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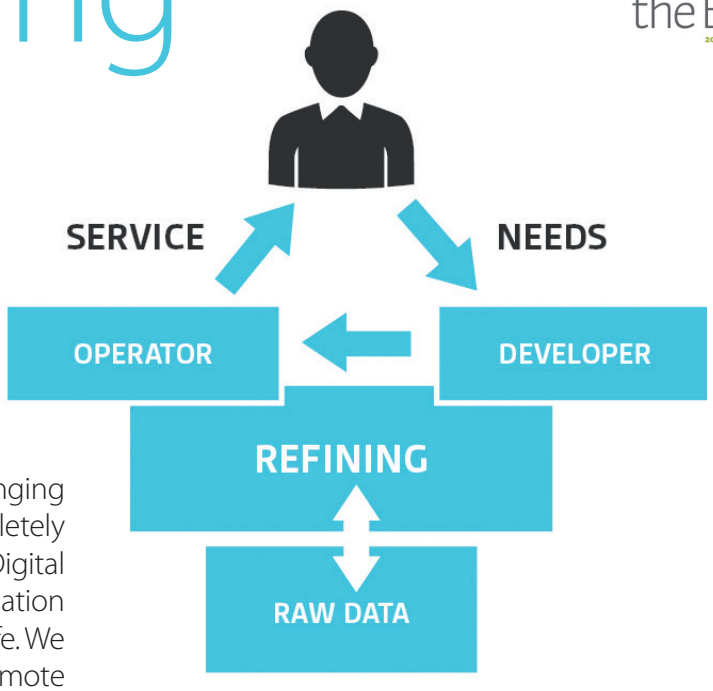
Data refining

bridge between raw data and services



Digital services and Internet are changing the world faster and more completely than the Industrial Revolution did. Digital services, remote sensing and automation will have a key role in all ranks of life. We need a positive attitude to promote the changes in the paradigms of industrial structures.

The sources of available data already vary greatly, from legacy data to on-line Internet of Things data streams. The volume of available data in the open cloud and networks increases exponentially. Thus, services provided by vertically integrated monolithic organizations will soon face a fierce competition by value chains of specialized organizations.This development started a few years ago, as ubiquitous on-line services became available.

Up to today, the development of sustainable services provision has been fairly modest. The services are mainly based on just a few types of raw data, typically a map and some on-line feature such as the position of the object. However, as the amount of various types of available raw data increases, the scale and variety of service applications will enlarge quickly. The public use of Big Data repositories will grow.

The effective use of raw data requires numerous issues to be solved. The structure of the data repositories should be documented, useful metadata and data catalogues should be developed and published, search algorithms should be developed, application interfaces should be opened and interoperability of the protocols should be established. As the use of various data repositories for service development and operation is growing, we will inevitably need a new operational level between services and data; **data refining.**

A new industry will be born. Data based service providing industry is already in the early stage of the development. In the early development of any industry, long vertical monolithic value chains are used. In this case, from the collected proprietary data repository all the way to the service provision. Subcontracting relations, distributed value chains and network have not yet been developed and evolved. In the case of digital services industry, the evolution will be faster than in previous industries. In this new industry the data refining services, product development, design, production, operations and marketing will be split in a value network composed by specialized companies.

Miktech Ltd. has established a national **Data Refining Society** in Finland, to improve and develop the practices in the field (www.datarefining.org). The aim of the society is to form a network between companies and other related bodies to accelerate the development of useful digital information platform for the benefit of the service operation and development companies.

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