



The INCO-Health “antennas”: experience and networking

Slovenian experience

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J. Čop, Venice, 26.2.2007



North East South West
INTERREG IIIC





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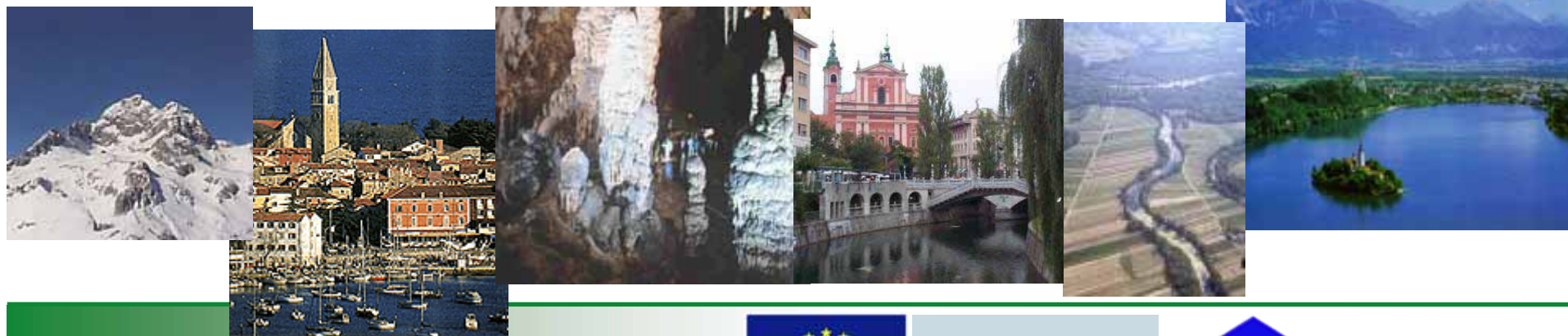
- A word about Slovenia
- A word about Slovenian health insurance card system
- A word about the renovation of the Slovenian health insurance card system
- A word about the Slovenian INCO-Health antenna and its role within the making the awareness about the relationship between the “old” and the “new” card system





General information about Slovenia

- Area: **20.256 km²**
- Population: **2.009.215**
- Capital city: **Ljubljana**
- GDP p.c.: **13.807 EUR (2005)**
- In INTERREG IIIC Slovenia is one region



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Health Insurance Institute of Slovenia

- **Health Insurance Institute of Slovenia (ZZZS)**
(provider of compulsory health insurance, collection and distribution of health care funds)
- Last year's turn over budget was 380 billion SIT or **1.5 billion €**
- The Institute employs staff of 950. Its operation covers the entire territory of Slovenia. The institute performs its functions through its ten regional units, which further employ 46 branch offices, operating in local communities. The Institute founder if the Republic of Slovenia.
- Three voluntary health insurance companies





INCO-Health antenna

- INCO-Health antenna was founded within the Health Insurance Institute of Slovenia.
- It consists of six – seven experts from health insurance card field – colleagues from Health Insurance Card Sector
- Psychologist, mathematicians, economists, ...





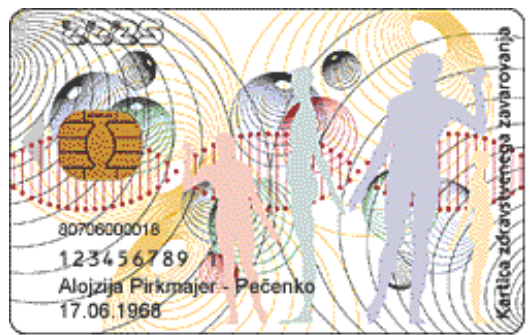
INCO-Health antenna

- Area of operation:
 - Health Insurance Institute of Slovenia
 - Voluntary Health Insurance Companies
 - Ministry of Health
 - Chamber of physicians
 - Chamber of pharmacists
 - Ministry of the Interior
 - Ministry of Public Administration
 - Press



HIC Introduction 1999 - 2000

Pilot implementation in 1 region in 1998, national roll-out in 2000.



Health Insurance Cards

2.034.323

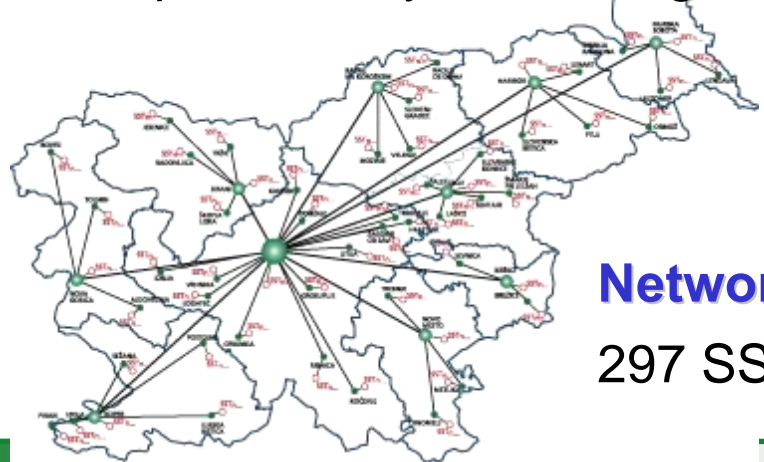
Health Professional Cards

20.607



Card Readers

desktop 4980, keyboard integrated 230, portable 890



Network of Self-Service Terminals

297 SSTs around the country



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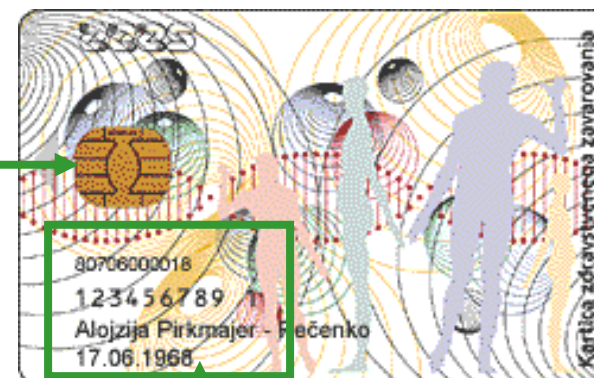




Components: microprocessor HI card

Data stored in the chip:

- card holder details,
- compulsory and voluntary health insurance details and validity,
- selected personal physician details,
- decision regarding organ donorship,
- issued drugs and medical technical aids.



Visual data: identification number,
name, date of birth.

Issued to all insured persons: 2.034.000





Components: microprocessor HP card

- Access key to data on the HIC (activation with a 4-digit PIN code);
- HPC holders are classified into 14 groups; groups have different keys on HPC and consequently different access rights to data on the HIC;
- Issued to all professionals in the health care sector and health insurance sector: 20.600.





Components: card readers, SST network

Card readers: At health care end-user premises
2 types:

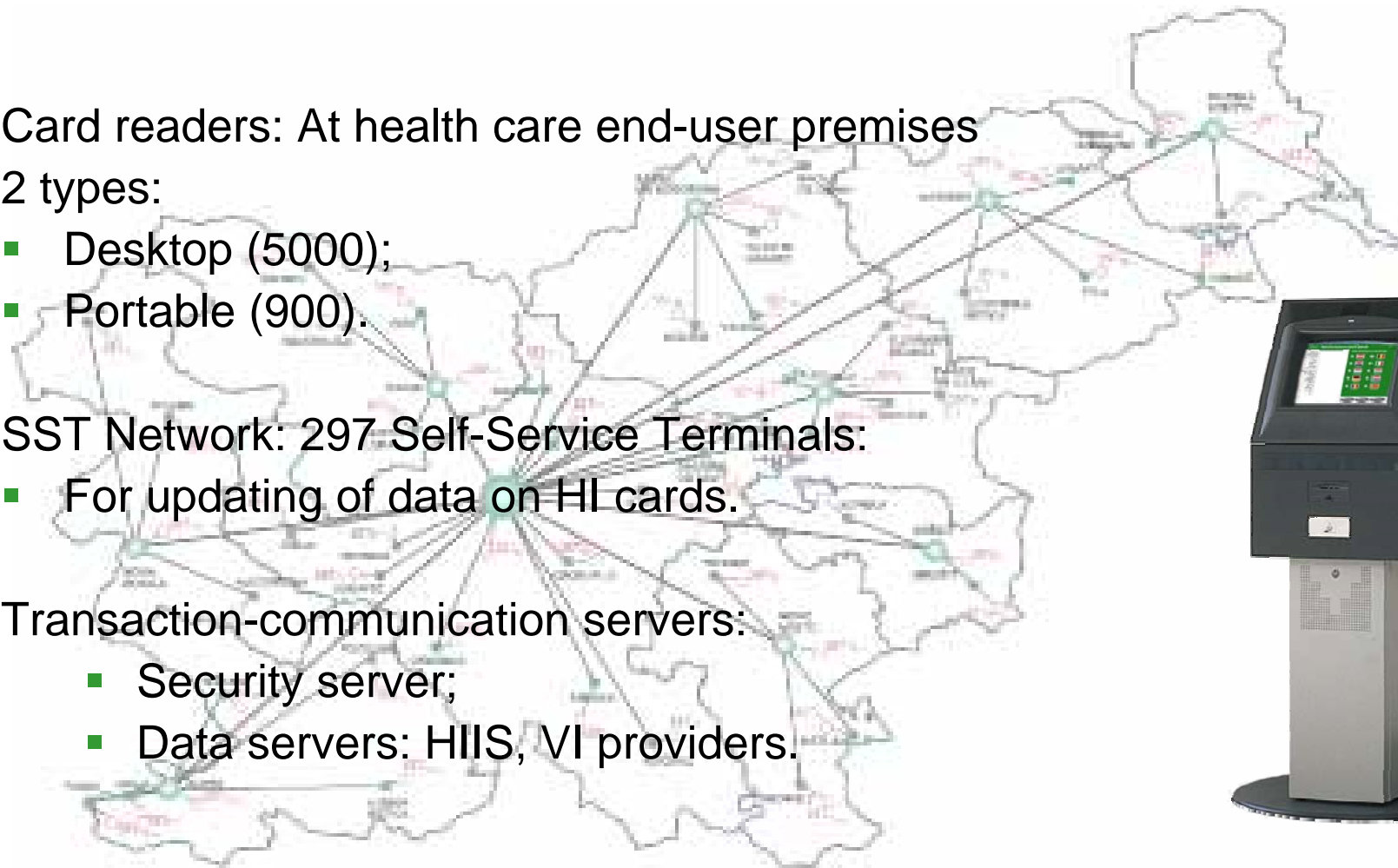
- Desktop (5000);
- Portable (900).

SST Network: 297 Self-Service Terminals:

- For updating of data on HI cards.

Transaction-communication servers:

- Security server;
- Data servers: HHS, VI providers.





HIC system benefits

- Savings in terms of time and work (HC service providers, patients, employers, HHS).
- Reliable (accurate, up to date, secure) electronic identification of patients.
- Impulses for innovations and development in adjacent areas.
- Acceptance of the new work methods by all user groups.
- Trust in the new technology.
- Infrastructure in place for future system function enhancements.
- Infrastructure for e-operations in the HC sector.
- Active participation in international projects and initiatives.





Redesign - reasons

Business reasons

- Expectations of insured persons: access to personal data, discontinuation of card data update on self-service terminals.
- Contextual supplementation in the health care sector requires a more contemporary security scheme (electronic signatures, traceability).
- Demands of insurance companies for decreased risk – discontinuation of the three-month insurance data validity period.

Technical reasons

- Gradual discontinuation of the production of current cards (designed in 1999).
- Required upgrade of other components.
- Possibilities for increased inclusion of contemporary networking technologies.

Legal requirements

- Requirements regarding the protection of personal data and electronic transactions.





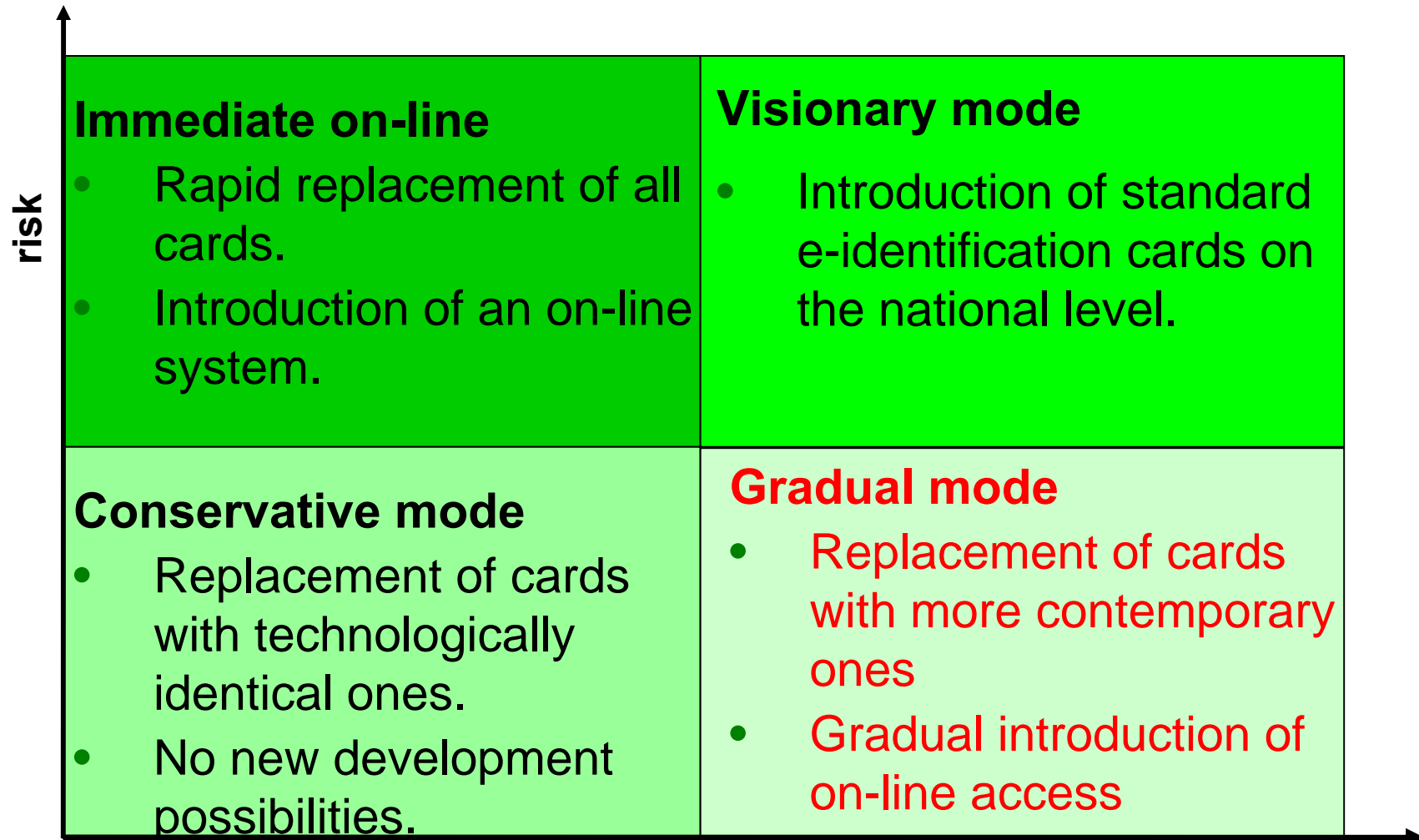
Redesign - objectives

- Construction of the infrastructure and tools required for direct access to updated data by health care providers.
- Update of the security scheme, enabling e-signatures.
- Enable insured persons an active role in accessing their personal data.
- Gradual introduction of the new card which will act not as a data carrier but as an access key.





Redesign modes

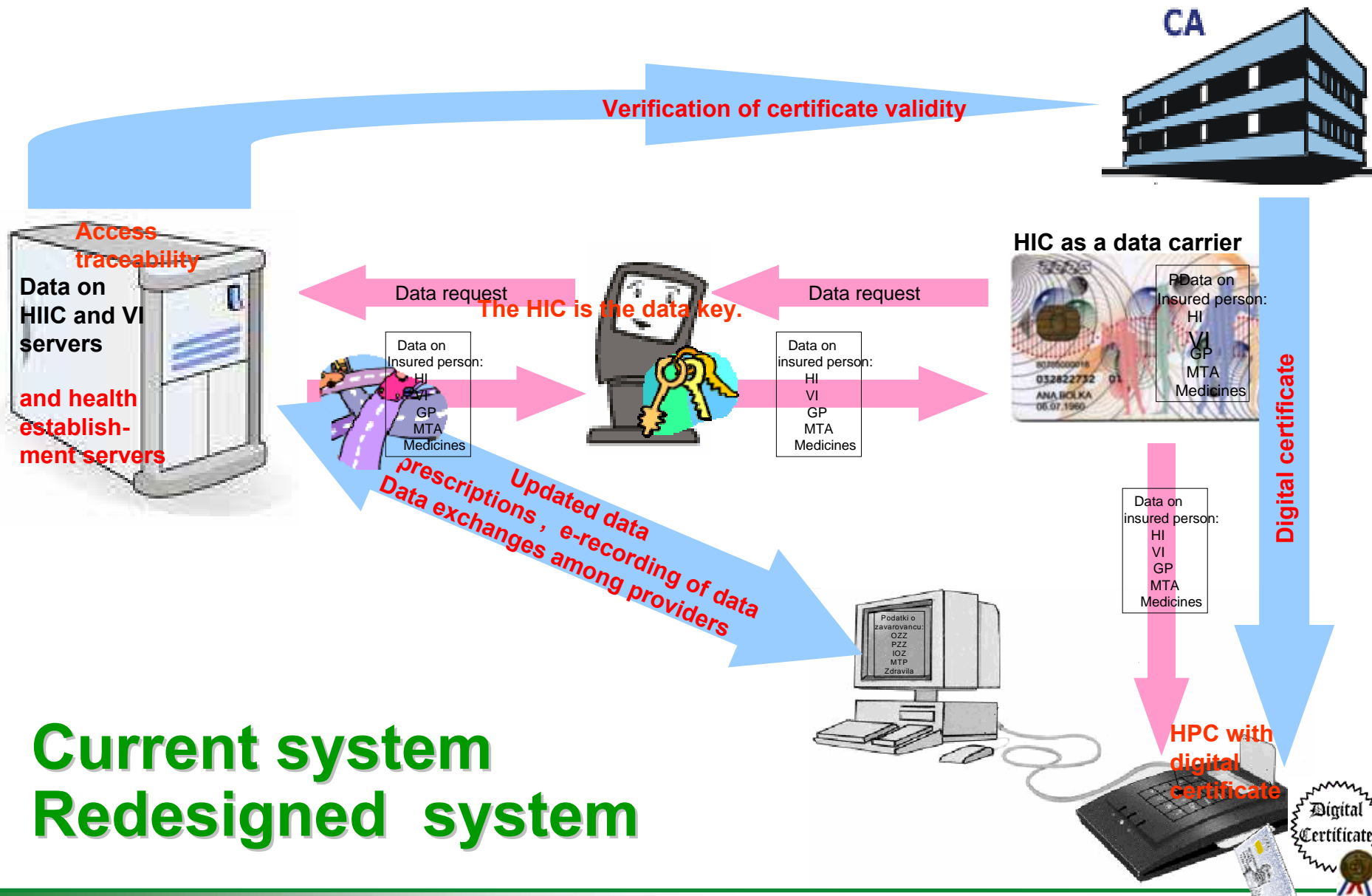




Card redesign concept

- The redesigned HIC will be:
 - equal to the current HIC and will at the same time allow for the storage of digital certificates,
 - a data key whereby access to data in the network will only be possible with an HIC → consent of the patient,
 - gradually introduced in a natural way.
- The new health professional card (HPC) will:
 - act as a digital certificate carrier at its introduction,
 - require digital certificates to be used by doctors → e-signatures,
 - completely replace the current HPC upon its introduction,
 - observe European and Slovenian legislative requirements and practices regarding the issue of qualified certificates → interoperability,
- The basis for the selection of card technologies:
 - compliance with EU standards,
 - it should allow for the selection of alternative suppliers.





Current system

Redesigned system





Redesign plan

Is reconciled with:

- EU guidelines (Action Plan 356/04, guidelines for the introduction of the electronic European health insurance card and computer exchange of data among members),
- National **e-Health 2010** strategy,
- Strategic development program of the Institute,
- Correctness of guidelines has been confirmed by the medical and pharmaceutical chambers, the Institute of Public Health, all three voluntary insurance companies, Ministry of Public Administration and Ministry of the Interior.

Was approved:

- The re-design plan was as a national project and part of the implementation of the strategic plan e-Health 2010 adopted by the national Health Information Council in October 2006.

The re-design is a constituent part of the update and development of the IT equipment of HHS and one of the key infrastructure components for the development of e-Health services. **Executed tasks must be urgently reconciled with the entire health care environment!**





INCO-Health Antenna – the role

- INCO-Health antenna's main role is to:
 - communicate to the stake holders, the parties involved in the Slovenian Health Insurance card system
 - communicate to the other parties within the interregional and international cooperations
- To make the goal of the renovation process more visible, clear and reachable





INCO-Health Antenna – the role

- Within the INCO-Health antenna operation there was:
 - Prepared study of combining EHIC with the new national card - NO!



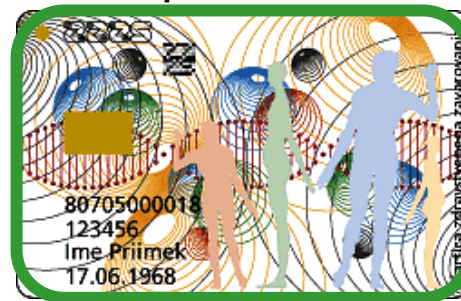
- Prepared study of introducing the picture onto the new national card - NO!





New HIC

- Initially, the new HIC will completely replace the current card.
- Card replacement will take place naturally (new insurance, card replacement).
- No changes for insured persons upon introduction, with only minor changes for health care providers.



- The new HIC will be an access key and no longer a data carrier.



New health professional card and digital certificates

- Initially, they will entirely replace the current card.
- Each HPC is a digital certificate carrier: Enabling secure e-communications.
- The physician's HPC is the carrier of a qualified certificate: enabling e-signatures, equal to hand-written signatures.
- The system for card issue and management is changed:
 - personal registration of physicians,
 - issue and maintenance of certificate records.
- The new HPC enables secure e-communications in the health care sector.





Acquisition of new HICs

- Continued operation of the card system without interruption for partners and users.
- New HIC will be technologically advanced card allowing for development possibilities.
- The new HPC with digital certificates is the basic security element of e-transactions in the health sector and health insurance.





Development of IT technologies and security data

- Very rapid development of telecommunication technologies (xDSL, wireless LAN).
- Decreased costs of fast and reliable telecommunications services.
- Legislation and public expectations on the development of e-solutions:
 - Protection of personal data against unauthorised access (definition of users and authorisations);
 - Traceability of personal data use;
 - Extremely strict regulations regarding electronic signatures.

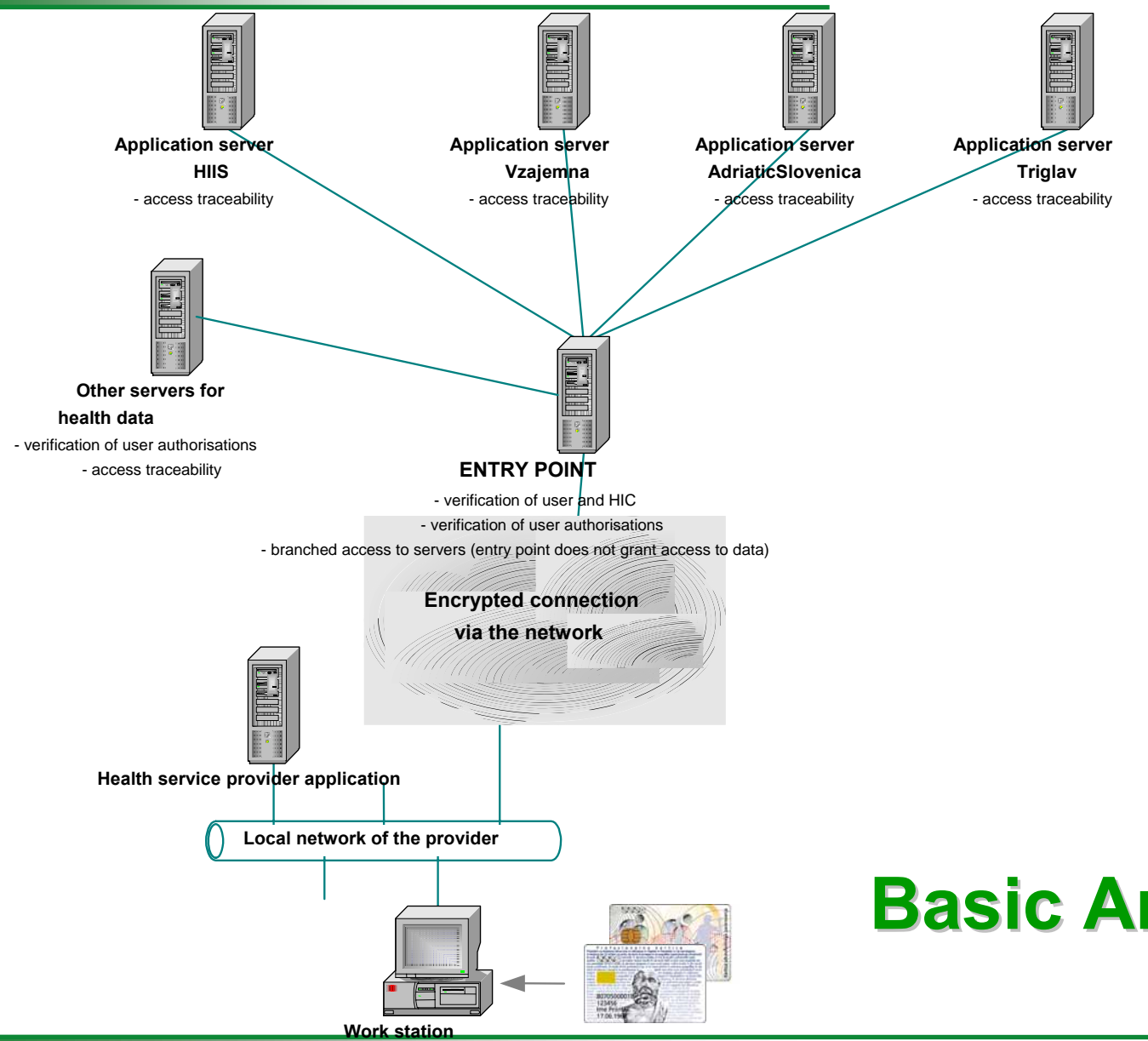




Contents of the ON-LINE Health Insurance Project

- Set-up of the communication and security infrastructures.
- Set-up of an on-line application for direct access to those data groups currently found on HICs.
- Development of trial solutions for e-prescriptions.
- Discontinuation of self-service terminals.





Basic Architecture



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On-line access to health insurance data

- A wider range of updated data will be available as opposed to the current HIC.
- Set-up of on-line concurrent data transmission regarding the choice of general physician, issued medical technical aides and medicines and discontinuation of the current computer exchange of these data.
- Assurance of on-line data regarding VI validity – in cooperation with VI insurance carriers.
- Assurance of the basis for assessing the validity of HIs on the part of foreign health providers (Netc@rds, eEHIC).
- Assurance of 24-hour system availability.





Benefits of on-line health insurance

- Simplification of procedures since users no longer have to update cards on self-service terminals.
- Assurance of a higher level of data security through the use of digital certificates and the introduction of traceability of all data accesses.
- Assurance of updated and more complete data for health providers for facilitated verification of the status of health insurance and more qualitative medical treatment.
- Business processes for health providers are simplified due to the discontinuation of EDI, GP, MTA...
- Risk of using health services without an arranged compulsory and voluntary health insurance status is removed.





Key challenges

- Promptly executed confirmations of individual components and control points of the project on the level of the supervisory bodies.
- Prompt acquisition of all required consents of partners, especially in the medical environment, with regard to required investments into the modernisation of IT equipment and introduction of the infrastructure for on-line operations and new applications.
- Prompt assurance of sources for updating IT equipment at the premises of health service providers and their subsequent introduction.
- Obligation of health service providers for the intended use and introduction of e-operations in accordance with the re-design time dynamics.
- Prompt implementation of procedures for supplementing legislation.
- Public contracts without large complications, assured human resources for the project's implementation within the required scope and dynamics.





Thank you for your time!
Questions welcomed!

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