

Kapsch Connected Mobility Control Center

Connected transportation for Smart Cities.

Kapsch Connected Mobility Control Center (CMCC) provides advanced capabilities for connected transportation assets management used in Smart Cities. The connected Suite is the right ally for monitoring and managing the connected vehicle environment including connected road users. The product enables selected data sharing by using standardized messages to enhance collaboration in smart transportation.

The Kapsch Connected Mobility Control Center (CMCC) provides advanced capabilities for configuration and monitoring of V2X roadside devices. It empowers operators to generate C-ITS messages and gather vehicle data for further processing. Consequently, Connected Mobility Control Center effectively administers your network of roadside devices, overseeing the messages exchanged between them and vehicles, as well as other road users. A specialized automated dissemination algorithm guarantees the widespread distribution of critical information, such as alerts about potential hazards, ensuring its timely availability in the connected environment.

Additionally, our **virtual Road-Side Unit (vRSU)** offers the ability to receive and distribute information to mobile devices where physical roadside units are not available, extending the coverage of cooperative intelligent transportation systems (ITS) while enabling secure and reliable message exchange using dedicated connectivity.

Holistic mobility communications

Kapsch Connected Mobility Control Center provides real-time traffic insights and integrated incident response capabilities while interacting directly with connected road users, either via dedicated short range communication or cellular connectivity. As a result, it delivers improved safety and efficiency benefits, as well as enhanced travel experiences for road users.

Flexible and modular

Utilizing standardized C-ITS message sets it extends today's traditional traffic management centers with a truly cooperative and integrative communications system. The modular design of the product allows for versatile applications, functioning either as a standalone central system or seamlessly integrated into a sophisticated management center.

Functionality and Services

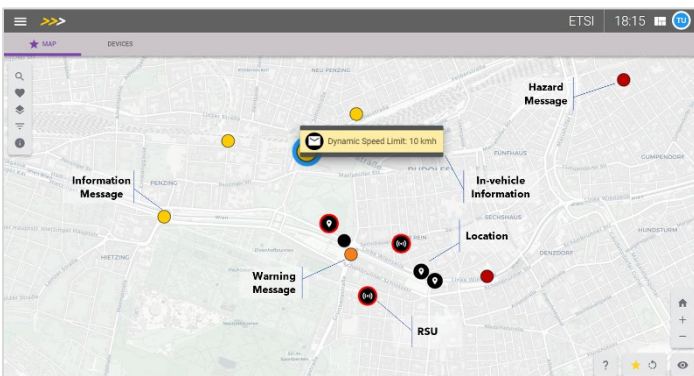
Monitoring & Supervision

Configuration & Monitoring of Health & Performance of the V2X environment (stationary, mobile).

ID	Name	Type	Location	Last update
23	vsu001	RSU	vsu Location	7:48:20 - 10/18/2022
33	PID Server	RSU	vsu Location	1:05:13 - 11/08/2022
71	RSU Intertraffic	RSU	Location Intertraffic	7:56:48 - 07/27/2022
77	rsu0002	RSU	Location 2	17:13:09 - 10/18/2022
79	jvu0001	RSU	jvu Test Units	11:14:24 - 04/26/2022
80	jvu0002	RSU	jvu Test Units	8:29:16 - 05/03/2022
81	jvu0003	RSU	jvu Test Units	8:29:16 - 05/03/2022
82	one0001	RSU	one0001	9:26:06 - 10/05/2022
83	vsuata	RSU	vsu Location	11:05:07 - 10/18/2022
109	testRSUDate	RSU	dateTestLocation1	11:31:28 - 10/19/2022
130	testVRSUDate	RSU	dateTestLocation2	1:08:32 - 09/17/2022

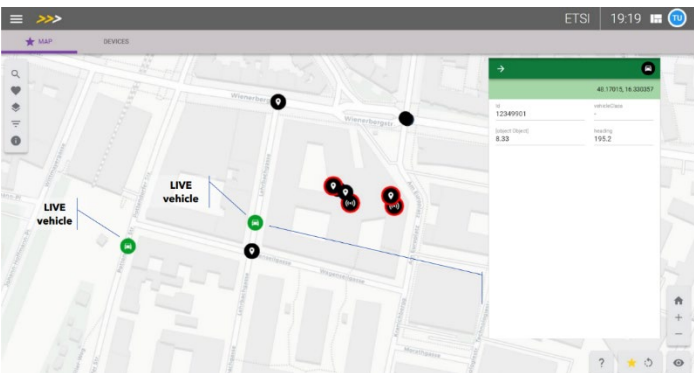
Automatic C-ITS Message Management

Automated ITS processes; Optimized Message distribution to reach desired area by utilizing use case specific algorithms; Integration into automatic response plans.



Live View & Data Collection

Analytic view of the operating status of the connected environment; Real-Time Feedback; Persistent data logging and exporting for further analysis.



Standardized message sets

Extending capabilities through standardized interoperable cooperative systems to enable access to all connected road users.

ID	Name	Message type	Source	Event	Locations
1	Human On ...	Unknown	Manual	0	
2	Human On ...	Unknown	Manual	0	
3	Other Signa...	In Vehicle Si	Manual	0	
4	Road Works...	Road Works	Simulated	1	
5	Traffic Jam ...	Hazardous L	Simulated	1	
6	Dynamic Sp...	In Vehicle Si	Simulated	0	
7	IVI.4	In Vehicle Si	Manual	0	

Hybrid Communication

Serves as distributor of C-ITS messages to hybrid On-Board Units (OBUs) and Personal Information Devices (PIDs) such as smartphones and tablets.

Technical features

Device Management

Defining and configuring all the devices in the system:

- Road-Side Units -RSUs-
- Mobile Units -e.g., work zones trailers-
- Other Data Input Sources

Assigning devices to locations and configuring them.

Message Management

Support of standardized protocol sets:

- ETSI ITS-G5
- SAE J2735 / IEEE WAVE

Customized dissemination and broadcasting of the desired information.

System Monitoring

- Monitoring tools to continuously evaluate the system performance
- Issues can be identified and resolved before they become problems
- Automated alerts to not miss anything

Data Monitoring

- Real-time data display - see what happens
- Storage, processing and forwarding of received and sent messages
- Enable statistical analysis and predictive capabilities

Graphical User interface

- Intuitive User interface to easily create desired messages.
- Easily plot intersection and road segment details

Flexible Architecture

- Easily scalable – grow as you need
- Platform independent
- Robust, high availability (HA) architecture

Security

Kapsch Connected Mobility Control Center (CMCC) is designed to allow secure, authenticated communication between the field devices and the C-ITS-S. The communication is TLS encrypted, the basis for this is the X.509 server certificate a field device shall use to authenticate the server. The X.509 server certificate will also be used to establish an encrypted communication channel between the Connected Mobility Control Center and the field devices.

Kapsch TrafficCom

Kapsch TrafficCom is a globally renowned provider of transportation solutions for sustainable mobility with successful projects in more than 50 countries. Innovative solutions in the application fields of tolling, tolling services, traffic management and demand management contribute to a healthy world without congestion.

With one-stop-shop solutions, the company covers the entire value chain of customers, from components to design and implementation to the operation of systems.

Kapsch TrafficCom, headquartered in Vienna, has subsidiaries and branches in more than 25 countries and is listed in the Prime Market segment of the Vienna Stock Exchange (ticker symbol: KTCG). In its 2022/23 financial year, about 4,000 employees generated revenues of EUR 553 million.

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