Embedding Ecodesign and circular economy concepts in product design

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Listen to the webinar recording

YouTube: https://youtu.be/uAUOcUtrEAY

Non-YouTube link:
http://thor.inemi.org/webdownload/2021/Eco-Design/Eco-Design-6-Barco.mp4
About Barco
Barco Product portfolio
Some examples

ClickShare CSE-800
XDL-4K75
Barco UniSee
Coronis Uniti (MDMC-12133)
a personal plan tailored to your needs

Our laser upgrade solution comes with a variety of financing options that match your specific needs, all with better image quality, prolonged projector lifetime, peace of mind and a lower environmental impact.

Laser Light Upgrade

- Laser light
- 20 year upgrade kit warranty included

pre-purchase
laser light on screen

- consistent performance managed by Cinionic
- 20,000 hours contract
- warranty for whole projector included

Laser as a Service

pay monthly
laser light on screen

- consistent performance managed by Cinionic
- 20,000 hours contract
- warranty for whole projector included
- pay monthly based on actual usage
Barco Ecodesign

- Triggers?
- CE?
- Implementation?
- Scoring approach
Barco sustainability program

- Product sustainability at hock, not tangible
- 2016 start **CDP** reporting
- **Ambassadors** group (CLT, Management, designers, logistics ...) + reporting to board of directors
- 2017 CO2 assessment of **environmental impact** Barco: Own operations, logistics and products.
- Product sustainability is more than climate change (CO2)
  Dedicated impact mapping and management needed.
Barco sustainability program (2)

- 2017-2018 Specific **targets** covering initial focus points: CO2 impact, energy efficiency and **Ecodesign**

**Targets**

2023

- Reduce **carbon footprint of own operations** by 35% (baseline 2015)
- Reduce **energy footprint of our products** by 25% (baseline 2015)
- 70% of **revenues*** from Barco ECO label** products
- 70% of **products*** launched has Barco ECO label**

*hardware products
**products with A ecoscore or higher

We lower our environmental footprint and that of our customers
Triggers?

LCA
CE
Customers
Regulation
LCA typical DC Projector

Idemat methodology
now cinema projectors use a mindblowing 700 GWh per year in Europe

= one month of wind energy produced in Belgium
if LAMPS become LASER 
this drops with 78%

Our technology decisions have huge impact!
What are customers asking?

Overall ranking of tender requirements

- Circular design: lifetime
- Product safety
- Maintain/prolong: warranty/service
- Power consumption
- Reuse & recycle: equipment
- Circular design: repairability/upgradability
- Customer privacy & information security
- Maintain/prolong: spare part availability
- Hazardous materials
- Occupational health & safety
- Ergonomic product
- Circular design: mean time between failures
- Reuse & recycle: packaging
- Power management (eco mode)
- Circular design: material type
- Heat dissipation
- Circular design: packaging
- Power management (standby mode)
- Supplier assurance on sustainability
- Business ethics

0% 10% 20% 30% 40% 50% 60% 70% 80% 90%

Integrator  End-customer
What does the regulator demand?

Regulations by topic over time (Cumulative)

- Supporting Excluded
- Chemicals in Products
- Energy Efficiency
- Electronic waste / E-waste / WEEE
- Packaging
- Batteries
- Ecodesign
- Eco labelling
- Circular Economy

Need to act proactively!

Source: Compliance & Risks
Net zero – pledge / law

- The U.S. committed to a 2050 target, with a 20%–25% reduction emissions by 2030, after rejoining the Paris Agreement in 2021.
- Sweden’s 2040 target is the earliest commitment outlined in law.
- China’s 2060 target is one of the most impactful, covering an estimated 25% of global emissions.
- Australia and Singapore have carbon negative ambitions by the second half of the 21st century, but no concrete date.

- The majority of carbon neutrality goals are under discussion, with no firm plan of action.
- Mexico and other members of the Carbon Neutrality Coalition agree to target net zero emissions by 2030, but commitment is up to members.
- Uruguay’s 2030 target (under discussion) is the earliest carbon neutral pledge.
- Brazil’s 2060 target was one of many new pledges made during the U.S. Climate Summit in April 2021.
- Bhutan and Suriname are the only two countries that are carbon negative, removing more carbon than they emit.
Material Efficiency standards for Ecodesign Standards

- Commission CEN/CENELEC JWG10 mandate M/543 to create **product standards**:  
  - Durability  
  - Upgradability, repair and re-use  
  - Recyclability, recoverability
- Goal: use these standards for **target setting** and **enforcement** framework (how to measure).
- Impact product specific standards currently unknown
Circular solutions
Barco focus points – design strategy

- **Hardware & Software & Service**
- Software replacing hardware (de-materialization)
- Life cycle management software
- Predictive maintenance
- PaaS, XaaS with repurposing
- Retrofit, upgrade and lifetime extension
- Significant usage of recycled content

- Open loop recycling not part of CE strategy

Without adequately Ecodesigned products, CE is useless

Source: Agoria/Sirris BS8001
The EU Green Deal

Circular Action plan (2020)

Sustainable Europe Investment Plan (2020)

Regulation (EU) 2020/852 on EU Taxonomy (EUT)

To be adopted by:
- Financial institutions by end of 2021
- Non-financial companies throughout 2022

- Climate change mitigation
- Climate change adaptation
- Sustainable use of water & marine sources
- Circular economy
- Pollution prevention
- Healthy ecosystem

To be adopted by:
- Financial institutions and non-financial companies by the end of 2022
Mandatory Ecodesing for Barco

Barco end products are in scope of ecodesign requirements. Requirements cascade to components delivered to Barco via ecoscoring.

- Displays, Signage displays
- Computer
- Server
- External Power Supplies
- Projectors
- Networked products
Barco ecoscore methodology
3rd party tools
ECO labels

- Scores products on selective sustainability parameters for dedicated product groups
- Often pass/fail criteria
- B2C oriented → Difficult to establish generic design goals for all products
- Majority, owned or validated by independent third party body (€)
- Some government owned (China, USA CA…)
- Often required via green procurement tenders
- Large number out there …

No scoring mechanism that fits 100% Barco’s B2B diverse product portfolio → Barco Product Ecoscore
Barco Ecoscore tool

- Internal **motivation** tool to perform honest Ecodesign
- Regulatory **anticipation** tool
- Ensure continuous **improvement** according ISO 14001
- Introduces company wide Ecodesign **policies**
- Objective external **communication**
- Stimulate **innovation** and selection of more **sustainable materials**
- Sets **objective** Ecodesign metrics
- Fully integrated in the development process including OEM/ODM
- Allows to compare products internally
ECO scoring principles

- Based on (new) knowledge derived from:
  - Future regulations, green public procurement and (draft) standardization
  - Voluntary ECO labels
  - Customer requirements
  - Industry benchmarks (competition)
  - Technology trends
- Annually updated and 3rd party audited under ISO 14021
- Covers 4 major life cycle domains

Energy Efficiency  Material use  Packaging, logistic  End of life
**ECO scoring principles (2)**

- **Power supply**
- **Energy efficiency**
- **Standby mode**
- **Power management**
- **Collection of FMD’s**
- **Halogens**
- **Product Weight**
- **Recycled material**
- **Optimized packaging**
- **Recyclability**
- **Logistics**
- **Recycled material**
- **Accessories**
- **Lifetime extension**
- **Repairability**
- **Service**
- **Disassembly**
- **Modularity**
- **Recyclability**

### Scores

**0**
- No effort or worse than reference

**1**
- Small effort or small improvement compared to reference
- Significant effort: better than future regulation, standards and industry benchmark

**2**
- X weight factors

**A**
- ≥75%

**B**
- ≥50 & <75%

**C**
- ≥25 & <50%

**D**
- <25%

**Product Score**

- **Min. 1 D**
- **Min. 3 B**
- **Consolidate**

**Criteria on barco.com**
Examples of “A” makers

- Standby power and energy efficiency
- Full paper buffered packaging design
- Reduce number of accessories in the box
- PCR in Healthcare
- Halogen free PCB and cables, FMD data
- Focus on likelihood of recyclability
- Lifetime extension
- Modularity = serviceability
- Clearly define upgradability as highest value proposition

**One-pager** per product created to share good practices and improvement suggestions
Enabling eco-conscious cinema experiences with new A+ projector range

The Barco projection division is on a roll when it comes to sustainability. The new SP2K laser projector is the second projector range to receive an A+ ecocore. More than bringing numerous benefits to enhance the moviegoer experience and creating peace of mind for exhibitors, the projector series also meets high eco requirements:

- **Energy**: The SP2K smartly manages its power consumption and is an energy-efficient product thanks to its low-power standby-mode and ECO-mode – great for the environment, but also for the utility bills.

- **Packaging**: The packaging of the projector and its peripherals is kept to a minimum. Moreover, the design is further optimized for efficient logistics and transport.

- **Materials**: After the release of the other Series 4 projectors, Barco raised the bar even more in its use of eco-friendly materials. The SP2K projector is the first Barco cinema product with a housing that’s made of halogen-free plastics and contains post-consumer recycled plastics.

- **End-of-life optimization**: Just like its 4K nephews, the SP2K is designed with maximum modularity in mind to enable serviceability, upgradeability and lifetime extension.

The SP2K projector is the first Barco cinema product with a housing that contains recycled plastics.
First A+ ecoscore for a Barco medical display system

The A+ ecoscore obtained by the new Nio Fusion 12MP demonstrates that Barco is advancing well in making sustainability a core aspect of our product development. The following aspects contributed to the score:

- **Energy**: The Nio Fusion 12MP is praised for its overall energy efficiency and has a power management function enabled by default.

- **Packaging**: Optimized for transport and customer experience, the contents of each package is adapted to the destination region, reducing carbon footprint and waste.

- **Materials**: We strive to avoid using materials that are harmful to people and nature. Only halogen-free materials are used.

- **End-of-life optimization**: Although it lasts for many years, the Nio Fusion 12MP is designed with eventual disassembly in mind, contributing to an environmentally friendly end-of-life.

Albert Xthona, product manager diagnostic displays, comments: “We strive to incorporate learnings from previous medical devices, such as the Coronis Fusion 6MP which received an A ecoscore, and then add further improvements, such as those found in the Nio Fusion 12MP. Our focus on the unboxing experience and reducing discarded components was hard work, but produced a result that each customer actually feels.”
Innovative ecodesing requires innovation and breakthrough technologies.
Measuring product sustainability objectively makes it manageable.
ENABLING BRIGHT OUTCOMES

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