

**I**PROD

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**Improvement of Product Development Studies  
in Serbia and Bosnia and Herzegovina**



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**Slovak University of Technology  
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**WP 1.1**

**Required competences and learning outcomes of curriculums  
in field of Management of Product Development, Innovations  
management, Eco-product Development, and Industrial  
Product Development**

**Comments STU**

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## General comments

Submitted research results are clear, but their information value is reduced by the lack of information about type of businesses and respondents who answered the questions. A similar situation was a few years ago in Slovakia. Essentially foreign companies were not production plants, but only assembly halls. Such oriented companies do not plan any new products development; they are interested only to produce. Answers to the questions, of course, also depend on the respondent - economic manager responds differently as a production worker or technician. Questions should therefore be supplemented by information about the respondents and it would be also appropriate to ask under what conditions is company ready to increase its interest in the development of new products. Specifically which incentives, for example tax reductions would encourage innovative activities of the company. In our experience can hardly expect that in this time and economical condition in Serbia, the companies from their self-initiative will seek to cooperate with academia. On the contrary, the university has to offer and present their possibilities for cooperation with companies and basically „entice" companies for cooperation by interesting ideas. In our opinion realization of informative presentations would be results of the answers to the same questions completely other.

### **I. Product development and innovative management knowledge as well as the consciousness/needs about /of innovations within the company**

According to survey only one third of asked persons reported that all employees have adequate trainings, over half of reported persons declared some training, the rest of asked persons declared no training. Organizing of trainings, workshops and conferences is an opportunity for universities to get some additional funds. This acquired knowledge should be also exploited in education process. Educated students have higher value for the companies. Training materials based on e-learning platform should have less priority.

Results of survey shows that one-third of surveyed companies cooperate with scientific-expert institutions and only 40% of surveyed have connections with local universities. The cooperation between companies and local universities and also between local universities and higher education schools should be improved. Benefits of this cooperation will be better prepared students for product development in local companies, perspective of better job for students. Local universities can also serve as assistance experts for local companies.

### **II. Strategy of the product development (marketing, concurrence, orientation of the company to the customer etc.)**

According to survey less than quarter companies develop a business plan for at least midterm period, 40 percent of companies declared that they have only some certain ideas about future, without precise planning. Also, more than 30% of surveyed do not check their concurrence, while the percentage within manufacturing companies is only 15%. These numbers should be improved with help of local universities. The universities should focus on planning and marketing activities.

### **III. New technologies, planning, organization and human resources**

According to survey only 15 percent of companies have stable budget for development process, half of surveyed companies tries to find resources for development, but they are not sufficient, one-third of surveyed companies cannot afford development. These numbers also shows the importance of cooperation with universities which can share costs and results of development with local companies. University because of lower prices should provide purchase of laboratory equipment. This equipment could be shared by university and company as a mutual workplace.

Results of surveys show the uncertainty about hierarchy and responsibility for the development process. Utilisation of students team work on various practical projects during educational process should be also helpful.

### **IV. Quality – standards - ecology**

About half of surveyed companies answer that employees follow standards and regulations, ecological regulations. The other half of surveyed companies is sure that they have inadequate knowledge. Ecological, quality and other regulations could be even conditioned by the government.

### **V. Which knowledge product development engineers need to have (basic knowledge and time dependent knowledge)?**

Answers of surveyed companies give highest importance to technical knowledge (product development, mechanical design, information systems, technological analysis and production planning, testing of products, except mechatronics, which received lower grades); second one is methodological knowledge (project management, quality management, product development methods, innovation management, simulation, except human resources, which received lower grades). The lowest importance has economical and legal knowledge (profitability analysis, marketing, patent rights and protection, business finances, basics of economy and economic law).

Good profitability of company is important value, so it is relevant to take focus especially on profitability analysis, business finances and economical health of company. This should provide additional funds for development process. On the other hand it is commendable that the design, testing, analyses, product development have high importance.