



Public Safety | eCall

Enabling Trust in the Connected Car Ecosystem

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The European eCall Initiative



Several years ago, the European Commission introduced eCall, a groundbreaking initiative intended to bring rapid and automatic assistance to

motorists involved in incidents anywhere in the European Union (EU). Industry coalitions such as ERTICO, Europe's Intelligent Transportation System (ITS) organization, European Member States and ITS industry leaders around the globe are working hard to develop and deploy new technologies and strategies to meet the eCall challenge.

How it Works

eCall's success hinges on two key elements: an upgraded European wide interoperable Public Safety Answering Point (PSAP) infrastructure, and installed or embedded Machine-to-Machine (M2M) communication devices in all vehicles. In the event of a serious road incident, the In-Vehicle Equipment (IVE) must be able to automatically dial 112 and reliably communicate incident details over wireless networks. These details are collectively defined as "the minimum set of data" or MSD and include: time of the incident, cause of activation, GPS coordinates, and Vehicle Identification Number (VIN).

A project of this magnitude, to be implemented widely across all EU countries, takes unprecedented collaboration across a complex ecosystem of government agencies, automobile manufacturers and leading ITS and M2M technology companies.

European Wide Deployment

To meet the challenge of developing a Pan-European eCall program, ERTICO and its member organizations supported the EU funded the Harmonized European eCall Pilot programs, also known as HeERO. The HeERO1, HeERO 2 and iHeERO programs began in 2011 and will continue through 2017, features interoperable eCall programs in all participating EU regions, which are synchronized across country and network borders.

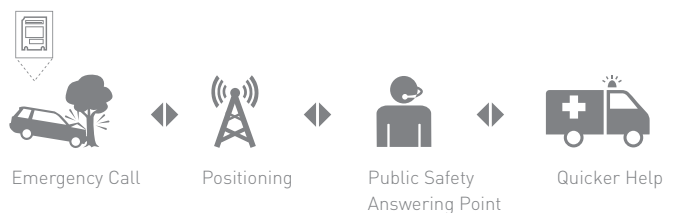
Due to HeERO eCall has been successfully pre-deployed in several regions according European Norms using 112 as the pan-European PSAP emergency call number.

The 112 based emergency call relies on an automatically established two-way emergency call to a PSAP call center immediately following an incident or after manual

activation. The Cinterion M2M module solution reliably sends the collected MSD to a PSAP via cellular networks.

In addition, the module establishes an automatic hands-free voice call so PSAP staff can gather additional information from the involved passengers. The call helps determine what emergency services are needed so early responders arrive at the scene of an incident fully informed and prepared to help as needed.

The European Commission estimates that eCall is expected to reduce emergency response times by 50 percent in rural areas and 40 percent in urban areas, saving countless lives as well as up to €14 billion annually in the EU 25!



Gemalto, a Reliable Partner

M2M technology leader Gemalto has a proven track record of successful eCall demonstrations in two different modes: regular and eCall only, the dormant mode. With a long history of delivering ruggedized automotive-grade M2M solutions for telematics and connected vehicle technology, Gemalto provided the expertise needed to support ETSI/ERTICO interoperability and cross border testing. Gemalto enabled PSAP reference solutions were used for many of the field tests offering outstanding reliability and success. Gemalto's Cinterion Automotive Grade modules, development kits and engineering support contributed to significantly faster deployments.

112-based eCall regulation protects end-user data and privacy!

In accordance with Directive 95/46/EC and Directive 2002/58/EC, vehicles equipped with 112-based eCall systems must be protected against continuous tracking and tracing during normal operations and day-to-day travel. To meet regulations, digital security technology is embedded in eCall equipment to provide privacy protection and prevent surveillance and misuse.

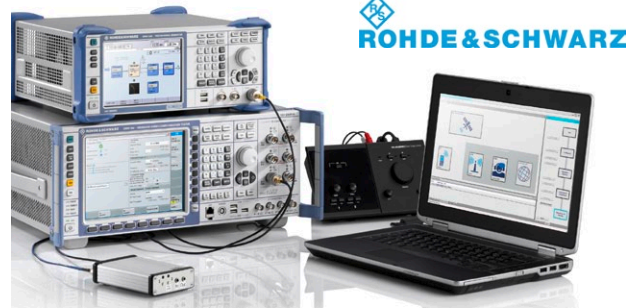
Enabling Trust in eCall Systems and Connected Car Technology

Vehicle Manufacturers also named Original Equipment Manufacturers (OEMs), Mobile Network Operators (MNO), Third Party Service Providers (TPS) and In-Vehicle Equipment (IVE) Suppliers rely on award-winning Gemalto Cinterion® Automotive M2M Modules to enable secure connectivity and Cinterion Machine Identification Modules (MIMs) and Secure Elements to authenticate, encrypt and safeguard data and eCall communications. Gemalto software solutions, platforms and security consulting services help stakeholders across the ecosystem evaluate risk and design end-to-end architectures that mitigate threat, protect data and defend against cyber attack and intrusions. Gemalto enables trust in eCall systems, telematics solutions and the evolving connected car ecosystem, which is driving a world of new mobility and convenience

eCall Demo and Testing

Before the eCall In Vehicle Equipment (IVE) can be embedded in vehicles, they need to be tested for performance and reliability. Gemalto and its partner Rohde & Schwarz offer a compact solution for reproducible, end-to-end, functional and standard-compliant conformance testing of eCall and ERA-Glonass solutions. Leveraging Gemalto Cinterion M2M modules and R&S software, a simulated PSAP is established and a cellular network is emulated the within the confines of a lab environment. The set-up allows verification if an eCall

solution if able to trigger an emergency call, send the MSD data and establish a voice call in dependent of a voice call. Network independence is crucial when testing solutions in multiple countries with varying cellular network technologies.



ROHDE & SCHWARZ

Award-Winning Expertise

- > 2005 eCall initiative participation>2010 launch of first eCall prepared products, demonstrations at eSafety / Awareness programs
- > 2010 GSMA's Best Embedded End-to- End Service Award
- > 2011 active support in creation of first proving ground extended by 112 EU eCall (UK)
- > 2012 active support in creation of first 112 EU eCall testbed outside of Europe (Japan)
- > 2013 Award for outstanding contribution in the HeERO project and the deployment of Pan-European eCall (ERTICO, HeERO PM)
- > 2013 iMobility Award Excellence in Industry and Technology (EU C, DG CONNECT)
- > 2014 compatibility and interoperability demonstration 112 based EU eCall and ERA-GLONASS at European ITS Congress Helsinki, Finland
- > 2015 / 2016 active support of European and Asian based OEMs and 1st-Tiers to achieve ERA-GLONASS certification completion



ECALL DEMO BOX. FLEXIBLE TO INTEGRATE 2G/3G/4G AUTOMOTIVE MODULES



eCall / ERA GLONASS



GNSS



Full Voice Support



Automotive



USB



GPIO



GENERAL FEATURES

Hardware

- > AGS2-E, AHS2/3, EHS5, ALS3 supported
- > MicroProcessor STM32F105VCT
- > USB, ext. Power 12V, Battery
- > CAN Bus support
- > 4+3 Buttons / 5+2 Status LEDs
- > 2x opt / 1x electr. decoupled GPIOs
- > altern. Cellular Antenna
- > discrete GNSS receiver
- > Antenna / Audio connection detection
- > Analog / Digital Audio of module supported
- > UEXT Port for further extensions
- > SIM Slot to connect 2FF SIM
- > For testing/validation purpose only

Software

- > Automatic & Manual eCall / Test eCall
- > panEU eCall
- > ERA/GLONASS eCall, with support of
- > SMS Fallback, DTMF
- > eUICC Profile Swap
- > eCall Only / Dormant Mode support
- > eCall Stress Test (loops)
- > Logfile Parser for assessments
- > CAN Bus Support (PTI Demo)
- > Single MSD Parameter Request
- > Audio Verification
- > Device state (incl. periphery)
- > Test eCall Trigger

ADDITIONAL FEATURES

- > Micro SD Card
- > Micro / Speaker, 3,5mm, Stereo
- > 4 buttons and status LEDs
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- > Micro / Speaker, 3,5mm, Stereo
- > 4 buttons and status LEDs
- > [expert] USB direct access to module
- > Fakra/SMA Adapter GNSS/2xCellular
- > Molex Jack, 2 Pin (power only)
- > Molex Jack, 10 Pin, 50 cm cable
- > USB, power, application terminal
- > Automotive grade Antenna Cellular/ GNSS:GPS
- > USB, power, ap
- > Bearer Independent Protocol Compliant (BIP) application terminal
- > Extension front plate with Molex Jack, 6 Pin, 50 cm cable



About Gemalto

Gemalto (Euronext NL0000400653 GTO) is the world leader in digital security, with 2014 annual revenues of €2.5 billion and blue-chip customers in over 180 countries.

Gemalto helps people trust one another in an increasingly connected digital world. Billions of people want better lifestyles, smarter living environments, and the freedom to communicate, shop, travel, bank, entertain and work – anytime, everywhere – in ways that are enjoyable and safe. In this fast moving mobile and digital environment, we enable companies and administrations to offer a wide range of trusted and convenient services by securing financial transactions, mobile services, public and private clouds, eHealthcare systems, access to eGovernment services, the Internet and internet-of-things and transport ticketing systems.

Gemalto's unique technology portfolio - from advanced cryptographic software embedded in a variety of familiar objects, to highly robust and scalable back-office platforms for authentication, encryption and digital credential management - is delivered by our world-class service teams. Our 14,000 employees operate out of 99 offices, 34 personalization and data centers, and 24 research and software development centers located in 46 countries.

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security to be free