WHAT IT IS?

The current state-of-the-art view of business model levers that, in combination, can transform industries.

A closed-loop process...
- Replace a linear consumption process with a closed loop in which used products are recycled.
- Reduces overall resource costs.

...That seeks to do more with less
- Reducing the creation and consumption of new products in the first place (shifting from products to services is one aspect).
- Where the creation of new products are inevitable, then closing the loop across a product’s lifecycle across companies, industries and geographies is critical.

RELEVANT DISRUPTIVE TECHNOLOGIES
- Internet of Things (IoT) and Big Data
- Additive Manufacture
- Autonomous Vehicles
- Collaborative Robots / Assistants
- Critical Material Recovery from Waste

CHARACTERISTICS OF RELEVANT BUSINESS MODELS
- **Circular Supplies**: Using renewable, bio-based or fully recyclable materials to replace single-lifecycle inputs.
- **Closed-Loop Production**: Virtuously recycling the material used to create a product back into the production system.
- **Collection Service**: Providing a service to collect old or used products from customers in a convenient manner.
- **De-Materialization**: Reduction in the amount of materials used in the production of products.
- **From Push to Pull**: Decentralization, adding flexibility to a company’s processes in order to be more customer-focused.
- **Lean Production**: The elimination of waste within a manufacturing system, or the creation of more value for customers with fewer resources.
- **Modularity**: Designing a product based on smaller component parts that can be independently created, purchased, used and replaced.
- **Produce on Demand**: Producing a product only when a customer order is made.

CLOSED-LOOP / DOING MORE WITH LESS

- **Product as a Service**: Customers pay for the functionality of a product, without the responsibility of repairing, replacing or disposing it. Also known as Product-Service-System (PSS), or Performance-based Contracting.
- **Rematerialization**: Sourcing materials from recovered waste to create entirely new products; also sometimes referred to as downcycling, or upcycling.
- **Sufficiency Model**: Where customers are encouraged to consume less – novel ways include extending the product life, encourage product take back / exchange, premium branding, etc.
- **Trash to Cash**: Used products are collected and either sold or transformed into new products. Resource costs for the company are practically eliminated.

EXAMPLES OF THE KEY IN USE

Danone (France; multinational corporation)
The company treats three key resources - water, milk and plastic - as part of a closed-loop, with a senior executive overseeing its cross-divisional, cross-functional, Strategic Resources Cycles Unit. In the milk cycle for example, the company is finding new uses internally for acid whey, one of the byproducts in making Greek Yogurt, such as in its early life nutrition products as well as using it for animal feeds, fertilizers and energy. In plastic, Danone is working closely with Veolia to build plants with zero liquid discharge and moving towards using 100% biosourced second generation plastic and achieving 100% recycling rates of packaging.

Interface Inc. (United States; multinational corporation)
Operates a closed loop business which collects and recycles used carpet tiles, repurposing them into new carpet tiles. Working with other partners, the company is also sourcing novel forms of resources, such as discarded fishing nets, and repurposing them into new carpet tiles, while offering an alternative source of income for communities.

Fairphone (The Netherlands; small/medium enterprise)
One of its key value proposition is an extended usable life span made possible by the ease of repairing the phone with its various modular components. In addition to its responsible and ethical sourcing policy, it is beginning to incorporate recycled metals from its various e-waste programmes into its supply chain, with the end goal of ensuring Fairphones are returned and completely recycled at the end of its life.