

## **ON THE WAY TO “GREEN” ECONOMY: CALL FOR CIRCULARITY**

### **НА ПУТИ К «ЗЕЛЕНОМУ» РОСТУ: БЕЗ ЦИРКУЛЯРНОЙ ЭКОНОМИКИ НЕ ОБОЙТИСЬ**

Together with great economic development and new opening opportunities our generation is facing accelerating global problems – climate change, environmental degradation, resource scarcity, and, as a result, growing prices and their volatility. Projections for human population growth and the impact of human activities indicate that the environmental crisis will only worsen. In response to these changes and threats there have been implemented several concepts of further economic development. The object of the study is to analyze these concepts making emphasis on circularity.

The first step was made in 1992 when the concept of sustainable development, which can be defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs, was set at the United Nations Conference on Environment and Development as the main long-term goal for our society. Since that time it has undergone significant evolution, transforming into advanced “green” economy. It can be defined as a paradigm in which environmental, social and economic outcomes are complementary and mutually reinforcing through resource efficiency and sustainable consumption and production patterns; preservation of the natural capital, investments in natural resources and mitigation of climate change; improvement of human well-being, reduction of wealth inequalities and poverty. But still there is a considerable disadvantage: it is based on the linear production model. This is the time, when we turn to circular economy.

There is no common definition of what circular economy is, but its most simple basic principle – “reuse, reduce and recycle” – is known to everybody. The concept is characterized, more than defined, as an economy that is restorative and regenerative by design and aims to keep products, components, and materials at their highest utility and value at all times, distinguishing between technical and biological cycles. It is referred to as a continuous positive development cycle that preserves and enhances natural capital, optimizes resource yields, and minimizes system risks by managing finite stocks and renewable flows. It works effectively at every scale. This economic model seeks to ultimately decouple global economic development from finite resource consumption.

According to the Ellen MacArthur Foundation, there is a set of six actions to be taken in order to reach a circular economy: Regenerate, Share, Optimize, Loop, Virtualize, and Exchange – together, the ReSOLVE framework. The ReSOLVE framework offers businesses and governments a tool for generating circular strategies and growth initiatives. In different ways, these actions all increase the utilization of physical assets, prolong their life, and shift resource use from limited to renewable sources. Each action reinforces and accelerates the performance of the other ones.

The basic model of circular economy is made up of four building blocks:

- circular design product design and production;
- new business models;
- reverse cycle;
- enablers and favorable system conditions (education, financing, collaborative platforms, new economic framework).

Several countries, such as Brazil, China, India, Kenya, Morocco, South Africa, Turkey, Uruguay, Vietnam and the European Union, are already successfully exploring circular strategies. At micro level the most prominent examples are Michelin, Caterpillar, Renault, Ricoh, and Desso.

Of course, implementation of circularity is difficult and time-consuming as it needs restructuring of the whole economic system, but, still, it needs to be a basis and underlying condition while building “green” economy on the way to sustainable development.

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## **FUNDAMENTAL ASPECTS OF LEAN MANUFACTURING AS AN IMPROVEMENT OF PRODUCT QUALITY**

## **ФУНДАМЕНТАЛЬНЫЕ АСПЕКТЫ БЕРЕЖЛИВОГО ПРОИЗВОДСТВА КАК УСОВЕРШЕНСТВОВАНИЕ КАЧЕСТВА ПРОИЗВОДИМОЙ ПРОДУКЦИИ**

The priority aspect which a consumer takes into consideration when buying a product or service is the ratio "price = quality". In view of the ever-growing range of goods and services, businesses are more than ever excited by lower costs which directly affect the prime cost of goods or services, and hence the competitiveness of the organization. Consequently, enterprises need constantly improve their efficiency and use different methods during the production process.