

Software services measuring European integration

New member states participation in FP7-ICT...

The analysis of statistical data and results achieved by member states in the European Commission's 7th Framework Programme demonstrates that the new member states have achieved only partial integration into the European Research Area (ERA) and their involvement is less than their financial contribution to the Framework Programme. In the particular case of the Cooperation Programme in Information and Communication Technologies (FP7-ICT), the statistics indicate a lower participation in the funded projects compared with their contribution to the European GDP, an even lower number of project coordinators, poor results in participation in big integrating projects, and the success rate of project proposals is going down compared with previous frameworks. The national audits initiated by the EC showed that the available research potential in ICT is not exploited to the right scale.

Special measures were undertaken by the FP7-ICT Programme Committee and EC to stimulate the participation of experts from new member states, such as launching special calls to add partners from new member states to ongoing projects. These efforts have received a high appreciation from the ICT communities from new member states, but they should be complemented by the concrete actions of the national authorities and research community from new member states.

In this context, Romania had already made a big step two years before its integration into the EU by aligning its national research programme to the model of the Framework Programme and by financially helping the public units involved in European collaborative projects. As a consequence, Romania is a new member state with the highest increase of funds attraction



from ICT programme compared with the previous IST programme, but still it is far from its financial contribution to the Framework Programme.

Help from a Romanian team

Starting from the presumption that one of the reasons to the low level of integration by new member states into the ERA is the limited international visibility of their ongoing research activities, a Romanian research team in ICT is trying to identify and expose the competences in the specific topic of software services (of research teams from new member states). According to the budget allocated to this topic in the FP7-ICT programme, it is among the most important ones. Moreover, this is one of the topics that are not dependent on existing infrastructure or geographic location.

In the frame of the FP7-ICT project SPRERS, the Romanian team from the West University of Timisoara, with the help of an expert group from 11 countries, has identified the stakeholders in

software services in new member states, building a map of competences that can be consulted on the project's website (www.sprers.eu). Moreover, with the help of representatives from national authorities and members of the scientific and industrial communities present at several events organised by the Romanian team, an action plan was proposed for the better integration of new member states at the level of the ICT Programme.

The motivation of the Romanian team to investigate and contribute to the integration of new member states to programme followed its successful involvement in EC programmes and also its will to share this positive experience with other teams encountering similar barriers in aligning their activities to the European standards.

An example of best practice

Romania's western region has a long history of collaborations with foreign institutions; this is reflected today in the high number of foreign companies

with branches in the region. In the ICT sector, preference is clearly in favour of the second biggest town of the country, namely Timisoara, which is known worldwide as the town where the revolution against the communist regime started more than two decades ago. In this context, the four public higher education institutions of Timisoara have the important mission of ensuring the knowledge of their graduates is aligned with the international standards.

The West University of Timisoara was founded in 1944 as a classic public university. It was meant to be a representative for the Western part of Romania and today it has approximately 26,000 students enrolled in the educational programmes of its 11 faculties. According to the latest SIR World Report on Physical Sciences, the West University of Timisoara is the Romanian institution with the highest impact indicator. A considerable contribution to this status has been provided by the university's computer scientists and mathematicians.

The Faculty of Mathematics was one of the first faculties founded within the university, in 1948. The currently named Faculty of Mathematics and Computer Science has two departments: Mathematics and Computer Science, the last one dating from 1971. Two research laboratories – one for Artificial Intelligence and one for Parallel and Distributed Computing – were established in 1994 in the context that the research team was orientated towards these two topics. The Centre of Research in Computer Science was officially established and recognised as a research unit at national level in 1999.

The research team's experience relates to their participation in the last two decades in about 50 national and international research projects granted in the frame of Romanian research programmes, and Austrian and French ones, as well as in the frame of The World Bank and NATO, the European Space Agency, EC FP6 and FP7, Phare and Tempus programmes.

Following the strong relationships with Johannes Kepler University of Linz, Austria, a spin-off was created in 2002 as private research institute in computer science, under the name of the Institute e-Austria Timisoara. The institute's activities support and complement the research efforts of the senior researchers and the best students (at Master's, PhD, and post-doctorate levels) from the Computer Science Department of the West University and the equivalent department from the technical university of Timisoara, namely Politehnica University. The main specialities of the institute are its orientation towards international collaborative projects, the continuous involvement in European, bilateral and technological transfer projects, as well as the average age of its employees of below 35.

The team's main research topics that are visible at international level concern parallel and distributed computing, multi-agent systems, intelligent front-end systems and expert system shells, knowledge management and theories proving image classification and text mining, e-commerce transactions and e-learning systems, natural computing and computational mathematics. Several international and national awards for activities in these topics have been received by team members in the last decade – to give an example, two IBM awards.

Beyond the support action project SPRERS, which is the only project in the FP7-ICT programme coordinated by a Romanian institution, the team has the scientific leadership of the project mOSAIC, which is working to eliminate vendor lock-in in the field of Cloud computing services. The interest in software services is also motivated by the team's achievements in FP6/FP7 projects by providing web service orchestration for telecommunication operators in VISP, grid services for symbolic computations in SCIENCE, web-based services for the management of home energy consumption in DEHEMS, validation of security of service-oriented architectures in

AVANTSSAR, and a platform for satellite image processing in SEE-Grid-SCI (which is currently a certified software for European Grid Initiative).

Two grants funded in the frame of FP6/FP7-People programme have also been awarded to the team in the last five years to support the reintegration of Romanians who have studied abroad.

The research centre currently provides considerable hardware resources for the Romanian Grid Initiative, EGI-Inspire and HP-SEE (both from the FP7 Capacity programme), and a training platform for the Earth Observation System developed in a European Space Agency programme. Also it provided resources for EGEE-II/III and SEE-Grid-II/SCI (again the Capacity programme). The latest achievement in this direction, with the help of EU Structural Funds, is the recent installation of the first supercomputer in Romania, which is expected to serve the computing capacity needs of the Romanian researchers, as well as industry, within the region. The team's knowledge in high performance computing issues is expected to be improved with the help of the most important supercomputing centres from Europe in the frame of a new project due to start soon under the FP7 Capacity programme and coordinated by the Romanian team.



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