Building capacity through leadership development programmes in nuclear industry

A. Afonin, PhD
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Mining
Gas centrifuges manufacturing
Spent nuclear fuel treatment
Power Generation
Power equipment and services
NPPs engineering & construction
Conversion and enrichment
Research and development
Fuel fabrication

Facts and figures:
Income: 474 bln. RUR (€10.8 bln.)
EBITDA 141 bln. RUR (€3.2 bln.)
More than 250 companies
260,000 employees
World’s #2 in Uranium mining
Russia’s #2 in installed capacity
Europe’s #2 in nuclear power generation
World’s #1 in new NPP construction

Key strategic objectives:
- Globalisation and international business development
- Leadership in nuclear technologies
- Effectiveness
Rosatom – 2020: key strategic objectives

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 structure and the key elements of the Training and Development system of ROSATOM

Universities
- National Research Nuclear University (MEPhI) and the consortium of key universities
- Other universities

In-company training
- ROSATOM Corporate Academy
- Central Institute for continuing education and training (SCICET)
- Local training centres

• Traditional higher education degree programmes in nuclear sector
• Non-degree programmes for Rosatom employees
• Degree programmes in nuclear sector for international students (Vietnam, Turkey, Jordan, Bangladesh etc)
• Traditional higher education degree programmes for students in non-nuclear sector (e.g. construction, machinery)
• Specific non-degree programmes for Rosatom employees
• Leadership, Hi-Po and management development programmes
• Functional non-technical training in nuclear sector, e.g. finance, supply chain, HR, IT etc
• Customized programmes for different businesses and corporate functions
• Professional training programmes in specific technical nuclear areas (e.g. nuclear safety)
• Special programmes for NPPs staff
• Customized programmes for different businesses
• Professional qualification courses for blue collars and line managers (technical skills)
• Regulatory training courses and exams
• Full-scale simulator training courses (for NPPs)
Identifying and selecting talents: key selection criteria at different levels

at Schools:
- Interest in nuclear industry
- Abilities in mathematics and physics
- Interest in research activities
- High average score

at Universities (for students and graduates):
- Relevant (nuclear and technical) faculties
- Abilities: verbal and numerical
- Interest / motivation to work in nuclear industry
- Leadership potential
- Professional knowledge
- High average score

on the job (for employees):
- Formal criteria (age, education, practical experience)*
- Performance
- Corporate competencies
- Professional knowledge*
- Leadership skills and leadership potential
- Motivation for new challenges
- Mobility

* - may vary from level to level
Identifying Talents in schools and attracting them to nuclear industry

Rosatom key contests for schools:

• All-Russian Industrial **physics and mathematics Olympiad** for school-children
• «Junior» – all-Russian competition of scientific papers for school-children
• **Engineering Olympiad** of school-children
• «Energy of future generations» – a contest of research projects of school-children from the cities with nuclear industry facilities (NPPs, fuel fabrication plants, research centres etc)

• 37 cities
• over 15 000 participants every year

Outcomes:

• Increasing the competition to enter technical universities (nuclear faculties)
• Increasing the quality of applicants to Universities
• Building professional and educational communities with common ideas

**Average score needed to enter MEPhI (unified state examination)**

<table>
<thead>
<tr>
<th>Department</th>
<th>2012</th>
<th>2013</th>
</tr>
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<tbody>
<tr>
<td>Department of applied physics</td>
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<td>235</td>
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<td>Department of Theoretical and</td>
<td>200</td>
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<td>Experimental Physics</td>
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<td></td>
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<tr>
<td>Department of automatics</td>
<td>214</td>
<td>240</td>
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</tbody>
</table>

6
The Consortium of thirteen Rosatom supporting universities

- Rosatom estimates its needs in personnel and communicates with the Universities
- The Consortium provides Rosatom with well-qualified personnel according to the needs

Consortium universities graduates’ share in Rosatom yearly employment – 60%

- NRNU MEPhI – our strategic partner
  - It provides about 30% of Rosatom yearly employment

Rosatom supporting universities
1. NRNU MEPhI
2. ISPU
3. MGSU
4. MSTU
5. MPEI
6. MISIS
7. NSTU
8. Lobachevsky UNN
9. Mendeleyev UCTR
10. SPSU
11. SPbSPU
12. TPU
13. UrFU

The Consortium of Rosatom supporting universities is:

- 13 leading universities of Russia including a National University and 9 research universities
- Over 300 000 students and 50 000 lecturers in 23 cities of 19 regions of Russia, including all closed cities
- 56 scientific and educational centers with leading enterprises of the sphere
- 5 universities are participants of “Skolkovo” project
Tournament of Emerging Professionals (TEMP) – an effective tool for selecting and developing talented students

**Aim:** to select high-potential graduates from key Rosatom universities through a multi-stage competition and employ them at Rosatom enterprises (NPPs, fuel plants, research institutes etc)

**Key objectives:**
1. To provide opportunities for graduates and students to apply theoretical technical knowledge while working on real case-studies and projects provided by Rosatom enterprises
2. To popularize nuclear industry and to motivate high-potential young people with technical education to work in Rosatom and its enterprises
3. To involve subject matter experts and TOP-managers of Rosatom into interactions with high-potential students and graduates

**Tournament participants (2014):**
- 2300 students and graduates from 50 universities: NRNU MEPHI, Bauman MSTU, MSU, MISAA (MISIS), NSTU and others
- 34 Rosatom enterprises from 8 business divisions
- More than 100 subject matter experts from Rosatom supporting participants via online platform

**Professional awards of TEMP:**
- Winner, HR-project of the Year, 2012
- Winner, HR-brand - 2012
- Winner, Eventiada - 2013
Selecting Talents amongst students and graduates: key stages based on the example of TEMP-2014

**Application to participate in the contest**
- **Step 1. Formal requirements**
  - University (technical)
  - Faculty/specialization
  - Aged <25
  - Motivated to work in the industry
  - Average grade ≥ 4.2

**Step 2. Assessment of abilities**
- Testing abilities (numerical\verbal)

**Step 3. Competencies\potential + professional knowledge**
- Assessment of the potential (distant)
- Assessment of professional knowledge (experts)

**Step 4. Defending the projects to Rosatom top-management team**

**Selection process**

- **2300 applicants**
  - Application to participate in the contest
  - 06.03.
  - Access to the online platform

- **1300 participants**
  - University (technical)
  - Faculty/specialization
  - Aged <25
  - Motivated to work in the industry
  - Average grade ≥ 4.2

- **700 participants**
  - Testing abilities (numerical\verbal)
  - 11.03.

- **200 participants**
  - Assessment of the potential (distant)
  - Assessment of professional knowledge (experts)
  - 25.03.

- **max 56 finalists**
  - Defending the projects to Rosatom top-management team
  - 07.04.

- **max 28 winners**
  - Fast Track programme after employment
  - 25.04.
The system of personnel development in ROSATOM

Management Levels
- Managing corporation
- Managing Business Group/ Division
- Managing Organization
- Managing Function
- Managing Managers
- Managing Others

Development programmes
- Schools of Management
- Leadership Development
- Functional & Professional Development

Corporate values and competencies
Examples of Leadership Development programmes

«ROSATOM ASSET» (Hi-Po senior management level)

<table>
<thead>
<tr>
<th>12 months</th>
<th>24 months</th>
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<tbody>
<tr>
<td>Leadership and Management 2 days Case study</td>
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<tr>
<td>Change management 2 days Case study</td>
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<tr>
<td>Enterprise Resource Management 2 days Seminar</td>
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<tr>
<td>People management 2 days Workshop</td>
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<tr>
<td>Strategic thinking and business vision 2 days Workshop</td>
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<tr>
<td>Development centre 2 days Inter-active session</td>
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<tr>
<td>Organization development 2 days Case Study</td>
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Coaching sessions

Projects

«ROSATOM CAPITAL» (Hi-Po middle management level)

<table>
<thead>
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<th>12 months</th>
<th>18 months</th>
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</thead>
<tbody>
<tr>
<td>Leadership 2 days Inter-active session</td>
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<tr>
<td>Finances for managers 2 days Seminar</td>
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<tr>
<td>People management 2 days Workshop</td>
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<tr>
<td>Decision-making 2 days Workshop</td>
<td></td>
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<tr>
<td>Change management 2 days Workshop</td>
<td></td>
</tr>
<tr>
<td>Management in Nuclear 2 days Business simulation</td>
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Projects 1 day

Final conference

Kick-off conference
Career management system at Rosatom: three key career paths

**PROJECT CAREER**
- Pr1: Project Manager (highest priority pr.)
- Pr2: Project Manager (high priority proj.)
- Pr3: Project Manager

**MANAGEMENT CAREER**
- GM1: General Management
- GM2: General Management
- GM3: General Management
- M1: Management
- M2: Management
- M3: Management

**EXPERT CAREER**
- E1: Leader expert
- E2: Senior expert
- E3: Expert-methodologist

**Rosatom**
- University

- Graduate
- Apprentice / Intern
- Specialist
- Professional
Thank you for your attention!