

Health-e-Child

An eHealth Platform for European Paediatrics



Health-e-Child supports doctors in their clinical decision process in rare paediatric diseases through an innovative integrated healthcare platform.

As an early member of the Virtual Human research community, the EU FP6 **Health-e-Child** project has been working since early 2006 on building an integrated healthcare platform for paediatrics. It integrates innovative predictive disease models, complex data visualization and knowledge discovery applications, with the ultimate goal of supporting clinical decision making in rare paediatric diseases.

A Network of Knowledge

Health-e-Child is coordinated by Siemens and brings together four major paediatric hospitals, (Great Ormond Street Hospital in London, Istituto Giannina Gaslini in Genova, NECKER-Enfants Malades in Paris, Ospedale Pediatrico Bambino Gesù in Rome) and 10 further European research entities (Asper, CERN, European Genetic Foundation, Gerolamo Gaslini Foundation, INRIA, Lynkeus, Maat GKnowledge, University of West England, University of Athens, University of Genova) forming a consortium which contains all the inter-disciplinary expertise in information-based medical technology required to achieve the project's challenging goals.

To supply the computing power necessary to meet the challenge of integrating and analysing the large amount of data, information and knowledge shared by its clinical centres, Health-e-Child has utilised the Grid as robust, scalable and high performance technology which syndicates distributed computing resources into one large virtual facility, thus offering almost unlimited storage capacity and computing power.

Being originally developed for high energy physics, in Health-e-Child the Grid has been specialised for the medical domain's data security and privacy regulations, and has had its functionality extended to deliver advanced medical applications.

Physiological



New ICT Weapons to Fight Paediatric Diseases

Clinicians can now freely and seamlessly use the Grid network of 12 collaborating sites across Europe to conduct large studies and exchange clinical information within the network. The platform securely handles anonymised medical data, ranging from genetics to imaging and clinical, and makes all of them converge into a cohesive unified picture of each patient's clinical state. This harmonised view of the data forms

the basis for personalised treatment, comparison, and identification of different individuals' classes based on their biomedical profiles in paediatric heart (cardiomyopathy, Tetralogy of Fallot) and inflammatory (Juvenile Idiopathic Arthritis) diseases and brain tumours (Gliomas).

Regardless of location, and thanks to a simple USB key, clinicians are able to connect to the system, navigate through the enrolled patient population, identify similar cases and examine their treatment and how they responded, ultimately supporting decision making or helping to better understand rare conditions. The system can also be used by clinical researchers in order to validate hypotheses and as a collaboration vehicle to design, develop and personalize new disease models to give further insights on the nature and progression of the diseases.

Looking to the Future

Having won the Best Exhibition prize at Europe's largest Information and Communication Technologies conference (ICT 2008, in Lyon, France), the platform has demonstrated its relevance and maturity. Moving towards the exploitation phase, Health-e-Child is seeking opportunities to become a more widely utilised reference platform and infrastructure in paediatrics. As a first step in this direction the

platform has been deployed also at the Johns Hopkins University hospital in Baltimore, USA.

Rome conference on Health-e-Child and VPH

On the 140th anniversary of the Ospedale Pediatrico Bambino Gesù, a conference on **"The diagnostic and predictive contribution of Health-e-Child within the heuristic perspective of the Virtual Physiological Human framework"** is being held in Rome on the **23rd and 24th September**. Among the many speakers (some from other selected European and American projects), it is worth while mentioning the attendance of H.E. Monsignor Rino Fisichella, President of the Pontifical Academy for Life, Giovanni Alemanno, Mayor of Rome, Ferruccio Fazio, Vice Minister for Health, and Joël Bacquet, Head of Setor "Health Infrastructures" - ICT for Health, European Commission.

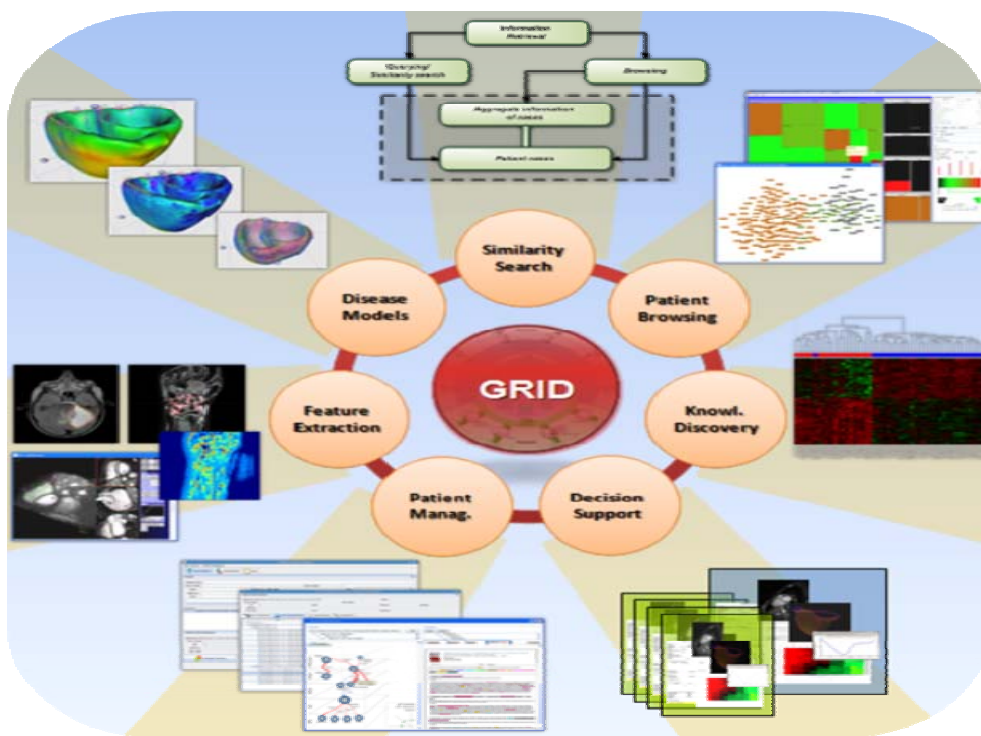
Coordination:

Coordinator/Executive Board Chairman: Jörg Freund - Siemens Medical Solutions | Governing Board Chairman: Dorin Comaniciu - Siemens Corp. Research | Project Management Team Leader: Edwin Morley-Fletcher - Lynkeus, S.r.l. | Scientific Committee Chairman: Dorin Comaniciu - Siemens Corp. Research | Research Technical Coordinator: Martin Huber - Siemens Corp. Research | Technology Clinical Coordinator: Giacomo Pongiglione - Istituto G. Gaslini
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Partners:

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Important Links:

Project website: <http://www.health-e-child.org/>
Futuris/Euronews video: http://ec.europa.eu/information_society/newsroom/cf/itemdetail.cfm?item_id=5080
ICT 2008 Exhibit Grand Prize winner: http://ec.europa.eu/information_society/events/ict/2008/exhibition/index_en.htm
Other videos of interest:: http://www.youtube.com/results?search_query=health-e-child&search_type=&aq=f
eHealth Research: http://ec.europa.eu/information_society/activities/health/research
eHealth FP6 Projects: http://ec.europa.eu/information_society/activities/health/research/fp6projects
Health-e-Child is integrating another VPH related research tool "@neuLink" of www.aneurist.org

For further information:

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