The REACTION consortium consists of 15 organisations from nine European countries. It unites a number of research groups with a world leading position in their respective fields:

ATOS: www.atosresearch.eu

CNET Svenska AB: www.cnet.se

DELTA, Dansk Elektronik, Lys og Akustik: www.delta.dk

IMM, Institut für Mikrotechnik: www.imm-mainz.de

FORTH-ICS, Foundation for Research and Technology Hellas: www.ics.forth.gr

FHG-SIT, Fraunhofer Institute for Secure Information Technology: www.sit.fraunhofer.de

FORTHNET, Hellenic Telecommunications and Telematic Applications Company www.forthnet.gr

IN-JET: www.in-jet.dk

ALL, Applied Logic Laboratory: www.all.hu

MUG, Medical University of Graz: www.medunigraz.at

MSG, Joanneum Research: www.joanneum.at

CHC, Chorleywood Health Centre: www.chorleywood.org

UBRUN, Brunel University: www.brunel.ac.uk

VUB, Vrije Universiteit Brussel: www.vub.ac.be

BAYER Technology Services: www.systems-biology.com

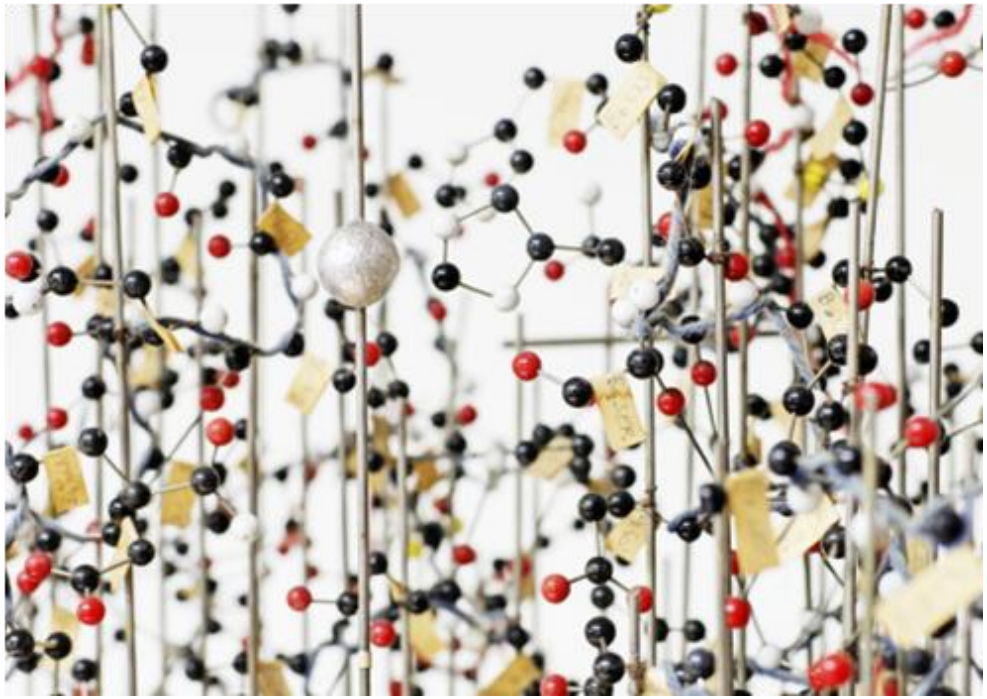
Follow the project at: www.reaction-project.eu

REACTION

The REACTION project is a four year European research project which started in 2010. It is co-funded by the European Commission within the 7th Framework Programme in the area of Personal Health Systems under Grant Agreement No. 248590. For more information, contact the project coordinator Lydia Montandon from Atos: lydia.montandon@atosresearch.eu

REACTION

A Professional Service Platform for Remote Accessibility to Diabetes Management and Therapy in Operational Healthcare Networks



eHealth

SEVENTH FRAMEWORK PROGRAMME

The REACTION platform – improving the management of diabetes

The REACTION project focuses on improving the management of diabetes by developing an intelligent health service platform that can provide professional, remote monitoring and therapy management to diabetes patients in different healthcare regimes across Europe.

The platform is validated in two health care domains: Primary care and in-hospital care and aims to:

- Assist healthcare professionals in hospital wards to improve glycaemic control of admitted patients with diabetes or at risk of developing diabetes, providing theraphy decision support based on continuous glucose monitoring
- Help diabetic patients in primary care to better control their disease and co-morbidities with closed-loop feedback from their physician
- Implement enhanced care model strategies to support pro-active management of type 1 and type 2 diabetes and reduce the risk of patients developing long-term complications

REACTION features an interoperable, peer-to-peer communication system, based on a Service Oriented Architecture (SOA). All functionalities, including device usage, are represented as services and applications orchestrated to perform a desired workflow.

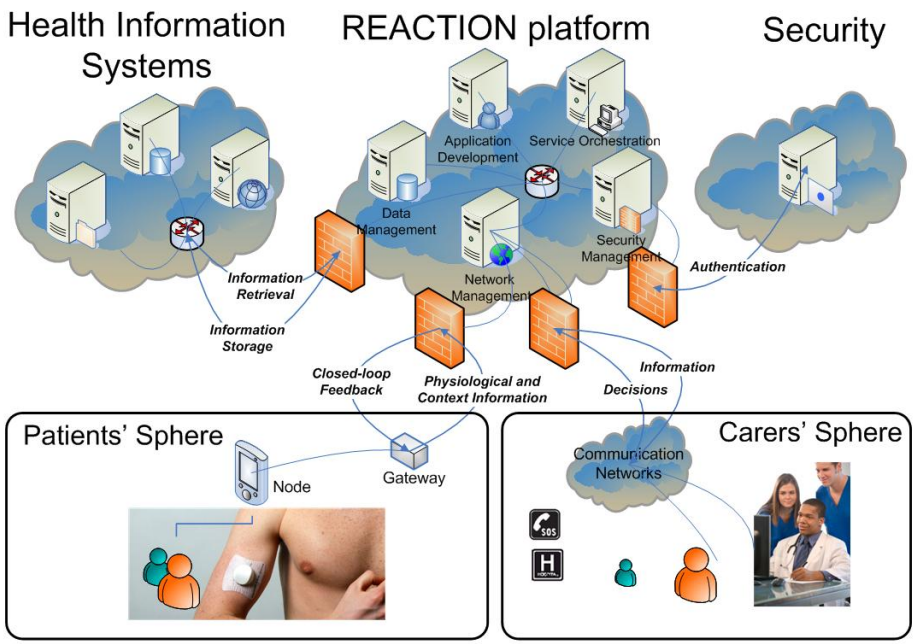
Clever sensors monitor blood glucose levels and communicate the results

Tight control of the blood glucose level has been shown to be vital for good diabetes management and insulin therapy.

Based on wearable glucose monitoring sensors and automated closed-loop delivery of insulin, REACTION aims at improving the control of blood sugar levels.

The sensors will be embedded in electronic patches for comfort and easy replacement. The collected data are communicated through a wireless network and advanced mathematical models will be used to assess the condition of the patient and provide directions for insulin therapy.

The platform offers closed-loop feedback to patients, carers and healthcare professionals both in hospital environments and in primary care and will provide a safe environment by monitoring potentially life-threatening situations.



Anticipated outcomes

The impact of the REACTION research work is expected to be evident in the area of diabetes management, but also to affect a wide range of societal, economical and technological areas. It can:

- Influence national strategies for disease management involving proactive management of diabetes across the entire continuum of care
- Help reduce the rate of hospital admissions and the risk of developing complications, in particular hyper/hypoglycaemic events
- Have an impact on the productivity of healthcare delivery systems in Europe and contribute to the stabilisation of cost, in the light of diabetes type 2 being one of the fastest growing chronic conditions in the developed world
- Reinforce European leadership in diabetes related sensor technology and medical devices with the possibility of patentable inventions