Second EU-KOREA Cooperation Roadmap
In Science, Technology and Innovation
2011 - 2013

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The S&T agreement between the Republic of Korea and the European Community entered into force in April 2007. It provides for the parties to meet regularly at Senior Official level under the Joint Science and Technology Cooperation Committee (JSTCC).

The third meeting of the Joint Committee took place in Seoul, on 7-8 July 2011, where EU and Korea agreed to reinforce cooperation, notably through a scale & scope approach focusing on key sectors of shared interest and benefit. This should translate, in particular, into an increase of cooperative activities in the areas of energy, Nano and industrial Technologies, ICT and Mobility of researchers. The present document takes stock of achievements of the first EU-Korea Roadmap in force since the Agreement had been concluded. The areas of cooperation and actions planned are due to cover the period 2011-2013. Both sides agreed to organize the 4th Joint Committee in March 2013 in Brussels to review progress.

The overall bilateral relations between the EU and the Republic of Korea are governed by a Framework Agreement which was recently updated along with the bilateral Free Trade Agreement. Both Agreements entered into force on July 1, 2011. The Framework Agreement enables both parties to engage in rapidly evolving political and economic relations. Pro-active initiatives are being taken in the area of Science, Technology and Innovation to deepen and widen cooperation. In addition, Korea's involvement in the EU Research Framework Programme dates back over a decade and it is supplemented by an EU-Korea EURATOM Agreement, as well as an Agreement under the ITER-fusion energy project.

Three dialogue instrument platforms from the FP7 Capacities Programme have been developed to support cooperation, namely:

- A BILAT platform called KESTCAP that aims at promoting bilateral cooperation.
- An ERANET project called KORANET that aims at increased synergies among with EU Member States in their cooperation with Korea.
- An ACCESS4EU platform called KORIDOR to identify opportunities for the participation of legal entities based in the EU Member States and Associated Countries in Korean research and innovation programmes.

Through these projects, the EU and Korea are engaged in increasing mutual awareness of, and participation in, each other's research programmes, as well as deepening and diversifying the scope of cooperation and involving all relevant stakeholders.
Main Priorities for Enhanced Cooperation

Building on their existing cooperation the EU and Korea decided to establish a more structured policy dialogue, identify priorities to enhancing cooperation and launching new activities based on mutual benefit and balanced reciprocity. Both parties decided to focus on key priority topics. The following follow-up actions were agreed.

1. Energy (Non-Nuclear)

Both Korea with its Green Growth and the EU with the Europe 2020 strategy and underlining key initiatives such as the SETPLAN, share the need to diversify energy sources, limit dependence on fossil fuels, reduce CO2 emissions and enhance their energy efficiency. In addition, both the Free Trade and Framework Agreements which recently entered into force should act as a trigger for enhanced cooperation in this area and the wider span of related technologies.

All stakeholders need to be involved, ranging from Ministries and related agencies on both sides (MKE-KIAT/KETEP and MEST), to EU & Korean industry, research centres and scientists. Officials recognised the need to step up cooperation and proposed to focus on four main areas: hydrogen fuel cells, smart grids, photovoltaic and wind power energy research. Workshops for detailed topics identification and technical visits of experts & officials are planned for early 2012 in these scientific fields. In addition, in the area of hydrogen fuel cells it is envisaged to look at the possibility for joint initiatives in 2013.

2. Nanosciences, Materials and Production (NMP)

NMP and industrial technologies at large support industrial competitiveness through establishing research for the validation of standards and large-scale demonstrations of key enabling technologies. Both Korea and the EU, which are key technology leaders in these areas, ought to reinforce the identification of shared interest and engage in a wide cooperation.

Consequently, both Parties agreed to launch a workshop beginning of 2012 (February/March) that should encompass Nano-safety (health safety impacts of Nano particles and regulation and practice at global level) and wider issues related to industrial technologies. In addition, the forum would be complementary to the efforts carried out at global or OECD level by contributing to the development of Nano technology and stimulating early market uptake and acceptance of nanotech based solutions.
A second topic of mutual interest concerns *Manufacturing*. Korea and the EU agreed to further cooperate via Intelligent Manufacturing Systems scheme and to participate at the World Manufacturing Forum (2012, Germany). In addition, both Parties agreed to exchange information on *critical materials* and to participate to each other key conferences on *industrial Technologies*. Finally, in terms of *policy planning*, the EU proposed to invite Korea to the next series of meetings undertaken under the Experts Advisory Group of the NMP thematic of the EU Research Programme.

3. **Information and Communication Technologies**

ICT research aims at effectively promoting ICTs worldwide and improving competitiveness in the global economy. Some of the benefits alluded to are knowledge sharing, promotion of joint approaches (e.g. choice of standards and technologies), and reduction of financial risks associated with the introduction of research results to the market. In this context, it is worth noting that the main opportunities for discussion on policy matters in relation to improving market access lie within the framework of the EU-Korea FTA that should, in return, call for more cooperation under ICT research.

Korean organisations are participating in various areas of the EU Research Programme on ICT. Both Parties agreed that Korea should be invited to participate in the *Experts Advisory Group* of the ICT thematic at the end of 2011 (Brussels) and to reinforce cooperation in various areas, ranging from *Future and Emerging Technologies, Future Internet and robotics to grapheme technologies*.

4. **Researchers Mobility**

Considering that Korea and the EU are both advanced economies with a highly educated workforce, it makes sense to consider that mobility of researchers between both Parties should be increased. EU Member States have some bilateral programmes, but the EU Framework Programme could further reinforce synergy for an increased exchange in both directions.

Officials agreed to set up schemes that would tackle these objectives and proposed to engage in *co-financing the new Marie Curie International Research Staff Exchange Scheme (IRSES)*. The existing large infrastructure projects (Polar Research) was looked at as one of the examples where mobility schemes are beneficial for both Parties.

Awareness of each other programmes should be increased, and ways to increase the role of National Contact Point functions of relevance for both MKE & MEST were discussed.
5. International Cooperation

1) KORANET "An Initiative to Intensify and Strengthen the Regional S&T-Cooperation between Korea and the ERA"

Project start: 1/1/2009
Project end: 12/31/2012
Website and Newsletter: www.koranet.eu

The KORANET project integrates national European and Korean S&T schemes through studies and organising joint calls. A first joint call was published on 8 February 2008 with joint funding from research programs from Austria, France, Germany, Korea and Turkey. The experience of the call has been thoroughly analysed and conclusions were well documented. The project intends to issue a second joint call in late 2011.

The KORANET project is structured along five work programmes:

- Mapping of regional approaches including the preparation of reports and specific studies on S&T cooperation as well as an analysis of cooperation instruments and approaches;
- Leading strategic discussions, identifying cooperation areas of common interest, setting framework objectives for future cooperation;
- Development and implementation of a pilot joint funding scheme and based on its evaluation a joint funding programme of programme owners;
- Implementing a continuous scientific and policy dialogue (annual conferences dedicated to different topics, workshops, brokerage and information events, networking activities for researchers);
- General coordination of the project including information dissemination.

Relevant project reports:
D1.1 STI Clusters (DRAFT)
D1.2.2 Inventory of S&T cooperation programmes EU-Korea
D1.3.1 Korea-EU Key Research Institutes for Life-Long Health
D1.4.1 Report on internationalisation patterns and scientific collaboration between Europe and Korea / East Asia
D1.4.4: Experiences From Participation in ERANETs and Perspectives for Ongoing ERA-NETs
D3.3.1 Assessment of the Pilot Call Implementation (DRAFT)
Coordinator: Deutsches Zentrum für Luft-und Raumfahrt EV (DLR, DE)

Partners:

1. National Research Foundation of Korea, Republic of Korea
2. Türkiye Bilimsel ve Teknolojik Araştırma Kurumu, Turkey
3. Hungarian-Korean Technical Cooperation Center Foundation, Hungary
4. Zentrum für Soziale Innovation, Austria
5. Polska Akademia Nauk, Poland
6. Veneto Innovazione Spa, Italy
7. Valtion teknillinen tutkimuskeskus, Finland
8. Centre National de la Recherche Scientifique, France
9. The British Council, United Kingdom
10. VDI/VDE Innovation + Technik GmbH, Germany

2) KORRIDOR "Stimulating and facilitating the participation of European researchers in Korean R&D programmes".

The KORRIDOR project supporting the EU access to Korean national programmes providing thorough documentation of all Korean research programs open to European Scientists and promoting such participation. A range of dissemination and liaison-building mechanisms will be used:

- Organising Korean RTD workshops/stands/booths collocated with selected European flagship RTD events in order to promote access opportunities;
- Organising of a conference on the “EU-Korea S&T Cooperation: mutual opportunities and benefits” to promote bilateral cooperation and raise awareness on access opportunities to Korean RTD programmes;
- Setting up a project webpage in a common web portal of the ACCESS4EU projects;
- Reporting on project findings to the members of the Joint Committee on the EU-Korean S&T Agreement at the occasion of their annual meeting;
- Issuing and circulating newsletters, publications and promotional materials.

A thorough report is given in:
D1.1.1 Access opportunities for European researchers in Korean RTD programmes

Project start: 12/1/2009
Project end: 11/30/2011
Website: www.access4.eu/southkorea
Coordinator: Kist Europe Korea Institute of Science and Technology Europe Forschungsgesellschaft mbH

Partners:
1. Project Management Agency of the German Federal Ministry of Education and Research at the German Aerospace Centre DLR, Germany
2. Centre National de la Recherche Scientifique, France
3. Korea Institute for the Advancement of Technology, South Korea
4. National Research Foundation of Korea, South Korea

3) KESTCAP "Korea-EU Science and Technology Cooperation Advancement Programme"

KESTCAP promotes S&T partnerships between Korean and EU scientists, mainly through the platform of FP7. The specific objectives of the project are:

- to develop sustainable cooperation strategies;
- to disseminate information and promote cooperation;
- to organise and support cooperative events between Korea and Europe.

The project is expected to increase understanding of each other’s S&T strategy, S&T cooperation programmes and increased funding opportunities. The networking capacity of research partners and institutions will be enhanced. The creation of long-term business relationships based on scientific and technology co-operation will be supported and a technology transfer will be reinforced through mobility and exchange programmes and mutual access to research infrastructures.

Relevant reports published by the project are:
D3.1 Report on Korea-EU cooperation
D4.4 Materials on R&D Information of Korea and the EU
D4.5 Materials on R&D Programmes of Korea and the EU

Project start: 7/15/2008
Project end: 1/14/2012
Website: www.kestcap.org/

Coordinator: National Research Foundation

Partners:
1. Ministry of Education, Science and Technology, Republic of Korea
2. KIST Europe - Korea Institute of Science and Technology Europe Forschungsgesellschaft mbH, Germany
**Future Activities for INCO**

A new INCO project is planned for supporting the institutional dialogue under the bilateral S&T Agreement between the EU and Korea. Promote bilateral cooperation between research and innovation actors, as well as monitoring progress in the bilateral S&T cooperation.

The following annexes provide an overview of the actions implemented and planned for implementation in cooperation through both the EU and Korean funding programmes: Annex I provides a summary table of already planned and new actions and Annex II provides an overview of achievements, on-going and new activities for each area.
## Annex I - Table of on-going and planned activities

### ENERGY Research (non-nuclear)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Activity</th>
<th>Who</th>
<th>When / where</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smart grids</td>
<td>Workshop for topics identification</td>
<td>EC (EERA(^1))/ MKE(^2)-KETEP(^3)</td>
<td>2012, Brussels</td>
</tr>
<tr>
<td>PV and Wind</td>
<td>Visit of technical experts</td>
<td>EC experts / MKE-KETEP</td>
<td>By early 2012</td>
</tr>
<tr>
<td>Hydrogen Fuel cells</td>
<td>Possibility of starting joint projects in 2013</td>
<td>EC / MKE-KETEP</td>
<td>Planning in 2012</td>
</tr>
</tbody>
</table>

### NANOSCIENCES, NANOTECHNOLOGIES, MATERIALS & NEW PRODUCTION TECHNOLOGIES (NMP)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Activity</th>
<th>Who</th>
<th>When / where</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical materials</td>
<td>Exchange of information</td>
<td>EC/MEST(^4)- MKE (KIAT) - NMPC(^5) (officials/experts)</td>
<td>2012</td>
</tr>
<tr>
<td>Policy planning</td>
<td>Invitation at the NMP Experts Advisory Group by the Chairperson as observers</td>
<td>EC/MEST- NNPC (High level officials/experts)</td>
<td>Feb/Mar 2012</td>
</tr>
<tr>
<td>NMP</td>
<td>- Establish dialogue and plan for exploratory workshops</td>
<td>EC/MEST- NNPC (officials/experts)</td>
<td>- Workshops: 2011-2013 - Conferences: June 2012, Denmark (Industrial Technologies Conference) and Spring 2013, Ireland, (EuroNanoForum)</td>
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<td></td>
<td>- Anticipate participation to annual conferences on both sides</td>
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<td></td>
<td>- 1st KOREA-EU Nano Workshop</td>
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<tr>
<td>World Manufacturing Forum 2012</td>
<td>Cooperation via Intelligent Manufacturing Systems scheme</td>
<td>EC/MKE</td>
<td>2(^{nd}) semester 2012 Stuttgart - Germany</td>
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</tbody>
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1. EERA: European Energy Research Alliance
2. MKE: Ministry of Knowledge Economy
3. KETEP: Korean Energy Technology Evaluation and Planning
4. MEST: Ministry Of Education, Science And Technology
5. NMPC: National Nanotechnology Policy Centre
## INFORMATION AND COMMUNICATION TECHNOLOGIES

<table>
<thead>
<tr>
<th>Topic</th>
<th>Activity</th>
<th>Who</th>
<th>When / where</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Policy planning</strong></td>
<td>Participation to ISTAG⁶</td>
<td>EC / MKE/KCC (officials)</td>
<td>End 2011, Brussels</td>
</tr>
<tr>
<td><strong>Future and Emerging Technologies, Future Internet, robotics, Graphene⁷ technologies</strong></td>
<td>Topics identification</td>
<td>EC (dialogue platforms)/ MKE/KCC/MEST-Agencies</td>
<td>2013 and beyond</td>
</tr>
</tbody>
</table>

## RESEARCHERS MOBILITY

<table>
<thead>
<tr>
<th>Topic</th>
<th>Activity</th>
<th>Who</th>
<th>When / where</th>
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<tbody>
<tr>
<td><strong>Illustrate EU-Korea researchers' exchanges</strong></td>
<td>Focus on Polar research(Arctic &amp; Antarctic): cooperation through the IRSES action</td>
<td>EC / MEST-KOPRI⁸ (officials-experts)</td>
<td>By end 2011, Brussels/Seoul</td>
</tr>
<tr>
<td><strong>Policy planning and coordination</strong></td>
<td>-Participation to NCP meetings &amp; trainings (NRF)</td>
<td>EC / MEST (NRF⁹)-MKE and Agencies</td>
<td>-2011 and beyond</td>
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<tr>
<td></td>
<td>-National Academy to help dissemination</td>
<td></td>
<td>-May 2012, Seoul</td>
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<td></td>
<td>-Dissemination on Marie-Curie</td>
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<td>Erasmus event</td>
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<td></td>
<td>-Erasmus-Mundus dissemination</td>
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⁶ ISTAG: IST Advisory Group  
⁷ Graphene is an allotrope of carbon  
⁸ KOPRI: Korea Polar Research Institute  
⁹ NRF: National Research Foundation
Annex II – Highlight of cooperation activities

ROADMAP’S ACTIVITIES

This Roadmap is a dynamic tool - to be updated and amended as appropriate to respond to emerging opportunities and priorities - to reflect the state of the on-going cooperation. It identifies in detail the initiatives under each thematic to be undertaken during 2011 and beyond. It is based on the main outcomes of the Joint Science and Technology Cooperation Committee (JSTCC).

The Roadmap aims at reinforcing cooperation along three main lines:

1) **Identify common priorities by reviewing existing cooperation activities and seeking opportunities in research areas:**
   - Increase opportunities for cooperation in new areas;
   - Analyse the context of global initiatives and multilateral cooperation.

2) **Assess cooperation mechanisms and financial commitments:**
   - Discuss how to develop further cooperation using existing and new support mechanisms, in particular to enable a balanced-partnership between parties via each others research and innovation programmes;
   - Ensure continued co-funding by Korea in key areas of cooperation.

3) **Assess and support the role of dialogue instruments:**
   - Assess the support of the existing and new dialogue instruments by developing Korea's participation in the EU FP and ensuring coordination with EU Member states;
   - Value the cooperation dialogue as a key pillar of the overall EU-Korea partnership.
Energy (Non Nuclear)

**NB:** EU-Korea's cooperation in energy technologies falls under both the EU-Korea Euratom and ITER-fusion energy project Agreements. However, the present chapter does not report on these issues. You will find hereunder an account of cooperation under the EU Research Framework Programme.

**Achievements**

Participation in the EU FP programme has been focused on only one Korean participant in an energy project: KIST (Korean Institute of Science and Technology) in a hydrogen solid storage project – NANOHy.

In June 2011, a KOREA-EU Green Energy Forum took place in Brussels, with support from DG Research and Innovation and MKE (Ministry of Knowledge Economy), and its related agencies. The Forum brought together EU and Korean Officials, researchers and companies in the areas of photovoltaic, wind, smart grids and fuel cells and hydrogen, in which both Korea and the EU are recognised leaders.

**Planned activities**

At the Third Joint Committee meeting, the MKE (Ministry of Knowledge Economy), KETEP (Korea Institute of Energy Technology Evaluation and Planning), KIAT (Korean Institute for the Advancement of Technology) and MEST (Korean Ministry of Science and Education) agreed to engage in a series of joint actions in the following main technology areas: hydrogen fuel cells (HFC), smart grids, PV and wind power.

**Smart grids:** It is intended to organise a workshop in order to identify topics of shared interest and to involve all relevant stakeholders on both sides. Korea is a leader of the International Smart Grid Action Network. Conversely, EU has strong expertise in this domain via the Smart Grids Joint Programme of European Energy Research Alliance and the Fuel Cells and Hydrogen Joint Undertaking, and similar bodies on Korean side.
**PV and Wind:** A visit of technical experts is planned for early 2012 for further discussions.

**Hydrogen Fuel cells:** Both parties recognize that this research area could prompt projects starting in 2013, and the possibility for a coordinated call will also be looked at.

In addition, Korea will establish contact point for coordination. MKE and KETEP and DG Research and Innovation on the EU side will be designated as coordinators. Korea – via KETEP- will participate at the upcoming SETPLAN conference in Poland, in November 2011.

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**Nanosciences, Materials and Production**

**Achievements**

Korean participation in the EU FP programmes is very limited (only a handful of projects), and reciprocally the participation of Europeans in Korean programmes is largely unknown.

**Intelligent Manufacturing Systems (IMS):**

Both the EU and Korea have been committed partners of this scheme and have prompted a new impetus with a new approach focusing on "Manufacturing Technology Platforms". The EU currently holds the rotating Chair (until end 2012) and intends to strengthen the role of IMS through implementation of a jointly agreed strategy "IMS 2020", enlarged membership and linkages between IMS and the EU PPP dealing with the Factories of the Future.

EU and IMS co-sponsored a World Manufacturing Forum 2011 "Innovation in Global Manufacturing" in Italy in May 2011, which included several Korean speakers.

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**Planned activities**

**Nano, Materials and Production (NMP)**

Both sides agreed to regularly exchange information in these fields and tackle issues of mutual interest encompassing:

- Approach of public funding in the NMP area,
- Links to existing platforms such as the Nanosafety cluster, the Nanofutures cross-European Technology Platform on EU side and similar bodies on Korean side,
- Technical exchanges on Health safety and environment including triggers leading to commercialisation and cooperation initiatives involving industry,
- And in general terms, looking at the research trends (e.g. roadmapping) and framework conditions, such as regulatory aspects.

Overall, it was agreed to establish a dialogue that should be sustained by a series of exploratory workshops attended by experts & officials -as appropriate- and the participation to large annual conferences organised by both sides.

In addition, it is agreed that on policy planning the Advisory group of NMP (EU FP7) will look at the possibility of involving Korean high-level officials and experts.

**Critical materials:** Exchange of information between officials/experts on critical materials possible R&D initiatives linked to their increasing scarcity and the security of supply (substitution and recycling).

**Intelligent Manufacturing Systems (IMS):** Participation of Korean officials/experts to World Manufacturing Forum 2012 (2nd semester 2012 - Stuttgart, Germany). In addition, cooperation could be reinforced via the Intelligent Manufacturing Systems scheme and the development of new projects.

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### Information and Communication Technologies

**Achievements**
- Korean organisations are participating in various areas of the FP7 ICT research theme.
- Exchanges occurred at the level of experts via the dialogue platforms (FP7 EU funded project EURASIAPAC) and related fora held in Seoul, Brussels and Daejon in 2008, 2009 and March 2011.

**Planned activities**

**Participation to the ISTAG, EU advisory group:** A Korean delegation has been invited to Europe for a meeting with ISTAG, the advisory group from EU industry and academia on the ICT part of FP7, to discuss the interest in moving to more enhanced cooperation.

**New areas of cooperation:** There is a common wish to both deepen and widen ICT cooperation in Grapheme technologies (Korean Programmes, the Future and Emerging Technologies, Future Internet, robotics (EU/ Korean Programmes).
Researchers Mobility

Achievements

• Participation of Korea KOPRI (Korea Polar Research Institute) in EU and EPB (European Polar Board) supported activities - March 2011 Arctic Science Summit Meeting.
• Korean exchanges under the Marie-Curie fellowship scheme (including IRSES) were very limited.

Planned activities

• Agreement to co-fund IRSES: Awareness will be further increased via the co-funding of this scheme. KOPRI will initiate with EU partners (e.g. from UK, Germany, Italy, France, and Sweden) and possibly other non-EU partners, participation in the IRSES 2012 call. The existing large infrastructure projects on the ice breaking research vessel Aurora Borealis, SIOS-PP, Antarctic Jang Bogo research station and Korean Arctic Observation Network are likely projects to further promote participation to IRSES.
• NCP (National Contact Point) functions: Both MKE and MEST Korea intend to reinforce participation to the relevant training and dissemination activities.
• Korea has various programmes for exchanges of researchers of relevance for further promotion within Europe in order to reach a balanced partnership.
• Link to existing mobility events to promote Marie-Curie, e.g. Erasmus (June 2012) – Conference in Korea.

Food, Agriculture and Fisheries and Biotechnology

Achievements

• Participation under the EU FP remains very low in this area.

Planned activities

In the context of cooperation with industrialised and key strategic partners, cooperation activities could be planned in food safety and aquaculture. Improvement and safety of sea food are some of the aspects of cooperation for global food safety research evidence based risk management of food allergies that could be targeted.
Health

Achievements

- The Health theme has attracted a sound number of Korean partners in EU funded projects so far - 8 participants in 6 projects which is an increase from FP6.
- The National Institute of Health of Korea participates in the International Human Epigenetics Consortium, where the European Commission is also represented.
- The projects all deal with infectious diseases, notably tuberculosis and vaccine development. The participating institutions are Institute Pasteur of Korea (in 4 projects), the International Vaccine Institute (in 2 projects), the Yonsei University and the Korea Research Institute of Chemical Technology. All are based in Seoul except the last one, which is in Daejeon.

Planned activities

- The Health theme continues to invite such "bottom-up" participations throughout the call topics and has actively participated on two occasions in promotion events in Korea to publicise the programme and the opportunities for Korean partners.
- The role of the Korean appointed national contact point for Health is important for strengthening the information flow between the programme and the scientific community in Korea.
- In addition, 'programme level cooperation' which is currently underway with international partners of the EU-FP in the areas of genomics, in diabetes and rare diseases, could be envisaged with Korea.
Transport (including Aeronautics)

Achievements
Despite several topics with potential relevance for Korea which were included in the different Work Programmes of the EU FP participation so far is non-existent.

Planned activities
- WP2012 includes topics of potential interest to Korea partners (e.g. on logistics, shipbuilding, ITS and safety) and intensifying relations through the Korean transport NCP participation to ETNA may help to improve Korean partners' participation in FP7.
- In Surface Transport, logistics (including e-logistics), shipbuilding, road safety and hybrid technologies are potential areas of common interest for research cooperation. Potential areas of cooperation also exist in automotive research (ITS). FP7 Aeronautics activities of "The Greening of Air Transport" (e.g. on helicopters) and "Pioneering the Air Transport of the Future" could be areas of interest for the Korea Aerospace Research Institute (KARI).

Environment (including climate change)

Achievements
There are no FP7 projects or other large-scale cooperation activities with Korea.

Planned activities
Green Growth is an issue of common interest and the EU work programme 2012 covers this issue well on the basis of key Challenges: 1) coping with climate change; 2) sustainable use and management of land and seas; 3) improving resource efficiency; 4) protecting citizens from environmental hazards; and 5) mobilizing environmental knowledge for policy, industry and society. In addition, Korea is one of the Members of GEO and therefore the Korean government endorsed the GEO 10-year Implementation Plan. This provides a good basis for potential collaboration in the field of Earth Observation between the EU and Korea. However, at this time no specific activities are planned.
JRC – EU-Joint Research Centre

Achievements

- Eight institutions in Korea have ongoing or recently (2010) finished projects with the JRC.
- JRC-IPTS organised the "International Conference on the Asian rise in ICT R&D" in February 2011, which included Korean participation.
- Korean officials visited the JRC's Major Accident Hazards Bureau (MAHB) in March 2011 to learn more about the JRC's experience in the field of collecting and gathering data on chemical accidents (Ministry of Environment of Korea, and government agencies). Chemical accident prevention in Europe, and also the EU Major Accident Reporting System were discussed.
- Korea Institute of Science and Technology and Korea Electrical Engineering and Science Research Institute (KESRI) and the Seoul National University have participated in FP6 projects with the JRC.

Planned activities

- Potential collaboration towards the highest possible standards in nuclear safety.
- Ministry of Education, Science and Technology (MEST), and the National Research Foundation (NRF) of Korea, have a Framework Agreement for International Collaboration on Research and Development of Generation IV Nuclear Energy Systems with the JRC.
- The Korean Research Institute of Standards and Science is part of an Institutional network, International Committee for Weights and Measures - Consultative Committee for Amount of Substance - Organic Analysis Working Group, CIPM-CCQM-OAWG, on organic analysis, advanced analytical techniques, measurement capabilities, uncertainty evaluation, traceability of measurements, since 01/01/2002, with the JRC-IRMM.
- The Korea Ocean Research and Development Institute is part of an Institutional network, INTERNATIONAL OCEAN COLOUR COORDINATING GROUP, IOCCG, on expertise for the global, user community of satellite-ocean-colour data, since 01/01/1996, with the JRC-IES.
- The Korea Atomic Energy Research Institute has a Competitive activity (Framework Program 7 Indirect Actions), Materials research, MATTER, as a Participating organisation, on Materials Testing Materials Characterization Testing procedures Design rules Pre-normative qualification EERA ESNII Characterization in
Liquid Metals, materials behaviours in GEN IV operational conditions, from 01/03/2011 to 28/02/2015, with the JRC-IE.

- The **Korean Research Institute of Standards and Science** has a Collaboration agreement concerning *scientific research on measurement standards* KRISS Korea, on standards measurement KRISS, from 01/03/2009 to 28/02/2014, with the JRC-IRMM.

- The **Korea Atomic Energy Research Institute** and the **Korea Institute of Nuclear Safety KINS** have a Competitive activity (Framework Program 7 Indirect Actions), *Sustainable integration of European research on severe accident phenomenology and management, SARNET2*, as a participant, on SARNET; severe accident; network of excellence; ASTEC; corium; containment; source term, from 01/04/2009 to 31/032013, with the JRC-IE.

- The **Korea Advanced Institute of Science and Technology** has a Competitive activity (Framework Program 7 Indirect Actions), *Coordination and Support for inter-regional manufacturing communities following IMS strategy update, IMS2020*, as a Participant, on IMS, Vision, Roadmap, IMS cooperation, from 01/01/2009 to 31/07/2011, with the JRC.