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Products with Integrated Repair and Disposal Instructions

Most of the products we use today must meet a variety of requirements: They are supposed to do what they were made for, for a long time and reliably. They should be connected to the (Wi-Fi) network and the Internet, be always up-to-date, and communicate with each other. And we expect them to operate largely independently in production and soon also on the road.

To provide all these functions, goods and products contain a variety of different materials. These include metals, rare earths, and plastics. They are often combined in a way that the replacement of individual parts and disassembly are difficult - or impossible.

This is not a real challenge before they need repair or have reached the end of their lifespan. Then, the question arises how they can be made operational again – or how recycling can be achieved without burning valuable substances or letting them end up in a landfill. The goal must be to use the product for as long as possible and then return the contents into the material cycle.

So, what if each product was basically optimized not only for its function, but also for repairs and - later - disposal? Our concept for "products with integrated repair and disposal instructions" makes this possible:

1. Each product is designed in a way that repairs, disassembly, and recovery of materials are possible with comparatively simple means.
2. In addition to the design plan, a repair and disposal plan with a suitable level of detail is also created.
3. The used (raw) materials are registered in terms of quantity and the places where you find them in the product.

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4 With this information, the product is registered in a "repair and disposal database". This can, in the first step, be a database of the manufacturer, and later a nationwide register. The product receives a QR code through which repair and disposal instructions can easily be retrieved on the web, if required.

This sounds as simple as it makes sense, but it is undoubtedly a complex matter. For example, a legal basis is needed that regulates all the activities and makes QR-labelling mandatory for all producers. Copyrights and other rights must be protected. And there is certainly a lot more to plan for. But we can start as simple as possible and later extend the new system.

There is one thing we can certainly achieve with this concept: We are one step closer to a real circular economy, products live longer, and the waste management industry is becoming an even stronger supplier of raw materials than before.

About the Authors

Wiebke Brüssel and Dr. Heiko H. Stutzke are economists and managing partners of Strategiebüro Nord (Strategy Office North) in Germany.

Strategiebüro Nord works for companies and organizations in the private and public sector, for founders and for companies at the beginning of their development.

Our focus is on individual challenges and questions that often arise from the trends of our time. We take up the planning and the team-oriented strategic moderation to find good solutions. The result of our work are strategic actions and goals ensuring long-term success.

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