Smart mobility solutions

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Key business segments of OECON

We are one of the **world's leading providers** of **cutting-edge testing** and **location-based smart mobility solutions** for manufacturers in the **automotive industry** and **associated industries.**

eCall & TPSP

eCall test systems for the automotive industry and eCall decoders for emergency response centers and TPSP

OECON is the world market leader in this environment

Connected & automated driving

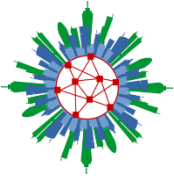Test- and Simulation systems for V2X cars

Location-based smart mobility solutions

UAV Management

DaaS - "Drone as a Service"

Management software Platform for Drone flights beyond Line of sight (BVLOS)

TPSP: Third party service provider
V2X: Vehicle-to-everything

Agenda

1. Ecall test systems

- Test and development server
- Simulator
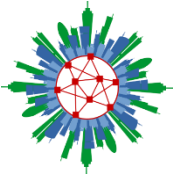- Router

2. UAV management

- OECON Hawk core platform
- OECON Hawk product family
- Hawk core platform features

3. Location-based smart mobility solutions
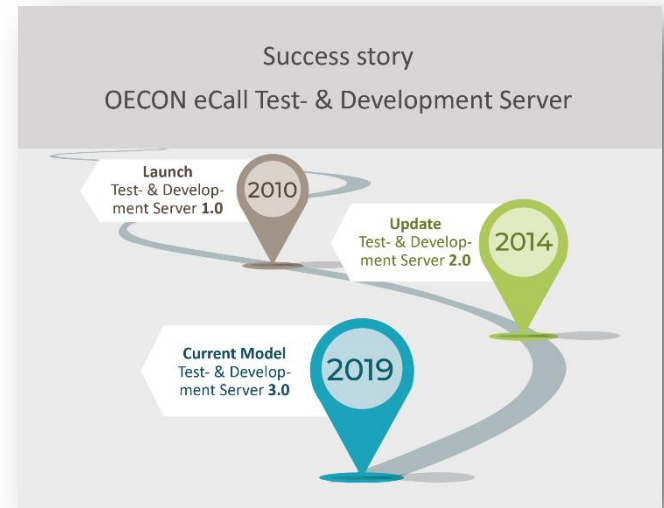
- Examples of our projects

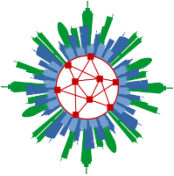OECON is global **market leader** in **eCall test systems** and **key partner for EU-funded eCall projects since 2010** (i.e. HeERO, HeERO2, I_HeERO and sAFE Projects)

- Our products **support**:
  - eCall and location data development
  - upgrading 112 centers and third party service (TPS) providers with eCall and location data

- Our eCall **product range**:
  - Test and development server
  - Simulator
  - Router

Success story
OECON eCall Test- & Development Server

Launch Test- & Development Server 1.0 — 2010
Update Test- & Development Server 2.0 — 2014
Current Model Test- & Development Server 3.0 — 2019

Some of our customers

NXP · peiker · TÜVRheinland® · VW · SIEMENS · BOSCH Invented for life · Ford · orange · Audi · HYUNDAI MOBIS · PORSCHE · CETECOM · clarion · DENSO · Continental® · DAIMLER · kpn · vodafone · gemalto security to be free · Mercedes-Benz

eCall test and development server

Certified service centre for receiving eCalls in compliance with EU and ERA-GLONASS specifications.
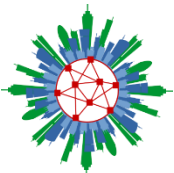
- Reference Test platform for **OEMs and suppliers**

- Supports **In-Vehicle System** (IVS) developers for eCall component development

- Complete, easy-to-use application for **PSAP simulation**

- Supports up to **100 simultaneous calls**

- Supports **next generation eCall** (eCallNG)

- Detailed process logs with reproducible test results
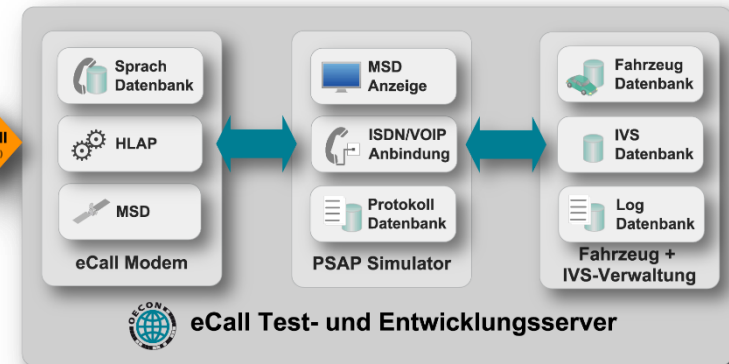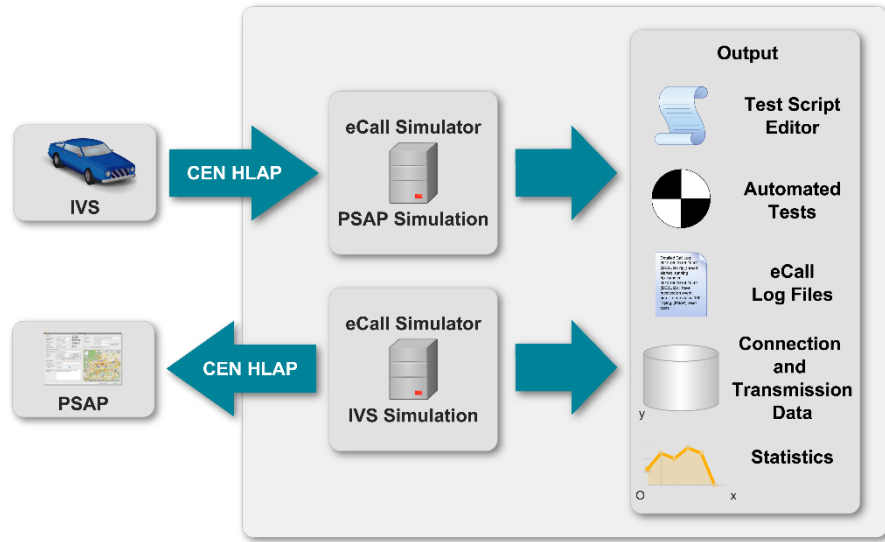

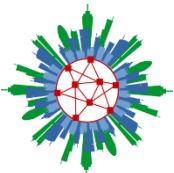PSAP: Public safety answering point

eCall simulator

Platform for **validation** and **certification** of **IVS** and **112 center components**

- **Certified** system (TÜV Süd Germany) with **compliance** to all relevant **eCall standards**

- **Automated testing** with TTWorkbench and TTCN/3 test script language

- Test and data **reports** with **statistics**

IVS → CEN HLAP → eCall Simulator / PSAP Simulation → Output: Test Script Editor, Automated Tests, eCall Log Files, Connection and Transmission Data, Statistics

PSAP ← CEN HLAP ← eCall Simulator / IVS Simulation →
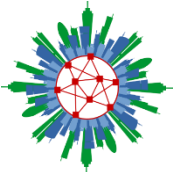
1. Ecall test systems

eCall router

Platform for upgrading PSAPs with minimum effort and investment

- An add-on to existing PBX and PSAP applications

- Uses unified XML interfaces to communicate with the PSAP software and standard ISDN features to communicate with the PBX

- **Certified** system by TÜV Süd Germany

- Up to 100 simultaneous calls

- Used for **over 300.000 eCalls** since 2011

- Supports both pan-European and TPS eCalls

- Used by several **TPS providers** since 2014
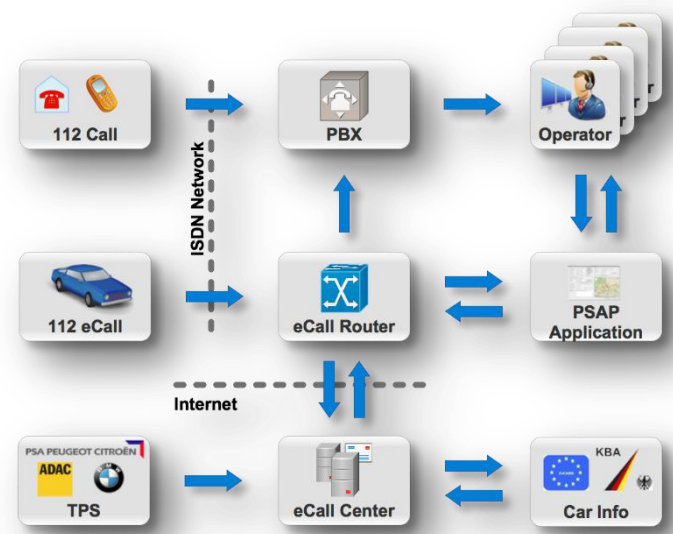
Third Party Services

ISDN: Integrated services digital network
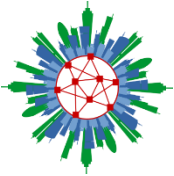PBX: Private branch exchange

1. Ecall test systems

PSAPs with our eCall router

- Fire brigade and police departments in Denmark

- eCall Pilot Filtering Instance PSAP in Belgium

- **PSAPs** in:

  Portugal
  Bulgaria
  Netherlands
  Latvia
  Iceland
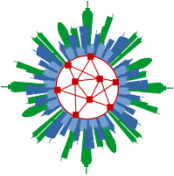 Central eCall PSAP in France
  Finland
  Cyprus
  Germany

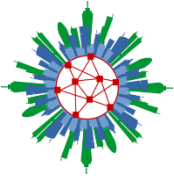## Our worldwide eCall business

OECON Hawk Core Platform

Integrate aerial data into your day-to-day operations and improve business workflows.

- **Plan** sophisticated commercial drone operations

- **Manage** missions, users, drones and airspace conditions

- **Configure** and **customize** your settings

- **Strategize** and tactically collaborate

We offer **tailor-made solutions** for a variety of tasks.
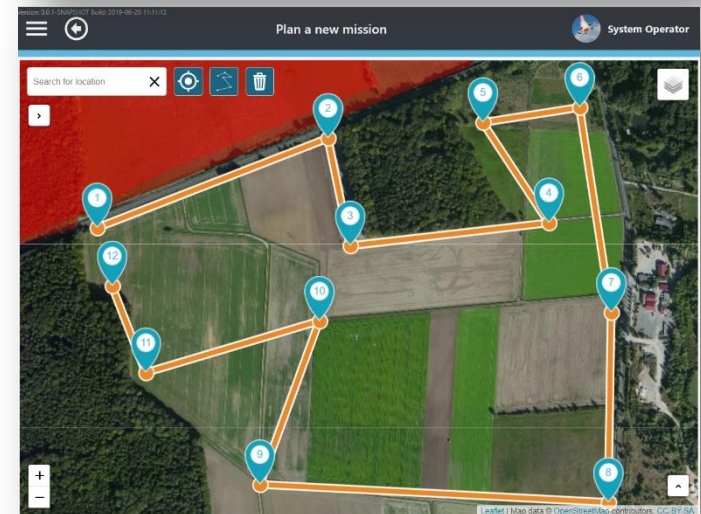
2. UAV management

## OECON Hawk Product Family

- **Guided Hawk:**
  Site monitoring with scheduled, recurring surveillance missions and delivery of video streams and high-resolution images

- **Emergency Hawk:**
  Ad-hoc drone missions for rescue services and police forces with the ability to share the video stream with those involved and to control the drone on-site

- **Environment Hawk:**
  Advanced missions for environmental protection, i.e. taking water samples for quality determination or dropping tree seeds for reforestation.
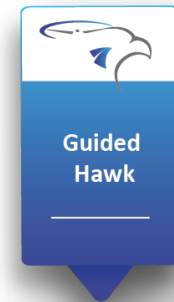
Guided Hawk

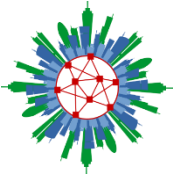Emergency Hawk
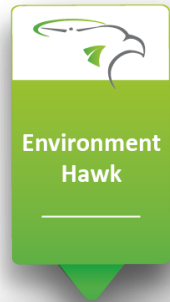
Environment Hawk

Functional Services

Technical Support Services

Business Support Services

Hawk Core Platform

2. UAV management

Hawk Core Platform: Plan sophisticated drone operations

Plan missions instantly by drawing on a map	Adjust mission parameters easily based on specific requirements

Hawk Core Platform:
Manage your team, equipment and processes

Missions, flight crews, equipment, and operational procedures are in one integrated place

- **Manage** past and upcoming missions with required details
- **Command** unmanned aircraft for their assigned tasks remotely
- **Simulate** your missions before actual operations
- **Monitor** flight parameters, and **analyze** the summary of missions with required details
- **View** and edit your mission templates
- **Create** no-fly zones and emergency landing zones for safer operations
- **Assign** defined roles to users across your organization
- **Register, identify** and **manage** your drones easily
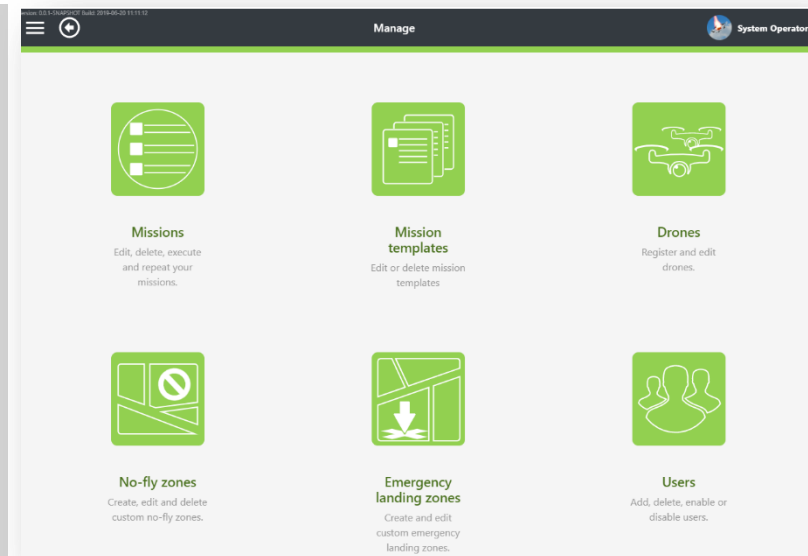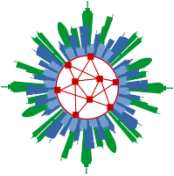
2. UAV management

Hawk Core Platform: Configure and customize your settings

Select your personal and mission related settings for desired usability
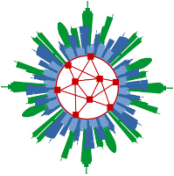
Customize your user profile:

- **Edit** your profile information password & preferences
- **Track** your past actions

Configure your flight settings:

- **Edit** and **set** specific flight parameter

Hawk Core Platform:
Coordinate your missions with command centre

Deploy, strategize and tactically cooperate by receiving real-time views of a scene with minimal latency

- **Monitor** the status and the real time location of the drones in-field

- **Generate** instant aerial insights in seconds with live video streaming

- **Take manual control** over camera

- **Mark points** of interest on the map to indicate locations for detailed inspection

- **Secure** telemetry and network connectivity

- **Store** flight logs, video and data usage
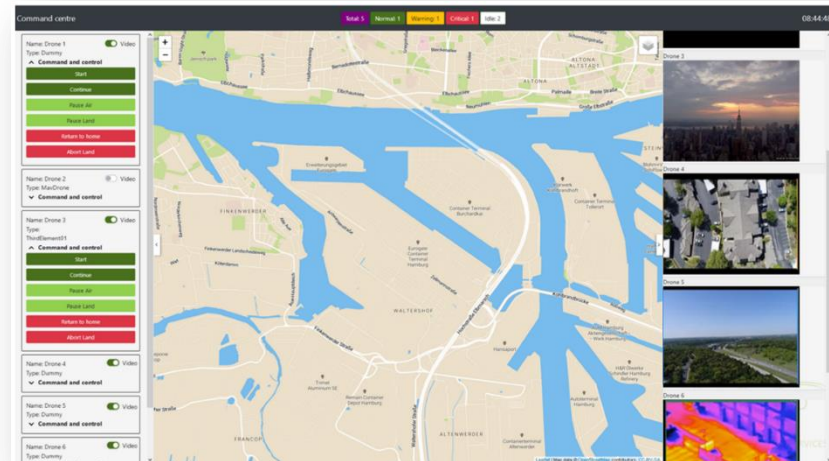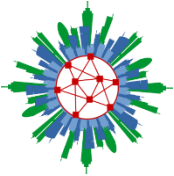
2. UAV management

Hawk Core Platform

Compliance with static and dynamic no-fly zones: Required documents are submitted to the related aviation authority.

- **Pilot in Command:** Only licensed pilots are authorized to operate the drones

- **Compliance with standards:** The platform is developed with compliance to emerging standards

- **Configuration options:**

  - *Control software:* Customer provides his/her own drones. Drones can be integrated easily to the software thanks to its open interfaces

  - *Complete package:* Includes control software and required drone as well as software and hardware maintenance contracts.

- **Integration** into existing IT environments and **video conferencing systems**
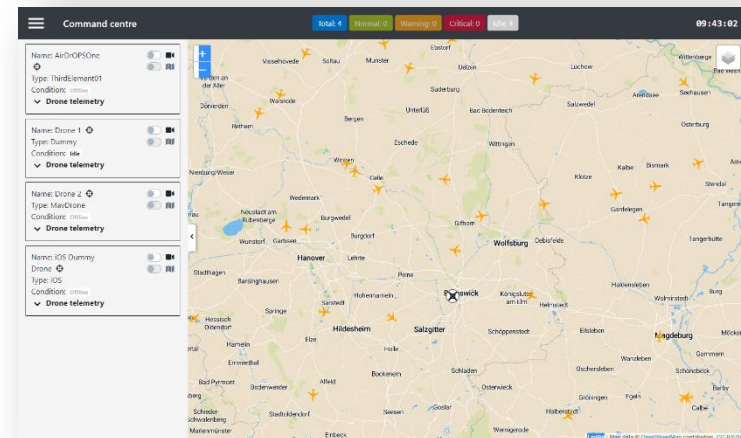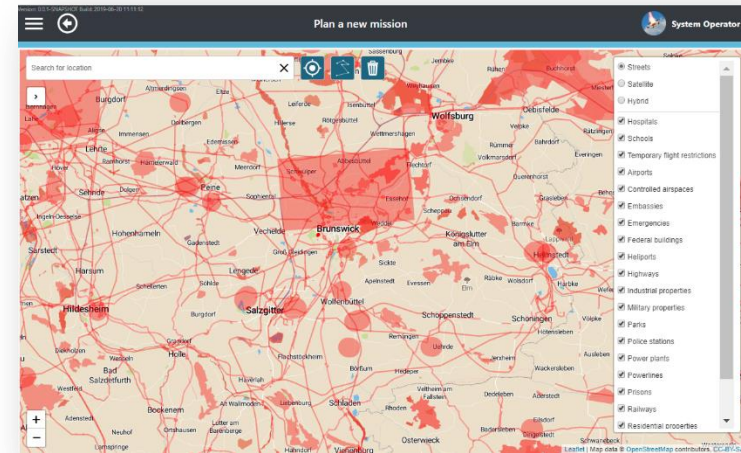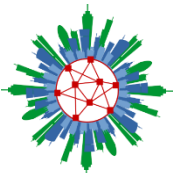
3. Location-based smart mobility solutions

We are **reliable partner** in **numerous projects** with its cutting-edge **location-based products** and **services,** especially in the **transportation domain**

Example domains of location based services

3. Location-based smart mobility solutions

Examples of our projects

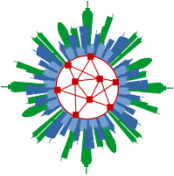| Projects	Start Date	Area	Description
RFID Airport Baggage Handling	2005	Logistics	System study to optimize the process chain of baggage handling by using RFID technology
Ring&Ride	2005	Personal Mobility	Multifunctional mobile phone ticketing system
SOPHA	2005	Personal Mobility	Integration of a GNSS software receiver for safety-critical PDA applications
TrafficOnline	2005	Automotive	Online traffic data collection via mobile communications networks
BSSdW 2007	2006	Personal Mobility	GPS positioning of relay runners and transfer of the location data to digital map of Old Town Square in Braunschweig
FAMOS Phase I	2006	Automotive	Satellite navigation with GPS / EGNOS and Galileo for safety-critical driver assistance systems and location-based mobility services
SARHA	2006	Personal Mobility	Sensor-augmented EGNOS/Galileo receiver for handheld applications in urban and indoor environments
WLAN Ortungspark	2006	Other projects	WLAN positioning in indoor and outdoor areas
ZasterLaster	2006	Other projects	Mobile cash dispenser supported by innovative location technology
Brainworxx Halbmarathon 2007	2007	Personal Mobility	GPS tracking of runners and transfer of location data to digital map; GPS transmitters were mounted on bicycles

3. Location-based smart mobility solutions

Examples of our projects

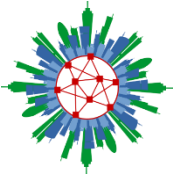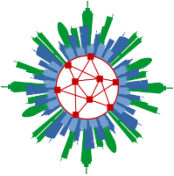| Projects	Start Date	Area	Description
Braunschweiger Nachtlauf 2007	2007	Personal Mobility	GPS tracking of runners and transfer of location data to digital map; GPS transmitters were mounted on bicycles
FAMOS Phase II	2007	Automotive	Satellite navigation with GPS / EGNOS and Galileo for safety-critical driver assistance systems and location-based mobility services
GNSS-INDOOR	2007	Personal Mobility	GNSS innovative technologies and their demonstration for indoor positioning
GoPORT	2007	Logistics	Galileo based location method to improve processes at airports
Braunschweiger Nachtlauf 2008	2008	Personal Mobility	GPS tracking of runners and transfer of location data to digital map; GPS transmitters were mounted on bicycles
Mobile real time traffic service	2008	Automotive	Real-Time Traffic Data Service - A method for the comprehensive determination of traffic disruptions based on anonymised mobile network data
GALAPAGOS	2009	Logistics	Galileo-based seamless and robust positioning applications for logistics optimization processes
Gamma-A	2009	Automotive	Galileo mass market satellite navigation receiver for cars
GENEVA	2009	Automotive	Galileo / EGNOS Enhanced driver assistance system
IEGLO	2009	Personal Mobility	Infrastructure-Augmented EGNOS/Galileo Receiver for Personal Mobility (IEGLO)

3. Location-based smart mobility solutions

Examples of our projects

Projects	Start Date	Area	Description
Logiloc	2009	Logistics	Product development for container management
Sichere Schiene	2009	Logistics	Secure rail traffic through intelligently interconnected location-based telematics systems
Simba	2012	Personal Mobility	"Safe and mobile by means of accompanying assistance systems"
IKTS	2013	e-Mobility	Project 3.2 in the electric mobility showcase of Lower Saxony - "Mapping and Positioning Service"
InMoBS	2013	Personal Mobility	Urban mobility support for the blind and visually impaired at signalised junctions
ANIKA	2014	Automotive	Upgrade of emergency call pillars on motorways with V2I (Vehicle to Infrastructure) communication
Parkplatzortung via RFID	2015	Automotive	RFID based smart parking system
C-Roads	2017	Automotive	Development of uniform standards & communication solutions for C-ITS applications in Europe
Digitaler Knoten	2017	Automotive	Development of digital solutions for supporting vulnerable road users in the context of connected and automated driving in intra urban areas
Testfeld Niedersachsen	2017	Automotive	Connected and automated driving testbed in Lower Saxony

Contact us for more information and possible collaborations!

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