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The EU RTD Programme FP-7: Health IT Projects

IT projects with healthcare implications awarded under the EU's Seventh Framework Programme for Research (FP-7) are ambitious in scale. Many underscore the EU's emerging response to its e-Health agenda as well as the possibility of using IT to cope imaginatively with the challenges of an ageing population. Nevertheless, many observers in the healthcare IT community believe there is a piecemeal, pick-and-choose approach to the projects, accompanied by the absence of a cohesive e-Health facing superstructure.

For example, no efforts to date have inventoried and analysed the existing IT infrastructure in EU hospitals. This especially concerns the mainly COBOL legacy systems which face serious limitations in terms of real-time connectivity. Such systems, for example, already pose major challenges to initiatives like the Single European Payments Area – a fact which senior EU officials have publicly acknowledged.

In our forthcoming issue, we intend to take a look back at the fate of major (and now completed) healthcare IT projects under the previous Sixth Framework Programme, to determine if they provide any lessons for the future.

Healthcare IT Projects IN FP-7...

The overview below describes 24 key projects funded by the EU Seventh Framework Programme (with a value of over 100 million Euros) and awarded by the middle of February 2008. We have grouped them into five categories.

IT Architecture and Infrastructures: 3 projects with consortia led by organisations based in Belgium, Greece and the UK, with funding of 6.76 million Euros.

Advanced ICT for Patient Safety: 8 projects with consortia led by organisations based in Belgium, France, Germany (two), Italy, the Netherlands, Portugal and the UK, with funding of 32.66 million Euros. One project is targeted at using European telemedicine standards in Latin America.

Personal Health Systems: 6 projects with consortia led by organisations based in Austria, Denmark, Germany (two) and Italy (two), with funding of 46.16 million Euros.

ICT and Ageing: 5 projects with consortia led by organisations based in Austria, Italy (two), Spain and the UK, with funding of 17.94 million Euros.

Bioinformatics and Robotics: 2 projects with consortia led by organisations based in Italy and the UK, with funding of 6.75 million Euros

....and a Quick Glimpse Ahead

Many healthcare IT veterans may have been more comfortable with a nuts-and-bolts Master Plan to build a coherent e-Health infrastructure in Europe. However, the financial scale of the above projects will add momentum to several other facets of healthcare (such as hospital modernisation). Above all, it will (hopefully) make the sometimes sluggish, inward-facing policy makers in Europe's Member States aware that issues like patient safety and an ageing population, bio-informatics and nanotechnology

are not Vision Things, but will emerge on the EU public's radar during their terms in office.

[IT Architecture and Infrastructure]

Admire:

Advanced data mining and integration research for Europe

ADMIRE seeks to empower users and developers of data mining and integration processes via a set of gateways connected together over the Internet and Grid, and will no doubt have implications for hospitals.

Budget: 4.35 million Euros. Contact: University of Edinburgh, UK.

Awissenet:

Ad-hoc PAN and wireless sensor secure network

AWISSENET focuses on security and resilience across ad-hoc PANs and wireless sensor networks. It seeks to offer self-configuration and secure roaming of data and services over multiple administrative domains and across insecure infrastructures of heterogeneous ad-hoc and wireless networks.

Budget: 1.96 million Euros. Contact: Elliniki Aeroporiki Viomichania AE, Greece.

Grifs:

Global RFID interoperability forum for standards

GRIFS is support action for global RFID-related standardisation activities, involving participants from Europe, China, India, Japan, Korea and the US. Following the establishment of a worldwide view of the status of RFID standards, it is envisaged that a follow-on Forum will continue to work constructively thereafter.

Budget: 450,000 Euros. Contact: GS1 aisbl, Belgium.

Advanced ICT for Risk Assessment and Patient Safety ICT and Ageing

Avert-IT:

Advanced arterial hypotension adverse event prediction through a novel

Bayesian neural network AVERT-IT is aimed at a novel bedside monitoring and alerting system dedicated to the prediction of variations in the condition of a patient likely to lead to hypotension adverse events.

Budget: 1.78 million Euros. Contact: Pera Innovation Ltd, UK.

Comoestes:

Continuous monitoring of medication overuse headache in Europe and Latin America: development and standardisation of an alert and decision support system

COMOESTAS aims to develop an innovative 'all-in-one' ICT alert and decision support system which allows patients with a chronic condition to receive constant monitoring and personalised diagnosis.

Budget: 1.6 million Euros. Contact: Fondazione Istituto Neurologico Casimiro Mondino, Italy.

Alert:

Early detection of adverse drug events by integrative mining of clinical records and biomedical knowledge

ALERT seeks an alternative computerised approach for the early detection of adverse drug events, based on rapid assessment of signals from EHRs and biomedical databases, rather than relying on the physician.

Budget: 5.88 million Euros. Contact: Erasmus University Medical Centre, Netherlands.

PSIP:

Patient safety through intelligent procedures in medication

PSIP seeks to use facilitate the systematic production of epidemiological knowledge on adverse drug events and ameliorate the entire medication cycle in a hospital environment. To achieve this, it will mine hospital databases and other data sources.

Budget: 7.27 million Euros. Contact: Centre Hospitalier Regional et Universitaire de Lille, France.

Epilepsiae:

Evolving platform for improving living expectation of patients suffering from Ictal events

This project intends to develop an intelligent alarming system, based on multi-signal information (EEG, ECG and others), intelligent data processing and wireless communications. It will be patient-transportable.

Budget: 2.92 million Euros. Contact: Universidade De Coimbra, Portugal.

Debugit:

Detecting and eliminating bacteria using information technologies Increased antibiotic use have led to major new challenges, such as growing resistance.

DEBUGIT will mine data from Clinical Information Systems to obtain patterns and trends via a virtualised Clinical Data Repository (CDR), featuring, transparent access to the original CIS and/or collection and aggregation of data in a local store.

Budget: 6.41 million Euros. Contact: Agfa Healthcare, Belgium.

Alert: MedNET:

Latin American Health Care Network

MEDNET seeks to develop a medical network that addresses the problems of providing health care from a distance to rural areas in Latin America. MedNET will use European standards for communication, storage and medical data presentation.

Budget: 1.4 million Euros. Contact: Fraunhofer Gesellschaft Zur Foerderung Der Angewandten Forschung E.V, Germany.

Remine:

High performances prediction, detection and monitoring platform for patient safety management

REMINE seeks to mine data to model, predict, and detect Risks Against Patient Safety (RAPS), and then build a management support system for a patient safety framework. RAPS represent one of the most important causes of death in hospitals.

Budget: 5.4 million Euros. Contact: Gesellschaft Fuer Medizinische Datenverarbeitung Mbh, Germany.

ICT and Ageing

A Companionable:

Integrated cognitive assistive and domotic companion robotic systems for ability and security

CompanionAble targets social inclusion of the elderly suffering from chronic cognitive disabilities. Its USP is a synergetic combination of the strengths of a mobile robotic companion with the advantages of a stationary smart home.

Budget: 7.8 million Euros. Contact: University of Reading, UK.

Confidence:

Ubiquitous care system to support independent living

Confidence will develop and deploy innovative, cost effective, non-intrusive and reliable technologies for the detection of abnormal events or unexpected behaviours that may be related to a health problem in elderly people.

Budget: 3.5 million Euros. Contact: Centro De Estudios E Investigaciones Tecnicas De Guipuzcoa, Spain.

Cognitive care and guidance for active aging

HERMES provides an innovative integrated approach to cognitive care. This is achieved through an advanced, integrated, assistive technology that combines the functional skills of older persons to reduce age-related decline of cognitive capabilities and assist users where necessary.

Budget: 2.82 million Euros. Contact: Center For Usability Research And Engineering, Austria.

Social ethical and privacy needs in ICT for older people: a dialogue roadmap

SENIOR aims to provide a systematic assessment of the social, ethical, and privacy issues involved in ICT and Ageing, to understand what lessons should be learned from current technological trends, and to plan strategies for governing future trends.

Budget: 950,000 Euros. Contact: Centro Studi Su Scienza, Societa E Cittadinanza srl, Italy.

Personal Health Systems for Monitoring and Point-of-Care Diagnostics

Chianti:

Challenged Internet access network technology infrastructure

The rapid growth of nomadic, mobile Internet is creating demand for ubiquitous connectivity. CHIANTI seeks to improve disconnection a disruption tolerance and promises considerable implications for the trend towards mobility in pervasive e-Health infrastructures.

Budget: 968,262 Euros. Contact: University of Bremen, Germany.

PHS2020:

Road-mapping personal health systems – scenarios and research themes for FP-7 and beyond

The PHS2020 project aims to produce a post FP- 7 RTD roadmap on ICT supported Personal Health Systems, identifying emerging technologies and potential applications, taking account of users demands, business aspects, ethical and legal considerations.

Budget: 450,000 Euros. Contact: Consorzio Per 'innovazione Nella Gestione Delle Imprese E Della Pubblica Amministrazione Denominato Anche MIP (Master Imprese-Politecnico), Italy.

Heartcycle:

Compliance and effectiveness in HF and CHD closed-loop management Heart

Cycle will provide a closed-loop disease management solution to serve both HF and CHD patients, by multi-parametric monitoring of vital signs, analysing the data and providing automated decision support, to derive therapy recommendations.

Budget: 21.99 million Euros. Contact: Philips Technology GmbH, Germany.

Pocemon:

Point-of-care monitoring and diagnostics for autoimmune diseases

POCEMON aims at hardware and software development for a multi-purpose autoimmune diseases diagnostic platform interfaced with Laboratory Information Systems. It will combine Lab-on-Chip (LOC) technologies, genomic micro-arrays of HLA (human leukocyte antigens) typing, microelectronics, mobile devices, intelligent algorithms and wireless communications.

Budget: 8.4 million Euros. Contact: PCS Professional Clinical Software GmbH, Austria.

Diadvisor:

Personal glucose predictive diabetes advisor

DIAdvisor is a large scale-integrating project to develop a prediction-based tool which uses past and easily available information to optimise the therapy of Type I and II diabetes. It does not depend on specific sensor technologies.

Budget: 7.1 million Euros. Contact: Novo Nordisk A/S, Denmark.

Chronious:

An open, ubiquitous and adaptive chronic disease management platform for renal insufficiency

CHRONIOUS seeks to develop a smart wearable platform, based on audio signals, vital sensors and activity sensors. It would continuously monitor patients suffering from chronic diseases in long-stay settings and detect any sign of abnormal health status and possible alerting incidents.

Budget: 7.25 million Euros. Contact: Tesan SpA, Italy.

Bioinformatics and Robotics**Smiling:**

Self Mobility Improvement in the elderly by counteracting falls

SMILING seeks to diminish age related impairments by interfering with mobility disability and improving carry-over into real life situations. It will provide a wearable non-invasive computer-controlled system, aimed to perform chaotic perturbations to lower extremities during active walking by small alterations of the height and slope of weight-bearing surfaces.

Budget: 2.87 million Euros. Contact: Istituto Nazionale Di Riposo E Cura Per Anziani V.E. II, Italy.

Renachip:

Rehabilitation of a discrete sensory motor learning function by a prosthetic chip

RENACHIP's objective is to develop a full bio-hybrid rehabilitation and substitution methodology; replacing the aged cerebellar brain circuit with a biomimetic chip bi-directionally interfaced to inputs and outputs of the system.

Budget: 3.3 million Euros. Contact: The University Of Newcastle Upon Tyne, UK.

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