

SVETLANA KLESSOVA, CO-ORDINATOR OF THE PICTURE PROJECT, SPEAKS TO PEN ABOUT COLLABORATION IN THE FIELD OF ICT BETWEEN THE EU AND EASTERN EUROPE AND CENTRAL ASIA

PICTURE in focus

Science and technology co-operation, based on mutual benefit with third countries, is crucial to the European Community's scientific, political and economic objectives. PICTURE stands for 'Policy dialogue in ICT to an Upper level for Reinforced EU-EECA Co-operation', and is a support action funded by the European Commission's DG for Communications Networks, Content and Technology (CONNECT).

PICTURE supports co-operation between the European Union and Eastern Europe and Central Asia (EECA) countries in the field of ICT. It aims to support ICT policy dialogue between EU and EECA countries, and to foster ICT collaboration opportunities. The ambition of PICTURE is to bring the ICT collaboration between EU and EECA to a higher level, to involve ICT stakeholders from the government, academia and enterprises in the process and to foster ICT collaboration opportunities between Europe and EECA.

Speaking to Pan European Networks, PICTURE project co-ordinator Svetlana Klessova discusses why the ICT policy dialogue between EU and EECA should be supported, what the biggest challenges are, and how the European Union and EECA countries can benefit from the project.

What is the context in which the project is being undertaken, and why is it necessary and important to support policy dialogue between the European Union and Eastern Europe and Central Asia countries?

There are several main elements that shape the project context: the growing ICT sector, the importance of international co-operation for European competitiveness, the policy dialogues and the diversity of the region we are focusing on – Eastern Europe and Central Asia.

Information and communication technologies empower both our society and economy. ICT development is a key factor for growth and an indispensable asset for responding to the global challenges which affect – directly or indirectly – all of us. The global demand for ICT is a market worth €2bn, while, overall, the ICT sector represents 4.8% of the EU economy, generating 25% of the total business expenditure in R&D.

Investment in ICT accounts enormously to the European productivity growth. For example, the European €120m investment in 3G telecommunications some 15 years ago yielded new products and services worth €250bn to the sector. Indeed, ICT is the largest research area within the EU's Seventh Framework Programme for research and development, accounting for 18% of the total community budget. That is due to the fact that the development of ICT systems and applications



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is seen as a key driver for product, service and process innovation and creativity and, therefore, contributes to improve the competitiveness of European industry and meets the demands of both society and the economy.

The policy framework of the European Commission places a strong emphasis on promoting international co-operation activities. This international dimension is considered to be an important component of the development of the European Research Area (ERA) and therefore of the EU capacity for innovation and competitiveness. The Commission has already announced that international co-operation will be one of the strategic axes of Horizon 2020, the next European research and technological development programme for 2014-2020. By supporting international co-operation in ICT, Europe aims to reinforce the competitiveness of its industry, to jointly respond to major global technological and societal challenges, and to improve scientific and technological co-operation for mutual benefit.

The Commission undertakes policy dialogues with the national governments of a number of countries – key European partners. In short, these are the iterations between high-level decision makers who address high priority issues, focus on the issues that are of common interest, and seek to formulate practical solutions to complex problems. To avoid gaps between policy and implementation, the dialogue partners need to receive feedback from the field – the ICT stakeholders can add significant value to that process.

However, the feedback does not appear automatically; someone needs to enact the process. For example, it is necessary to collect, summarise and communicate proposals on common R&D ICT priorities and future co-operation opportunities; to organise ICT conferences synchronised with dialogue meetings; to strengthen co-operative research

links, and so forth. This is where the PICTURE project has a role to play: we support the policy dialogue by engaging ICT stakeholders in the process, and we therefore help to reinforce ICT research links between the European Union and Eastern Europe and Central Asia countries.

Why Eastern Europe and Central Asia?

Europe is committed to deepening its relations in all areas of co-operation – including ICT – with many countries, particularly its neighbours. Eastern Europe and Central Asia has been focused on for some time – successive EU enlargements have brought this region closer to the EU and security, stability and prosperity in the EECA region increasingly has an impact on Europe. As a result of this, various strategic policy umbrellas targeting the EECA region have been launched, including the European Neighborhood Policy, the Eastern Partnership with six countries (Armenia, Azerbaijan, Belarus, Georgia, Moldova, Ukraine), the EU-Russian Partnership for Modernisation, and the EU and Central Asia strategy for a new partnership.

EU-EECA ICT policy dialogue is considered to be one of the key elements to achieve the goals of reinforcing EU-EECA collaboration and raising the full potential of real partnership. Many EECA countries possess a high-level expertise and a critical mass of high-level researchers within the ICT domain. Research infrastructures have been developed in both EU and EECA countries, and closer collaboration and interconnection is either complete or foreseen. What is more, Europe has also developed technologies that correspond to the needs of many EECA countries – for example, advanced technologies for e-health (such as telemedicine) are not only one of the most significant societal challenges in Europe, but also in the EECA, and particularly in Central Asia.

What do you hope to achieve, and how do you propose to go about it?

We hope to contribute strategically to the policy dialogues by engaging EECA ICT stakeholders in the process, by highlighting priority ideas for collaboration, by making a proposal for an EU-EECA ICT co-ordinated call for research projects, and by testing new approaches on methods for strengthening co-operative research links in ICT. We also want to facilitate interactions between EU and EECA ICT communities through the organisations of joint events, and to facilitate the preparation of joint EU-EECA R&D projects.

The foundations for these ambitions have already been laid: we will exploit the collaboration frameworks built on the achievements of several previous successful activities, which will be implemented by the PICTURE consortium partners. Advancing further, we have set up three international working groups, bringing together well know ICT specialists from EECA countries – one of which concerns ICT policy dialogue, a horizontal topic of interest for all EECA countries, while the other two are technical working groups.

Of the two working groups, one concerns ‘Components, Computing Systems and Networks,’ covering the new generation of components and systems, advanced computing, software and services for the future internet. This group is led by our partner ‘e-Arena’, a Russian national association of research and educational e-infrastructures.

The second working group concerns ‘Content Technologies and Information Management’, and deals with the areas of digital libraries, technology-enhanced learning, intelligent information management, and ICT for digital learning and creativity, and is led by our Ukrainian partner, NGO Agency of European Innovations. From previous experience, we know that these topics attract the biggest interest of the ICT community in EU and EECA.

Both working groups are designed to provide PICTURE with strategic vision regarding the EU-EECA ICT collaboration in specific application and research domains, whilst also connecting the project to the key relevant players both in Europe and in the EECA countries.

Can you give an example of the pilot action of PICTURE?

They are indicated in the roadmap prepared by PICTURE when the aforementioned groups met in late 2012. They were discussed in the working groups and we are currently in the process of the selection of three pilot actions that respond to the interest of both Europe and EECA countries. For example, one action is about supporting the access of European researchers to national ICT programmes, while another concerns the development and maintenance of information systems to support policy makers and co-operation between EECA and EU ICT R&D communities. We also have an action on promoting successful EU initiatives, such as thematic clusters and technology platforms with similar structures in EECA countries, or enhancing the participation of private companies from EECA in the networks.

PICTURE Working Group meeting



What are the major upcoming events to which PICTURE contributes and where European specialists can meet with EECA peers?

In Belarus, the PICTURE team, led by our Belarus partner – the Institute of Systems Analysis and Information Support of Scientific and Technological Sphere, BELISA – is helping to prepare the 20th International Specialized Forum on Telecommunications, Information and Bank Technologies 'TIBO-2013,' from 23 - 26 April, 2013, in Minsk. This fair is one of the largest in the ICT field in the EECA. Belarus is looking to expose its ICT developments, but also to learn from European experience on how to improve national ICT policy and to develop ICT policy dialogue.

In Armenia, our local partner – the Institute for Informatics and Automation Problems of the National Academy of Sciences, IIAP – is organising the 9th International Conference on Computer Science and Information Technologies, which will take place 23 - 27 September, 2013, in Yerevan. The PICTURE working group in the field of components, computing systems and networks will hold its next meeting there, and so this is a great opportunity to meet top level EECA specialists in the area.

Of course, Belarus, Armenia and other EECA countries are looking for new technologies suitable for local market. This is an integral part of all events to which we contribute.

What have been the biggest challenges you have experienced so far?

We are dealing with 12 countries considered by the European Commission as one region, the EECA. These countries are all very different, and have different ICT capacities, a different critical mass of ICT specialists, and they have their own priorities in terms of ICT research. However, the European experience can be valuable here – Europe has successfully managed to set up and run large joint R&D schemes despite the huge differences in R&D capacities within European countries. In this sense, Europe passed through a similar integration process to that now being experienced in EECA countries.

Moldova serves as a perfect example of this diversity: it is a small country with a population of approximately three and a half million people, and the number of Moldovan ICT organisations is limited. However, the country is very active in its European relations. Indeed, at the end of 2011, the European Union and Republic of Moldova signed a Memorandum of Understanding for the association of Moldova to the EU's FP7 programme,



(see PEN: Science & Technology, issue 2 p48-50) which opened the door to new opportunities for Moldovan scientists, research institutes, universities and companies to collaborate with their counterparts across Europe in key research areas, including ICT, while strengthening their own research expertise and capacity.

Russia, by contrast, has about 143 million inhabitants, thousands of ICT organisations, top level ICT research in selected domains, such as photonics and computing systems, and a well-established policy dialogue process with EU.

Central Asian countries are looking to promising ICT technologies from abroad, and in terms of policy dialogue with the EU, are making the first necessary steps. Some EECA countries have large amounts of national funding for research and innovation, but some countries have very little budget allocation on the national level. The challenges of defining a roadmap, pilot actions and priority topics for the whole EECA region in the ICT domain are thus considerable. Indeed, the major challenge is to ensure that each EECA country – and the EU, of course – sees its own interest in our proposals. We have, nevertheless, discovered a method through which to deal with this diversity: we grouped all EECA countries into three categories – Eastern Partnership countries, Central Asia, and Russia, and we made recommendations and proposed pilot projects according to this grouping; the needs and priorities in the these groups of countries are quite similar.

What are your hopes for the future, and what more do you think needs to be done to help facilitate this type of co-operation?

I have a number of hopes that are shared with other PICTURE partners – but we also have more than simply ambitions, in that PICTURE



EU-EECA ICT gateway

already contributes to make each of these hopes closer to the reality.

In the first instance, I hope that the EU will launch an ICT call targeting EECA countries, as has been done with other countries or regions of the world. In such a call, European specialists would be invited to submit ICT research proposals with their EECA counterparts, in selected topics and societal challenges. This would boost ICT collaboration between the regions. The PICTURE team have already informed the Commission of the ICT research topics that would be most relevant for such call.

I also hope that we can test a few pilot initiatives and, through them, contribute to ICT policy dialogues between EU and EECA countries; that the launch of Horizon 2020 will generate an elevated level of interest from EECA countries, and I hope that PICTURE can contribute to it; and, finally, I hope that PICTURE partners and the European Commission will be satisfied with PICTURE's outcomes.

Most importantly, I hope to see sustainable and light co-operation mechanisms between EU and EECA countries put into practice, which would foster co-operation with EU and EECA organisations in collaborative ICT research and development, and lead to a bigger number of ICT collaborative projects between Europe and EECA, and better synergies between European and national ICT programmes.

This, it seems, will not be an easy task. Do you have any thoughts on how this can be achieved?

To focus on just one idea, with regard to the fostering of ICT collaboration and increasing the number of joint ICT projects, international co-operation actions such as PICTURE help to create opportunities. However, whether anyone seizes the opportunities they offer is beyond the control of the partners involved.

I therefore believe that we need to work with multipliers; we need to 'interconnect' the ICT knowledge networks in the EU and abroad. By the term 'knowledge network', I mean technology platforms, networks of excellence, clusters, research and industrial associations, important consortiums of researchers and companies; it is about a group of different organisations working together in a specific application domain – sustainable energy, water management, home automation – or in a specific ICT topic, such as photonics or cyber-physical systems.

PICTURE is implemented by an international consortium led by inno TSD (France), and includes:

- Institute for Informatics and Automation problems of the National Academy of Sciences (Armenia);
- RITA – Regional Innovative Technologies Academy (Azerbaijan);
- Institute of System Analysis and Information Support of Scientific and Technical Sphere (Belarus);
- Georgian Research and Educational Networking Association (Georgia);
- International Environment and Quality Services North Greece Ltd (Greece);
- National Agency for Technological Development (Kazakhstan);
- Institution Eurasian Institute of International Relations (Kyrgyzstan);
- Center for International Projects (Moldova);
- National Association of Research and Educational e-infrastructures 'e-arena' (Russia);
- Society for Development of Scientific Cooperation (Tajikistan);
- Scientific consulting center 'Altyn Umyt' (Turkmenistan);
- Non-governmental organization Agency of European Innovations (Ukraine); and
- Institute of mathematics National University of Uzbekistan (Uzbekistan).

More importantly, we need to interconnect those networks which are looking for internationalisation. For example, many European technology platforms have internationalisation needs and strategy; they consider internationalisation issues as a way of achieving their goals more efficiently, and they want to enlarge the markets where R&D results could be exploited. Many ICT clusters in Europe follow similar internationalisation logic, acting as multipliers for their R&D and industrial organisations in internationalisation activities.

By supporting networks' collaboration, we also help to create synergies between European and national ICT programmes: the knowledge networks are often funded by the national programmes, so they focus on the priority topics identified on the national level. It is a bottom-up approach to create synergies. Connecting the networks would require a combination of focused efforts at European and EECA levels, greater openness of mind, and intelligent solutions, but would also require seed funding to start the networks' interactions.

The question remains, however, as to which light co-operation mechanisms can be used to interconnect the networks. There are several steps to answering this question, and as soon as the 'matching networks' are identified, they would decide themselves which way is suitable for them. However, there is no single recipe, and nor should there be: it is important that such a process is organic as much as it is orchestrated by initiatives such as PICTURE, as this ensures that both the networks themselves and the connections between them continue to grow and to strengthen themselves as they evolve.

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