



Standardization in research and innovation projects

Success story: **transport**

SMART-CM

Smart Container Chain Management (SMART-CM) was a 3-year FP7 (Framework Programme 7) research project, which focused on the development of technological solutions for achieving improved security, monitoring and management of global container transport chains. In this regard, deployment of Container Security Devices (CSDs) was a priority objective for the project. This technology provides continuous monitoring of the status of containers from door-to-door and enables full transparency and facilitation of chain processes, improved risk assessment and efficient reaction to unexpected events. The project developed a European pre-standard setting out specifications for CSDs and the communication of container security information, which goes some way to achieving a global solution for secure intermodal supply chains.

www.smart-cm.eu

THE PROJECT

With millions of containers being transported around the world at any one time by multiple heterogeneous stakeholders in the logistics chain, maintaining security and monitoring them can be a daunting task. Carriers have to maintain communications with numerous different actors such as customs authorities, logistics service providers and transporters, and each will have their own technologies and processes to deal with the containers.

SMART-CM aimed at responding to the needs of the industry by overhauling the complete container door-to-door transport chain, making it more efficient, secure and competitive.



The project developed a neutral service platform to receive and contribute information to other systems through a defined interface. This aimed at enabling secure and interoperable Business-to-Business and Business-to-Customer data communications in container transport management. SMART-CM systematically analysed existing processes and systems and produced new innovative concepts for processes and technologies.

STANDARDS: A SOLUTION FOR MARKET UPTAKE

One of the original objectives of the project was to support advanced interoperability of technologies and improved exchange of information. The project, through real life testing of applications and development of new technology, concluded that there was a lack of standardization and agreement in two major areas: Key Performance Indicators for container tracking and security devices in fulfilling security requirements; and messages for communicating the container security status by these devices.

These were both addressed by the project through the development of a CEN Workshop Agreement (CWA)*. This pre-standard "Container Security & Tracking Devices - Technical Specifications and Communication Standards" was published in 2012, proposing a flexible solution that met the industry needs. It closely reflected the wider SMART-CM project achievements and set out specifications for CSDs and the communication of container security information between different stakeholders.

* CEN is the European Committee for Standardization. A CWA is a type of European pre-standard

 We did have some of the major players in the market within the consortium, but in order to leave something at the end of the project, to ensure a 'true legacy', we needed a mechanism like standardization.  Dr Ayfandoupoulou, SMART-CM Coordinator

HOW WAS THE STANDARD DEVELOPED?

The SMART-CM CEN Workshop involved 156 participants from across the SMART-CM sector in total. Participants represented the e-Container Security Device industry, with 95% of all European providers, 75% of North American providers, and several major Asian providers in attendance.

The fact that partners from around the globe participated in the CWA development, showed the perceived value of both the SMART-CM project and the standardization effort. These stakeholders provided inputs not only to the CWA, but also to the project work more generally, which would not have happened without the Workshop process. This new standard was developed in just over a year and a half.

IMMEDIATE BENEFIT

The CWA process allowed the project to bring together, not only the logistics industry, technology providers and research partners from the project, but also any interested stakeholder from the container management industry. This wide participation ensured market relevance of the project's results.

In addition, the CWA provided a platform to reach a consensus on what direction the technology should be advancing in and what standards should be met. Finally, potential problems of non-interoperability were anticipated and even overcome by the standardization work.

LONG-TERM IMPACT

The published standard can support the wide and long-term adoption of SMART-CM project results on the global market. The CWA will be available beyond the duration of the project, and thus will be a lasting tool for the SMART-CM global community to promote its agreed solutions and contribute to its final objective of improving security and efficiency in supply chains. The CWA represents an important step towards technology improvement and achieving global solutions.



There were a lot of problems with interoperability within the market, and standardization was very crucial in ensuring that the technologies developed through the project were interoperable, and would work with existing technologies.

Dr Ayfandoupoulou, SMART-CM Coordinator

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Every project is different. The CEN-CENELEC Research Helpdesk can provide you with advice on how to include standardization in your project. Please feel free to contact us!

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