



## INNOVATION – CRUCIAL TREND FOR FUTURE

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**Abstract:** This article deals with innovation and designing of the R&D centres and laboratories which are two main aspects of the future trends and source of development for the firms. Innovation is key factor for sustainable development, these are the words of many CEOs of the industry firms in the world.

**Keywords:** Innovation, R&D centres

### 1. INTRODUCTION

Actual world trends are clearly focused on high importance of reduction of costs and creating innovation in all fields of life. Innovations are considered to be the key competitive factor of business, guaranty of better life, tool for improving production processes, motive power for workers in companies, way to success, tool for sustainability development.

### 2. WHAT IS INNOVATION

In publication *The Future of the Automotive Industry* is written, that competitive advantages will go to manufacturers that exploit innovation and engineering in the process of product creation. These words are confirmed by author Melissa A. Schilling: „In many industries technological innovation is the most important driver of competitive success. The increasing importance of innovation is due in part to the globalization of markets. We can say that innovations are critical success factor of the near future not only for industry firms, but for people’s life too.“

Some definition of innovation: Joseph Schumpeter defined economic innovation in *The Theory of Economic Development*, 1934, Harvard University Press, Boston.

1. The introduction of a new good – that is one with which consumers are not yet familiar – or of a new quality of a good.
2. The introduction of a new method of production, which need by no means be founded upon a discovery scientifically new, and can also exist in a new way of handling a commodity commercially.
3. The opening of a new market that is a market into which the particular branch of manufacture of the country in question has not previously entered, whether or not this market has existed before.
4. The conquest of a new source of supply of raw materials or half-manufactured goods, again irrespective of whether this source already exists or whether it has first to be created.
5. The carrying out of the new organization of any industry, like the creation of a monopoly position (for example through trustification) or the breaking up of a monopoly position

The term innovation means a new way of doing something. It may refer to incremental, radical, and revolutionary changes in thinking, products, processes, or organizations. A distinction is typically made between Invention, an idea made manifest, and innovation, ideas applied successfully [3]. By the authors of Landman, R. et al., the field of innovation has four core elements [2]:

- ability to generate innovate ideas
- a corporate climate that promotes innovation
- identification of needs the customer has not yet articulated
- investigation and selection of innovative product features

Another definition of innovation is that: Innovation is anything that increases human productivity. Innovation is proportional to the rate of change of knowledge and information [6]. (<http://www.ingenesis.com/integration/finally-a-definition-for-innovation.html>) Various definitions tend to conclude that innovation process is something what changes old to new and innovation is something what was changed. In the book of Melisa Schilling there are defined types of innovation [4]. This knowledge could help to better understand why are innovations so important:

- Product innovation – are embodied in the outputs of an organization – its goods or services.
- Process innovation – are innovations in the way an organization conducts its business, such as in the techniques of producing or marketing goods or services. Process innovation are often oriented

toward improving the effectiveness or efficiency of production by, for example, reducing defect rates or increasing the quantity that may be produced in given time.

- ✚ Radical innovation – the most radical innovations would be new to the world and exceptionally different from existing products and processes.
- ✚ Incremental innovation – might not be particularly new or exceptional; it might have been previously known to the firm or industry, and involve only a minor change from (or adjustment to) existing practices.
- ✚ Competence enhancing or destroying innovation – an innovation that builds on (renders obsolete) existing knowledge and skills. Whether an innovation is competence enhancing or competence destroying depends on whose perspective is being taken. An innovation can be competence enhancing to one firm, while competence destroying for another.
- ✚ Component (or modular) innovation – an innovation to one or more components that does not significantly affect the overall configuration of the system.
- ✚ Architectural innovation – an innovation that changes the overall design of a system or the way its components interact with each other.

### 3. IMPORTANT ROLE OF THE R&D CENTRES AND LABORATORIES

Research and development centres, testing laboratories, innovation centres, technology centres, engineering centres play an important role in the process of innovation management. Designing of these innovation capacities is inevitable part of successful creation of new products. Designing of centres and laboratories is the process which deserves a lot of respect and attention. It includes factors such as: market research, analysis, world innovation trends, finance, firm position in the market, company innovation strategy, quality of engineering and scientific personnel and other. The main types of R&D centres are divided into two groups [4]:

1. centralized R&D – is the degree to which decision-making authority is kept at top levels of the firm
2. decentralized R&D – is the degree to which decision-making authority is pushed down to lower levels of the firm.

Effect of globalisation creates driving forces for spreading R&D in new markets:

- ✚ linking more closely to customers and markets globally
- ✚ rapid deployment of product and process technologies throughout the business
- ✚ access to technology globally

The successful R&D organizational networks are based on an understanding of the dynamic of global R&D and strong linkage between corporate strategy and R&D strategy. It is the integration of geographically distinct locations and distributed resources of people and facilities that allows network to function in a coordinated manner. A lot of studies were focused on identification of the main location factors for relocation or building new R&D centres. The main factors are: growth potential, qualified R&D personnel, support to sales, intellectual property rights, ownership of IP, low R&D costs, collaboration with universities, presence of universities, few restrictions, creation of new business.

### 4. CONCLUSION

Importance of innovations is obvious. A lot of companies must adapt its strategies, processes, decisions to new changes, actual challenges, customer requirements. Innovations are way to better management of organization, better technological processes in production, higher quality products introduced on the market. There is effort for creating of pro-innovation thinking at all levels of the firm [1]. Innovation thinking is crucial part of engineering qualification. In changes we can look for inspiration for creation of new, better products, technologies and business management. This article was focused on two basic factors: first, what innovation is and its importance and the second factor, importance of designing of innovation capacities where we can create innovation.

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