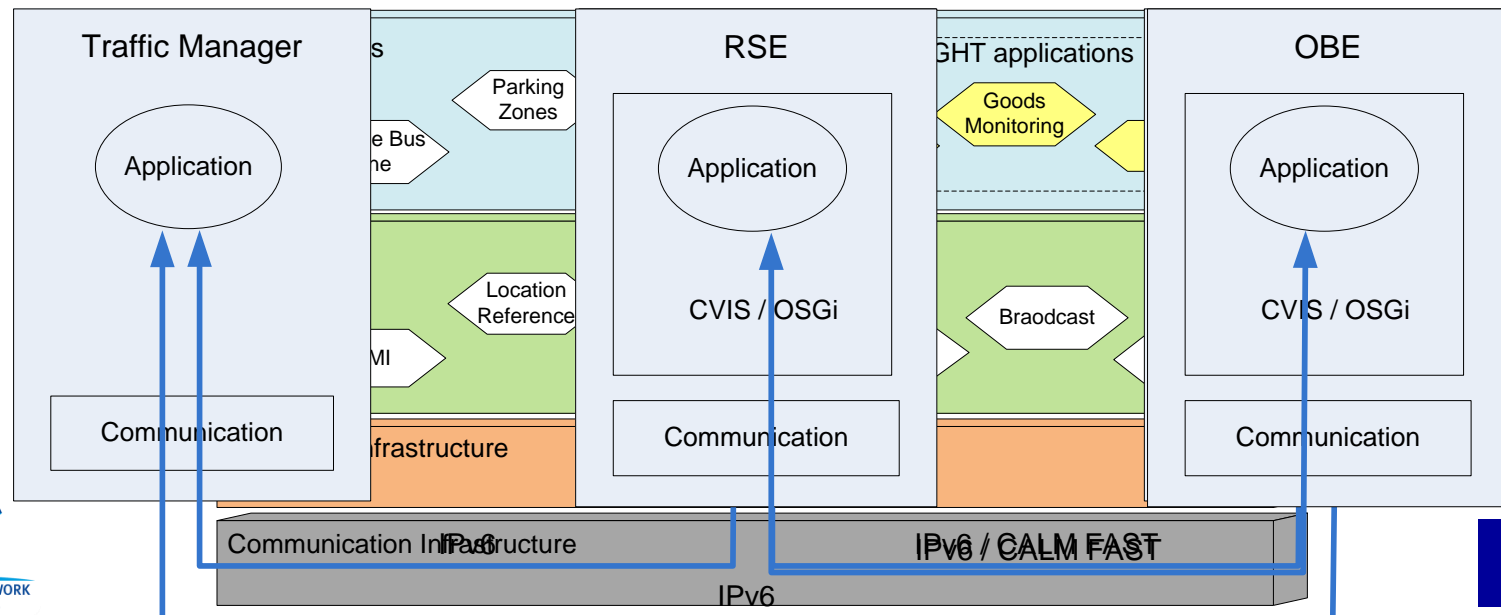




SMARTFREIGHT and the CVIS technology

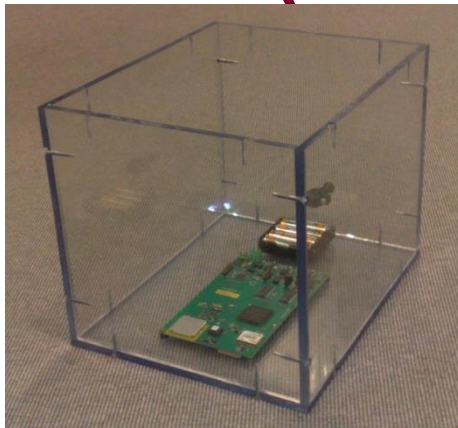
SMARTFREIGHT applications

- appear as applications in the CVIS service platform
- use CVIS and OSGi service interfaces / APIs
- use the CVIS service platform for communication (RSE – OBE)
- may use IPv6 without the CVIS service platform (back office – RSE/OBE)





Goods monitoring (the SMARTFREIGHT demo)



Temperature
ItemStatus
-8.7 C



- ❑ API: *pushItemStatus(ItemStatus): void*
- ❑ Information: Temperature deviation
- ❑ Communication: CALM FAST over CEN DSRC
- ❑ Demo: Event-based monitoring
 - Deviation & Handling

ItemStatus

- measurement unit: ~~degrees C~~ **degrees C**
- (Q-Free 3 OBU 610 toll transponder)
- Value: ~~8.7~~ **decimal**



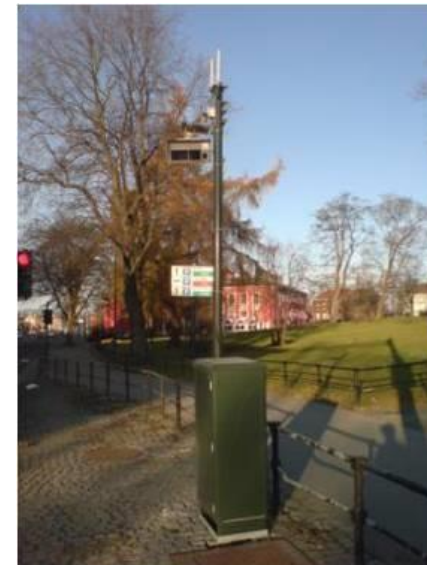
Goods monitoring (the SMARTFREIGHT demo)



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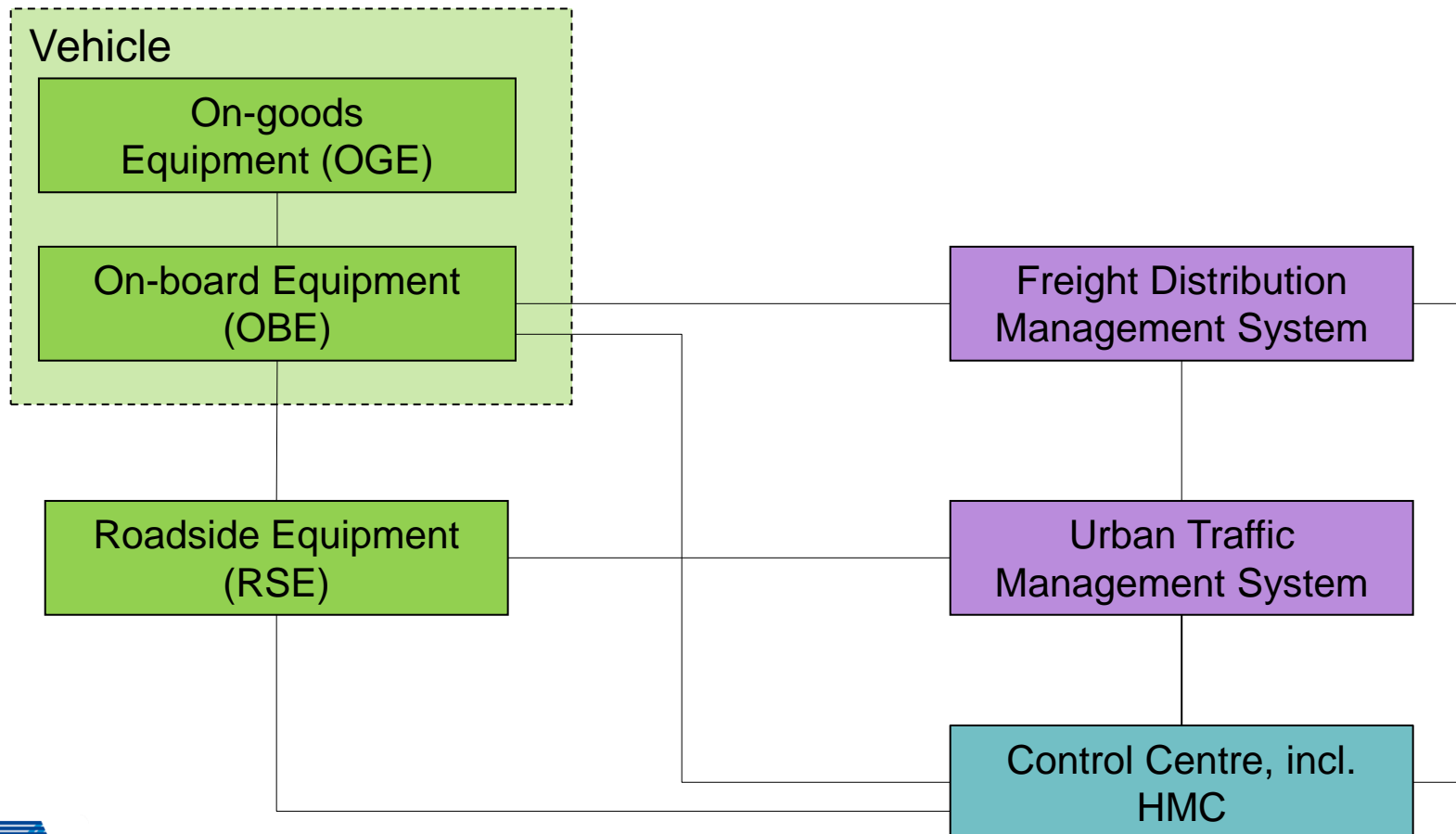


- ❑ API: *pushItemStatus(ItemStatus): void*
- ❑ Information: Temperature deviation
- ❑ Communication: IPv6 and CALM M5 (opt. IPv6 and 3G)





System components





Concepts

- ❑ Controlled Area
 - area or section of the network that is monitored or have access restrictions
- ❑ Transportation Network Resources
 - sections of the network that can be assigned to individual vehicles.
- ❑ Access and Priority Assignment (APA) policy
 - formal definition of the traffic management rules for a Controlled Area.
 - default APA policies for different time periods
 - dynamic APA policies in case of unexpected traffic situations
- ❑ Access and Priority Offer (APO)
 - the access rights and priorities assigned to an individual vehicle in a Controlled Area.
 - derived from the APA policy or assigned to the vehicle on request



Service interfaces / APIs

- ❑ Provision of:
 - APA policies to vehicles and operators
 - APO assignments to vehicles
 - Traffic situation information
- ❑ Data collection
 - Vehicles, transport and traffic (e.g. for statistics)
- ❑ Monitoring
 - Vehicle monitoring in Controlled Areas (entry and exit detection, tracking, etc.)
 - Cargo monitoring
 - Transport Operation Status reporting
- ❑ Bookings and re-bookings of Transportation Network Resources



SMARTFREIGHT Facts

- ❑ Budget
 - Overall: € 3 mill
 - Funding: € 2.2 mill
- ❑ Collaborative Project; start 01.01.2008, end 30.06.2010
- ❑ Coordinator: SINTEF ICT, Hans Westerheim

