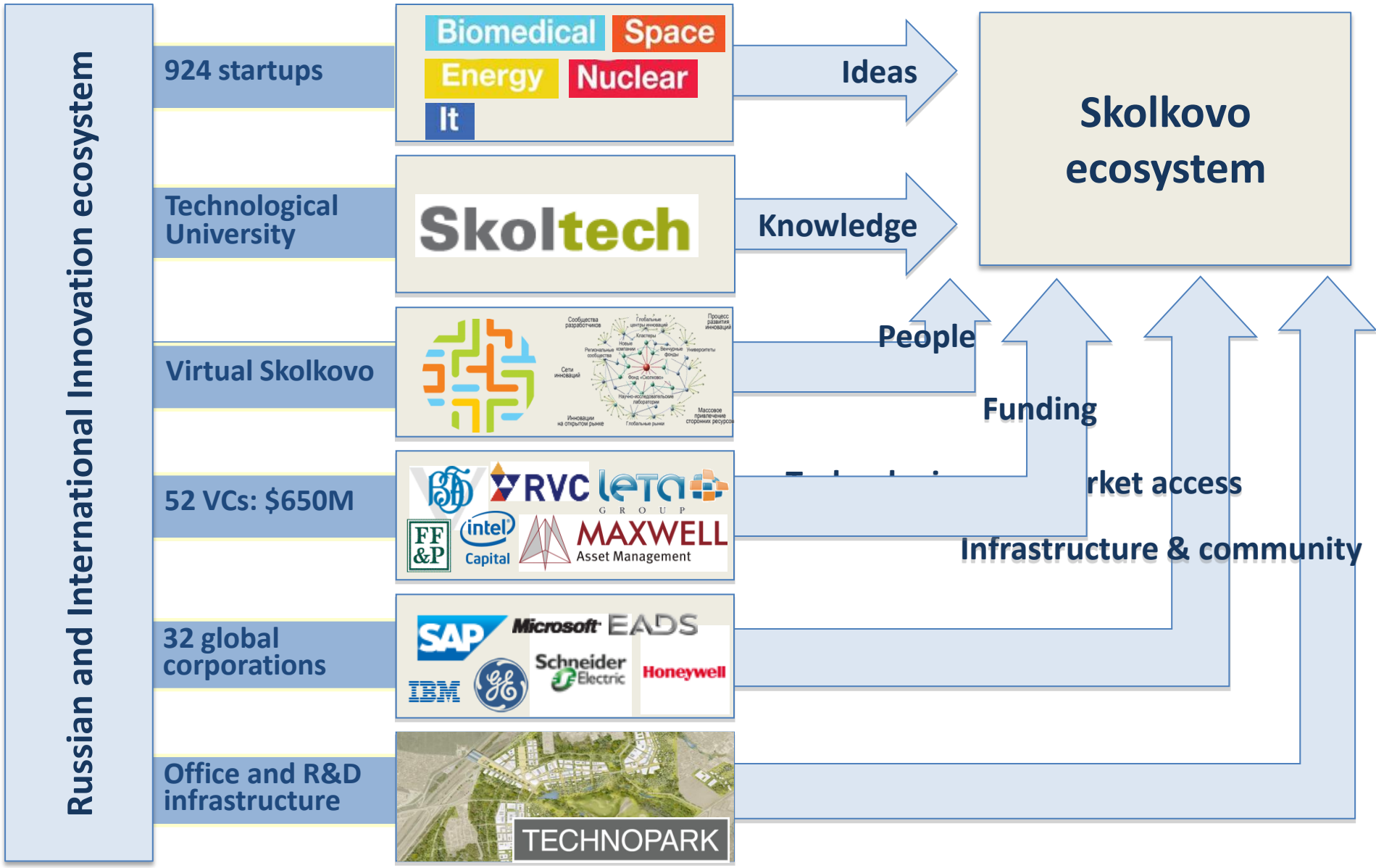

Skolkovo Foundation

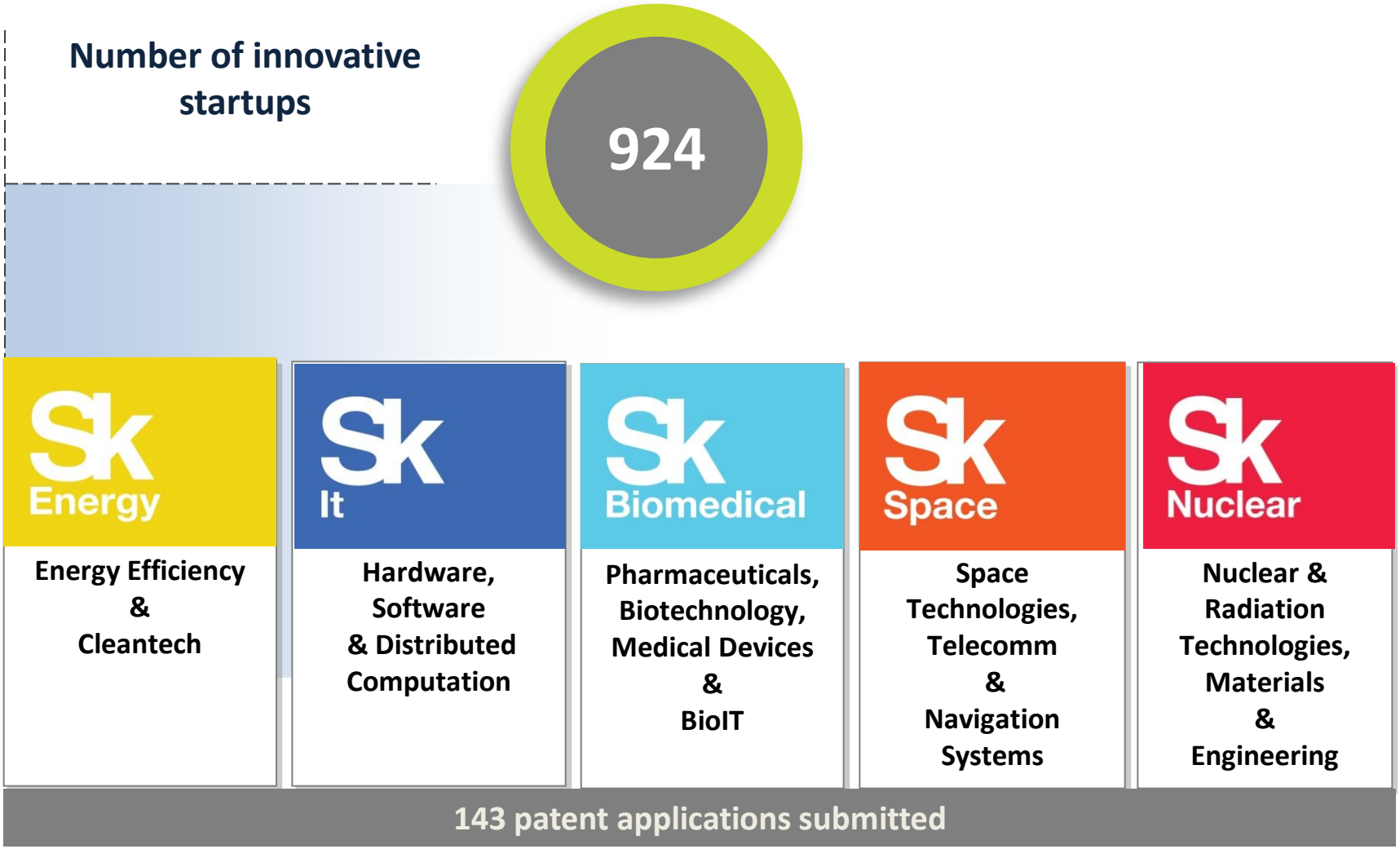
# Skolkovo2FRUCT: IT Innovation Hub

Sk IT

# Skolkovo enabling components



# Ideas: fostering ecosystem



# IT CLUSTER: KEY OBJECTIVES

**Mission**

SETTING UP EFFICIENT ECOSYSTEM TO DEVELOP AND COMMERCIALIZE IT INNOVATIONS

**Objectives**

MAINTAIN AND SUPPORT PROJECTS LIFE CYCLE

SUPPORT COMMERCIALIZATION OF RESEARCH

PROMOTE THE SKOLOVO BRAND

**Goals and tools**

ASSIST IN ESTABLISHING AND SUPPORT SUCCESSFUL COMPANIES IN THE IT MARKET

# KEY REQUIREMENTS TO PROJECTS

## Project Selection Criteria

- Compliance with the foresight
- Competitive advantages over global analogues
- Significant commercialization potential
- Relevant qualifications of research teams

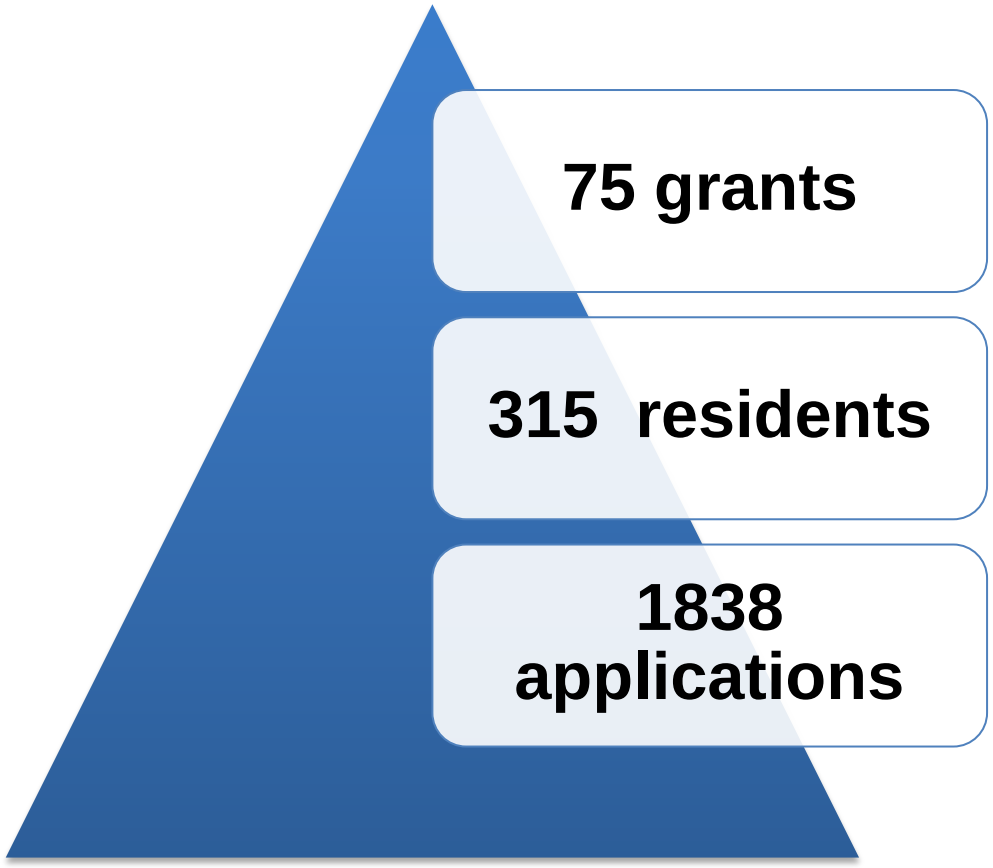
## Requirements to Foreign Projects

- Developed IP shall stay in the Sk resident company
- Russian legal entity
- R&D is the major portion of the Sk company's activity

## IT cluster Expert board

- 126 experts
- Including 3 academicians of the Russian Academy of Sciences
- 35 Doctors of Science
- Over 30% – specialists from abroad

# Quantitative Indicators

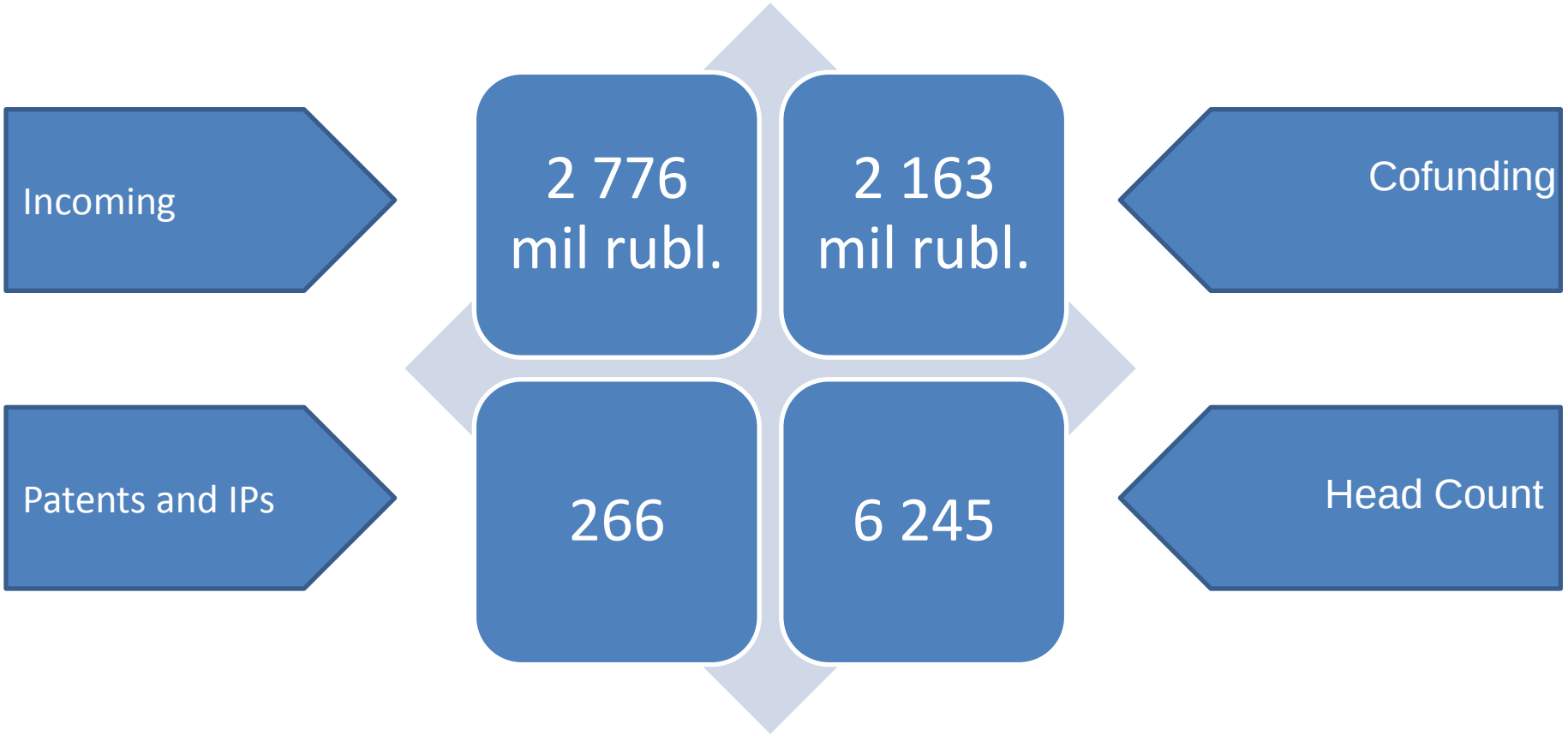



In 2012 on average
14 new residents per month.
In 2013 on average
8 new residents per month.

In 2012 on average 65 applications per month.
In 2013 on average 35 applications per month.

**As of September 10, 2013**

# Main results



# Startups: Key indicators

**5 104**
applications for participant status

**986**
companies from 44 regions of Russia

**275**
applications for IP registration

**9 780** bln rubles
revenue of startup companies for the period from 2012 to mid-2013

**13 248**
jobs

**209**
grants approved

**9 469** bln rubles
volume of grants approved

**9 388** bln rubles
in external financing

# IT Cluster Foresight (2.0)

- Result of over 1,700 reviewed projects
- Interaction with leading industry institutions

# Tools and Means for Future Information Technologies Development

# IT Applications with New Technologies

***New search and recognition technology***

New solutions for searching and recognition of audio, video and images

Application of semantics (sense) for information search

New technologies in computer aided translation systems

***New data storage, processing and transmission methods (More than Moore)***

Development of new nanodevices for information storage and processing for energy efficient equipment

New research and development in photonics, nanophotonics and metamaterials, including integrated optical systems; fully optical computing devices; data storage and exchange devices and hybrid optical components for conventional computers

New ideas in quantum informatics

Development of new high speed electronic devices and materials for prospective acquisition, storage, processing and information transmission methods including wireless networks.

New materials and nanotechnologies for manufacturing of optoelectronic and electronic devices and circuits

***Processing of Large Data Arrays (big data problem)***

Development of new methods and algorithms for collection, storage and intellectual analysis of large volume of data

New methods of distributed processing of big data

New methods and software for predictive modelling of complex engineering solutions

***New development and testing tools***

New programming languages, new visual software development tools

Efficient requirements management systems and system engineering tools, tools for verification and validation in development complex software systems.

New environments and methods for teaching software engineering, programming languages and usage of IT technologies.

***Development of new high performance computing and data storage systems***

New algorithms for high parallel computing;

Development of new communication topology and interaction protocols for improvement of energy efficiency, failure resistance and reduction of exchange time between system elements.

New applications for supercomputers.

Exaflop computers;

New software for high-performance and reliable data storage systems

***Ubiquitous and Cloud Computing***

New software for interaction between autonomous (including transport and mobile) devices

New technological elements of data transmission network infrastructure that link physical and virtual objects by collection, processing and analysis of obtained data.New integrated sensors and sensor networks

Development of new elements of infrastructure and software for implementation of different models of provisioning of cloud services

***Development of Communication and Navigation Technologies***

New way of increasing efficiency of existing communications including wireless and optical communications

New wired and wireless communication technologies

New geoinformation and navigation systems (including global positioning technologies)

***Secure Information Technologies***

New biometric and identification systems

New applications and infrastructure solutions for increasing internet security

New applications and infrastructure solutions for cyber threats prevention and cyber investigations

New applications and infrastructure solutions for data protection in cloud and distributed computation

***New Human-Machine Interfaces for Any Applications***

New methods for usage of gestures, vision and voice interfaces for computer systems control

New methods and software for neurocomputers' interfaces

New methods, infrastructure solutions and software for augmented/modified realityNew applications and devices for better social adaptation of people with limited abilities

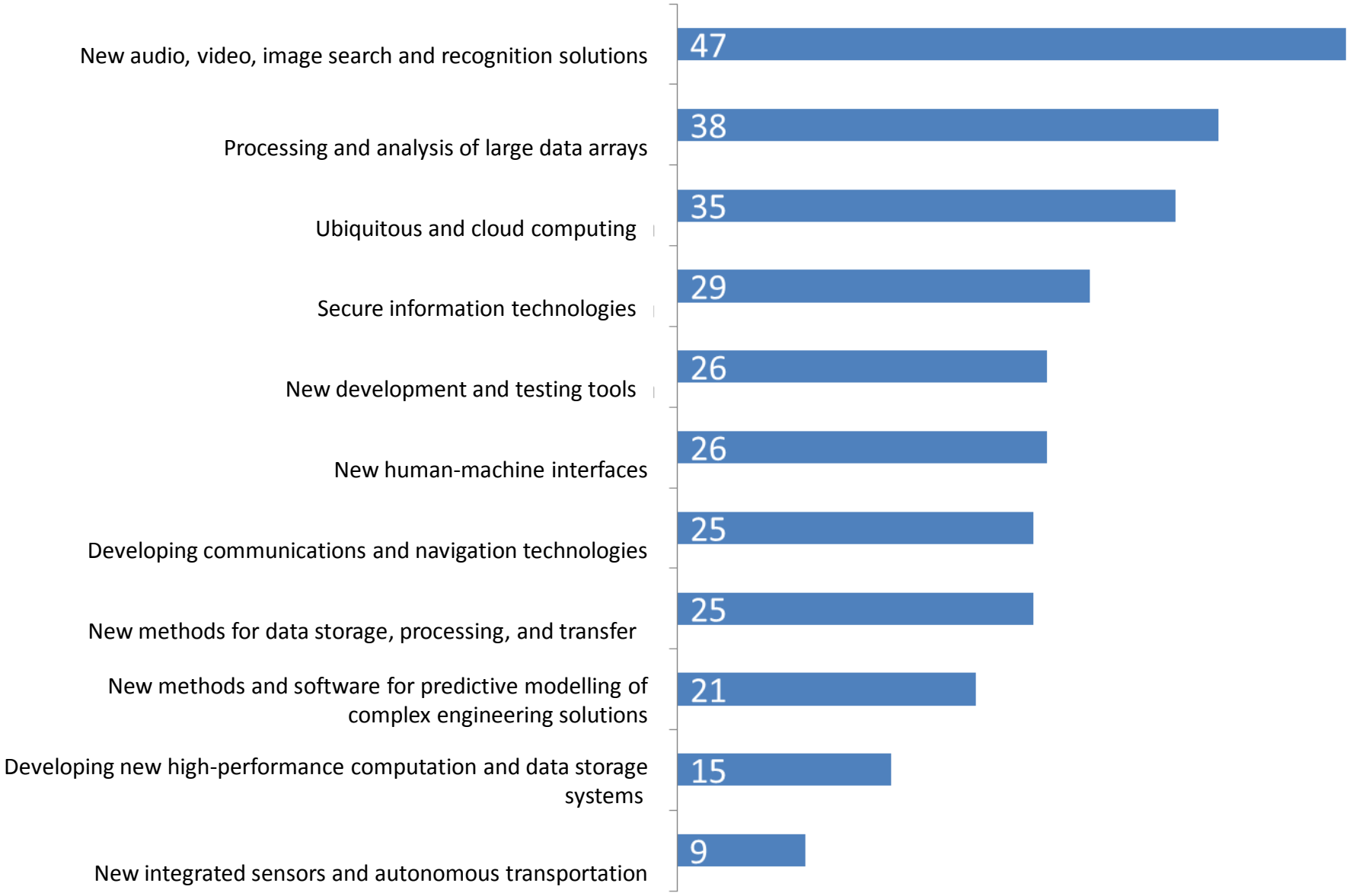
# Our approach to research

| | Practical Use? | |
|---|---|---|
| Quest for Basic Science | NO | YES |
| YES | Only Basic Science.<br>“Bohr” | Basic Science for solving practical problems.<br>“Pasteur”. |
| NO | No name | Only practical use research.<br>“Edison”.<br>Skolkovo |

# How we select projects?

- Panel of 126 world class experts selects projects;
- For each incoming project randomly selected 10 experts answer a set of six important questions:
  1. Does project corresponds to one of clusters foresights?
  2. Does product or technology has potential competitive advantage over world's similar products or technologies?
  3. Does product or technology has significant commercial opportunity on Russian market (minimum) and world market (in perspective)?
  4. Is project theoretically feasible and don't contradict fundamental scientific principles?
  5. Do key researchers, developers and managers have necessary knowledge and experience for successful project implementation?
  6. Does project team has a member (or few members) with international experience in research, development and commercialization of projects' results?

If majority of experts answer "Yes", then project is granted Skolkovo's status!


New audio, video, image search and recognition solutions
47
Processing and analysis of large data arrays
38
Ubiquitous and cloud computing
35
Secure information technologies
29
New development and testing tools
26
New human-machine interfaces
26
Developing communications and navigation technologies
25
New methods for data storage, processing, and transfer
25
New methods and software for predictive modelling of complex engineering solutions
21
Developing new high-performance computation and data storage systems
15
New integrated sensors and autonomous transportation
9

# Applied Research Centers

## Applied Research Center for Computer Networking

РОСТЕЛЕКОМ

Berkeley UNIVERSITY OF CALIFORNIA

СБЕРБАНК

STANFORD UNIVERSITY

CISCO

intel

OpenFlow

МГУ имени М.В. Ломоносова

EMC²

**GOAL:** Developing new methods and algorithms to enhance networks efficiency based on industrial EEIT technologies

## Russian Quantum Center

RQC

Russian Quantum Center

**GOAL:** designing absolutely secure DTNs (up to 300-500 km); submicron optical transistors and electronics; New systems for supersensitive tomography

# Venture Funds Investment

## 14 VF

ALMAZ CAPITAL, FORESIGHT VENTURES, S-GROUP, ИВФ РЕСПУБЛИКИ ТАТАРСТАН, LETA GROUP, EXIGEN, VTB, LEADER, RUNA, SOFTLINE, AMHURST CAPITAL, ITECH CAPITAL, QUADRIGA CAPITAL

**SPEAKTOIT** – ИНВЕСТИЦИИ ОТ INTEL CAPITAL

**TUTORION** – ИНВЕСТИЦИИ ОТ INTEL CAPITAL, ТАКЖЕ ПРОЕКТ ВОШЕЛ В **10КУ ЛУЧШИХ ПРОЕКТОВ** ГОДА ПО ВЕРСИИ **STARTUPPOINT**

**PROJECTS:**

**LINGVA LEO** – $2MLN ОТ RUNA CAPITAL

**DISPLAIR** – $1MLN ОТ LETA GROUP

**JELASTIC** - $3,5MLN RUNA CAPITAL, ALMAZ CAPITAL И FORESIGHT VENTURES

# Industrial partners













# Intel - Kamaz:

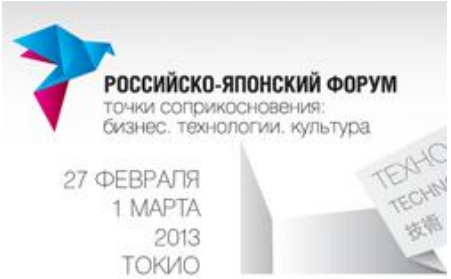
- **«KAMAZ» и Intel - Software (Skolkovo) with supporting from Speaktoit и Speereo  for KAMAZ-5490**


# FORUMS AND CONFERENCES










# COMPETITIONS

webready






# Skolkovo MD


Skolkovo M.D.
Мобильное Диагностическое Устройство
Skolkovo M.D.
9 000 000 Р.
12 декабря 2012 г.


live.sk.ru


RVC
live.sk.ru

# ROADSHOW

DLD TEL AVIV Innovation Festival 2013

Russian Startup Tour

# MEDIA PROJECTS


21/08/2013

**Digital Projects: Developing your own mobile application**

16/08/2013

**Digital Projects: Launching complex 3D-applications from a common browser**

14/08/2013

**Digital Projects: “Smart” TV combines TV and internet**

09/08/2013

**Digital Projects: One Pass and digital passwords. New approach to network security**


02/08/2013

**Digital Projects: How startup projects may help musicians make money**

31/07/2013

**Digital Projects: Programmers trained logistics specialists to deliver cargoes on time**

14/06/2013

**Digital Projects Program will tell you how to be successful**

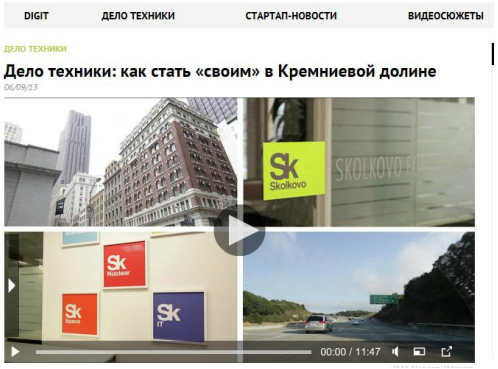
19/04/2013

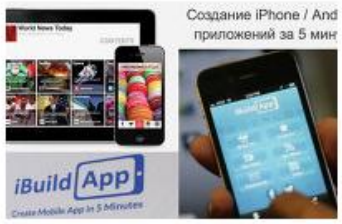
**The first release of the Digital Projects in 2013 will tell about Stream Labs Projects**

14/12/2012

**Digital Projects: Business social network**

digit ДЕЛОТЕХНИКИ




21/08/2013

**Digital Projects: Developing your own mobile application**

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**Digital Projects: Launching complex 3D-applications from a common browser**

09/08/2013

**Digital Projects: One Pass and digital passwords. New approach to network security**


02/08/2013

**Digital Projects: How startup projects may help musicians make money**

## 05 ФЕВРАЛЯ 2013 ГОДА

But I have a dream. The industrial revolution and economic growth continue. This is because astrophysicists find a huge cosmic rock on course to hit Earth in 50 years. This should be scary enough. The world can surely deflect this threat but will need to develop new knowledge and technologies. Finally, in my dream, humans realise social media can make some people very rich but cannot save the planet. The latter requires new fundamental discoveries.

15 ФЕВРАЛЯ 2013 ГОДА

# Grantees - Examples

# Datadvance

www.datadvance.net

Реестр инновационных продуктов, технологий и услуг на innoprod.startbase.ru

DATADVANCE AN EADS COMPANY

## Project

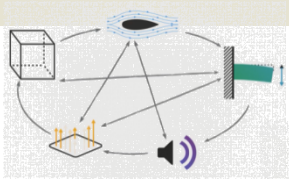
Development and delivery of predictive modeling technology and multi-disciplinary optimization

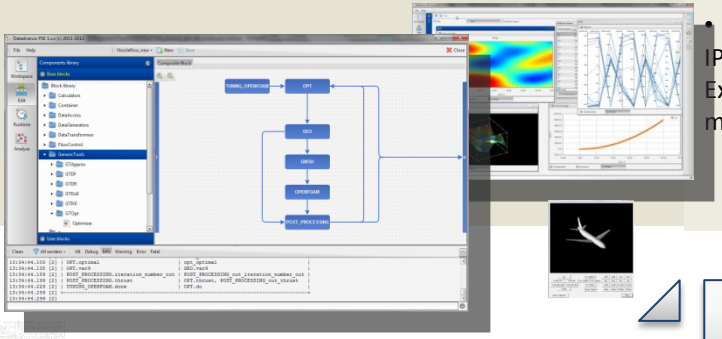
Grant 48.78 mln.Rub.

## Innovation

The MACROS software complex is designed for automation of engineering calculations, predictive modeling and multi-disciplinary optimization. MACROS rests on highly efficient algorithms of data analysis and optimization developed by the company's staff. MACROS allows significant reduction in the design time and cost, while improving the quality, reliability and efficiency of the designed products. When designing the wing panels MACROS reduced the design time by 10 times and thus allowed reducing the weight of the wing. Various machine engineering industries (aviation, automotive, power engineering, etc.) have been using MACROS already.

Sergey Morozov
Manager





## Figures

Staff: 36 persons
Revenue:
- 1Q 13: 16 mln.Rub
- 2Q 13: 1.7 mln. Rub.
- 2012: 65 mln.Rub

IP: 2
External funding: 51 mln.Rub.

**2010** (January) Setting up the company

**2010** (December) Skolkovo resident No.4

**2011** (June) Skolkovo grant, EADS is project co-investor

**2013** Airbus announced operation of the Datadvance software

Partners:

Key clients:

# Rock Flow Dynamics

www.community.sk.ru/net/1110084

Реестр инновационных продуктов, технологий и услуг на innoprod.startbase.ru

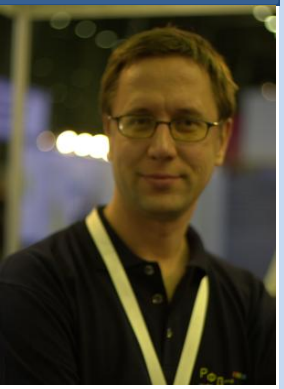
RFD Rock Flow Dynamics

## Project

Rock Flow Dynamics develops software solutions for strategic objectives in oil and gas fields development simulation. The company's flagship product is tNavigator, parallel interactive reservoir simulation package.

Grant received **28.2 mln.Rub**

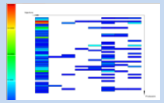
## Innovation



Vasily Shelkov

This technology improves planning of the oil and gas fields development. This is a unique RFD solution as compared to foreign analogues and its performance is significantly higher if used on advanced multi-processor systems, with a fully integrated graphical interface that allows for interactive work with a 3D model. This reduces the computation time by 8-12 times as compared to foreign analogues.

The company's products are used by mining and service companies in Russia, USA, UAE, Japan, UK, China, Qatar, Bahrain, Germany, Kazakhstan. Successful technology sales support the gradual replacement of imported analogues by the Russian technology on the national market.



## Figures

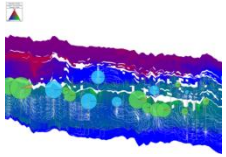
Staff: 50 persons

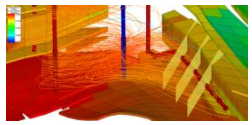
Revenue:

- 1Q 13: 38 mln.Rub
- 2Q 13: 35.6 mln.Rub
- 2012: 60 mln.Rub
- Co-funding: 86 mln.Rub

IP: 6

Partners and clients of the Project:





**2005**
Setting up the company .

**2010**
Intel acts as co-ivestor

**July 2011**
Skolkovo resident No.112

**2012**
First sales of software designed in Skolkovo

# Synesis

http://community.sk.ru/net/1110186/

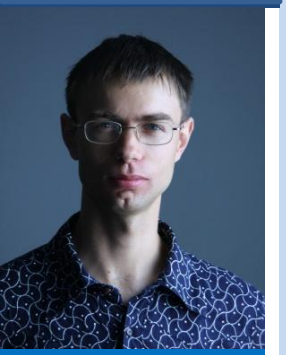
Реестр инновационных продуктов, технологий и услуг на innoprod.startbase.ru

## Project

Design and development of an open infrastructure software that will allow third parties to impleme cost-effective video surveillance solutions.

**Grant of 20 mln.Rub received**

## Innovation



**Nikolay Ptitsin**
**Manager**

The Kipod Server Video Content Analysis Open Platform innovative project is aimed to develop and commercialize the software that will help third parties to implement cost-effective video surveillance solutions in a variety of industries, including safety, transportation, retail sales, banking, sports and entertainment using the most advanced video analytics technologies and cloud computing. The main Synesis products are: Tsefey (Cepheus), video analytics complex for security and safety, and Cassiopeia, video analytics complex for business and transportation. The products are based on the video content analysis operating system (Kipod), namely, the software infrastructure for the mass deployment of computer vision and image recognition technologies in the existing and new CCTV systems.

Using Kipod significantly improves the operator's performance due to low number of false responses and visual actuations. The product benefits from its free Kipod Linux-based core resulting in low price.

## Figures

Staff: 31 persons
Revenue:
- 2Q13: 6.7 mln.Rub
- 2012: 7.6 mln.Rub.

IP: 5

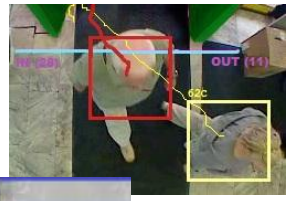
Project Partners

SIEMENS

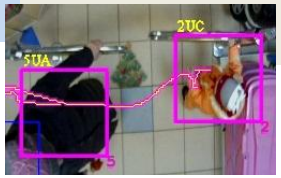
EURESYS Excellence in vision

Xenics Infrared Solutions

OPTICIS







**2009**
Setting up the company.

**2011**
first clients

**October 2011**
Skolkovo resident No.214

**June 2012**
Skolkovo grant