Rethinking the production and consumption on the transition

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Abstract. The new opportunities offered by technologies have caused societies to break through towards the fourth industrial transformation. It will change the whole society and its structures alongside the business and the transition process is still speeding. The world is also facing big megatrends like global warming, urbanization, digitalization, new revolutionary technologies.

Like the industrial revolutions before, the whole paradigm of society is changing, and it will happen also in the fourth industrial revolution, so there is a need to think how we should take a step towards to the new paradigm, so that we could be able to response to future challenges on sustainable way.

The fourth industrial revolution (4IR) technologies like sensor, IoT-platforms, artificial intelligence etc., give new possibilities to develop new, more efficient, more sustainable and more customer driven supply chain, prolong the lifetime of products and create new services and business models and this way reduce the use of materials of energy. There is also an argument to rethink the source of raw material, and in which extent the cities itself could be seen the source of needed materials and energy, by using new technology.

The move towards new ICT based technologies will happen unexpected fast, including exponential growth of data. That is the reason, why it is essential to understand the challenges of change and have a strategic view, identify the key elements and see the new opportunities in all levels of society development.

Circular Economy has been very much a hot topic in many discussions, but there has been quite little discussion about reengineering the value chains and production based on circular economy principles by using the new opportunities on 4IR technologies not only in production but also in creating service, which change the need/thinking of ownership and build new business models. In addition to this, the elements to improve business environment by local or national authorities and legislators.

Finland has is as a goal to develop to one of the leading countries in circular economy. In Finland, Forssa region is considered to be one of the most advanced region in bio-based circular economy.

In this article has been described the development of regional industrial symbiosis in order to have competitive of business and future development.