Skills Anticipation: Russian practices of identifying future skills needs
Why Future Skills?

Globalization and pressure of technological, financial, and environmental standards

Accelerating changes in industry, economy, and society and the growing complexity of global markets and management systems

Technosocial development, especially due to growing automation and digitalization

Future work skills are skills that allow employees to thrive in the future socioeconomic and technological reality

Demographic changes leading to new architecture/job markets

Search for new sources of national competitiveness in industrialised countries through the creation of new industries
**Context of Work: Russia**

**Crucial need for an integration into global division of labour**

**Increasing gap between TVET & HE system and business requirements**

**Skills development strategy with focus on growing sectors**

**Growing pressure of global competition for markets and talents**

**Efforts of the government to kick-start changes in perspective economic sectors**
“YOU NEVER CHANGE THINGS BY FIGHTING THE EXISTING REALITY. TO CHANGE SOMETHING, BUILD A NEW MODEL THAT MAKES THE EXISTING MODEL OBSOLETE.”

- BUCKMINSTER FULLER
Our work on global skills anticipation
Our work on global skills anticipation: products

World of FutureSkills
Skills Technology Foresight

- STF was developed by a SKOLKOVO team of experts in Russia in 2014.
- In 2014, two pilot STF validation projects were implemented in Armenia and Vietnam.
- In 2015, STF was used in the Tanzania National Skills Development Project.
- In 2016, STF was used to forecast the demand for future jobs in Tunisia and South Africa.
- In 2016-17 STF was used to identify future skills needs within FutureSkills initiative
Key Features of Skills Technology Foresight

- STF is a **participatory** method
- STF is **integrative and dialogue-building**: people from different working domains engage in dialogue and establish a shared vision
- STF is **qualitative**, not quantitative
- STF is **sectoral**: it focuses on specific economic industry
Skills Technology Foresight

Process logic

STF

1. Trend analysis
2. Hard and soft technologies
3. Working tasks and working conditions

Vision of the future

List of project initiatives

Project initiatives

4. Request for competences
5. Changes in an education system
6. Creating a roadmap

List of project initiatives
Foresight Principles

- Collaboration
- Honesty
- Responsibility
- Systems thinking
- Risks recognition
- Commitment
- Acceptance of rules
Skills Technology Foresight
Outcomes

- ‘Map of the future’ for the sector(s): key trends and technologies that influence its transformation, and the sector’s vision in 10-15-years perspective

- Key skills that will be demanded by the sector in the near, medium and long term perspective

- Projects initiatives that can be implemented to increase relevance of TVET&HE for the sector
FutureSkills initiative as a way to coin new skills

New jobs
skills for Industry 4.0 and the new economy

Transforming jobs
skills transforming because of new technologies

Obsolete jobs
what should we do with “redundant people”? 

General logic of the Future Skills approach

Shared vision building
Designing demo-competitions
Identifying key gaps in education & training
Changing the training process
FutureSkills approach to the skills transformation process

1. Workplace
   - Tool
   - Material
   - Worker
   - Product

2. System of workplaces
   - Coordination and Management
   - Logistic

3. External environment
   - Clients
   - Systems of workplaces
   - Regulators / Governing bodies
The influence of the trends on jobs

<table>
<thead>
<tr>
<th>TREND</th>
<th>JOBS CREATION</th>
<th>JOBS TRANSFORMATION</th>
<th>DISAPPEARANCE OF JOBS</th>
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<tbody>
<tr>
<td>High level of influence</td>
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<td>Digitalization</td>
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<td>Medium level of influence</td>
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<td>Automation</td>
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<td>Low level of influence</td>
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<td>Globalization of technological development</td>
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<tr>
<td>The effect is minimal or nonexistent</td>
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<td>Greening of cities and economy</td>
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<td>Rise of the net-centric society</td>
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<td>Demographic changes</td>
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How may the transforming economy look in the next 15-20 years?

<table>
<thead>
<tr>
<th>Manufacturing sector</th>
<th>Service sector</th>
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<tbody>
<tr>
<td>Highly autonomous cyberphysical systems</td>
<td>Digital, AI (and other technologies)-supported</td>
</tr>
<tr>
<td>Local production based on additive technologies</td>
<td>Technology-supported, customized services with ‘human touch’</td>
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</tbody>
</table>

- Standardized output (largely automated)
- Customized output (“human touch”)
Instruments: Atlas of Emerging Jobs

An almanac of promising industries and jobs for the next 15–20 years based on the opinions of over 4,000 experts, collected and verified in more than 40 foresight sessions.

- 25 sectors: 16 industrial and technological + 9 service, covering about 80% of the formal economy

**About 200 new professions:** from an energy auditor and a cyber prosthetics technician to a media ontologist and a clothing recycling specialist

**About 70 obsolete jobs** (jobs that are “winding down”)

**List of the largest employers** in sectors

**List of leading universities** that provide basic competences for mastering new professions

**Printed product** (colourful, professional-looking almanac)

**E-book** (convenient for downloading and studying)

**Atlas100.ru**—electronic version + best application practices

**VIRTUAL WORLD DESIGNER**

Creates conceptual solutions for virtual worlds: philosophy, laws of nature and society, rules of social interaction and economy, landscape, architecture, sensations (including smells and sounds), flora and fauna, and the social world.

**SOFT SKILLS AND ABILITIES**

- Cross-sectoral specialisation: a body of knowledge, skills, and abilities that allows a person to find work in different sectors at the intersection of industries.
- **NEW JOBS**

**IT SECTOR**

- VIRTUAL WORLD DESIGNER

**The job will appear after 2020**

**Soft skills and abilities:**

- Customer focus, ability to meet customer needs.
- Multilingual and multicultural abilities.
- Artistic talent, well-developed aesthetic taste.

**Programming IT solutions, managing complex automated systems, working with artificial intelligence.**

**Systems thinking (ability to define complex systems and work with them, including systems engineering).**

**Customer focus, ability to meet customer needs.**

**Multilingual and multicultural abilities.**

**Artistic talent, well-developed aesthetic taste.**
Contacts & links

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Skills Technology Foresight guide:
https://goo.gl/VgZ9sr

Skills of the Future report
http://futureref.org/futureskills

Atlas of Emerging Jobs
http://atlas100.ru/en