2017-12-11

Project Plan for the CEN-CENELEC Workshop on "Interoperability of security systems for the surveillance of widezones"

Workshop
(approved during the Kick-off meeting on 2017-12-11)

1. Status of the Project Plan

The Project Plan was approved by the Workshop participants during the Kick Off meeting held on 11 December 2017.

2. Background to the Workshop

Security of widezones in the EU environment

Critical infrastructure (CI), such as highways, energy lines or pipelines, may spread over large areas covering wide geographic zones (widezones). There is clearly a need to provide proper security for such infrastructure against illicit actions and against incidents that may escalate to crises. Damages, intentional or not, to critical points (functions, equipment and controls) can compromise the integrity of the involved CI installations and the security of energy and resources supply, with adverse socio-economic effects to citizens, customers and the environment (major accidents). These could lead to large systemic failures of the processes operating in widezones, while economic stability, safety and security in Europe could be potentially compromised. As a result, developing 24/7 surveillance systems for the security of widezones is of major strategic relevance to European economies, industries, authorities and citizens.

Systems involved in the surveillance of large areas have an increased total cost of ownership. Such systems are highly complex, employing different types of technology, frequently coming from different manufacturers. To work effectively, the systems have to be efficient as well as robust and resilient, while also providing sufficient accuracy to detect illicit activity patterns. Additional challenges are introduced by the need to coordinate surveillance and monitoring activities at local, national and transnational levels. At the same time, the systems also have to be compliant with EU policies and societal values with respect to existing and emerging privacy protection (including GDPR). Furthermore the combined use of a number of surveillance systems is a challenging task due to the differences in the way that data and services are structured, stored, used and communicated.

An opportunity exists for the development of guidelines to allow diverse systems used in the surveillance of widezones and large area security to interoperate with each other, with legacy systems and future functionalities, providing a best-of-breed approach to the afore-mentioned challenges. The proposed CWA aims at benefiting a wide range of stakeholders across the EU by providing a pro-active approach towards identifying a guide to a total solution for the protection of widezone infrastructures.

The proposed CWA is initiated within the context of the FP7 ZONeSEC project (Grant Nr. 607292) and builds on the requirements gathered by the involved user community and user partners, and the experience gained by the partners during its implementation and the results of the validation during the On-Site Integration Pilots and Proof of Concept sessions. ZONeSEC aims to address the needs of widezone surveillance by defining a new European-wide framework, which will extend beyond a sole technical proposition. Driven by the need to yield a holistic and uniform approach, ZONeSEC redefines the issue of security of widezones by taking into consideration issues pertaining to costs, complexity, vulnerability, societal acceptance and ethics.

Legal environment

The following section aims to offer a review of the basic EU legal framework concerning the processing/protection of personal data for surveillance/security reasons, the intellectual property rights during the exchange/using of data, the critical infrastructure safety requirements, etc:

- ✓ Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, OJ 1995 L 281/31
- ✓ Regulation (EC) No. 45/2001 of the European Parliament and of the Council of 18 December 2000 on the protection of individuals with regard to the processing of personal data by the Community institutions and bodies and on the free movement of such data, OJ 2001, L 8/01;
- ✓ Directive 2002/58/EC of the European Parliament and of the Council of 12 July 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector, OJ L201 of 31.07.2002, p.37
- ✓ Directive 2006/24/EC of the European Parliament and the Council of 15 March 2006 on the retention of data generated or processed in connection with the provision of publicly available electronic communications services or of public communications networks and amending Directive 2002/58/EC, OJ L 105 of 13.4.2006
- ✓ Regulation (EU) No.1052/2013 of the European Parliament and of the Council of 22 October 2013 establishing the European Border Surveillance System (Eurosur), OJ L 295/11 of 22.10.2013
- ✓ Council Directive 2008/114/EC, of 8 December 2008, on the identification and designation of European critical infrastructure and the assessment of the need to improve their protection. Official Journal of the European Union. L 345, 75-82
- ✓ Communication from the Commission on a European Programme for Critical Infrastructure Protection. COM (2006) 786 Final, European Commission, Brussels, Belgium
- ✓ Directive 2005/370/EC: Council Decision of 17 February 2005 on the conclusion, on behalf of the European Community, of the Convention on access to information, public participation in decision-making and access to justice in environmental matters, OJ L 124, 17.5.2005, p. 1–3, OJ L 164M , 16.6.2006, p. 17–19
- ✓ Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE), OJ L 108, 25.4.2007, p. 1–14
- ✓ Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society, OJ L 167, 22 June 2001

- ✓ Directive 2012/18/EC (SEVESO-III) of the European Parliament and the Council, of 4 July 2012, on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC. Official Journal of the European Union. L 197, 1-37.
- ✓ Directive 2004/54/EC of the European Parliament and of the Council of 29 April 2004 on minimum safety requirements of tunnels in the Trans-European Road Network. Official Journal of the European Union. L 167, 39-91.
- ✓ Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, OJ L 077, 27 March 1996
- ✓ Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs (Codified version), OJ L 111, 05 May 2009, p. 16-22
- ✓ Directive 2006/116/EC of the European Parliament and of the Council of 12 December 2006 on the term of protection of copyright and certain related rights (codified version), OJ L 372, 27.12.2006

Standardization landscape

Surveillance of widezones and critical infrastructures across EU countries is a somehow new but very important topic concerning EU economies, industries, authorities and citizens. Currently there are no specific published standards on this subject, which is why the ZONeSEC contribution constitutes a key pioneering effort.

Below are listed useful standards that refer to various aspects of the project separately:

#	Standard	Description	Current state
1.	**CEN/ TC 391 – Societal & Citizen Security**	Societal & Citizen Security is dedicated to enabling and improving the capability of public and private stakeholders to prepare for, respond to and recover from such destabilizing or disruptive events. Standards developed within the scope of CEN/TC 391 aim at and focus on requirements that ensure interoperability of stakeholders in societal security and organizations involved in prevention, response and recovery of disruptive events. In CEN/TC 391 agreements are made to handle the EU adoption of the standards deliverables coming from ISO/TC223.	Under development
2.	**CLC/TC 79 – Alarm systems**	Alarm systems has defined performance standards for alarm systems for intruder and hold-up alarm systems, access control systems, periphery protection systems, CCTV systems.	
3.	**ISO/IEC 27010: 2015 Information technology -- Security techniques – Information security management for inter-sector and inter-organizational communications**	ISO/IEC 27010:2015 provides guidelines in addition to the guidance given in the ISO/IEC 27000 family of standards for implementing information security management within information sharing communities. This International Standard provides controls and guidance specifically relating to initiating, implementing, maintaining, and improving information security in inter-organizational and inter-sector communications. It provides guidelines and general principles on how the specified requirements can be met using established messaging and other technical methods. This International Standard is applicable to all forms of exchange and sharing of sensitive information, both public and private, nationally and internationally, within the same industry or market sector or between sectors. In particular, it may be applicable to information exchanges and sharing relating to the provision, maintenance and protection of an organization's or nation state's critical infrastructure. It is designed to support the creation of trust when exchanging and sharing sensitive information, thereby encouraging the international growth of information sharing communities.	Published
4.	**ISO/ TC 292 –**	It works with standardization in the field of security to enhance the safety and resilience of	Published

	"Security and Resilience "	society. Is responsible for wide range of standards and other documents including on business continuity management, emergency management, community resilience, authenticity, integrity and trust for products and documents and protective security.	
5.	**ISO 31000 : 2009** Risk management – Principles and guidelines	Provides generic guidelines, it is not intended to promote uniformity of risk management across organizations. The design and implementation of risk management plans and frameworks will need to take into account the varying needs of a specific organization, its particular objectives, context, structure, operations, processes, functions, projects, products, services, or assets and specific practices employed.	Published
6.	**ISO/IEC 27031 : 2011** Information technologies – Security techniques – general guidelines for preparing information technologies for business continuity	Describes the concepts and principles of information and communication technology (ICT) readiness for business continuity, and provides a framework of methods and processes to identify and specify all aspects (such as performance criteria, design, and implementation) for improving an organization's ICT readiness to ensure business continuity.	Published
7.	**EN 62676:2014** Video surveillance systems for use in security applications	It is a series of standards intended to enable flexibility to overcome problems a system designer may have. It should be noted that the BS EN 62676 series of standards are the first standards for CCTV video surveillance that will be used to any significant extent in Member States and include the use of security grading. The full set of standards is as follows: • Part 1-1: System requirements — General specifies the minimum requirements and gives recommendations for video surveillance systems installed for security applications; • Part 1-2: Video transmission — General video transmission — Requirements; • Part 2-1: Video transmission protocols — General requirements; • Part 2-2: Video transmission protocols — IP interoperability implementation based on HTTP and REST services; • Part 2-3: Video transmission protocols — IP interoperability implementation based on Web services defines procedures for communication between network video clients and video transmitter devices based on Web services. This new set of specifications makes it possible to build network video systems with devices and receivers from different manufacturers using Web services. This international standard also contains full XML schema and Web Services Description Language definitions for the introduced network	Under develop-ment

		video services. Furthermore, appropriate protocol extensions have been introduced in order to make it possible for network video manufacturers to offer a fully standardized network video transfer solution to its customers and integrators; • Part 3: Analog and digital video interfaces; • Part 4: Application guidelines.	
8.	**ISO/IEC JTC 1/SC 29/WG 11, Coding of moving pictures and audio (MPEG) & WG 1, Coding of still pictures (JPEG)**	Standardization of coded representation of audio, picture, multimedia and hypermedia information - and sets of compression and control functions for use with such information - such as: • Audio information • Bi-level and Limited Bits-per-pixel Still Pictures • Digital Continuous-tone Still Pictures • Computer Graphic Images • Moving Pictures and Associated Audio • Multimedia and Hypermedia Information for Real-time Final Form Interchange • Audio Visual Interactive Scriptware	Under develop-ment
9.	**IEC/TC 79, Alarm systems and electronic security**	To prepare international standards for the protection of buildings, persons, areas and properties against fraudulent actions having the purpose to enter in a place or to take or to use something without permission and other threat related to persons. The scope includes, but is not limited to equipment and systems, either used by ordinary persons or by trained people in the following residential and non residential applications: - Access control systems - Alarm transmission systems - Video surveillance systems - Combined and/or integrated systems even including fire alarm systems* - Fire detection and fire alarm systems* - Intruder and hold-up alarm systems - Remote receiving and/or surveillance centers - Social alarm systems Listed below are a number of related standardization projects:	Under develop-ment

Project Reference	Current Stage	Next Stage

		IEC 62676-5 Ed. 1.0, Video surveillance systems for use in security applications – Part 5: Data specifications and image quality performance for camera devices	AFDIS (Approved for FDIS) 2017-05	TFDIS (Translation of FDIS) 2017-08	
		IEC 62676-6 ED 1, Video surveillance systems for use in security applications – Part 6: Video content analytics – Performance testing and grading	ACD (Approved for CD) 2017-06	CD (Committee Drafts) 2017-10	
		IEC 62820-1-1 Ed.1: Building intercom systems – Part 1-1: System requirements - General	PPUB (Publication Issued) 31 10 2016		
		IEC 62820-1-2 Ed.1: Building intercom systems – Part 1-2: System Requirements for IP building intercom systems	PPUB (Publication Issued)		
		IEC 62820-2 Ed.1: Building intercom systems – Part 2: Requirements for advanced security building intercom systems	PPUB (Publication Issued)		
		IEC 62820-3-1 Ed. 1.0: Building intercom systems – Part 3-1: Application guidelines – General	AFDIS (Approved for FDIS) 2017-05	TFDIS (Translation of FDIS) 2017-07	
		IEC 62820-3-2 Ed. 1.0: Building intercom systems – Part 3-2: Application guidelines, for advanced security building intercom systems	AFDIS (Approved for FDIS) 2017-05	TFDIS (Translation of FDIS) 2017-07	
		IEC/TS 60839-7-8 Ed. 1.0: Alarm and electronic security systems – Part 7-8: Alarm transmission systems - Requirements for common protocol for alarm transmission using the Internet protocol	APUB (Draft Approved for Publication) 2013-11	TPUB (Translation of Publication) 2016-12	

The proposed CWA aims at:

- Launching and promoting the development of interoperable solutions through the standardization concept of CEN/CENELEC Workshop Agreement, ensuring the timely delivery of draft standards by the ZONeSEC, considering its timeframe of activities

3. Workshop proposers and Workshop participants

- Original proposers of the Workshop are the members of the ZONeSEC project in a co-solidarity context typical of the European Commission Framework programme context, and in particular, the participants in Work Package 11 of the corresponding Grand Agreement, notably the following companies (Annex A):
  - ✓ TELESTO TECHNOLOGIES (lead) (Information Technologies - Greece);
  - ✓ EADS (Airbus Defence and Space GmbH - Germany)
  - ✓ GAP ANALYSIS SA (Risk & Environmental Quality experts - Greece);
  - ✓ ATTIKES DIADROMES (Highway, Rail track & Oil Pipeline - Greece);
  - ✓ COMPANIA AQUASERV SA (Water pipelines - Romania);
- The WS ZONeSEC will be open to experts willing to contribute. In particular, the following experts/ representatives are invited to take active part in the WS deliberations:
  - ✓ ZONeSEC partners, especially the end users, who will run the ZONeSEC pilot activities. In addition to ATTIKES DIADROMES and COMPANIA AQUASERV SA (mentioned above), these are: DESFA S.A. and ACCIONA. For further details, please see Annex A;
  - ✓ Emergency authorities and civil protection organizations;
  - ✓ National public and security authorities;
  - ✓ Administrative regulatory bodies related to surveillance of widezones;

- Participation in the development of the CEN-CENELEC Workshop Agreement is open to anyone, and the opportunity to participate will be widely advertised in advance by its proposers, the ZONeSEC network and by CEN and its member bodies.

4. Workshop scope and objectives

This CWA will provide guidance on aspects of the communication requirements between the entities in a widezone surveillance system and in particular the data and metadata that needs to be exchanged.

Given the distributed nature of widezone surveillance systems, the CWA gives guidance and offers guidelines on the architecture in order to address the processing and communication performance limitations, introducing concepts like sensor clusters and sensor capillaries, that can enhance the overall system's scalability and ease of deployment and use. The CWA covers the security requirements both in terms of data communication and storage, as well as the protection of the sensing components themselves. The CWA also covers representation of the

information to the different stakeholders, although the emphasis is not on Human Machine Interaction (HMI).

While the CWA offers recommendations on the type of data exchanged, It does not cover implementation details of the exact data models structures used, or specific schemas for the description of message interfaces, the syntax of the exchange or the file formatting required for the exchange; it does however provide references to industry standard protocols which cover such aspects, like the OGC's Sensor Web Enablement (SWE) industry standards for sensor data representation and discovery. It also does not cover security personnel, simulation and training processes.

The CWA is for use by organizations responsible for designing and optimizing wide area security networks. The CWA is also of interest in the procurement of surveillance systems that combine best-of-breed technological solutions from several vendors. It is also of interest to those organizations manufacturing components for the surveillance market that will interoperate with modern or/and legacy surveillance platforms.

Summing up, the workshop participants will be committed to initiate a CEN-WS and to develop a set of pre-normative standards on the interoperability of security systems for the surveillance of widezones.

5. Workshop programme

The working language during the Workshop is English. The CWA will be drafted and published in English.

The estimated duration of this workshop is 12-14 months. During the WS lifetime, several meetings are foreseen.

The programme to reach the CEN/CENELEC Workshop Agreement entails the following steps:

1. Announcement of the kick-off meeting
   The CEN-CENELEC Management Centre (CCMC) will post the Project Plan, the invitation and the agenda for the kick-off meeting on the CEN Website for a period of 30 days. The interested parties will be able to register by email. In parallel, the invitation is forwarded to the ZONeSEC stakeholders.

2. The kick-off meeting of the CEN-CENELEC Workshop will take place on 11 December 2017 in Athens, Greece (Venue: TBC)

   The kick-off meeting will:
   - approve the Workshop Project Plan;
   - discuss the first draft of outline of the CWA;
   - approve Workshop chair and designate the secretariat;
   - discuss the general outline/ToC of the CWA.

Additionally, the participants wishing to continue contributing to the development of the draft CWA will be requested to officially register to the WS by means of signing a specific registration form.

3. Circulation period of the base document and the collection of comments by CEN/WS registered participants.

4. The Workshop secretariat will organize the first CEN/CENELEC Workshop plenary meeting for all registered participants for the discussion of comments and the preparation of the first CWA draft for Workshop consideration.

5. An internal reviewing period will be set to allow for inclusion of comments for Workshop participants and to ensure consensus is reached on the content.

6. The Workshop secretariat will organize the second CEN/CENELEC Workshop plenary meeting for all registered participants for the discussion of comments and the preparation of the second CWA draft.

7. A second internal reviewing period will be set to allow for inclusion of comments for Workshop participants and to ensure consensus is reached on the content.

8. A final plenary meeting for registered workshop participants will be organized for the preparation of the final version of the CWA.

9. The chairman will check by correspondence that the consensus has been reached on the final version of the CWA.

10. When the consensus is met, the CWA will be sent to the CEN/CENELEC Management Center for publication.

Work in progress

	Activities	Deadline/Date[1]
1	**Workshop kick-off meeting CWA open to any interested party**	11 December 2017
2	Draft ZONeSEC CWA for internal reviewing period	T0 + 3 months March
3	**1st CWA Plenary meeting for registered participants for resolution of comments**	T0 + 4 months – April 2018
4	Create 1st Draft/ CWA	T0 + 5 months – May 2018
5	Circulation of 1st Draft CWA and collection of comments by the CEN TC/WS participants	T0 + 6 months – June 2018
6	**2nd Plenary meeting for registered participants for discussion of comments and approval for submission to CCMC**	T0 + 7 months – July 2018
7	Prepare 2nd Draft/CWA.	T0 + 8 months – August 2018
8	**Final CWA Plenary Meeting (final version/ approval of deliverable)**	T0 + 9 months – September 2018
9	Publication of CWA deliverable after editorial check by CCMC	T0 + 11 months – November 2018

6. Workshop structure

The CEN Workshop will operate using the CEN rules for the CEN-CLC Workshop Agreement.

After the formal announcement of the proposed CEN-CLC Workshop, the duties of BSI (British Standards Institution) (CEN/CENELEC national member) who will assume the secretariat, once targeted for appointment, are:

1. to notify the CEN-CENELEC Management Centre (CCMC) of the name of the individual appointed to act as the secretary of the Workshop under its responsibility, with a commitment that the resources of the secretariat and the competence of the secretary are sufficient to support its responsibilities. The WS Secretariat shall be allocated to BSI (first point of contact).
2. to organize the agenda of the kick-off meeting.
3. to register attendance at the kick-off meeting
4. to register expressions of interest in membership for non-attendees

The Chairman will be appointed at the kick-off meeting. The responsibilities of the Workshop Chair are:

- to chair Workshop plenary meetings;
- to ensure that the Workshop delivers in line with its Project Plan;
- to manage the consensus building process;

[1] The deadlines for the mentioned activities are the maximum allowed for the completion of the CWA during the ZONeSEC project and can be completed in shorter time.

- to interface with the CEN/CENELEC Management Center regarding strategic directions, problems arising, external relationships, etc.;
- to facilitate information exchange with the Workshop Secretariat;
- to write the first draft CWA and incorporate the comments to produce revision 2 documents.

The CEN/CENELEC Workshop Secretariat will support the agreed upon CEN/CENELEC Workshop activities. The Secretariat provides a professional management support in the form of administrative, operational and technical services to the Workshop. The duties corresponding to each type of services are mentioned below.

- Duties related to the operation of the secretariat:
  1. to offer the infrastructure for electronic operation;
  2. to administer the CEN Workshop's members list(s) and email exploder(s);
  3. to manage documents and their distribution;
  4. to update the document register and host their repository (http or ftp);
  5. to prepare the agenda and distribute the information on meeting arrangements;
  6. to progress actions as decided by the CEN Workshop meeting;
  7. to report on CEN Workshop meetings;
  8. to initiate and manage the CWA approval process upon decision by the Chair;
  9. to advise on the requirements of the CEN/CENELEC Internal Regulations and decisions of the CEN/CA and CEN/BT in the development of a CWA;
  10. to record expression of support in the adoption of the CWA for transmission to CCMS;

- Duties related to project planning and management:
  1. to act as a contact point to respond to any queries of interested parties;
  2. to submit the approved CWA to the CEN-CENELEC Management Centre for circulation to the CEN and/or CENELEC BT for information;
  3. to update the Project Plan and Work Item sheets;
     a) whenever the delivery of a CWA or other CEN-CLC Workshop deliverable is delayed by 2 months or more, the secretariat shall ensure the Workshop re-evaluates its support for the work (through an update of the Workshop's business plan, either in a meeting or electronically);
     b) whenever a new project/ task is added to the work programme;
  4. to ensure these changes are agreed upon by consensus, with at least a 4-week consultation period;
  5. to ensure that updating the Project Plan is on the agenda of all Workshop meetings;
  6. to ensure the systematic updating of the work item sheets;

- Duties related to the publication of the CWA:
  1. submission of camera-ready copy of CWA to CCMC;
  2. submission of supporting information necessary for CWA publication to CCMC;
  3. transmission of list of CWA supporters to CCMC;

- Duties related to CWA maintenance:
  1. to keep an approved list of parties to be consulted in view of the maintenance phase;
  2. to ensure that this list is updated with new expressions of interest;

3. to provide all necessary information to enable CCMC to conduct the formal three-year review ;
4. to inform the CCMC when a CWA needs to be withdrawn or revised;
5. to identify the funding for the revision; to organize the revision process and to provide the revised text for publication;

All communication shall be copied to Secretariat and all participants to ensure transparency, openness and equal treatment of all stakeholders.

The CWA will also be published by CEN and CENELEC and made publicly available through CEN/CENELEC and different standardization Institutes in the member states at normal costs in line with the guidelines in Guide 10:2015[2].

7. Resource requirements

Interested parties must cover for their own costs related to participation in Workshop activities. There is no registration fee. Participation to this Workshop is open to all interested parties. All physical meetings will be located in Europe (Greece). Use of electronic meetings will be encouraged as much as possible.

The cost of the CEN Workshop process will be funded by the ZONeSEC project (funded under the European Union Seventh Framework Programme (FP7-SEC-2013)).

BSI will provide the Workshop secretariat subject to formal approval of the Project Plan at the kick-off meeting, that will be held in Greece (11 December 2017).

[2] ftp://ftp.cencenelec.eu/EN/EuropeanStandardization/Guides/10_CENCLCGuide10.pdf

8. Related activities, liaisons, etc.

Links with other standardization activities with relevant topics to the CWA can provide valuable input to the WS and are mentioned below:

- CEN TC 391 (Societal and citizen security)
- CLC/TC 79 Alarm systems
- IEC TC 79 (Alarm and electronic systems) and particularly the IEC TC 79 WG 12 (Video surveillance systems).

Additionally, links with other projects have been established (particularly eVACUATE project - FP7-SEC-2012-1, 313161). Members of these projects will decide whether to join the activities of the Workshop or not.

9. Contact points

Such as Workshop Chairperson, Workshop Secretariat, Editors, CCMC contact, etc.

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Annexes

Annex A – List of key organizations that support the Workshop proposal

TELESTO TECHNOLOGIES

TELESTO Technologies, based in Athens-Greece, specializes in Broadband Wireless Networks, Sensor Networks, Telematics and Telemetry (Design, Deployment, Operation). The company is organized into three (3) administrative and organizational departments: design services, project implementation and consulting services, each addressing the relevant field of activities. Telesto over the course of recent projects (both commercial and R&D projects outlined below) has acquired experience in the area of gathering, abstracting and processing sensor data, allowing the company's R&D interest and strategic involvement in projects to become oriented in the field of wireless sensor networks and the "Internet of Things".

EADS

EADS (http://www.eads.com) is a global leader in aerospace, defence and related services. In 2009, EADS generated revenues of € 42.8 billion and employed a workforce of 119,506. The EADS Group includes the aircraft manufacturer Airbus, the world's largest helicopter supplier Eurocopter, the satellite manufacturer Astrium and the joint venture MBDA, the international leader in missile systems. The EADS Innovation Works are the corporate research facilities of EADS, with sites in Germany, France, Spain, Singapore and Russia. They provide world-class capabilities in aeronautics, defence and space research topics consistent with the EADS research & technology strategy. Covering the skills and technology fields that are of critical importance to EADS, the EADS Innovation Works are organized in five trans-national Technical Capability Centres (TCCs): The EADS Innovation Works are an operational and strategic entity for the creation of added value by technology innovation. They foster technological excellence and business orientation through the sharing of competences and means between the various partners of the EADS Group and they develop and maintain partnerships with world-famous schools, universities and research institutes. The German part of EADS Innovation Works is legally an organizational unit within EADS Deutschland GmbH, the German subsidiary of EADS N.V. The team "Microwave Technologies" of EADS Innovation Works itself has extensive know-how on advanced microwave devices (like RF-MEMS, SiGe, GaN) and systems (obstacle warning RADARs, wake-vortex detection RADARs, MIMO RADARs) and participated in several national and EU-funded projects dealing with advanced RF-transceivers, electronically steerable antennas and microwave systems (e.g. Retina, Radarauge, RFPlatform, 3D-µ-tune, Flexwin). Furthermore, EADS-internal projects on those topics are currently ongoing in cooperation with the EADS business units Astrium, Airbus and Eurocopter. Besides leading different work packages in the above mentioned projects, the FP6 project "RETINA" and the FP7 project "FLEXWIN" was successfully coordinated by the team.

GAP ANALYSIS SA

Gap Analysis S.A. established in Athens, Greece in 2006, provides safety and environmental management services and engineering consultation for construction, installation and operational permits in the petrochemical industry and international fuel distribution companies in Greece and Cyprus. It has extensive experience on co-ordination, management, development and assessment of national and European research and industrial projects including studies on Risk Assessment, Occupational Health and Safety, Fire Safety, Safety Inspection and Auditing, Safety Management Systems (SMS), Emergency Planning, Authority Assessment of "Seveso"

Safety Reports and SMS, Environmental Quality Applications, Safety System Modeling, Safety Training and Education techniques (www.gapanalysis.gr).

ATTIKES DIADROMES

"ATTIKES DIADROMES SA" (ADSA) is the Operation and Maintenance Company of the Attica Tollway Toll Road Concession Project, in Athens Greece. The Concessionaire Company named "Attiki Odos SA" has assigned to ADSA, through an Operation and Maintenance Agreement, its responsibilities for the operation and routine maintenance activities, including toll collection, traffic maintenance and other activities on a back-to-back basis with the Concession Agreement.

Attikes Diadromes SA was founded in 1999, in advance of finalization of any road section construction, as the Tollway's Operator. The obligations of the ADSA can be summarized as follows:

- traffic management & safety of users;
- detection/intervention/management of incidents;
- routine maintenance of infrastructure and fixed equipment;
- maintenance of vehicles;
- planning/monitoring of major maintenance;
- planning / scheduling of improvements and expansion;
- toll collection;
- design of commercial policy and management of commercial packages;
- monitoring of user complaints; and
- public relations and communication.

These obligations of the operation and maintenance company are ensured 24-hours per day, on a 365-day per year basis. The company's main concern is to ensure the safety and comfort of all users and personnel at all times, so, in addition to the obligations mentioned above, Attikes Diadromes also participates in various research programs to identify new technology and new processes, while also carrying out extensive training in crisis management etc.

COMPANIA AQUASERV SA

COMPANIA AQUASERV S.A. (AQUASERV) is a joint stock company with integral state-owned capital responsible for providing drinking water and wastewater services in the superior hydrographic basin of the Mures River in Romania. As a regional operating company, AQUASERV supplies drinking water to approximately 300.000 inhabitants and is expected to grow with the expansion of the serving area. Aquaserv currently is implementing a large project co-financed by the European Community. The project named Sectorial Operational Program – Environment (SOP – ENV) has a budget of more than 110 million euro. The SOP – ENV continues and builds for the future, on national environmental infrastructure development programs initiated in the pre-accession period, particularly with PHARE and ISPA support. Web-page: www.aquaserv.ro. AQUASERV has participated in many international cooperation and collaboration projects. Some of the main projects related to the role above mentioned are: EcoLinks project started in 2000, that helped to develop a leak detection team and a strategic plan for reducing water losses or the WATERPIPE (FP6) project (2007-2010), that helped to develop a novel, high resolution imaging ground penetrating RADAR (GPIR) for the detection of

pipes, leaks and a Decision-Support-System (DSS) for the rehabilitation management of the underground water pipelines. Web-page: www.waterpipe-eu.org

ACCIONA

ACCIONA Infraestructuras is a leading European construction company constructing and managing buildings and civil infrastructures under the sustainability principles. It has an international presence in more than 30 countries employing 15,800 people. In 2010, it had a total turnover of 3.1 billion Euros. It is part of ACCIONA Group, whose main business lines are Construction, Real Estate, Urban-Environmental Services, Energy, Logistic and Transport. ACCIONA uses cutting-edge technology to develop and apply the most advanced materials, components, systems and solutions for sustainability and in particular for energy efficient concepts, design, construction, operation and recycling of buildings.

ACCIONA INFRAESTRUCTURAS has been a pioneer company in the private financing of infrastructures, building and managing toll motorways, tunnels, railways, sewage treatment plants and hospitals through concessions. In all the construction works the company carries out, its fundamental values are technology, quality and environmental protection. ACCIONA INFRAESTRUCTURAS seeks safe and on-going development in the international market, delving further into the field of concessions.

ACCIONA Infraestructuras has its own R&D Technological Centre in Madrid, composed of a multidisciplinary and international team of about 150 highly qualified researchers from a wide range of disciplines. Main research areas are Nanotechnology and Advanced materials, New Construction Materials, Products and Systems, ICT, Energy Efficiency as well as Biotechnology and Environmental Technologies. The participation of ACCIONA Infraestructuras in ZONeSEC project will be carried out by the ICT, Automation and 3D area of ACCIONA's Technological Centre, composed of more than 25 researchers with a wide experience in ICT applied to construction processes, buildings and infrastructures.

NATIONAL NATURAL GAS SYSTEM OPERATOR (DESFA) S.A. (Natural Gas - Greece)

The National Natural Gas System Operator (DESFA) S.A. (www.desfa.gr/?lang=en) was established on 30th of March 2007, following the provisions of law 3428/2005 (Government Gazette 313/27.12.2005) on liberalization of the natural gas market. the operator (DESFA SA) provides transmission services, through the Natural Gas Transmission System (NGTS), in the most cost–effective, transparent and direct way, without any discrimination between the users and the users categories.

the transmission services include:

- the reception, by the operator, of natural gas quantity from one or more entry points;
- the transmission of natural gas quantity through the NGTS;
- the delivery of natural gas quantity by the operator at one or more exit points; and
- the execution of all necessary measurements using the metering equipment at the entry and exit points.

The NGTS transports gas from the Greek-Bulgarian border (upstream TSO BULGARTRANSGAZ) and the Greek-Turkish border (upstream TSO BOTAS) to consumers in continental Greece.

It consists of:

- the main gas transmission pipeline and its branches;
- the Border Metering Stations at Sidirokastro, near Serrers and at Kipi, near the Evros River;
- the Compression Station at Nea Mesimvria, Thessaloniki;
- the Natural Gas Metering and Regulating Stations;
- the Natural Gas Control and Dispatching Centers at Patima Magoulas near Athens and at Nea Mesimvria near Thessaloniki;
- the operation and maintenance centres of Sidirokastro Border Station, Northern Greece, Eastern Greece, Central Greece and Southern Greece; and
- The Remote Control and Communication System.

The main transmission pipeline with total length 512km and design pressure 70 barg extends from the Greek-Bulgarian border at Promachonas to Attica. Transmission branches with total length 947 km extend from the main transmission pipeline and supply natural gas to the regions of Eastern Macedonia, Thrace, Thessaloniki, Platy, Volos, Trikala, Oinofyta, Antikyra, Aliveri, Korinthos, Megalopoli, Thisvi and Attica.

Situated along the main transmission pipeline and the branches are:

- line valve stations for isolating a segment of the national natural gas transmission system in emergencies and scheduled maintenance;
- scraper stations for launching and receiving cleaning devices (scrapers) or interior inspection devices for the pipeline;
- cathodic protection system of the pipeline from corrosion; and
- fiber optic cable for the remote supervision, control and communications system.

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