2017-01-18

Project plan for the CEN Workshop CEN/WS CORE - EGNOS (EDAS)/ multiconstellation based services for goods transport tracking & tracing applications

Workshop
(approved during the Kick-off meeting on 2017-01-18)

This document is the Project Plan related to the revision of CWA 16390:2012[1], that is launched and carried out in the frame of the European project CORE (Consistently Optimised Resilient Secure Global Supply-Chains[2]).

1 Table of contents

[1] CWA 16390:2012 “Interface control document for provision of EGNOS CS/EDAS based services for tracking and tracing of the transport of goods”
[2] coreproject.eu

2 List of acronyms

Acronym	Definition
CCMC	CEN-CENELEC Management Centre
CEN	European Committee for Standardization
CENELEC	European Committee for Electrotechnical Standardization.
CEREMA	Centre d'études et d'expertise sur le risques, l'environnement, la mobilité et l'aménagement
C-ITS	Cooperative-ITS
CORE	Consistently Optimised Resilient Secure Global Supply-Chains
CS	Commercial Service
CWA	CEN Workshop Agreement
EDAS	EGNOS Data Access Service
EGNOS	European Geostationary Navigation Overlay Service
EGNSS	European Global Navigation Satellite System
ETSI	European Telecommunications Standards Institute
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
ITS	Intelligent Transport System
LCS	LoCation Server
MIT	Ministero delle Infrastrutture e dei Trasporti
N/A	Not Applicable
OS	Open Service
RP	Regione Piemonte
SCUTUM	SeCUring the EU GNSS adopTion in the dangeroUs Material transport
SoL	Safety of Life
TBC	To be confirmed/completed
TBD	To be defined
TC	Technical Committee
TP	Trusted Party
UNECE	United Nations Economic Commission for Europe
UNI	Ente italiano di normazione
WG	Working Group
WS	Workshop
XML	eXtensible Markup Language

3 Status of the Project plan

Project Plan approved at the Kick-off meeting of the Workshop (CEN/WS CORE) on 18th January 2018 in Brussels.

4 Background to the CEN/WS CORE

The rationale for the Workshop, the CEN/WS CORE, is to revise CWA 16390, published in January 2012. The need of revising CWA 16390 (elaborated in the frame of the European

project SCUTUM[3]) is generated in the frame of the European project CORE (follow-up of SCUTUM), to:

- Take into account obsolescence due to the evolution of the EGNOS services;
- Include the configuration of the chipset for using EDAS;
- Consider the aspects of multi-GNSS/multiconstellation;
- Include the utilisation of Galileo Open Service authentication.

The revision of CWA 16390 (subject of the CEN/WS CORE) is focused only the parts related to the position data/information.

4.1 Brief introduction of CORE

The European project CORE is a research project focused on the security of the freight/transport/logistics. CORE develops various market lead demonstrators. One of these is related to the use of the European Global Navigation Satellite System (EGNSS) for tracking & tracing the intermodal transport of dangerous goods.

4.2 Brief introduction of EGNOS[4] and Galileo

EGNOS and Galileo: both constituting the EGNSS.

EGNOS improves the accuracy of the current GPS[5] signal and provides integrity information. For this reason, it is suitable for applications requiring accurate and reliable positioning. EGNOS is able to enhance today's operational ITS solutions based on GPS in Europe. Galileo will provide further improvements on a global scale when it will become operational.

EGNOS provides three services:

- EGNOS Open Service (OS), launched in 2009, is delivered free of charge. It is open for use to anyone with an EGNOS-enabled receiver. Today, many mass market receivers available on the market are also EGNOS enabled. EGNOS OS is particularly suitable for mass market and some applications like surveying.
- EGNOS Safety-of-life Service (SoL) is authorized for European civil aviation and operational since March 2011.
- EGNOS Data Access Service (EDAS) launched in 2012, delivers a terrestrial commercial data service. It consists of a server that gets the data directly from EGNOS system and disseminates it via terrestrial networks in real time, within guaranteed maximum delay, security and performance. EDAS is particularly suitable for professional applications. It provides EGNOS raw data and corrections enabling software solutions that implement products and value added services built on them.

[3] SeCUring the EU GNSS adopTion in the dangeroUs Material transport, scutumgnss.eu
[4] European Geostationary Navigation Overlay Service
[5] Global Positioning System

EGNOS augments the GPS signal. It provides more precise positioning services (up to 3-4 metres) and in addition, it gives users information on the reliability of the GPS signals ('integrity data').

Figure 1 presents one of the outcomes of extensive trials conducted in various road environments[6].

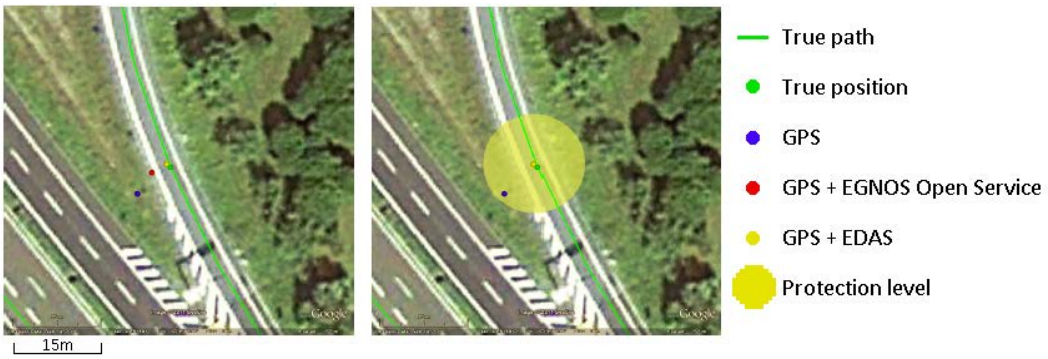

Figure 1 - Comparison between the positions measured with GPS-only, EGNOS OS and EDAS

Users of the EGNOS OS get an enhancement to the accuracy of the position measured with GPS of approximately three metres. EDAS could bring further enhancements up to approximately four metres. Moreover, the use of EDAS provides value added information called 'protection level' (obtained by suitably processing the 'integrity data' of EGNOS) for qualifying/guaranteeing the measured position.

Thus above mentioned, EGNOS enables to improve the performances of the services delivered by ITS based on GPS only, making them suitable for applications requiring precise and reliable localisation.

Products and solutions enabling the use of EGNOS are today available on the market, and are ready for Galileo.

4.3 EGNOS for dangerous goods

In the last decade, various European projects have developed and extensively proven various solutions based on the EGNOS technology, especially for applications and markets for which safety, security and liability play a dominant role. In fact, EGNOS enhanced positioning and integrity enable precise and reliable localization and tracking, so that to meet the challenge of regulations and qualified transport services.

EGNOS has already proven to add value to GPS in the European project SCUTUM, which ended last December 2011. It demonstrated better accuracy and guaranteed positioning, resulting in higher confidence in the data. SCUTUM proved EGNOS added value compared to GPS alone, and validated the relevant operational benefits in terms of higher safety and efficiency

Today, thanks to SCUTUM, EGNOS is used in the operational transport of dangerous goods by road in Europe (Italy, France, Austria, Slovakia, Hungary, Romania, Czech Republic,

[6] Source: the European project EGNOS2road, 2011-2012

Macedonia, Serbia). Around 1.500 road tankers are monitored with GPS+EGNOS. Tracking devices installed on-board of the vehicles are enabled to use EGNOS OS and EDAS.

Moreover, SCUTUM also explored other applications/domains for EGNOS in the short term in Europe and in preparation of the global market for Galileo. In particular, the rail transport of dangerous goods was considered by SCUTUM as the next promising step, being rail the sector beside road where EGNOS opportunities have to be exploited further.

4.4 Brief introduction of the UNECE joint WG[7] on telematics

The UNECE joint Working Group (WG) on telematics is established by UNECE in the frame of the RID/ADR/ADN Joint Meeting. This WG is presently defining an architecture/message standard for a telematics system, in order to deploy the electronic transport document and to improve emergency information management in transport of dangerous goods. The architecture/message standard under definition are based on the concept of Trusted Parties (TP), envisaging two TPs (TP1 and TP2) exchanging information, TP1 acting at institutional level while TP2 acting at commercial level.

4.5 CORE demonstrator on the intermodal transport of dangerous goods

Capitalizing on the heritages of SCUTUM and on the outcomes of the UNECE joint WG on telematics, the ongoing project CORE, started in 2014 and with a duration of 4 years, is analysing the use of EGNOS and Galileo for the intermodal transport of dangerous goods, in terms of safety, efficiency and also security.

As above mentioned, one of the demonstrators developed in CORE is related to the use of EGNSS for tracking & tracing the intermodal transport of dangerous goods, by extending SCUTUM to the intermodal road/rail transport of chemicals and gas shipped across Europe.

The figure 2 shows the architecture of the demonstrator under development in CORE, that is compliant with the TP1 and TP2 architecture of the UNECE joint WG on telematics.

CORE performs technical demonstration and benefits validation of using GPS + EGNOS and Galileo (also in a multiconstellation environment), with the involvement of HOYER, a European transport company operating in the sector of chemical and gas.

By means of an extensive validation in real cross-border business/use cases of tankers transporting Argon from Duisburg (Germany) to Terni (Italy) and from Linz (Austria) or Lyon (France) to Terni (Italy), the CORE demonstrator:

- Validates the use of tracking & tracing and EGNSS;
- Launches and carries out the CEN/WS CORE focused on the revision of CWA 16390;
- Provides inputs to the TP1 and TP2 architecture of the UNECE joint WG on telematics in relation to the exchange of data, on the basis of the revision of CWA 16390.

[7] United Nations Economic Commission for Europe joint Working Group on Telematics (unece.org/trans/danger/danger.html)

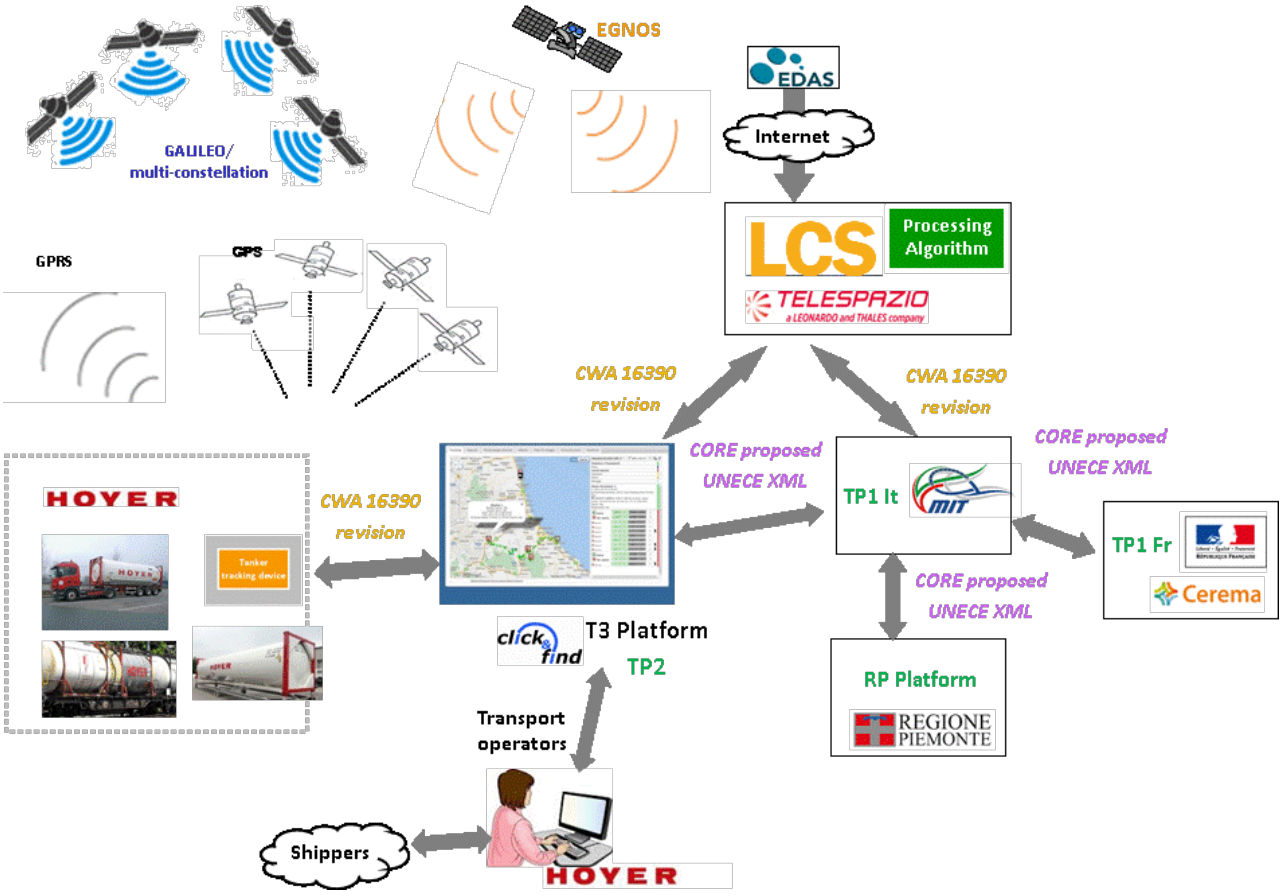

Figure 2 - CORE demonstrator for the intermodal transport of dangerous goods

5 CEN/WS CORE proposers and participants

The list of the proposers and of the potential interested stakeholders includes the registered participants to CEN/WS SCUTUM and the partners participating to CORE EU project.

Participants can join the CEN/WS CORE at any time during the process, while accepting the decisions earlier in the process.

Annex A includes the list of proposers and potentially interested participants.

6 CEN/WS CORE scope and objectives

The overall goal of the CEN/WS CORE is to revise CWA 16390, published in January 2012, in order to:

- Take into account obsolescence due to the evolution of the EGNOS services;
- Include the configuration of the chipset for using EDAS;
- Consider the aspects of multi-GNSS/multiconstellation;

- Include the utilisation of Galileo Open Service authentication.

7 CEN/WS CORE programme

The CWA will be written in English.

Three versions of the CWA will be produced during the CEN/WS CORE: first draft, intermediate version and final version/ready for approval, according to the following programme/milestones:

Description	Timing	Place	Duration	Type
Announcement of the CEN/WS on CEN website	Mid of November 2016	N/A	At least 1 month of public commenting period on CEN website	Delivery
1st Meeting - Kick Off of CEN/WS CORE	18 January 2017	Brussels at CEN (combined with a CORE progress meeting)	1 day	Meeting
First draft of the CWA deliverable	Mid February 2017	N/A	N/A	Delivery
CEN/WS CORE Plenary meeting	09 March 2017	Rome at TPZ (combined with a CORE progress meeting)	1 day	Meeting
Second version of the CWA deliverable	End March 2017	N/A	N/A	Delivery
CEN/WS CORE Plenary meeting	17th May 2017	Brussels at CEN (TBC)	1 day	Meeting
60 days public consultation	N/A	N/A	N/A	Draft text of the CWA deliverable made available on CEN Web Site
Third version of the CWA deliverable	First half July 2017	TBD	N/A	Delivery
CEN/WS CORE Final Meeting and final version/approval of deliverable (CWA)	Last week September 2017 / first half October 2017	TBD	1 day	Meeting
Publication of CWA deliverable	Last week February / First week March 2018	TBD	N/A	After editorials arranged

* The Time-plan is subjected to be modified in relation to the drafting process of the CWA.

Table 1 Time-plan of the CEN/WS CORE activities and meetings

8 CEN/WS CORE structure

The following CEN/WS CORE officers were appointed at the CEN/WS CORE Kick-Off meeting:

Chair: Antonella Di Fazio (Telespazio)

Main responsibilities:

- To preside at the CEN/WS CORE plenary meetings and audioconferences
- To manage the consensus building process
- To organize electronically plenary meetings
- To consolidate the comments received on the draft during the enquiries and send them to the participants for discussion and resolution.

Vice-Chair: Jean-Philippe Mechin (Centre d'études et d'expertise sur le risques, l'environnement, la mobilité et l'aménagement)

Main responsibilities:

The Vice-Chair will support and assist in all responsibilities outlined for the chair. In the absence of the chair, the Vice-Chair will represent the CEN/WS CORE at outside meetings in cooperation with CEN-CENELEC Management Centre (CCMC) regarding strategic directions, problems arising, external relationships, etc.].

Secretariat: Elena Mocchio (UNI – Italian National Standard Body)

Main responsibilities:

- Registration of WS participants
- Producing WS meeting reports and action lists
- Administrative contact point for WS
- Managing WS membership lists
- Managing WS document registers
- Checking conformity of all of the versions of the draft CEN Workshop Agreement to CEN rules
- Participate to CEN/WS CORE plenary meetings and audioconferences.

9 Resource requirements

The registration and participation at this CEN/WS CORE is free of charge for every member of the CEN/WS CORE, but each participant will bear his/her own costs for travel and subsistence.

The administrative costs of the CEN/WS CORE Secretariat and other logistical support will be covered by the CORE project through FP7 funds.

10 Related activities, liaisons, etc.

The results of the CEN/WS CORE will be of considerable value for standardization related to EGNSS applications in Intelligent Transport Systems (ITS). If feasible, liaisons will be established as appropriate with the CEN and ETSI Technical Committees concerning intelligent transport:

- CEN/TC 278 “Road Transport and traffic Telematics” (and in particular the WG15 “e-Call)”);
- CEN/CENELEC TC5 “Space” (and in particular the WG1 “Navigation and positioning receivers for road applications”).

The work will also take due account of a number of related programmes:

- Activities of the UNECE joint WG on telematics;
- The C-ITS Platform of the European Commission (Directorate General Mobility and Transport - Intelligent Transport Systems;
- National projects (particularly those in the two Member States whose Ministry of Transport is involved in the CORE project).

11 Contact points

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Annex A – List of proposers and CEN/WS potential participants

CEN/WS SCUTUM Participants

Astrium Services

Brimatech Services Gmbh

Click-and-Find

CORTE - Confederation of Organisations in Road Transport Enforcement

Chemnitz University of Technology

EIA - European Intermodal Association

EIP - Étude et Ingénierie Pétrolière

ERF - European Union Road Federation

FDC

GMV

GSA - European GNSS Agency

Kapsch TrafficCom AG

Harrod Booth Consulting Limited

IFSTTAR - Institut français des sciences et technologies des transports, de l'aménagement et des réseaux

Interporto Bologna S.p.A.

M3 Systems

MEEM - Ministère de l'Environnement, de l'Energie et de la Mer (former MEDDTL - Ministère de l'Ecologie, du Développement Durable, des Transports et du Logement

MIT - Ministero delle Infrastrutture e dei Trasporti

NEOTEK

NOVACOM Service

Polidream

Telespazio France

Telespazio S.p.A.

TTS Italia – Telematica, Trasporti e Sicurezza

Uirnet S.p.A

Proposers, CORE Partners and other potentially interested participants

5T

AGFA

ANITA - Associazione Nazionale Imprese Trasporti Automobilistici

CEREMA - Centre d'études et d'expertise sur le risques, l'environnement, la mobilité et l'aménagement
EC – European Commission
Federchimica
ECTA - European Chemical Transport Association
HOYER

La Spezia Port

MIT Nuclearesft

Piemonte Region

STF Servizi Tecnici Ferroviari

ENI