Rosatom Global Development, International Cooperation Perspective

Alexey Kalinin
Head of International Business Department
Rosatom

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Fully Integrated Nuclear Technology Company

Anniversary of Russian Nuclear Industry 2010

Uranium production
Uranium enrichment
Fuel fabrication
Power equipment manufacturing
NPP Design, Engineering and Construction
Electricity generation
Services and modernization

Nuclear Power Complex

Applied and Basic Science
Nuclear and Radiation Safety
Nuclear Icebreakers

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Rosatom offers complete solution from uranium supplies to NPP construction operation and decommissioning

Guaranteed supply of complete life-cycle products and services

Flexible capabilities of NPP supply from components and services to turn-key and BOO projects

Being a state corporation Rosatom is taking advantage of unique industry access to privilege resources

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## Key Figures - 2010

<table>
<thead>
<tr>
<th><strong>29 nuclear units</strong></th>
<th><strong>79,3%</strong></th>
<th><strong>$18 bln</strong></th>
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<tbody>
<tr>
<td>Simultaneous implementation</td>
<td>High-tech products share in revenue</td>
<td>Revenue</td>
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<table>
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<tr>
<th><strong>275 000 people</strong></th>
<th><strong>$200 mln</strong></th>
<th><strong>$2 bln</strong></th>
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<tbody>
<tr>
<td>Number of employees</td>
<td>R&amp;D investment</td>
<td>Net income</td>
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</tbody>
</table>
Rosatom Global Operations

#1 in key segments

#1 in uranium deposits

#1 in uranium enrichment

#1 in new NPPs construction

#1 Russian electricity generation company, 24,2 GWe installed capacity

5 continents. More than 40 countries.

Europe
Finland, Sweden, the Netherlands, Belgium, Germany, France, Spain, GB, Switzerland, Czech Republic, Slovakia, Hungary, Lithuania, Bulgaria, Slovenia

CIS
Russia, Ukraine, Kazakhstan, Belorussia, Armenia

Asia
China, Japan, South Korea, Vietnam, India, Bangladesh, Mongolia

MENA
Turkey, Libya, Morocco, Algeria, Egypt, Iran, Jordan

Australia

North America
USA, Canada, Mexico

Latin America
Venezuela, Argentina, Brazil

Africa
Namibia, South Africa, Tanzania

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Nuclear Innovation – Variety of Applications

Nuclear Icebreaker Fleet
- #1 nuclear fleet in the world
- Assures stable functioning of Northern Sea Route

Fast Reactors (Gen IV)
- #1 fast neutron reactor in the world
- #1 operating fast neutron reactor in the world
- Broad development programme

Small and Medium Size Reactors
- Variety of different designs with referent parameters
- #1 floating NPP in the world is being built
- #1 successful public-private partnership for developing SMR

Nuclear Medicine
- Isotope production (curable 2 kinds of cancer, earlier diagnostic)
- Cyclotrons
- RFP laboratory

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Rosatom in 2020

2020 Targets

- Rosatom is among Top 3 nuclear companies (by revenue in key segments)
- More than 50% of revenue comes from global operations
- More than 25% of revenue is generated by overseas assets

Key Actions

- Localize all business segments operations in key markets
- Benefit from global talents and local workforce
- Establish multiple alliances and partnerships with global and local players
- Source, develop and transfer technologies to maintain global leadership
- Take full advantage of global capital market
- Ensure business transparency as a key operating standard

Globalization of operations is the key priority
The majority of world population faces the electricity shortage

Approximately 70% of world population face permanent energy deficit

*electricity consumption, kWh per capita, 2010, Average by region/country

- Energy sufficient countries, more 5000 kWh per capita
- Countries with average energy sufficiency (2500 -5000 kWh)
- Countries with inadequate energy supply (less than 2500 kWh)
Despite the tragic Fukushima accident nuclear energy is expected to grow further. The review of safety requirements and prolongation of licensing terms are the main reasons of that. The content of this presentation is for discussion purposes only, shall not be considered as an offer and doesn’t lead to any obligations to Rosatom and its affiliated companies. Rosatom disclaims all responsibility for any and all mistakes, quality and completeness of the information.
Rosatom safe and mature VVER technology is highly welcomed worldwide...

Rosatom NPP construction perspective backlog – more than 80 units

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...being a part of Rosatom unique integrated NPP construction solution

**Energy solution**
- Modern NPP design (Gen III+)
- NPP construction and life cycle management support (fuel, services, modernization)
- Operation & maintenance

**Industrial solution**
- NPP equipment manufacturing, service & works localization,
- Technology transfer,
- Certification of local suppliers, participation in Rosatom third countries projects

**Regulation / infrastructure**
- Creation and development of regulatory base
- NFC facilities construction,
- SNF & RW management,
- Social-political programmes support

**Knowledge, skills, human capital**
- Personnel education & training (incl. traineeship on NPP sites),
- R&D base development,
- NPP operation experience exchange

**Financial solution**
BOO projects implementation;
State credits,
Partnership projects

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Order volume for NPP construction for Rosatom global projects


- NSSS (Russian suppliers) 43.4%
- Turbine and generator equipment 17.4%
- Valves, pumps and piping 17.4%
- Electrical equipment 17.4%
- I&C 17.4%
- Air cooling systems 17.4%
- Other equipment 8.7%
- Civil construction & engineering 14.5%
- Other equipment 8.7%

~ 15% - Russian supply
~ 30-40% - local content
~ 45-50% - global sourcing

Rosatom needs to re-invent its global supply chain
### Design of the Forum

#### Day 1

1. World market and technology overview
2. Roles of Rosatom companies and their perspectives on International cooperation
3. Practical experience of cooperation sharing
4. Case studies and opportunities on particular Rosatom projects

#### Day 2

5. Comprehensive overview of Rosatom purchasing policy, procedures and requirements
6. Suppliers introduction

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The forum venue

Why Prague?

- Heart of Central Europe
- Wide experience of joint success
- Close cultures, languages, values
- Common technological base

It’s not about the past – it’s about the future
Contacts in Rosatom

Dr. Kirill Komarov  
Deputy Director General, Development and International Business  
e-mail: kbkomarov@rosatom.ru

Assistant  
tel.: +7(495)969-29-39, ext. 3236  
e-mail: mimosur@rosatom.ru

Alexey Kalinin  
Head, Marketing and Business Development  
e-mail: aakalinin@rosatom.ru

Assistant  
tel.: +7(499)949-25-37