

A decorative image on the left side of the slide shows a network of blue spheres connected by thin lines, set against a dark, textured background.

NGI_BY Project Proposals for EGI-Engage v.1/15.05.2014

Serge A. Salamanka

- This presentation template is meant to provide NILs***
- ***with an instrument to discuss ideas for user-support and service innovation in H2020 that could become part of the activity of an EGI-Engage Competence Centre (<https://documents.egi.eu/document/2187>)***
 - ***User support activities include***
 - ***Training and education***
 - ***Technical support and consultancy to existing and prospective user communities***
 - ***Innovation and pre-production***
 - ***of new capabilities to the EGI services portfolio (infrastructure platform, cloud and grid platforms), the integration of new ICT technologies***
 - ***of Virtual Research Environments to be integrated with existing and new EGI capabilities***

User community

Computer engineering

Medical Image Analysis

Weather Research and Forecasting

Robotics

**Bionformatics/Biophysics and Cell
Engineering/Chemistry**

Support objectives:

Technical support and consultancy to existing and prospective user communities on usage of finite element method packages in HPC/Grid environment for various applications.

Development projects that could bring benefits to this community:**Communities to be effected:**

- to be identified.

Current cooperation and support:

- «Amkodor» (production of special type of machinery in the Republic of Belarus and CIS countries) <http://amkodor.by/en/>
- JSC Belaruskali (producer and exporter of potash fertilizers) <http://www.kali.by/en/company/>
- BELSHINA JSC (tiremaker) <http://www.belshinajsc.by/en/about/>

Current status activity:

- active collaboration with industrial partners.

Support objectives:

Dissemination of Grid-Technologies among Medical Radiology (Tuberculosis/Lung Cancer) and Histology/citology (Ovarian Cancer/Thyroid Gland Cancer) specialists.

Development projects that could bring benefits to this community:

- creation of database of medical images available for analysis on distributed computing infrastructures;
- Development/adaptation of the tools for data/image mining in large biomedical image databases, distributed image data storage and retrieval, content-based medical image retrieval, distributed biomedical image processing and analysis

• Communities to be effected:

- - international medical associations;
- - medical specialists working in the subject domain.

☐ Current cooperation and support:

- ☐ - NGI_BY activity is in cooperation with Sweden and Broad Institute (USA);
- ☐ Supported by National Institute of Health USA;
- ☐ - Ministry of Health of the Republic of Belarus.

☐ Current status activity:

- ☐ Example of the result of international cooperation is the portal [<http://tuberculosis.by>] with unique data for research. A lot of work done in past for national medical institutions.

- ☐ **Amount of effort needed:** to be further detailed.

- **Support objectives:**
 - Creation of the service constantly running tasks on monitoring weather conditions in different regions and alerting parameters for possible severe weather events.
- **Development projects that could bring benefits to this community:**
 - - Integrated automated system for forecasting severe weather events.
- **Communities to be effected:**
 - - international weather research communities;
 - - Hydrometeorology forecasting centers.
- **Current cooperation and support:**
 - - Cooperation with NGI_ARMGRID already established and activities are ongoing, funds requested from state scientific bodies to support international cooperation on that subject;
 - - The State Scientific Institution "The United Institute of Informatics Problems of the National Academy of Sciences of Belarus";
 - - National Ozone Monitoring Research and Educational Center;
 - - National Hydrometeorological Center;
 - - Belarusian State University;
 - - Financial support from Belarusian State program of actions on climate change (2013 - 2020).
- **Current status activity:**
 - - Grid-Infrastructure is being prepared, new hardware has been established;
 - - Project space is established <http://grid.basnet.by/projects/hydrometeorology>

- **Support objectives:**
 - Creation of the service for robotics developers to use the Grid infrastructure.
- **Development projects that could bring benefits to this community:**
- - HPC/HTC support for robot's simultaneous localization and mapping tasks (a technique used by robots and autonomous vehicles to build up a map within an unknown environment (without a priori knowledge), or to update a map within a known environment (with a priori knowledge from a given map), while at the same time keeping track of their current location).
- **Communities to be effected:**
- - international robotics developer communities;
- - Specific Institutes and organizations (inc. SMEs).
- **Current cooperation and support:**
- - International cooperation of the team members;
- - Supported by the State Scientific Institution "The United Institute of Informatics Problems of the National Academy of Sciences of Belarus";
- - Supported by Hi-Tech Park Belarus;
- - Supported by the Scientific and Technological Association Infopark.
- **Current status activity:**
- - Developer team web-site <http://robotics.by>

- **Support objectives:**
 - To be identified
- **Development projects that could bring benefits to this community:**
 - To be identified
- **Communities to be effected:**
 - international bio/chemistry communities
- **Current cooperation and support:**
 - To be identified
- **Current status activity:**
 - The State Scientific Institution "The Institute of Biophysics and Cell Engineering of the National Academy of Sciences of Belarus";
 - The State Scientific Institution "The Institute of Bioorganic Chemistry of the National Academy of Sciences of Belarus";
 - Belarusian State University;
 - Belarusian National Technical University.