














WORLDSKILLS RUSSIA TVET DEVELOPMENTS

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How has Russia's skills system changed
in the last ten years?

WorldSkills Russia 2012-2022

2012	2013	2014	2015	2016	2017	2018	2019	2022
 Russia joined WorldSkills International	 worldskills Leipzig 2013	 euroskills Lille 2014	 worldskills São Paulo 2015	 euroskills Gothenburg 2016	 worldskills Abu Dhabi 2017	 euroskills Budapest 2018	 worldskills Kazan 2019	 euroskills St. Petersburg
	33 rd position* 0 medals 0 medallions	11 th place* 0 medals 1 medallion	14 th place* 0 medals 6 medallions	1 st place* 5 medals 11 medallions	1 st place* 11 medals 21 medallions	1 st place* 9 gold medals 8 silver medals 2 bronze medals 10 medallions	2 nd place* 14 gold medals 4 silver medals 4 bronze medals 25 medallions	
		 Establishment of WorldSkills Russia	0 world-level colleges	17 world-level colleges**	141 world-level colleges**	261 world-level colleges**	500 world-level colleges**	1000 world-level colleges
			 Russia won the bid for WorldSkills 2019 in the city of Kazan	0 equipped to world level colleges***	313 equipped to world level colleges***	1650 equipped to world level colleges***	2000 equipped to world level colleges***	3 000 equipped to world level colleges***
				0 students passed demonstration exam	13 999 students passed demonstration exam	30 717 students passed demonstration exam	50 000 students passed demonstration exam	300 000 students passed demonstration exam
0% BRAND RECOGNITION	42% OF GRADUATES CHOOSE TVET				59% OF GRADUATES CHOOSE TVET	23 % BRAND RECOGNITION	30 % BRAND RECOGNITION	

* by Total Point Score

** College training one competence in accordance with WorldSkills Standards

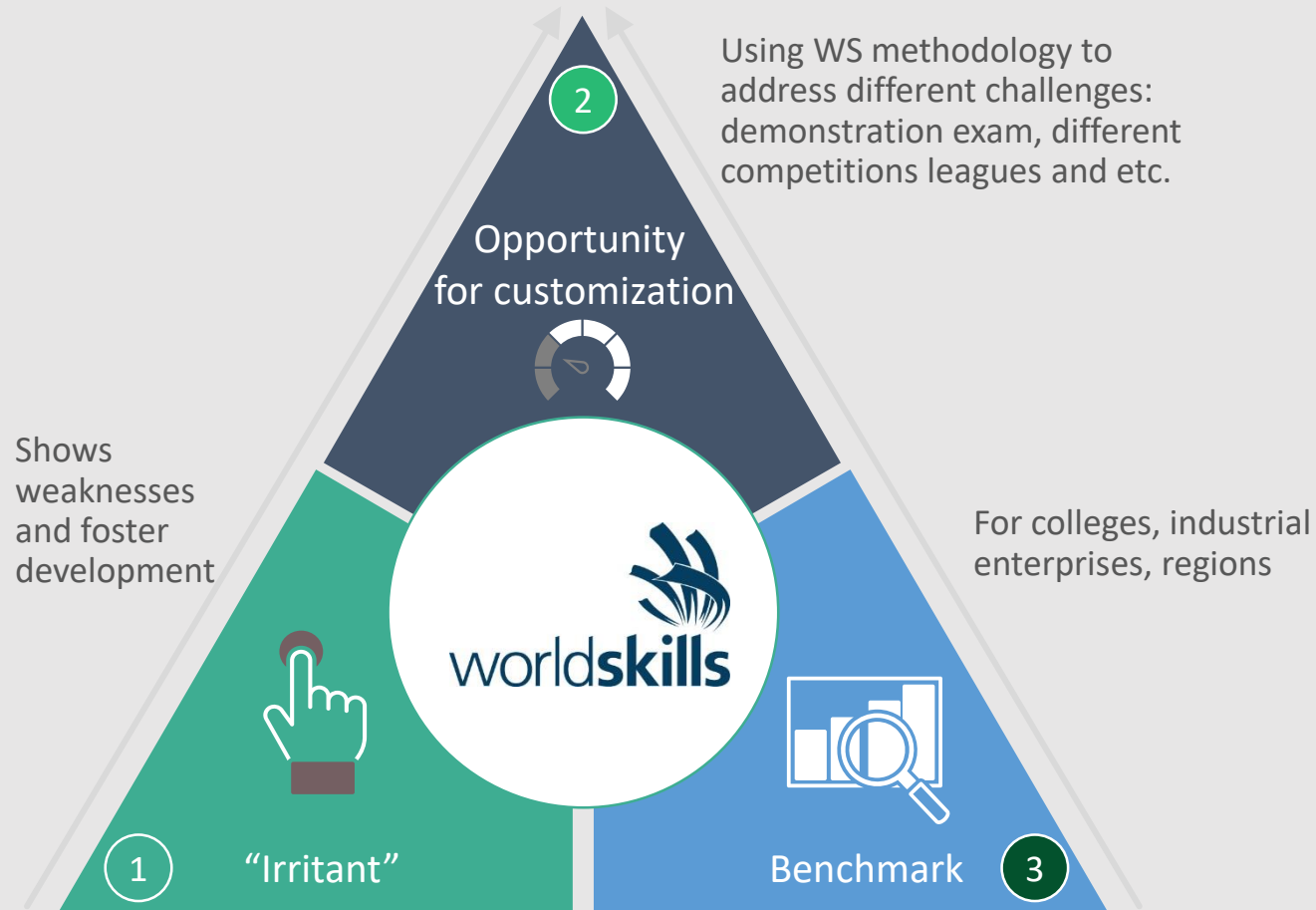
*** College fully equipped with material and technical resources to train one competence in accordance with WorldSkills standards

TVET Development triggers



What have been the main drivers for change
and
how has WorldSkills Russia been involved in this
transformation?

TVET drivers for changes



WorldSkills Russia

Coordinates movement development and organizes national finals
Promotes WSSS implementation in EDU on federal level
Develops new projects and implement in various EDU spheres



Industry

Support and sponsor competitions
Participate in skills design and re-design



Regions of Russia

Implement WSSS in EDU
Organize regional competitions
Host national finals (new region each year)



Government

Finance and provide overall support for movement development

What was your experience of WorldSkills Kazan and how did it help enhance the reputation of technical skills in Russia?

WorldSkills in Russia

2012

WORLDSKILLS IS UNKNOWN IN RUSSIA

0% BRAND RECOGNITION

42% SCHOOLCHILDREN CHOOSE
COLLEGES



2019

30 % BRAND RECOGNITION

59 % SCHOOLCHILDREN CHOOSE TVET COLLEGES

ALL 85 REGIONS OF RUSSIA HOLD WORLDSKILLS COMPETITIONS

172 SKILLS

40 000 COMPETITORS

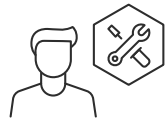
MORE THAN 1 500 000 SCHOOLCHILDREN SPECTATORS

800 COMPANIES – PARTNERS AND SPONSORS OF MOVEMENT

34 FEDERAL STATE EDUCATIONAL STANDARDS WERE ADJUSTED IN
LINE WITH WS STANDARDS

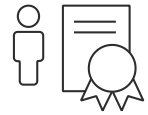


WORLDSKILLS KAZAN 2019 LEGACY



NATIONAL COMPETITIONS

- 40 000 competitors annually
- 85 regional competitions
- 172 active skills



DEMONSTRATION EXAM ACCORDING TO WORLDSKILLS 2019

- 111 educational organization using DE
- 44 333 DE participants
- 84 skills
- 700+ enterprises involved in DE organization



MODERN INFRASTRUCTURE FOR TRAINING

- WSR Capacity Building Center
- 1650 equipped to world level colleges
- 261 world class colleges
- 7 interregional skills centers



SHIFT IN RUSSIAN TVET SYSTEM

- 59% of schoolchildren choose TVET (an increase from 42%)
- Brand recognition in the country 30% (from 0%)



WORLDSKILLS RUSSIA EXPERT COMMUNITY

- 24 000 competition experts
- 124 skills managers
- 62 international experts



NEW SKILLS

25 Future Skills presented in Kazan



MEDIA COVERAGE

- 26 549 media posts (globally)
- 1237,1 million media coverage



EQUIPMENT

- Purchased equipment worth 1,300 million rubles
- Equipment to be transferred to regional TVET system



EXPO

Kazan Expo with an area of 186 600 sq. m.



HUMAN RESOURCES \ FUTURE TALENTS

- 50 teams of leaders - changes makers in the national education system
- 1 200+ inspired participants
- 1200+ inspired Conference programme participants
- >270 thousands of adults and children from all regions will see the competition



CULTURAL EXCHANGE

79 Kazan schools took part in the programme "One school - one country"



INFLUENCE

- Skills Declaration - global priorities for the human-centric approach in skills and human capital development
- 43 Ministers Summit participants from 38 WorldSkills member countries and regions got involved into WS ideology



KNOWLEDGE DEVELOPMENT (RESEARCH)

- Mass uniqueness: a Global challenge to 1 billion workers
- WorldSkills approaches to comparable skills assessment in vocational education

How have WS Russia used WSI standards and practices to develop and improve its TVET system?

WorldSkills competitions - LLL approach



10-16 years
(Schoolkids)
2300 participants
85 skills



16-22 years
(TVET students)



17+
(University students)



17- 28
(employees)



18 +
(employees/ freelances)



Skills of Wise
(Senior Skills)
50+
(professionals)

Regional
Competitions

Regional
Competitions

Among University
selection
82 Universities
3000+ participants

In-company
qualifications

In-company
qualifications *

Regional/
in-company
Competitions

Qualifications

Qualifications

Qualifications

In-company
competitions

In-company
competitions*

WorldSkills Russia National
Competition
WORLDSKILLS HI-TECH

WorldSkills Russia
National Competition
1500+ participants
91 skills

The Final of University
League

WorldSkills HI-TECH
789 Competitors
459 experts
39 largest enterprises

League's finals

Skills of Wise Final

~40 000 participants total annually, data presented on slide is of 2019

*depends on competitions

WorldSkills in-company competitions



IN-COMPANY COMPETITIONS:
IMPLEMENTATION OF PERSONNEL INDEPENDENT ASSESMENT

OBJECTIVES:

- Improve the attractiveness of skilled jobs and activation of a non-material motivation system
- Format a unified system for evaluation of skills according to international standards
- Standardize and unify the staff training methods
- Provide the access to the international Expert Community and advanced technologies

PARTICIPANTS:
Young specialists of key industries of the Russian economy aged 16+

PARTNERS



*Data: 2018

WORLDSKILLS HI-TECH



WORLDSKILLS HI-TECH PROJECT HAS BEEN LAUNCHED IN 2014 AND CONTINUES TO GATHER YOUNG SPECIALISTS FROM LARGEST RUSSIAN INDUSTRIAL ENTERPRISES, WHO ACTIVELY PARTICIPATE IN THE TECHNICAL REVAMPING AND DEVELOPMENT OF INDUSTRIAL STANDARDS WITHOUT AGE LIMITATIONS SINCE 2019

WORLDSKILLS HI-TECH:

- ❑ IMPROVES THE ATTRACTIVENESS OF SKILLED JOBS
- ❑ PROVIDES INDUSTRY WITH QUALIFIED PERSONNEL
- ❑ PROVIDES GREAT INFLUENCE ON IMPROVING LABOR PRODUCTIVITY BEING ONE OF THE MAIN RESOURCES FOR ECONOMIC GROWTH OF THE COUNTRY



SECTORAL SKILLS COMPETITION

COMPETITION AIMS TO PREPARE PERSONNEL FOR DIGITAL ECONOMY AND VERIFY FUTURE SKILLS

OBJECTIVES:

- develop and test skills profiles for the needs of the digital economy
- develop and adjust educational programs in the existing and new areas
- develop a model of independent skills assessment for the education system and labor market
- experimental SoftSkills evaluation

PARTICIPANTS:

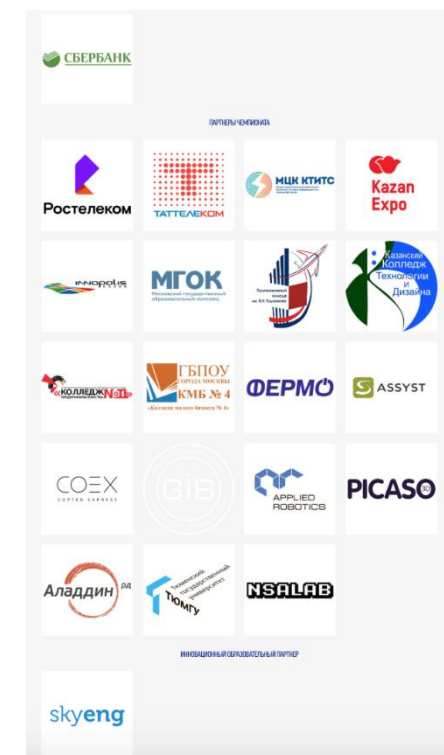
- schoolchildren,
- students of secondary and higher vocational educational institutions,
- employees of small, medium and large business enterprises,
- individuals (freelancers)



DIGITALSKILLS

Machine Learning and Big Data,
Blockchain Technology Solutions, Virtual and Augmented Reality, Quantum Technology, Cyber Security
Industrial Robotics,
Internet of Things,
Drone Operating
Cloud Computing Technology,
BIM Technologies in Construction

PARTNERS



WorldSkills Russia juniors



juniors

Program launched in 2014

85

SKILLS FOR
JUNIORS

2300

YOUNG PROFESSIONALS EVERY
YEAR

LIST OF JUNIOR SKILLS:

- Graphic Design Technology
- Mobile Robotics
- Electrical Installations
- IT Network Systems Administration
- Mechanical Engineering CAD
- IT Software Solutions for Business
- Web Design and Development
- Manufacturing Team Challenge
- Drone Operating
- ...



BENEFIT:

Junior league is a perfect choice to get your student fired up about skills

You can be proactive on future skills issues

Looking for talents, you can find a Champion

SKILLS OF THE WISE



REQUEST OF EMPLOYEES

REQUEST OF EMPLOYERS



WorldSkills Russia ACADEMY



DEVELOPMENT OF SYSTEMS OF PROFESSIONAL TRAINING

Using tools of the “Young professionals” WorldSkills Russia movement

IMPROVEMENT OF QUALIFICATIONS OF MANAGERIAL STAFF

Professional educational organizations, training of management skills

TRAINING OF EXPERTS

For holding competitions and demonstrational examinations according to the WorldSkills Standards

TRAINING OF TEACHERS AND VET TRAINERS

of educational organizations

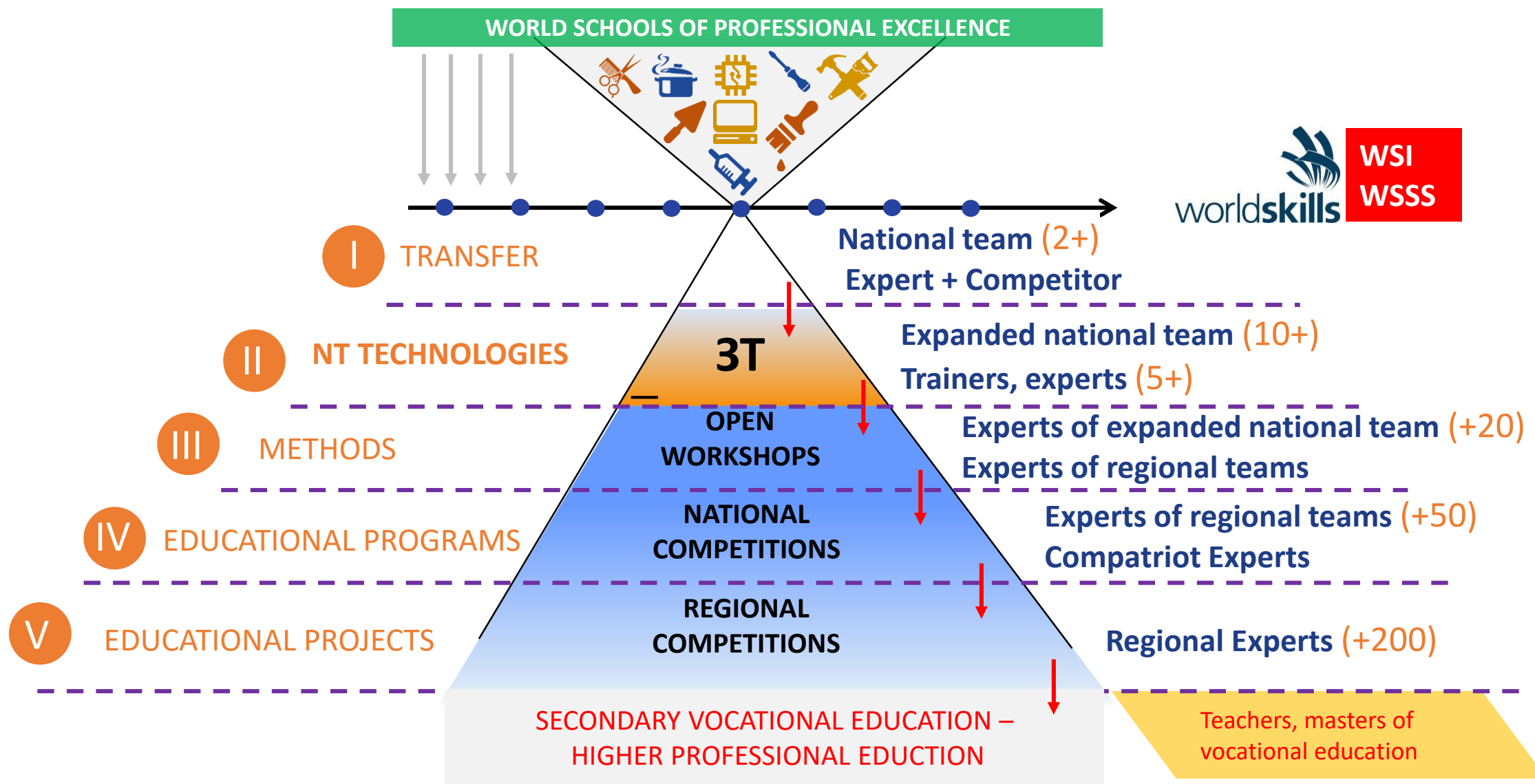
ANALYTICAL SUPPORT

for using WorldSkills Standards in evaluation, preparation, training and development of personnel

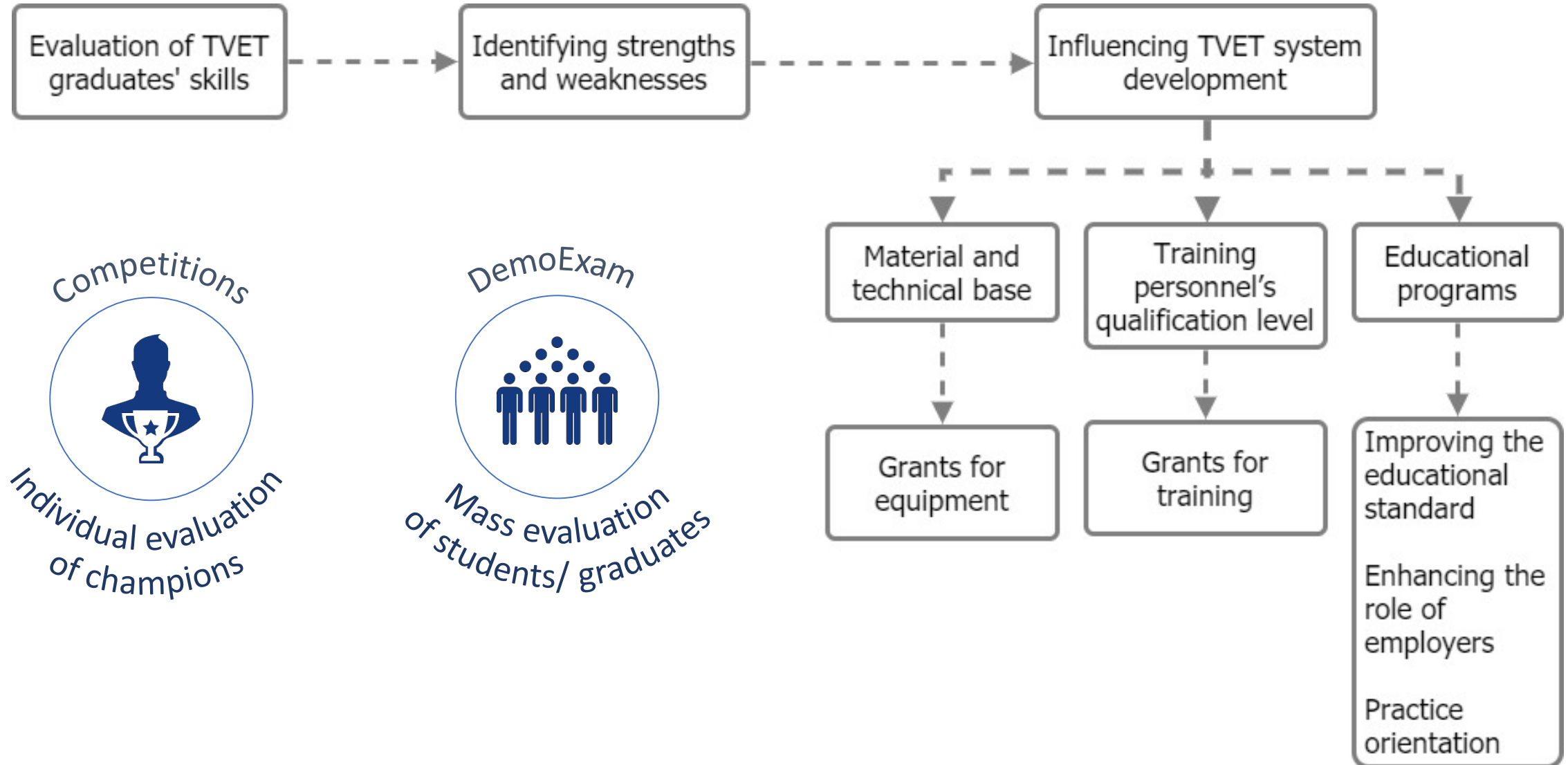
TRAINING OF PRERETIREMENT

The programme of professional training for the international WorldSkills standards for the citizens of preretirement. It will help employees with valuable long - term experience and experience to strengthen their positions in the enterprise, to gain competitive advantages in the labor market or even to " restart " personal careers

TRANSMISSION OF INTERNATIONAL PRACTICES

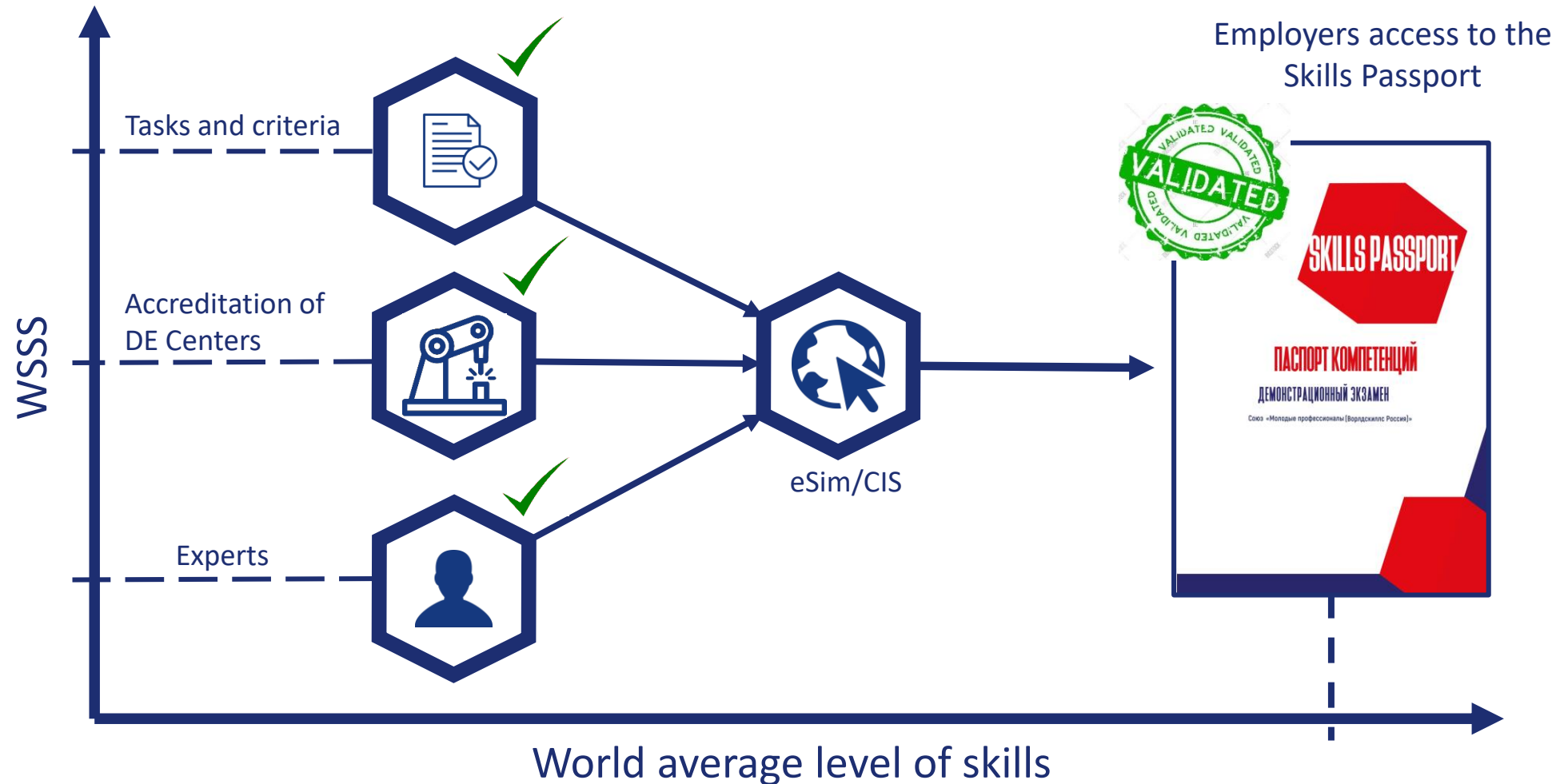


Demonstration exam is an assessment - not competition

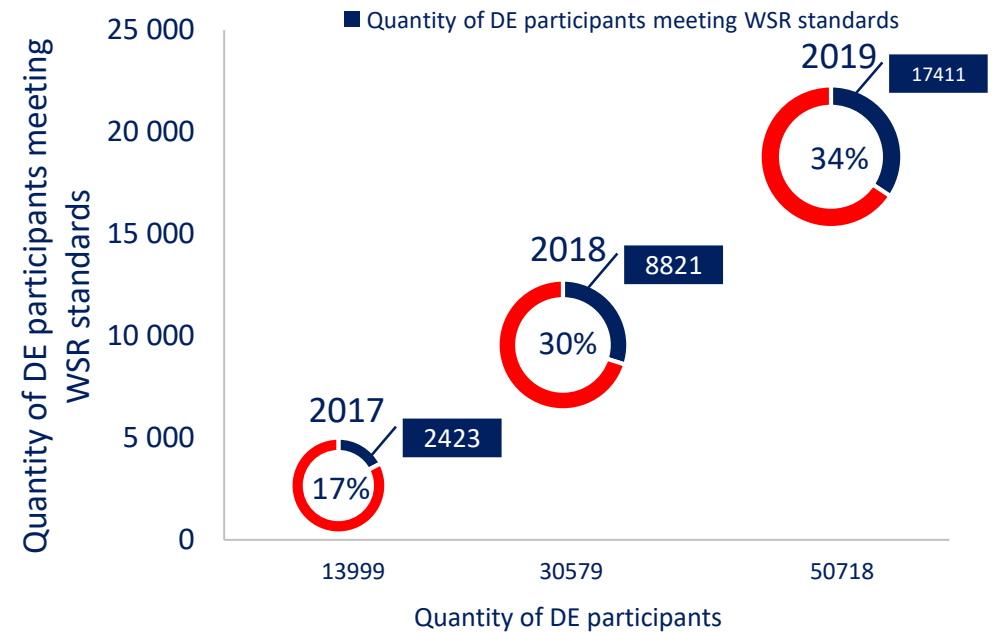
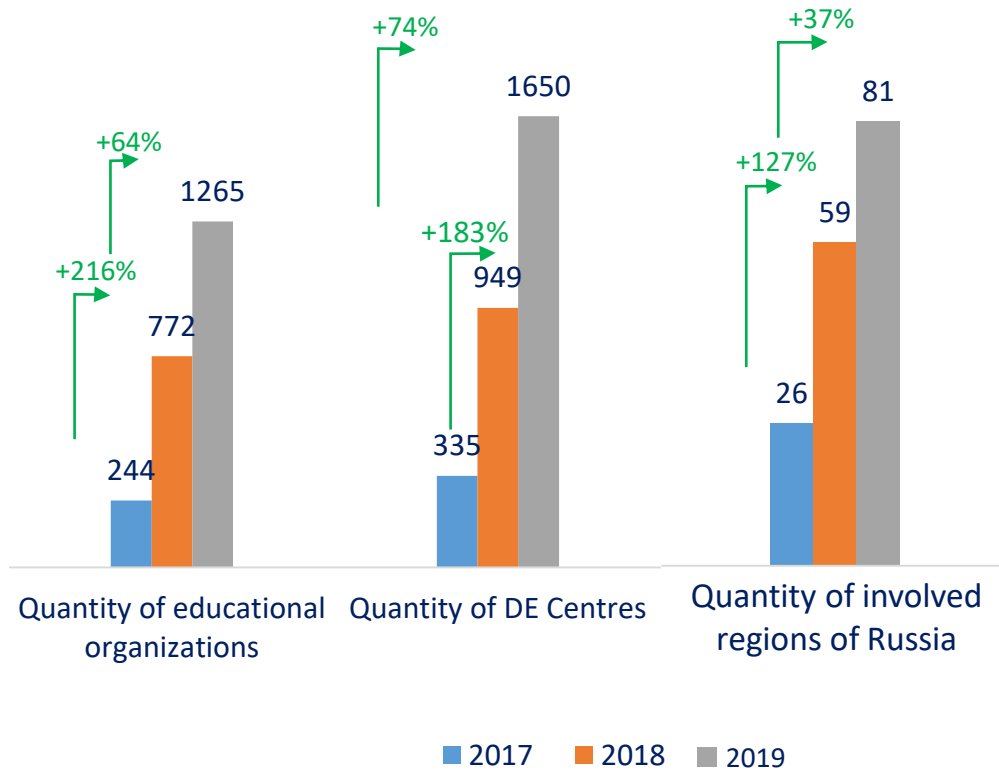


BASIC PRINCIPLES OF DEMONSTRATIONAL EXAM in accordance with WorldSkills Standards

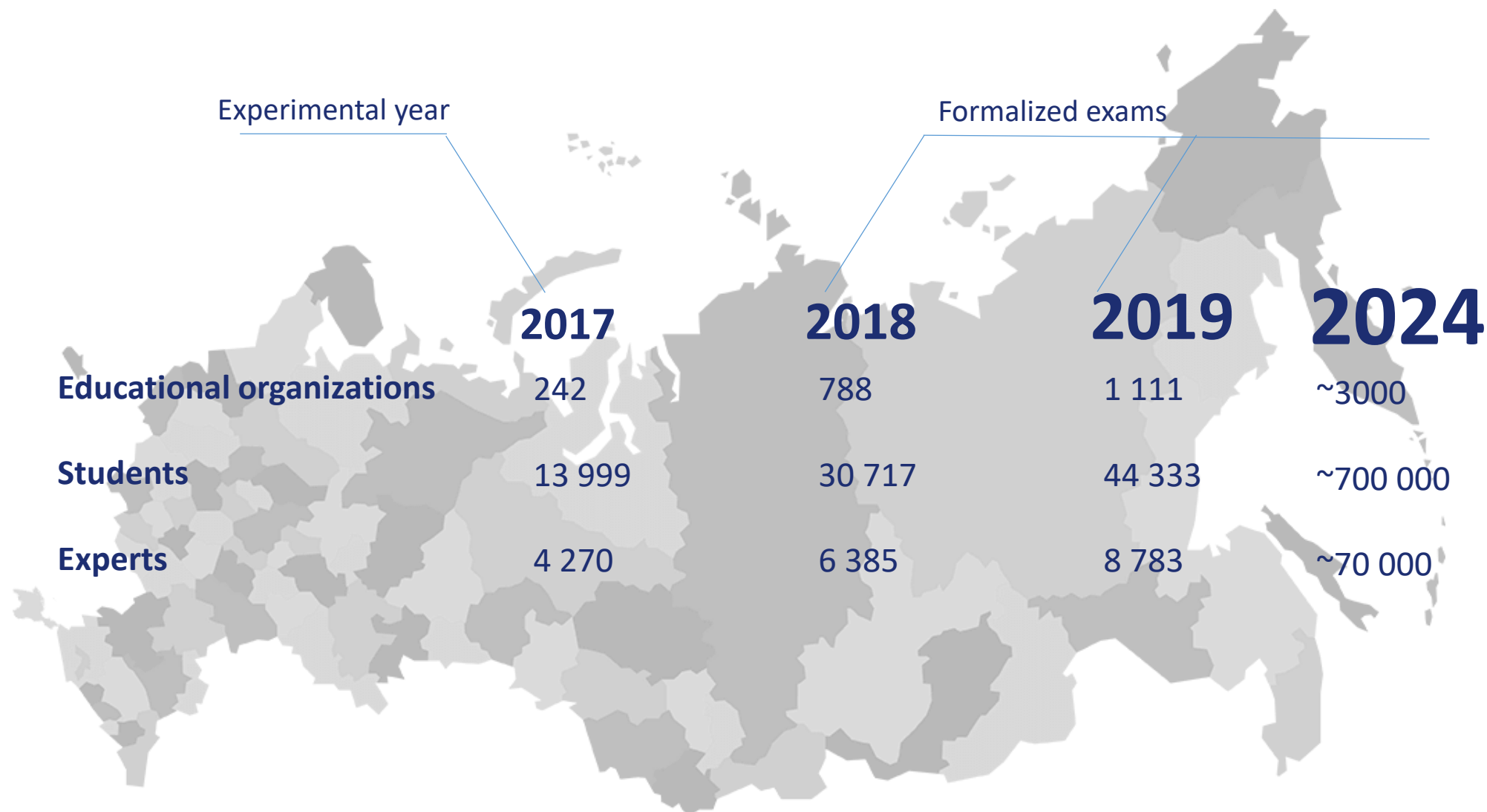
(approved by MoE Coordination Council as basic principles of objective assessment of training results)



WSR Demonstrational exam dynamics in 2017-2019



DE - progress



How is Russia anticipating
future skills needs?

Over 1.3 billion people in the world are employed in jobs they are under- or overqualified for

Megatrends

Automation and Technological Innovation

Big Data and Advanced Analytics

New Demographic Mix

Shifting Geopolitical and Economic Power

Megacities & Agglomerations

Diversity and Inclusion

Entrepreneurship and Well-Being

Green economy

Inequality → Nationalism vs Global Mindset



Skills deficit

Lack of candidates with required skillset to fill specific vacancies



People are employed in job activities that they are not fully qualified for and do not pursue opportunities that could be a better match for them



Skills redundancy

Jobs disappear, skills are no longer in demand



Skills mismatch

Qualifications do not meet those generally required for the job

1.3

Labor force affected, bln people

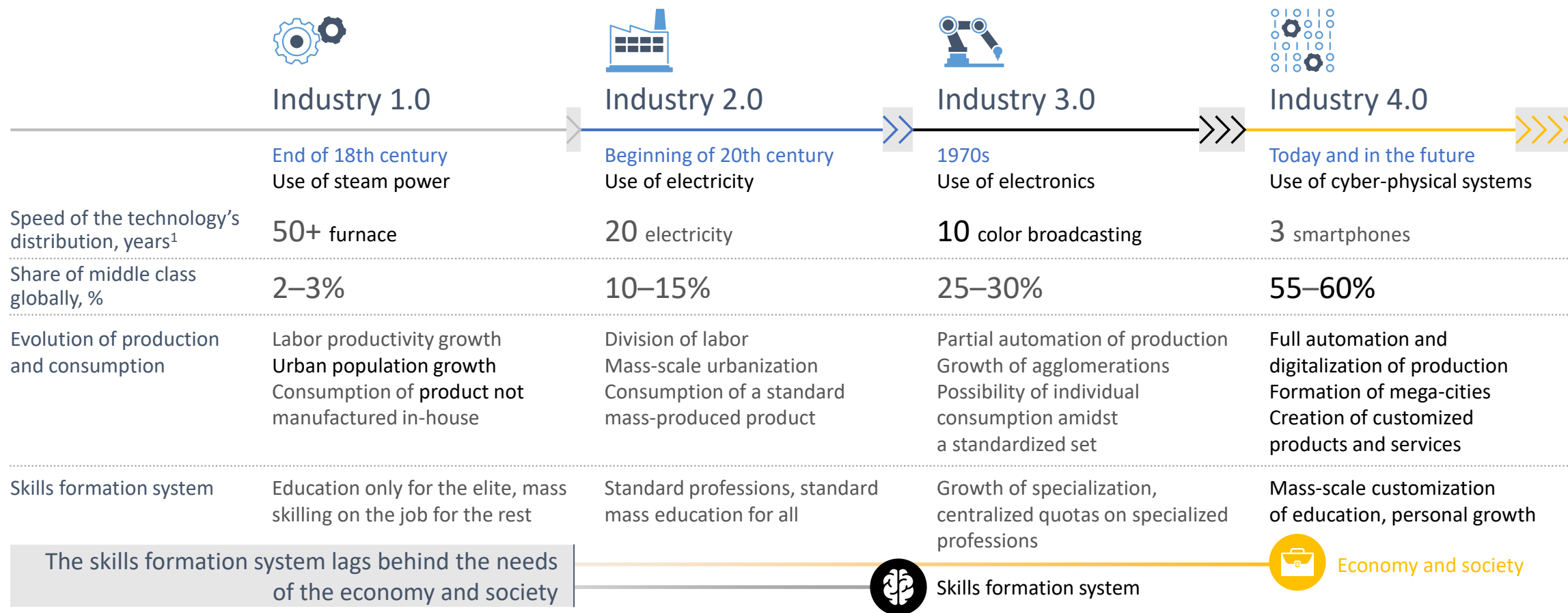
6%

Global GDP affected, % (PPP 2010)



MISSION TALENT: MASS UNIQUENESS
Full text of report is available here

Skills mismatch is a legacy of Industry 2.0 skills formation system – professional standardization and centralization



1. Number of years from launch to mass distribution to 60% of households 2. Specific occupational categories, IPUMS
Source: Michael Felton, NYT; The Economist, Surjit Bhalla, The middle class kingdoms of India and China; IPUMS

Future Skills anticipation Research and Foresights

2014.....2015.....2016.....2017.....2018.....2019

Foresight Education 2030

FS Foresight
Russia, Sweden,
South Africa

Future Skills
Int. Report

Research
for FS
Soft / Meta
skills

● Skills gap
research

Atlas of emerging jobs

Sessions in USA,
UAE, Russia,
China

FS session with OD/TD WSI in Kazan

● Navigator
of best practices

FS Competitions and experiments

First WS Hi-tech

First FS Competition during WS Hi-tech

2D FSkills
Hi-tech
Competition

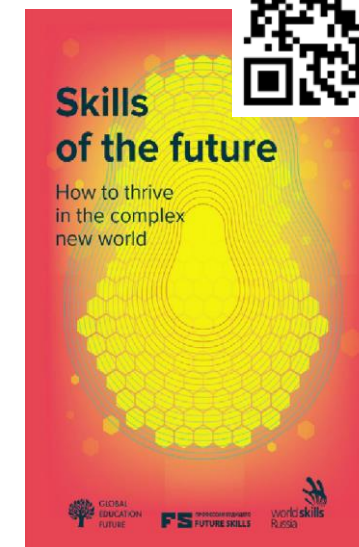
8 FSkills
with 10
Companies

New Leagues for
FS Digital
Skills

3D FSkills
Hi-tech
Competition
12 FSkills

Digital → 10000 m²
Junior → 25 Future skills at
Tertiary → WSK2019
Agricultural →
Hi-tech →
Senior

FS



**More researches –
WSR R&D Alliance**



Future Skills at WSK 2019

15 SKILLS (5 PARTICIPANTS FOR SKILL)

Enterprise Information System Security
Laser Technology
Rapid Prototyping
Building Information Modeling
Internet of Things
Mobile Applications Development
Machine Learning and Big Data
Blockchain-based solutions
Life-cycle Management
Mechanical Reverse Engineering
Robot Systems Integration
Robotic Welding
Industrial Design Technology
Quantum technology
Drone Operation
Minerals Synthesis and Processing
Neural Interfaces










8 SKILLS – SHOWCASE (3 PARTICIPANTS FOR SKILL)

Digital Factory
Digital Fashion Designer
Composites Technologies
Augmented and virtual reality development
Agricultural Biotechnology
Space Systems Engineering
Digital Farming
Industry 4.0













NATIONAL TECHNOLOGY INITIATIVE

The program for creation of fundamentally new markets and the creation of conditions for global technological leadership of Russia by 2035

«Markets» group

-  EnergyNet distributed power from personal power to smart grid and smart city)
-  FoodNet (system of personal production and food and water delivery)
-  SafeNet (new personal security systems)
-  HealthNet (personal medicine)
-  AeroNet (distributed systems of unmanned aerial vehicles)
-  MariNet (distributed systems of unmanned maritime transport)
-  AutoNet (distributed network of unmanned management of road vehicles)
-  FinNet (decentralized financial systems and currencies)
-  NeuroNet (distributed artificial elements of consciousness and mentality)

«Technologies» group

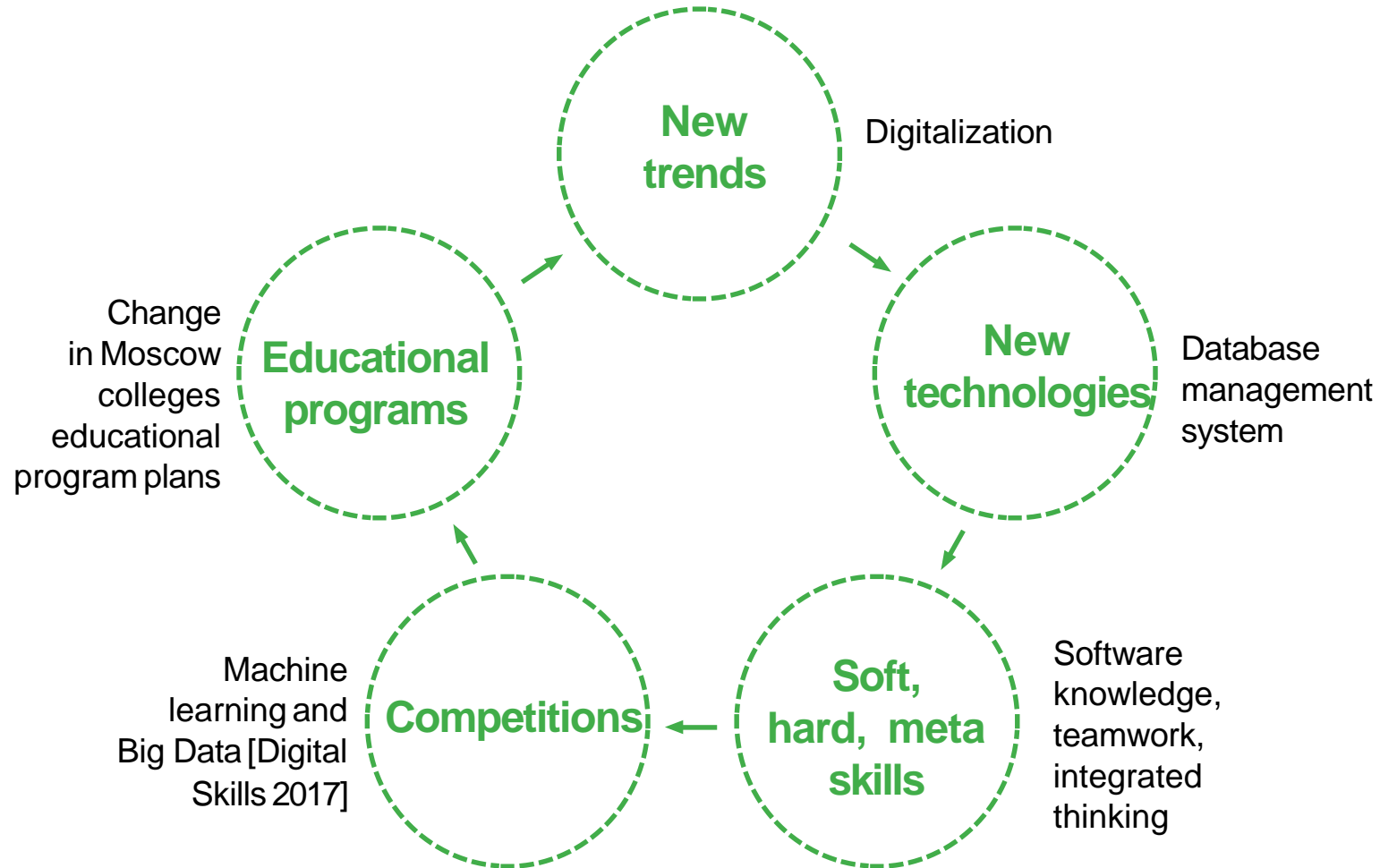
-  Digital design and simulation
-  New materials
-  Additive technologies
-  Quantum Communications
-  Sensory
-  Mechabionics
-  Bionics
-  Genomics and synthetic biology
-  Neurotechnologies
-  BigData
-  Artificial intelligence and control systems
-  New sources of energy
-  Unit base (including processors)



ATLAS
OF EMERGING
JOBS



Future Skills Design cycle (example)



How does Russia benchmark its skills system against other countries?

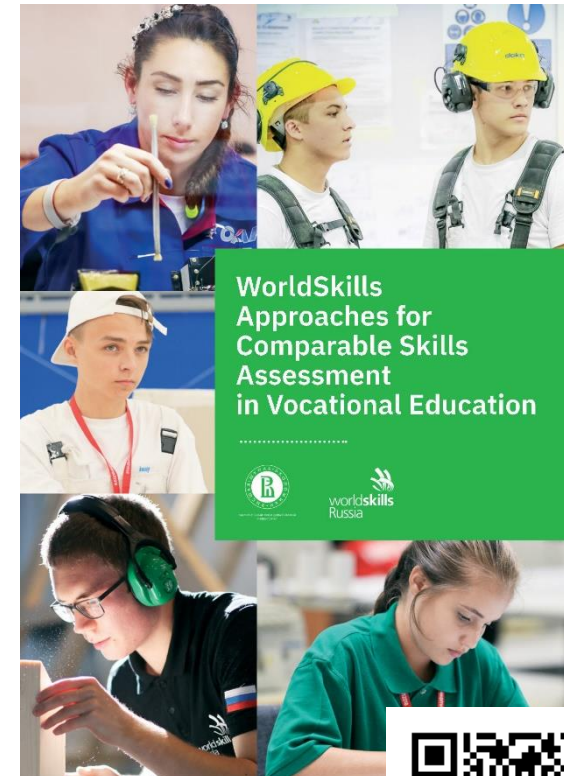
WORLDSKILLS APPROACHES AND PROSPECTS FOR COMPARABLE SKILLS ASSESSMENT IN TVET

(a pilot comparative study of 3 skills across 4 countries)

- Comparison of assignments and assessment procedures used at national skills competitions and the International WorldSkills Competitions
- **Countries:** Australia, Netherlands, Russian Federation, United Kingdom
- **Skills:** Mechanical Engineering CAD, Refrigeration and Air Conditioning, and Electrical Installation

KEY FINDINGS:

- Skills competitions assignments are based on WorldSkills Standards Specifications (WSSS)
- Assessment procedures at national skills competitions adhere to the international WorldSkills assignments
- Results at national skills competitions are comparable and could provide grounds for international benchmarking in TVET



Towards internationally comparable skills assessment in TVET: need for international cooperation

- Developing valid and internationally comparable assessment tools based on WorldSkills methodology requires research efforts, data collection, and broad discussion



- Challenges to be addressed:
 - How can we simultaneously assess multiple skills, including technical, soft and digital skills, and do that with lower cost?
 - lack of coordination of international & national initiatives in skills assessment, huge diversity of approaches and assessment tools
- Tackling these issues requires the active engagement of the international organizations and national think-tanks and TVET policy-makers





Thank you for attention!

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