The 20 challenges of Sustainable Logistics

Environmental focus

CONTRIBUTION TO AN EFFECTIVE CIRCULAR ECONOMY

1. WASTE VALORISATION

The challenge is to adopt circular economy models and promote the paradigm shift of waste and scrap... that can be valorised.

Disposal can become an ADDED VALUE, i.e. move from cost to revenue, through innovation and paradigm shift. How? Through the 5Rs: R for Energy Recovery, R for Waste Reduction, R for Separate Collection, R for Reuse, R for Recycling.

ENERGY

2 A. RENEWABLE ENERGY - ZERO CARBON FOOTPRINT

The challenge is to use renewable energy in one's own value chain, improving the ratio renewables/total energy used.

The process of verifying the energy supply sources used along one's own value chain must aim at a lower contribution in terms of CO2 emissions and at the same time provide the elements for proper planning of requirements and continuity of supply.

2 B. RENEWABLE ENERGY - SELF-GENERATION

The challenge is to reduce the costs and risks of price variations: to become a self-producer of one's own energy through cogeneration, renewables and energy savings.

DESIGN, PRODUCTION AND SUPPLY CHAIN

3. RETROACTIVE LOGISTICS INTELLIGENCE

The challenge is increasingly responsible product design that considers the effects on greenhouse gas and pollutant emissions, energy consumption, soil, water and other natural raw materials at all stages of product life.

The organisation uses data on logistics processes to improve product design processes (weight, transportability, resilience, durability, etc.).

4. INVERSE MANUFACTURING

The challenge is the re-use of the product at the end of its life cycle.

The organisation decided to re-use (or contribute to re-use processes of its products through partnership models or business networks) or some of their components to manufacture new products, after re-conditioning the product components at the end of their life cycle.

5. REDUCTION OF HARMFUL EMISSIONS THROUGHOUT THE SUPPLY CHAIN

The challenge is to respect the environment by reducing emissions of climate-altering gases into the atmosphere and consumption of natural resources.

The organisation acts to reduce pollutant emissions in its supply chain and at the same time measures its direct and indirect environmental impact on natural resources (air, water, soil), while striving for a neutral balance in the medium and long term.

DISTRIBUTION AND TRANSPORT

6. TRANSPORT EFFICIENCY AND MOVEMENT OF GOODS AND PEOPLE

The challenge is to develop policies and rules for efficient distribution, handling, storage and transport processes.

Development of policies for filling in and out of vehicles to improve vehicle saturation. Reduction of TCO (total cost of ownership) through investment in handling and transport equipment that reduces environmental impact and operating costs.

7. INTERMODALITY

The challenge is to balance 'level of service-cost-emissions' by developing intermodal transport solutions and identifying targets for improvement on an annual basis.

PEOPLE AND PROCESSES IN LOGISTICS

8. TRAINING

The challenge is the awareness of individual (and organisational) behaviours and competence which develop sustainability: designing and implementing widespread information-training on values, behaviours, and good practices of sustainability, comparing competitors, involving local stakeholders, employees and executives.

9. DIGITALISATION OF OPERATIONS

The digital challenge includes digitalisation of processes to reduce costs, improve turnaround times and optimise processes resulting in lower emissions and lower costs.

10. KAIZEN

The challenge is the continuous improvement of products and processes: having a strategy, organisation and planning for the continuous improvement of processes/products and operational sustainability indicators.

11. METRICS - MEASUREMENT OF RESULTS AND PERFORMANCE

The challenge is to activate indicators to promote virtuous practices: to translate practices deemed virtuous into incentive mechanisms, using economic indicators (KPIs: Key Performance Indicators) as measurement tools.

LOGISTICS ECOSYSTEM

12. PARTICIPATORY DESIGN OF SUSTAINABLE SOLUTIONS

The challenge is stakeholder participation in solutions: learning from stakeholders, accelerating and innovating solutions, and including one's employees, customers, suppliers or competitors in the design of sustainable solutions.

13. COMMUNITY AND GOVERNMENT

The challenge is the inclusion of 'territory' in corporate projects: harnessing community know-how and govenment information and policies to improve projects and reputation locally.

14. SRESOURCE SHARING

The challenge is to collaborate with stakeholders - sometimes even competitors - to reduce costs: to share key resources such as warehouses, means of transport and delivery routes in order to reduce costs and environmental impact.

ECONOMIC FOCUS

SUSTAINABILITY INVESTMENTS

15. INVESTMENT DECISION-MAKING PROCESS

The challenge is the set of investment approval criteria, such as new payback periods and the redefinition of the criteria implicit in ROI.

Sustainability becomes 'good business'. Sustainability investments include new criteria related to wellbeing and quality of life as well. Payback times are different from the ones used for productivity or marketing investments.

SOCIAL FOCUS

FOREIGN SUPPLIES

16. SOCIAL PROCUREMENT

The challenge is in purchasing countries where social protection is not regulated through international standards.

The social dimension, such as child labour, gender equality, safety in the workplace must be aligned with the standard values of developed countries or international bodies such as the ILO (International Labour Organisation).

RELATIONS WITH THE TERRITORY

17. LOCAL HEALTH AND SAFETY

The challenge is the impact on the area surrounding the production or commercial facility, which must ensure standards shared with the local population. Environmental impacts, such as emissions and noise, must meet standards shared with local communities, even surpassing the law.

18. DRIVINT MEANS OF TRANSPORT

The challenge is efficiency that creates energy savings and safety.
Safety comes first: invest in driver training and performance measurement systems.

SYSTEM VISION AND INNOVATION

COMPLEXITY

19. RECOGNISING THE COMPLEXITY OF LOGISTICS

The challenge is "to become aware that only systemic thinking allows us to effectively represent a logistical process (supply chain): to understand and nullify the counter-intuitive effects of logistical choices, by adopting complexity simulation tools and developing a sustainable mindset as part od the organization culture.

INNOVATION

20. OPEN INNOVATION

The challenge is to look for solutions to the problems of Logistics - new product design, efficiency of production and distribution processes, new technologies, new organisational models - even outside the 'gates', even in adjacent or distant production industries, even by engaging internal collaborators and the existing supplier network. Look for sustainability solutions by going beyond one's own supplier network and adopt the 'Open Innovation' paradigm in Logistics.