

A photograph of two men in a professional setting, likely a hospital or clinic. The man on the left is wearing a white lab coat over a light blue checkered shirt and a purple and white striped tie. The man on the right is wearing blue scrubs and a stethoscope around his neck, and is gesturing with his hands as if speaking. The background is a blurred outdoor area with green foliage.

# Electronic healthcare solutions

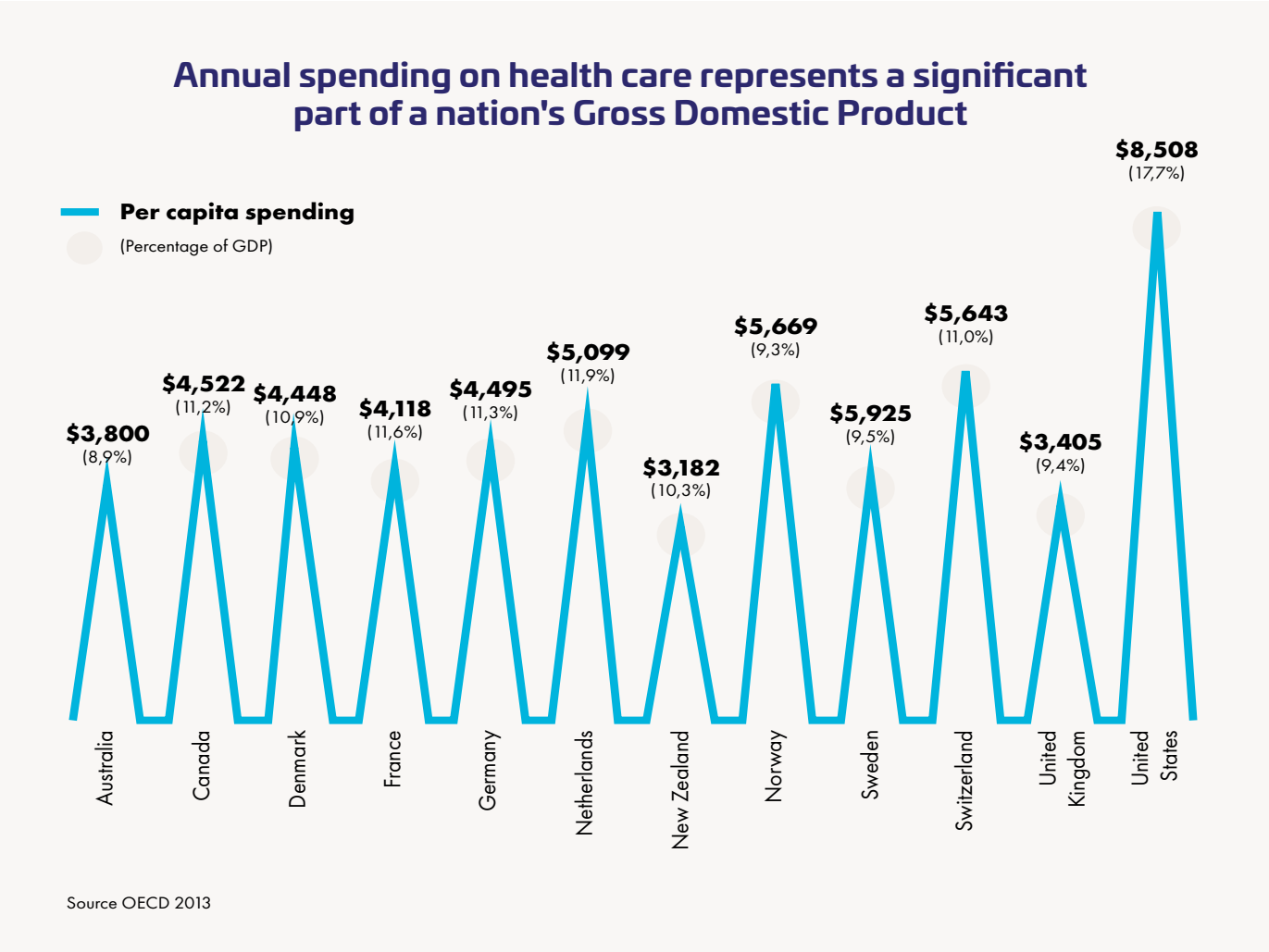
## Putting the patient at the center of modernization

# Electronic healthcare solutions

## Putting the patient at the center of modernization

### Identity & Biometric Solutions

The health sector holds an important place in our societies, as evidenced by funds appropriated to it, the role the state plays, and its contribution to the national economy and social welfare.



Longer life expectancy thanks to continuous medical progress, ageing population in industrialized countries, demographic growth in emerging countries increase every year the number of people in need of medical care worldwide.

As a result public healthcare systems are facing new challenges: facilitate health care access taking into consideration country and infrastructure constraints, preserve quality of service while setting the foundation for operational efficiency and cost monitoring in order to ensure the health care system is sustainable.

## The challenge of administrative efficiency

Our customers' first challenge is to process administrative tasks faster and more efficiently, and reduce the number of intermediate steps. The goal is to dematerialize the paper transactions and facilitate medical access, patient's registration as well as deductible payment when this occurs.

Most e-Government programs in this area are aimed at facilitating exchanges of information and helping medical professionals concentrate on care and treatment rather than administrative paper work, notably through:

- Much faster registration of patients at treatment centers
- Facilitation of administrative data collection
- Easy verification of patient's rights validity

## The challenge of medical information management

The next stage in the restructuring of the relationship between patients, healthcare professionals and public-sector authorities is obviously the introduction of digital transaction technologies and the creation of e-Health records, referred to as "Electronic Health Records" or "EHRs". They allow healthcare professionals to access all the information concerning a patient's health immediately, regardless of their location, thus avoiding hesitation in urgent situations and optimizing quality of service.

Access to personal medical data is of course inextricably bound up with identification. Accurate and secure verification of patient's identity as well as physician's and medical staff credentials are key to ensure privacy and quality of service.

## The challenge of fraud, abuse and errors

If the aim is to implement lasting improvements in health care systems, the fight against fraud, abuse and error must, of course, be included. Medical fraud is a growing concern worldwide, threatening the overall health care system sustainability, with serious impact in terms of social injustice.

The work undertaken by the European Healthcare Fraud and Corruption Network (EHFCN) since 2004 groups together data from the following member states: Belgium, France, Germany, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, Spain, Slovenia and the United Kingdom. It established that out of the €1,000 billion allocated to healthcare spending in the European Union in 2008, nearly €56 billion was lost to fraud.



"The need for robust identification is central so that we can answer the question "who is paying for who and for what?" It is essential for better rationalization of health expenditure, for checking purposes and, above all, for the sustainability of the social security system. It would be illusory to think that the supply of services could remain anonymous." CNAS, Algeria.

## Healthcare fraud in the U.S.



- **\$ 2500 billion** healthcare expenses
- **\$75 to 250 billion** lost to fraud

source FBI, May 2012 report

## e-Health cards numerous benefits

Using cards speeds up the transition to paperless, electronic procedures and data exchanges, which are also great catalysts for the modernization of systems. In terms of administration, the results obtained are impressive.

- Card usage creates consistent databases, with the automatic reading of data, and the confidential local storage and update of additional information such as blood groups, allergies, chronic diseases and associated treatments.
- Strong identification and authentication for patients and healthcare professionals, ability to verify benefits, expiry dates, multiple uses, are key features of microchip cards.
- Creation of personalized, online services, with «patient centric» focus with the usage of security features and capabilities of health care cards (identification number, PIN or biometric authentication)

## Why use a smart card-based solution?

Unlike paper documents, which can easily be forged, smart cards are **tamper-proof** devices difficult to forge or unlawfully manipulate. They benefit from the inherent high levels of security already implemented in other sectors, such as banking, telecom and identity.

An electronic cash functionality stored within the card secures the **distribution of social funding** to low income groups.

The card body itself becomes a **secure identification tool** by adding the user's picture and extra anti fraud features – all of which have been previously developed for banknote and ID applications and can be easily re-used in eHealthcare systems.

This robust technology can strike at the heart of fraud mechanisms, often with minimal investment in infrastructures, and without major changes for patients and healthcare professionals. Smart card technology is an invaluable asset to **combat healthcare fraud** in the interest of all.

Finally, the smart card enables the ultimate **privacy protection** by filtering access to sensitive data – only authorized people can read it, such as the card holder and their doctor.

By identifying the holder and his/her affiliation to an organization, and by verifying his/her rights, this card acts as an essential component of the IT system for the creation and secure transmission of standardized medical expense claims.

Dematerialization of the medical prescription from paper to electronic format helps organizations **reduce costs and increase efficiency**. Smart card solutions enable the pre-authorization of the health transaction by storing the validity of the patient's rights.

Costs are divided by 6 to 7 when processes are dematerialized.

### French SESAM Vitale initiative

**99,7%** of pharmacists and **86,8%** of general practitioners are using the SESAM-Vitale system in France in 2014.

The paperless medical expense claim requires the presence of the patient's card and the health professional's card.

Costs

**1,74€ (paper)** → **0.27€ (electronic)**

source: CNAMTS, France

Reimbursement delays

**3 weeks** → **5 days**

# Thales: at the crossroads of secure printing and embedded software development

Thales is at the heart of our evolving digital society, enabling health care agencies and governments around the world to offer trusted and convenient digital services to their citizens.

Thales is offering its customers a complete set of flexible, personalized solutions all within the utmost security. Controlling the end-to-end value chain Thales offers all relevant expertise under a single roof:

- Card body design, security feature combination and durability tests
- In house development of secure embedded software and crypto libraries
- Development of personalization solutions and issuance services
- Development and deployment of enrolment and verification infrastructures
- Security applications for both patients and health professionals
- Security consulting around the healthcare smart card application
- Common criteria certification and compliance to all relevant international standards

Thales has 120 years of experience in secure printing and over 30 years of experience in secure embedded software development. Thales' recognized expertise stems from its 17 healthcare schemes all over the world.



## Risk free project implementation

With its world-class supply chain, Thales has the capabilities to deliver large volumes to support national rollouts of healthcare projects:

- With our multi-sourcing policy, we can source microprocessor from more than one silicon supplier
- Our in-house manufacturing allows for maximum efficiency and reduced lead times
- We have high-capacity production units and disaster recovery plans enforced

## Security and performance at your service

Our operating system lies at the heart of the security of every electronic healthcare program. Thales' product range is constantly evolving, with both security enhancements and performance improvements, the availability of new silicon platforms and through multi-sourcing. This enables the availability of our secure embedded software on interchangeable microprocessor sources while offering transparency at personalization and usage levels.

We have a recognized expertise in cryptography, through an industry-leading group of crypto-analysts, several hundred patents in cryptography and security and over 40 products with Common Criteria and ITSEC certification. We also develop our own crypto libraries to ensure timely counter measure updates to guarantee resistance to latest-known attacks. Intense tests and component qualification are done by our R&D team - from radio frequency performance to security and cryptographic performance. The resulting hardware security guidelines are used by Thales' operating system and by our application developers.

Thales is also actively contributing to the work of standardization bodies and organizations. As a result, our products are in fully conformance with the latest standards.

# End-to-end Healthcare Offer

Thales' recognized expertise in healthcare comes from its 17 healthcare schemes all over the world.

## Thales Gemalto Enrolment

Card holders' data collection is performed during enrolment phase. This is a crucial step as it determines the security of the final identity document, so there can be no room for error.

Gemalto Enrolment offers a time-saving generic enrolment engine designed to speed up data capture, to verify an applicant's identity and to ensure the quality of data captured. The centralized or decentralized workflow can be tailor-made to fit with your environment and requirements. Working in over 17 national enrolment programs, our solutions have already registered millions of citizens. Thales Gemalto's Enrolment provides all the software and hardware components to capture citizen data, with a focus on speed and accuracy. Our solution is in multiple forms such as mobile units, desktop units and kiosks to suit the requirements of all situations.



## Thales Gemalto Issuance Platform

Thales' solution is equipment-agnostic and works with all major brands of personalization equipment.

Its flexible design is suitable for both centralized and decentralized issuance and works with both desktop and industrial personalization machines. It can also be easily linked to one of the many Thales personalization sites around the world to enable business continuity and disaster-recovery policies.

## Document verification

Deliver the right healthcare service to the right person is a key challenge for health insurance organizations. It is much easier and more comfortable for healthcare professionals to delegate the task of checking patient's identity, validity of entitlement and maximum authorised amount of medical spending to the Thales Gemalto Mobile eVerification Terminal.

In addition, the combination of the health card and biometrics provides practical, secure identification and an effective, easy and fast checking process. Fingerprints can prove the identity and presence of the patient, serve as proof of consent and non-repudiation, and even protect the confidentiality of medical data. Gemalto Mobile eVerification Terminal associated with biometric microprocessor cards provides a friendly, efficient and secure way to check identities, while strengthening protection against identity theft or abuse of the system.

The terminal allows healthcare professionals to read and authenticate all the traditional ID documents and new electronic ones such as eHealthcare cards. It features a high-resolution, large-screen touch screen display that is readable in both direct and low-light conditions.

### Gabon

Gabon : eVerification has a key role to play. In Gabon, biometric health cards enable highly secure patient identification without a central fingerprint database, as authentication is performed off-line thanks to a 1:1 fingerprint verification between the terminal and the card. Well before the program started, it was clear that the necessary measures should be implemented to secure access to the health coverage program. Unauthorized use of services by citizens from neighboring countries could lead to its collapse through the fraudulent use of rights. Beneficiaries must be identified individually in order to restrict access to care.



## Document lifecycle management

Registration and issuance are bundled so that the status of a document can be followed up throughout its life cycle.

The workflow is flexible and when a healthcare card is reported lost or stolen, it can be added to a watch list while an automated renewal is processed. We offer SMS gateway services to provide SMS notification (to let people know their healthcare card is ready for pick up) and delivery and renewal services through self-service kiosks.

## For all players of the healthcare ecosystem

Thales provides eHealthcare solutions for:

### • Patients

- National Healthcare Insurance card (standard or customized products for the benefit of the citizens)
- Secure web access to medical services

### • Healthcare Professionals

- Health professional smart cards (standard or customized products for specific use cases)
- Secure access control – physical (building & offices) and logical (computers and IT systems)
- Authentication solution: for connection to medical applications
- Readers adapted to every need (PC-connected, Standalone, Tokens)

### • Issuance Organizations (Governments and Health Insurance companies)

- Enrolment of patient data
- Personalization of cards including data preparation
- Packaging and direct mailing according to specific customer requirements
- Healthcare portal authentication gateway

# A patient-centric view for universal access to eServices

The central challenge to the success of eServices is establishing trust, by guaranteeing that user's identity and data are protected and can be exchanged in confidence. Many states have enabled their on-line services to use smart cards with the electronic chip that ensures the most secure means of verifying and authenticating an individual – both to prevent identity fraud and protect personal data.

## Solutions for patients and health professionals

Thales Gemalto eGov 2.0 enables patients and health professionals to access sensitive information online like electronic health records and perform transactions such as digitally sign ePrescriptions and eClaims. Engineered to deliver the highest possible level of online security, Gemalto eGov 2.0 is a multi-modal authentication and signature platform enabling different levels of access: health card, OTP, mobile,... to the health portal.

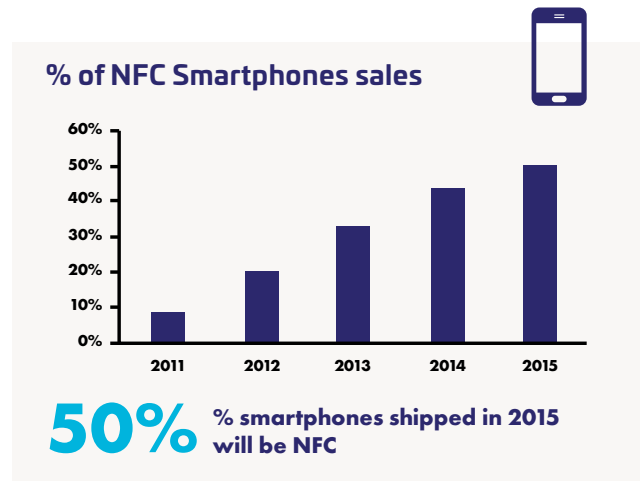


## Seamless user experience

Recognizing that not everyone has the same level of technology proficiency, Thales offers a smart card-based web service delivery with an eservice solution that has plug-and-play connectivity from any computer. It simplifies the end user interface as users have only to make a simple mouse click at their first connection. The solution is compatible with all the world's most widely used browsers.

Gemalto eGov 2.0 enables strong authentication, centralized signature and identity federation to form the basis of a national eGovernment infrastructure. It provides a shared future-proof platform for the use of electronic healthcare identity and the delivery of secure public services.

## mHealth powered by NFC



### Tablets

**20+** tablets are NFC beginning of 2012

**References: Asus, Vivo, Asus Padfone, Sony Xperia Tablet Z, HP Elitebook, Google Nexus 10, Nexus 7, Samsung Windows RT**

Mobile technology is revolutionizing virtually every aspect of our lives improving the way we communicate, work, drive and even our healthcare. With handsets embracing NFC technology, new ways of accessing healthcare become possible. As security is the top priority when dealing with health data, governments need to ensure a secure way to use the NFC technology.

Thales, NFC solution offers a user-friendly solution that combines NFC mobile/tablet devices and contactless health cards to enable proper authentication and secure access to health data.

## Mobile Health ID

Thales enables mobility in Healthcare sector by delivering strong ID using mobile phones or tablets. Thales Gemalto Mobile ID enables governments to put the healthcare ID into a mobile phone.



## Thales Gemalto Mobile ID enables mobile identity based secure login for national health service in Finland



With Mobile ID, Finnish users can securely log in to their eHealth account and authorize healthcare professionals to link medical applications with their personal information.

Patients can store, collect, generate and share both their data as well as information received from health care professionals. Taltioni is a Finnish health services cooperative promoting an open ecosystem for well-being services. Elisa is a Finnish mobile operator and Taltioni's customer.

Taltioni stores the data in a protected database that can always be accessible, anytime anywhere, with an added layer of protection thanks to Gemalto's Mobile ID verification.

Taltioni promotes Mobile ID login via its service platform, providing the safest login and user authentication available. Data security is essential : each citizen owns his or her information and decides who may access it.

eHealth is a global trend with people collecting more and more personal information through different sources and services. They can now control and share their medical history with their mobile – all in one place.



## M2M Healthcare

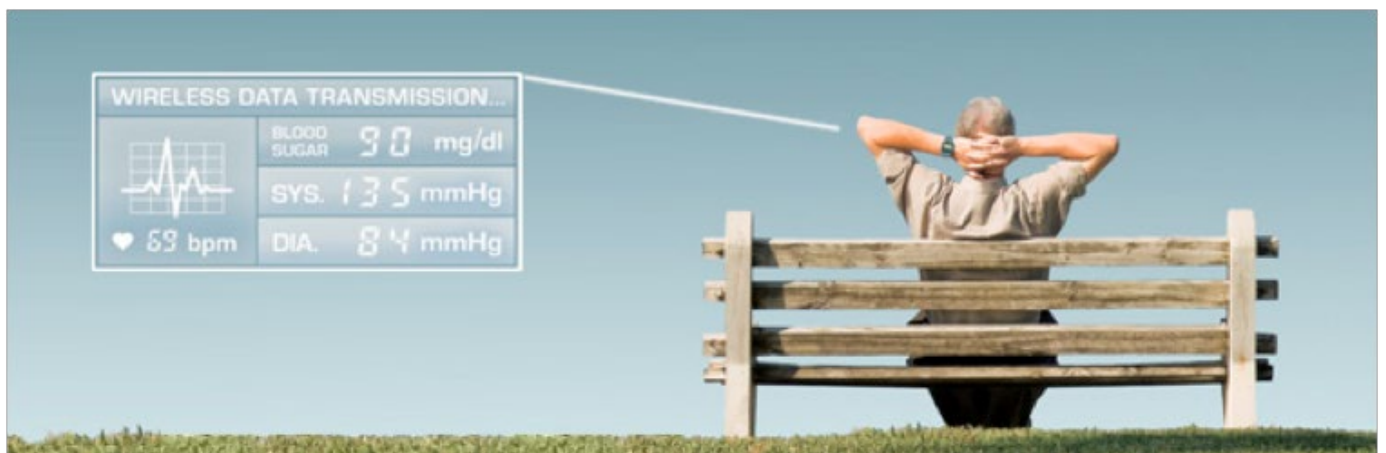
Communication between machines enables innovative advances in eHealth.

mHealth solutions are leveraging Machine-to-Machine (M2M) technology to cost effectively improve diagnosis and treatment of conditions including diabetes, heart disease, sleep apnea, Alzheimer's and more. mHealth solutions can help promote healthy patient behaviours and improved lifestyles that lead to better health outcomes.

Thales Gemalto M2M technology is at the heart of modern mHealth solutions providing reliable, secure connectivity along with cloud-based services that link patients and medical devices to doctors and healthcare IT systems. Thales-enabled mHealth solutions improve transparency and allow quick and easy access to important medical data, enhancing communication and enabling rapid, remote treatment while maintaining strict requirements for security, safety, and patient-doctor confidentiality and privacy.

Today, chronic diseases are regarded as health threats worldwide. The cost of managing chronic conditions accounts for an estimated two-thirds of worldwide healthcare spending, a figure mHealth solutions aim to reduce. With Thales enabled telemonitoring devices, a consulting physician can remotely monitor a patient's health status and chronic condition in real time and immediately react in case of emergency - no matter if the patient is at home, on the bus, at the movies or anywhere in the course of daily life.

Gemalto M2M technology extends the reach of assisted living homecare systems to any location where cellular coverage is available. Easy to use M2M telemonitoring devices utilize mobile, wireless sensors to remotely aggregate and communicate patients' health parameters, whether at home or on the go. Assisted living devices can also offer behavioural monitoring and, when needed, automatically call for help in time, which allows for faster reaction times.



# A complete eHealthcare solution for Algeria to slash costs, fraud and paperwork



## A fast growing country

Algeria has a population of 38 million, over 80% of who benefit directly or indirectly from the national healthcare organization, the CNAS (Caisse Nationale des Assurances Sociales des Travailleurs Saliariés). With the geographical dispersal of the healthcare system, spread out across the 48 wilayas or departments, there was a pressing need to put in place a faster electronic solution that would increase the security, reduce costs linked to administration, increase the speed of reimbursements and offer the visibility required by the CNAS to manage the overall system efficiently.

## A tailor made solution

Thales was able to respond to the CNAS with a tailor made solution based on four main elements:

- **Consulting services** – Thales was present from the beginning of the project in order to fine-tune the needs with the CNAS and find the most appropriate system architecture and processes.
- **Card issuance for patients**, including future-proof cards and the whole personalization system.
- **Card acceptance** – the use of a PIN code strongly authenticates the patient thus slashing fraud and misuse of the card. Health

professionals, on the other hand, were issued with a USB key offering strong authentication to the national healthcare IT system. This enables them to centralize all the claims issued during the working day and allows them to electronically sign prescriptions.

- **Application and security** – The PC based application manages the claim and prescription functionality.

As prime contractor, Thales managed the entire project including customization and an integrated issuance and management system. Thales designed for CNAS the production process and ensured proper training for the CNAS personnel. Thales assisted the CNAS in launching one production site in Algiers and a back up site in Laghouat in order to digitize patients records, personalize cards, process documents sent by pharmacies, verify signatures, issue certificates and update beneficiaries rights' validity.

Overall, Thales has provided more than 9 million smart health cards, which securely identify each beneficiary and their dependants. This solution validates each patient's rights at the moment of use, helping control fraud and the use of health products. The CNAS selected an off-line system for patient authentication and an on-line system for the authentication of health professionals. This allows for a decentralized healthcare electronic application while providing a centralized collection of data between health professionals and the CNAS organization.

## Visible benefits

The CNAS benefits from improved control of health needs across the population, and the system provides useful indicators for the decision-making process.

The dematerialization has enabled CNAS to divide its administrative costs. The creation of the central repository reduces operational costs and increases efficiency in the management of the Algerian healthcare program.

With secure access to the database through their USB keys, based on Public Key Infrastructure, health professionals are able to centralize all claims issued during the working day and allow them to electronically sign prescriptions.

## Key numbers of the CHIFA system as of November 2013

- System is running in 48 agencies (100%)
- Over 9,000,000 CHIFA cards issued since inception
- 26 000 USB dongles for Health professionals
- Over 160,000,000 e-invoices fully processed
- The dematerialization has enabled CNAS to divide his costs by 7



Algeria completely overhauled its healthcare system between 2006 and 2007, before deploying the new system between 2009 and 2011. Algeria was able to draw from the experience of European countries and integrate new mechanisms into this system, in particular to curb the repeated abusive use of cards, and the exceeding of card limits implementing in particular:

- A counter to keep track of card expenditures and block the card in the event of the card limit being exceeded.
- A counter to keep track of transactions, verify the use of the card and prevent it from being used for fraud.

In this way, the card of a patient who visits their doctor for the fourth time in a week will be blocked, making it impossible for the transaction to be processed. The counter can be unblocked by providing a satisfactory explanation

## Starting with the newborns in Azerbaijan

Thales, along with local partner Bestcomp, have been selected to provide a digital security solution for the national eHealthcare program in Azerbaijan. Bestcomp, a leading Azerbaijani IT company, is acting as integrator for the project, while Thales provided 3 million Sealys microprocessor cards and eGovernment middleware. The pilot phase began in February 2008, and progressive rollout has taken place over the following years. This is the first large-scale eGovernment project in Azerbaijan led by the Health Ministry, which provides social security benefits to all. For Azerbaijani citizens, the healthcare smart card substantially simplifies the submission of claims to the country's social security services by digitizing forms. It also offers a high degree of identification and transaction security and speeds up reimbursements. The cards are considered as the basis for the wider implementation of social support.

## Thales teams with AOK for second-generation eHealthcare card deployment in Germany

In March 2012, Thales announced that it is supporting AOK—Germany's largest health insurance organization—in its deployment of highly secure, second-generation electronic health cards.

Operating in 11 regions throughout Germany, AOK insures 25 million out of the 72 million citizens currently covered by universal healthcare. AOK has entrusted Thales to locally deliver the entire eHealthcare card cycle, from production and personalization to packaging and fulfillment of each card. Certified BSI & Gematik, this generation of eHealthcare card will allow German authorities to provide improved quality of service, privacy and security to claimants. More than 2.5 million eHealth cards have been delivered at the end of 2011 and 15 million have been delivered in 2012.



## Strong authentication for Seattle Children's Hospital (USA)

In 2010, Seattle Children's Hospital, ranked one of the best children's hospitals by US News and World Report, recognized the need to protect patient data from cyber threats by increasing the security of the hospital network access. Securing patients data privacy, information access and capturing an audit trail of all access events is vital to any healthcare organization. By choosing Thales, Seattle Children's Hospital ensured a smooth strong authentication deployment, tailored to the needs of the hospital's diverse users. Thales provided the strong authentication solution using OTP token devices and authentication server to secure the remote access to hospital information system. The solution equips 4,500 clinicians and IT administrators with Thales' convenient portable multifactor authentication capability.

## Canada says "bye bye" to login password

Sunrise Regional Health Authority serves 58,000 people in Canada's Saskatchewan Region. Covering such an immense territory creates a unique set of needs for the Authority's nomadic staff of 3,000. In a demanding setting where life and death decisions are a constant, entering a user name and password to log onto shared workstations had become a hindrance. To free the staff, Thales supplied a "Follow Me" solution that automatically locks access during momentary absence, enabling instant re-authentication upon return. A Thales Gemalto smart card with a single identifier enables the staff to log onto any workstation, immediately picking up where they last left off.

## A new health care scheme for patients with chronic diseases in Antigua and Barbuda

Thales has been appointed by the Medical Benefits Scheme (MBS) as prime contractor for the electronic health card program in Antigua and Barbuda. The challenge for MBS was to facilitate healthcare assistance and pharmaceutical supplies for patients with chronic diseases and manage insurance rights, set up paperless process and reduces delays. Thales solution includes enrollment, personalization, issuance and project management as well as the smart cards and software applications for medical staff, laboratories, administrative agents and patients. Thales developed an application that enables doctors to securely store electronic prescriptions and lab requests on the card. Pharmacists can access the card to record prescriptions dispensed. Laboratory staff also uses the card to record all tests and procedures performed along with the associated costs. The card also stores a personal health record including the last 10 prescriptions, the last 25 doctor visits, and the chronic diseases with which the patient has been diagnosed. MBS has now the insurance that services are delivered to the entitled person thus reducing fraud and unlawful transfer of rights.

## A social security project born from a presidential initiative in Gabon

A promise made to the poorest Gabonese, this project is the result of the commitment of the Gabonese government to expand social security cover to all citizens and quickly modernize the health insurance system. In 2007, the government created the National Health Insurance and Social Welfare Fund (Caisse Nationale d'Assurance Maladie et de Garantie Sociale [CNAMGS]) which must cover the healthcare costs of the unemployed, the peasant farmers, the self-employed, the poor and all those excluded from existing structures.

In May 2009, the Gabon national health body entrusted Thales with the prime contractor role for the national electronic healthcare card program. Thales supplies a solution which includes enrolment of beneficiaries, the health insurance cards, its Allynis Issuance operated personalization services and an identity data verification system. The Sealys Laser-Secured health insurance card, which is valid for 10 years, is made of polycarbonate, a material which offers a higher level of security and is resistant to extreme climatic conditions. Civil data, a photograph of the holder and two fingerprints are digitized within the microprocessor ensuring encryption and protection of this data. The multi-application Java Card OS supports opening and upgradeability of software applications. The health card is used in hospitals, pharmacies and clinics, to check social security rights whilst protecting the confidentiality of personal data. Checks are performed using terminals with fingerprint sensors.



### • Scale of the project

By December 2013, more than 525,000 Gabonese people were already registered.

- 1.5 million health cards on completion
- 130 registration stations
- 1 central site for processing registrations and a personalization workshop
- 115 verification terminals
- 1,500 registrations/day

### • Benefits

The first stage sees each health insurance card holder immediately benefit from access to pharmacies and hospitals registered and approved by the CNAM GS, and medical costs being covered by the CNAMGS, within the limits of the care package defined by the order.



# Opening a new era of secure on-line access for the benefits of all Slovenians

This first foray into a nationwide health card system by the Health Insurance Institute of Slovenia (ZZZS), was a significant breakthrough in European healthcare management, with the Slovenian Health Insurance Card (HIC) winning the “Sesame 2000” award at Cartes in Paris and for its enhancements the “Drops 2007” award at Omnicard in Berlin.



In 2008, ZZZS introduced, with all key actors in the Slovenian healthcare environment, a renewed system.

In February 2008, the Institute chose Thales and Cetus, the Slovenian leader in security document printing, to supply a comprehensive solution for its latest generation of health insurance cards. Cetus provides card personalization and the PKI infrastructure.

The Thales Gemalto's Health Insurance cards were the first of their kind in Europe to feature its Java-based Gemalto Multi App ID to further secure a fully on-line system with digital signatures for healthcare professionals. Thales also supplies middleware and applets. ZZZS acted as system integrator and as operator of the national healthcare system issues cards to citizens.

## The results

Gemalto's Sealys Health Insurance cards is significantly enhancing on-line services for health providers, enabling simpler and harmonized administrative procedures, and more importantly, allowing electronic transactions to be carried out in compliance with regulations governing the protection of personal data and eTransactions. For patients new services, such as viewing one's own health insurance and health related data, were introduced. For health insurance companies, the risk of misuse due to the concurrent review of data on insured persons is reduced.

These cards offer secure patient ID, access to accurate and up-to-date data from ZZZS's back-offices and a significant reduction in fraud and administration. They have been in daily use throughout the entire Slovenian healthcare environment for the past fourteen years.

In 2010, ZZZS won the award for the Slovene's best IT project for renewing the card system and introducing the on-line system, at the conference "Days of Slovene informatics".

## New Use Cases

In 2011, ZZZS has launched a portal for insured persons, where they can access their insurance and health related data, and they can use digital certificate from their Health insurance card to enter the portal.

In 2011, ZZZS launched a portal for health care workers, which can be entered with their Health professional card and is used for data

exchange with ZZZS, for billing, statistics,... This platform (HIC, HPC, on-line system, portals) will be used for other e-services for insured patients and health care professionals.

Today, the Ministry of health is rolling out nationally e-prescriptions, where Health professional cards are used to digitally sign the electronic prescription. It will bring several benefits such as speed up administrative tasks and reduces costs, enables service non-repudation (proof of presence, proof of consent).

### **Statement from Mrs. Mirjana Kregar CIO at Health Insurance Institute of Slovenia.**

In the last couple of years, a great leap has been made in Slovenia in the transition from the first to the second generation of health insurance cards, where the second is defined mainly by digital certificates stored on insured persons' and health workers' cards and an online system for exchanging data. The new card complies with the highest and most demanding security requirements for electronic business in the health care system. The new online system has enabled us, the health insurance company, to implement additional simplifications in data transfer processes and also made it safer which is crucial since we are dealing with large amounts of confidential personal data. In addition, the system made expenditures more controllable and transparent.

At ZZZS we are currently setting up an analytical system that will help us use the data we collect, through cards and our online system, rationally and allow for optimal planning of health services which will be aligned with customer demand.

In the following years, the infrastructure (cards with digital certificates and the online system) will help us overcome our main strategic challenge, which is how to improve the accessibility of ZZZS services online and have it become the prevailing form of customer relations as well as means of communication with other strategic partners in the field of e-health.

The first two completed projects were the implementation of the web portal for insured persons and a web portal for health service providers. Online prescription is currently being put in place and in the near future.

# THALES

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