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CX-CMCS

Centre of Excellence for Computational Modelling of Complex Systems



Deliverable D05

Inauguration meeting report

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Abstract: Deliverable D05 – “Inauguration meeting report” is a public document. The deliverable gives information about the CX-CMCS project inauguration meeting held at the Institute of Physics in Belgrade (IPB) on July 12, 2006. The inauguration meeting represented the official start of the three year project to reinforce IPB’s Scientific Computing Laboratory (SCL). The deliverable also documents the July 14, 2006 visit of joint visit of the high delegations from DG Research (headed by EU Commissioner for Research and Science Janez Potocnik) and from the Ministry of Science of Serbia (headed by the Minister of Science Aleksandar Popovic) to SCL (top scoring project in the 2005 INCO SSA for the West Balkan region) and the other three centres of excellence awarded to IPB laboratories.

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Document Revision History

Date	Issue	Editor	Summary of main changes
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Preface

The basic strategic objective of the CX-CMCS proposal is to transform the Scientific Computing Laboratory (SCL) into a centre of excellence, i.e. to decisively increase the quality of research conducted at SCL, and make it a preferred WB research partner for EU institutions working in the fields of simulation of complex systems and of GRID technology.

SCL is a unit of the Institute of Physics in Belgrade. The Institute contributes more than 10% of the total scientific output of Serbia and constantly ranks among the best R&D institutions in the region. SCL has 14 staff members, and participates in several international and national projects, including FP6 project SEE-GRID and Cost action P10. SCL defines the current state of the art in high performance computing in WBC with its PARADOX cluster (64+2 processors with aggregate speed $R_{max}=0.21$ Tflops).

The proposed CX-CMCS SSA aims to reinforce research capacity at SCL by: hiring young researchers, providing of training and mobility for the research staff, and upgrading the computing infrastructure. The success of this endeavour will be measured through a benchmarking exercise to be performed in the project's last year. Our networking partners (4 from EU and 3 from Serbia) have been carefully selected to provide the skills and expertise necessary to reinforce the research potential of SCL through training and joint research. The proposed equipment upgrade (storage element, high throughput switch, and upgrade of RAM) will make it possible to tackle even the most complex GRID applications allowing SCL to become a key regional player in deployment and use of emerging GRID technology. CX-CMCS plans to set up an International Advisory Board whose expertise will help SCL develop a long term strategy and facilitate integration into ERA.

CX-CMCS aims to be a living example that it is possible to bridge the "digital divide" between countries and regions having high tech ICT technologies and those that do not.

Strategic objectives

The basic strategic objective of the CX-CMCS proposal is to transform SCL into a centre of excellence, i.e. to decisively increase the quality of research conducted at SCL, and make it a preferred WB research partner for EU institutions working in the fields of simulation of complex systems and of GRID technology.

Centres of excellence do not exist in a vacuum, however. In order for SCL to achieve and maintain a status of excellence, the proposed SSA aims to positively effect the research environment in Serbia at several levels: SCL's immediate R&D environment (the national partners in this proposal), the high performance computing segment, and the national R&D system as a whole.

Specific objectives

The specific objectives for the current SSA proposal have been formulated through an analysis of the following key points:

- Wider developmental objectives of Serbia and Montenegro and the West Balkan region pertaining to research and development (as presented in the Action Plan adopted at the Ministerial conference in Thessaloniki in June 2003);
- Existing strengths and weaknesses at SCL in the high performance computing sector in Serbia including: professional resources, material resources, financial and organizational resources, principle impediments;
- Assessment of availability of graduate students and young researchers that could be newly employed at SCL.
- Assessment of indirect social impacts of the process of strengthening of SCL and its efficient integration into a wider European R&D effort.

The outlined analysis has resulted in the following specific objectives, each of which directly leads to a set of measurable and directly verifiable sub-objectives.

Objective 1 – Enhance quality of R&D at SCL

- **Sub-objective 1.1:** Set up an International Advisory Board for the new centre of excellence;
- **Sub-objective 1.2:** Establish a framework for more efficient management of research at SCL by developing a flexible, problem oriented R&D plan that will successfully integrate that research into a wider European effort.
- **Sub-objective 1.3:** Develop a specific set of benchmarks for tracking the quality of R&D at SCL, and perform a benchmarking exercise.
- **Sub-objective 1.4:** Devise and implement a long term strategy for achieving and maintaining research excellence.
- **Sub-objective 1.5:** Insure viability of SCL as a centre of excellence beyond the project lifetime by finding other sources of funding.

Objective 2 – Expand and mobilize human resources

- **Sub-objective 2.1:** Recruit and employ young researchers; develop explicit career plans for the newly employed researchers.
- **Sub-objective 2.2:** Enhance working conditions for young researchers by setting up an R&D environment at SCL that is integrated into ERA, providing challenging research problems, state of the art equipment, and enhanced mobility.

Objective 3 – Reinforce existing S&T capacities at SCL

- **Sub-objective 3.1:** Maintain and upgrade existing S&T equipment and high-tech infrastructure.
- **Sub-objective 3.2:** Improve the availability and reliability of SCL's computing resources, determine and implement optimal strategies for their use.

Objective 4 – Enhance mobility and integration into ERA

- **Sub-objective 4.1:** Network with EU, regional and national partner institutions through exchange of personnel, research results and joint numerical experiments; participate in joint RTD activities within these networks.
- **Sub-objective 4.2:** Host scientists from EU for training and research.
- **Sub-objective 4.3:** Organize training of graduate students and young researchers through short-term missions at EU institutions.

Objective 5 – Contribute to the reinforcing of ICT capacities at the national level

- **Sub-objective 5.1:** Reinforce the quality of research in SCL's immediate R&D environment, by strengthening their human capacity through stipends, yearly visits, and by conducting joint research activities.
- **Sub-objective 5.2:** Reinforce human capacity in Serbia's high performance computing sector by training young researchers to be employed at national research institutions and hi-tech companies.
- **Sub-objective 5.3:** Contribute to the national R&D system by developing a set of recommendations for policy makers at national and local levels for fostering growth of research excellence in a rapidly changing high-tech environment.

The three year CX-CMCS project kicked-off on July 1, 2006. The project plans to issue the following deliverables:

Deliverable No	Deliverable title	Delivery date	Nature	Dissemination level
D01	CX-CMCS Web site	M1	R	PU
D02	Career development plan for newly employed young researchers	M2	R	CO
D03	CX-CMCS International Advisory Board	M3	O	PU
D04	Equipment tendering and procurement report	M3	R	PU
D05	Inauguration meeting report	M4	R	PU
D06	Mobility and training plan	M6	R	PU
D07	CX-CMCS Brochure	M6	R	PU
D08	12M Progress reports	M12, M24	R	PU
D09	CX-CMCS Promotional video material	M15	O	PU
D10	Benchmark procedures for quality assessment of RTD centres of excellence	M18	R	PU
D11	SCL research quality assessment	M24	R	PU
D12	Proceedings of International dissemination workshop	M30	R	PU
D13	Strategy of long term sustainable growth of research excellence in transition	M30	R	PU
D14	Scientific computing landscape of Serbia	M33	R	PU
D15	Presentation of policy papers to decision makers	M34	R	PU
D16	Final project report	M36	R	PU

Legend: R = Report, O = Other, PU = Public, CO = Confidential (only for members of the consortium incl. EC).

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References

- [1] Project CX-CMCS – 026343 – Annex I – Description of Work

Executive summary

What is the focus of this Deliverable?

The focus of this deliverable is a presentation of the inauguration meeting of the CX-CMCS project and the ensuing visit of EU Commissioner Potocnik to SCL several days after the official launch of the project.

What is next in the process to deliver the CX-CMCS results?

The deliverable and workflow progress is described in the project Annex-I – Description of Work [1]

What are the deliverable contents?

Review of inauguration meeting that presented the start of the CX-CMCS project. Presentation of the basic aspects of the CX-CMCS project. Meeting of various stakeholders including the members of SCL, candidates for new research positions at SCL, members of CX-CMCS networking partners, representatives of potential new networking partners, representatives of policy makers from the Ministry of Science of Serbia, representatives of several relevant Serbian SME's. Presentation of the aspects of the joint visit to SCL and the IPB of the high delegations from DG Research and the Serbian Ministry of Science.

Conclusions

The deliverable gives the basic information about the start of the CX-CMCS project.

1. Introduction



Figure 1 – Long time exposure of SCL's high performance computer infrastructure at night.

The start of the CX-CMCS project is the start of a three year long endeavour to substantially reinforce the research environment at the Scientific Computing Laboratory (SCL) of the Institute of Physics in Belgrade (IPB). As top scoring project proposal in the 2005 INCO call for Centres of Excellence in the West Balkan region CX-CMCS has set before itself several extremely challenging goals:

- To lift the existing quality of research at SCL to an even higher level.
- To use CX-CMCS as a key stepping stone for substantially increased RTD cooperation in other Framework projects and within ERA in general.
- To use this integration into ERA as a guarantee of future long term sustainability of the obtained level of research excellence.
- To positively impact not only technology and research but also national policy (by developing recommendations for policy makers on how to foster growth of the high-tech sector), to have wider social impact (by helping turn Centres of Excellence like SCL into brain-gain focal points), by contributing to EU policies (creation of inventories of infrastructure, evaluation and benchmarking of research systems).
- To have extremely high media visibility making the general public in Serbia aware of the potentials of research and technological collaboration within the pan-European scene.

An effort of this magnitude is both extremely challenging and invigorating. It necessarily starts with the bringing together of all the individuals and institutions involved and by the presenting of research goals and the organizational steps that need to be taken so as to meet those goals. The first step taken was the Inauguration meeting documented in the present deliverable.

2. Inauguration meeting

The official start of the CX-CMCS project was on July 1, 2006. The project's Inauguration meeting was held in the Reading room of IPB's Library on July 12. The meeting started with a brief introduction by Aleksandar Belic, CX-CMCS coordinator, which outlined the basic structure of CX-CMCS a three year reinforcement effort whose aim is to substantially strengthen SCL as a centre of excellence.



Figure 2 – Aleksandar Belic, coordinator of CX-CMCS presents the basic goals of the project.

The Inauguration meeting was attended by the senior researchers at SCL (A. Belic, A. Bogojevic, A. Balaz, S. Vrhovac, M. Milovanovic, D. Arsenovic), by all the lab's young researchers, and by many future candidates for these positions (more than 12 young researchers), by representatives of SCL networking partners, collaborating research institutions and related hi-tech SME's (Astronomical Observatory Belgrade; University of Belgrade Computing Center; University of Belgrade Faculty of Physics, Faculty of Electrical Engineering, Faculty of Mechanical Engineering, Faculty of Agriculture; Vinca Institute; CERN's ATLAS and CMS collaborations; Petnica Science Center; University of Novi Sad Faculty of Natural Sciences; IRVAS International), and finally by representatives of the Ministry of Science of Serbia.



Figure 3 – SCL researcher, students and visitor attending the Inauguration meeting



Figure 4 – Brief address by Aleksandar Sedmak, Assistant Minister of Science (left) and Zoran Jovanovic, Director of the University of Belgrade Computing Centre

After the introduction, brief addresses were given by Aleksandar Sedmak, Assistant Minister of Science and by Zoran Jovanovic, Director of JoB Computing Center (CX-CMCS networking partner and SCL partner in several FP6 eInfrastructure projects). Both of the speakers congratulated SCL on its success and stressed the fact that CX-CMCS is an important opportunity not only for SCL but for the wider RTD sector in Serbia.



Figure 5 – SCL’s Aleksandar Belic (left) and Aleksandar Bogojevic (right) present the developmental and research plans for SCL in the context of the reinforcing coming from the CX-CMCS project

The central part of the Inaugural meeting were presentations made by Aleksandar Belic and Aleksandar Bogojevic giving in-depth looks at SCL research goals that were the precursors of the CX-CMCS proposal, about the key components of the new project (particularly the reinforcing of human capital through the hiring, training and mobility of young researchers, and of SCL’s research infrastructure), about the planned impacts of the project. Aleksandar Bogojevic focused on the research topics covered by SCL and how the reinforcing would benefit this and on the new young researchers coming to SCL. As project coordinator, Aleksandar Belic focused on the administrative structure of the project, on project deliverables and milestones, and in particular, on the development of quality control and assurance mechanisms tailored to the need of SCL and other quality research centres, as well as on the modalities for attracting the best young researchers to SCL and the developing of specific career development and mobility and training plans for the newly hired researchers.

SCL’s guest were particularly interested to hear about the project’s setting up of an International Advisory Board as well as the planned CX-CMCS deliverables: quality assessment of RTD centres of excellence, strategy of long term sustainable development of research excellence in transition, and the mapping of the scientific computing landscape of Serbia.



Figure 6 – Key representatives of existing and future networking partners.

After the presentations, many of the guests actively participated in an open discussion session about the topics opened up by the presentations. Zoran Knezevic, Director of the Astronomical Observatory in Belgrade commented on joint research activities already undertaken with SCL. As one of SCL's networking partners he underscored the interest of his institution in the three month traineeships for young researchers from the AOB at SCL. He was particularly interested in the technical modalities of how his researchers could share SCL's reinforced distributed computing infrastructure. Steve Quarrie from Newcastle University shared his experience related to quality assessment and maintenance at educational and research institutions. He and Sofia Pekic from the Faculty of Agriculture were interested in practical aspects of applying for and getting future FP6 projects like CX-CMCS for other RTD institutions in Serbia. As head of Serbia's involvement in CERN's CMS collaboration, Petar Adzic from the Vinca Institute commented on the High Energy Physics facet of the research investigations at SCL and the lab's involvement in EU Grid projects. He also presented the experiences of his research laboratory related to the maintaining of input of high quality young researchers. Vigor Majic, Director of the Petnica Science Centre commented on the fact that PSC and SCL have had a very long and fruitful relationship and he enumerated several direct and indirect ways how the CX-CMCS project may have positive impact on a far wider setting within Serbia's RTD and education sectors. His colleague Srdjan Janev was particularly interested in how the PSC could effectively collaborate in the Grid effort pioneered by SCL.

The final component of the Inaugural meeting was extremely interesting to all the attendees. In it the young researchers and candidates each had an opportunity to present themselves, their research interests and what brought them to SCL. They also commented on their current research plans and the opportunities being opened up through the reinforcement of SCL as a research environment, as well as by the extended mobility and training made possible by CX-CMCS.



Figure 7 – Candidates for SCL's new young researchers and technical staff

3. Visit by EU Commissioner for Research

On July 14, 2006, two weeks after the official start of the CX-CMCS project, the Institute of Physics in Belgrade (IPB) and its Scientific Computing Laboratory were hosts to high level delegations from EU Directorate General for Research, headed by Janez Potocnik, Commissioner for Research, and from the Ministry of Science of Serbia, headed by Aleksandar Popovic, Minister of Science. The joint delegation also included Andras Siegler, Director INCO, Giancarlo Caratti, JRC, Tania Friederichs, DG Research, Ivan Videnovic, Assistant Minister of Science, and Gradimir Milovanovic, Chairman of the National Science Council.



Figure 8 – Commissioner Potocnik and Minister Popovic entering IPB

The main purpose of the Commissioner's visit to the IPB was to get first hand information about the four IPB laboratories that were awarded three year EU Centre of Excellence grants that started on July 1, 2006. The results of the 2005 SSA call for reinforcing of research excellence in the West Balkans were a success for Serbia whose R&D centre's got 8 of the region's 10 grants; for Serbian physics (6 grants); and, most impressively for the Institute of Physics in Belgrade whose high quality research was recognized with the awarding of EU Centre of Excellence grants to 4 of its laboratories. The success of IPB was further enhanced by the fact that the CX-CMCS project of its Scientific Computing Laboratory (SCL) was the best evaluated R&D proposal in the whole West Balkan region.



Figure 9 – Joint delegations from DG Research and the Ministry of Science at SCL

At the Scientific Computing Laboratory Commissioner Potocnik was greeted by Aleksandar Belic, head of SCL, and given a brief overview of the laboratory's mission and R&D activity. In particular, the Commissioner for Research was informed about SCL's three year project for reinforcing SCL research capacity transforming it into an EU Centre of Excellence for the Computer modelling of complex systems and Grid technologies. Commissioner Potocnik was particularly interested to learn about SCL's participation in EU e-Infrastructure projects: EGEE-II, SEE-GRID, and SEE-GRID 2. During the tour of SCL the joint delegation had a chance to view the lab's computing infrastructure, particularly its PARADOX parallel cluster – one of the central GRID resources in the SEE region.



Figure 10 – SCL's newly hired young researchers with Commissioner Potocnik, Minister Popovic and INCO Director ...

During his stay at SCL Commissioner Potocnik and Minister Popovic heard a brief outline of the reinforcement strategy for research at SCL that makes up the centrepiece of the CX-CMCS proposal. Although the visitors came just two weeks after the official start of the project they were pleasantly surprised to meet the first generation of newly hired young scientists at SCL. The hiring, training and mobility of these young researchers are the keystone of SCL's planned reinforcement.

Aleksandar Belic, head of SCL, told the visitors that SCL puts strong emphasis on recruiting, motivating and training of young researchers – the basis for sustained high quality research. One of SCL's strongest assets is its continued access to a large pool of high quality graduate students. The new equipment, mobility and the expanded future-oriented research effort within ERA present an exceptional opportunity to further increase the number of young researchers coming to SCL and IPB to pursue careers in science and emerging new technologies. Belic also expressed thanks for instruments such as the 2005 INCO call for reinforcement of RTD institutions in the WBC region as being extremely useful and flexible instruments for identifying and strengthening centres of research excellence in the region.

As a courtesy, Commissioner Potocnik, Minister Popovic and INCO Director Andras Siegler posed for a photograph with the first generation of researchers whose coming to SCL was made possible by the CX-CMCS project.

On leaving SCL the joint delegation visited the three other Centres of Excellence at IPB – all located in IPB's "corridor of excellence". The delegations had the opportunity to visit:

- IPB's Centre for Solid State Physics and New Materials, reinforced through an EU Centre of Excellence grant for Optical Spectroscopy Applications in Physics, Material Science and Environmental Protection (OPSA).
- Laboratory for Quantum and Optical Metrology, reinforced through EU Centre of Excellence grant for Quantum and Optical Metrology (QUPOM).
- Laboratories within IPB's Centre for Experimental Physics designated as EU Centre of Excellence for Non-equilibrium Studies with Application to Nano-Technologies, Etching of Integrated Circuits and Environmental Research (IPB-CNP).

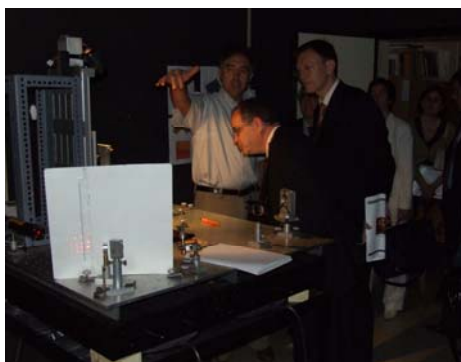


Figure 11 – Visits to the other 3 IPB laboratories awarded EU Centre of Excellence status

After being introduced to IPB's key research facilities the delegations had an official joint session with IPB representatives and senior scientists. The visitors were informed about the Institute of Physics in Belgrade (IPB), the premier research institution in Serbia presently contributing about 10% of the total scientific output of Serbia and constantly ranking as one of the very top RTD institutions in the region.



Figure 12 – Official meeting of the heads of the two delegations with IPB representatives.

Looking over IPB's Danube campus Commissioner Potocnik stated that he was impressed with the quality of fundamental research being conducted at the IPB and particularly at its four new Centres of Excellence, a sentiment that he echoed several months later in a speech at the International Conference and Ministerial Round Table in Ljubljana in September 2006 in which he singled out the IPB as one of the top research institutions in the region, mentioning in particular IPB's research campus as an ideal location for nurturing future spin-offs binding research and industry.



Figure 13 – Joint picture looking towards the IPB's Danube campus.