SKOLKOVO TECHNOLOGY CHALLENGES

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FRUCT
CONNECTIONS
THE MISSION OF SKOLKOVO

SKOLKOVO IS A STRATEGIC DEVELOPMENT INITIATIVE DESIGNED TO:

• DIVERSIFY AND MODERNIZE THE RUSSIAN ECONOMY THROUGH INNOVATION AND ENTREPRENEURSHIP

• FULLY-INTEGRATE RUSSIAN SCIENCE AND TECHNOLOGY INTO THE GLOBAL ECONOMY

• DEVELOP HUMAN CAPITAL THROUGH WORLD-CLASS RESEARCH AND EDUCATION

• CREATE GLOBALLY-COMPETITIVE KNOWLEDGE-BASED COMPANIES
GUIDING PRINCIPLES

- Attract world-class talent, institutions and businesses: open, transparent, fair
- Self-sustaining over time
- Maximize private sector participation
- Physical and virtual
- Accountable governance
NORMAL TECHNOLOGY ENVIRONMENT

Technology S-Curve

Time

Technology maturity / market acceptance

Entrepreneurs

Basic Research

Applied Research

Early

Mid

Late

Private Equity

IPOs

Large Corporates

Commoditization of Technology

Venture Capital (VC)
The “Gap”:
- Research not linked to market
- Little early-stage financing or services
- Result: little commercialization

CURRENT RUSSIAN SITUATION

- Basic Research
- Applied Research
- Entrepreneurs
- Private Equity
- IPOs
- Commoditization of Technology

Time

Technology maturity / market acceptance
GOAL: “FILL THE GAP” WITH TOOLS FOR EFFICIENT COMMERCIALIZATION

6 CORE ELEMENTS

- Skolkovo Institute
- 5 Technology Clusters
- Technopark
- Key Partners
- Virtual Skolkovo
- City Infrastructure

Commoditization of Technology

Time

Technology maturity / market acceptance
KEY ECOSYSTEM PLAYERS

- Start-ups and TP
- University
- VCs
- Key Partners
Energy efficiency, energy saving, new energy technology

IT and software engineering

Biotechnology and medical technology incl. development of medical drugs and equipment

Space technology in telecoms, navigation, imaging, life systems

Nuclear medicine, energy, other applications

Reflecting 5 modernization priorities of the Russian government
SKOLKOVO ECOSYSTEM FOUNDATION

- Education
- Research
- Commercialization

Engineer-Entrepreneur

Sk

It Energy Biomedical Nuclear Space
• **WORLD**
  - **IT SERVICES**: the scope of services in the IT sector far exceeds the amount of software development (software), but the growth of the sector has stabilized
  - **SOFTWARE**: new markets gain importance in view of reducing the use of unlicensed software
  - **EQUIPMENT**: in developed countries IT equipment spending is a small proportion of capital spent in emerging markets – it’s a significant amount

• **RUSSIA**
  - **IT SERVICES**: IT services is a small fraction of total IT spending, compared with Western countries
  - **SOFTWARE**: stable rapid growth associated with the automation of industries and state projects
  - **EQUIPMENT**: the IT spending in Russian firms is mostly the cost of IT equipment
IT CLUSTER FOCUS AREAS

“LONG TERM POTENTIAL”
Highly attractive but requires more capability and infrastructure building

“LOWER PRIORITY AREAS”
Select opportunities possible but expect less overall deal flow in these areas

“HIGHER PRIORITY AREAS”
Expected to have highest proportion of high potential project proposals

“NO REGRET AREAS”
Relatively higher probability of success, can be leveraged to support other areas

1, 2, 3, 4 – Specific priority area candidates inside the directions are listed on the next page
SOURCE: IDC data, expert interviews
SKOLKOVO IT PRIORITIES

STRENGTHENING EXISTING AREAS OF COMPETITIVE ADVANTAGE

CLOSING THE GAP WITH IT-MATURE COUNTRIES

ENABLE PARTICIPATION IN TOP GLOBAL IT TRENDS AND INNOVATION

IT cluster
IT CLUSTER FORESIGHT
### SOME IT CLUSTER STATISTICS

<table>
<thead>
<tr>
<th>APPLIED FOR SKOLKOVO STATUS</th>
<th></th>
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<tbody>
<tr>
<td>Total</td>
<td>+500</td>
</tr>
<tr>
<td>Approved</td>
<td>180</td>
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</table>

<table>
<thead>
<tr>
<th>APPLIED FOR FINANCING</th>
<th></th>
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<tbody>
<tr>
<td>Total</td>
<td>40</td>
</tr>
<tr>
<td>Financing granted</td>
<td>30</td>
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</tbody>
</table>

Total financing projects: 1 600 mln rub. (2010-2013 гг.)


DIRECT START-UP SUPPORT

Taxes and benefits

- **No VAT or profit tax** for up to 10 years if profit is < $10M/year and turnover is <$30M/year
- **14% unified social tax rate** for residents (vs. normal 34%)
- **Refund of import customs** duties and VAT expenses paid during import to the RF customs territory

Grants

- **YOUNG GROUPS OR STUDENTS**, max grant 1,5 mln rbl
- **START-UPS**, max grant amount 30 mln rbl
- **EARLY STAGE**, max grant amount 150 mln rbl
- **ADVANCED STAGE**, max grant amount 300 mln rbl
IT CLUSTER KEY PARTNERS

- Intel
- Сколково
- Национальный центр по образованию им. А.Н. Бакулева РАН
- МГУ имени М.В. Ломоносова
- Cisco
- Siemens
- Fraunhofer IGD
- Rostelecom
- Microsoft
- Nokia Siemens Networks
- Nokia
- Airbus
- Thales
- EADS
- RFD
- Blackberry
- МЧС
- Институт проблем нефти и газа
- Институт Государственного университета нефти и газа имени И.М. Губкина
- Лукойл
Mobility and Collaboration

Green Secure Cloud

IT New Frontiers

Wellbeing with IT

Managing Complexity with IT
HOW TO ENTER SKOLKOVO

Apply your project for a Participant Status online: app.i-gorod.com

Fulfill main criteria: a company should have legal status in Russia + internationally recognized scientist in the project

10 randomly chosen experts from a cluster will independently make their conclusions on the project

If 5 or more of them are positive - than get your certificate of a Skolkovo participant

All the procedure will be finished in a month time
HOW TO GET GRANTS

Being a Participant of Skolkovo apply for a grant

Cluster’s experts will decide if your project is eligible for a grant

Due Diligence

Skollkovo Invest committee is making the final decision

All the procedure will be finished in 2 months time
WHAT SKOLKOVO IS, WHAT SKOLKOVO IS NOT

We make financial grants

We are not-for profit

We finance and support R&D and early-stage companies

We are a platform for international collaboration in R&D and technology transfer

We support and finance innovative R&D and technology start-ups, both Russian and international

We are not an investment fund; we do not invest, take equity stakes or board seats

We do not finance production or advanced commercial operations

We are not a sales agent

We are not limited to only Russian technology; in fact our mandate is to enhance 2-way tech transfer
- Possibility to work with leading Russian innovative companies
- Privileges from Russian government
- Grants from Skolkovo
- Direct access to Russian market
Уникальный отбор концепций мобильного диагностического устройства

Устройство должно выполнять диагностику определенного перечня заболеваний.

Победитель станет участником проекта «Сколково» и получит грант в размере до 9 миллионов рублей.

Прием заявок открыт до 2 июня 2012 года.

Условия отбора – на сайте md.sk.ru
Appendix

SELECTED PROJECTS
3D rendering in a cloud

Max Gannutin

- Graduated Saint Petersburg State Electrotechnical University;
- As scientist researched thermodynamic modeling in Saint Petersburg State Polytechnical University;
- Worked in large international companies, such as netViz, where he developed algorithms for complex 2D graphics rendering;
- Founded Cloudmach to commercialize idea of 3D rendering in a cloud.

Cloudmach Inc
(co-investor)

3D rendering in a cloud allows to create interactive 3D environments for any web browser on any device.

Any Browser

Any Device

- First project powered by 3D rendering in a cloud technology released (3D virtual helpdesk);
- Project team become 2 times bigger;
- Company attended main industry conferences in Europe, USA and Russia.

No plugins, No downloads, No instalations
Global Students Laboratory (Global Lab) is a web-based learning platform that combines advanced technologies with innovative learning strategies to support student inquiry. A complete, turnkey solution, Global Lab offers all the resources and tools needed for collaborative investigations. Students use digital probes and a wide range of mobile devices to submit data directly into the project-wide database where findings are accessed, visualized, analyzed, and discussed. A cloud-delivered education IT solution, Global Lab integrates social networking and Internet applications into a cohesive framework to support cutting-edge education.
3DVision: Development of technological platform (hardware and software) for three-dimensional computer vision

Project Leader
Pavel Zaytsev
CEO and President of Papillon ZAO. Managed to grow the startup company to a vertically integrated provider of biometric solutions with $50M in annual sales. Pavel is the author of more than 20 inventions and useful models in biometric technology. He is the owner of patents in Russia and Europe; has patent applications in the USA. Education: Master of Science degree in Applied Mathematics and Physics from Moscow Institute of Physics and Technology -1985.

Project Summary
The project is aimed at the development and commercialization of the technological platform (hardware and software) for three-dimensional computer vision. This solution can be employed in various applications and electronic appliances including application of natural user interface for Smart TV.
The technology can be applied in:
• interactive coaching systems
• video games
• new generation TV-sets interface, GoogleTV in particular
• creation of personal 3D avatar for games and virtual shopping

Partners
• The Ural Federal University (UFU, Yekaterinburg)
• Matthew Turk, PhD from MIT and MS from Carnegie Mellon University

Skolkovo Participation
Skolkovo support allowed 3DiVi Company to open a new office in Chelyabinsk where 20 highly qualified developers will work. Moreover the company is now about to finish negotiations concerning creating a new computer vision laboratory in cooperation with the Ural Federal University. In October 2011 3DiVi will visit the Silicon Valley as a part of delegation headed by Chelyabinsk region Governor.
### Project Name

**Speereo Speech Recognition System**

![IT Foresight](http://www.speereo.com)

### Project Leader

**Konstantin Lamin**

Graduated from Leningrad Technical Institute (St.Pete Tech. Inst.) as an engineer. While studying was involved into a research group that was working in AI project. Later has organized several IT companies. Since 1998 is investing own capital into Speereo Software UK Ltd. – a research project that deals with speech recognition technology and voice interfaces. At the same time has been actively administrating own companies that provide IT services and software development.

### Short Description

We are building voice interfaces where all the commands are issued in everyday language or even set by Users. Speereo Speech Recognition (SSR) is our own invention – fully Russian product. SSR recognizes continuous speech not depending on a speaker (man, woman, child). SSR is to be implemented into video interfaces, home appliances, ‘smart home’ systems. Separate voice interfaces are to be created for automotive industry and navigation. SSR is to be supplied to aerospace industry and to be used in voice interfaces for people with limited abilities.

### Project Partners

‘Voemech’ Tech. University, RU Global Innovation Labs Company, US

### Skolkovo Involvement

SSR testing stands are published into Internet and made available. Voice Interfaces for automotive industry and video-content are being developed.
<table>
<thead>
<tr>
<th>Project Title</th>
<th>Strategy-on-carpet: devices and methods designed to extend computer games into real world.</th>
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<tbody>
<tr>
<td>Project Leader</td>
<td>Evgeny Smetanin: producer, manager and developer in digital edutainment, computer games, interactive toys and gadgets. Experienced in licensing of the designed products to Western companies. In 2009 Smetanin and his partners had founded Toytemic Inventions for developments in toy robotics. During last year Toytemic led by Smetanin has subsequently won contests in business-incubator of the Academy of National Economy, «Innovative Toy” (Toy Russia’11), “Skolkovo Innovation Award» (Cisco I-PRIIZE).</td>
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**Annotation:** Integrated applied technology designed to support wireless ad hoc networks of mobile and self-propelled devices in personal area (up to 10 m). The core of the technology is an original-designed positioning system enabling each device real time mapping of the exact spatial position and orientation held by any moving object accurate within 2-3cm/30degrees. Initial field of application – toys & games. This project involves the development of a standardized cost-effective kit of built-in electronic components and simple RCs to transform motorized cars, animals, and robots into game units. Regular grouping operations, general movement parameter settings, and other similar elements should apply to these units.

**Partners:**
- Toffe Physical Technical Institute, RAS
- Lebedev Institute of Precision Mechanics and Computer Engineering, RAS
- Moscow State Technical University “MIREA”
- Georgia Institute of Technology
- Condor Solutions, Ltd.
- Dusenberry Entertainment

**Participation in Skolkovo:**
- participation in presentations and contests
- expanding professional contacts & collaboration
- new opportunities in fund raising