

THE IMPACT OF WORLDSKILLS ON THE ECONOMIC EFFICIENCY BASED ON THE EXAMPLE OF ENTERPRISES

Research design

Methods, respondents, and geography

METHODS

1. In-depth interviews with employers (10 interviews). The experts were the representatives of manufacturing companies, large corporations, IT-technologies.
2. Formalized interview with a preliminary recruit (sample size - 600 respondents).

The search and recruitment of company representatives for the survey were carried out with the assistance of WS Regional Coordination Centers in the regions of the Russian Federation, which provided lists of companies for potential participation in the survey; and by the use of the direct search method as well.

RESPONDENTS

- Representatives of organizations that promote the development of the movement within the organization and / or apply its basic principles.
- Those who have employees on staff who have confirmed the degree of their proficiency in professional skills according to the WorldSkills methodology.
- Representatives of both small, medium and large businesses. The number of unique companies is at least 591. (The share of equipment manufacturing companies was no more than 5%)

GEOGRAPHY

All federal districts of the Russian Federation.
 A survey in cities with a population of over 100 thousand people.
 The number of respondents for each federal district is presented below.

	CFD	NWFD	SFD	NCFD	VFD	UFD	SFD	FEFD
Number of questionnaires	178	77	53	6	90	92	82	23

Summary of the study

GENERAL TRENDS

- The vast majority (86%) of the company representatives in the survey **are satisfied with the results of their participation** in the WorldSkills movement.
- Most often, companies implement WorldSkills standards in business processes, participate as experts in demo exams or simply act as mentors; company employees take part in competitions.
- **WorldSkills standards** in organizations **are most often applied in training and employee assessment**. At the same time, these standards are inscribed in the already existing system of training and assessment and complement it.
- The respondents rate all WorldSkills projects as very significant. The most highly rated aspect is the importance of participation in the competitions.

EFFECT

- The main effect of the implementation of WorldSkills standards that experts and company representatives notice is **an increase in the qualifications of employees, their productivity, the development of soft skills and motivation**.
- Participation in competitions also has the effect of increasing the professional level of an employee, their qualifications, hard skills, and also motivation to work.
- Passing the demonstration exam gives graduates advantages over other students. According to the experts, such students are more prepared for real production, adapt faster, and, therefore, quickly reach a high level of productivity.
- Experts tend to believe that the effect of participation in the WorldSkills movement is cumulative, and it will be possible to evaluate it in the future in the next 5-10 years.

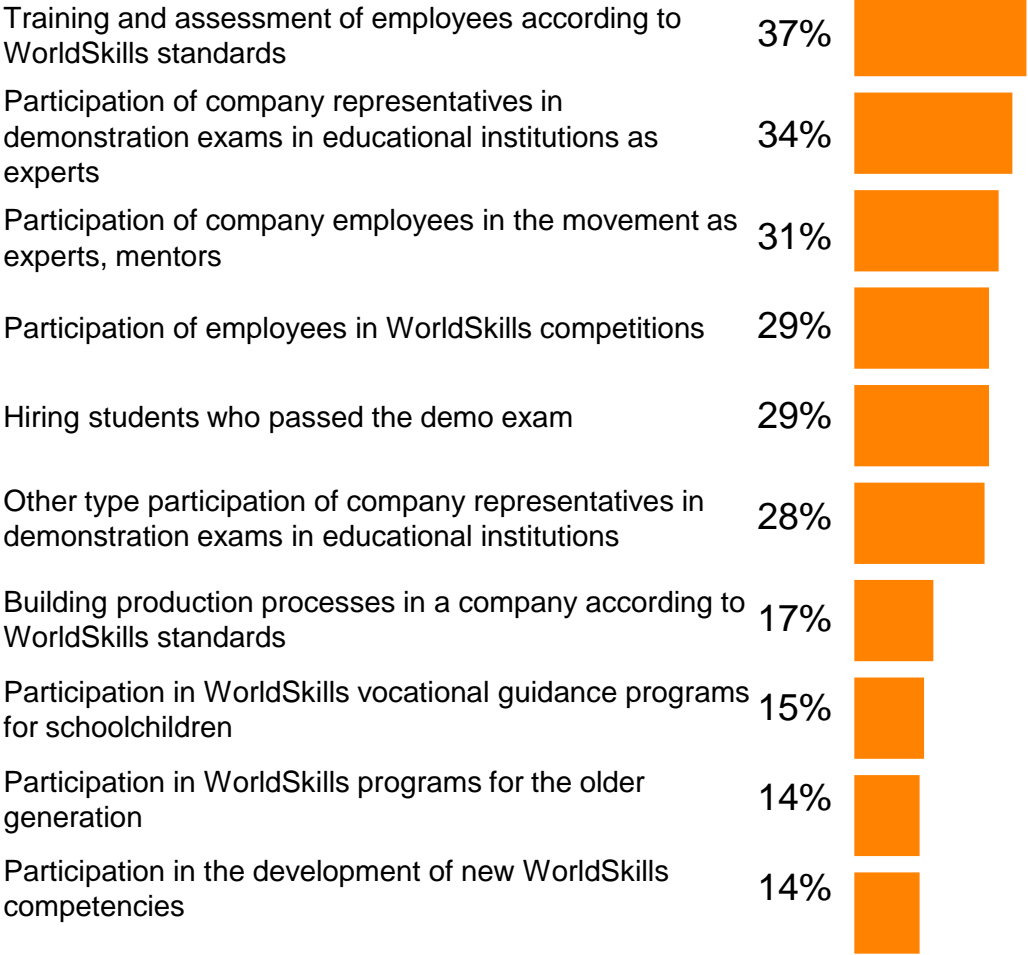
PERFORMANCE INDICATORS

- **A significant share of the respondents noted an improvement in the company's performance** indicators (71% - improved economic indicators, 71% - production indicators, and above all - 77% - indicators of human resource quality development). An even more noticeable share of the respondents expects the performance to improve in the future (83%, 85% and 87%, respectively).
- Workers who have proven their skills in accordance with WorldSkills standards **differ from other employees in terms of speed of meeting production standards, producing better products, faster error correction and on-the-job training**.
- Subject to the maximum implementation of WorldSkills approaches and methodology in companies, about 90% of respondents expect an increase in production indicators in the future. This will entail an increase in economic indicators. In general, **one can expect an increase in the economic efficiency of enterprises by 48-68%**.

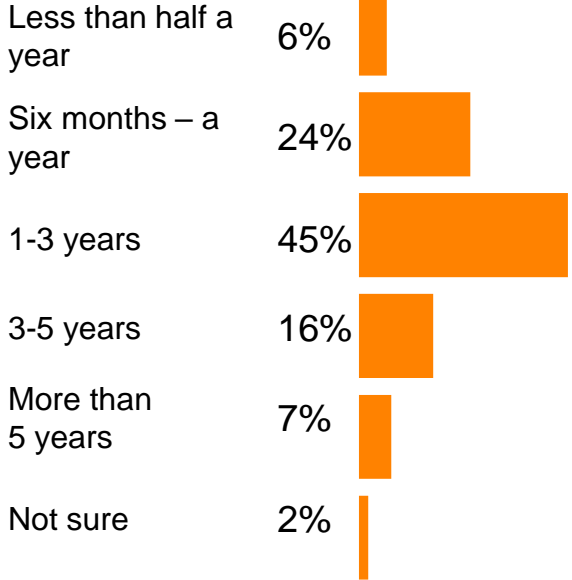


Engagement with the WorldSkills Movement

Areas of cooperation



Duration



86%

Are satisfied with the results

Another 11% gave a neutral assessment. Only 3% of respondents expressed skepticism.

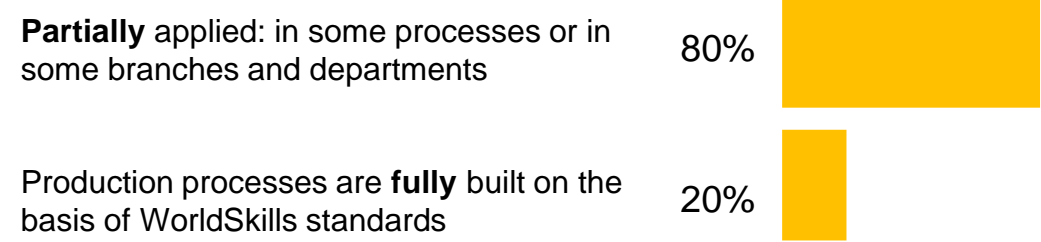
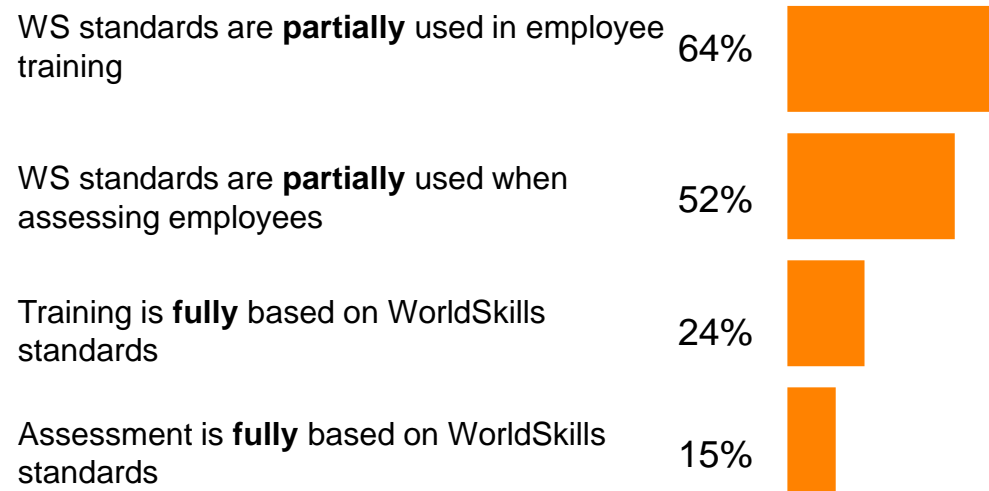


When the decision to participate in Worldskills was being made, we relied on the fact that this stimulates employees to improve their professional level. And also we relied on the fact that it is possible to test in practice technologies that are just entering our lives through this tool. “

Kristina Usoltseva, manager of the corporate university of PJSC "SIBUR Holding"

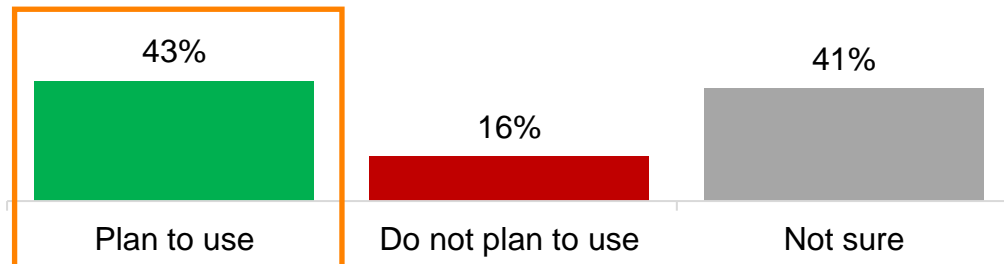
The use of WorldSkills standards

When training and assessing employees - 37% **In production processes – 17%**

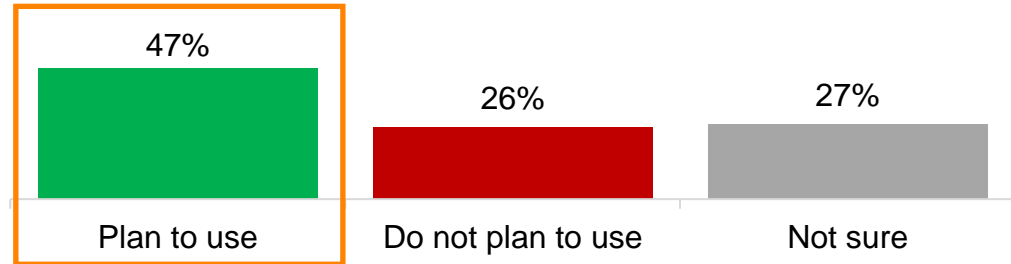


BASE: those who know but do not use standards in training and assessment (225), in production processes (122).

Future plans: assessment standards



Plans: production standards



BASE: those who know but do not use standards in training and assessment (37), in production processes (34).

The share of the effects of using WorldSkills standards



Thanks to WorldSkills, we looked at the personnel training process differently - we have significantly increased the practice-orientation. Now employees have to confirm the existing one before starting training for advanced training. We didn't have that before. "

Alexei Domnyshev,
Director of the RTC "EVRAZ-SIBERIA"
Head of Siberian Division of UPIRP



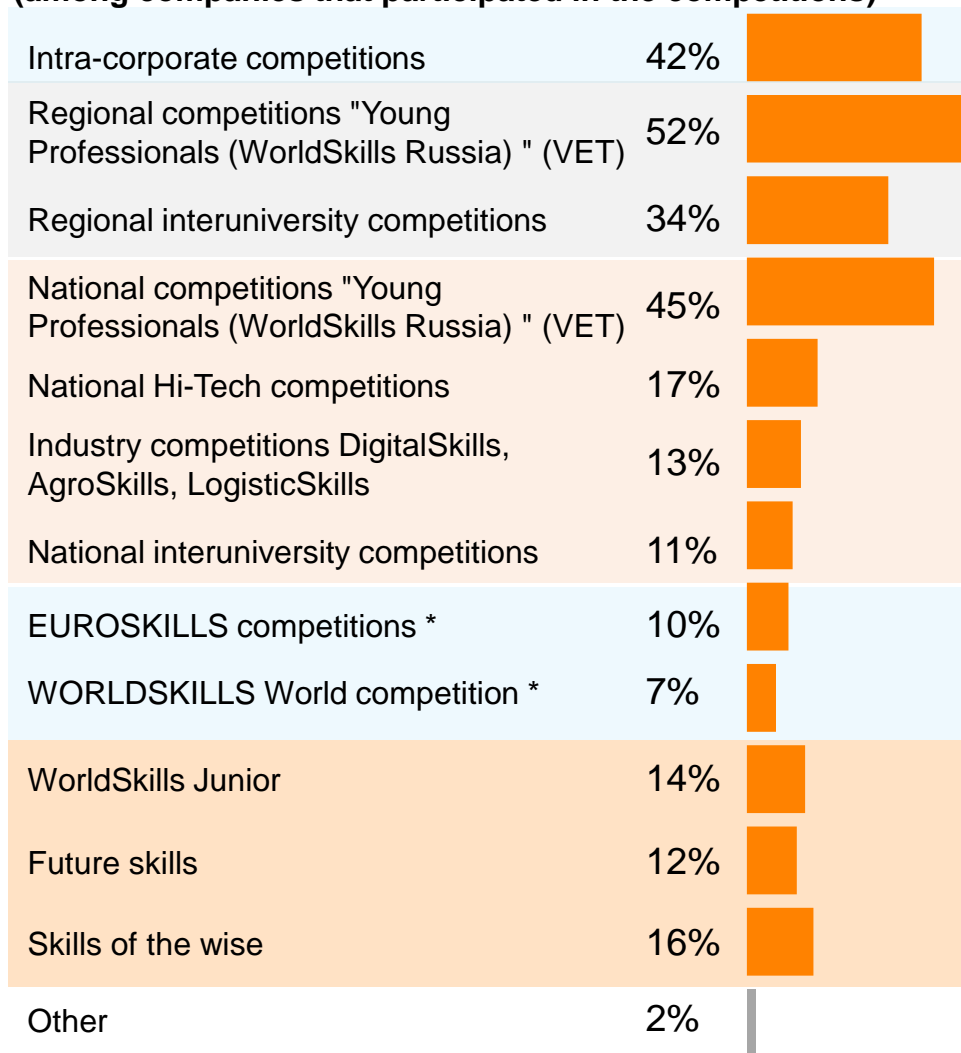
The mechanism and construction of the assessment according to WorldSkills standards is effective. This gives the company a transparent objective view of the level of training of a specialist in the process of performing a certain task. "

Alexey Smirnov,
Head of the Department for the implementation
of the program "The Future of White
Metallurgy" ChelPipe Group

Participation in WorldSkills Competitions

Competition rating

(among companies that participated in the competitions)



* Participants of the European and World competitions are mainly represented by companies from Moscow. These are both Russian organizations and representative offices of foreign companies. 13 companies participated in the World competitions and 17 in the European competitions.

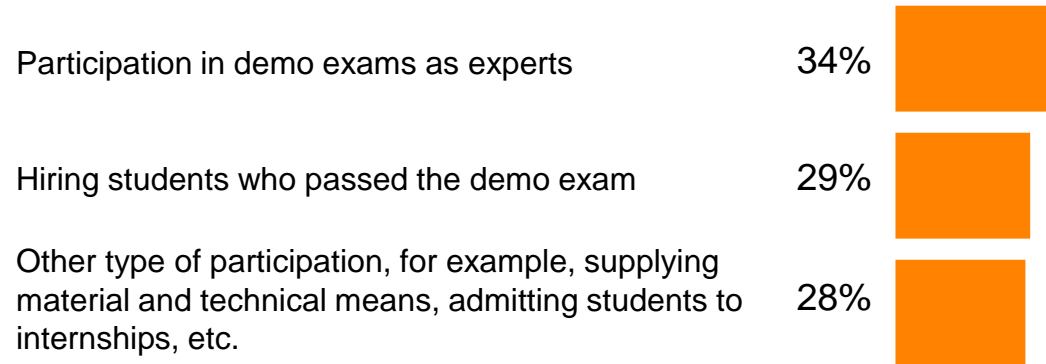
Effect of the participation



BASE: companies that participated in the competitions (173).

Participation in WorldSkills demo exams

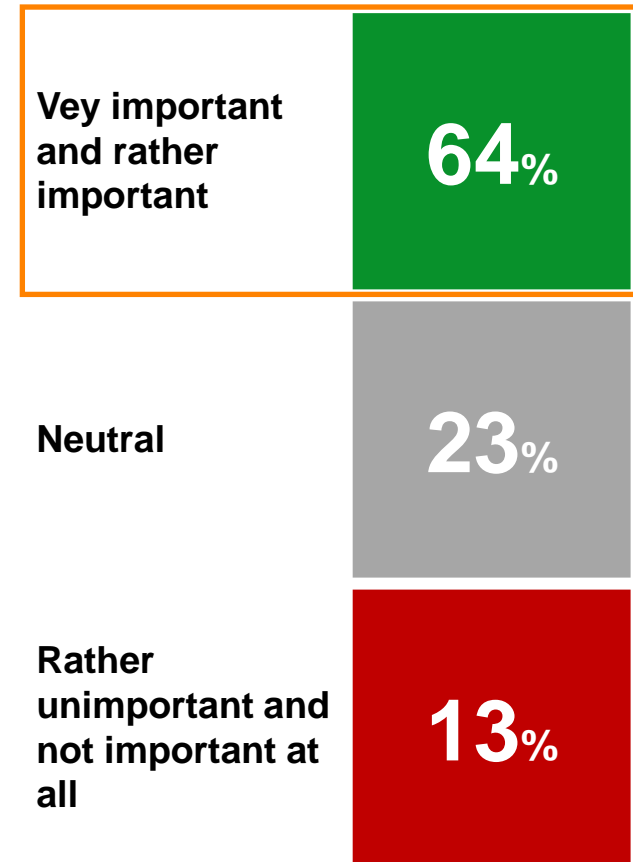
Demo exams experience



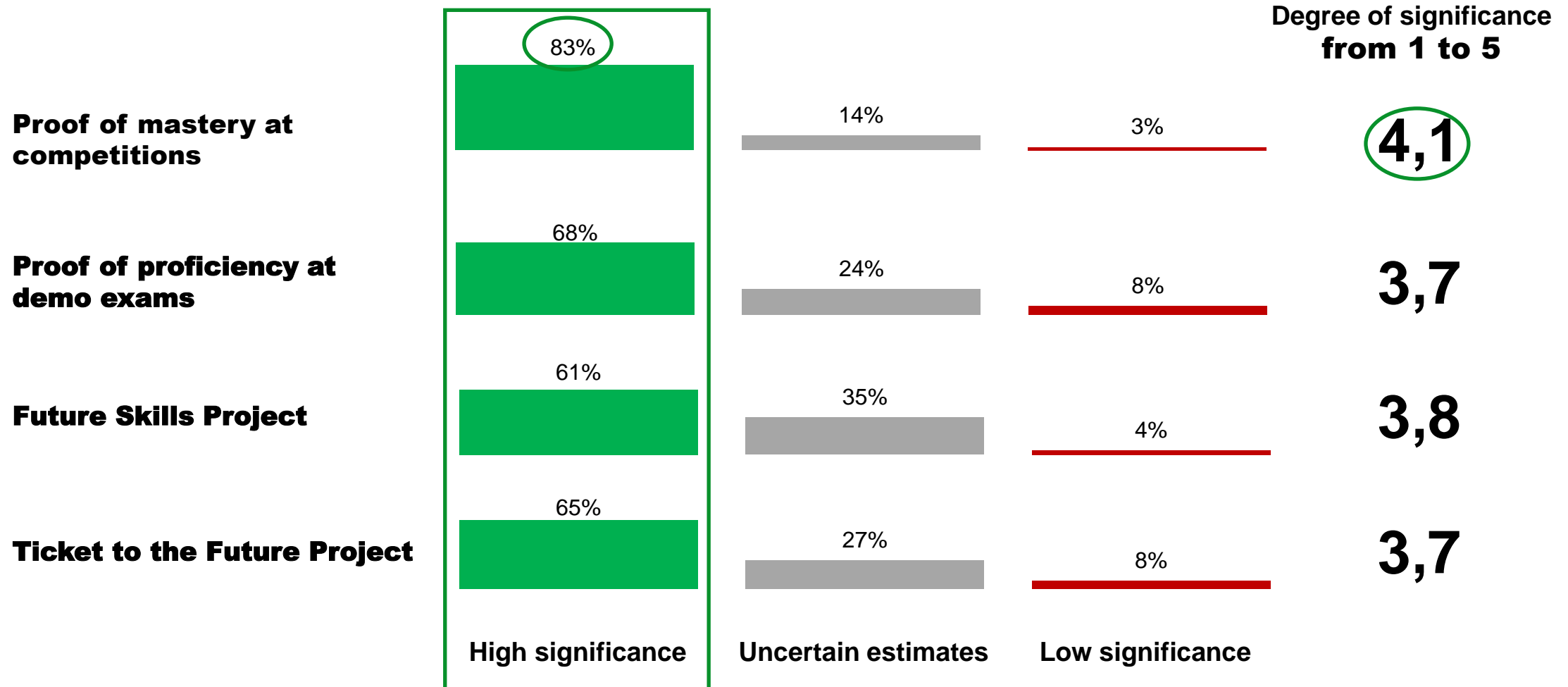
Those who passed the demo exam have appropriate preparation for the real production. In relation to other graduates and their peers, they look “head and shoulders above”. They have a basic foundation not only in the form of theoretical knowledge, but also in the form of sustainable skills.”

Alexei Domnyshev,
Director of the RTC "EVRAZ-SIBERIA"
Head of Siberian Division of UPIRP

Assessing the Skills Passport role in hiring



Significance of WorldSkills projects for the company



BASE: companies having participated in competitions (173), in demo exams (371); companies that appreciated the value of the "Ticket to the Future" project (92), Future Skills (173).



Evaluation of cooperation with WorldSkills

1. The overwhelming majority of experts and representatives of organizations interviewed in the course of the study **are very positive about the experience of cooperation** with the WorldSkills movement.
2. The significance of both the WorldSkills standards themselves and their application at competitions and in the framework of demonstration exams in educational institutions is almost equally highlighted.
3. **Standards are clear to business**, close to practice, and transparent to measure.
4. An increase in the duration of participation in the movement, as a rule, leads to a more active implementation of standards in business processes, a growing share of employees involved in it.
5. The common result for all areas of WorldSkills is **the improvement of the qualifications of employees**, the quality of their work and motivation to work. At the same time, **hard skills are more often "pumped up" at competitions**, and **soft skills are taught and evaluated using the WorldSkills methodology**.



Employees with experience in participating in competitions have better developed skills in professional work with equipment. Such employees come to the enterprise more prepared, with an understanding of technologies and their own tasks. It is important that such specialists have well-formed teamwork skills, they are able to effectively distribute work"

Andrey Shpitov,
Head of Festo Didactic Eurasia



The standards brought by the WorldSkills movement are very meaningful, understandable, clear and fit business requirements well. Students must be trained in accordance with these standards, and businesses have to actively participate in this."

Maria Pravdina,
Deputy Director for WorldSkills at 1C



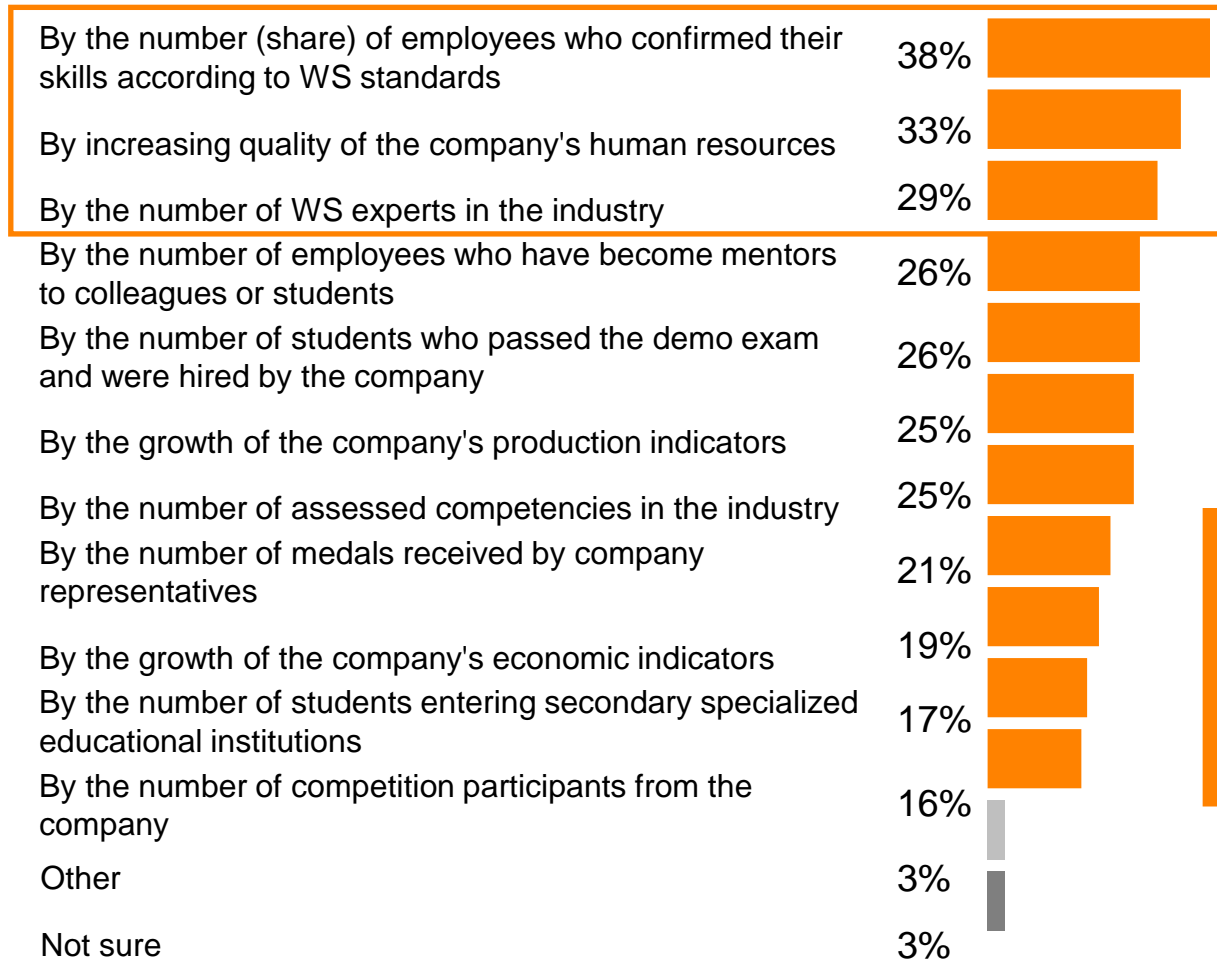
Key performance indicators

Indicators named by the experts during interviews

Development of the quality of human resources (qualitative indicators)	Professional growth of employees, deepening of specialization, increase in the complexity of completed projects	Increasing motivation to work, developing an interest in learning	Development of soft skills	Development of hard skills	Improving the quality of personnel selection, improving the quality of student education	Building a network of experts	Advanced skills development
Development of the quality of human resources (quantitative indicators)	Increasing the number of rationalization proposals from employees	Reducing the adaptation period of an employee in production	Growth in the number of industry experts	Increase in the number of students passing the demonstration exam	Reduction in the time an employee reaches the level of developing production standards		
Production indicators (qualitative)	Equipping enterprises with technically complex equipment, increasing opportunities for its "development"	Development of the material and technical base	The emergence of new technologies in production				
Production indicators (quantitative)	Improvement of product quality	Acceleration of delivery times	Increasing labor productivity	Reduction in accidents, increasing labor safety at work	Reduction in product rejects	Reduction in downtime	Increase in the rate of elimination of employee's errors in their work
Economic indicators (quantitative)	Sales growth	Increase in the rate of return, decrease in production costs	Reduction in the cost of hiring and training employees	Profit growth	Reduction in equipment repair costs		

Performance indicators rating

How best to evaluate the effect of cooperation with WorldSkills on the companies.

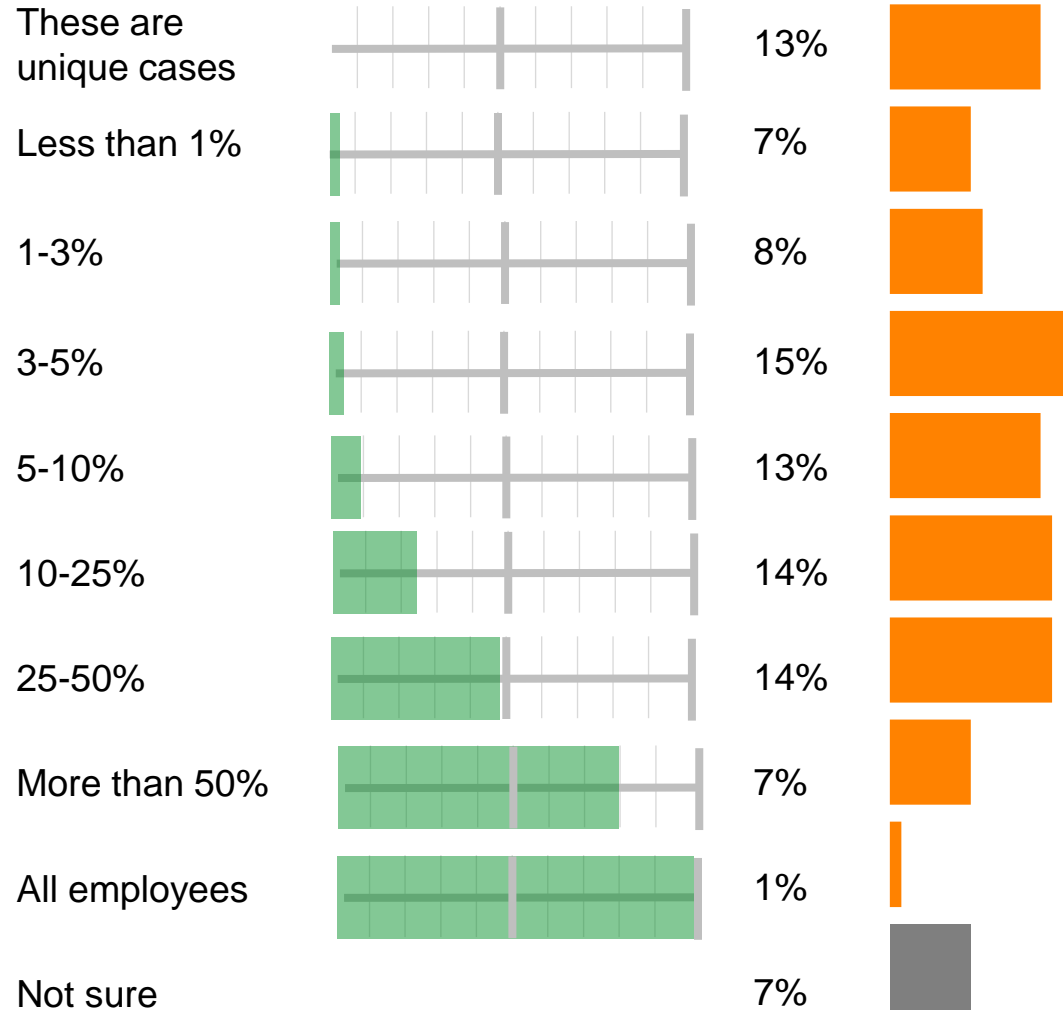


1. In the course of interviews, the respondents noted the presence of a **cumulative effect from the activities of the WorldSkills movement**: this is an improvement in the quality of student training, the development of the current personnel of companies, and a groundwork for mastering professions for the future.
2. **The proof of mastery according to the WS methodology for many respondents is synonymous with staff development.** Therefore, the indicator of the number (share) of workers who confirmed their skills according to WS standards holds the first place in the rating of the indicators which are best used to assess the effect of participation in the movement. It is also the easiest one to measure..

WorldSkills is a development tool, it has no direct effect. That is, it may be a "shot" from WorldSkills, or perhaps it was some management measures that influenced the improvement of the indicators. But, of course, when you see a tendency that your indicators always increase within a stable system of professional skills competitions, then it is obvious that there is a correlation. But to say that this effect is caused by them only is, of course, impossible, this is a complex story. "

Kristina Usoltseva, manager of the corporate university of PJSC "SIBUR Holding"

Share of employees who confirmed their proficiency in accordance with WorldSkills standards



At the time of the study, the share of employees who confirmed their skills according to WS standards **varies greatly from company to company:**

- In almost a third of the surveyed organizations (28%) the share of such employees is less than 3%.
- The same amount (28%) is accounted for by companies with a share of employees of 3-10%.
- Companies with a share of employees from 10% to 50% of the personnel account for the same 28%.
- The remaining 8% of companies have more than half of such employees.

The results give a general idea of the array of respondents' answers, among whom were representatives of large corporations, but the basis was made by small and medium-sized businesses.

The longer the duration of the company's participation in the movement, the bigger the share of employees who have confirmed mastery according to the WS methodology :

Share of employees	Participation for less than 1 year	Participation for 1-3 years	Participation for more than 3 years
These are isolated cases	11%	15%	12%
Less than 1%	8%	5%	8%
1-3%	13%	7%	5%
3-5%	25%	12%	7%
5-10%	18%	13%	8%
10-25%	11%	16%	15%
25-50%	6%	19%	15%
More than 50%	3%	2%	20%
All employees	1%	1%	3%
Not sure	5%	9%	13%

BASE: all respondents (600)

Effect assessment

How KPIs have changed / will change in companies as a result of participation in the WorldSkills movement.

71% and more noted improvement in performance indicators at the moment

83% and more expect improvement of the indicators in the future

	Currently		
	Have decreased	Have not changed	Have increased
Quality indicators of human resources	1%	22%	77%
Production indicators	1%	27%	72%
Economic indicators	1%	28%	71%

	In the future		
	Will decrease	Will not change	Will increase
Quality indicators of human resources	1%	12%	87%
Production indicators	1%	14%	85%
Economic indicators	1%	16%	83%

BASE: all respondents (600)

Evaluation of the effect of participation in WorldSkills

1. Experts see **the greatest effect** in the **development of personnel quality**: this is the development of soft skills (purposefulness, stress resistance, etc.), and the possibility of better selection of personnel, and decreasing costs of retraining, a noticeable increase in employee motivation to work and, in general, to development.
2. A significant effect is the **formation of expert communities**.
3. According to the respondents surveyed in the course of the formalized interviews, **it is most correct to assess the effect** of participation in WS by **the share of employees** who confirmed their skills according to WS standards. For the entire sample, the average share of such employees in companies was 17% (including small and medium-sized businesses).
4. **Production and economic indicators**, according to the experts, **are best evaluated in the longer term**.
5. However, the majority of company representatives surveyed in the framework of the formalized interviews say that **they already see an increase in production and economic indicators** in their organization (72% and 71%, respectively). **Even more respondents** (83% and 85% in terms of economic and production indicators, respectively) **are positive in assessing future changes**.



Thanks to the Worldskills movement, a better trained workforce came in, and eventually parts production improved. Now enterprises understand that either they suffer for 5-7 years until the employee reaches the required level, or they receive ready-made specialists directly from college, saving the same 5-7 years of time and resources of the enterprise. After that the economic effect is obvious to the enterprise. "

Ilya Tonkikh,
Head of the DMG MORI Russia Academy, international expert of WorldSkills Russia and chief expert of the WorldSkills Shanghai 2021 in "CNC Turning"



The biggest outcome is the formation and work of expert communities. When the employees who work directly with the equipment do not just perform their standard functionality, but they are also given the opportunity to participate in the development of the processes of the entire company, and sometimes the industry. "

Kristina Usoltseva, **manager of the corporate university of PJSC "SIBUR Holding"**



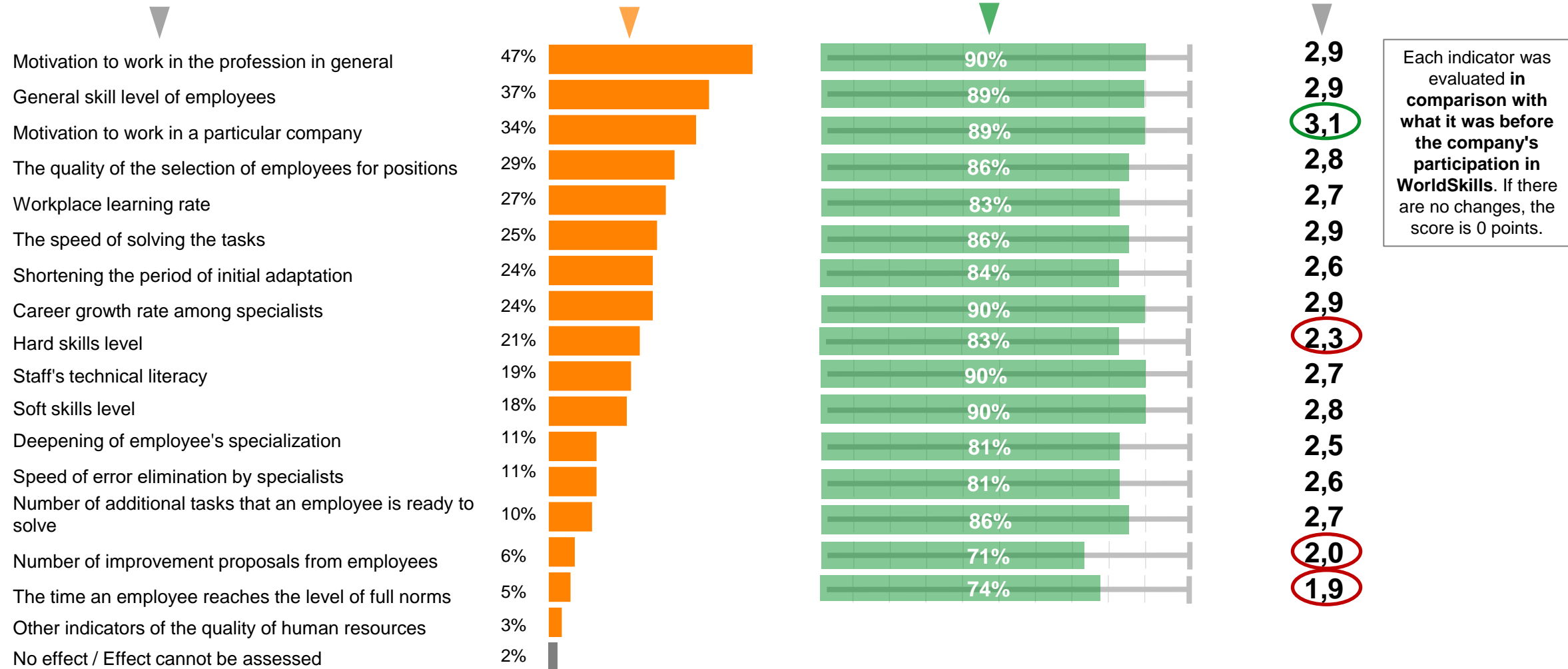
Efficiency assessment: indicators of the quality of human resources

Quality indicators of human resources

Indicators with which to best measure the effect

The indicator has improved

The degree of improvement of the indicator from 0 to 5



Each indicator was evaluated in comparison with what it was before the company's participation in WorldSkills. If there are no changes, the score is 0 points.

BASE: all respondents (600)

BASE: respondents who selected the corresponding indicator

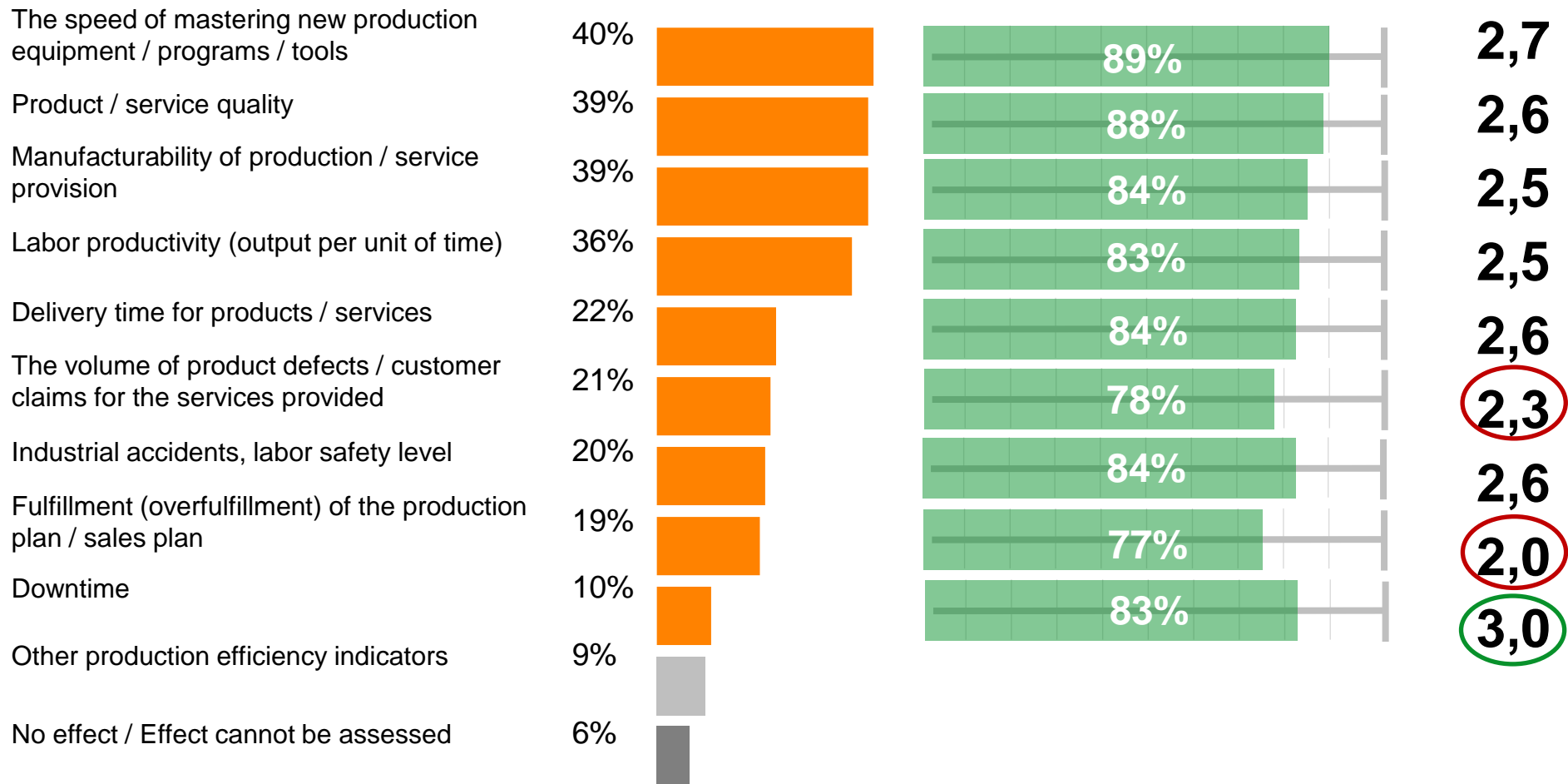
Efficiency assessment : production indicators

Production efficiency indicators

Indicators with which to best measure the effect

The indicator has improved

The degree of improvement of the indicator from 0 to 5

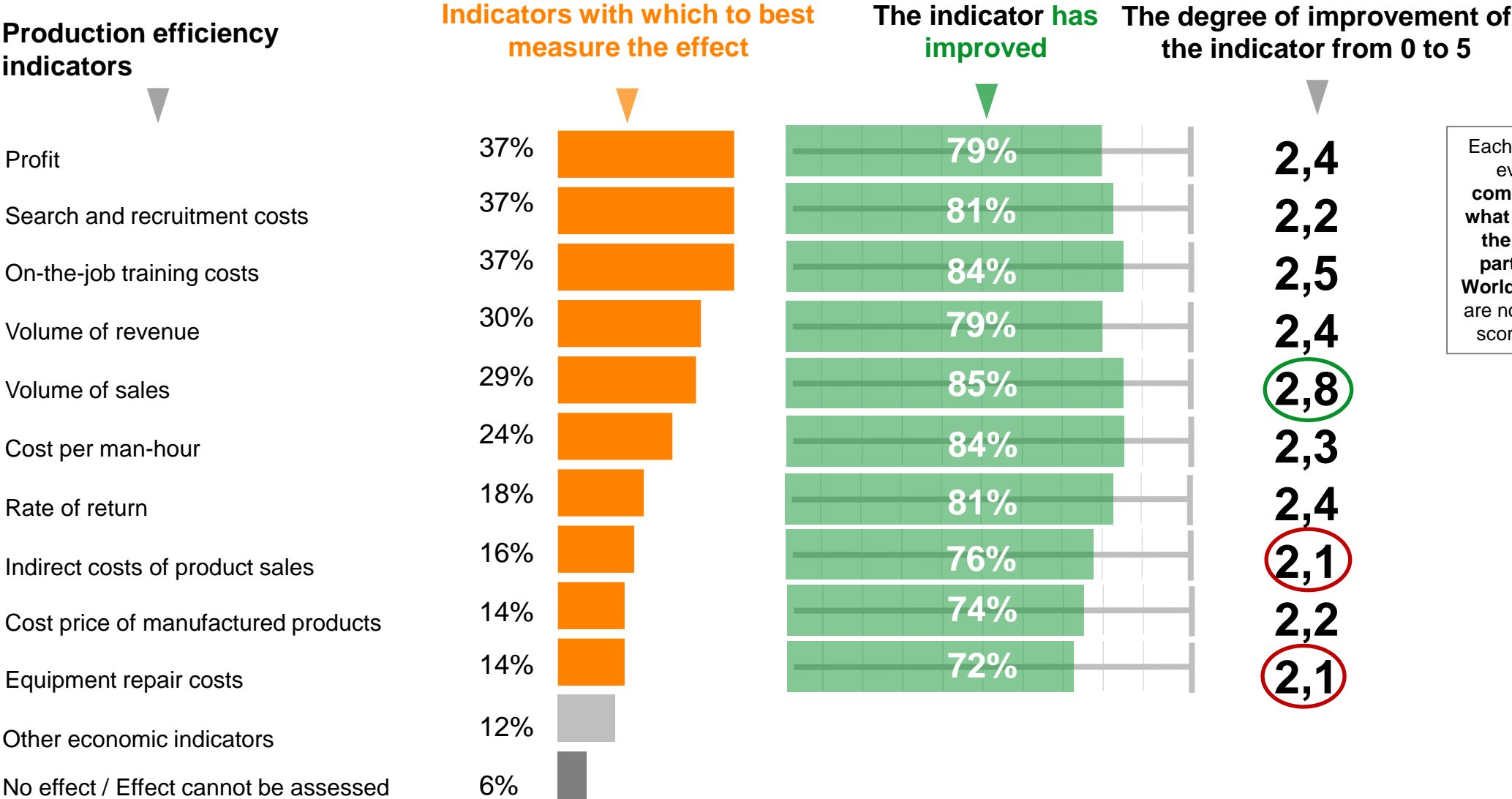


Each indicator was evaluated in comparison with what it was before the company's participation in WorldSkills. If there are no changes, the score is 0 points.

BASE: all respondents (600)

BASE: respondents who selected the corresponding indicator

Efficiency assessment : economic indicators



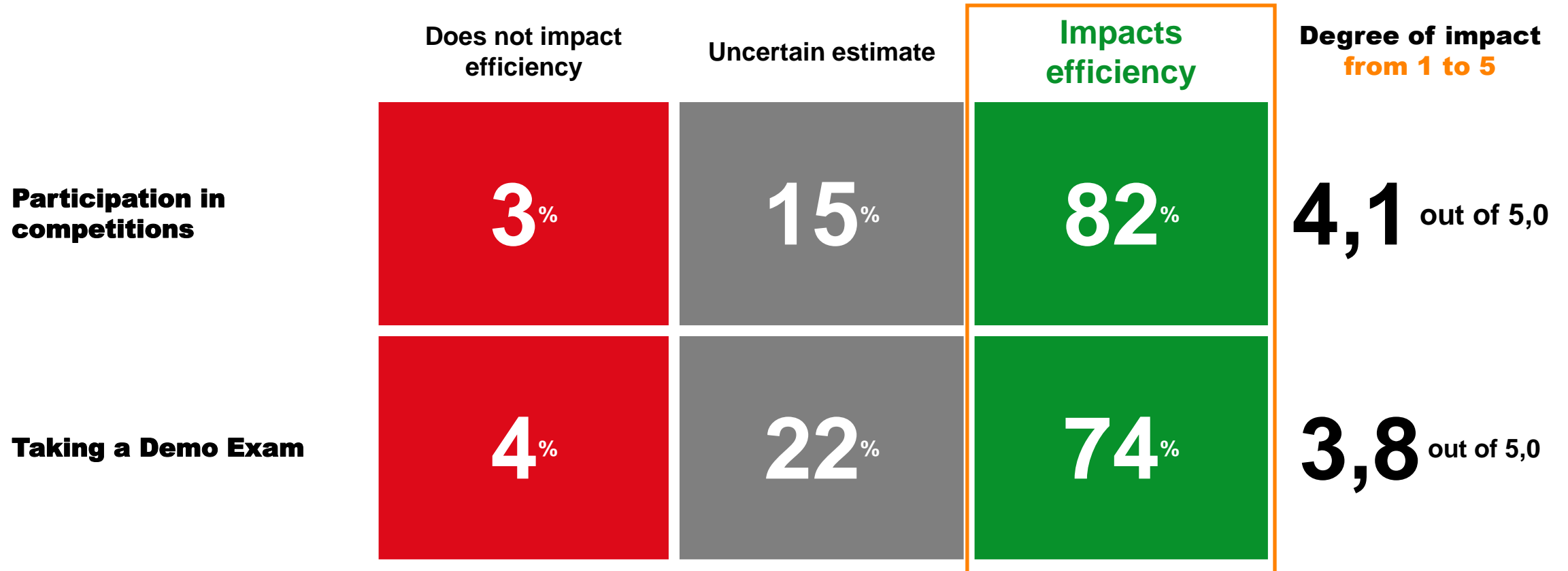
Each indicator was evaluated in comparison with what it was before the company's participation in WorldSkills. If there are no changes, the score is 0 points.

BASE: all respondents (600)

BASE: respondents who selected the corresponding indicator

Employee efficiency

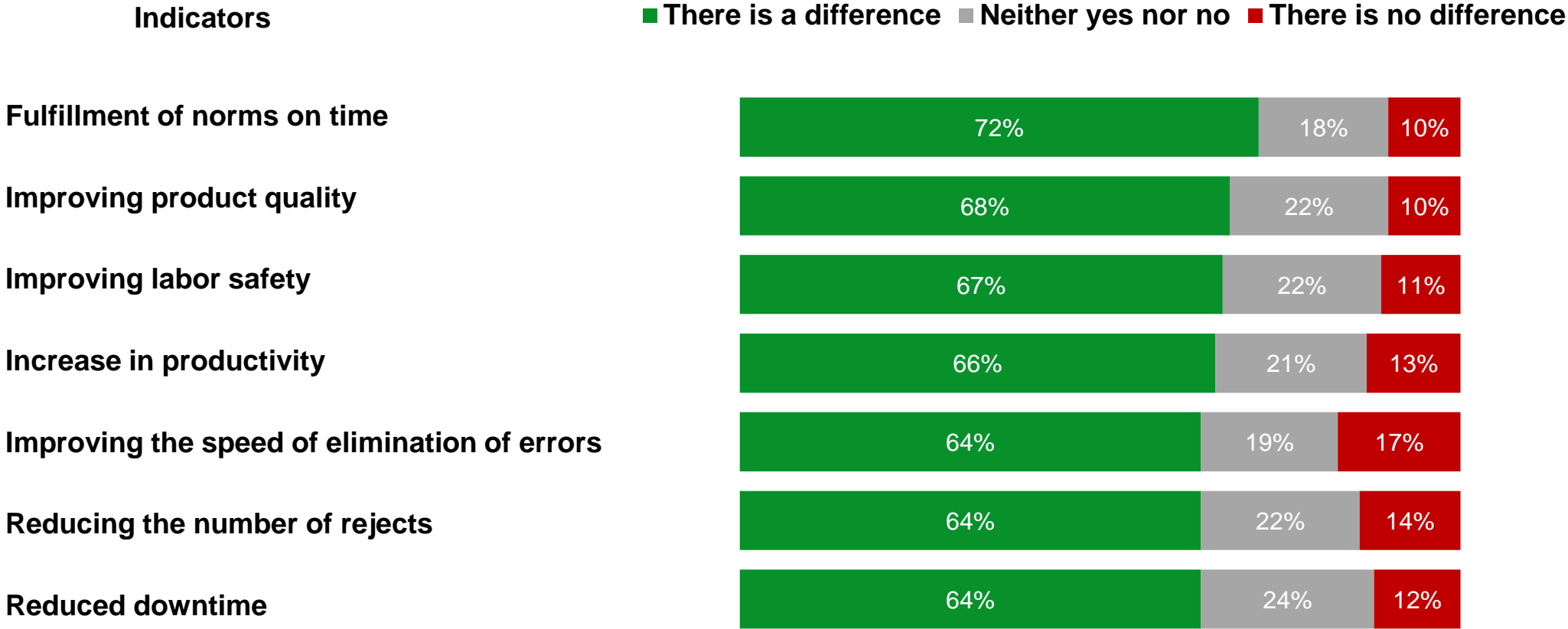
Impact of WorldSkills on changing employees' performance.



BASE: companies having participated in competitions (173), companies that worked during demo exams (371).

Difference between employees

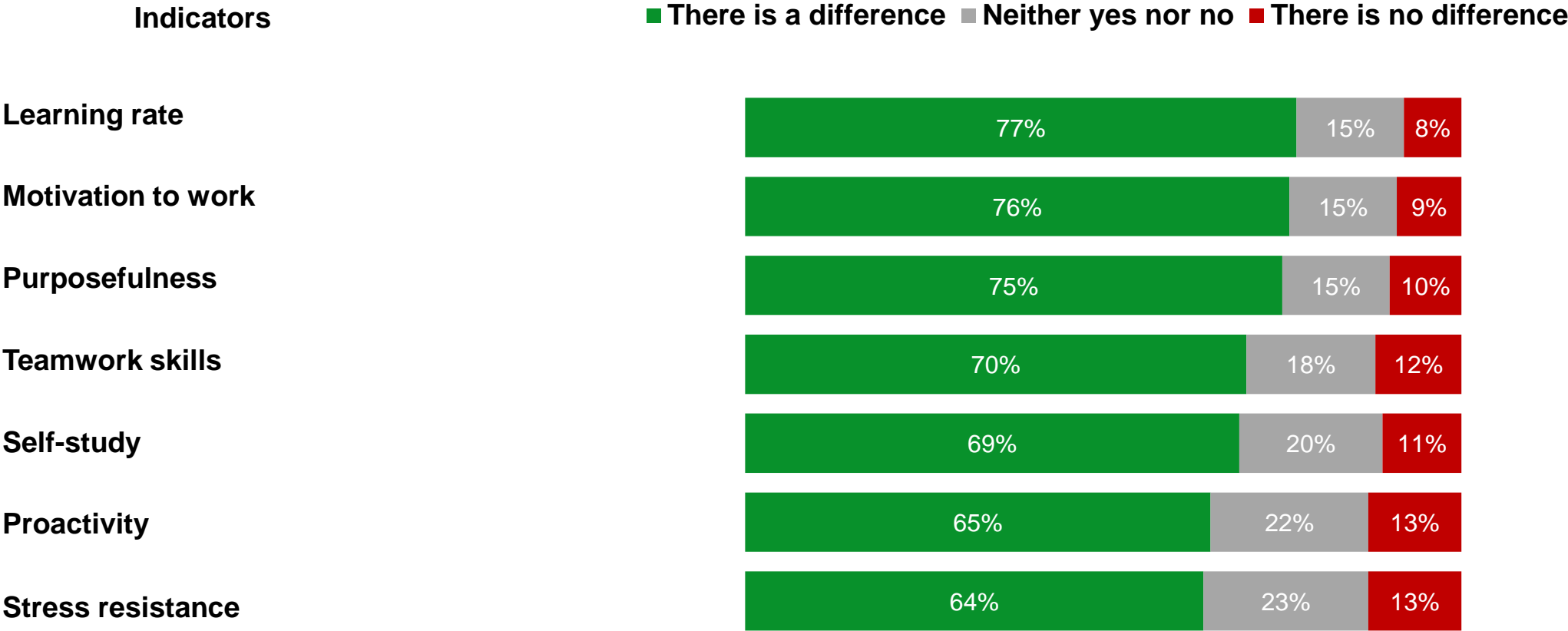
HARD SKILLS



BASE: all respondents (600)

Difference between employees

SOFT SKILLS



BASE: all respondents (600)

Difference between employees

1. All experts and participants in the formalized survey agree that employees who have proven their skills according to WorldSkills standards (having passed an assessment in an organization, passing a demonstration exam or participating in competitions) **are different from other employees.**
2. They are **more motivated, goal-oriented, cope with non-standard tasks faster, learn and adapt to the production process faster.**
3. **Differences in soft skills between employees were noted a little more often than differences in hard skills.**
4. Besides, there are **limiting points** that do not make it possible to fully feel the differences between employees, especially in hard skills: this is **the discrepancy between the real equipment** used in everyday work and the equipment at the competitions, as well as **the dependence of the performance** of a particular employee **on the results of other sections of an enterprise.**



Those who successfully passed the demo exam grasp almost everything on the fly. For example, they came to me as turners, and now many of them are additionally working on milling machines. And the guys grasp this in a week, in two, compared to those specialists who would have been, let's say, without the experience of participating in Worldskills. "

Ilya Tonkikh,
Head of the DMG MORI Russia Academy,
international expert of WorldSkills Russia and
chief expert of the WorldSkills Shanghai 2021 in "CNC Turning"



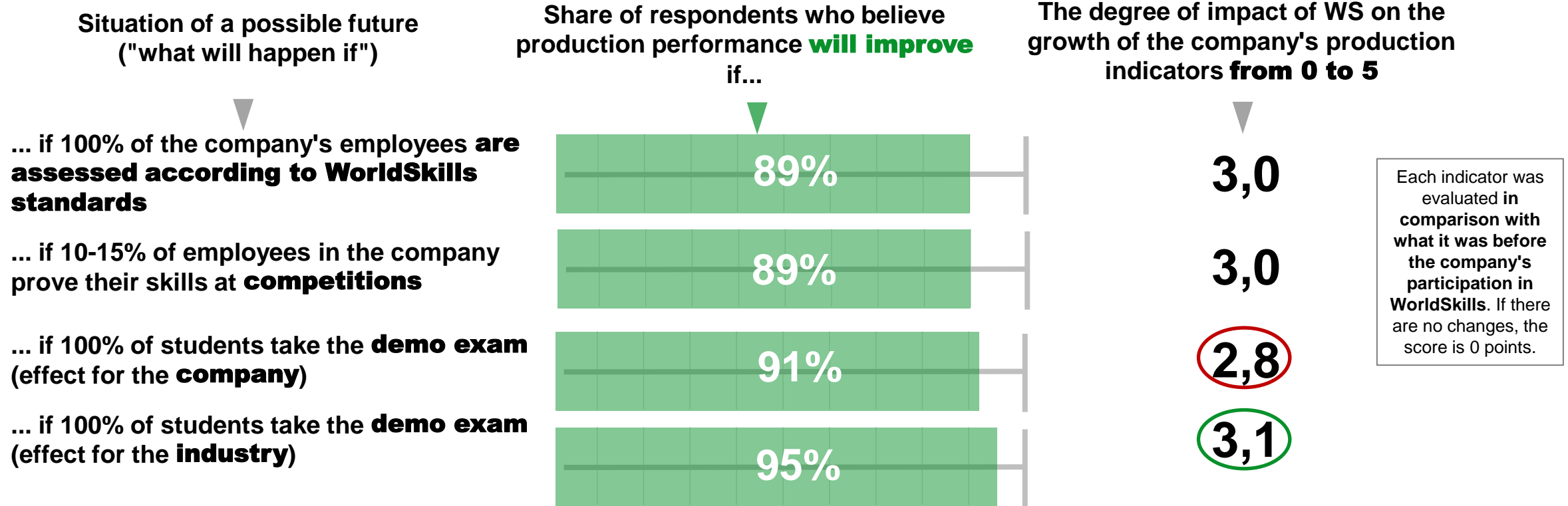
Of course, there is a difference between the employees. The process of preparing for the competition is an increase in qualifications, improvement of skills. The employee immerses themselves in the process more deeply, learns something new for themselves. They find themselves in a different environment, and this, of course, gives them an increase in professional competencies. "

Alexey Smirnov,
Head of the Department for the implementation of the program
"The Future of White Metallurgy" ChelPipe Group



Efficiency forecast

90% about 90% of respondents predict an improvement in production indicators



Forecast of the integral indicator of the economic efficiency growth of companies as a result of participation in WorldSkills **48-68%**

The method for calculating the integral indicator is given in the appendix.



Efficiency forecast

1. All experts believe that **the greatest effect** from the interaction of organizations with the WorldSkills movement **will be noticeable in the future.**
2. To the greatest extent, it will affect the quality of training of young personnel, equipping educational institutions and enterprises, which together will give a perceptible effect both for specific enterprises and for the industry as a whole.
3. Herewith, **the impact on the industry as a whole is most likely, since the WorldSkills Standards are transparent, universal and support standardisation and systematic changes.**
4. At the same time, the overwhelming majority (90%) of company representatives while completing a formalized survey noted that with the maximum involvement of companies and employees in the WorldSkills movement, **production indicators would grow by an average of 60%.**
5. **The economic efficiency of organizations**, according to a special calculation method, **will grow by 48-68%.**



If all, or at least 50% of the students passed the demo exam, this would have a very positive impact on the economics of the industries. Concerning information technology companies, I can say for sure that they will be able to significantly reduce their costs for the search, engagement and initial training of young specialists. “

Maria Pravdina,
Deputy Director for WorldSkills at 1C



It can be a tool to prepare staff for new tasks in advance. When the tasks are formed in such a way that today the participants already try to work with the functionality in their profession that they will have tomorrow. “

Kristina Usoltseva, manager of the corporate university of PJSC "SIBUR Holding"





Appendices

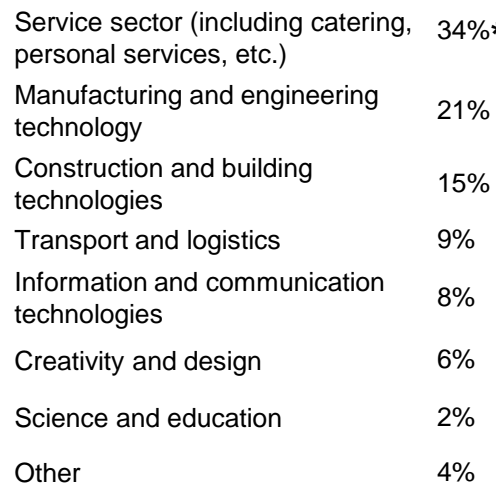


Respondent profile

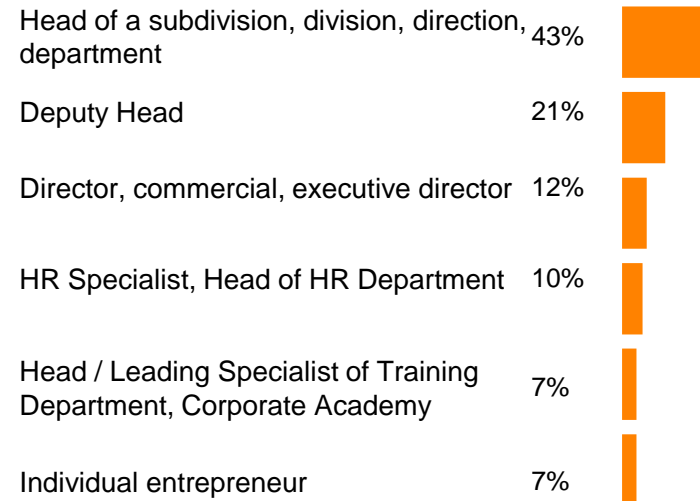


- Representatives of employers who contribute to the development of the WorldSkills movement within the organization or apply its basic principles and have employees on their staff who have confirmed the degree of their proficiency in professional skills according to the WorldSkills methodology.
- In the course of **in-depth interviews**, experts from such companies as RTC "EVRAZ-SIBERIA", PJSC "SIBUR Holding", Academy "Rostec", DMG MORI Russia, Festo Didactic Eurasia, ChelPipe group, 1C, etc. took part.
- In the course of a **formalized survey**, representatives of both small, medium and large businesses took part.

Company's industry



Respondent's job position



Respondent functional in connection with WorldSkills



BASE: all respondents (600)

* The service sector category includes, for example, organizations with professions such as cook, hairdresser, etc., these are some of the most popular competencies in the demonstration exam.

Efficiency forecast: calculation method

Methodology for calculating the forecast indicator :

Step 1. Building a scale with answers. Based on the opinions of experts obtained during the expert interviews, it can be concluded that:

1. Speaking of a moderate increase in production indicators, experts mean an increase of up to 20%.
2. Speaking of average growth, they mean growth of 30-40%.
3. Speaking of high growth, they mean a growth of 50% or more.
4. The growth of indicators by 2 times or more is estimated as a significant increase.

As a result, the following rating scale was formed

Evaluation option in the questionnaire	Will not change	1	2	3	4	Will improve significantly
Scale for calculations	0%	20%	40%	60%	80%	100%
Scale decoding	Lack of growth	Moderate growth	Average growth	High growth	High post	Very high growth

Step 2. Calculation of the average increase in the particular indicators of the forecast. Taking the scale as a basis, the average projected increase in the production indicators of companies in the situations above is calculated (if 100% of employees will be assessed using the WS methodology, or 100% of students will take a demo exam, or if the share of competition participants in the company is at least 10-15%) according to the weighted average formula.

Step 3. Calculation of the integral indicator. The average value of the growth of production indicators is calculated as a weighted average of 4 particular indicators.

Step 4. Calculation of the adjustment coefficient 1, showing the difference in the projected growth of economic indicators in relation to production ones (based on the indicators described on slide 14) and the calculation of the projected growth of economic indicators of companies taking the coefficient into account.

Step 5. Calculation of the adjustment coefficient 2, showing the error of the calculation method (it is equal to 20%, since the scale step was 20%) and the calculation of the final forecast indicator of the growth of economic indicators taking the coefficient into account.

1-3. Production growth forecast :

... if 100% of the company's employees are assessed according to WorldSkills standards **61%**

... if 10-15% of employees in the company prove their skills at competitions **59%**

... if 100% of students take the demo exam (effect for the company) **57%**

... if 100% of students take the demo exam (effect for the industry) **62%**

60%

4. Forecast of growth of economic indicators of companies as a result of participation in WorldSkills, given the adjustment coefficient 1 (0,9785):

58%

5. Forecast of growth of economic indicators of companies as a result of participation in WorldSkills, given the adjustment coefficient 2 (assessment step - 20%)

48-68%





Thank you

Romir Team

