Value Chain Management covers most areas of the overall corporate action process

VALUE CHAIN MANAGEMENT

R & D

Product Design

Sourcing & Procurement

Manufacturing

Marketing & Sales

Distribution & Services

End-of-use collection

Recycling & Recovery

Logistics
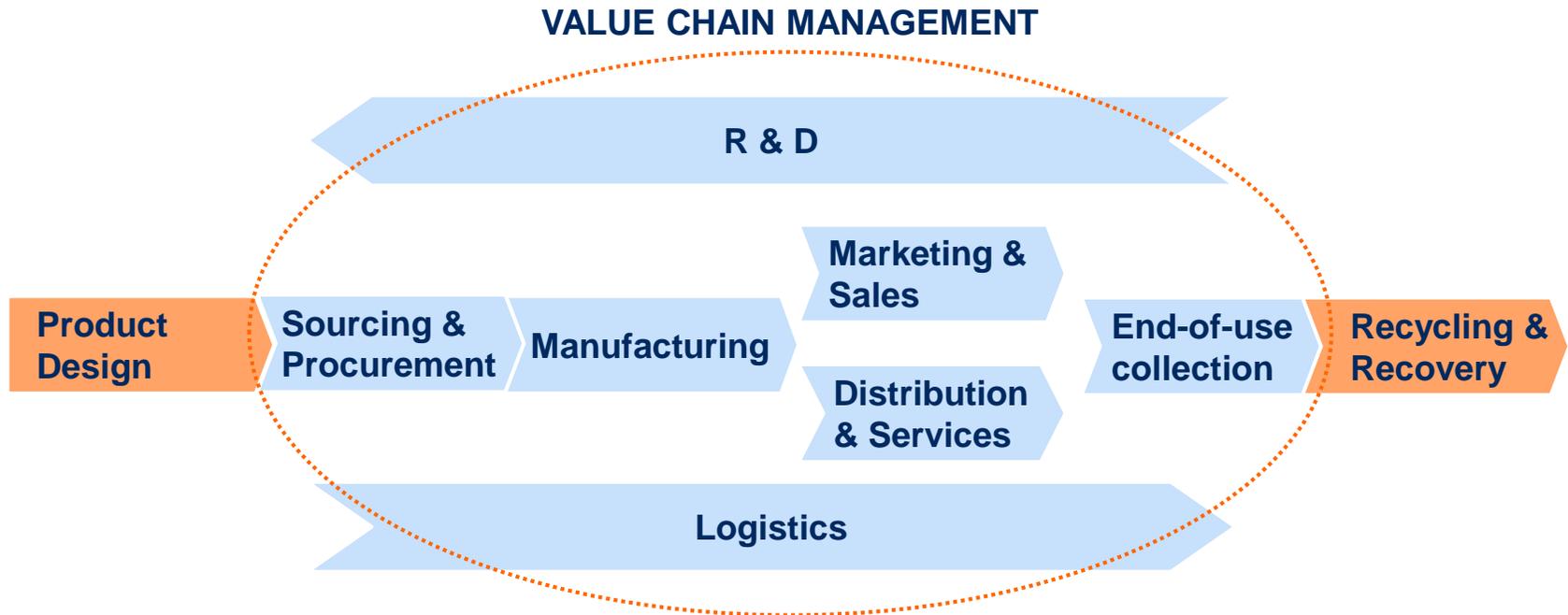
- Efficient Value Chain Management is KEY to ensure Sustainable Product Life Cycle
- All efforts put on Eco-Design or Recycling & Recovery will be lost unless the overall Value Chain of the product is properly managed

The ultimate goals of Value Chain Management

1. **To allow closing the loop of Product Lifecycle**
   - Ensure coherent product flow from cradle to grave and recovery
   - Gather and exploit feedback from customers, suppliers & producers for continuous product improvement

2. **"The best waste is the one you don't produce"**
   - Monitoring production performance to limit emissions & byproducts
   - Improve production yield

3. **Minimize negative impact of activities on Environment & Populations and aim for positive impact**
   - Sustainable procurement and supply chain
   - Switch to renewable sources of raw materials, energy and utility usage, etc…

- Easier said than done : a tremendous corporate challenge which is key for our future
- Improvements in the value chain must (at least) preserve or (better) improve materials and product efficiency as well as overall profitability of operations

For each step of the value chain there are different examples of successful innovations (1/2)

Company & Innovation	Impacted step in value chain	KPIs
TESLA Motors – Model S : 100 % electric Premium sports car 	▪ **R&D:** Battery technology ▪ **Design:** weight reduction, drive train	▪ Battery cost ▪ Battery autonomy ▪ Charging speed ▪ Overall energy efficiency
BROAD GROUP : erecting 30 story tower building in 15 days 	▪ **Manufacturing:** modular off-site construction at the factory with minimal waste ▪ **Design:** building's energy efficiency	▪ Technical performance: energy efficiency ▪ Construction efficiency: material waste ▪ On-site assembly time ▪ Ratio hours off / on site labor ▪ Cost
DIRTT Environmental Solutions : designing & building highly modular interiors 	▪ **Design:** Modular/parametric to ensure flexibility and highly automated design software ▪ **Manufacturing:** modular off-site construction at the factory with minimal waste ▪ **End-of-life:** modularity enables to reuse in other configurations	▪ # software hours on interior design ▪ Construction efficiency: material waste ▪ Cost savings vs. on-site construction ▪ % of re-used / re-furbished components after moving space
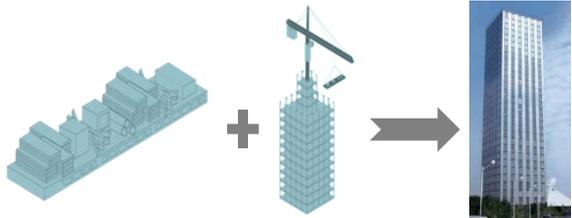
While these are great examples of improvements in one or some steps of the value chain the power lies in a **holistic end-to-end value chain mgmt approach**. How can an organization achieve this?

- What **management practices** are needed?
- How to ensure the required **collaboration and coordination** across all departments?
- What **end-to-end KPIs** can be used?

For each step of the value chain there are different examples of successful innovations (2/2)

| Company & Innovation	Impacted step in value chain	KPIs
'The positive cup' initiative NESPRESSO	• **Sourcing:** Offer farmers technical assistance to implement agroforestry practices in plantations • **End-of-life:** aims to maximize collection and recycling of used capsules	• Share of coffee sourced through the *Nespresso* AAA Sustainable Quality™ Program • Share of carbon footprint compensated through agroforestry (# trees planted) • Share of capsules collected • Share of capsules recycled
CATERPILLAR CAT® Reman	• **Design:** design components as such that it can be remanufactured efficiently and multiple times • Service: remote tracking of key criteria related to the general status of the machinery to optimize maintenance interventions • **End-of-life:** refund for returning end of life machinery	• Raw material consumption • % of components returned at end-of-use • % components remanufactured and number of remanufacturing cycles per component • Profit margin of remanufacturing activities
Brambles, supply-chain logistics company	• **Sourcing:** Source certified wood • **Logistics:** owning and managing a pool of ~300 million durable and reusable pallets, crates and containers in more than 50 countries • **End-of-life:** maximizes recycling of end-of-life pallets and containers	• Share of certified wood • Share of wood waste landfilled • Recycling rates
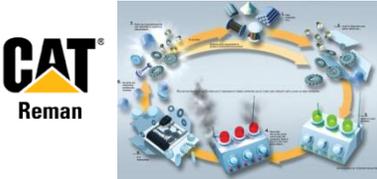
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