COWIfonden supports circular FoU project

In corporation with Technical University of Denmark (DTU), the Norwegian University of Science and Technology (NTNU) and the IT company Oracle, COWI has received a donation from the trust fund COWIFonden to carry out a research and development project that will develop a method to identify and list large streams of resources and their ability as secondary raw materials.

Parallel with this, the project will be looking at the possibilities of using "big data" and "artificial intelligence" to collect, analyse and structure information about resource streams.

The project will be carried out during the next two years. It is unique, as a small documented area within circular economy will be investigated combined with use of "big date" and "artificial intelligence".

The overall target of the project is to strengthen companies' competitiveness at an increasingly growing market in circular economy.

From waste to resources
Previously, waste was almost only considered a problem, partly because it had impact on the environment and partly it was costly to handle. Today, waste is to a higher degree considered as a resource.
At the same time, the world's natural resources are beginning to be fully exploited. Many cost savings are lost, because industry has not used the potential of reusing the resource streams.

Circular economy
In circular economy, reuse of resources has an expanded meaning. The aim is to keep the resources in a circuit as long as possible, i.e. use them again and again. The incentive to do this is primarily to reduce loss of resources/values, ensure supply of raw materials, reduce the dependency of import and increase the competitiveness. As a positive result you will gain large environmental and climate gains as a result of the above.

The implementation of circular economy will require changes in all parts of the value chain. New actors and business models will emerge, also in the consulting engineering sector.

Prioritisation of resource streams
One of the challenges for the society and industry is to be able to prioritise clearly and well defined which resource streams and materials to focus on. One aim of the project is to develop a methodology to assess the ability of the resources as secondary raw material based on different types of waste/resource streams and related requirements to quality, environment, safety, laws/regulations and value creation.

"Big data", "artificial intelligence" and "match-making"
If circular economy should expand, the waste and resource stream must be increasingly matched with potential users of secondary raw materials. A question which the project will investigate is whether "big data" and "artificial intelligence" can be used to develop a circular economic support tool for "match-making".