

What is VPH?

What?

EU initiative on ICT research enabling collaborative investigation of the human body/organ/systems as a single complex system.

How?

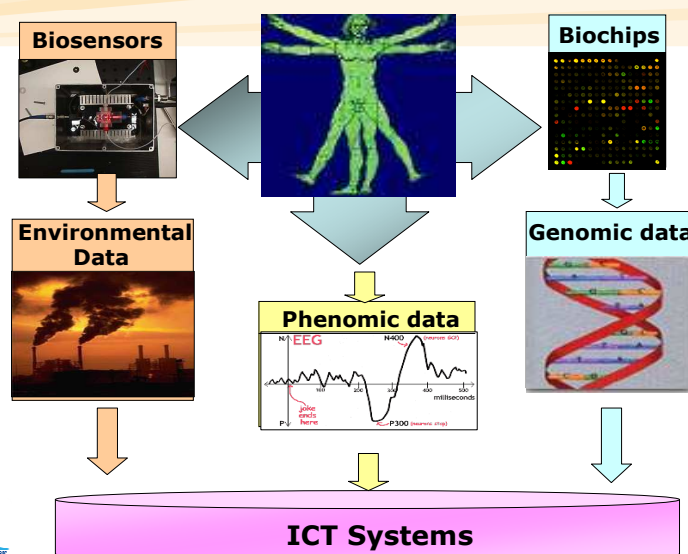
Development of patient-specific computer models and simulators for applications in personalised and predictive healthcare.

Integrative approach:

- Vertical: biological levels: from molecule, cells to organ
- Horizontal: coupling of different physiological functions
- Different scales: spatial and temporal scales



Towards full picture of individual's health status "Omics"-based personalized medicine



VPH/Physiome History



Human Genome Project

Systems Biology

Grid Computing

Finite Elements

Microcomputers/home computers

Molecular Biology

Physiome at IUPS Conference

Physiome Project

White paper completed

EC/ICT Health Start discussing Physiome research

Roadmap for Physiome

ICT Bio 2006

FP6: STEP

ICT Bio 2008

FP7 call 2 VPH

FP7 call 4 VPH

FP7 call 6 VPH

VPH Roadmap for (STEP)

VPH NoE starts

VPH Roadmap



Source: VPH NoE



VPH implementation overview

- 32 Projects
 - FP7 Call 2: 9 STREPs, 3 IP, 1 NoE, 1 CSA
 - FP7 Call 4: international focus: 5 STREPs
 - FP7 Call 6: 12 proposals under negotiation
- Websites: <http://www.vph-noe.eu>
<http://www.biomedtown.org/>
- Conferences:
 - ICT-BIO 2006 http://ec.europa.eu/information_society/events/ict_bio_2006/index_en.htm
 - ICT-BIO 2008 http://ec.europa.eu/information_society/events/ict_bio/2008/index_en.htm;
 - VPH 2010 <http://www.vph-noe.eu/vph2010>
- Concertation meetings: organised by VPH NoE on 29th September 2010 in Brussels



First VPH Call: FP7 call 2

Technical focus:

- Patient-specific computational modelling and simulation of organs targeting specific clinical needs
- Data integration and new knowledge extraction

Clinical focus:

- Simulation environments for surgery training, planning and intervention
- Prediction of disease or early diagnosis
- Simulation and assessment of the efficacy and safety of specific drugs

Results:

- 15 projects - details in VPH resource book:
http://ec.europa.eu/information_society/activities/health/docs/projects/fp7/binder-fp7vph-projects.pdf

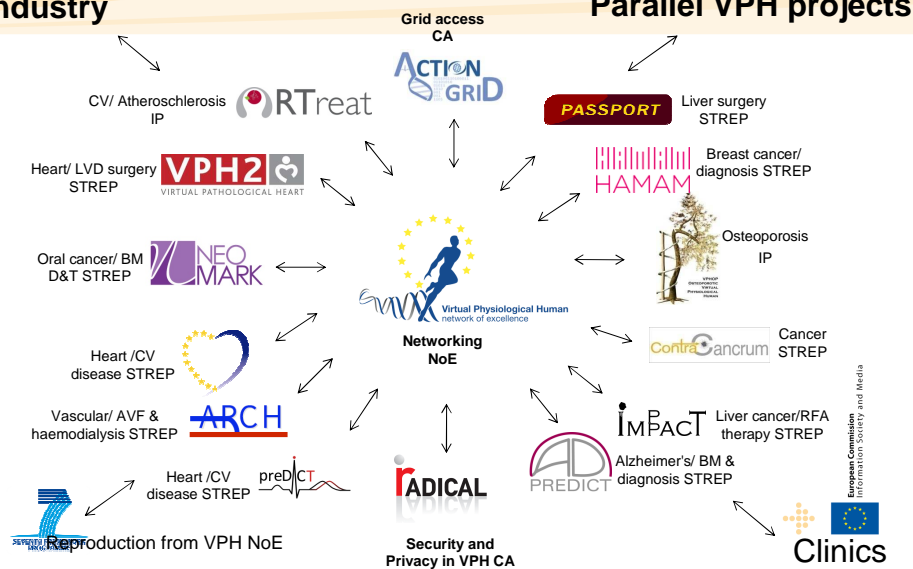


Results of the 1st VPH call: 15 FP7 projects



Industry

Parallel VPH projects



International Cooperation on VPH FP7 call 4

Focus of Call 4:

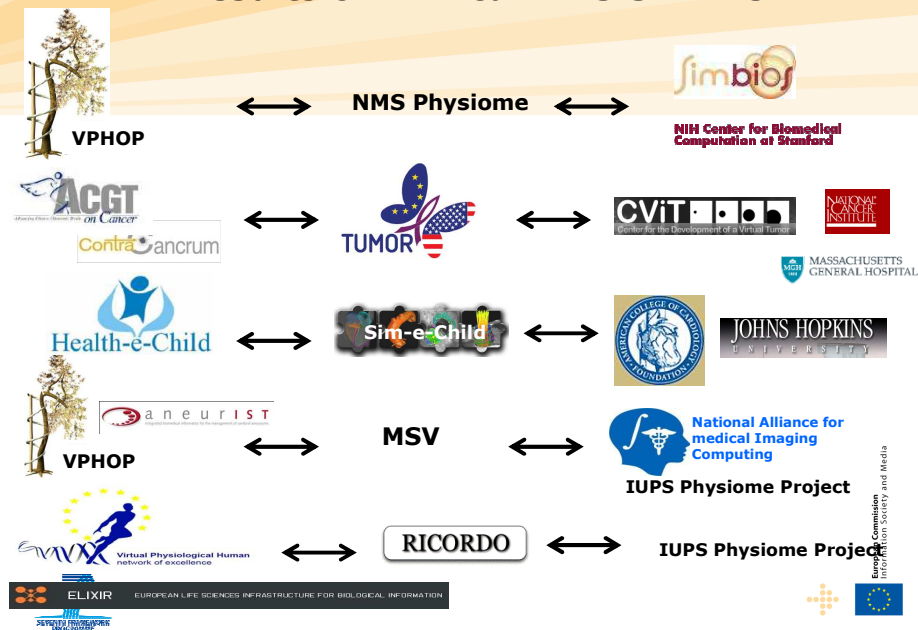
- Interoperability (interfaces databases, web services, mark-up languages, meta-data, ontologies)
- Tools and services for global cooperation (for modelling/simulation, curated models, interconnected libraries)
- International validation environment (joint verification of clinical relevance of models)

Budget: 5M€

Results: 5 STREPs



Results of VPH call4 : 5 STREPs



VPH in FP7 call 6

Target outcomes overview:

- a) Patient-specific computer based models and simulation
- b) ICT tools, services and infrastructures for bio-medical researchers
- c) Evaluation and assessment of VPH Projects
- d) Observatory on achievements and evolution of the broader BMI field (e.g. bioinformatics, Medical informatics, neuro-informatics)

a) and b) IP/STREP 61M€

c) SA 1M€

d) CSA 1M€

Result:

12 proposals under negotiation



Outline

Part II VPH FP7 Call 7



WP2011-12 Objective 5.2 VPH

Target outcomes overview:

- a) Patient-specific predictive computer based models and simulation (including environmental factors)
- b) ICT tools, services and infrastructures to obtain more elaborate and reusable multi-scale models and larger repositories
- c) RTD roadmap preparing the ground for a "Digital Patient" challenge
- d) Early demonstrators and proof of concept of digital representations of health status.

a) and b) IP/STREP 58M€
c) CSA 1.5M€
d) STREP 8.5M€



FP7 ICT Objective 5.2 Virtual Physiological Human

Focus c)

RTD roadmap preparing the ground for a "Digital Patient" challenge

- Digital representation of all patient data and associated models
- Provide patients with personalised and predictive care
- The roadmap will provide:
 - Consolidation of research so far
 - Identify and quantify the needs
 - Develop a vision and ICT research agenda for the "Digital Patient"

Instruments/budget:

- One CSA max funding of 1.5M€



Call 7 open 28/09/2010 deadline 18/01/2011



FP7 ICT Objective 5.2 Virtual Physiological Human

Potential Market:

- **Pharmaceutical industry** (to shorten drug development, avoid animal testing, personalised drug)
- **Medical industry** (devices and imaging benefit from simulation)
- **Software industry** (development of models/simulators)

Expected impacts:

- For all target outcomes (including c)

- More predictive, individualised, effective and safer healthcare
- Reinforced leadership of European industry and strengthened multidisciplinary research excellence in supporting innovative medical care

- For target outcome c)

- Availability of a common strategic research agenda on the "Digital Patient" between all relevant stakeholders



ICT Proposers' Day 2011 19 - 20 May, Budapest Networking for European ICT R&D



Aim of the event:

- to prepare for Calls 8 and 9 (together >1 billion €)
 - by networking and partnerships building
 - by first-hand information from >100 EC officials

Structure:

- thematic sessions with presentations of proposal ideas
- information stands & meeting points

Registration:

Free of charge, open from January 2011

<http://ec.europa.eu/ictproposersday>



Contact/Information

- DG Information Society and Media
Unit "ICT for Health"
http://ec.europa.eu/information_society/ehealth
- Calls information:
http://cordis.europa.eu/fp7/ict/participating/calls_en.html
- VPH projects' portfolio:
http://ec.europa.eu/information_society/activities/health/docs/projects/fp7/binder-fp7vph-projects.pdf
- Virtual Physiological team email:
info-vph@ec.europa.eu

