



InspireD

D15: TPD Exploitation plan - abstract

Table of Contents

1. INTRODUCTION	2
2. TPD EXPLOITATION PLAN	2
2.1 INSPIRED PROJECT CHALLENGES.....	2
2.2 INSPIRED PROJECT OUTCOMES.....	2
2.3 BACKGROUND: MARKET TRENDS.....	2
2.4 INDUSTRY ENDORSEMENT.....	3
2.5 EXPLOITATION OF RESULTS BY EACH PARTNER	4
3. CONCLUSIONS	4

1. Introduction

This document is an abstract of the deliverable **D15 “TPD Exploitation plan”** realized within the InspireD project (IST-2002-507894).

“**InspireD**” is a European research project in the IST-FP6 Program “Towards a global dependability and security framework”. The acronym stands for “**I**ntegrated **s**ecure **p**latform for **i**nteractive **T**rusted **P**ersonal **D**eveloped”. The project vision is that the next generation of Smart Cards should be based on a new common platform approach for **Trusted Personal Devices (TPD)**.

The TPD Exploitation plan explains the rationale and how the consortium and individual partners expect to exploit the results to the best benefit of this industry and its customers.

More details on the InspireD project can be found in the Web at www.inspiredproject.com

2. TPD Exploitation plan

2.1 InspireD project challenges

The InspireD project is potentially relevant to all future markets of the smart card, in all parts of its technology and for all its applications. No limits have been set to applications in the project, even if only some of them are taken as examples.

The four main challenges of the TPD are the following:

1. Define the optimal set of common resources in the platform to address a large scope of applications;
2. Pack advanced computing platform technologies into a small silicon footprint;
3. Propose efficient tools and methods for developers of reliable TPD applications;
4. Foster industry endorsement of the TPD technology.

2.2 InspireD project outcomes

InspireD generates valuable results in the technological domain, including a set of common specifications, solutions for technical challenges and a set of proof-of concept implementations to validate technical solutions.

InspireD will also generate a common vision among the main European card industry actors of what a TPD should be. This convergence will add consistency to the offer of silicon components.

Innovative concepts regarding application usage will be generated too.

The partners will collect significant amount of information regarding fitness of the technology to the market, potential new usages, conditions for success, etc.

The project will also create awareness about the technology.

2.3 Background: market trends

The whole InspireD initiative is based on the analysis of market trends relevant to the future TPD market environment, by the card manufacturers and its partners in the project.

Security is still the main concern for Card Issuers: As memory sizes grow, security remains the main challenge for smart cards and silicon manufacturers. Card issuers are demanding higher security levels on applications.

Most of the cards markets followed this scenario:

1. In a given segment, the card market takes off at the same time as a new service
2. Its expansion in volume is associated with the expansion of the supported service.
3. Taking advantage of decrease in silicon costs, the card suppliers find ways to add value to the cards, through extensions of the card application. Then cards are replaced by newer, better ones because of obsolescence of the older ones, rather than their wearing out.

The challenge for the card partners involved in InspireD is then to best guess what will be necessary in the relevant time frame of 3 to 5 years ahead from now.

A 20% annual growth for the overall smart card demand is expected during the coming years.

The biggest smart card market segments are mobile telecommunication and financial services. Mobile network operators (MNO) are the customer group requiring by far the highest volume of smart cards and still have a remarkable compound annual growth rate above 20 %. while the growth rate of the revenue of the smart card vendor is only around 5 %

The following market segments for smart cards in size are Pay-TV and Government / Healthcare.

Transport and Corporate (Enterprise) Security are smaller segments but have higher annual growth rates compared to the other segments.

The following markets have been analysed through this Exploitation plan:

- **Mobile Telecom:** traditionally very innovative, with no saturation observed on typical SIM memory size. In this market, the adoption of a virtual machine technology is a reality. TPD concepts apply to this market in the 2008 time frame and sooner for some features.
- **On line services – Banking:** they rely heavily on mature technology and are major buyers of terminal equipment and software. They face the challenge of new applications like transport incorporating radio frequency identification.
- **On line services – Corporate security:** ebusiness world requires fully integrated, comprehensive security management solutions. The volume for this sector will double within 3 years.
- **On line services – eCommerce:** Security issues are essential with the problems of hacking and phishing. A second problem is privacy. Authentication and confidentiality issues are solved with the TPD. Differences between B to C and B to B markets need to be taken into account
- **Digital rights Management:** Methods regarding protection of valuable contents from unauthorized access. It includes the Mobile environment and the Broadcast environment (Pay TV). They are the most influential and popular consumer technologies of the electronic age.
- **e-Government:** A high potential for very fast growth in the short and mid-terms is expected. Government ID card volumes will be multiplied by four within three years.
- **Secured Mass storage:** Requirement for an open trusted platform is now emerging, but the size of the related markets is limited

2.4 Industry endorsement

The TPD is not a really stand-alone product as it will typically connect (contact or contact-less) to a host device in order to be involved in some kind of transaction.

Adequate interfaces are therefore needed, this needing promotion of TPD for adoption by host manufacturers, which is done typically through standardisation bodies.

TPDs will be promoted in the following forums:

- TPDs in general : ISO7816, MMCA, USB, SDA;
- Mobile telecommunication: ETSI/3GPP, ETSI/SCP, OMA;
- Pay-TV/DRM : DVB, OMA, SVP...

Availability of adequate silicon components is also important, therefore the minimum set of requirements in terms of performance and connectivity for the future applications will be specified.

Concerning the community of developers, TPD-oriented features integration will be promoted in mainstream development kits.

2.5 Exploitation of results by each partner

Whether it will be future products, new concepts, and more specifically the next generation of Smart Cards, the partners have precise plans on how they would like to exploit the results of InspireD. They are provided in the last section of the document.

3. Conclusions

The TPD concept breaks the barrier of today's smart cards. It takes advantage of the reduction of silicon cost over the year to expand the features of the platform (richer combination of hardware and software).

The expected business impact is three fold:

1. Support richer card applications on the same market as today by keeping the focus on all required security aspects;
2. Enter new markets for smart cards thanks to new applications made possible with the innovative TPD features;
3. Replicate the success story of the smart card, a European-born technology, on new form factors, which in turn will generate more applications.

With InspireD the European smart card industry expects to develop new technologies that will contribute to a major business development push.

The technology represents a major evolution compared to current smart cards. This will have some disruptive effects on the market and in order to best take advantage of the results of the project, developing products will not be sufficient. In particular, some actions will be necessary to foster industry endorsement.