

**ASECAP DAYS**



**COSTA NAVARINO 2019**

**47<sup>TH</sup> ASECAP STUDY & INFORMATION DAYS**

***Tomorrow's Mobility...Is Here Today!***

*Costa Navarino, Messinia, Greece  
29-31 May 2019*

[www.asecapdays.com](http://www.asecapdays.com)

**Satellite navigation services in the  
European deployment of Cooperative ITS**

**Alberto Fernández Wyttenbach - European GNSS Agency**



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# Galileo is used today in the majority of professional devices and consumer platforms

**+735 Mill.** Galileo devices as of today



*e112 Regulation (EU) mandates Galileo in emergency communications from mobile devices from 2022*

➤ **1,000 Billion mobiles (end-2019)**



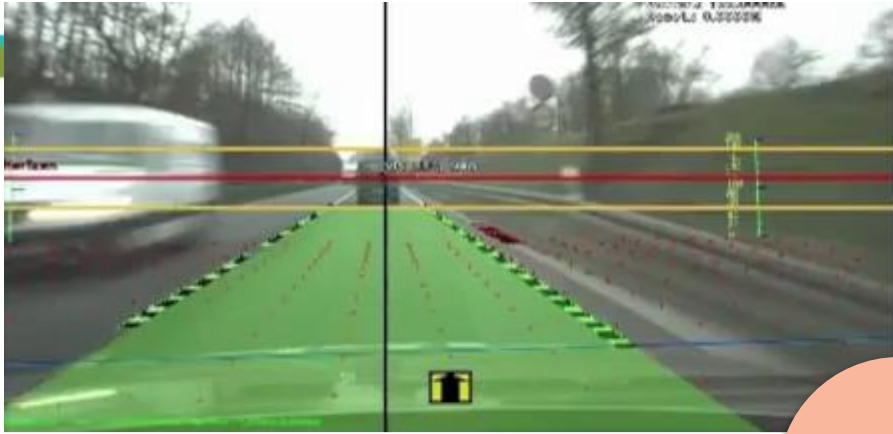
*eCall regulation (EU) mandates Galileo in every new type of car/van sold in Europe from April 2018*

➤ **3 Million vehicles (end-2019)**



**USEGALILEO.EU**  
FIND A GALILEO-ENABLED DEVICE TO USE TODAY

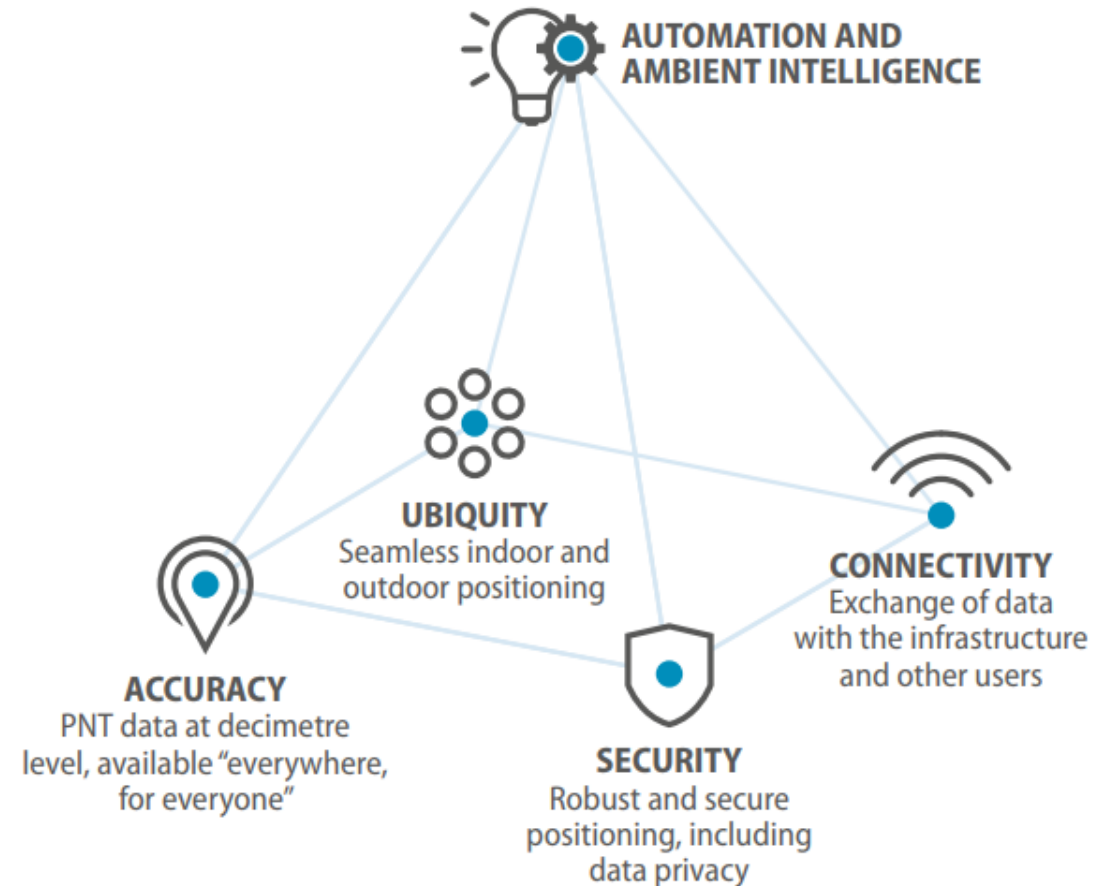
# GNSS is the core technology in autonomous vehicles



GNSS

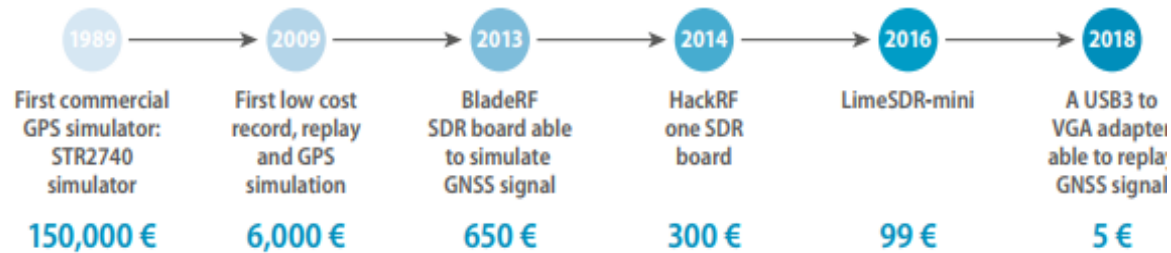
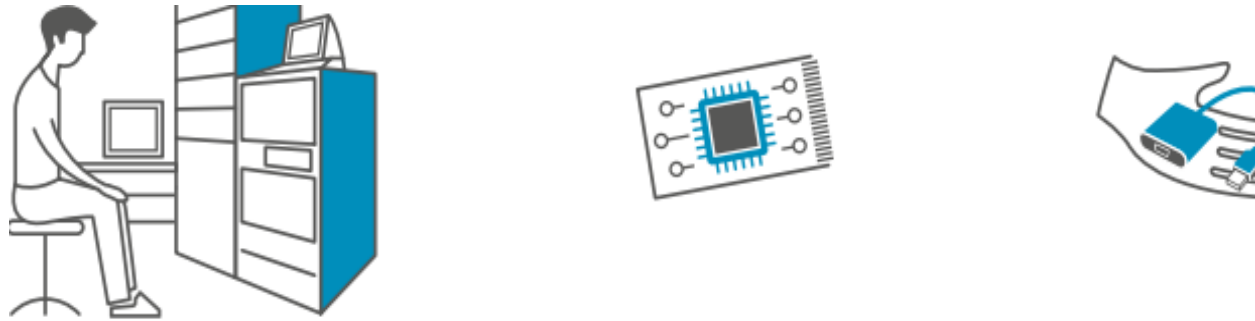


# Automation plays an important role in location technology



<https://www.gsa.europa.eu/newsroom/news/gnss-user-technology-report-2018-available-download-now>

# Galileo new & free feature (2018-2020)



- The UNECE World Forum for automotive regulations declared the need of clear **cybersecurity rules**:
  - ✓ GNSS authenticated message is recommended

Authentication service will provide a secure and reliable location, by detecting interference (spoofing) attacks:

- **E1 Navigation Message Authentication:** integrated in the E1 signal of the Open Service and already prototyped/under testing
- **E6 Spreading Code Authentication:** based on the E6 signal Spreading Code Encryption



# New EETS Directive and upcoming C-ITS Delegated Regulation



*“OBE which uses satellite positioning technology and is placed on the market after 19 October 2021 shall be compatible with the positioning services provided by the Galileo and EGNOS”*

**EGNOS is activated in 71% (1.48 mill.) of total GNSS OBUs**

**Galileo is activated in 62% (1.28 mill.) of total GNSS OBUs**

*“When C-ITS stations are enabled with GNSS, they shall be compatible with the **positioning and timing services** provided by the Galileo and EGNOS systems. In addition, C-ITS stations may be compatible with other satellite navigation systems”*

- Development of **base standards** in relation on C-ITS Secure Communications and VRU:

2020/21

**CEN/ISO TS 21176: Cooperative ITS – Position, Velocity and Time service in the ITS station**

2019/20

**ETSI TS 103 300: Intelligent Transport Systems – Vulnerable Road Users**

- GNSS authentication will be widely used in urban mobility services, which require trustability:

2019/20

**ETSI TS 103 246: Satellite Earth Stations and Systems; GNSS based location systems: Functional requirements, Reference architecture, Performance requirements**

## EN 16803: Use of GNSS-based positioning for road Intelligent Transport Systems (ITS)

2016

- Part 1: Definitions and system engineering procedures for the establishment and assessment of performances:** overall framework and operational procedures for the establishment of GNSS-based performances for ITS

2019/20

- Part 2: Assessment field tests for basic performances of GNSS-based positioning terminals:** testing procedures to assess the basic performances (Availability, Accuracy and Integrity)

2020/21

- Part 3: Assessment field tests for security performances of GNSS-based positioning terminals:** testing procedures to assess the performances submitted to RF attacks such as spoofing or jamming

2021/22

- Part 4: Methodology for the recording of relevant data sets (Record & Replay):** define the way the data files are built and validated



# New safety technologies will become mandatory in Europe from 2022



[http://europa.eu/rapid/press-release\\_IP-19-1793\\_en.htm](http://europa.eu/rapid/press-release_IP-19-1793_en.htm)

Internal market,  
Industry,  
Entrepreneurship  
and SMEs

- Advanced emergency braking (cars, vans)
- Alcohol interlock installation facilitation (cars, vans, trucks, buses)
- Drowsiness and attention detection (cars, vans, trucks, buses)
- Distraction recognition / prevention (cars, vans, trucks, buses)
- Event (accident) data recorder (cars, vans, trucks, buses)
- Emergency stop signal (cars, vans, trucks, buses)
- Full-width frontal occupant protection crash test - improved seatbelts (cars and vans)
- Head impact zone enlargement for pedestrians and cyclists -safety glass in case of crash (cars and vans)
- Intelligent speed assistance (cars, vans, trucks, buses)
- Lane keeping assist (cars, vans)
- Pole side impact occupant protection (cars, vans)
- Reversing camera or detection system (cars, vans, trucks, buses)
- Tyre pressure monitoring system (vans, trucks, buses)
- Vulnerable road user detection and warning on front and side of vehicle (trucks and buses)
- Vulnerable road user improved direct vision from driver's position (trucks and buses)



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