EU Research on the World Stage

By working in collaboration with partners from around the world, European ICT researchers are addressing global problems in medicine, agriculture, networking and beyond. EU-funded research projects are making a difference to people's lives in Europe, Africa, Asia and the Americas while at the same time ensuring that Europe stays at the forefront of the global ICT industry.

Helping Countries Develop

As supporters to the UN Millennium Development Goals, the EU is committed to helping developing countries reap the benefits of technology. EU-funded ICT research collaborations are helping to meet these goals.

For example, the VOICES project uses readily available mobile phone technology to improve lives in Mali and Senegal, by expanding access to information about healthcare and food production. In areas where literacy is low and many different languages are spoken, VOICES allows people to access vital information using text-to-speech and speech-to-text technology.

‘In Mali, the applications developed by the VOICES project have helped farmers to sell their products [while] consumers have been able to learn about new products on the market,’ says Ardiel Cabrera, VOICES project officer. ‘In Senegal, the project has developed an application that makes communication between hospitals easier, quicker and more effective. This helps to fight the outbreak and spread of diseases.’

‘VOICES demonstrated the absolute need for cooperation to achieve results.’ says Mr Stéphane Boyera, project coordinator. ‘The research team from Europe have more experience in terms of technology, but have no knowledge at all about the [local] context.’

The project has been so successful in delivering low-cost but effective solutions that the mobile telecoms provider, Orange, is set to continue the project in collaboration with the Ministry of Health in Senegal.

Safeguarding Agriculture

The E-AGRI project also has an impact in North Africa. The E-AGRI technology was first developed to support the European Union's Common Agricultural Policy, using observations of climate and remote sensing to predict crop growth. Now, working with project partners in Morocco and China, the project is improving food security.

According to project coordinator, Dr Qinghan Dong, ‘the technology... helps local producers and governments to make early decisions on their agricultural production planning. As a result they can strike the balance between supply and demand and ultimately prevent low prices from hurting farmers' incomes, and manage international agricultural commodity trading.’

Understanding the Human Brain

The Human Brain Project (HBP) FET Flagship gathers a large consortium of 112 partner organisations, mostly from Europe but also from the USA, Japan, and China and is involving world leading experts. The project aims
at combining all existing knowledge and data about the human brain and to develop theory and realistic computer models to run on specially designed supercomputers. The resulting “virtual brain” offers the prospect of a fundamentally new understanding of the human brain, developing new treatments for brain diseases and building revolutionary new computing technologies.

The HBP nicely complements the US’ own Brain Initiative, another large-scale research initiatives focussing on the better understanding of the human brain and its diseases. The US is developing new technology to generate brain data leading to a map of the human brain, while the EU is integrating brain data in computer models to simulate the human brain. The data helps build the models and the models help interpret the data. Therefore, the US and EU brain research efforts complement well each other. Establishing collaboration would be natural and timely.

Neelie Kroes, Vice-President of the European Commission called for such collaboration between the two projects. She welcomed the on-going discussions between the European Commission and various US counterparts saying that "understanding the human brain should not only be a scientific priority, it should also be a political one." Planning is now underway to organise two workshops to explore concrete areas of collaboration, the first one in Washington DC in November 2014 and the second in Brussels in spring 2015.

Fighting Disease and Maintaining Biodiversity

In South America, collaborations with EU FP7 projects are leading to healthier populations and healthier ecosystems.

The PODI-TRODI project is a partnership between researchers from Germany, France, Italy, Finland, Portugal and five partners in Brazil. Together, these researchers are developing a low-cost, portable diagnosis tool that can detect tropical diseases like Chagas disease, which is the fourth leading cause of death among tropical diseases. The developers also intend to adapt the system to detect leishmaniasis, dengue, malaria and HIV.

The PODI-TRODI tool will help bring healthcare to communities that don't have access to hospital facilities. What’s more, as tropical diseases become more prevalent as a result of climate change, the device will be needed in more and more markets.

Elsewhere in Brazil, the EUBrazilOpenBio project is breaking down international barriers in biodiversity research. The project offers researchers in Europe and Brazil access to collections of biodiversity data. It also makes available a suite of online tools that allow biodiversity scientists to collaborate on research that crosses national borders. One of the difficulties with biodiversity research is the lack of internationally agreed-upon study methods or data descriptions. EUBrazilOpenBio aims to change all that by creating a set of tools that can be used by researchers anywhere in the world.

Sharing Data, Systems and Networks

At present, the EU is at the cutting edge of grid and cloud technologies; two approaches to sharing ICT infrastructure. By remaining at the forefront of this technology, EU industry is maintaining its competitive edge in this EUR 3.5 billion market.

The CLOUT and FELIX joint Japanese and EU research projects - are creating new internet-based technologies that will help researchers and other organisations to share massive amounts of data in real time, and to work on shared projects using a common set of resources.

Likewise, CHAIN-REDS brings together researchers in Europe, Latin America, the Middle East, India and China to create virtual research communities. Scientists can share tools that they have built, data and even computing power with collaborators around the globe, using the project’s set of tools.

Meanwhile, GEANT brings together researchers and educators in the Americas, Africa and the Middle East, and the Asia Pacific region with dedicated, high-speed connectivity between countries. Researchers in Medicine, Physics, Energy and Environmental science can share data and applications at speeds of up to 100 gigabits per second, one hundred times faster than typical broadband speeds.

Keywords
Related projects

VOICES
VOIce-based Community-cEntric mobile Services for social development
2 August 2019

EUBrazilOpenBio
EU-Brazil Open Data and Cloud Computing e-Infrastructure for Biodiversity
2 August 2019

ClouT
ClouT: Cloud of Things for empowering the citizen clout in smart cities
22 April 2017

HBP
The Human Brain Project
25 April 2017

E-AGRI
Crop Monitoring as an E-agriculture tool in developing countries
1 August 2019