> Foreword

The European Union aims to be at the forefront of an open, accessible and undivided worldwide Information Society and of a free exchange of information, ideas and opinions around the globe. At the 2005 World Summit on the Information Society in Tunis, progress was made towards a global consensus on how information and communication technologies (ICT) can contribute to open and democratic societies and to economic and social progress worldwide. The EU actively contributed to the success of this Summit and, by speaking with one voice, helped to find viable compromises among diverging positions among UN partners.

In April 2006, we set out our priorities for implementing the international policy commitments made in Tunis. These follow-up actions include steps to maintain the neutral character of the internet and to safeguard and strengthen human rights, in particular the freedom to receive and access information. The Commission has called for continuing international talks to improve internet governance through the two new processes created at the Summit: the multi-stakeholder Internet Governance Forum and the mechanism of enhanced cooperation that will involve all governments on an equal footing.

To tackle the digital divide, the Commission has proposed a new Partnership on Infrastructures, which will cover areas such as ICT strategy and regulation, technology-neutral broadband networks, and development of non-commercial pan-African electronic services. EU policies to better harness ICT's potential will also be considered. This will enhance EU competitiveness and help enable a fairer and more measured process of globalisation.

International cooperation in ICT research and development is a priority in the EU's new Research Framework Programme, with the opening-up of all ICT activities to researchers from third countries and specific international cooperation actions in areas of mutual interest and benefit between the EU and targeted countries or regions. These activities will not only be of mutual benefit in our relations with partner countries but will also facilitate the Commission's i2010 strategy – a European Information Society for growth and employment – the digital economy component of the renewed Lisbon strategy.

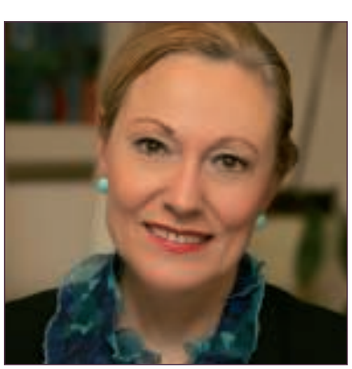
We welcome this brochure as an illustration of how European research and innovation in ICT is contributing to a more democratic, more competitive and inclusive knowledge-based society worldwide.

Viviane Reding

European Commissioner for
Information Society and Media

Benita Ferrero-Waldner

European Commissioner for External Relations
and European Neighbourhood Policy



> The European Union in the World

The European Union today faces global responsibilities and challenges. It is the world's largest trading bloc, the largest donor of humanitarian and development assistance, and a constant point of reference for others on stability, democracy and human rights. Various Commission services work closely together to deliver joined up, coherent policies that strengthen Europe's voice in the world and allow others to learn from our experience of integration.

Enlargement is one of the EU's most powerful policy tools. The pull of the EU has helped to transform Central and Eastern Europe into modern, well-functioning democracies. More recently, it has inspired far-reaching reforms in Turkey, Croatia and the Western Balkans. All European citizens benefit from having neighbours that are stable democracies and prosperous market economies. Enlargement is a carefully managed process which helps the transformation of the countries involved, extending peace, stability, prosperity, democracy, human rights and the rule of law across Europe.

In the wider sphere, the European Neighbourhood Policy (ENP) seeks to build closer relationships with the EU's Mediterranean, Eastern Europe and southern Caucasus.
The EU offers its neighbours a privileged relationship, building on common values of democracy and human rights, rule of law, good governance, market economy principles and sustainable development. Under the ENP partner countries work with the EU to agree and implement action plans setting out an agenda of political and economic reforms.

In external trade, the EU seeks to shape a global trade environment that is good for people and for business. The aim is to meet the challenges posed by globalisation and to ensure that as many people as possible can seize the opportunities it offers. Important aspects include: negotiating bilateral and multilateral trade agreements, ensuring that the rules we agree are actually applied, and working closely with the World Trade Organisation and other multilateral institutions. This allows the EU to ensure that businesses can operate fairly in the EU and across the world.

External co-operation programmes are another important part of the EU's global partnerships. In addition to the Member States own programmes, the EU directly distributes over €7 billion every year in external assistance, making it the world's most significant donor. More than 150 countries and territories benefit from the EU's assistance. Coordinated by EuropeAid, these assistance programmes project and protect European values and promote peace and development worldwide. Activities range from reinforcing institutional capacity building and good governance, and investing in health, education and transport, to encouraging trade development, promoting rural development and food security, and securing human rights and sustainable development.

> The International Dimension to the Information Society

Few factors have contributed more to globalisation than the spectacular development of information and communication technologies (ICT). The global impact of ICT calls for an international dialogue on how to handle future innovations, democracy issues and business opportunities.

The European Union has already acquired considerable knowledge of tackling these kinds of questions on a cross-border basis, so the European experience offers a persuasive model for international cooperation.

The European approach to the global information society focuses on five main areas:

- **Regulation – Promoting the EU Approach**: The EU regulatory model is mandatory for countries that wish to join the EU and has become an international reference for its flexibility and adaptability to technological innovation. Promoting the EU regulatory model to third countries encourages external trade with them through an improved focus on interoperability of systems and common policy approaches.

- **International Co-operative Research**: European researchers and industrialists need access to ICT knowledge and skills around the world, while developing and emerging economies need EU research support if they are to develop and benefit from the information society. Cooperation in research activities, research infrastructure and IT skills is supported under the EU Framework Programme. Close monitoring of international research also supports regulatory policy, allowing early detection of new technological trends which could affect regulatory issues.
- **Expanding Europe's ICT Sector**: The ICT sector is of enormous economic importance to Europe, so the EU actively pursues international commercial opportunities for the European industry through: multilateral international trade agreements and organisations, such as the General Agreement on Trade in Services (GATS) and the World Trade Organisation (WTO); and bilateral agreements with both developed and developing nations.
- **Closing the Worldwide Digital Divide**: ICTs can stimulate economic development in the world's poor regions, so the EU funds development projects with an information society dimension and cooperates with international programmes coordinated by inter-governmental or non-governmental agencies.
- **Managing ICT Issues Globally**: The Commission takes an active part in global fora (e.g. 2005 World Summit on Information Society in Tunis) notably to address the question of the fundamental rights within the information society or the digital divide, as well as to strengthen international cooperation in internet governance and internet security (e.g. 2006 Internet Governance Forum in Athens). It also works for agreement on the many technological issues which require international coordination. One example is the global management of radio spectrum, which underpins all wireless communications. The Commission participates in the World Radio Conference (WRC) to harmonise and coordinate the use of radio spectrum worldwide and to support the development of best practises in radio spectrum management.

Information Society Activities

International Cooperation in ICT Research

European research programmes are open to third country players from all over the world.

The EU's international scientific cooperation covers the EU's immediate neighbours, primarily in south-eastern Europe, central Asia and the Mediterranean, as well as developing countries, emerging economies and industrialised countries. In ICT research, the EU's R&D Framework Programme fosters international research cooperation through the participation of third country organisations in the programme, the establishment of a high-speed research network interconnected with the rest of the world (GÉANT2), and through support for the exchange of IT-skilled specialists.

Under the Seventh R&D Framework Programme (FP7), from 2007-2013, third country organisations will again be able to participate in projects and – if they are from low or middle income countries – receive funding in the same way as European participants. In addition, the ICT Programme will include Specific International Cooperation Actions targeting the cooperation with specific third countries and regions.

For further information see the separate article on page 6.

Cooperation for Information Society

As well as cooperation in research and development, the EU offers support in the policy and regulatory spheres through information society cooperation frameworks.

In Mediterranean neighbouring countries to the south (essentially North Africa), the aim is to accelerate sustainable growth through aiding the modernisation of the most strategic information society sectors. A new regional programme is to be launched ensuring the continuation of specific activities previously included in the **EUMEDIS** programme (funding the development of the information society in the Mediterranean area) and the **NATP** (New Approach to Telecommunications).

EU initiatives for emerging economies support economic growth by promoting ICTs and encouraging supportive regulatory policies based on the EU model. Programmes include Alliance for the Information Society in Latin America (@LIS) and EU-Asia IT&C. China and India are particularly important, especially in matters of market access and transparency regarding regulatory policy and technology standards; each is covered by a bilateral agreement with the EU. Relations with Latin America are also at an advanced stage.

Cooperation with the US, Japan and other developed economies is also pursued, with an emphasis on joint initiatives that enable a pooling of expertise.

International Dialogue

The EU works for agreement on policy, regulatory and technological issues requiring international coordination.

For instance, it actively contributed to the success of the Tunis phase of the World Summit on Information Society (November 2005), which agreed important steps towards better internet governance. It also works towards a safer internet, through actions such as the Safer Internet Plus Programme and the setting up of the European Network and Information Security Agency (ENISA).

The European Commission participates in the information society related activities of international organisations such as the International Telecommunication Union (ITU) and the Organisation for Economic Cooperation and Development (OECD), and also cooperates with the World Bank.

> Research Cooperation for Mutual Benefit

International cooperation in ICT research brings benefits for both the EU and the partner countries concerned.

Policy Context

International cooperation in research and development (R&D) represents the important external dimension of the European research Framework Programmes. The Programmes' international cooperation activities have been in operation for over 20 years, promoting excellence in research cooperation with third countries in all parts of the globe, and opening up the European Research Area to the world. Under this cooperation the European Union opens up its programmes to third country participants and contributes knowledge-intensive solutions to societal problems through investing in people and their institutions for sustainable development.

Activities focus on the mutually beneficial efforts of the European Union on the one hand, and 'International Cooperation Partner Countries' and other third countries on the other. Cooperation is undertaken with developing countries and emerging economies, and with industrialised countries.

With respect to the developing countries, their circumstances have not improved enough over the last few years, and a large number of people still have to grapple with the debilitating problem of poverty and its consequences, such as malnutrition, sickness, infant mortality, illiteracy, conflicts, population movements and a rapidly degenerating environment. Europe has a responsibility vis-à-vis the future of these countries. Science and technology cooperation can help to provide appropriate solutions to the problems faced by developing nations, and thus contribute to global stability and security.

The Framework Programme's international cooperation actions are based on dialogue with partner countries and regions and the development of long-term durable partnerships for research and for take-up of research results. They support the implementation of EU policies with respect to third countries and other international commitments. Research projects actively encourage links to education and training, innovation agencies, local government and other appropriate institutions and processes, with a view to ensuring the highest possible impact in developing and other partner countries. Social dimensions, such as gender roles, ethics and social equity, must be adequately addressed to ensure such impact.

International Research Cooperation in ICT

Given the increasingly global nature of information and communication technologies (ICT), there are significant benefits to be gained for the EU through international cooperation in ICT-related research.

International cooperation promotes the exchange of technological know-how and skilled researchers worldwide, ensuring synergies and giving European industry access to advanced solutions. Collaboration with researchers from outside the EU can help achieve global consensus on interoperability and standards, so as to remove obstacles to interconnecting and inter-operating global systems. It can strengthen business cooperation and open markets to European ICT solutions. Also, international cooperation helps close the digital divide between the rich and poor countries, and reinforces the role of research in supporting European external and development policies.

Like other areas of the Framework Programme, the ICT theme is open to researchers from across Europe. Organisations from Candidate and Associated Countries can submit and participate in proposals for ICT projects and receive funding on the same basis as EU participants. In addition, organisations from most other countries around the world may participate in the programme. Partners from low and middle income countries receive funding in the same way as European organisations, while participants from high-income countries normally have to bring their own funding.

The strategic research partnerships with third countries set up under this international ICT cooperation help support and promote European competitiveness by engaging the best third country scientists to work in and with Europe, and by gaining access to knowledge available outside the EU. They also allow the EU to work together with third countries to address their specific problems, or those of a global character, on the basis of mutual interest and mutual benefit.

Research Cooperation in Practice

In the Seventh Framework Programme (FP7) international ICT cooperation will be implemented through:

- The opening of all ICT programme objectives to the participation of third country organisations from International Cooperation Partner Countries and industrialised countries.
- Specific International Cooperation Actions dedicated to partnerships with third countries in areas of mutual interest and benefit on selected topics.

All FP7 instruments – Collaborative projects, Networks of Excellence, Coordination and Support Actions – can be used to support international cooperation activities.

Specific promotion actions are planned to make the openness a reality and to associate partner countries to the FP7. These will notably build up the success of take-up projects supported under a series of regional information society initiatives. The EUMEDIS Programme promoted ICT-related cooperation within the Euro-Mediterranean region, and was until now the Commission's largest international information society initiative. In Latin America, the @LIS initiative promoted political and regulatory dialogue and supported a series of demonstration and take-up projects. The Asi@ICT programme has established bilateral agreements between the EU and a number of Asian countries, in particular South-East Asia, China and India, and supported a series of application projects. Each of these initiatives financed the interconnection between GÉANT2, the European high-speed network, with the respective region's research network.

Cooperation with other developed economies is also encouraged, with an emphasis on joint initiatives that enable a pooling of expertise. Examples are to be found in the regular dialogues between the EU and the United States and Japan on information society issues.

INCO

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> Bringing New Member States into the European Family

Research in the domain of IST is an important tool for integrating new Member States and Candidate Countries into the European Union.

Policy Context

Successive waves of enlargement have seen the European family grow from the six founding members of the European Coal and Steel Community in 1951, to the current 25 members of the European Union (27 following the accession of Bulgaria and Romania on 1st January 2007).

The Accession Process for Candidate Countries covers a wide range of issues, including matters related to information and communication technologies (ICT). Candidate Countries need to address various aspects of policy, legislation and regulation for ICT to facilitate integration into the EU Single Market.

For the ten new Member States which joined the EU in 2004, the eEurope+ initiative set out a roadmap to implement Information Society actions. It reflected the wider political commitment of the Candidate Countries to try and broaden the base for achieving the Lisbon objectives.

Integration in European ICT Research

Research and development is an important tool to further the integration of new Member States and Candidate Countries into the European Union. Consequently there have been significant efforts to increase the participation of organisations from these countries in the IST programme. To this end, a number of IST projects have been launched to promote the programme in the new Member States and the Candidate Countries, and to support organisations from these countries wishing to participate.

IST4BALT, for instance, focused on promoting and coordinating IST innovation activities in Baltic State Candidate Countries. It promoted the IST-FP6 programme in Latvia, Lithuania and Estonia through dissemination actions, including conferences and workshops, technology studies, virtual and face-to-face demonstrations, training, and marketing to relevant organisations elsewhere in the EU. The project helped coordinate the involvement of Baltic State ICT organisations in European information society developments and led to the creation of the Trans-Baltic IST Association.

Among current projects, **Get-IN** aims to address the low participation rate of SMEs from new Member States and Candidate Countries in the IST programme. It will design an "IST participation toolset" composed of background information, training sessions, self-assessment tools and promotion services, which will be disseminated to 200 SMEs in Romania, Bulgaria, Lithuania, Latvia, Slovakia and Poland. The project will also deliver an SME-focused support service package to help build ideas into projects, together with training sessions.

EU contracts and rules can be quite complicated for those who are unfamiliar with them. **FINANCE-NMS-IST** has set up a helpdesk and training programme to assist organisations in the new Member States with the financial and budgetary aspects of EU programmes. It organises training workshops for the financial personnel from SMEs and other organisations, and provides assistance with interpreting and implementing the Framework Programme's financial rules and regulations. The organisations trained include local accounting companies, commercial organisations and academic institutions.

This enables them to assist their own organisations or clients, both in the computation of optimal budgets as well as to ensure correct understanding of the financial responsibilities of entering into an EU research contract.

Other projects focusing specifically on the new Member States and Candidate Countries include: **IST ACADEMIES** which is organising 10 one-day academies for potential applicants; **CEEC IST NET** which is establishing a network and portal for research communities; and **EUROPEAN IST** which promotes the research competencies in IST in Candidate Countries through training sessions, brokerage events and conferences.

The **IS2WEB** project seeks to support research organisations in the Western Balkan countries in participating in the IST programme. The target countries are Albania, the former Yugoslav Republic of Macedonia, Bosnia-Herzegovina, Serbia and Montenegro, and Croatia.

A Structure for Longer-Term Support

Many relevant IST support actions have been developed over recent years, resulting in a wealth of knowledge, tools and services. **STAR-NET** is a first step towards the formation and development of a consolidated structure to support organisations in all new Member States and Candidate Countries based on these results. It will create two interconnected structures: a central unit to provide support services within the IST field; and 13 local nodes in each new Member State and Candidate Country.

STAR-NET will enhance the participation of organisations from the target countries in IST activities, providing support to those that wish to submit proposals to the new IST Programme under FP7. The network is intended to become self-sustaining in the longer term.

> PROJECT DETAILS

CEEC IST NET - Supporting IST Organisations from Central and Eastern Europe
aurelien.safffroy@euroquality.fr • www.europartnersearch.net/ist/communities/

EUROPEAN IST - Enhancing the Participation of Research Organisations from Associated Candidate Countries to the 6th Framework Programme
flaviana.rotaru@fimands.ro • www.european-ist.net

FINANCE-NMS-IST - IST Financial Training and Web Portal for NMS
info@finance-helpdesk.org • www.finance-helpdesk.org

GET-IN - Getting Small and Medium-sized Enterprises from Candidate Countries to Increase Participation on IST Projects
www.getin-project.com

IS2WEB - Extending Information Society Networks to the Western Balkan Region
is2web@planet.gr • www.is2web.org

IST4BALT - Information Society Technologies Promotion in Baltic States
bonnin@selene.u-strasbg.fr • www.balticit.com/ist4balt/

IST ACADEMIES - IST Academies for New Members States and Accession Countries
stephane.joiris@be.ey.com • www.ist-academies.com

STAR-NET - Support to Associated Countries and New Member States
miguel.sousa@inovamais.pt • www.project-starnet.com

> Research Networks: A Key Tool for Global Science

International co-operation in high-speed research networks is creating a truly global research community.

Policy Context

Cross-border collaboration is now an established feature of the research landscape. In almost all disciplines, from astronomy and high-energy physics, to molecular biology, climate modelling and the humanities, researchers from different institutions and different fields of science are working together across organisational and national boundaries, in virtual research organisations.

Research is not just becoming more European in nature; it is also becoming more global. It is now commonplace for researchers in different continents to collaborate together within research projects, sharing research facilities and results.

High-capacity communications networks are essential to these global scientific collaborations. These advanced facilities contribute to keeping researchers at the forefront of their respective fields of research, retaining and developing academic expertise across Europe and ultimately boosting Europe's competitiveness.

For many years Europe's national research and education networks (NRENs) have been linked together, via a high-speed, high-capacity network called GÉANT. Past generations of this pan-European infrastructure have clearly demonstrated the multiplier effect of high-quality, high-bandwidth networks. In connecting researchers to each other, research networking enables activities that were previously impossible or inefficient. In addition, it stimulates interest in developing new research techniques that make full use of networking technologies.

The latest upgrade, known as GÉANT2, has further improved the performance of the network infrastructure, giving Europe the world's most advanced research network. The GÉANT2 network connects over 30 million users in 34 countries serving Europe's entire research and education community. Practically all of GÉANT2's links operate at 10 Gbps utilising their own fibre optic infrastructure – delivering data at speeds equivalent to transferring over 1,000 digital photos in 1.6 seconds.

Cooperation for Research Networks

Access to research network infrastructure is becoming more and more important for developing countries. International indicators demonstrate that several regions lag significantly behind Europe and other advanced industrialised regions in their use of ICT. Addressing the digital divide between the developed regions of the world and emerging economies is an important dimension of European aid and development policies.

As research becomes increasingly international, GÉANT2's connections to other research networks in other regions of the world are increasingly significant. Connections have been setup to the major research networks in North America (Abilene, NLR, CANARIE, ESnet) and Japan (SINET), and also the South African research network.

Further interconnection between GÉANT2 and other regional networks is being supported under regional information society cooperation initiatives and will be further supported in the future. These include the provision of communication network infrastructures for the southern Mediterranean, the Balkans, the Caucasus and Central Asia, Latin America, and the Asia-Pacific region.

Projects exploiting the benefits of research networks through the establishment of high-performance Grid-enabled platforms which can share resources or data are supported under the Research eInfrastructures activity of the Seventh Framework Programme (e.g. linking unique research expertise or facilities outside Europe, creating global virtual communities).

The strong level of interest in GÉANT is proof of the success of European research networking and its world-leading achievements. The federated model of European research networking is an important factor in its success, so much so that this model is now being adopted by other world regions in recognition of its efficiency for delivering research networking services.

Through this success Europe plays an influential and leading role in the development of research networking worldwide.

Networking the Mediterranean

EUMEDCONNECT is a pioneering initiative that has established and operates a research network infrastructure in the Mediterranean region. The EUMEDCONNECT network serves the entire research and education communities of the Mediterranean region and is linked to GÉANT2. Countries in the Mediterranean region able to benefit from the EUMEDCONNECT project are Algeria, Cyprus, Egypt, Israel, Jordan, Lebanon, Malta, Morocco, the Palestinian Authority, Syria, Tunisia and Turkey.

EUMEDCONNECT transforms the scale and reach of Mediterranean research networking, fosters greater levels of research collaboration, and helps accelerate the rate of development of the internet in the region. It is the principal infrastructure project of EUMEDIS, the European Commission's Mediterranean information society programme. It has brought the benefits of advanced networking to research and education users across the region, including important communities (such as archaeologists) and institutions (such as Bibliotheca Alexandrina).

The Latin American Connectionn

Within the @LIS Programme for EU-Latin America cooperation on Information and Communication Technologies, the **ALICE** project provides improved connectivity for research and education institutions by operating a research networking infrastructure across Latin America (RedCLARA) and its interconnection to GÉANT2.

By creating a regional Latin American research network and boosting international links to GÉANT2, ALICE is stimulating the region's telecom and service operators to adopt more competitive behaviours, and accelerating overall economic development through modernisation of key sectors. One of the successes of ALICE lies in the creation of an organisation – CLARA – designed to operate the regional research network. This tends to favour the implementation of common policies, transforming the region into a credible interlocutor with other regions of the world and international organisations.

Connectivity for Other Regions

Essential connectivity and more advanced services are also provided to research communities in other countries and regions.

The second generation of the Trans-Eurasia Information Network (TEIN2) extends research and education connectivity within the Asia-Pacific region and between the Asia-Pacific region and Europe. The **TEIN2** project has been particularly successful in supporting applications with high societal impact (e.g. early warning systems and remote training on medical techniques) that will ensure increased participation of local researchers in global research challenges.

In the Balkans, the SEEREN and SEEGrid e-Infrastructures have helped to efficiently bridge the digital divide and to fully integrate the region's scientific community with their colleagues elsewhere in Europe.

In the Caucasus and in Central Asia, the SILK and OCCASION have helped to address the "brain drain" and to foster a community between countries in the region. Often the bandwidth provided by these projects is the only available to researchers and schools in a country.

> PROJECT DETAILS

ALICE
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EUMEDCONNECT
info@dante.org.uk • www.eumedconnect.net

GÉANT2
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TEIN2
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SEEREN
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SILK/OCCASION
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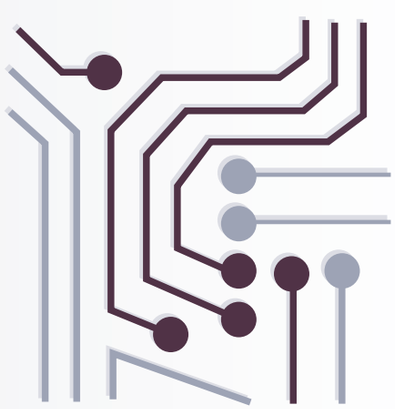


> A Key Partner for Asian Development

The European Union is undertaking widespread cooperation in ICT with the emerging economies of Asia for mutual benefit.

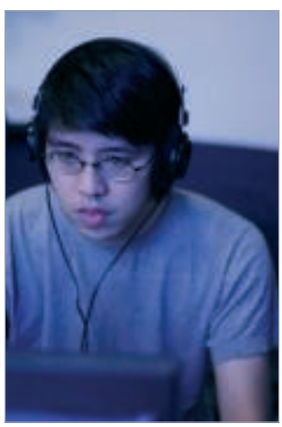
Policy Context

Asia is a crucial partner for the European Union from a political, economic and cultural perspective. The wider Asian and Asia-Pacific region accounts for 56% of the world's population, 25% of world GNP, but the region also encompasses 66% of the world's poor, with 800 million people living on less than $1 per day. Overall, about 1 billion people in Asia are considered to live in absolute poverty.

Major development challenges such as food security, health, and access to basic services continue to confront lower income countries of the region. Also, serious disparities of income and development opportunities exist for many middle-income countries in Asia.

The European Union plays a major part in helping Asian partners to address these issues, and the European Commission and the EU Member States collectively account for around 30% of total aid flows to developing Asian countries.

The Commission's Communication on Relations with Asia, published in 2001, acknowledged the great diversity of the Asia and Asia-Pacific region. It recognised the need to strengthen the EU's political and economic presence in the region and to move towards a better balance between economic, political, social and cultural elements. The Communication also recognised Asia in a partnership of equality to jointly address the challenges and opportunities arising from globalisation. This was followed in 2003 by the Commission's New Partnership with South East Asia, which set out a comprehensive strategy for the EU's future relations with this sub-region.



A first ASEM ICT ministerial meeting was held in Hanoi in 2006. The European Commission will host at the end of 2007 an ASEM ICT Senior Officials meeting to work on an action plan. Similarly, a joint ICT working-group between the EC and ASEAN was set up.

Contribution of ICT

Information and communication technologies (ICT) can be effective in improving the lives of Asia's poor. Their successful deployment can make a real difference. For example, implementing existing European eBusiness solutions in SMEs in developing Asian countries provides improved facilities for these firms to access markets in developed countries.

EU-Asia cooperation in ICT covers several dimensions, and includes high-speed networks for the research community, improving the quality of Europe-Asia partnerships, and linking the two regions in a search for innovative and compatible ICT solutions and standards.

Since 1999, several projects have been supported under the IST programme aimed at strengthening scientific and technological cooperation between the European Union and various Asian countries. Major efforts have been launched towards all of the main regional players: Japan, South Korea, China, India and the countries of South-East Asia.

The Beijing Digital Olympics: A Showcase for European ICT

The Beijing Olympic Games in 2008 will be a showcase for the very latest in ICT. EU projects are helping the Games' Chinese hosts to deliver these innovative applications through the Digital Olympics, a demonstration programme organised by the Beijing Municipality. The EU's participation in this high-profile programme will ensure that European industry is well represented in this important international event and provide a sound basis for a long-term and strong cooperation between the European and Chinese ICT communities.

The EU's involvement grew out of the work of the EU-China Working Group on the Digital Olympics, which was supported under the IST-FP6 project **FACT**. It organised events to allow European industries to obtain up-to-date information about Chinese developments in the ICT area, and to network with Chinese organisations involved with the Digital Olympics and Digital Beijing programmes.

Building on FACT, the follow-on project **ECOSPLAN** addressed joint EU-China strategic planning for the Digital Olympics programme. It looked at technical developments related to the city's ICT infrastructure that will allow European ICT suppliers to better apprehend the needs of the Beijing Municipality and the concrete opportunities existing for EU-China cooperation in this area.

Scanning the potentialities for future ICT research collaboration is the objective of the **SPICE** project. It will identify the most prosperous ICT domains for EU-China research cooperation initiatives and report constituencies and potentialities for deeper strategic cooperation. This mapping of competences and potentials will be based on an extensive consultation process, workshops, data analyses and interviews.

EU-India: Tackling the Digital Divide Together

Since the signature of a Cooperation Agreement on Science and Technology, Europe's relationship with India has gone from strength to strength. The 2004 Euro-India forum on information society facilitated an in-depth discussion between the EU and India.

The Euro-Indian Cooperation Initiative (organised under the **MONSOON** project) provides European researchers with the opportunity to find potential partners in Indian ICT research initiatives, share and exchange knowledge on ICT topics, and create project consortia. A series of ICT cooperation workshops are also being organised.

These activities are complemented by the project **INCITE**, which includes activities supporting the National Contact Point in India, a mapping exercise of EU-India complementarities in ICT, as well as training events.

Increasing South-East Asian Participation in the IST Programme

Cooperation with the countries of South-East Asia is the focus of the **GAPFILL** project. These all offer excellent prospects for their IT markets and the quality of their IT communities. The project aims to increase participation of Asian organisations in the IST Programme (FPs 6 and 7), to disseminate the IST programme's objectives and results more widely within the sub-region, and to give the European ICT community greater visibility in this region of the world. Country-specific events were organised in each of the targeted countries, culminating in the EU-South East Asia ICT Forum held in Singapore in June 2006.

> PROJECT DETAILS

ECOSPLAN - EU-China Cooperation for Strategic Planning of Beijing Digital Olympics Programme
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FACT - EU-China Cooperation on Digital Olympics
info@eurochina-ict.org • www.eurochina-ict.org

GAPFILL
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MONSOON - Euro-India ICT Cooperation Initiative
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INCITE - Catalyst for Euro-India ICT Research
saija@teseo.be • www.inciteproject.org

SPICE - Scanning the Potentialities for Future ICT Research. Collaboration between China and the European Union
office@eutema.com • www.ict-china.eu

> Partnerships for Digital Broadcasting

Cooperation with Chinese organisations is opening up new market opportunities for European providers of digital broadcasting technologies, services and content.

Policy Context

With its strategic focus on networked ICT, China offers attractive market development opportunities for digital broadcasting products and services. Prospects are particularly attractive in the area of the Connected Home or eHome where China is developing its IGRS (Intelligent Grouping and Resource Sharing) initiative, mirroring similar developments in Europe and other developed markets.

In both Europe and China, a number of manufacturers, service providers and universities are at the forefront of these developments. Given these circumstances, science and technology cooperation between the EU and China in the Connected Home provides strategic opportunities and benefits for both sides through joint working. Identifying major technical challenges, working for global consensus on interoperability and standardisation are key issues that need to be tackled from a technological perspective.

Another promising area of interest relates to terrestrial digital video broadcasting (DVB). Several European countries have plans to switch off analogue broadcasting, which will offer opportunities to systematically deploy mobile TV (DVB-H standard) in Europe. China is also quite active in the context of mobile TV, through domestic technological developments and plans to roll out services at the upcoming Olympic Games in Beijing in 2008. Against this background, progress towards common standardisation approaches, interoperability and services delivery platforms adapted to the requirements of specific markets have been identified as areas of common interest.

Cooperation on Digital Broadcasting

DG Information Society and Media of the European Commission and the Chinese Ministry of Science and Technology (MOST) have been working together for many years to support the joint R&D efforts of European and Chinese organisations in the ICT field, in particular through the promotion of the participation of Chinese organisations in the IST programme and through trials of EU technologies in Chinese contexts. Digital broadcasting to handhelds (mobile interactive TV) was notably identified as a priority topic for cooperation in the latter part of FP6. The goal was primarily to support the emergence of added value converged technologies, their faster development in China and their interoperability with EU-deployed solutions. EU organisations benefit from this cooperation through: contributing to the emergence of worldwide standards, taking advantage of developments occurring in China and developing familiarity with the Chinese marketplace.

Research in this field addresses the need for open software and for complementarities with established standards, taking into account interactive applications and experimental services developed for specific contexts.

In certain cases, common live trials are being launched to validate the technical approaches. Exploring the full potential of terrestrial and handheld DVB is another research focus. Handheld DVB has the potential to provide access to broadcast internet content. This is of particular interest to countries such as China, especially considering the huge size of the country, since the services can be received on wireless mobile terminals, which significantly extends the reach of internet access.

Cooperation on Digital Convergence

A number of current projects promote and support research cooperation between the EU and China on digital broadcasting technologies, especially the convergence with mobile communications.

MING–T is developing and validating interoperability and handover issues for the representative mobile digital broadcast standards developed in China and Europe. It addresses the convergence of the European DVB-H standard with the emerging Chinese DTMB standard, with a view to providing a unified platform for the delivery of services to mobile terminals. A further goal is to foster cooperation between Europe and China in both industry and research communities.

MODIBEC, a coordination action aimed at leveraging the results of the other projects through definition of common EU-China approaches, notably in the domain of standardisation. Three high level awareness and dissemination events are planned in China in August 2007, to be followed by a further event in summer 2008 in the context of the Beijing Olympic Games.

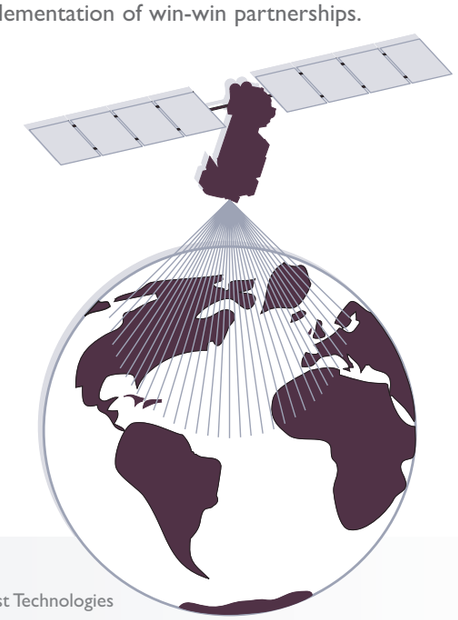
A further project, **MOBISERVE**, targets new mobile services at big events using DVB-H broadcast and wireless networks. It will research technologies supporting two interactive user scenarios to be deployed and validated by users in the context of the Olympic Games in Beijing, through converging telecom and broadcast platforms including the DVB-H standard.

Finally, **ROADIBROM** is a support action focusing on application in convergent environments. It is working to identify and characterise the key R&D challenges for a comprehensive joint European-Chinese initiative on innovative applications of converged digital broadcast and mobile communication in 2015 and beyond. It is based on visionary scenarios for digital broadcasting/mobile convergence and a detailed roadmap for the implementation process.

Euro-Chinese Research Collaboration

At the beginning of FP6 two support actions, **PARTAKE** and **PHENIX**, were implemented to investigate research co-operation opportunities in the field of converging systems, to validate architectures mixing broadcast and telecom networks, and to study the provision of innovative multimedia services to mobile TV services in the context of the Beijing Olympic Games of 2008.

These early actions have been complemented with a consistent set of R&D and support actions, resulting from the subsequent phases of the IST programme implementation (see box). These projects provide high profile co-operation platforms between EU and Chinese industrial and research constituencies for the sustainable implementation of win-win partnerships.



> PROJECT DETAILS

MING-T - Multistandard Integrated Network Convergence for Global Mobile and Broadcast Technologies
zhang@informatik.uni-hamburg.de • http://ming-t.informatik.uni-hamburg.de

MODIBEC - Cooperation on Digital Broadcasting Convergence with Mobile Communications between Europe and China
j.wu@mail.ertico.com • http://www.modibec.org

MOBISERVE - New Mobile Services at Big Events Using DVB-H Broadcast and Wireless Networks
steven.luitjens@philips.com • www.mobiserve.org

PARTAKE - Assisting Chinese Participation in Converging Systems
thomas.owens@brunel.ac.uk • www.ist-partake.org

PHENIX - Delivery of Innovative Multimedia, Audiovisual Interactive Services towards Mobile Devices
francois.ziserman@francetelecom.com • www.ist-phenix.org

ROADIBROM - Roadmapping Digital Broadcasting / Mobile Convergence RTD in 2015
olivier.rerolle@cetim.org • www.ve-forum.org/digital convergence

> Europe: A Willing Development Partner

Information and communication technologies are playing an important role in the social and economic development of the world's poorest nations.

Policy Context

Europe is a key partner for developing countries. It is already the world's largest aid donor, accounting for 55% of development assistance, 15% of which is managed by the Commission. Furthermore, Member States have committed to double the EU aid budget by 2010, with an increasing proportion of aid money going to developing country governments directly to support their own development plans and budgets.

The European Union agreed a new development policy – entitled the European Consensus on Development – in December 2005. The new Strategy reflects changed circumstances since the previous strategy was published in 2000: the stronger consensus on the UN's Millennium Development Goals, the changed global security context and the increased impact of globalisation. For the first time it introduces a common framework of objectives, values and principles for development policies at both European and national levels.

The European Consensus on Development puts poverty eradication at its core. It highlights the importance of the EU's partnership with developing countries and the promotion of good governance, human rights and democracy. It stresses the role of civil society and tackles conflict situations and failed states. The policy sets development as a key element of the EU's external action, and explores links with related policy areas such as foreign and security policy, trade, migration, environment, and employment. It recognises that Europe's relations with each external partner are unique and require an individual policy mix of aid, trade and other policies tailored to the needs of each partnership.

EU initiatives for emerging economies support economic growth, and one of the means to achieving this growth is by promoting information society technologies and encouraging supportive regulatory policies based on the European model.

Contribution of ICT

Information and communication technologies (ICT) – which include old technologies such as telephones and broadcasting as well as new advances – are an important element of development in many areas such as education, health, economic growth and governance. Indeed, the new technologies enable many developing countries to jump a technological generation and gain direct access to newer, cheaper technologies.

The World Summit on the Information Society (WSIS), the second stage of which was held in Tunis in November 2005, outlined a consensus for a global approach to the information society, common to all UN member states. It reaffirmed the primary importance of democracy, of policy objectives such as sustainable development and cultural diversity, and of respect for human rights and fundamental freedoms, including the freedom of expression and opinion, as well as the freedom to receive and access information. These are indispensable if ICT are to contribute to economic and social progress in emerging and developing countries.

In line with the WSIS Declaration of Principles, the EU programmes and projects supported with third countries – in particular with the least developed countries and regions – aim to fight poverty and to empower citizens by improving connectivity, access and use of ICT.

A direct implication of the WSIS outcome was notably the inclusion of the ICT domain in the EU-Africa Partnership on Infrastructures, to be implemented in the framework of the 10th European Development Fund.

The EU accompanies the promotion of infrastructure with complementary ICT capacity-building and strengthening programmes to be implemented at sub-regional levels. This includes support on regulatory issues and training activities, as well as the development of local content and services of high societal impact.

Improving Healthcare Systems in Africa

The HIV/AIDS pandemic together with the generally poor health status in Africa have emphasized the need for appropriate use of ICT in healthcare. **BEANISH**, a project under IST-FP6, is helping to adapt Europe's eHealth know-how for application in Africa.

Europe has strong experience in eHealth research and deployment, a knowledge base that could be of significant value to developing countries in Africa. However, given the contextual differences, for example related to infrastructure, economy, and culture, European solutions and know-how need to be sensitively reworked and appropriately translated to the African context. Furthermore, best practices, learning and workable ICT need to be shared and further developed across African countries within a regional framework.

Application of eHealth technologies delivers several benefits for developing countries in Africa. They can be used to strengthen various activities such as knowledge exchange between healthcare managers, providers and the community. They can also be used to enable optimal allocation of resources, and to monitor the roll-out of programmes to address HIV/AIDS.

Regional Impact of Information Society Technologies in Africa

IST-AFRICA, another IST-FP6 project, is a collaborative initiative between two European partners and government agencies in Mozambique, South Africa and Tanzania responsible for national ICT exploitation.

The project is adapting relevant European research results to regional requirements, developing training modules and facilitating skills transfer. Through these actions the project seeks to have a regional impact on the digital divide by opening up the European Research Area to Southern African organisations. It supports the ICT objectives of a number of regional and international stakeholders, in particular the Southern African Development Community (SADC), the New Partnership for Africa's Development (NEPAD) e-Africa Commission, and South Africa's Presidential National Commission on Information Society and Development.

Also concerned with cooperation between the EU and sub-Saharan Africa in the ICT sector, the **START** project is defining an EU-Africa cooperation framework that builds on and complements existing programmes, projects and initiatives. It will set-up and operate helpdesks and organise awareness workshops to provide support and guidance to European and African organisations developing proposals for joint projects to be submitted under FP7.

> PROJECT DETAILS

BEANISH - Building Europe-Africa Collaborative Network for Applying IST in Health Care Sector
jensj@ifi.uio.no • www.hisp.info/confluence/display/BEANISH/Home

IST-AFRICA - Regional Impact of Information Society Technologies in Africa
paul@iimg.com • www.ist-africa.org

START - Developing a Strategic R&D Partnership Between the EU and Africa in the ICT Field
karine.valin@sigma-consultants.fr • www.euroafrica-ict.org