Project Results

SEMOSA
Facilitating a single European mobile services area

The main objective of the ITEA 2 Single European Mobile Services Area (SEMOSA) project was to provide an open innovation platform and tools for the creation of mobile applications that support technologies such as Near Field Communication (NFC), seamless integration of multiple secure domains and interoperability of services such as payments at the European level. It was geared to responding to the needs of users, developers and third parties.

PROJECT FRAMEWORK

A simple SEMOSA architecture was developed that included a web-based SEMOSA Model Driven Development tool mock-up (with a domain-specific language editor) to design SEMOSA based applications. In addition, four basic profile types were defined and a SEMOSA library created including the SEMOSA API (the set of abstract and interface objects and classes, for both the core and the customer profiles) and the SEMOSA Library Core (which implements the basics of the SEMOSA API). Finally, a reusable reference architecture aimed not only to accelerate time to market for mobile applications but also targeted solutions that are simple, low-cost, appropriate and easily replicable for trusted mobile services.
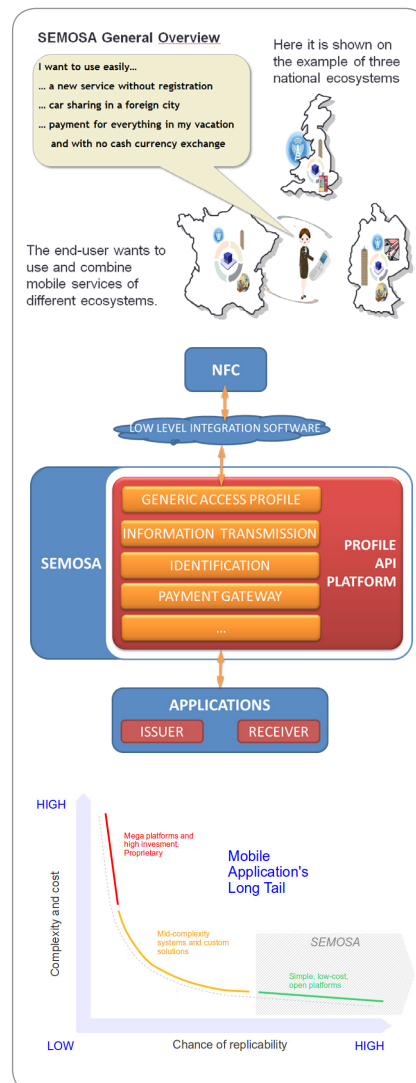
OPEN PLATFORM

SEMOSA developed an open platform application programming interface, or API, to enable companies to develop applications and services independently as well as contribute to enriching the mobile services landscape. It also defined common interfaces of how ASPs can be connected to related services and entities, incorporating some of the interfaces and protocols in the open platform API and others to third parties to develop SEMOSA-compliant components. SEMOSA concentrated on two key trusted services, payment (for general acceptance) and mobile ID (the need for authentication required by many applications).

INNOVATION

The project's major innovations derived from the combination of a domain-driven architectural approach with an integrated

open platform, something that will have a significant impact on businesses, operators and developers, helping to position the platform globally. Another major innovation is an innovation framework for a more globally competent European market whereby mobile applications can take advantage of existing standards and initiatives and link these benefits for mobile software development with universal access to operator services. For developers, mobile applications and services will be easier to implement and for service consumers those mobile applications and services will be more trustworthy and of higher quality. Service

SEMOSA
(ITEA 2 ~ 10006)

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■ **Partners**
Answare
CENTRIA Research and Development
Fundacion Tecnalia Research & Innovation ESI - European Software Institute
GreenPeak Oy Oy
IBM
Prodevelop
Red Solution Finland OY
Telefónica I+D
University of Madrid Carlos III
University of Seville
VECTOR SF

■ **Countries involved**
Finland
Germany
Spain

■ **Project start**
October 2011
■ **Project end**
September 2014

■ **Contact**
Project Leader :
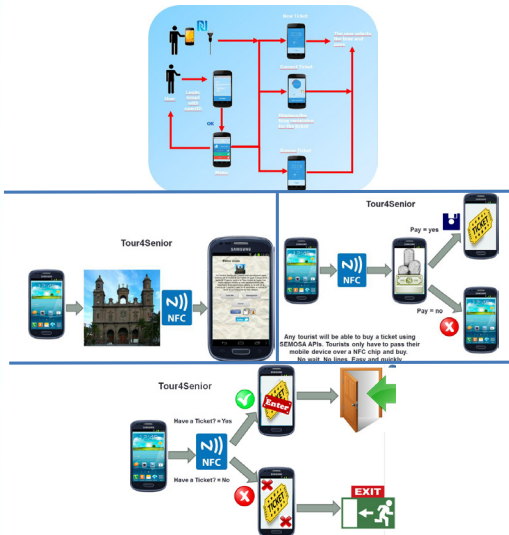*Tonny Velin, Answare tech*
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Project Results

providers will benefit from being able to provide their capabilities as plug-in.

DEMONSTRATION AND STANDARDISATION

Among the demonstrations was m-ticketing – the SEMOSA SIRSP profile – that enables tourists to get access to any event using SEMOSA services if the tourist has previously bought the ticket using the application. This is very simple and only requires the tourist to pass the smartphone over an NFC reader for access. No wait, no queues. Easy and quick. Using the SEMOSA SIRSP profile the user can use the purchased virtual ticket, in this case a museum ticket, to access the museum.

Among the contributions made by SEMOSA to standardisation is documentation the GSMA Mobile NFC FTP project that primarily aims to accelerate the commercial launch of interoperable services based on NFC SIM cards. SEMOSA has also contributed to legacy contactless specifications (ISO/IEC), NFC specifications (ISO/IEC), specifications for the connection of a secure (or non-secure) element to the contactless front-end (CLF) or NFC Controller (ETSI TS, ISO/IEC) and to the updated NFC Handset APIs & Requirements (Version 3.0).

EXPLOITATION PROSPECTS

Vector, one of the consultancy leaders in the Spanish IT Market, is integrating SEMOSA results into its solution for identifying users/ customers from the Mobile domain, such as Parques Reunidos, which wants to enable its customers to buy online a 'Speedy Pass' that can help them bypass a queue. Another development sees an e-Vending proposal for McDonald's enable customers to perform pre-order using NFC technology. McDonald's is currently evaluating this business proposal. Answare will use the results of SEMOSA to develop TourKhana, an application focused on the Tourism and Leisure sectors, to empower the tourist assets of locations and cities by providing an immersive tool for visitors. Not only will this encourage the participation of citizens and visitors in collaborative environments but also puts a powerful promotional tool within the reach of local and regional private businesses.

Major project outcomes

DISSEMINATION

- International publications: [Lemos, M. L., Vasquez, D. V., Radzimski, M., Lemos, A. L., & Gómez-Berbís, J. M. (2012), Rodríguez-González, A., Torres-Niño, J., Jimenez-Domingo, E., Gomez-Berbis, M. J., & Alor-Hernandez, G. (2012), Vásquez□Ramírez, R., Alor□Hernández, G., & Rodríguez□González, A. (2012)]
- Public and relevant events: GSMA Mobile World Congress 2013/14 (Barcelona), ITEA & ARTEMIS Co-summit 2013 (Stockholm).
- Collaborative repository for Open Source Projects. Googl Code (Apache License 2.0) http://semosa.googlecode.com/svn/

EXPLOITATION (SO FAR)

- Short-term exploitation plan: Prototypes for public authorities in order to generate a marketable version by mid of 2015.
- Mid-Long term exploitation plan: Solution for Identifying users / customers form Mobile.
- Integration with Tourkhana: application focused on the Tourism and Leisure sectors. TourKhana aims at empowering the touristic assets of locations and cities by providing an immersive tool for visitors
- Many other uses. SEMOSA is an open library to be integrated with any system.

STANDARDISATION

- Telefónica I + D has developed documentation along with the four main European operators (Vodafone, Deutsche Telekom, Telecom Italia, Orange, the old E5) to define Technical standards and business processes to ensure interoperability in order to reduce the fragmentation of the industry and create a more competitive market and consumer choice.