eEpoch

eEurope Smart Card Charter proof of concept and holistic solution

Demonstration project

INFORMATION SOCIETY TECHNOLOGIES

(IST)

PROGRAMME

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1. Project Summary

Objectives

The aim of eEpoch is to demonstrate interoperable and secure smart card based digital identification systems, which provide the levels of trust and confidence necessary for citizens to interact digitally with their national and municipal administrations and other European institutions. It will enable cross-border electronic signature for legal purposes, offer reliable identification based on data in government databases, and ensure secure authentication of cardholder and device on the basis of PIN, biometrics, and PKI mutual authentication. eEpoch objectives combine to provide a holistic approach from the following perspectives: User experience, Pragmatic, Coherent pan-European e-government services, Nucleus for mass deployment, Standards foundation, Knowledge Base, IOP Support infrastructure. This drives to eEpoch technical objective to enable interoperability between e-communities within and between the EU member states while maximising the freedom of technology and business choices.

Description of the work

eEpoch will establish an "action-research" partnership between a set of national public service EID projects with trial sites in the following countries: France, Ireland, Israel, Italy, Spain and United Kingdom. To maximise the learning environment, and in order to gain as much as "follower" interested sites as possible, a serie of tailored conferences organized for pilot project leaders, site coaches and consultants, board members, management team and WPs staff will adopt an iterative approach to determine the themes, crystallize the technical and business success factors, and synthesize information on experiments/pilots/evaluations in order to:

- Share and transfer knowledge between the pilot communities
- Organize and maintain the knowledge base
- Organize and execute the eEpoch Interoperability (IOP) testing and certification
- Organize and maintain the operational "IOP adapters" (above the site level) between the smart card communities in the different member states

Goal is to enable a citizen of one country or region to use his/her card to securely transact an e-Government service in a different smart card community or to transact a home service to which they are eligible from within another smart card community. Each site has freedom to choose its own cards, devices, OS and servers subject to an eEpoch core-functionality for IAS and agreed registration and certification authority processes and technologies. Secure identification, authentication and electronic signature will be on the basis of PIN, biometrics, and PKI mutual authentication. The knowledge derived from the pilots, the structured interactions and the specific work on IOP certification and IOP adaptors will develop during the project. A small but dynamic team of experts will prepare the knowledge required in collaboration with the site pilot representatives and this will be evaluated and improved in six monthly knowledge research and transfer conferences (eEpoch Conference).

Milestones and expected results

Site policy themes, strategies, benchmark goals (M3); eEpoch Conference 1:policy statements, business cases, management guidelines (M4); eEpoch Conference 2:technical (modifications) guidelines (M9); eEpoch Conference 3:IOP operational reviews (M15); eEpoch Conference 4: Evaluations (M21); Knowledge Base established and initial population (M6); Existing site technologies (modified to) integrate with IAS-interoperability-nucleus (M12); Test and certify the modified systems(M14); Implement IOP between smart card communities (M16); Final Project Report (M24)

2. Project Objectives

The aim of eEpoch is to demonstrate interoperable and secure smart card based digital identification systems, which provide the levels of trust and confidence necessary for citizens to interact digitally with their national and municipal administrations and other European institutions. It will enable cross-border electronic signature for legal purposes, offer reliable identification based on data in government databases, and ensure secure authentication of cardholder and device on the basis of PIN, biometrics, and PKI mutual authentication.

eEpoch objectives combine to provide a holistic approach from the following perspectives:

- User experience: support the citizens' awareness of being a European citizen. Enable access to government and administration services via a 'consistent' user identification and authentication experience in their own and other countries through online and offline processes using a cross border secure identification mechanism (ID-card)
- Pragmatic: build on the pilot and other infrastructure services that are already currently planned or implemented and add others as scheduled during the demonstration period. eEpoch is open to voluntary participation from all countries in Europe including especially the applicant countries. New entrants must accept the existing “body of knowledge” unless it is shown that a better solution exists and it is agreed to replace the established practice
- Coherent pan-European e-government services: translate interoperability of generic functionalities previously established in principle and defined in technical terms by the eESC and others into real life applications that will demonstrate the coherence of e-Government services across Europe and beyond.
- Nucleus for mass deployment: each pilot site embodies those national/local institutes with the responsibility and financial power for subsequent mass roll-out of ID-cards and application of the knowledge derived from the pilot implementations
- Standards foundation: eEpoch will implement a core set of interoperability specifications for the digital identity and electronic signature based on the EESSI initiative and other standards in the ISO, ICAO, CEN and ETSI domains and on the established eESC cooperation with the Japanese Government.
- Knowledge Base: speed up site learning curves leading to faster successful mass deployments. Includes information on benchmarks for best practice, strategic models and information on practical multi-application business cases
- IOP Support infrastructure: provide the essential support structure for testing and certification

2.1 Technical objectives

eEpoch’s primary technical objectives are to enable interoperability between e-service communities within and between the EU member states while maximising the freedom of technology and business choices for the sites. The specific technical objectives of eEpoch include:

- establish a knowledge base for e-sign and e-transaction communities which enables easier decisions for widespread implementations and management of subsequent deployments
- validate the implementation of common (interoperable) eEpoch services in a representative number of pilot sites set-up in different countries meeting specific local requirements and recognised as being the starting basis of compatible digital IDs which facilitate national and municipal e-government roll-outs
- demonstrate the capability of smart card technology as a mainstream computing platform for trust and in particular as the solution for implementing a secure and authenticated digital identity in support of e-government services and the private e-commerce market based on

the common unique set of identifying personal data (as defined by eESC Trailblazer 1, Public Identity and supported by TB 10, e-Government)

- demonstrate workable solutions for electronic signatures with a legal value addressing primarily Art 5.1 (Qualified electronic signature) of the European directive on Electronic signature. Compliance with the requirements set in the relevant documents (Area F, Area G1, Area G2, and Area K) of the European Electronic Signature Standardisation Initiative (EESSI) will be guaranteed
- demonstrate interoperable user focussed legally binding smart card based services including where relevant e-payment services and optional pseudo-anonymity – unless identification is mandatory by law
- harmonise related smart card based infrastructures to ensure interoperability across sectors and countries, and demonstrate the potential for coherence of e-Government services all over Europe
- disseminate targeted information about the implementations and the lessons learned among the user community, and all involved in the smart card business to encourage exploitation of interoperable and compatible access mechanisms and infrastructures; provide guidelines / recommendations for the large scale deployment resulting from the practical implementation and experimentation carried out in the pilots
- base deliverables on existing standards work and eESC deliverables. Contribute where relevant to European standardization organizations
- promote the widest availability and exchange of information on implementation frameworks and guidelines in order to encourage technical and other cooperation both inside and outside Europe.

2.2 Measuring achievements

Public services in Member States will be assisted to achieve their targeted percentages of government services on line in the coming years. The realization of digital identity is essential for citizen access to the information society and associated personalized e-government services. The end-user will experience the increased added value and ease-of-use of smart cards, which will lead as a result to an improved e-government uptake and market acceptance for smart card based applications. Core capabilities for a pan-European Open Smart Card Infrastructure will be secured and it is envisaged that this will provide the nucleus from which this infrastructure will grow within and outside Europe (much like the GSM-net).

Practical measures of success from eEpoch will be

- cross border and cross sector e-identity means for large scale application systems interoperability
- growth rates in deployment of e-identity based smart card technology
- user acceptance and adoption of smart card technology
- the range of applications coordinated and the common lessons identified and implemented
- the number of participants at the “knowledge research and transfer conferences” (eEpoch Conference)
- numbers of operational and associated sites in Europe and in the candidate countries
- supportive mechanisms for national roll-outs of digital identification and electronic signature functionality
- proven cross-border and cross-sector interoperability of the access functions for pilot-scale identification and authentication application systems
- the range of applications coordinated and the completeness of the practical guidelines produced

- extent of successful use of the results from the eESC initiative and its cooperation with Japan (Common Specifications Versions 1 and 2)
- inputs to standardisation processes
- established common framework for smart cards infrastructure which provides a tested road map for holistic smart card environments and implementations
- common and consistent user experience to enhance the awareness for the European Citizen to have an access mechanism to participate in an open European Information and Communications Technology society

There will be constant monitoring and adjustment of the “Action-research” methodology chosen to develop the knowledge base, the business models and the technical models to ensure effective and accurate accumulation, distillation and application of the experience of participating site communities.

3. Participant list

List of Participants

Partic. Role*	Partic. no.	Participant name	Participant short name	Country	Date enter project**	Date exit project**
C	1	ETRA INVESTIGATION Y DESAROLLO, S.A.	ETRA	E	Proj.start	Proj. end
P	2	SCHLUMBERGER/SEMA	SLB	F	Proj.start	Proj. end
P	3	GLOBALSIGN SV/NA	GLOBALSIGN	B	Proj.start	Proj. end
P	4	Safelayer	Safelayer	E	Proj.start	Proj. end
P	5	GIESECKE & DEVRIENT GMBH	G&D	D	Proj.start	Proj. end
A	6	SEM ISSY MEDIA	ISSY	F	Proj.start	Proj. end
P	7	REACH Agency	REACH	IRL	Proj.start	Proj. end
P	8	Ministry of Finance - Israel	IL-MOF	IL	Proj.start	Proj. end
P	9	Comune di Bologna	COBO	I	Proj.start	Proj. end
P	10	Laboratori Fondazione Guglielmo Marconi	LABS	I	Proj.start	Proj. end
P	11	Istituto Nazionale della Previdenza Sociale	INPS	I	Proj.start	Proj. end
A	12	FINSIEL Consulenza e Applicazioni informatiche S.p.A.	FINSIEL	I	Proj.start	Proj. end
P	13	POSTECOM S.p.A.	POSTECOM	I	Proj.start	Proj. end
A	14	Direccion General de la Policia	DGP	E	Proj.start	Proj. end
A	15	Newcastle City Council	NEWCASTLE	UK	Proj.start	Proj. end
P	16	Universidad Carlos III	GUTI	E	Proj.start	Proj. end

*C = Co-ordinator (or use C-F and C-S if financial and scientific co-ordinator roles are separate)

P - Principal contractor

A - Assistant contractor

4. Innovation

Smart cards, that were first developed in Europe, are in use extensively worldwide underpinning much of the success of the European mobile telecommunications industry much to the advantage of citizens, equipment providers and telecommunication service providers. Europe already has a demonstrated leadership in areas of strategic importance – but its continuation cannot be taken for granted. The main goal of eEpoch is therefore innovation. In summary it aims to establish, demonstrate and prove the following citizen-centric capabilities:

a) a common IAS functionality and user experiences when using for national ID / Public services cards

b) a European wide mutual recognition and authentication of a card when used in a domain different from its original domain in a multi-application environment requiring citizen identity and authentication mechanisms

There is an urgent need for coordinated common capabilities.

Table 4-1 : Overview of Electronic Identity / Public Services Cards in Europe (Feb 2002)

Country / Status	**Finland**	**Italy**	**Spain**	**Belgium**	**France**	**Ireland**	**Portugal**	**Netherlands**	**Sweden**	**Italy: SocSec**	**Israel**	**UK: Newcastle**
Policy decision made for national ID / Public Services Card	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N
Relevant national legislation already in place	Y	Y	Y	Y	Y	Y	Y?	Y	Y	Y	Y	N
ID/Public Service card is or will be chipcard based	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y
Will support PKI for cardholder authentication	Y	Y	Y	Y	?	Y?	Y	Y	Y	Y	Y	Y
Will support PKI for non-repudiation	Y	Y	Y	Y	?	Y?	Y	Y	Y	Y	Y	Y
Will support encryption facilities	Y	N	N	Y?	Y	Y?		N?	--	Y	N	Y
Does hold PIN code	Y	Y	Y	Y	Y?	Y?	?	Y	Y	Y	Y	Y
Does hold biometrics	N	Y	Y	N	?	Y?	?	Y	N	N	YO	?
If yes, what biometric technology	--	FP	FP	--	--	?	--	FP	--	--	?	?
Are other applications present on the card	Y	Y	?	N	?	?	?	N	Y	Y	N	Y
Type of card (C=Contact; D= Dual)	C	C	C	C	C	?	?	C	C	C	D	D
Other technologies present (B=barcode, O=optical)	N	Y O	N	N	Y O	?	?	N	N	Y O	N	Y B
If pilot projects are active, number of issued cards (k) or start date	--	0.5	-- Sep	500	0.5	--	--	0.1	--	100	--	10 Mar
If national roll-out already active, number of issued cards (k)	12	15	--	--	--	--	--		50	--	--	--

Legend:
? = to be determined, -- = no data available, B=Barcode, C= Contact, D= Dual
FP=Fingerprint, N= No, O=Optical
Y= Yes, Y? = Most Likely, but to be determined/confirmed, YO = Yes, but optional

It is not surprising therefore that an increasing number of European countries are in the process of defining national chipcard based identity or public service cards that may serve as an access mechanism to all kind of public and some private services. An overview of ID cards development in Europe is provided in Table 4-1. Most of the countries/sites have already passed the research stage and have formulated full policy decisions to adopt to changing circumstances and capabilities. The actual implementation however is only active in 3 countries. eEpoch is therefore very timely, but urgent.

This vision on the need and use for electronic identity is broadly shared all over the world. For example the Gulf State of Brunei has already rolled out a chipcard with ID functionality, biometrics for cardholder authentication and offering support of the digital signature to all its 400,000 inhabitants. The second country worldwide to be fully deployed may be Malaysia, which has already issued a similar card to more than 1,4 Million people and is on track of delivering this ID document to all 19M citizens. Japan has a national ID card under construction and expects to have 2M cards issued by the end of 2002 and an extensive deployment of 100M by 2004. In the US Department of Defence cards have been used extensively by sections of the Military and the first set of what will become a common access card has been successfully issued to and are in use by military personnel. Several South American countries (e.g Mexico, Brazil) are also at advanced stages of smart card based ID implementation.

Europe has therefore to proactively move to match developments elsewhere. It is not enough that different European countries are progressing their independent activities in this field. What is needed is a broad European vision that addresses the needs of a community of some 375M people. The expected take up of these cards will be extensive. Based on existing experience – where for example, 10 Million paper based ID cards have been taken up in the Netherlands by a population of 16M people – the expected cross European customer base is over 200M for eEpoch compliant electronic signature ID/Public service cards. eEpoch is the innovative response of European Smart card community to this challenging scenario, which will not be established without effort. However once accomplished the capabilities envisaged can lead to fullest deployment of smart cards as the secure token for citizen based e-government services. It will enable a new business model for citizen centred e-government services on a pan-European scale. It's innovativeness will be in ensuring a successful scalable deployment of PKI and Smart cards in the public ID area which covers the social, political, legal business, and technical requirements and plans for deployment in an exciting and forward looking way i.e. capable of application in the future era of pervasive computing. However there are major process and cooperative challenges to be overcome Each of these is further expanded in the following sections.

4.1 Social, Political and Legal

Meeting the needs of the user as simply as possible and in a user-friendly way is a primary driver underpinning the entire IST-2001 Programme. eEpoch is a cross national action with the same objectives:

eEpoch will help meet user needs for secure user-friendly personalised access to e-Government services, the interface to which will certainly be impacted and altered by the information society services that are expected to become common place when smart cards are universally accepted and simplify access to a wide range of services.

- European scale and perceived benefits of the common EID function (much like the psychological and practical impact of the single Euro currency)
- move to a citizen-centric approach, which clearly places the trust instrument into the hands of the end-user. This contrasts starkly with the position pertaining today, where trust is mainly directed at the level of the service provider and his system. eEpoch envisages the user in control of his own identity function – in which the card owner decides if and when he wants to make his ID known and if he is willing to offer his positive consent by signing an information object.

- supports a range of legal instruments including the provisions of the data protection directive and the electronic signatures directive. Smart cards are a consumer friendly enabling technology with the potential to provide countless possibilities for applications which advance and accelerate the Information Society while maintaining and preserving personal privacy.

A very welcome initiative has been launched at the highest level (February 2002) to implement a common European wide action on the use of smart cards for social security health service cards for intra-European community travellers. eEpoch is a similar initiative driven by the smart card community to develop a more comprehensive common European Identity /Public Service card. These two initiatives are complementary. The difference is that eEpoch has much larger technical and other social/political barriers to overcome. The benefit on the other hand is that the gains to the Europe Citizen will be correspondingly larger.

4.2 eGovernment and Business

eEpoch is geared to meet user needs for secure and easily tailored access to personalised high end e-government services. It ensures that smart card technology delivers on its potential to help realise the vision of better access to government services. Smart cards as envisaged within eEpoch enable individuals and businesses to have

- the benefits and synergy of the combination of the elements Smartcard /PKI/ PIN/Biometrics in relation to secure use of government services
- secure convenient access and multi-application flexibility afforded to and by all sites
- stronger European industry/business competitiveness due to increased trust and user confidence

4.3 Technical

The inventory study conducted by eESC Trailblazer 2 showed that the combination of PKI and smart cards is an appropriate means to meet the needs for identification and authentication in multi-application domains. However it is a complex undertaking. This survey conducted in July/Aug 2001 on eleven major implementations, identified major challenges that still need to be addressed. These include recommendations on business organization, technology, standardization and legal aspects to help ensure large scale deployment of PKI and Smart Cards can be successful. The needs identified include

- managing the PKI multi environment trust infrastructure
- using standards and interoperability compliance testing criteria based open smart card technology.

For example the challenge of enabling interoperable government PKIs is how to bridge multiple existing PKIs. A bridge Certification Authority (CA) reduces the number of trust relationships required between CAs and facilitates interfacing of different PKI policies. There are associated problems however: Multiple validation mechanisms and complexity are added to client applications and/or there is a need for rules on CA repositories and access. The development of the Bridge Validation Authority (VA) concept overcomes most of these difficulties and its adoption is envisaged within the eEpoch technical approach. The innovative deliverable will be a summary of the basic concepts applied to public service and in particular the necessary criteria for selecting the type of bridge VA and deployment models. These innovative ideas will be developed and managed within Work Package 4.

Testing for interoperability is a complex undertaking due to ambiguous specifications, dynamic systems with multiple unit changes caused by event driven interfaces, stringent security requirements, and features implemented but not yet used. Business pre-requisites for interoperability are outlined followed by an analysis of the strengths and weaknesses of the

required unit and integration testing levels. A four layered approach to organised testing based on open and official specifications is envisaged: test tools, test services, test lab, and demo. Test tools can be accredited or self-certified. An "open test tool provider" market and interoperability lab is expected to develop from the eEpoch work in which there may be a certification process and association agreed to "accredit" the tools. These innovative ideas will be developed and managed within Work Package 3.

eEpoch is also targeted as the first large scale implementation of the eESC Global Interoperability Framework which provides smart card entrepreneurs with technical and business contexts for technology based improvements in the quality of life. Interoperability in this context is defined in terms of basic roles, functional processes, and essential protocols for secure identification, authentication and electronic signature operating on a host card community and a not-on-us card community. Emerging from Work package 1 and disseminated and made available in an integrated manner by Work package 2 will be a common workable process for mutual authentication method in multi-service provider environments utilising PKI. Each site is effectively a case study on approaches to certificate verification for application downloading in a multi-service environment and together their experiences will be combined to determine the direction and scope for further extensions.

4.4 Deployment

The eEpoch focus on deployment is uppermost and is a major factor in ensuring that the resulting technology conclusions will be minimalistic and widely adopted. In addition there is no massive central dissemination activity. Instead it is the responsibility of national drivers to disseminate in their domain and exploit the results to promote reusable solutions targeted at economy of scale in wider deployments and their use in pan-European interoperable applications. However this is not all. Each site is free to invent and encouraged to implement innovative applications. The shared learning mode encouraged by the action-learning process simultaneously encourages and prompts innovation by all sites and the realization of compatibilities and capabilities not envisaged at the start of the process.

4.5 Pervasive Computing

eEpoch's coordinated e-government focussed response is born from a shared sense of the high expectations for user and provider gains associated with smart card technology. It is directly targeted at achieving the IST 2002 work programme's compelling vision. It foresees a networked society where embedded technology will be all around - but at the same time almost invisible – and where technology has enabled a fully "user centred", user-friendly Information Society that is inclusive to all and benefits all. It recognises that the needs of the user, i.e. the citizen, at home, at work, in leisure or commuting must be at the centre of future computing. How they establish an identity as they access the services will be paramount. eEpoch adopts a flexible approach to implement and roll-out standardized identity based smart cards based innovative applications & services. The emphasis is on the applications and services and their deployment. eEpoch is not a technology in search of an application. It is derived from real user needs . The range of applications services offered by the participating pilot sites provides the needed diversity and input to the action research approach for innovative conclusions and recommendations for best practice

5. Community added value and contribution to EU policies

This section outlines the European added value and policy dimensions of eEpoch. It outlines in particular its relationship to the eEurope initiative, how it ensures co-operation and synergies in the area of e-government and how it is based on and directly supports key EU/EFTA industrial policies and standardization work. It is organized in the form of an FAQ.

a. What will eEpoch accomplish?

eEpoch will elaborate and demonstrate the application of the interoperability and multi-application foundations, including consumer control on access to personal data, which are established by the eEurope Smart Card charter Common Specifications. It will demonstrate a scalable, operational and practical solution which provides consistent user identification, authentication and electronic signature services within a secure, trusted, interoperable PKI based smart card based infrastructure for e-government and e-administration services. Through its tested cross-border transactions and applications, and its wide dissemination and conference participation process it will help to establish a favourable climate for information sharing and knowledge building which will encourage and lead to national and regional deployments and roll-outs.

The magnitude of the efforts and costs of pan-European interoperability depends on the timing of its implementations. It is easier and cheaper to build it into the initial system design than to have to re-engineer into an existing set of diverse systems. Multiple examples of non-interoperable ePurses and Healthcards, already provide ample evidence of this undesirable situation in the smart card domain.

b. What European dimensions are addressed?

eEurope's objectives are to accelerate the development of the information society in Europe and to ensure its potential is available to everybody - all Member States, all regions, all citizens. It is recognized as essential that the public sector must lead in this take-up of new technologies. Modernization of the Civil Service as a mechanism to help Europe implement a knowledge-based society was endorsed as a priority action agreed in Stockholm in March 2001.

One of the biggest obstacles identified repeatedly is the lack of consumer trust and confidence in the use of the internet and of information technology. To change this it is not sufficient to remove technical impediments, it is also necessary to build up a level of trust in services and service access such that perceived barriers are removed allowing the mass deployment of systems with widespread usage. Where secured services are being implemented their use is generally for local (national) use, they are not designed to operate cross-border. eEpoch will break these barriers of trust and geographic limitations by realising and demonstrating the eESC a pan-European approach to an interoperable IAS infrastructure.

eEpoch is essential for the implementation of trusted interoperable e-government and e-administration services in Europe.

It specifically addresses the eEurope Action lines

1c - A cheaper, faster and secure Internet / Secure networks and smart cards

3b - Stimulate the use of the Internet / Government online: electronic access to public services

c. Why and how is eEpoch a cross-industry and international initiative?

Realisation / validation / evaluation of an international interoperable Electronic Signature / Digital ID solution must be organised, coordinated and supported at European level and involve the major stakeholders in the business chain. It makes no sense to carry out the initiative solely

in a single country or with inadequate representation. Therefore the approach adopted by eEpoch recognises and builds upon the fact that several members states have already started implementing or are currently investigating implementation of related solutions. Six of these countries are directly participating in eEpoch. While other countries and organizations are not directly named participants, 14 member and candidate member states are interested and are concerned to accomplish the same goals. These other member states are untied in the so called Porvoo group under the lead of the Chair of Trailblaizer 1, the Finnisch populations register and with the full and personal support of the eESC Chair. The Porvoo group and other interested sites, countries and organizations are engaged through the ESG – "eEpoch Supporters Group" and are specifically targeted in the dissemination activities.

eEpoch therefore federates representatives from practically all of EU member states and collaborates via ESG with other players involved in related initiatives in other area's.. In this way, the outlook for more extensive subsequent wide-area roll outs of the piloted and additional services is much increased. In summary

- The efforts required to implement interoperability impact on all segments of the smart card business chain. However, its benefits are not that evenly spread amongst all stakeholders. Sometimes local or at best national scheme requirements can diffuse realization of a European dimension and reduce attendant benefits for the European citizen.
- The interoperability efforts need to be borne to some extent at the European and international level. If there is no strong support at European level, local implementations will by definition not focus on interoperability. The participation of Israel, the significant role and contribution of eJapan to the concepts and their realization (via the eESC Common Specifications) and the role of ESG brings additional essential dimensions.

d. Would fewer sites be sufficient?

eEpoch composition takes into account the fact that various Smart Card applications are already beginning to be deployed locally and regionally and that local requirements, constraints and choices are different from one country to another. This variety is an inherent characteristic of the independence and sovereignty of national member states. The number of sites committing to eEpoch interoperability and participating in the eEpoch User Group is a measure for eEpoch acceptance and deployment potential. The number of sites involved must allow to :

- show that the commitment of member states to adopt some common basis is extensive
- ensure that the different local requirements and constraints are identified and taken into account and hence ensure that eEpoch is viable in wide range of local configurations and for all major types of stakeholders (e.g. Ministry of Interior in some cases, Police in another, Social Security in others, etc.)
- involve initiatives that have already started locally and which without eEpoch run the risk of developing and implementing incompatible solutions

e. What is the contribution to EU/EFTA Industrial Policies?

The industrial policy of EU/EFTA aims at creating a knowledge-based society with large and small-to-medium enterprises operating in markets open to international competition in an era of rapidly changing business models.

eEpoch is therefore directly building a desired strategic European competency. Its approach engages all parties and generates an environment of cooperation (always at a pre-competitive stage) in which there can be agreement on common standards, guidelines and best practices to meet the essential citizen-centric and business effective requirements for interoperable implementation of smart cards. In this way the largest market is made possible – inside and outside Europe – within and across a wide range of different application areas.

The guidelines / recommendations elaborated and provided by eEpoch will take into account the specific constraints of the members states, other participating countries (e.g. Israel) and via the ESG participating candidate member countries. Representatives of these countries and where relevant other jurisdictions can participate and contribute both informally and where suited in a more structured manner via the in the ESG process.

f. What is the contribution to European Standardization and vice versa

eEpoch is a short term project committed to building on standards where possible and to contributing its work to the standards organisations to help meet the needs of Smart Card Constituency. eEpoch adopts the standardization strategy of eESC and in particular the deliverables of the EESSI initiative including its Area K. Where possible (e.g. subject to work plans of the standards organizations) its results will be submitted to relevant standardization activities underway within both CEN and ETSI. Also, based on the eEpoch developments and deliverables new initiatives may be commenced to progress them via the formal standards organisations. The net contributions to European standardization and the benefits derived by eEpoch from standardization are many:

- eEpoch will demonstrate that smart cards provide an effective mainstream IAS infrastructure for e-Society applications by implementing and elaborating on the eESC Common Specifications. Through this practical manifestation eEpoch will help promote their adoption and management within the formal standardization processes as an essential ingredient and pre-condition for mature secure network systems and e-Society infrastructure.
- eEpoch will contribute to and strengthen the standardization actions carried out in eESC by offering the practical proof of validity and feasibility . It will also provide guidelines and recommended best practices for successful holistic deployments.

g. How can you assure wide deployment after the pilots (i.e the real return on the investment)?

eEpoch provides for a generalized European roll-out of an interoperable IAS solution in three steps:

- pilot project sites in a number of EU-member states and in Israel
- application of the minimal framework at each site to ensure tested and operational pan-European IAS interoperability and common IAS interfaces
- an iterative process integrating the work of steps 1 and 2, which develops a knowledge base of practical experience and guidelines for deployment of national roll-outs in the EU member states and other countries associated to this programme. This phase will be the combined responsibility of the participating sites and partners.

eEpoch will provide a viable and sound business framework, based on the Global Interoperability Framework (GIF) established as part of the eESC Common Specifications. The knowledge base will include information on the requirements and conditions for a practical implementation of interoperable smart card based IAS infrastructure, the implementation and operational related costs and thereby encourage full informed level of support by the member states. Based on this knowledge a pan-European deployment involving a large number of countries can then be started with a much high(er) level of success chances, based on sound knowledge on technical, administrative, legal, business, political, etc. issues and requirements and expectation from card issuers and end-users.

6. Contribution to Community social objectives

In the midst of technical discussions on implementation of the Information Society it can be easy to forget that it is really all about a key social objective, namely improving the quality of life for all citizens. No single initiative can cover this broad objective in every detail. However there are many aspects of the quality of life that will be addressed and at least partially resolved by eEpoch. These include:

- Improved personal data protection and security
- Solution for improved citizen to government relations designed for all
- User interface aspects with in particular acknowledgment of requirements for people with special needs (young people, elderly, disabled, inexperienced users, etc.)
- Support of citizen's mobility and modernization of social security administration
- Multi-application support and impact

Work package 1 and Work package 2 establish the necessary working groups of experts in the various phases to cover these aspects.

Improved personal data protection and security

eEpoch will take into account the need for high security and data protection. The targeted smart card systems will provide the assurances required by citizen and by operators/service providers. Each card can be a personal key to the services enabled by the information systems and in conjunction where required with biometrics provide a level of security which is much better than a simple login-password. They guarantee that the link between the consumer and the network is valid and secure.

There are clear and extensive data protection implications, and requirements to be met, for successful e-government. When supported by the necessary policies and legislation smart card technology can provide the means to protect the privacy and confidentiality of citizens securely in all kinds of commerce and legal contracts. Personal data including secret keys for putting signatures, is securely stored on the card and much better protected than files on a computer with an unsecured operating system. Smart cards are therefore a personalised solution which helps to realise best benefits and minimum risks associated with the use of the required network resources.

A further level of confidence is enabled by ensuring that the citizen can read and adjust, subject to policies in specific instances, the data stored on the smart card. This is possible today with a card reader and secure data entry device. In the future it may be possible via a display and input facilities integrated on the card itself. In this way the user carries with him and manages his personal electronic file as part of his physical world. The risk of data exposure resulting from the loss or theft of cards are effectively reduced and even eliminated using biometric techniques to limit and control access. eEpoch will through its implementation and action research focus also provide inputs to the realization of standards in this challenging field of applying biometrics.

Solution for improved citizen to government relations designed for all

The principle of Design-for-All is embodied in the European Union's priorities in social policy. It is intended to counteract social exclusion and improve government-to-citizen relations by facilitating easier and increased access to goods and services. This approach includes a strong momentum to improve service access for an increasingly ageing population, and includes measures to ensure full access for people with disabilities.

eEpoch will utilise the ability and proven capability of smart cards to establish and demonstrate a common interface for identification, authentication and electronic signature which can then be used in a wide range of e-government applications within the European Union. The ease and confidence with which such interfaces can be mastered and used within real applications are expected to help

lead to the intended widespread deployment, adoption and usage of card based technologies to conduct transactions and to avail of personalised e-government services via the information society.

eEpoch will take into account specific end-user requirements concerning accessibility of smart-card based e-government, e-administration and e-commerce applications. Experts in this field especially those from for example eEurope Smart Card Charter Trailblazer 8 “User Requirements” will be able to participate in the process to make sure that the recommendations and guidelines prepared by eESC as used in eEpoch takes these needs into account and promote an approach inclusive for all citizen.

The result will be better provision of public information services and improved electronic government “business events” such as accessing one’s personal data in government databases, providing taxation information to public administration bodies, establishing eligibility or paying taxes or acquiring vehicle licence plates etc takes place electronically.

Support of Citizen’s mobility and Modernization of Social Security Administration

Another cornerstone of European Social policy is modernisation of the social security systems and exchange of information between Member States.

Smart cards can increase the efficiency and accountability of public administrations. Social security transactions can be executed more quickly, more privately and with a better protection against fraud. (one of the Italian sites is a clear example of this). Smart card based IDs are very difficult to counterfeit and with the addition of biometric identifications systems and online networking accurate up to date identification and information on eligibility for services is guaranteed.

Smart cards and electronic signature PKI systems for professional use will enable improved collaborative working within and between organizations in public administration. Use of professional cards as ID/authorization and non-repudiation tokens for electronic commerce (on-line merchant) systems will enable goods and services provided by and to public administrations to be traded electronically

The eEpoch focus on interoperability is addressing each of these opportunities and helps to ensure that intra-community movement will not disrupt the services available to citizens. Exchange of information between the participating members and its dissemination to others are an integral part of the project. Improvements established in one of the pilot sites will be shared with the other sites and ESG-partners and be included in the eEpoch dissemination activities.

Multi-application support

Smart cards offer two generic functionalities: secure access, and stored value. These can be combined and enhanced in many ways. As a result cards are being deployed in an ever growing variety of uses and applications. Successful deployment in one sector and set of applications such as e-government inevitably leads to use in additional key applications. With the advances in chip technology and increased storage and processing capability on individual smart cards it is possible without too much difficulty to share the real estate of the chip and run several independent applications each with different characteristics. In this way smart cards enable an ever expanding envelope of services – any or all of which can relate directly to improving services which meet the community social objectives. For example, they enable a reduction in the number of documents and cards that the citizen must carry with him, especially when travelling. This is again easier living, i.e. quality of life.

More importantly, multi-application is seen by many as the true future of the smart card. Multi-application and multi-functionality also improve considerably the business case. Combining several applications on one card can reduce the payback time and make it more feasible to implement services electronically. Such cards holding identification applications and security access can be used in countless applications such as healthcare, integrated payment and loyalty applications.

Those applications will be managed by distinct organizations, which will have the ability to dynamically update their applications.

Based on these considerations, it is generally expected that the smart card will be used first in multi-function mode and subsequently in multi-applications. eEpoch directly encompasses multi-function e-government applications. It is being designed to enable and support downloading of applets to enable additional applications to be downloaded post issuance of the card. While it is not the purpose of eEpoch to test these multiple applications (i.e the integration of back-end systems at the application level is out of scope), the adoption and use by eEpoch of the Global Interoperability Framework architecture developed by eEurope Smart Card Charter Community in relation with Trailblazer 7 “Multi-applications” and with NICSS, Japan will ensure that the systems implemented are hospitable to this mode of operation without major adjustments in the future.

The result will be that the core applications implemented and proven in eEpoch which directly support social objectives of European Policy will simultaneously prepare the ground for effective and early implementations of other smart cards activities which in turn can deliver on other social objectives such as increased employment and flexibility of working. eEpoch will in this context deliver a critical mass of citizens who are smart card enabled. The second pillar comprising a level of transactions in any given application area will be supported and enabled to be reached more quickly by being able to build on this basis.

7. Removing obstacles to interoperable implementations

Extensive financial and expert resources are being invested in development and deployment of smart card implementations in Europe, Japan and in US. eEpoch is focusing specifically on the need for interoperability and will otherwise build on existing standards, specifications and implementations where possible. The simple graphic Figure 8.1 outlines the areas where eEpoch will be providing specific technical interoperability value add.

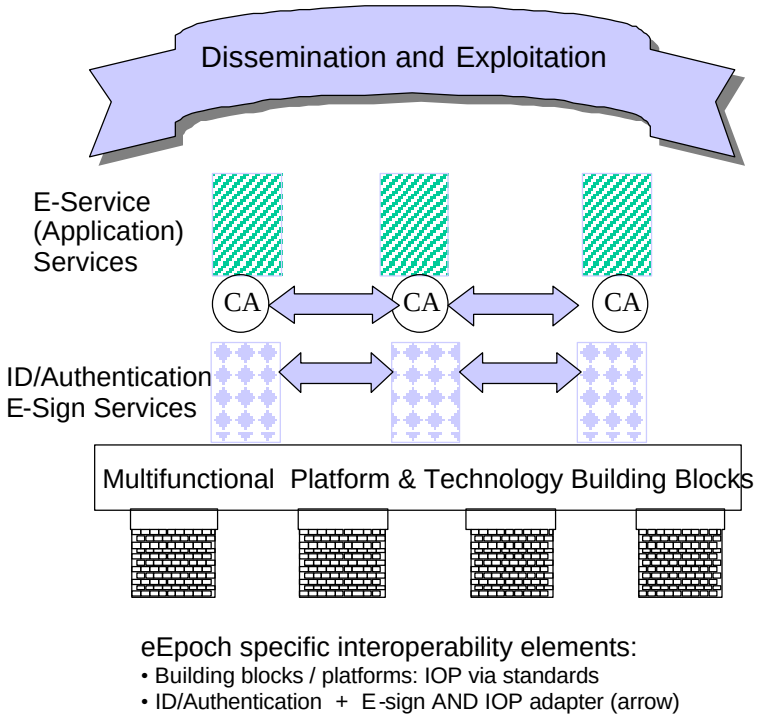

Figure 8.1 eEpoch Interoperability

In eEpoch the pilots will model their solutions according to the following general 'value chain':

1. Technology building blocks and multifunctional platforms
2. ID / authentication and E-sign services (IAS)
3. E-services (Application services)

The aimed interoperability concerns IAS, and is concentrated on the following issues:

- All accepted building blocks and multifunctional platforms are interoperable via standards. The standards concern only the building blocks involved in ID / authentication and E-sign.
- Every Id / authentication and /or E-sign can (technically) be used to access all E-services of the pilot. The mechanism to connect Id/ authentication and /or E-sign with any E-service in a given pilot-environment will be defined in guidelines for building or modification of the building blocks. The mechanism will be based on existing standards and recommendation from the eEurope Smart Card Charter.
- The interoperability (IOP) between the communities (pilots) is organized by the concept of "IOP-adapter". The IOP-adapter fulfills where required, transformation of technical parameters between the building blocks.

- Ditto for the IOP between communities as far as PKI is involved. To realize this the pilots have to follow strictly the standards for common data in the PKI-processes between the CA's.

The interoperability smart card and infrastructure for IAS gives a general access to E-services. The interoperability of the E-services as such is to be arranged by 'the market'. The mechanism to connect the e-service to the interoperable IAS (as mentioned above) assumes that the e-service is WEB-enabled, or at least WEB emulating.

It is aimed in eEpoch not only to proof interoperability, but also to support the exploitation of interoperable IAS. This means that a program will be carried out to research the exploitation in the business cases, and to disseminate the results.

The roll out of smart cards in Japan for example envisages 10s of millions of contactless cards initially, to be extended to the full Resident master ledger so that all citizens have access via smart cards as the primary interface to e-Government services. Initial users of this card will be able to pay service charges electronically and avail of regional and other promotions. Similarly European industry and EU commission policy makers understand the potential and have established a major initiative eESC to realize the benefits. The objective is maintain a leadership position for European industry and ensure improved services to European citizens, and increased market potential and business creation for the smart cards industry and services suppliers (Certification Authorities, etc).

By being pro-active in achieving pan-European consensus on electronic signature and ID implementations, etc. eEpoch will help ensure that the high re-engineering costs that would subsequently be required to realize essential interoperability for European services is avoided. Its value is built on ensuring and increasing compatible implementations of common European services. It specifically aims to encourage and ensure inter-sector cooperation and harmonisation of smart card based infrastructures in order to ensure interoperability across geographies and sectors.

7.1 Information dissemination

Dissemination of eEpoch results is a vital issue. The eEpoch project will rely on a specific WP and on the information dissemination strategy and channels set-up in the eEurope Smart Cards initiative.

The specific additional effort provided in eEpoch is the packaging of the main project results in a newsletter and other initiatives outlined in the Communications Strategy Plan to be carried out in WP2 which that facilitate multiplier dissemination in electronic form, paper and as presentations in conferences or seminars held centrally or locally.

Furthermore eEpoch will prepare an invited seminar targeting representatives of EU member states to present the eEpoch results and promote their adoption by the member states. This will be held in conjunction with the final eEpoch Conference.

8. Workplan

8.1 General description

8.1.1 Introduction

The core objective of the eEpoch project is to create a pan-European interoperability demonstrator for the use of smart cards for IAS (Identification, Authentication and electronic Signature), based on pilot sites in different countries and to accumulate the interoperability experiences and expertise of the pilot sites, in order to prepare mass deployment of smart cards for IAS in e-government and e-business applications.

The workplan is based on an incremental process of research and transfer of knowledge between and among the pilot sites, during their preparation, building and piloting with e-government and e-business applications in the various pilot sites.

To support the process of knowledge research and transfer five work packages are defined, in which the pilots actively participate.

The workplan is structured in six workpackages that will be live along project life cycle:

- Work-package 1 (WP1) : Knowledge Research & Knowledge Base
- Work-package 2 (WP2) : Knowledge Transfer, Dissemination & Exploitation
- Work-package 3 (WP3) : Definition of IOP Testing and Certification
- Work-package 4 (WP4) : IOP Demonstrations
- Work-package 5 (WP5) : Evaluation and Assessment
- Work-package 6 (WP6) : Project Management

WP1 to WP5 inclusive support and represent the main workload during the project, and are deployed in full co-operation and with active participation of the pilot sites, while WP6 is a smaller but necessary work-package accounting for the Project Management tasks. The overall objectives of Work Packages 1-5 will be to state, establish and make all support available for the pilots, primarily via a sequence of conferences, (eEpoch Conference), secondarily via the web (using smart card and IAS) and thirdly via a network of “eEpoch informed” action research and other consultants hired by and under the full autonomy of the pilot sites. A core team of Action Researchers will be managed and used to assist the sites in maximising the learning opportunities and generalizations that can be derived from the interoperability demonstrations and interactions. It has been allocated specific budget to the Pilot Sites in order to enable them the subcontracting of external organisations with experience in Action Research practices.

Each pilot site is responsible for the Public Relations, dissemination and mass deployment in its own country or functional area. Work package 6: project management will be responsible for common Public Relations, dissemination and institutionalisation of the evolving body of common knowledge.

8.1.2 Pilot sites

The pilot site requirements, specification and inputs for the knowledge research and knowledge transfer needed to identify the business success drivers and to support the demonstrations of interoperability (in line with the established models) will be mostly covered by the following agreements and processes:

- the models for identification, authentication and electronic signature which will be used as the nucleus for interoperable e-government or e-commerce applications

- the knowledge base with models, specifications, guidelines, research schemes, benchmarks, communication and all other information that supports the eEpoch pilots.
- the testing and quality control, needed for interoperability compliance certification
- the operational interoperability support, focussed on the modification of existing systems and their models, and the implementation and maintenance of all required 'supra-pilot' services e.g. the maintenance of "interoperability adapters"

Work packages 1 and 2 deliver the main knowledge components. Work package 3 delivers the main tool to enforce the interoperability between the pilot sites, and Work package 4 will deliver the supra-site service required for efficiency in interoperable IAS. Finally, WP5 will assess and evaluate the results at each pilot site and will provide global and cross-site evaluation results of eEpoch.

The pilot sites accumulate their combined experiences by using the same models to organise their mutual interoperability on IAS. It is the purpose of the eEpoch project to cover very different applications (in e-government with or without connections to e-business), as long as the nucleus on IAS is interoperable as specified and committed to in the framework.

While each pilot site will have autonomy in defining its own service or application area, all sites will have to:

- Develop and apply the nucleus application for identification, authentication, and electronic signature, according to the architecture and procedures of the GIF-framework. The models for this allow each pilot site to choose its own technology and applications, and modify them to the limited extent required for IOP on IAS.
- Organise interoperability to and from other pilot sites, for one or more of the following situations:
  - Allow users to access their own application(s) via the infrastructure of other pilot sites
  - Allow to visiting users (from other pilot sites) to access their application(s) in the home pilot via the infrastructure of the pilot site that they use as a guest
  - Being prepared to give access to the application(s) in your pilot site for (registered) users of other pilot sites
  - Being prepared to make foreign applications accessible for the own users
- Participate in the incremental knowledge transfer process as presented below
- Participate in the 'action research' program'.

The diversity of applications will assist the research for success factors via comparison of best practices and benchmarks. The common IAS and the interoperability will lower the financial, technical and organisational entry level of new applications. The learning curve will be boosted by the common nucleus over all pilots, in all the different applications, and also by the action research program, that is explicitly oriented to determine the success factors.

No specific mention to technology providers appear in the description of the pilots, because in some cases they will chosen in tenders. But, it is important to recognize that most of the leading technological smart-cards companies are represented in the pilots this way or another. These companies are equipped with the necessary know-how to implement the demonstrators according the given specifications. Most of the demonstrators are also related with other local initiatives in this area of application that have involved technology providers.

The Tables below give a description of the type of applications that were provided and used for interoperability demonstration purposes at each site when the eEpoch Contract started the negotiation process. A review of their status will be done at the beginning of the project.

8.1.2.1 Issy-Les-Moulineaux Pilot

Aims Facilitate secure public online administrative applications and relations between citizen and city government and services through the use of the Citizen Electronic Card (CEC) which is to become a Citizen European Card. Specific aims include:

- participate in the definition of a common policy and interoperable framework architecture for secure access to e-government services in Europe through the proposed cross border pilot
- test user satisfaction with and confidence in the full process in terms of privacy, data protection, confidentiality, ease of use, and quality of public services.

Scope The City Council of Issy-les-Moulineaux will deploy 30 000 citizen electronic cards, replace the existing 35 terminals and install an additional 35 terminals. During the project it is also plannned to test 1000 contactless cards which can connect the client work-station to the city servers.

At a later stage, with agreement with the regional public transport authorities, the Citizen Card will also be used to gain access to the metro and buses. In each transaction the user will be fully authenticated and analysis will be conducted on where and how these citizens use remote and/or local transactions for which applications.

Starting base Issy-les-Moulineaux (55000 inhabitants) near Paris is a centre for Communication and advanced Technologies and boasts a culture of innovation supported b y a high level of awareness and communication programmes. 5000 cards and 35 terminals have been distributed and are in regular use in the town. Its Internet site has won several awards for its interactivity. All schools are connected to the Internet. The City Council has purchased and is converting the historic Issy Fort dating from the19th century, into a Digital City which will be a first-rate internationally recognised expertise and demonstration centre for New Technologies and the Information Society of 21st Century.

Applications Citizens equipped with any of these smart cards will be able to request and fill forms, enter into dialogue with the city administration, take part in local consultations, pay parking fees and use the card to access all city services, in particular sports and cultural facilities through private Internet access and through public terminals (provided by the city in the schools, certain public buildings, and in cyber-cafes).

The application of smart cards "Digital City of the ISSY Fort" will help meet the key objective of placing Information Technologies at the service of the Citizen and creating an innovative environment linked to the rest of the world. This new district of 1000 dwellings is being equipped with the latest high-tech devices (such as high-speed multimedia intranet, broadband access to the Internet, integrated smart home/domotics i.e remote control of domestic alarms, electric gates/doors, garden watering and other appliances). An ambitious environmental programme will also be implemented, which includes providing its own energy needs and recycling trash and used waters.

Within 5 years 30000 citizen municipal cards should be distributed, giving access to all town services, and to public transportation

Partners SEM ISSY Media – Pilot leader

8.1.2.2 Donegal Pilot

Aims Pilot a secure Public Service Broker environment using smart cards and PKI and demonstrate its viability for a national implementation. In particular the pilot will:

- assess and demonstrate the feasibility of deploying a public service smart card as the citizens key to accessing public services through the Public Services Broker
- demonstrate the feasibility of smart card to access public services provided by Broker and non Broker based agencies;
- assess the feasibility of using the public services smart card in-house by public servants operating the broker;
- assess the feasibility of implementing biometric technology as an aid to authentication for customers and public servants using the Public Service Broker

Scope The scope of the first element of the broker pilot will be the establishment within the Broker framework of an infrastructure to support highest level personal identity and authentication and strong digital certification using smart cards and examination of its viability prior to scaling up into a national implementation. The pilot will include:

- the deployment of a smart card infrastructure including approximately 100 readers and biometric support technology
- Issuance of approximately 1000 smart cards
- Development of a PKI environment

Location of the pilot will be in a mixed urban rural region in Donegal in the North West of Ireland. Reach Agency in cooperation with key public service agencies (Social Welfare, Health Authority, Local Authority and Job Placement service) will pilot the Broker in this selected geographic area beginning Q1 2002.

Starting base Ireland does not have a national identity document (and there are no plans at national level to introduce a compulsory identity document) or a smart card infrastructure. Irish citizens are issued with a number of public cards at present:

- The Social Services card issued at age 16, contains the persons Personal Public Service Number and is an ISO banking standard magnetic stripe plastic card but without PIN or pass-phrase authentication features.
- The Medical Card and Drugs refund card is issued to members of the population who qualify on grounds of income or prescription drug payment thresholds. This is also a magnetic stripe card without PIN or pass-phrase authentication.

The advent of the Reach sponsored Public Services Broker will bring about a requirement for users of public services to authenticate themselves to all state agencies using the same branded public services card containing their unique personal public services number.

Applications Candidate services for pilot via the Broker include planning and housing applications, payment of child benefits, medical schemes (free and subsidised) etc. The following applications are considered

- Registration on the Public Services Broker
- Public Service Staff Registration and authentication
- Secure Personal Information Vault including certified public information capture
- Allocation and distribution of digital certificate
- Child Benefit application
- Public Housing application
- Passport Application
- Motor Vehicle Bundled services including, importation of vehicles into Ireland from other countries, payment of vehicle registration tax, payment of annual road tax, application for Drivers licence, Application for Drivers test,
- Application for medical benefits

Partners Reach Agency Pilot leader

Other organizations involved in the pilot:

Sponsor: Ministry of Social Welfare

Subcontractors (from published open call in the Official Journal)

8.1.2.3 Israel Pilot

Aims The municipality of Jerusalem serves a large population, and faces a lot of challenges to the efficiency of its services. Thus, it could gain a lot from improving its ability so serve residents by the Internet, via PKI. The main long term goal therefore is to improve local and central government ability to serve residents and visitors using the Internet via a common architecture for a PKI scheme implemented in combination with a national ID smart card enveloping and testing “Public Identity”applications. To this end the site will develop strategic material to be used in the subsequent national roll-outs including;

- a cost-benefit analysis approach, for deciding which applications are most suited to be PKI-enabled.
- a systematic approach towards complementary activities, which are necessary for PKI implementation, namely: Marketing the PKI idea to the public; educating senior public officials on the consequences of implementing PKI.

Scope The first pilot will be situated in Jerusalem and two other cities (Tel Aviv and Eilat) and will involve a total of 14,000 cards and 1,400 readers. It includes several government offices and agencies that offer services to citizens and visitors to Israel. The local pilot in each city will be the responsibility of each municipality. "Tehila” Project (which is the Israeli Government Portal) will be responsible for the national level operation, coordinated by the government PKI (“TAMAR”) Steering Committee.

The scope includes G2G and G2C applications, coordination between central government and local government, and some tourist and travel applications.

Jerusalem is a world famous city, which attracts many visitors from Europe (plus from other parts of the world). The infrastructure will therefore be readily used to test and prove interoperability for some specific services across country borders. Some parts of the pilot may be, if deemed necessary,

activated in the cities of Eilat and Tel-Aviv (tourist and travel applications).

Starting base A PKI Government Steering Committee (GSC) headed by the Ministry of Finance (MOF) supports eEpoch and is responsible for the design and implementation of the Israel eEpoch pilot. More than 15 Ministries and government agencies are involved in this effort. Of these the Ministry of the Interior which is responsible for and installed a new computerized Population Registry in 1997 is the RA in the PKI scheme.

At present Israel has a conventional paper-laminated ID card which will be replaced by a smart card. While there are currently no smart cards used on the national level there are some small scale smart cards operations in the government and some larger scale installations in municipal parking applications in different cities. For the pilot phase, a special card will be issued.

Applications An extensive range of G2C, G2G and G2B applications will be implemented. . Included will be citizen access to electronic forms, electronic signature and transfer of electronic certificates which enable school registration and payment for education fees, provide details for census, passport applications/renewals etc. G2G secure e-mail and workflow applications, in a PKI-enabled environment. G2B payment for government services and commodities, and later for government taxes, through secured and digitally signed messages.

The Ministry of Science, Culture and Sports will provide Services for the handicapped, the young, and for elderly card holders, as well as parking readers for local facilities.

The Ministry of Foreign Affairs will enable reading cards from other participating countries to provide accessible services for tourists and visitors to Israel. These Travel & Tourism applications will for example enable travelers from different countries that have or will have national ID smart cards, to use them in special kiosks, in hotels or in Tourist Information Centers in countries like – Finland, Sweden, Italy and The Netherlands. Those tourists could use the appropriate smart card readers to access services available to them in their home country, which could be useful also when staying in a foreign country. The possibility of a hotel-check–in function whereby a smart card reader could automatically acquire traveler details and the cardholder in turn could use the electronic signature in their ID-smart card will also be investigated.

Partners Ministry of Finance, Israel – Pilot leader

Other organizations involved in the pilot:

Sponsors: Ministry of the Interior; Jerusalem Municipality (JM); Other ministries: applications relating to Labor and Welfare, National Insurance Agency, Education and the Health Ministry.

8.1.2.4 Bologna Pilot

Aims Demonstrate the interoperability of a number of applications related to the digital signature and strong authentication functionalities implemented by means of the smart card based national CIE/CNS Card (Electronic Identity Card / National Multiservice Card) .

In particular verify the relationship between the ID Card and the Electronic signature compliant with the Italian law, both in terms of functional requirements and of technical integrability (generation and

storage of keys inside the smart card microprocessor).

Scope

The eEpoch pilot will take place in the city of Bologna. 1000 cards will be issued during the first year (phase-I) and about 10000 in the following year (phase-II). Participation in the pilot will be on a volunteer basis. Volunteer users will be sought from among citizens, in particular among university professors and students, and in the area of healthcare from among doctors, technicians and general medical staff.

Since the pilot applications are mainly related to the exchange of official documents between the Municipality and professionals, the latter will constitute an important base of users.

The specifications agreed for the Italian Electronic Identity Card, are based on smart card and optical technology. However, a provisional version of this card will be available for pilots, following a recent initiative by the Ministry for Innovation and Technology and the Ministry of the Interior. This card (CNS = Nationals Multiservice Card) is envisaged primarily for remote identification purposes, but not for physical identification (there will not be any photograph nor optical support). It can also support other services, such as Healthcare services, Electronic signature and e-Payment.

Starting base

Bologna is the seventh largest city in Italy and sixth in economic importance. It is one of the national pilot sites of the new Electronic Identity Card. For this reason, Bologna will start a radical transformation of its offices and procedures, setting up a centre for delivering the Electronic ID Cards and the Electronic signature to citizens and upgrading their services to the use of these cards.

Bologna has previously pioneered many online services such as:

- the first Italian civic network (Iperbole, 1995)
- a personal magnetic card for healthcare services, which has been in operation for more than 10 years;
- a network of self-service kiosks (DIMMI), that allow payment for a series of services, taxes and duties related to life in the city and the automatic issuing of personal detail certificates. Access is possible by means of a personal magnetic ID card, while payment requires the ATM debit card (Bancomat).
- the first city to run a pilot experience in electronic signature in co-ordination with AIPA (the Italian Authority for ICT in the Public Administration). So far, more than 700 citizens (especially professionals) have used these digital certificates, in order to get access to restricted documents, procedures, maps, etc.

Recently, two important local pilots have started: an important faculty in the University of Bologna introduced smart cards with electronic signatures, involving administrative documents, while the three main local hospitals are testing a solution involving digital signature of medical documents.

Applications

The Electronic IDentity Card will support a first level authentication of the cardholder via a PIN code. The card will also support a “strong authentication” level, which is needed for those applications that require a higher level of security. Following functionality will be supported:

- Electronic signature compliant with AIPA specifications
- issuing and payment of personal certificates

- payment of taxes, duties and services related to the city
- access to reserved documents
  - permit requests, new business start-up procedures, and other services
  - unified access point for enterprises (sportello unico per le imprese)
  - public library services
  - applications of electronic signature for medical staff
  - social care services
  - university services

Cross pilot operations of these services depend on the other applications at the other pilot sides. There is a willingness to adapt applications so that they can interoperate in one or more other pilot sites.

Partners Comune di Bologna (Municipality of Bologna) – Pilot leader

Laboratori F. G. Marconi (Consultancy)

Other organizations involved in the pilot:

Sponsors: University of Bologna

Subcontractors: Certification Authority, Technical partners, application developers, and local healthcare providers

8.1.2.5 Rome Pilot

Aims Demonstrate the viability of a IOP smart card Electronic Signature infrastructure to provide access to INPS on-line services as listed below. These services are already available on the INPS web site for registered users (PIN code). Test the above services accessibility via the interoperable smart card which will be the eEpoch project result. Test the interoperability with applications and card reader devices provided by other e-government institutions

Scope The pilot has to support the demonstration of interoperability in line with the project established models. It will implement a set of applications to access services which need, for their particular nature, of identification, authorisation and electronic signature.

Starting base INPS (Istituto Nazionale della Previdenza Sociale) is the Italian national institution which provides pensions and other benefits to employed and self-employed workers (about 20 million benefits paid each month). INPS is committed to provide a number of on-line services to both citizens and cooperating institutions. Personal identification by means of smart cards and PKI is a key aspect related to those services. The on-line services which are delivered on-line, using a PIN code where necessary, include:

- Statement of personal contributory record
- Provisional pension calculation
- Pension claim status§ Other claims workflow status
- Filling and submission of e-forms (voluntary contribution, employee declaration, claim for salary integration, claim for military service reunification, etc.)

POSTECOM has been a Certification Authority, according to Italian regulation, since April 2000. The company provides infrastructures and services related

to registration, identification, production and management of digital certificates. Currently, Postecom is starting to sell smart cards, readers and software equipments through its post offices in Italy. Postecom cooperates with INPS in delivering services for secure payments through Internet.Finsiel, among the largest IT companies in Italy, has been supporting INPS and other major government institutions in designing and implementing on line services based on Internet technology. In the recent years, Finsiel has been involved in defining and implementing the national ID Card, based on smart cards. Finsiel had also a relevant role in the Netlink project aiming at the usage of interoperable Health Cards. The viability of the solution has been demonstrated through cross-border pilot sites (Italy, Germany, France, Quebec).

Applications Additional on-line services are likely to be delivered require secure identification by means of PKI and smart cards and secure on-line payments. Such services include:

- "Signed" and secure e-mail
- Payment of contributions (volunteers, home workers, etc) by credit card and electronic signature
- Multilingual services

Cross pilot operations of these services depend on the other applications at the other pilot sides. There is willingness to adapt applications so that they can interoperate in one or more other pilot sites.

Partners INPS as Site Coordinator

FINSIEL, as integrator of on line services and Smart Card applications

POSTECOM, as technical partner providing the Smart Card platform and services related to digital certificates.

8.1.2.6 Spain Pilot (DGP)

Aims To ensure harmonization and interoperability with other developments within Europe in providing citizens with a smart card based Digital Identification Card containing a signed digital certificate. Specific aims include:

- test inter-European Public Identity, as part of TB1
- implement a hierarchical architecture for a national PKI
- use a multi-technology PKI to provide standard certificates generated with different technology Certification Authority.

Starting base The Ministry of Interior has operated a population registry data base for over 50 years and is the only group legally allowed to register and certify the identity of Spanish and foreign citizens. The Spanish Police Force Department, responsible within the Spanish Ministry of Interior for operational aspects of citizens identity has initiated a Digital Identity Project which will eventually replace the paper laminated ID card. The new card required to be held by all Spanish citizens is based on a smart card with a digital certificate inside. The digital signature will meet the Spanish Digital Signature Law (14/1999) and the European directive (1999/93/CE).

- a recent small pilot project has shown the viability of PKI and the

interoperability of different technological alternatives and a Certificate Practice Statement is now being developed.

- CA and RA: The RA will be available throughout the region in 500 police stations

Scope

The pilot will be located one town of 100.000 inhabitants. The pilot will comprise a percentage around the 2% of the inhabitants that is the estimation of the people that will renew its Identity Card during the period of the eEpoch demonstration. The registration procedure used for the National Identity Card will be adapted and integrated with the new requirements of the Public Identity Certificate. One of the 500 police Stations of Police General Directorate (DGP) will be installed with a single integrated registration application. Citizens will be issued with both the card and certificate within 10 minutes of requesting it.

The Ministry of Interior will not guarantee the Identity of any Public Services Provider, no Server Certificate will be issued. In this way certification market competence is expected to improve, resulting in increased quality and reduced costs.

Service Providers must guarantee the confidentiality of the electronic transaction, provide a way to demonstrate its Identity to the citizen and Non Repudiation of the destiny of the electronic transaction and time stamping if required.

Applications

- Participants will have the opportunity to access Spanish services using their electronic ID and to use their certificates to encrypt and/or sign, if allowed, to exchange information with participating Services Providers.
- Spanish citizens staying in other EU countries will only use their Public Identity Certificate to sign documents exchanged with the Services Providers.
- Using the Internet, the pilot project will provide a non repudiation service to the goverment centres, using signed electronic forms.
- the Smart Card based Public Identity Certificate will be included in the new National Identity Card
- Recognition of foreign electronic ID
- A Directory Service will contain the citizens certificate as well as the ARL's and CRL's, under high availibility conditions. Where the rate of access to the Directory justifies it, the directory will be replicated in several organizations
- Up to 5.000.000 cards are expected to be issued every year, beginning in January 2003. More than 5.000 readers will be placed in police stations and different government centers

Partners

Ministry of Interior and Police General Direction (Ministerio del Interior y la Dirección General de la Policía) – Pilot Leader

Other organizations involved in the pilot:

Sponsors: Ministry of Science and Technology (Ministerio de Ciencia y Tecnología); Ministry of Public Administrations (Ministerio de las Administraciones Públicas); Ministry of Work and Social Security & Valencia Community Government (Ministerio de Trabajo y Seguridad Social & Comunidad Autónoma de Valencia)

8.1.2.7 Newcastle Pilot

Aims

Newcastle City Council is the lead partner in the North East Regional Smartcard Consortium (NERSC), which has an aim of planning the development of a regional multi-function smartcard. The consortium consists of North East Local Authorities, Transport Operators and NEXUS who are working together to develop a strategy and governance framework for a regional smartcard that can be used for travel, to support local authority public services as well as other commercial applications.

NERSC is committed to the introduction and exploitation of a multi-function smartcard that is technically compatible and interoperable with other UK and EU smartcards.

Newcastle City Council is also leading a project to develop a broadband backbone into the region to support the NERSC objectives

Scope

The NERSC development plan aims to ultimately distribute approximately 3 million combi-cards (i.e. with both a contact and contactless interface) in the north-east of England. Newcastle City Council plans to distribute over 200,000 smartcards.

A processing centre will be established that controls the network of card readers (e.g. on public transport, council offices, kiosks, etc) and takes the data from the network and consolidates it onto a central processor. This processing centre will also act as a Clearing House, clearing payments between operators, and will maintain the card base - issuing, stopping and blacklisting cards. Information will also be collated and analysed to determine future smartcard usage.

Starting base

The UK Government has set ambitious targets for the modernisation of public services. Newcastle City Council has agreed to electronically enable 100% of transaction by 2004. Smartcards play an important role in assisting this target being met in that they can provide a vehicle for identification, signature, authentication and entitlement information, which can then be used to verify eligibility and provide services.

Newcastle has contributed towards the development of standards for smartcard interoperability through the DISTINCT project.

Correctly deployed, the Smartcard can also contribute to social inclusion, by meeting the lifestyle and cultural requirements of children and young people, older people, people with disabilities and people from a variety of ethnic backgrounds. The DISTINCT ID will be used to full affect to achieve this.

Newcastle City Council has initiated 5 smartcard pilot projects in schools and leisure facilities. During 2002, approximately 14,000 smartcards will have been deployed to citizens living in Newcastle. There will also be a minimum of 22 readers located in a number of centres. The first phase of the major regional scheme will commence in March/April 2003 and will begin the phased distribution of smartcards to citizens. It is planned to distribute 3,000,000 smartcards in the North East Region with 200,000 of those recipients being citizens of Newcastle.

Applications

The regional card will give access to a number of application areas including: -

- Concessionary travel and prepaid ticketing schemes
- Authenticated, secure access to e-government applications such as the government gateway via PC's, kiosks, digital tv, etc
- Schools/student management

- Library enrolment, borrowing, reservations, payment
- Leisure centre booking
- Council payments
- Electronic purse
- Electronic voting
- Loyalty schemes
- Integrated access to other services such as Health and Banking

It is also possible that the NERSC infrastructure could be used by other government agencies, for example the Department of Works and Pensions for citizen applications such as payment of state benefits

Tasks Common tasks (see introduction to this Section) plus *inter alia* the following:

Define appropriate citizen identifier

Marketing the smartcard to the North East Region

Expected outcome Smartcards to achieve critical mass by 2005 with approximately 3 million distributed in the north east of England, of which over 200,000 will be used by Newcastle's citizens. Smartcards will provide access to a wide range of services including public transport and citizen services.

Timing NERSC pilots will be complete by March 2002. First phase of the major project to commenced in March 2003.

Partners Newcastle City Council – Pilot Leader

Other organizations involved in the pilot:

Sponsors: North East Regional Smartcard Consortium; NEXUS

Current Status – Smart card pilot programme

The below table is a summary of the applications currently being implemented in the north east of England. The table also contains information on the number of smart cards being deployed in the pilot programme.

Pilot Area	No of smart cards deployed	Smartcard Application								Completion date
		School Management System	School Library System	School Rewards System	Concessio-nary Transport System	School Cashless Meals System	Leisure Centres System	Community Participation for Local People System	Positive Lifestyle Rewards System	
Newcastle	3000	Y	Y	Y	Y	Y	Y			May-02
Gateshead	500	Y	Y	Y	Y	Y	Y			May-02
North Tyneside	1500	Y	Y	Y	Y	Y	Y			May-02
South Tyneside	1500	Y	Y	Y	Y	Y	Y			May-02
Derwentside	3500			Y			Y	Y	Y	September-02
Tees Valley	5500			Y			Y	Y	Y	September-02
Northumberland	1500	Y	Y	Y		Y			Y	September-02

Key Milestones

The below table provides a list of milestones relating to both the eEpoch project and the development of the North East Regional Smart card.

Milestone	Target Completion Date
North East Regional Smart Card Consortium (NERSC) National Launch Event	July 2002
Issue OJEC Notice for NERSC (Regional Proposal – 3,000,000 smart cards)	September 2002
Evaluate smart card identification, authentication and electronic signature (IAS) options	December 2002
Evaluate Pilot Projects	December 2002
Receive supplier proposals	December 2002
NERSC contract drafted	January 2003
Identify applications that require IAS	February 2003
Decision on IAS option	March 2003
Complete user requirements for additional applications requiring IAS	April 2003
NERSC contract awarded	May 2003
Amend existing applications to incorporate IAS	June 2003
Agree option to (i) upgrade card management system (ii) migrate data to new card management system	June 2003
Develop new “IAS” applications	July 2003
Commence programme implementation	August 2003
NERSC Services operational	January 2004

8.1.3 Workplan rationale

The structure of the workplan has been organised to guarantee the dynamics of the work and to provide the necessary flexibility to enable the different pilots to work in the same framework, but keeping their own characteristics.

The relationship among all the workpackages will be constant along project life-cycle. WP1, groups all the tasks for Knowledge Research and for Knowledge Base formalisation. The outputs of WP1 will be transferred to the pilots throughout WP2. This will be a recursive process that will be progressing until having the final results. WP2 addresses also all the necessary tasks for exploiting the results of the project.

The relationship between WP1 and WP2 is driven by the “Action Research” methodology that has been chosen to maximise the learning environment. This methodology combines desk-research of practical questions with experimentation to establish accepted knowledge and incorporates a formal knowledge transfer. Commonly action research projects go through 3 iterative stages: determining the theme(s), crystallizing the key success factors, and experimenting / piloting.

To apply action research, every pilot site is encouraged and recommended to involve an ‘action researcher’, who can help to define the issues to be researched, and to isolate the results and its

variables and to transfer the knowledge to the local stakeholders. Each pilot sites will be supported to know and apply the overall experience being brought at project level.

The "Action Research" methodology will be tailored to the pilots and their work process will be supported through each of the three action-research stages. The knowledge transfer will mainly be organised via conferences (eEpoch Conference) prepared by experts and based on the business and technical objectives at that particular phase in the project. The Knowledge Research and Transfer during each eEpoch Conference, will share two process aims:

- What to do for the next stage, and how to do it (with transfer of methods and means) (in the context of WP2)
- What do we learn from the past stage, and what do we accept as eEpoch knowledge (in the context of WP1).

The main objective of WP3, WP4 and WP5 is to support the interoperability of the eEpoch compliant secure identification and authentication functionality and of the digital signature function. This will ensure trust and a consistent end-user experience when accessing services in a cardholder's own and other pilot site domains.

Each of the eEpoch pilot sites will provide services that require the support of a reliable identification/authentication service and/or a digital signature functionality. For that purpose each pilot site will set-up or choose its own trust organisation. Each site is to a very large extent free to choose the juridical and technical arrangements for its own trust organisations including the Registration Authority (RA)[1] and the Certification Authority[2] functionality. However there are limits to this freedom. The first limitation is that in the eEpoch context it is agreed that the qualified electronic signature[3] in compliance with article 5.1 of the European Directive will be supported. This means that the pilot site CA and RA functionalities will have to meet the requirements laid down in the relevant EESSI documentation. WP4 will elaborate on those requirements and define a minimum list which items will need mandatory implementation by the pilot site trust organisations.

In order to maximise the possibilities of success of the project, in month 4 the project work during its first three months will be revised, in order to fine tune the plans and approach of the consortium. To that end, the Detailed Workplan Report (Deliverable D02) will be a very important input.

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[1] **Registration authority (RA):** An entity that is responsible for identification and authentication of certificate subjects, but that does not sign or issue certificates (i.e. a RA is delegated certain tasks on behalf of a CA).

[2] **Certification authority (CA)**: An authority trusted by one or more users to create and assign certificates. Optionally the certification authority may create the users' keys.

[3] **advanced electronic signature**:
an electronic signature which meets the following requirements:
(a) is uniquely linked to the signatory;
(b) is capable of identifying the signatory;
(c) is created using means that the signatory can maintain under his sole control;
(d) is linked to the data to which it relates in such a manner that any subsequent change of the data is detectable.

qualified certificate: a certificate which meets the requirements laid down in Annex I of the Directive and is provided by a certification-service-provider who fulfils the requirements laid down in Annex II of the Directive.

qualified electronic signature: advanced electronic signatures which is based on a qualified certificate and which is created by a secure-signature-creation device (i.e. "5.1 signature").

8.2 Workpackage descriptions

WP1 Knowledge Research & Knowledge Base

Objectives:

1. Document the models, requirements, specifications and guidelines coming from eESC bodies
2. Find experts and document with them the methodology for business case models
3. Prioritise research issues at the pilot sites
4. Accumulate knowledge about IOP from amongst the smart card communities
5. Manage the accepted knowledge and communication between pilot sites and the work packages
6. Present, disclose and maintain a knowledge base for the sites

Description of work:

This WP will always be at least on a par with the most advanced pilots and hence will act to raise the general awareness of what is possible and recall the business, technical and industrial contexts.

The participants in this work package have three main types of background:

- Experts on the technical and business issues of IOP
- Experts / Action Researchers from participating pilots
- Experts / Action Researchers involved in the use of ID-cards from indirectly participating sites, and the eEpoch Supporters Group (ESG)

The WP is structured in two main tasks:

T1.1 Knowledge Research.

The aim of this task is to identify what do we learn from the past stage, and what do we accept as eEpoch knowledge. This will be achieved throughout the following actions:

- Seting-up of a kernel group of representatives of the pilot sites in each country and experts. The composition of this team will be dynamic in order to involve the adequate experts in each stage of the project.
- Preparing the models, the requirements and the guidelines for every stage
- Preparing the 'action research' elements per stage
- Tailoring of the "Action Research" methodology to the pilots
- Supporting the work of the kernel group through each of the three action-research stages

The timing of the task is organised in three sub-tasks according the specific issues to be addressed in each phase of the project.

T1.1.1. Knowledge Research on policy and business. The outputs will be presented at eEpoch CONFERENCE1

T1.1.2. Preparation of guideline for testing.

T1.1.3. Knowledge Research on benchmarking.

T1.2 Knowledge Base.

Task 1.2 is the tool eEpoch provides to store and cross correlate the body of knowledge primarily sourced via WP2. This task will be active during the total project life-cycle, having cross links to all pilots and other work packages. There are three types of activities:

- knowledge management: deploying the strategies, maintaining the completeness of the body of knowledge, and optimising the use of the methodologies and available means. This includes the exploitation of the eEpoch community as a smart card community through the issuing of cards and IAS identities to those who have web access to the knowledge base system
- web content editing/presentation: web master and moderator activities that structure the content and maintain the standards of quality for the information and system.
- web hosting: operational responsibility for systems, controlled access and security

Five sub-tasks have been defined to organise the timing of this task:

T1.2.1. Definition of Knowledge Base Web Site. Definition and implementation of the structure of the web knowledge base for active use by the whole eEpoch-community

T1.2.2. Set-up of Knowledge Base Web Site. Installation of an operational system, with the necessary tool capabilities and access capacities:

- web environment
- PKI and card management (Note: eEpoch is NOT advocating a centralized European ID card system and database. This is a card based system used by the eEpoch partners to secure access to the knowledge base as part of the learning process)
- Access and security management

T1.2.3. Update of Knowledge Base Web Site. Load and maintain the accepted knowledge on the web, according to the following schedule:

- Card Management, PKI management, Web host available (by month 3)
- Knowledge about policy statements, including the agreed Global Interoperability Framework (GIF) documents that must be respected (by month 6)
- Knowledge about (by month 9)
  - the management development in the pilot sites, including how to build business cases based on the GIF model
  - the technical guidelines to build / modify the IAS systems for IOP in the context of the eEpoch framework
- Knowledge about the testing procedures for interoperability (by month 12)
- Best practices knowledge, bench marks (by month 18)
- Final recommendations for mass deployment (by month 24)

T1.2.4. eEpoch Restricted Area. Edit and present the web/other content, for active communication by the eEpoch members

T1.2.5.External Links. Build and maintain a network of 'certified' methodologies, tools and experts

The activities are carried out in full participation of and in service for the pilots. The Web includes accepted knowledge and is used to support and coach forums for frequently asked questions, expert tracking, communication, links, etc.

Deliverables:

D1.1 Knowledge Research. State of the Art. Documented site policy themes, strategies, best practices and benchmark goals (M3).

D1.2 eEpoch KB Website. Knowledge Base established and initial population. It will also include corporate information on the project as well as on its progress. (M6)

WP2 Knowledge Transfer, Dissemination & Exploitation

Objectives:

1. Transfer the models, requirements, specifications and guidelines coming from eESC bodies
2. Disseminate the eEpoch results
3. Exploit eEpoch results

Description of Work:

This WP will centralise all the activities for transfer the knowledge generated and collected in eEpoch to the pilots, to the external community (dissemination) and exploitation of the final results. To do that it has been structured in three tasks:

T2.1. Knowledge Transfer

The knowledge transfer will mainly be organised via conferences (eEpoch Conference) prepared by experts and based on the business and technical objectives at that particular phase in the project. The Knowledge Research and Transfer during each eEpoch Conference, will share two process aims:

- What to do for the next stage, and how to do it (with transfer of methods and means)
- What do we learn from the past stage, and what do we accept as eEpoch knowledge (in the context of WP1).

Each conference may have dedicated session for the pilot consultants, coaches and researchers, the operational stakeholders of the pilots, the high level involved stakeholders. The knowledge transfer in the times between the conferences will be realised by exploiting an internet based knowledge (and communication) - system and a network of experts / consultants

The following tasks are foreseen, all differentiated per phase:

- coach and support the 'action researchers' in the pilots via the web
- prepare the models, the requirements and the guidelines for every stage
- prepare the 'action research' elements per stage
- organize the eEpoch CONFERENCEs (more details will be provided in the deliverable D2.2.Dissemination and Use plan)

T2.2 Communication Strategy & Implementation

The final goal of WP2 is the information dissemination of the eEpoch proof of concept and results in order to facilitate the final goal of the project, namely large scale deployment of an interoperable smart card infrastructure at the 3 levels

- multi-application (mainly based on e-government applications)
- national (from each site country of the pilot for roll-out in the whole area/country)
- and European ("pan-European") for geographical interoperability

In order to reach this final goal, the information and dissemination activities have to provide a way to spread target-oriented information about eEPOCH to as wide an audience as possible,

- open up and maintain a way to get feedback from the pilot sites involved in eEPOCH,
- involve as many governments and local authorities as possible in the very beginning of the project and to motivate them to participate actively in the different stages of the project,
- facilitate communication and exchange of expertise between all actors in Europe,
- sensitise the target audience and to stimulate international awareness of the need of a pan-

European interoperable smart card infrastructure,

- support the gain of user acceptance.

Main target groups

- National governments and local authorities, here included those participating in eEpoch as well as those not or not yet involved in the project.

  It will be of crucial importance to keep the local authorities running the different pilots within eEPOCH informed about interim stages and the overall success of the project as well as about its results and the ongoing activities on each of the pilot site. eEpoch covers a huge geographical zone and involves many different partners from all over Europe. Continuous information dissemination is essential for assuring the active involvement of the participating authorities, to establish a solid communication link between the project participants and to foster corporate action. Furthermore the governments and authorities involved in eEpoch shall be enabled and motivated to act themselves as "multiplicators" for the dissemination of results of the eEpoch project within their region and country.

  The project generally focuses on multi-applications in the field of e-government and by means of professional communication work European governments and local authorities shall be sensitised to the importance of the project, informed about its results and motivated to have a deeper look into the applications running on the different pilots sites and to adapt similar solutions or even to join the eEPOCH project. One major vehicle to reach this target will be the Digital Cities Network.

- The European "Smart Card Community": Here included are the members of all associations and initiatives actually going on in Europe and dealing with the development and deployment of smart cards, electronic signatures, harmonisation and standardisation, e.g. the smart card and IT industry, ETSI, smart card security users groups, e-government leader groups, the eEurope Smart Card Charter and its different Trailblazers, etc.

  In order to be able to approve the validity and importance of this project, these groups have to be continuously informed about the progress and results of eEpoch. Gaining the support of these groups will represent an important pillar for the success of the project.

- The broad public: The broad public, namely the citizens as the main end-users of the smart card applications, have to be sensitised for this subject. Citizens being aware of the potential benefits coming along with a broad deployment of interoperable smart card applications will ask for these kinds of services, which will have an obvious impact on governments and local authorities. User (citizens) acceptance for smart cards and electronic signatures is a prerequisite for the success of the project and its national pilots.

Strategy

International recognition of the project has to be created before concrete results can be obtained. Therefore the strategy will develop in two phases:

- Short-term (first 6 months) focussing on information and sensitisation of the main target groups and recruitment of new sites to implement the interoperability platform.
- Medium-term (2 years) focussing on the promotion of the primary results of the pilots towards the main target groups. The communication work during this phase specially targets those government entities which are not in the project, yet in order to facilitate a large scale deployment at a national level (the vital spark will be initiated by each pilot site and accompanied by an aggressive communication plan in order to roll-out in the whole area/country).
- Both, short and medium strategy, will open up a long-term strategy (5 years) to reach geographical European and pan-European interoperability.

The dissemination activities carried out within eEpoch cover the internal communication between the participants of the project as well as the external project communication.

A strong and efficient communication link between the participating pilot sites is of particular importance for the work planned in work-packages 1 and 2. We believe that the elaboration of a set of widely accepted interoperability specifications and user requirements for Citizen Electronic Cards in Europe will require a continuous exchange of information between all WPs and the pilot

sides. The tools used for internal communication can also be used for outside communication, in particular the web site which can have a protected area for internal project communication and a non protected one for access by all.

Targets

In order to obtain results from the eEpoch project there are two main targets:

- Public administrations which are expected to accelerate the deployment of e-Government applications, based on both the successful strategies developed by the pilot sites and the interoperability platform guaranteeing future stability of the investments.
- IT industry enterprises which will buy, distribute, integrate the tools and platforms developed by the partners in the project, or which will develop new tools based on the market standards defined by eEpoch.

Project exploitation will evaluated in both these areas, speed of deployment of e-government applications, offers on the market and business generated.

Communication tools to be used

- eEpoch Logo
- Official Project Web Site
- Online-Discussion Forum
- eEpoch Newsletter
- Project brochure
- 0ther publicity material
- eEpoch Road Show: Visits and liaison with other ESC TBs
- Conference and Exhibition Participation
- Publications
- International Conference

This task is organised in three sub tasks:

T2.2.1. Dissemination and Use Plan. Following the guidelines provided by the Programme, the Dissemination and Use Plan will be produced.

T2.2.2. Web site creation and maintenance. The objective is the maintenance of a private website for the eEpoch project, configured to facilitate the sharing of information and the co-operation and communication between partners in the Consortium, as well as interested third parties. The eEpoch website will contain the available documentation for the project. It will be created for the knowledge base and be used for communication inside and outside of the project. The site will be updated to provide an infrastructure for dialogue:

- RFC documents issued for comments
- comments and contributions
- posting of meetings, agendas and of meeting minutes
- exchanges of emails concerning the project
- reports on conferences, road show with site visits and conferences

T2.2.3. Information Dissemination. The objectives of this sub task are the following:

- to communicate on the eEpoch project and related actions.
- to define the instruments to be used for dissemination.
- to establish contacts with other European projects or initiatives which are related to the use of the smart cards.

- to instigate initiatives towards local Governments, the European Parliament and European Commission, so as to create an adequate awareness of eEpoch objectives and achievements.
- to recruit new sites for the implementation of applications on the interoperability platform developed by eEpoch
- to recruit businesses to distribute and develop e-government solutions based on the eEpoch interoperability platform
- to disseminate the results of eEpoch by different means: web site, conferences , Final Reports (White Papers)

T2.3 Exploitation Plan

This task will define the plan for exploiting eEpoch results. A draft will be produced in month 9 and then the final version in for of Technology Implementation Plan will be available by the end of the project, taking as input the results of the evaluation.

Deliverables

D2.1 Report on eEpoch CONFERENCE1: policy statements, business cases, management guidelines. This deliverable will report on the conclusions of eEpoch CONFERENCE1.

D2.2 Dissemination and Use Plan. This deliverable will describe the plans of dissemination of knowledge gained during the project and the exploitation intentions of the consortium. It will be expressed as much as possible in concrete terms, for example the dissemination strategies, the target groups and the strategic impact of the project in terms of improvement of competitiveness or creation of market opportunities for the participants.

D2.3 eEpoch Web Site. Report on the structure and contents of the site. The responsible of its production will be ETRA.

D2.4 Report on eEpoch CONFERENCE2: technical guidelines. This deliverable will report on the conclusions of eEpoch CONFERENCE2.

D2.5 Report on eEpoch CONFERENCE3: IOP operational reviews. This deliverable will report on the conclusions of eEpoch CONFERENCE3.

D2.6 Updated Dissemination and Use Plan. Deliverable D2.2 will be updated according the mid-term project results.

D2.7 Report on eEpoch CONFERENCE4: Evaluations. This deliverable will report on the conclusions of eEpoch CONFERENCE4.

D2.8 Draft Exploitation Pan. Draft of the plan for exploiting eEpoch results.

D2.9 TIP. The e-Epoch Technology Implementation Plan will be produced.

WP3 Definition of IOP Testing & Certification

Objectives:

1. Define and transfer functional and technical requirements to support IOP at cards, infrastructure and applications level
2. Define and transfer test requirements to support IOP at a level of cards, infrastructure, and applications
3. Certify the IOP capabilities of the sites
4. Maintain quality standards

Description of work:

Work package 3 will define of the test guidelines for the pilots (which includes the requirements for the IOP adapters of the pilots). The preparation activities of this work package are developed in parallel (and interaction) with the technical guidelines. Then the work package will implement the accepted certification procedure. Data protection will be also considered to guarantee the privacy of the information.

The crosslink to other work packages implies:

- Work with technical experts for eEpoch CONFERENCE2 to amass the technical guidelines and translate them to test requirements
- Work with technical experts for eEpoch CONFERENCE2 to establish quality methodologies
- Provide the test experts for eEpoch CONFERENCE3
- Contribute to maintain the knowledge in the database (organised by WP1)
- Execute / deploy / maintain a system of pilot certification,

To reach WP objectives, six main activities will be carried out:

- Establish the IOP guidelines containing a detailed model, functionality and content for the interoperability (IOP)-adapters and/or PKI-switches, of the basis of the eECS GIF Framework deliverables
- Transfer the IOP guidelines that the pilots have to respect into test requirements that will be needed and applied for pilot sites to be certified interoperable
- Give support to pilots in preparing for certification of their IOP adapter
- Execute tests for certification of the different IOP adapters
- Check the ongoing validity of given IOP certifications
- Ensure ongoing quality control

The timing of the WP has been scheduled in four tasks.

T3.1 Requirements of IOP Specs.

This task will address the identification of the requirements of IOP specifications at global and a site level in order to establish a common framework of IOP testing and demonstration. As part of this task, the directives and legal aspects concerning data protection available at each site and at European level will be identified in order to observe them when defining the IOP testing and demonstration framework.

T3.2 Definition of IOP Specs.

This task will formalise the IOP specifications from the conclusions of Task 3.1. It will be specified here the mechanisms and tools to guarantee the protection of the data used in the demonstrators according to the laws and directives in each Pilot and at European level specified in Task 3.1. It will

be identified and agreed the measures for enabling the IOP but being compliant will all the existing legislations. The legal departments of the governmental organisations involved in each sit will provide valuable input to guarantee the compliance of IOP with other national directives on digital signature, e-government services, citizen identification, etc.

T3.3 Set up/maintain pilot test + certification system.

This task will lead to a number of certified IOP systems at the pilots.

Deliverables:

D3.1 Requirements of IOP specifications. This deliverable will report on the identification of the requirements of IOP specifications at global and at site level, establishing a common framework of IOP specifications, testing and demonstration.

D3.2 IOP Specifications. This deliverable will formalise the IOP detailed specifications.

D3.3 Guidelines for Pilots: set-up, maintain and test eEpoch. This deliverable will provide the guidelines to support the certification system at the pilots.

WP4 IOP Demonstrations

Objectives:

Support the interoperability of the eEpoch compliant secure identification and authentication functionality and of the digital signature function. This will ensure trust and a consistent end-user experience when accessing services in ones own and other pilot site domains.

Description of work:

Work package 4 will start the preparation in month 12, in order to give guidelines in eEpoch CONFERENCE2. This work package presents the technical experts for eEpoch CONFERENCE3 and eEpoch CONFERENCE4, and works closely together with WP3.

WP4 will elaborate on those requirements and define a minimum list which items will need mandatory implementation by the pilot site trust organisations.

The smart card communities, i.e. the pilot sites, are responsible for the service given to the users. They must provide a service point, for first line support to the users. Also the support and service of the local stakeholders must be organised within the pilot.

This work package is responsible for the second line support, not of the users, but for the other stakeholders regarding the IOP needs between the pilots (or smart card communities). It also supports the trusted path between the CA's of the pilot sites and the necessary juridical and technical mechanisms for cross pilot sites verification of the digital signatures.

Tasks are expected to be in primarily linked to PKI interoperability, and to a lesser extent to functional and technical interoperability between smart card communities / pilot sites. It has to be taken into account that the sites during the pilot period are mainly locally oriented, and involve a relatively small numbers of users. It is therefore expected that the tasks of this work package will be more oriented to ensuring availability of service, than the day by day operational use.

The cross links to other work packages are:

- IOP - Experts for eEpoch Conference 2 (WP2)
- IOP Experts for eEpoch Conferene 3 on testing (WP 2)

The WP is organised in four tasks addressing common issues for all the pilots and then seven specific tasks for each pilot:

T4.1 Monitor the operational IOP services of the pilots

Monitor the inter-pilot parameters for the 'IOP-adapters' between the pilot sites (= smart card communities). This task will also address the cross-sites operational co-ordination for tracking the work in the different pilots and for identifying possible deviations from the initial plans. This complements the technical support to be provided in Task 4.1. This task will also coordinate the reporting activity of the Pilots with regards to their demonstrations. The mechanism for cross-site operational coordination will be agreed at the beginning of the project, but its approach will be as follows: A framework providing common guidelines for the planning of the demonstrators, as well as general timing and intermediate milestones (time for demonstrators technical set-up, demonstration period, reporting on the results, etc), will be defined in deliverable D4.1.a. This document will be used as reference for the Pilots to prepare the detailed plan of their specific demonstrations that will be formalised in deliverables D4.1.b to D4.1.h. Once the demonstration is finished in each site, a summary on what the different demonstrations have consisted will be provided in Deliverable D4.2.a that will use as reference the contents of deliverables D4.2.b to D4.2.h specific of each pilot.

T4.2 Prepare the infrastructure to assess the eEpoch CA IOP

Prepare all the necessary infrastructure documentation and guidelines for the assessment of the eEpoch CA interoperability services. This infrastructure will support intermediate assessment of the pilots during the set-up and demonstration phases to allow fine-tuning procedures if necessary.

T4.3 Give support to operational IOP

Bring into the knowledge base and maintain the content (functional and technical, including PKI interoperability arrangements) concerning the 'interoperability adapters' between the smart card communities.

Functional and technical information concerning the IOP-adapters will be available by month 6.

Provide support help desk for the smart card community stakeholders (not including the site local users) in the operational process of adaptation based on the GIF models of their IAS data for IOP

Provide operational support to the demonstrators.

T4.4 France Demonstration

This task is scheduled in two main phases:

T4.4.1. Set-up Pilot Site. This will customise the outputs of the WP 1, 2 and 3 to the specific conditions of the French Pilot. At the beginning of this task it will be produced the deliverable *D4.1.b ISSY Demonstration Plan* that will customise the guidelines provided in D4.1.a to ISSY Pilot characteristics.

T4.4.2. Demonstration. eEpoch will be demonstrated at the site of ISSY under real conditions. The output of this task will be the deliverable *D4.2.b ISSY eEpoch Demonstration.* This report can be prepared in local language and based in the documentation used during the implementation of the demonstration.

T4.5 Ireland Demonstration

This task is scheduled in two main phases:

T4.5.1. Set-up Pilot Site. This will customise the outputs of the WP 1, 2 and 3 to the specific conditions of the Irish Pilot. At the beginning of this task it will be produced the deliverable *D4.1.c Donegal Demonstration Plan* that will customise the guidelines provided in D4.1.a to Donegal Pilot characteristics.

T4.5.2. Demonstration. eEpoch will be demonstrated at Donegal site under real conditions. . The output of this task will be the deliverable *D4.2.c Donegal eEpoch Demonstration* This report will based in the documentation used during the implementation of the demonstration.

T4.6 Israel Demonstration

This task is scheduled in two main phases:

T4.6.1. Set-up Pilot Site. This will customise the outputs of the WP 1, 2 and 3 to the specific conditions of this Pilot. . At the beginning of this task it will be produced the deliverable *D4.1.d Israel Demonstration Plan* that will customise the guidelines provided in D4.1.a to Israel Pilot characteristics.

T4.6.2. Demonstration. eEpoch will be demonstrated at the site under real conditions. The output of this task will be the deliverable *D4.2.d Israel eEpoch Demonstration* This report can be prepared in local language and based in the documentation used during the implementation of the demonstration.

T4.7 Bologna Demonstration

This task is scheduled in two main phases:

T4.7.1. Set-up Pilot Site. This will customise the outputs of the WP 1, 2 and 3 to the specific conditions of the Bologna Pilot. At the beginning of this task it will be produced the deliverable *D4.1.e Bologna Demonstration Plan* that will customise the guidelines provided in D4.1.a to

Bologna Pilot characteristics.

T4.7.2. Demonstration. eEpoch will be demonstrated at the Bologna site under real conditions. The output of this task will be the deliverable *D4.2.e Bologna eEpoch Demonstration* This report can be prepared in local language and based in the documentation used during the implementation of the demonstration.

T4.8 Roma Demonstration

This task is scheduled in two main phases:

T4.8.1. Set-up Pilot Site. During this first phase the results of the first WPs (WP 1, 2 and 3) will be implemented and integrated with the existing situation and solutions. At the beginning of this task it will be produced the deliverable *D4.1.f Roma Demonstration Plan* that will customise the guidelines provided in D4.1.a to Roma Pilot characteristics.

T4.8.2. Demonstration. eEpoch will be demonstrated at the Roma site under real conditions. The objective of the demo is to test the IOP card, as a "new" mode to access on line personalised services of INPS with a Common European "standard" compliant with the National laws existing on this issue. The output of this task will be the deliverable *D4.2.f Roma eEpoch Demonstration* This report can be prepared in local language and based in the documentation used during the implementation of the demonstration.

T4.9 Spain Demonstration

This task is scheduled in two main phases:

T4.9.1. Set-up Pilot Site. This will customise the outputs of the WP 1, 2 and 3 to the specific conditions of Pilot. This sub-task is scheduled in the following phases:

- Usability Scenarios specification: To establish the usability scenarios in which certificates issued by eEpoch members will be accepted, how should be used and which are its targets environments. This work will produce a technical note describing each usability scenario that should be considered during the trial, that can be see as a checkpoint.
- System Specification: To specify which are the architecture that will be deploy for eEpoch on the Spanish facilities, this work will produce a technical note reporting on Technical System Specifications: Clear specifications of each software, and hardware component used for the DGP.
- Integration Test procedures specifications: To define the test procedures to implement to guarantee the quality of the system, all those test will be summarized in a technical note on Integration Test procedures: Set of test and test procedures to run on the installation.
- PKI components integration: To implement any requirement asked by eEpoch, so the PKI will guarantee interoperability with eEpoch Technical, Operational and political requirements defined on WP1, WP2 and WP3. This work will be reported on a technical note on PKI components installation & integration.
- Installation and start up of the trial PKI: Once integration finish and all test should be passed a "Production" environment for trial will be set-up for demonstration. This will be reported on a technical note on Installation & Configuration specification

At the beginning of this task it will be produced the deliverable *D4.1.g Spain Demonstration Plan* that will customise the guidelines provided in D4.1.a to Spanish Pilot characteristics.

T4.9.2. Demonstration. eEpoch will be demonstrated at the Spanish site under real conditions. This subtask will carry out each of the test specified by eEpochs so it will be possible to quantify and qualify the site implementation. This will be reported in a technical note on Test system Report: Will be the report of each of the test made during the trial.

The output of this task will be the deliverable *D4.2.g Spain eEpoch Demonstration* that will compile all the technical notes produced in the implementation of the demonstrator. This report can be

prepared in local language.

T4.10 UK Demonstration

This task is scheduled in two main phases:

T4.10.1. Set-up Pilot Site. This will customise the outputs of the WP 1, 2 and 3 to the specific conditions of the Newcastle Pilot. At the beginning of this task it will be produced the deliverable *D4.1.h Newcastle Demonstration Plan* that will customise the guidelines provided in D4.1.a to Newcastle Pilot characteristics.

T4.10.2. Demonstration. eEpoch will be demonstrated at the Newcastle site under real conditions. The output of this task will be the deliverable *D4.2.h Newcastle eEpoch Demonstration* This report will be based in the documentation used during the implementation of the demonstration.

Deliverables:

D4.1.a Guidelines for eEpoch Demonstration Planning. This deliverable will describe the general framework for the planning of the demonstrators, including a general timing and intermediate milestones (time for demonstrators technical set-up, demonstration period, reporting on the results, etc),.

D4.1.b ISSY Demonstration Plan. Detailed plan of ISSY Pilot.

D4.1.c Donegal Demonstration Plan. Detailed plan of Donegal Pilot.

D4.1.d Israel Demonstration Plan. Detailed plan of Israel Pilot.

D4.1.e Bologna Demonstration Plan. Detailed plan of Bologna Pilot.

D4.1.f Roma Demonstration Plan. Detailed plan of Roma Pilot.

D4.1.g Spain Demonstration Plan. Detailed plan of Spanish Pilot.

D4.1.h Newcastle Demonstration Plan. Detailed plan of Newcastle Pilot.

D4.2.a eEpoch Demonstration. This deliverable will summarise the more relevant aspects of the different pilot as well as the common approaches.

D4.2.b ISSY eEpoch Demonstration. This deliverable will summarise the more relevant aspects (technical, organisational, …) of the French Pilot including technical documentation related with the demonstration.

D4.2.c Donegal eEpoch Demonstration This deliverable will summarise the more relevant aspects (technical, organisational, …) of the Irish Pilot including technical documentation related with the demonstration. The responsible of its production will be Reach.

D4.2.d Israel eEpoch Demonstration This deliverable will summarise the more relevant aspects - technical as well as organizational - (technical, organisational, …) of the Israel Pilot including technical documentation related with the demonstration.

D4.2.e Bologna eEpoch Demonstration This deliverable will summarise the more relevant aspects (technical, organisational, …) of the Bologna Pilot including technical documentation related with the demonstration.

D4.2.f Roma eEpoch Demonstration This deliverable will summarise the more relevant aspects (technical, organisational, …) of the Roma Pilot including technical documentation related with the demonstration.

D4.2.g Spain eEpoch Demonstration This deliverable will summarise the more relevant aspects (technical, organisational, …) of the Spanish Pilot including technical documentation related with the demonstration.

D4.2.h Newcastle eEpoch Demonstration This deliverable will summarise the more relevant aspects (technical, organisational, …) of the Newcastle Pilot including technical documentation

related with the demonstration.

WP5 Evaluation and Assessment

Objectives:

1. The overall objective of WP5 will be to evaluate the common features implemented at pilots dealing with public ID, authentication and e-signature, within different applicative environments.

2. To define the guidelines to establish an evaluation plan for carrying out the assessment and evaluation of eEpoch.

3. To analyse in-depth, together with the relevant organisations, users and authorities, the lessons to be learnt from the project.

Description of work:

This workpackage relies in the evaluation of eEpoch defining a common framework where the different Pilot sites will have autonomy, but with a common methodology to have useful evaluation results.

Task 5.1 Evaluation Plan

This first step will consist in defining the criteria upon which e-EPOCH sites level of interoperability will be evaluated.

These criteria will take in account major elements, such as :

- Functional requirements : set of public ID, e-signature, authentication,…
- Technical requirements of the infrastructure needed to support applications open card platform, certificate format, standard crypto components,…
- Targeted applications and services: secure messaging, e-procedures, payment,…
- Effectiveness of data protection mechanism: evaluation of tools, methodologies, measures and approaches adopted.

Deliverable D5.1 will be prepared, with the view of introducing these common criteria for pilot sites benchmarking and assist pilot sites coordinators in assessing the expected achievement of targeted functions to be implemented with special requirement on the interoperability of infrastructures and services.

T5.2 France Pilot Assessment

Assessment of the results and achievements of the pilot, from different points of view :

- technical performance of systems
- level of interoperability achieved, on at least one main function
- expected cost-effectiveness of the system, with scenarios for dissemination.

T5.3 Ireland Pilot Assessment

Assessment of the results and achievements of the pilot, from different points of view :

- technical performance of systems
- level of interoperability achieved, on at least one main function
- expected cost-effectiveness of the system, with scenarios for dissemination.

T5.4 Israel Pilot Assessment

Assessment of the results and achievements of the pilot, from different points of view :

- technical performance of systems

- level of interoperability achieved, on at least one main function
- expected cost-effectiveness of the system, with scenarios for dissemination.

T5.5 Bologna Pilot Assessment

Assessment of the results and achievements of the pilot, from different points of view :

- technical performance of systems
- level of interoperability achieved, on at least one main function
- expected cost-effectiveness of the system, with scenarios for dissemination.

T5.6 Roma Pilot Assessment

Assessment of the results and achievements of the pilot, from different points of view :

- technical performance of systems
- level of interoperability achieved, on at least one main function
- expected cost-effectiveness of the system, with scenarios for dissemination.

T5.7 Spain Pilot Assessment

Assessment of the results and achievements of the pilot, from different points of view :

- technical performance of systems
- level of interoperability achieved, on at least one main function
- expected cost-effectiveness of the system, with scenarios for dissemination.

T5.8 UK Pilot Assessment

Assessment of the results and achievements of the pilot, from different points of view :

- technical performance of systems
- level of interoperability achieved, on at least one main function
- expected cost-effectiveness of the system, with scenarios for dissemination.

T5.9 Inter-Pilot Evaluation

This task will carry out a cross-site evaluation according the demonstrations made in each site. This process will include the measurement of the level of achievement of the project objectives as stated in sections 2.1 and 2.2.

Deliverables:

D5.1. Evaluation Plan. This deliverable will be prepared to support the cross-site evaluation of common IOP aspects, in order to facilitate the benchmarking of the sites and the understandability of the project results.

D5.2. Site Evaluation and Assessment. This deliverable will describe the framework used for assessing and interpreting the results obtained at the Pilots as well as an specific assessment and evaluation of each one.

D5.3. Overall Evaluation Results. This document will summarise the results of the eEpoch evaluation at the pilots and will provide the Overall Evaluation Results of eEpoch and analysing its impact at local, European and Global level.

WP6 Project Management

Objectives:

1. To undertake all the necessary central project management functions to support the project in meeting the objectives defined in the Project Programme

2. Administration of the contract and project financial management

3. Reporting to the EC

Description of work:

WP6 provides the necessary tools to ensure that quality and on time work is carried out at the eEpoch project level. It provides the central project coordination functions through the organisation of all required High Level Board and Project Management Team meetings, in order to facilitate the elaboration and implementation of commonly agreed global strategy, technical decisions and workplans. It also manages that all necessary administrative issues interfacing with the European Commission (reporting, cost statements, etc.) are covered in due time and supervised by all partners.

The scope of this WP can be summarised in eight activities that are organised in tree tasks. The activities are:

- Provision of a project director and a technical manager.
- Administration of the contract and project financial management.
- Reporting to the EC (preparation of periodic management reports, organisation and facilitation of project review meetings, QA on contractual deliverables, etc.).
- Monitoring project progress as compared to plans: follow up of the work. Identify problems and deviations from the work plan, and propose contingency plans.
- Facilitation of work group meetings and set-up / administration of tools supporting remote collaboration of experts. Planning, organisation and follow-up (meeting minutes, etc.).
- Coordination of periodic reporting needs, including the preparation of activity reports, management reports and project reviews.
- Administrative tasks such as contractual matters and financial management. Maintenance of a project archive.
- Monitoring of the Quality Assurance Strategy of the project.

The three tasks are:

T6.1 Project Monitoring

eEpoch will make sure the project will meet the commitments taken in the EC contract, and that the due deliverables are of high quality level in their content and in their form. ETRA will be responsible for the packaging of the deliverables based on the reports that will be provided as result of the activities. ETRA will make sure that the reports are produced in the required number of copies to the EC review team in a timely manner. It will be set-up and maintained an archive of all **eEpoch** documents and a catalogue referencing those. The documents will be available on-line for the project participants and the EC on a private Website maintained by ETRA.

The planning, preparation, facilitation and follow-on commitments of **eEpoch** co-ordination meetings, including preparation meeting minutes, **eEpoch** workplan updates and action lists will be under the responsibility of ETRA, who will also monitor the project progress as compared to the contractual obligations and workplans and report to the **eEpoch** Project Director and participant organisations.

ETRA will provide the contact point (for the EC and the **eEpoch** participants) and internal helpdesk (for the **eEpoch** participants) concerning EU project administrative issues.

T6.2 Reporting to European Commission

The Project Director will interact directly, and frequently, with the EC Project Officer who will be in charge of supervising the execution of the **eEpoch** contract.

In addition, co-ordination with the Commission will be accomplished using the following scheduled means:

Kick-off meeting: There will be a formal kick-off meeting with the Commission at the project start, to confirm understandings and expectations of both contractor and Commission Services, and to agree in detail the communication and co-ordination procedures to be used.

Progress reports: Progress Reports will be provided every six months. These Progress Reports will be structured so as to provide the Commission Services with clear status of the work, project progress and achievements, any difficulties encountered, deviations from plans, resource monitoring and will provide resource planning for the following work periods.

T6.3 Financial management

The financial management has the aim to ensure efficient management of the resources provided through the **eEpoch** contract. It covers the establishment and maintenance of financial records, the planning and monitoring of expenses, the co-ordination of cost claim submission by the **eEpoch** participant organisations, preliminary check of individual cost claims against known criteria, preparation of consolidated cost statements following the rules and format of the IST programmes, monitoring and follow-up of payments, and preparation of payment summaries to each participant and global overviews.

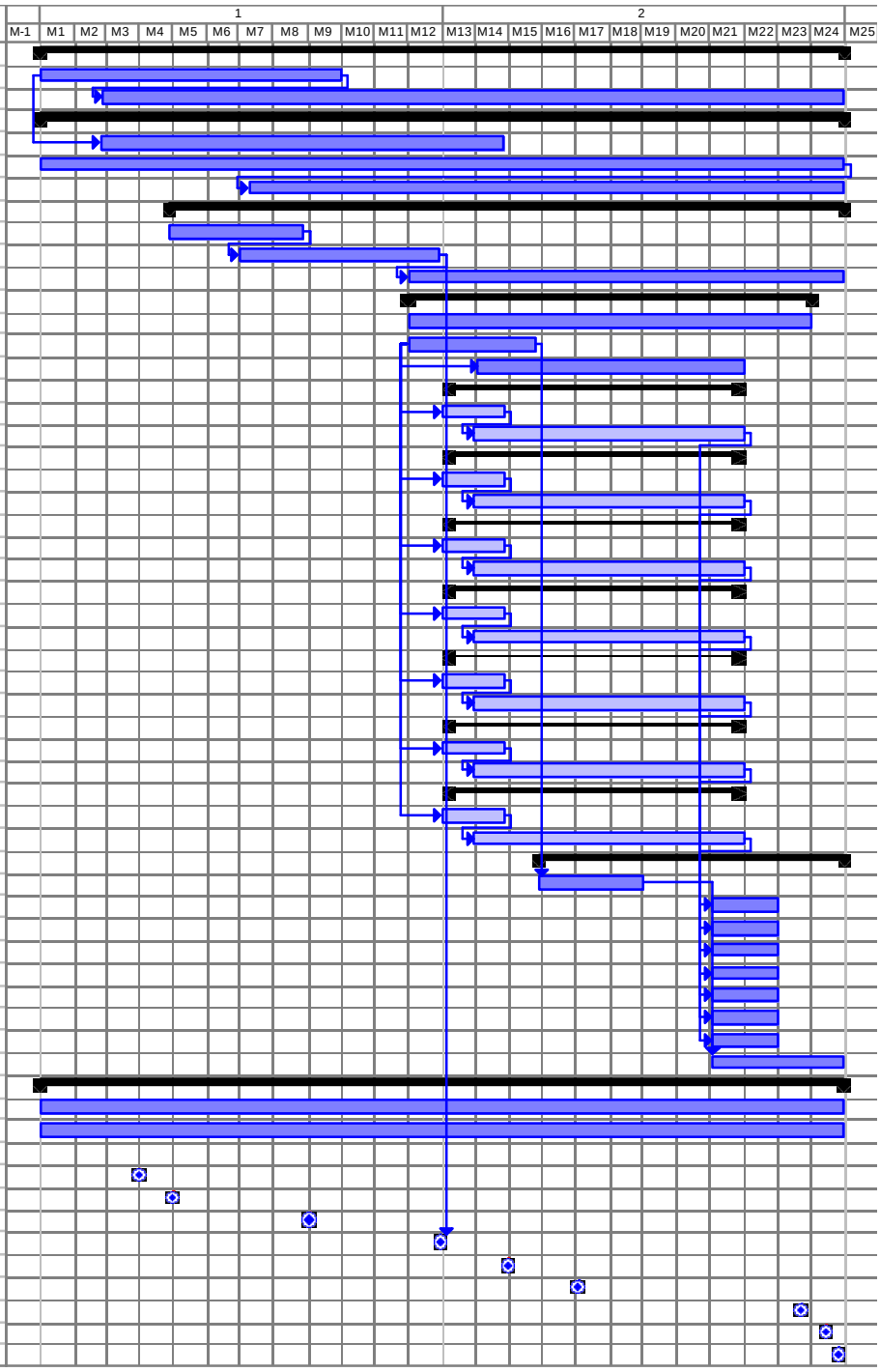
Milestones and expected result:

The results of this WP will be the delivery of the project results (technical, financial and administrative) according to plan.

8.3 Gantt Chart

The project has been divided into 6 work packages , as shown on the Gantt below :

Id	Nombre de tarea
1	**WP1 Knowledge Research & Knowledge Base**
2	T1.1 Knowledge Research
3	T1.2 Knowledge Base
4	**WP2 Knowledge Transfer, Dissemination & Exploitation**
5	T2.1 Knowledge Transfer
6	T2.2 Communication Strategy & Implementation
7	T2.3 Exploitation Plan
8	**WP3 definition IOP Testing & Certification**
9	T3.1 Requirements of IOP Specifications
10	T3.2 Definition of IOP Specifications
11	T3.3 Set up/Maintain Pilot Test+Certification System
12	**WP4 IOP Demonstrations**
13	T4.1 Monitor Operational IOP Services at Pilots
14	T4.2 Prepare Infrastructure of sEpoch CA IOP
15	T4.3 Give support to operational IOP
16	**T4.4 France Demonstration**
17	T4.4.1 Set Up Pilot Site
18	T4.4.2 Demonstration
19	**T4.5 Ireland Demonstration**
20	T4.5.1 Set Up Pilot Site
21	T4.5.2 Demonstration
22	**T4.6 Israel Demonstration**
23	T4.6.1 Set Up Pilot Site
24	T4.6.2 Demonstration
25	**T4.7 Bologna Demonstration**
26	T4.7.1 Set Up Pilot Site
27	T4.7.2 Demonstration
28	**T4.8 Roma Demonstration**
29	T4.8.1 Set Up Pilot Site
30	T4.8.2 Demonstration
31	**T4.9 Spain Demonstration**
32	T4.9.1 Set Up Pilot Site
33	T4.9.2 Demonstration
34	**T4.10 UK Demonstration**
35	T4.10.1 Set Up Pilot Site
36	T4.10.2 Demonstration
37	**WP5 Evaluation and Assessment**
38	T5.1 Evaluation Planning
39	T5.2 France Pilot Assessment
40	T5.3 Ireland Pilot Assessment
41	T5.4 Israel Pilot Assessment
42	T5.5 Bologna Pilot Assessment
43	T5.6 Roma Pilot Assessment
44	T5.7 Spain Pilot Assessment
45	T5.8 UK Pilot Assessment
46	T5.9 Inter Pilot Evaluation
47	**WP6 Project Management**
48	T6.1 Project Monitoring
49	T6.2 Reporting
50	
51	**Inception Report**
52	**KRTW1**
53	**KRTW2**
54	**Definition of IOP Specifications**
55	**KRTW3**
56	**Pilots ready**
57	**Individual Pilots Assessments**
58	**KRTW4**
59	**Final Inter Pilot Evaluation**



8.4 Project management

8.4.1 Organisational Structure

eEpoch will set-up an organisational structure suitable to efficiently coordinate the collaboration of a large number of organisations, to plan and follow-up the preparation and integration of their contributions and to organise a successful work of domain experts providing commonly established and agreed results within a relatively short time frame.

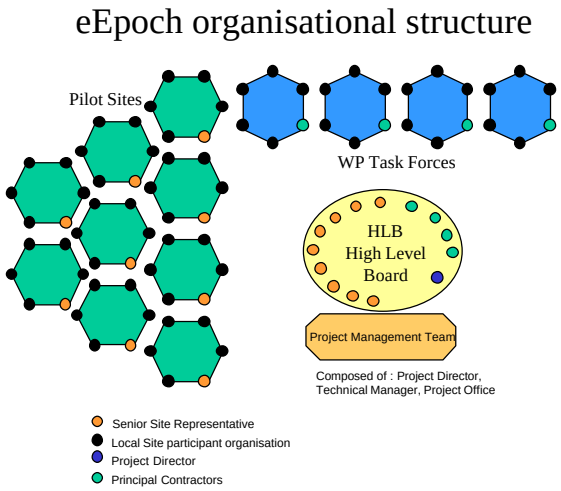
The eEpoch project will rely on wide variety of complementary technical and marketing knowledge provided by the large number of experts and organisations involved. Efficient cooperation between these organisations with different background and culture will be a vital issue. Furthermore, the different pilot sites will need a high level of autonomy. The common pilot implementation choices will be decided in some cases subsequent to already existing infrastructures, applications and local priorities. These aspects need to be managed at the local level, whilst the links with the global management must be ensured.

To deal with this specific environment, eEpoch will implement a layered management structure with local and central coordination functions. Each technical work package and each pilot site will involve a number of organisations and will have one work package leader. The work package / site leaders will be responsible for the coordination of all tasks in the work package / the pilot site they are responsible for and be the central contact point for it.

In contractual terms related to EU RTD projects, the work package leaders will be contractors. All the other organisations involved in the work package / pilot site will be assistant contractors, subcontractors or members (sponsors). In addition to the EC contract, all organisations involved in eEpoch as partners will sign a Consortium Agreement, which - besides other important issues - will define their responsibilities as regards the project management organisation. The Consortium Agreement will formalise the rights, obligations, relationships and procedures within the consortium, as well as any other relevant issue (e.g. use of background material, IPR, etc.) It will also set the basis for the Exploitation Agreement covering IPR handling and commercialisation of the project results.

For the global project coordination and decision making the following bodies will be set-up:

- High Level Board (HLB)
- Project Management Team (PMT)
- WP Task Forces (WPTF)



High Level Board

This board will be formed by representatives of the principal contractors and senior representatives of the pilot sites. It will be co-chaired by a site leader elected amongst all site leaders and the Project Director. The objectives of the HLB are to provide guidance to the overall project directions, as well as to ensure that the technical work does meet the needs and expectations of the pilot sites. The HLB will typically meet every 3 months. When appropriate, a representative of the eESC Steering Committee (if still in existence) will be invited to HLB meetings, to have an observer status and be advisor for important decisions.

Project Management Team

The Project Management Team (PMT) will be formed by representatives of the principal contractors (who are the work package / pilot site leaders) and chaired by the Project Director. The objectives of the PMT are to supervise the global project execution, to take strategic decisions and to ensure that they are implemented globally and locally at the pilot site level. The PMT will also be a court of arbitration whenever conflicts cannot be solved at a lower level. The PMT will typically meet every 3 months. When appropriate, a representative of the eESC Steering Committee (if still in existence) will be invited to all PMB meetings, to have an observer status and be advisor for important decisions.

WP Task Forces

The WP Task Forces (WPTF) will group all organisations involved in a work package. WPTF will be responsible for the local task coordination and decision making on issues that have only a local impact, i.e. no direct consequence to other work packages/sites. The WPTF will be coordinated by the WP leader, who will also ensure the liaison with the Project Director. The WP Leaders will be responsible for producing detailed plans for the technical co-ordination of their WP's work (on the basis of the Project Programme). They will report to the Technical Manager on any incidence or deviation taking place in their WP. The WPTF will meet as often as needed to ensure the smooth running of the WP / pilot site. The Technical Manager will attend the WPCC meetings as and when needed.

Project Management functions

Daily operations must be managed by individuals who are well known and respected throughout the project. Daily operations cannot be efficiently managed by committees. These bodies are essential courts of arbitration needed to take decisions beyond the authority of the staff managing day-to-day operations.

The following management functions are recognised in the eEpoch project:

- The Project Director.
- The Technical Manager.
- The Project Office.

ETRA will appoint a Project Director and a Technical Manager. The **Project Director** will ensure the liaison with the eESC Steering Committee, the European Commission and be the official spokesman of the project to the outside world. The Project Director will chair the Project Management Team (PMT) meetings and make sure that the PMT decisions are implemented. The Project Director will be supported by the Technical Manager for all technical issues and by the Project Office for all day-to-day management tasks. The Project Director and the Technical Manager will be jointly responsible for ensuring a smooth coordination between the knowledge acquisition, processing and transfer and the operations at the pilot sites.

The **Technical Manager** will be responsible for the overall technical management and execution of the project. He must at all times be fully informed by the WP leaders about the project and the current situation. He will organise technical coordination meetings with members of the WP task forces as required. He will closely follow-up the project progress, coordinate the quality assurance functions, provide continuous risk assessment and will, in cooperation with the partners concerned,

initiate corrective actions as required. The Technical Manager will be assisted by the Project Office for all operational management tasks.

The **Project Office** will be provided by ETRA. The Project Office is an infrastructure which will ensure all the required operational management support for eEpoch.

8.4.2 eEpoch Expert Working Groups

The collaboration of experts in working groups will be done in real (physical) eEpoch Conference meetings but also exploit as much as possible state-of-the-art on-line workspaces supporting collaborations of virtual communities. These environments will especially be used with the aim to support progress to be made between physical working meetings. The choice of the tools to be used will optimise the exchange of information between the partners through email, chat-rooms, forums, virtual meetings, e-polling, etc., whatever functionality is considered efficient to facilitate work progress, consensus making and remote collaborative work. The Workpackage 2 leader will be responsible for the website and ensuring that the appropriate online work environment is maintained throughout the project duration.

The second important aspect of the collaboration management is the efficient organisation of real meetings. Professional methods for preparation, facilitation and follow-up of these meeting is particularly important to ensure that resources (time of experts, travel cost, etc.) are optimally employed and the expected results are achieved. The Workpackage 1 and Workpackage 2 leaders will have the responsibility respectively for a) the coordination and follow-up of the working meetings and b) the consolidation and entry into the knowledge base of the reports resulting from the collaboration of the various experts involved.

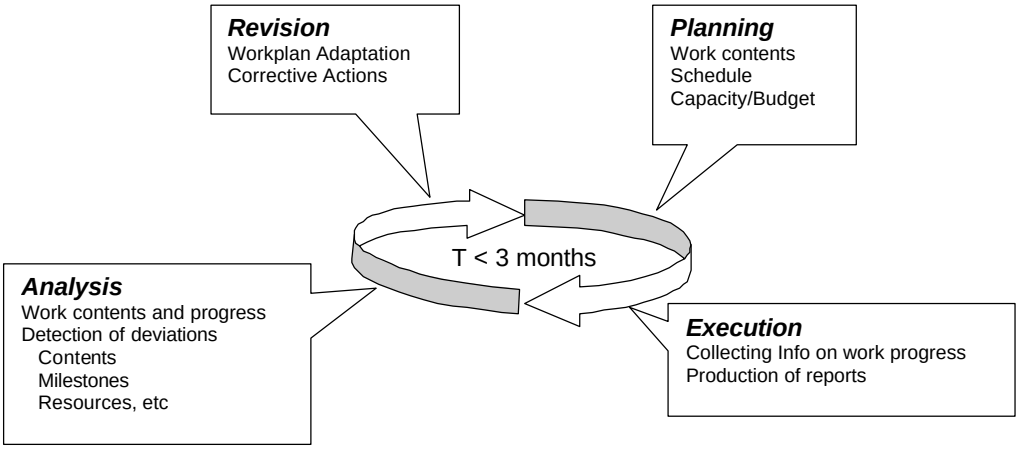
8.4.3 Local Site User group meetings

User group meetings, under the responsibility of site coordinators and senior management will be organized locally in the different countries that expressed interest in eEpoch and which are candidates for setting up pilot sites. The user groups will be mainly driven by the local site coordinator who will have the responsibility to involve the local organizations concerned by eEpoch based applications, gather their input and report them to the eEpoch partners and feedback to the local organizations the results elaborated in the project. The local site coordinators will participate to eEpoch working meetings to provide expertise on local specificity and represent their country. The participation of representatives of other countries through their local user groups will remain open via ESG - the more countries are represented in eEpoch the better. Participants to the local user groups will not receive any funding for the local work but a budget of approximately 50 K€ has been allocated to cover in special invited cases, to defray travel costs of selected invited experts, coordinators and other site representatives to participate in the eEpoch CONFERENCEs where appropriate.

The project coordinator will give a specific attention to provide the required support such as guidelines for the requirements reporting and to the need to ensure efficient communications with all participants by establishing the appropriate communication channels, such as direct contacts over phone, focus mailing lists, bulletin, etc. or other means found suitable to achieve this aim. Co-ordinated internal communication will help to establish the feeling of all participants that they are part of a European community that is working on a common goal, i.e. the preparation of a large scale deployment of an interoperable IAS infrastructure for the benefit of all.

8.4.4 Project Management Board

The Project Management Board (PMB) will be formed by representatives of the principle contractors. The objectives of the PMB are to supervise the global project execution, to take strategic decisions and to ensure that they are implemented. The PMB will also be a court of arbitration in case of conflict between participants. The PMB will typically meet every 3 months. A Project Board, consisting of the main partners will be set-up as a central decision making body.

8.4.5 Quality Assurance Strategy

The project will apply an internal reviewing procedure to guarantee the quality of its results. Each WP leader will be responsible for the quality of the results –specially deliverables- of his WP, which will be subject to a peer review by at least two experts: another WP leader –the one which will take as input the results of the WP being reviewed- and a user.