Seventh Framework Programme

Information and Communication Technologies

Grant Agreement No:	257511
Project Acronym:	EU-RU.NET
Project Title:	Linking R&D Strategies, Foresight and Stimulation of EU-Russia Cooperation in Nanoelectronics Technology
Funding Scheme:	Coordination and support actions (supporting)

Deliverable number:	D1.4
Deliverable title:	Annual Report
Dissemination level:	RE
Scheduled delivery date:	M12
Actual delivery date:	M14
Author(s):	Consortium
Approved by:	Coordinator R. Vardapetian

1. Summary

The EU-RU.NET Project targets strengthened cooperation between leading European and Russian scientists in the all-important field of Nanoelectronics Technology. Development of Nanoelectronics Technology is an essential element for keeping European and Russian industries competitive at global level. This is in line with the EU strategy of deepening and broadening the international aspect of its S&T policy, an important part of which is cooperation with Russia.

To reach the objective of the EU-RU.NET Project, the consortium of five EU and five Russian organisations identified the most urgent and promising fields for cooperation; it has set up four working groups of experts and supported participation in events (conferences, workshops, etc. in both EU and Russia) that have bought scientists together to allow round table discussions and setting up of new collaborations, including for new EU project proposals.

From the start of the EU-RU.NET Project, 13 collaborative R&D Pilot Trial Projects with the joint participation of European and Russian scientists took off. They will help Participants to identify the bottlenecks of cooperation and propose improvements.

The kick-off meeting on 2 June 2010 in Brussels gathered representatives of all ten Participants and enabled in-depth discussion of Project's five Work Packages. Afterwards the Project Participants had the opportunity to meet at different events in Moscow, St Petersburg, Brussels, Rome, Yaroslavl, Mechelen, Grenoble, etc. These events were used both for the presentation of scientific achievements and discussion of further collaborative plans. The results of the events and the future plans are detailed in the relevant deliverables that are available for the public at the Project website www.EU-RU.NET.

An important project achievement is the establishment of Working Groups of the European and Russian experts in the following three fields of Nanoelectronics Technology:

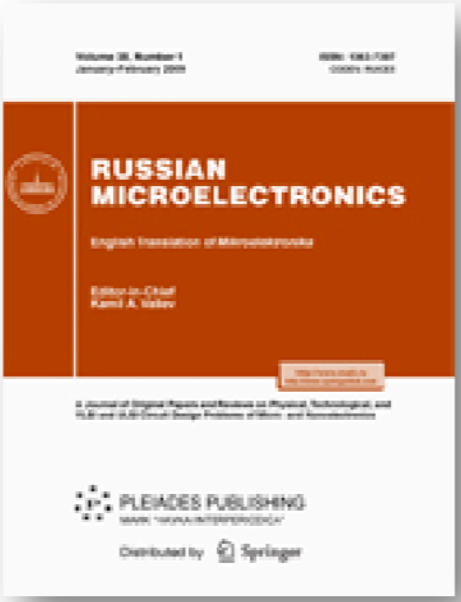
- WG1: End of the roadmap and beyond CMOS (Increasing process variability; Innovative new metrology methods; Nanotubes and graphene; New device structures)
- WG2: System-on-Chip/System-in-Package (Heterogeneous integration)
- WG3: Manufacturing technologies including metrology applications

The forth Working Group — Strategy, includes not only leading scientists but also politicians (mayor of the city of Dresden) and the representatives of the industry (President of SEMI-Europe), and others. All four Working Groups are co-chaired by a European and a Russian scientist. During the first year of the Project, the Working Groups identified events most interesting from the point of view of cooperation and supported participation in these events – in the first place – of the scientists involved with the following Pilot Projects:

1. SIMULATION OF NANOSCALE FIELD EFFECT TRANSISTORS
2. PLASMA ETCHING OF NEW MATERIALS INVOLVED IN GATE STACK PATTERNING FOR ULSI
3. MODELING OF NANOSCALE ELECTRONIC DEVICES BASED ON LOW-DIMENSIONAL NANOSTRUCTURED MATERIALS
4. RELIABILITY OF CU/LOW-K INTERCONNECTS: CHALLENGES OF PLASMA PROCESSING

5. RELIABILITY OF CU/LOW-K INTERCONNECTS: MECHANISMS OF LOW-K OF FAILURE AND DEGRADATION
6. ENGINEERING THE BAND GAP OF GRAPHENE EPITAXIALLY GROWN ON SILICON CARBIDE
7. 3D SELF-ASSEMBLY FOR MOLECULAR ELECTRONICS AND PHOTONICS
8. COMPARATIVE STUDY OF EUROPEAN AND RUSSIAN NANOELECTRON-ICS INNOVATION SYSTEMS AND THE WAYS TO BUILD SYNERGY FOR THE BENEFIT OF FUTURE COOPERATION
9. RESEARCH AND DEVELOPMENT OF NANODIAMOND EMITTER-BASED AUTOEMISSION DEVICES
10. MONOLITHIC INTEGRATION OF LIGHT-EMITTING DEVICES AND SILICON TRANSISTORS
11. III-V SEMICONDUCTOR NANOWIRES FOR LIGHT EMITTING DEVICES ON SILICON
12. FRACTIONAL QUANTIZATION OF BALLISTIC CONDUCTANCE
13. FABRICATION AND STUDY OF THE NOVEL SEMICONDUCTING ORGANIC AND CARBON NANOSTRUCTURED MATERIALS FOR NANOELECTRONICS APPLICATIONS

The achievements, as well as the problems identified during the work on Pilot Projects have been summarised in the relevant deliverable (D3.3). The results of the most successful and accomplished Pilot Projects will be published in 2012 in the English language Journal of Russian Microelectronics http://www.springer.com/engineering/electronics/journal/11180.



At the start of the Project the Participants developed the Dissemination and Awareness Rising Plan for Europe and Russia (deliverable D4.1) and every three months submitted reports to the consortium on the implementation.

The project overview, Participants, project plans and achievements are available at the website www.EU-RU.NET .

2. Core of the report for the period: Project objectives, work progress and achievements, project management

2.1 PROJECT OBJECTIVES FOR THE REPORTING PERIOD

The EU-RU.NET Project has three clearly defined objectives:

1. To analyse different aspects of EU-Russia cooperation in Nanoelectronics Technology and to identify common challenges, needs and opportunities.
2. To bring EU and Russian scientists together to encourage them to set up new collaborative R&D projects in Nanoelectronics technology.
3. To use the EU-RU.NET Project as a policy dialogue platform to enhance cooperation by linking the EU and Russian strategies for the development of Nanoelectronics technology.

These objectives shall be achieved through a series of sub-objectives, listed in Annex I to the Grant Agreement (Description of Work). Setting up of Working Groups comprised of EU and Russian scientists; joint participation at different events; dissemination activities; collaborative research Pilot Projects – these are some but not all tools selected by the Project Participants in order to achieve the sub-objectives and thus reach the project goals.

Of the above mentioned objectives the third one is more into the second half of the Project; nevertheless there are no clearly defined time borders for the objectives.

2.2 WORK PROGRESS AND ACHIEVEMENTS DURING THE REPORTING PERIOD

WORK PACKAGE 2: WORKING GROUPS AND EVENTS (*LEADER – FRAUNHOFER*)

The Working Groups will support the participation of Project partners in the relevant conferences and events, round tables and brokerage events by presenting the results as well as the objectives and activities of the EU-RU.NET Project. New collaborative projects between European and Russian partners might be initiated. The working groups enable focusing of activities within the defined technical topics making the cooperation more effective. The analysis carried out in month 1 led to the better structuring of the earlier proposed working groups (WG), reflected in the reduction of their numbers. In the project proposal the setting of 8 working groups was proposed. They covered the full spectrum of the ICT program in Nanoelectronics Technology. Based on the expertise of the project partners and of the available resources, and in order to enable the better focus on most relevant and realistic topics, the reduction of the work group number was proposed by Fraunhofer-IISB. The participants of the of the EU-RU.NET project kick-off meeting in Brussels agreed with this suggestion. The follow-up discussions and feedback from project partners allowed the definition of the new structure of the working groups. After the kick-off meeting the working group 2 was changed from heterogeneous structures to materials and new devices based on the input and expertise of partners. The project partners can be members of multiple working groups distributing their activities according to their expertise and resources. The working groups are open for new members. Their composition can be adjusted during the Project. The current structure and composition of the Working Groups is given below.

WG1 — End of the road-map and beyond CMOS

Increasing process variability; Innovative new metrology methods; New device structures

Coordinators: M. Baklanov (IMEC) and V.Lukichev (RAS-IPT)

Members:

C. Clayes (IMEC)
A. Gorbatsevich (RAS-SP)
V. Privitera (CNR-IMM)
F. Mercuri (CNR-ISM)
A. Rakhimov (MSU-SINP)
V. Arkhincheev (RAS, Ulan-Ude)
A. Zhukov (RAS-SP)
I. Yaminsky (MSU)
P. Soukiassian (CEA)
V. Dubrovskii (RAS-SP)
O.Gutshin (MIKRON)
S. Iannotta(CNR-IMEM)

WG2 — Materials and new devices

Nanotubes and graphene; C (diamond); Nanowires; Molecular devices

Coordinators: S. Iannotta (CNR-IMEM) and V. Luchinin (ETU)

Members:

F. Mercuri (CNR-ISM)
A. Yegorov (RAS-SP)
A. Ivanov (ETU)
O. Gutshin (Mikron)
A. La Magna (CNR-IMM)
P. Soukiassian (CEA)

WG3 — Manufacturing technologies

Coordinators: R. Öchsner (Fraunhofer IISB) and S. Yanovich (MIKRON)

Members:

L. Pfitzner (Fraunhofer IISB)
C. Claeys (IMEC)
M. Baklanov (IMEC)
S. Iannotta (CNR-IMEM)
A. La Magna (CNR-IMM)
F. Mercuri (CNR-ISM)
Y. Mankelevich (MSU-SINP)
T. Rakhimova (MSU-SINP)
V. Luchinin (ETU)

A. Ivanov (ETU)
A. Gorbatsevich (RAS-SP)
A. Astier (STMicroelectronics)

WG4 — Strategy
Coordinators: A. Gorbatsevich (RAS) and R.Vardapetian (Eurotex)
Members:
Z. Alferov (RAS-SP)
A. Orlikovsky (RAS-IPT)
G. Krasnikov (RAS and MIKRON)
L. Pfitzner (Fraunhofer-IISB)
J. Pelka (Fraunhofer- Mikroelektronikverbund)
T. Reiss (Fraunhofer ISI)
A. Sokolov (SUHSE)
C. Claeys (IMEC)
V. Luchinin (ETU)
A. Ivanov (ETU)
H. Kundert (SEMI Europe)
D. Dilbert (City of Dresden)

Each WG has a Russian and European leader and defines its action plan which includes the following points:

- *Planning of EU-RU.NET presence at relevant international conferences and other events in Europe and Russia;*
- *Planning of possible round tables and brokerage events;*
- *Planning of activities towards contribution to the next EU ICT Work Programs;*
- *Dissemination activities, including beyond 2012;*
- *Planning of dissemination materials;*
- *Planning of actions that will enable linkage between EU and Russian Strategies for the development of Nanoelectronics Technology.*

Use of WP2 Resources

Participant no.	1	2	3	4	5	6	7	8	9	10	Total, P*M
Planned effort, months 1-24	1.2	1.5	1.6	1.5	1.5	1.6	4	1.6	1.6	2.0	18.1
Actual effort, months 1-12	0.6	0.75	1.6	0.8	1.0	1.0	2.5	0.6	0.9	1.0	10.75

More detailed information about the Working Groups is provided by the deliverables D2.1, D2.2, D2.3 and D2.4.

The activities envisaged in WP2 were mainly of two types:

a) Setting up the Working Groups, selecting members and coordinators, drawing plans, and

b) Supporting the participation of scientists at the events in Europe and Russia.

Concerning (a), under the leadership of WG 1-3 coordinators, all Participants contributed to the definition of the Working Groups, proposed members, and participated in the drawing

of the action plans. EuroTex was responsible for the composition of the Strategy Experts Group (WG4), attracting the leading scientists and even politicians (Mayor of Dresden), etc.

CEA and CNR were actively participating in WG1, WG2 and WG3 and together with EuroTex and ETU organised a successful workshop on graphene in Brussels on 15 February 2011.

List of participants of the 15 February 2011 meeting on graphene:

1. Prabhat AGARWAL, EC DG INFSO, Unit "Future and Emerging Technologies - Open"
2. Mirco CANTORO, IMEC, Belgium
3. Stefan De GENDT, IMEC, Belgium
4. Artur DIDEYKIN, Ioffe Institute of Physics and Technology, St Petersburg, Russia
5. Egor DUBINSKY, First Secretary, Mission of Ukraine to the EU
6. Roman FASEL, Swiss Federal Laboratories for Materials Science and Technology
7. Albert FERT, NL, THALES-CNRS and University Paris-Sud/Orsay, France
8. Christian GLATTLI, CEA-IRAMIS, Paris, France
9. Philippe GODIGNON, CSIC-CNM, Barcelona, Spain
10. David GUEDJ, EC DG INFSO, Unit "Future and Emerging Technologies - Proactive"
11. Volker EYERT, Materials Design SARL, Le Mans, France
12. Alexey IVANOV, St Petersburg Electrotechnical University
13. Leif JOHANSSON, University of Linköping, Sweden
14. Salvatore IANNOTTA, CNR-IMEM, Italy
15. Georg KELM, EC, DG INFSO, Head of the Sector "Nanoelectronics"
16. Victor LUCHININ, St Petersburg Electrotechnical University
17. Paula MARQUES, University of Aveiro, Portugal
18. Jose MARTIN-GAGO, CSIC-ICMM, Madrid, Spain
19. Francesco MERCURI, CNR, Italy
20. Narcis MESTRES, CSIC-CNM, Barcelona, Spain
21. Carola MEYER, Institute for Solid State Research, FZJülich, Germany
22. Alexander RAKHIMOV, Moscow Lomonosov University
23. Carlo RICCIARDI, Politecnico di Torino, Italy
24. Mario ROCCA, CNR-IMEM and University of Genoa, Italy
25. Stephan ROCHE, ICN-CSIC, Barcelona, Spain
26. Marcin SADOWSKI, EC, DG Research and Innovation, Unit "Value Added Materials"
27. Patrick SOUKIASSIAN, CEA-IRAMIS and University Paris-Sud/Orsay, France
28. Ralph STUBNER, EC DG INFSO, Unit "Future and Emerging Technologies - Proactive"
29. Ruben VARDAPETIAN, EuroTex, Belgium
30. Isabel VERGARA OGANDO, EC, DG INFSO, Unit "Nanoelectronics"
31. Chariya VIROJANADARA, University of Linköping, Sweden
32. Svetlana VITUSEVICH, Peter Grünberg Institute, FZJülich, Germany
33. Alexander VUL', Ioffe Institute of Physics and Technology, St Petersburg, Russia
34. Jamie WARNER, University of Oxford, United Kingdom
35. Aziz ZENASNI, CEA-LETI, Grenoble, France

Concerning (b), the Participants jointly developed action plans for the Working Groups 1 – 3 that included a long list of events in Europe and Russia. Afterwards, the European scientists took part in the events in Russia, and vice versa. These events — over 20 — were used for

the discussion, among others, of the Pilot Projects and possibilities of new EU STREP projects. The most notable events include (more in the deliverable D2.2):

- *The Sixth International Nanotechnology Conference on Communications and Cooperation (INC6) in Grenoble; May 2010*
- *EU-Russia Nanoelectronics Technology Conference on Networking in St Petersburg; June 2010*
- *ICT-2010 Event in Brussels; September 2010*
- *Workshop on carbon based low dimensional materials (CARBOMAT) in October 2010; Catania, Italy*
- *Third Nanotechnology International Forum in Moscow; November 2010*

Summary of WP2:

Three technological Working Groups and one on strategy have been set up with their two co-leaders and several members from Europe and Russia. An activity plan for each Working Group has been developed; they allowed participation of the partners in a multitude of workshops and conferences in Europe and Russia.

For the remaining period the activity plans will be updated and the joint effort will focus on the development of strategy for each of three technological working groups.

WORK PACKAGE 3: PILOT PROJECTS (*LEADER – IMEC*)

The purpose of 13 Pilot Projects carried out in the frame of the Project is to bring the EU and Russian scientists together for the direct R&D cooperation on specific subjects of Nanoelectronics Technology. Some of these Pilot Projects are based on the existing cooperation, while others were initiated by the EU-RU.NET Projects.

Detailed technical information about the Pilot Projects could be found in the deliverables D3.1, D3.2 and D3.3. The list of all Pilot Projects is given below:

1. SIMULATION OF NANOSCALE FIELD EFFECT TRANSISTORS
2. PLASMA ETCHING OF NEW MATERIALS INVOLVED IN GATE STACK PATTERNING FOR ULSI
3. MODELING OF NANOSCALE ELECTRONIC DEVICES BASED ON LOW-DIMENSIONAL NANOSTRUCTURED MATERIALS
4. RELIABILITY OF CU/LOW-K INTERCONNECTS: CHALLENGES OF PLASMA PROCESSING
5. RELIABILITY OF CU/LOW-K INTERCONNECTS: MECHANISMS OF LOW-K OF FAILURE AND DEGRADATION
6. ENGINEERING THE BAND GAP OF GRAPHENE EPITAXIALLY GROWN ON SILICON CARBIDE
7. 3D SELF-ASSEMBLY FOR MOLECULAR ELECTRONICS AND PHOTONICS
8. COMPARATIVE STUDY OF EUROPEAN AND RUSSIAN NANOELECTRON-ICS INNOVATION SYSTEMS AND THE WAYS TO BUILD SYNERGY FOR THE BENEFIT OF FUTURE COOPERATION
9. RESEARCH AND DEVELOPMENT OF NANODIAMOND EMITTER-BASED AUTOEMISSION DEVICES
10. MONOLITHIC INTEGRATION OF LIGHT-EMITTING DEVICES AND SILICON TRANSISTORS
11. III-V SEMICONDUCTOR NANOWIRES FOR LIGHT EMITTING DEVICES ON SILICON
12. FRACTIONAL QUANTIZATION OF BALLISTIC CONDUCTANCE
13. FABRICATION AND STUDY OF THE NOVEL SEMICONDUCTING ORGANIC AND CARBON NANOSTRUCTURED MATERIALS FOR NANOELECTRONICS APPLICATIONS

Participation of the European and Russian organisations in the above mentioned Pilot Projects is summarised in the table below with figures in the table indicating the Pilot Project's number.

	MSU	RAS-St Petersburg	RAS-IPT	RAS-Siberian Branch	ETU	MIKRON	SUHSE
EUROTEX							8
IMEC[1]	4		2	5		9	
FHG	4		1, 2				8
CEA	7	11 (CNRS)			6, 7		
CNR	7	13	3		6, 7		
Other		10[2], 12[3]					

[1] IMEC coordinates WP3

[2] Durham University, UK

The Pilot Projects, along with the activities of the Working Groups, are the most important task in the Project. As the table above witnesses, all Participants are involved with the Pilot Projects, albeit on a different scale and depth – due to factors like knowing each other before the start of the EU-RU.NET Project; the nature of the project and technological difficulties, and some others.

Use of WP3 Resources

Participant no.	1	2	3	4	5	6	7	8	9	10	Total P*M
Planned effort, months 1-24	1.0	1.4	1.5	1.5	1.7	3.0	3.8	1.6	3.0	2.2	20.7
Actual effort, months 1-12	0.5	0.7	1.2	0.9	1.2	1.7	2.8	0.6	1.6	0	11.2

Summary of WP3:

13 Pilot Projects between European and Russian scientists in different fields of Nanoelectronics Technology, envisaged in the original project proposal, started successfully. All Participants of EU-RU.NET take part in them.

For the remaining period this activity will focus on the successful accomplishment and following reporting on the Pilot Projects, thus enabling their critical analysis by the consortium and further drawing of recommendations (WP5).

[3] Münster University, Germany

WORK PACKAGE 4: DISSEMINATION AND AWARENESS RISING (*LEADER – ETU*)

This important project activity is coordinated by the Participant ETU, who developed with the support of all partners *The Dissemination and Awareness Rising Plan for Europe and Russia* (Deliverable D4.1) and periodically reported to the Consortium on the dissemination activities (D4.2 – D4.6).

During the 1st Year, a significant part of this activity was devoted to the participation in several key International Conferences that provided an excellent opportunity for the dissemination regarding the EU-RU.NET project. For example, discussions with scientists interested in a European Project on Graphene took place and many of them (over 20) came to the EU-RU.NET-Graphene Meeting held in Brussels on 15 February 2011

Information about the EU.RU-NET Project was disseminated at conferences and meetings at national, European and overseas levels (USA, Japan). The dissemination activity is reported in the relevant dissemination reports.

The Project deliverable D4.6 lists the events where information about the EU-RU.NET Project was disseminated – in total 53 events:

- From May 2010 to July 2010 — 11 events
- From August 2010 to October 2010 — 15 events
- From November 2010 to January 2010 — 17 events
- From February 2011 to April 2011 — 10 events.

Scientists from all 10 EU-RU.NET Participant organisations took part in the events.

Use of WP4 Resources

Participant no.	1	2	3	4	5	6	7	8	9	10	Total P*M
Planned effort, months 1-24	0.9	1.2	1.6	0.5	1.5	2.8	3.1	2.0	2.8	0.5	16.9
Actual effort, months 1-12	0.5	0.6	1.1	0.4	1.0	1.6	2.2	1.4	1.5	0	10.3

Summary of WP4:

The Participants jointly developed *The Dissemination and Awareness Rising Plan for Europe and Russia.* Afterwards, following the Plan, information about the activities of the EU-RU.NET Project was disseminated by all Participants during the multitude of relevant events in Europe and Russia — 57 in all.

For the remaining period this activity will focus on the targeted dissemination of information to the decision makers in Europe and Russia; organisation of several round tables to discuss strategy; to report on the successfully accomplished Pilot Projects, etc.

WORK PACKAGE 5: STRATEGY AND RECOMMENDATIONS (*LEADER – RAS*)

The main activities of this important project task were largely scheduled for the second half of the EU-RU.NET Project. It was necessary initially to set up the right composition of the Working Groups, especially on Strategy, and to start successfully all Pilot Projects. Having achieved positive development of these two points, during the review meeting in June 2011 the members of the Working Group on strategy discussed and updated their activity plan. The revised document will be presented to the consortium at M 18. After approval, this document will guide the partners towards the accomplishment of the important objectives of the Project, namely:

- Linking EU and Russian strategies for the development of Nanoelectronics Technology
- Foresight and Roadmaps for EU-Russia cooperation in Nanoelectronics Technology
- Drawing recommendations to the EU and Russian authorities.

Use of WP5 Resources

Participant no.	1	2	3	4	5	6	7	8	9	10	Total P*M
Planned effort, months 1-24	1.0	1.4	1.6	1.0	1.6	3.0	5.0	1.0	3.0	2.5	21.1
Actual effort, months 1-12	0.4	0.7	1.0	0.4	0.4	1.7	1.5	0.5	1.5	1.0	9.1

Summary of WP5:

The main activities envisaged for this Work Package will start after a discussion of strategy scheduled for the review meeting on 22 June 2011. For the remaining period this activity will focus on the linking of EU and Russian strategies for the development of Nanoelectronics Technology, Foresight and Roadmaps, and drawing recommendations to the EU and Russian authorities on cooperation in Nanoelectronics Technology.

3.2.3 PROJECT MANAGEMENT DURING THE REPORTING PERIOD (WP1, LEADER - EUROTEX)

Consortium management was the important project activity performed by the Project Coordinator EuroTex. This included organisation of the project meetings and the day-by-day management of the partnerships. Despite the fact that many participants of EU-RU.NET Project did not knew each other, the project avoided even minor disagreements and all rising issues have been solved in an amiable way. In fact, getting knowing each other and establishment of a friendly and result oriented atmosphere was possibly the main achievement of the first year of the project and it raises optimism about the overall outcome of the Project.

Thus no problems are to be reported, and no changes in the Consortium occurred. Despite this, there was a visible delay in the preparation of some deliverables during the first six months of the project. Some deliverables that were delayed later were merged with their latest updates – most visibly in the case of dissemination reports. To eliminate the repetition of this during the second half of the project, the Coordinator will take special care of the timely submission of all deliverables.

The kick-off meeting on 2 June 2010 in Brussels gathered representatives of all Participants, namely:

EuroTex: *Ruben Vardapetian*
IMEC: *Cor Claeys, Mikhail Baklanov*
Fraunhofer: *Thomas Reiss (ISI) and Igor Kasko, Richard Oechsner (IISB)*
CEA: *Patrick Soukiassian, Fabrice Charra*
CNR: *Vittorio Privitera, Antonino La Magna; Alessandra Catellani, Gennaro Conte, Francesco Mercuri, Dino Fiorani*
MSU: *Alexander Rakhimov*
RAS : *Alexander Gorbatsevich (Academic University of RAS), Vladimir Lukichev (FTI RAS)*
ETU: *Viktor Luchinin, Alexey Ivanov*
MIKRON : *Oleg Guschin, Pavel Ignatov, Sergei Janovich*
SUHSE: *Alexander Sokolov*
Present was: European Commission: *Georg Kelm, Project officer*

Fig. 1. View of the kick-off meeting in Brussels

No changes in the project planning are envisaged, and the Participants will rather focus their effort in the achievement of the already planned tasks and objectives. A Project web site was developed by the Coordinator EuroTex, available at www.eu-ru.net web address.
The Participants used intensively the Internet as the communication tool while face-to-face meeting mainly took place during the events.

Participant no.	1	2	3	4	5	6	7	8	9	10	Total, P*M
Planned effort, months 1-24	4.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	1.0	1.0	15
Actual effort, months 1-12	2.0	0.5	0.5	0.5	0.5	0.7	1.0	1.0	0.5	0.2	7.4

Summary of WP1:

Despite the relatively large number of Participants, six countries and many more cities involved, from the very beginning an amiable atmosphere dominated this Project. All rising questions were solved in consensus and there were no issues either between the Coordinator and the Participants, or between the Participants. We expect to preserve this mood till the very end of the Project. Efforts will be made by the Coordinator to ensure the timely submission of all remaining deliverables and the Final Project Report in June-July 2012.

3.3 Deliverables and milestones tables

3.1 DELIVERABLES FOR THE FIRST YEAR

Deliv. No.	Deliverable Title	*WP*	LB	P*M	N	DL	DM	Actual DM
D1.1	Project web site	1	1	3.00	O	PU	1	3
D2.1	Composition of working groups and their action plans	2	3	2.00	R	PU	1	2
D2.2	List of events	2	3	1.00	R	PU	1	1
D2.3	Analytical guidelines	2	3	2.00	R	PU	1	6
D3.1	First status report on pilot projects	3	2	2.70	R	RE	1	2
D4.1	Dissemination and awareness plans for Europe and Russia	4	8	2.00	R	PU	1	1
D1.2	Kick-off meeting report	1	1	1.00	R	PU	2	2
D4.2	Dissemination during May-July 2010	4	8	0.50	R	PU	4	14
D1.3	Progress report 1	1	1	1.00	R	RE	6	7
D2.4	First update of the action plans	2	3	1.10	R	PU	6	7
D3.2	Second status report on pilot trials	3	2	3.00	R	RE	6	7
D5.1	Strategy Experts Group and its working plan	5	7	2.00	R	PU	6	13
D4.3	Dissemination during August-October 2010	4	8	0.50	R	PU	7	14
D4.4	Dissemination during November 2010-January 2011	4	8	0.50	R	PU	10	14
D1.4	Annual report	1	1	4.00	R	RE	12	14
D2.5	Second update of the action plans	2	3	1.00	R	PU	12	13
D2.6	Results of events	2	3	2.00	R	RE	12	13
D3.3	Third status and analytical report on pilot trials	3	2	4.00	R	RE	12	14
D4.5	Dissemination during February-April 2011	4	8	0.50	R	PU	12 12	14
D5.2	Annual strategy report	5	7	2.10	R	PU	12	
D5.3	Annual report on activities to support Russian R&D and ICT Work Programmes	5	7	2.00	R	PU	12	14
D4.6	Annual Dissemination Report	4	8	3.00	R	PU	13	14
D4.7	First update of dissemination plans	4	8	1.00	R	PU	13	

3.3.2 MILESTONES

No	Milestone name	LB	Achieved?	DM	Actual DM	Comments
M1	Kick-off meeting	1	Yes	1	2	Reported to the EC
M2	Set up of all Working Groups and approval of their Action Plans	3	Yes	1	2	Reported to the EC
M3	Guidelines for pilot trials	2	Yes	1	2	Reported to the EC
M4	Dissemination and awareness plans for Europe and Russia	8	Yes	1	2	Reported to the EC
M5	Set up of the Strategy Experts Group	7	Yes	6	6	Reported to the EC
M6	Verification of strategy	7	No	12	18	To be carried out during the second year of the project. The scheduled date was too optimistic!