Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

Smart Point Locker

From

Smart Point

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
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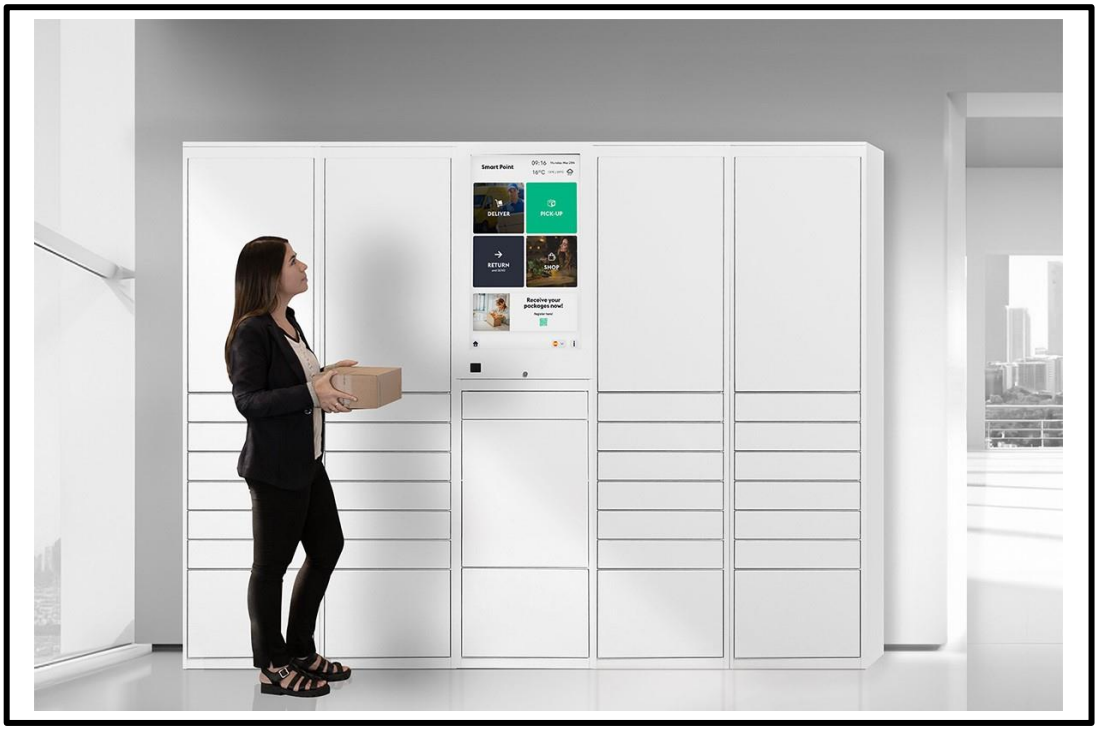
An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com



General information

Programme information

Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
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Accountabilities for PCR, LCA and independent, third-party verification
Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): *PCR 2019:14-c-PCR-021 Furniture (c-PCR to PCR 2019:14) (Adopted from EPD Norway). PCR 2019:14 v 1.2.5, valid until 20.12.2024.* *CPC code: 38121*
PCR review was conducted by: *The Technical Committee of the International EPD® System.* *Contact via: infonvirondec.com*
Life Cycle Assessment (LCA)
LCA accountability: *Zirkel*
Third-party verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ EPD verification by individual verifier Third-party verifier: *Elisabet Amat Guasch, GREENIZE Projects, eamat@greenize.es* Approved by: The International EPD® System
Procedure for follow-up of data during EPD validity involves third party verifier: ☐ Yes ☒ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025.

Company information

Owner of the EPD: LAVA LOCKER SL (SMART POINT)

Contact: Sergio Fernandez
Ops Manager
sergio.fernandez@smartpoint.ai
https://smartpoint.ai/

Description of the organization:

Lava Locker SL is a company dedicated to the management of parcel delivery services through a smart parcel reception point, called Smart Point, installed in office and residential buildings, as well as in strategic locations in cities and towns.

The manufacturing of the locker is subcontracted to a third party, while Lava Locker SL develops the software that manages the flow of information between the ordering of a parcel and the delivery to the Smart Point.

The corporate offices and the development censer of the company are located in Barcelona. The manufacturing plant of the locker is located near the city of Zaragoza.

Product-related or management system-related certifications:

- Environmental Management System ISO 14001:2015.
- Quality management systems ISO 9001:2015.
- CE Marking

Name and location of production site(s):
Zaragoza, Spain.

Product information

Product name: Smart Point Locker

This EPD® represents a Smart Point Locker available in 3 sizes:

- **Size**:
  - Smart Point SMALL
  - Smart Point MEDIUM
  - Smart Point LARGE

Product Description:
The declared product is a Smart Point Locker made up of steel modules and electronic components, that include a 32" screen, a PC and a 4G Router. The basic configuration of a Smart Point Locker consists of one module with 8 doors, one module with 10 doors and one master module containing the main electronic components. The product is available in three different sizes, small, medium, and large.

The locker configurations are divided into three steel modules. A steel module is defined as a column structure and can include 4, 8 or 10 doors:

Dimensions and weight of the modules	Unit	Module 1 is composed of 8 doors.	Module 2 is composed of 10 doors.	Master module is composed of 4 doors.
Height	mm	1.950	1.950	1.950
Length	mm	502	502	502
Depth	mm	603	603	603
Weight	kg	83	94	77

The structure of the modules is made of untreated steel and galvanised steel and are coated with a layer of paint. The main module includes the space for the installation of the display and the electronic components necessary for its operation.

The three locker models are distinguished by the number of steel modules included, with the following configuration:

Modules	Model Small	Model Medium	Model Large
Module 1	1	3	4
Module 2	1	2	4
Master module	1	1	1

The electronic components of the Smart Point are the following (The number of electronic components may vary depending on the size of the locker):

PC
PCB
Screen
Router 4G
Power Supply Unit
Switch
Circuit breaker
Power strip
Locker

UN CPC code:
38121: Other metal furniture, of a kind used in offices

Geographical scope:
For modules A1-A2 a Global or European scale has been considered depending on the location of the supplier.
For module A3, the geographical scope of locker manufacturing was Spain.
For modules A4-A5, a European scale has been considered.
Finally, for modules B and C a European scale has been considered.

LCA information

The selection of the representative product configuration in this EPD is based on the highest results in the environmental assessment. The selected option is the Smart Point Locker LARGE model which includes a total of 9 steel modules with a lifetime of 5 years.

Functional unit:
A **Smart Point Locker LARGE** model unit with a service life of 5 years.
The functional unit has a weight of **812,35 kg** (weight includes steel structure and electronic components).

Reference service life:
A useful life of 5 years is considered, based on the quality guarantee offered to the client.

Time representativeness:
The primary data used were obtained from Smart point own production facility for the year 2022 and are representative of the product and the production process.

Data quality:

To meet the data quality requirements, the following aspects are mainly considered in this study:

- Time-related coverage
- Geography coverage.
- Technology coverage

For the development of the LCA, the data quality requirements defined by the ISO 14044 standard have been considered.

Database(s) and LCA software used:
The study was carried out using the SimaPro v.9.4.0.2 calculation software and the Ecoinvent 3.8 database.

Description of system boundaries:
Cradle to grave, as a minimum A1 to C4 and D.

The life cycle steps analysed are described below:

A1 - Manufacture of components

This phase contemplates the extraction and transformation of the acquired raw materials. For the manufacture of a Smart Point, the manufacturer acquires:

- Untreated steel plates.
- Galvanized steel plates.
- Powder paint.
- Electronic components

A2 - Transportation of materials to the factory

Materials are transported to the manufacturer by road or air, depending on the supplier. This includes the transport of materials for the manufacture of the locker, packaging materials, and auxiliary products.

A3 - Manufacture of the locker

Once the materials arrive at the factory located in Zaragoza, the locker is manufactured.

- Phase 1: Punching of the steel plates. This process requires electrical consumption.
- Phase 2: Steel forming. This process requires electrical consumption.
- Phase 3: Riveting of the steel. This process is manual and does not require electrical consumption.
- Phase 4: Powder coating. This process requires a surface preparation with a previous cleaning stage (use of degreasing detergent). This process requires electrical consumption for spraying and diesel fuel for the oven.
- Phase 5: Assembly of the electrical components. In this process, all the electronic components are manually assembled in the locker.
- Phase 6: Packing of the locker. In this phase, the locker is packed on one or more pallets (depending on the model), the locker is protected with cardboard corner protectors, wrapped with packing film, and a safety strap is applied.

This includes the impact of sorting for recycling of waste generated at the plant, as well as transport to the waste manager.

A4 – Transport

Smart Point are distributed entirely by road in Europe, mainly in Spain.

A4 - Transport	
Vehicle type used for transport e.g. long distance truck, boat etc.	Cargo truck 7.5-16 metric tons, EURO 6
Distance	291,75 km (Weighted distance)
Capacity utilisation (including empty returns)	Assumed by ecoinvent
Bulk density of transported products	163,55 kg/m^3

A5 - Installation

The installation of the locker is done manually, so there are no entries in this module. Product packaging waste is reported in this module. Impacts from sorting for recycling, incineration, and landfill are included.

A5 - Installation	
Ancillary materials for installation (specified by material)	Ancillary materials are not declared
Water use	Not applicable
Other resource use	Not applicable
Quantitative description of energy type (regional mix) and consumption during the installation process	0 kWh Installation is manual.
Waste materials on the building site before waste processing generated by the product's installation (specified by type).	Waste packaging materials: • Cardboard: 3 kg • Wood: 45 kg • Plastic: 8,1 kg
Output materials (specified by type) as result of waste processing at the building site e.g. of collection for recycling, for energy recovery, disposal (specified by route).	Cardboard: • to recycling (81,6%): 2,45 kg • to incineration (11,8%): 0,35 kg • to landfill (6,6%): 0,20 kg Wood: • to recycling (50%): 22,32 kg • to incineration (32%): 14,58 kg • to landfill (18%): 8,10 kg Plastic: • to recycling (32,5%): 2,63 kg • to incineration (42,6%): 3,45 kg • to landfill (24,9%): 2,02 kg
Direct emissions to ambient air, soil and water	Not applicable

B1-Use

There's no impact on the product at this stage.

B2-Maintenance

The locker is cleaned monthly with soap and water.

B2 – Maintenance	
Maintenance process	Monthly cleaning is carried out with water and non-abrasive soap for the exterior and interior of the locker.
Maintenance cycle	12 / year (total: 60 cycle)
Ancillary materials for maintenance, e.g. cleaning agent, specify materials	36 gr mild soap / cycle
Net fresh water consumption during maintenance	0,012 m^3/cycle

B3-Repair

No repairs are required.

B4-Replacement

During the lifetime of the Smart Point Locker (5 years), it is estimated that the screen (32" monitor), the PC and the 4G Router need to be replaced once. For the replacement, the replacement parts are sent to the customer, who performs the replacement manually. The components are sent back to the manufacturer and 80% are repaired and reused and 20% are dismantled for recycling of parts. Therefore, sorting is included for 20% allocated for recycling.

B4 - Replacement	
Replacement cycle	3 electronic components 1 time during the RSL
Energy input during replacement e.g. crane activity, energy carrier type, e.g. electricity and amount if applicable and relevant	0 kWh Assembly is manual.
Exchange of worn parts during the product's life cycle, e.g. zinc galvanized steel sheet, specify materials	The three electronic components are: • The screen (32" monitor) • The PC • The 4G Router

B5-Refurbishment

No refurbishments are required.

B6-Use of energy

For energy consumption, the power of the electronic components has been considered by the number of annual hours of use (5 years x 365 days x 24 h = 43.800 h).

B6 – Use of energy	
Electricity consumption	The energy used during the service life is **3.182,07 kWh**.
Power of equipment	The electronic components that have energy consumption are: • The screen (32" monitor): 0,015 kW • The PC: 0,050 kW • The 4G Router: 0,008 kW

B7-Water use in service

No water used during the service life.

C1-Disassembly

The Smart Point is disassembled and installed manually. Therefore, there are no environmental impacts in this module.

C2-End of life Transport

This module relates to the transport of the locker to final waste disposal. An average distance of 50 km from disassembly site to the waste processing site is assumed.

C3-Treatment of waste for recycling

This module covers the impacts related to the processes of sorting and preparation for recycling of Smart Point Locker materials and components. It is assumed that 56% of steel and 40% of WEEE is recovered for recycling. Incineration with energy recovery is also included, accounting for 28.29% for

steel and 38.57% for WEEE. Waste assumptions are based on European data sources, as all customers are located in Europe.

C4-Waste disposal

This module refers to landfill disposal processes. The following is assumed:

- Steel waste: 16% of the waste is deposited in landfills.
- Waste electrical and electronic equipment waste: 21% of waste is landfilled.

Waste assumptions are based on European data sources, as all customers are located in Europe.

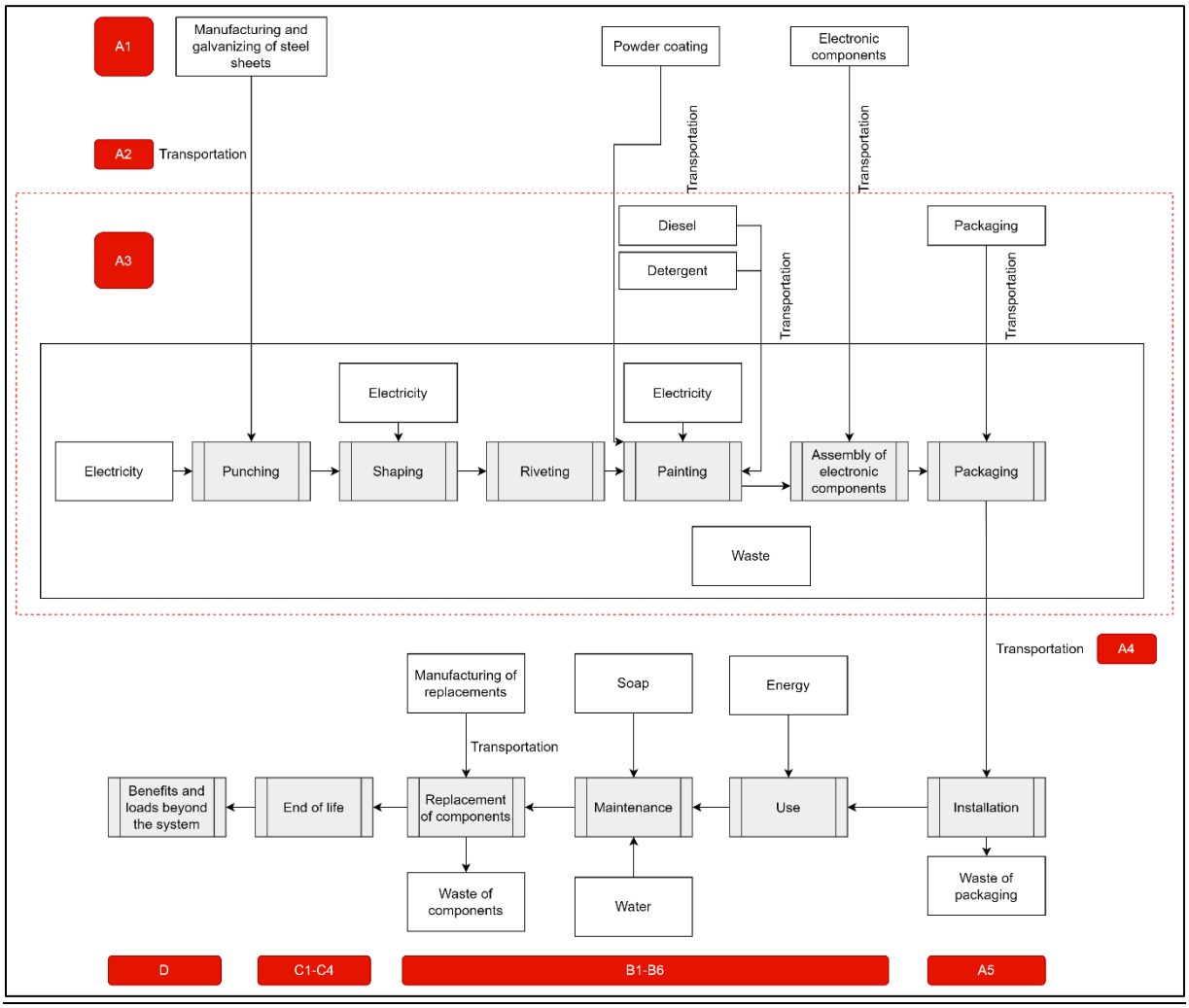
D-Reuse, recovery, and recycling potential

For the modelling of this section, the % of materials allocated to recycling according to the type of waste seen in the previous modules has been incorporated with a negative sign (profit). This includes packaging waste (A5), replacement component waste (B4, with 100% recycling and recovery) and locker waste (C3).

The impact of the waste recycling process (steel, electronic components, wood, cardboard and plastic) has been positively included.

This study includes a "cradle to grave" perspective. This means that all processes necessary for the extraction of raw materials, manufacture, transport, use and end-of-life are included in the study.

Modules declared, geographical scope, share of specific data (in GWP-GHG results), and data variation (in GWP-GHG results).



	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	**A1**	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Modules declared	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Geography	GLO	GLO	ES	EU	EU	-	EU	-	EU	-	EU	-	EU	EU	EU	EU	EU
Specific data used	>90% GWP-GHG					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	[1]					-	-	-	-	-	-	-	-	-	-		-
Variation – sites	One manufacturing site: 0%					-	-	-	-	-	-	-	-	-	-	-	-

[1] Variations in the constituent components of the product (SMALL, MEDIUM, and LARGE versions) result in a variation of the environmental impact. The maximum environmental impact is indicated as the result (LARGE model). See additional information section.

Additional information:

Allocation processes: In this study, there are no co-products in the manufacture of lockers. Therefore, no material allocation is necessary. The total amount of operational waste generated at the plant has been allocated based on the allocation of metal waste and the units produced. All waste management at the plant is destined for recycling/recovery. In accordance with PCR 2019:14, waste allocation follows the polluter pays principle.

Packaging information has been determined by the manufacturer by estimation/allocation.

Cut-off rules and considerations: According to PCR 2019:14 Construction products, based on established LCA practice, the cut-off criteria are set to a maximum of 5 % of the overall environmental impact of the product system given by its life cycle impact assessment (LCIA) results. The study does not exclude any modules or processes which are stated mandatory in EN 15804:2012+A2:2019/AC:2021 and the applied PCR.

Flows less than 1% of the total inventory were excluded:

- Construction of company plant and processing machinery
- Staff travel and homework transfers.
- Research and development activities
- The materials necessary for cleaning the machinery.

The following processes have been excluded because they fall within the cut-off standards (<1%):

- The screws used for the installation of the Smart Point (A5) are tightened manually. Also excluded as possible waste in the disassembly phase (C1) are.
- The lubricant used in the maintenance (B2) phase for the lubrication of locks and mechanisms.

Assumptions: In any study of the life cycle there are data that are difficult to obtain and corroborate. These data, necessary for modeling and calculations, are presented as an assumption in the most careful way possible, leaving clearly explicit what are the hypotheses considered, so that they can be easily modified if necessary.

These are the general hypotheses that affect the studied system:

- The electricity consumed in the Core stage (A3) is medium voltage electricity from the manufacturer's supplier. The supplier has a certificate of guarantee of renewable origin. An update of the Spanish electricity mix for the last year of the Ecoinvent database, v 3.8, year 2022, has been performed with the information provided by the supplier.
- It has been considered that all road transport vehicles (trucks of different tonnages) comply with the EURO6 emission limit regulations and the tonnage has been chosen based on the size/weight they transport.

Calculation methodologies: In this study, EN 15804 + A2 method is selected as Impact assessment method. The EN 15804 standard covers Environmental Product Declarations (EPDs) of Construction Products. In addition, a supplementary indicator for climate impact has been added:

GWP-GHG. This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. Temporary and permanent carbon storage is not allowed therefore the 15804 standard provides a set of requirements to prevent its accounting.

Content information

Product Components	Weight	Post-consumer material, weight	Biogenic material, weight	Weight biogenic carbon, kg C/kg
Unit	**kg**	**%**	**%**	**kg**
Steel	786,04	23%	0 %	0
Powder coat	4,50	0 %	0 %	0
Electronic components	21,81	0 %	0 %	0
Total	**812,35**		0 %	0

Packaging materials	Weight	Weight (versus the product)	Weight biogenic carbon kg C/kg
Unit	kg	%	Kg C/ kg
Wood	45	5,54 %	0,44
Cardboard	3	0,37 %	0,20
Plastic	8	0,98 %	0
Total	**56**		

1 kg of biogenic carbon is equivalent to 44/12 kg CO_2.

The Smart Point product covered by this EPD does not contain Substances of Very High Concern (SVHC) as defined in Article 59 (10) of Regulation (EC) No 1907/2006 (dated 2023-01-17), also known as the REACH Candidate List, in a concentration equal to or greater than 0.1% by weight.

Results of the environmental performance indicators

Mandatory impact category indicators according to EN 15804

RESULTS PER FUNCTIONAL UNIT																
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-fossil	kg CO_2 eq.	3,47E+03	5,44E+01	1,01E+01	0	2,37E+00	0	7,45E+02	0	1,23E+03	0	0	8,66E+00	4,87E+01	1,29E+00	-1,87E+03
GWP-biogenic	kg CO_2 eq.	-6,71E+01	2,47E-02	7,67E+01	0	2,44E-02	0	1,47E+00	0	7,92E+00	0	0	3,95E-03	6,96E-02	8,49E-04	5,17E+01
GWP- luluc	kg CO_2 eq.	5,80E+00	2,56E-02	-3,41E-03	0	3,09E+00	0	1,03E+00	0	2,89E+00	0	0	4,10E-03	2,34E-02	6,71E-04	-1,89E+00
GWP-total	kg CO_2 eq.	3,40E+03	5,45E+01	8,67E+01	0	5,48E+00	0	7,48E+02	0	1,24E+03	0	0	8,67E+00	4,88E+01	1,29E+00	-1,82E+03
ODP	kg CFC 11 eq.	3,41E-04	1,24E-05	3,34E-07	0	3,65E-07	0	3,80E-05	0	6,09E-05	0	0	1,95E-06	2,07E-06	2,80E-07	-9,46E-05
AP	mol H^+ eq.	1,81E+01	3,55E-01	7,19E-03	0	3,05E-02	0	4,60E+00	0	6,61E+00	0	0	2,45E-02	1,56E-01	6,59E-03	-9,94E+00
EP-freshwater	kg P eq.	2,19E-01	4,43E-04	1,27E-05	0	2,84E-04	0	7,04E-02	0	1,31E-01	0	0	7,08E-05	5,98E-04	8,23E-06	-1,51E-01
EP-marine	kg N eq.	4,69E+00	1,35E-01	2,93E-03	0	2,92E-02	0	1,89E+00	0	8,68E-01	0	0	4,66E-03	3,84E-02	3,46E-03	-3,37E+00
EP-terrestrial	mol N eq.	4,14E+01	1,48E+00	2,49E-02	0	1,08E-01	0	9,46E+00	0	9,98E+00	0	0	5,22E-02	4,32E-01	2,51E-02	-2,16E+01
POCP	kg NMVOC eq.	1,45E+01	4,08E-01	7,92E-03	0	1,46E-02	0	2,32E+00	0	2,72E+00	0	0	2,00E-02	1,20E-01	7,41E-03	-7,22E+00
ADP-minerals&metals*	kg Sb eq.	2,45E-01	2,48E-04	1,32E-05	0	5,02E-05	0	9,55E-02	0	2,91E-03	0	0	3,97E-05	1,32E-03	1,67E-06	-1,70E-01
ADP-fossil*	MJ	4,78E+04	8,210E+02	2,482E+01	0	2,708E+01	0	9,424E+03	0	2,626E+04	0	0	1,297E+02	2,036E+02	1,94E+01	-2,20E+04
WDP*	m^3	8,70E+02	2,69E+00	5,69E-01	0	3,70E+01	0	1,53E+02	0	2,90E+02	0	0	4,30E-01	2,67E-01	8,73E-01	-2,99E+02

Acronyms			GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption

* Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.

Additional mandatory and voluntary impact category indicators

RESULTS PER FUNCTIONAL UNIT															
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
GWP-GHG [1]	kg CO2 eq.	3,47E+03	5,44E+01	1,01E+01	0	5,46E+00	0	7,46E+02	0	1,23E+03	0	0	8,66E+00	4,87E+01	1,29E+00	-1,87E+03

[1]The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus equal to the GWP indicator originally defined in EN 15804:2012+A2:2019.

Resource use indicators

RESULTS PER FUNCTIONAL UNIT																
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	5,56E+03	1,38E+01	3,65E-01	0	1,29E+02	0	1,23E+03	0	4,67E+03	0	0	2,20E+00	2,51E+01	1,82E-01	-2,89E+03
PERM	MJ	8,28E+02	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PERT	MJ	5,56E+03	1,38E+01	3,65E-01	0	1,29E+02	0	1,23E+03	0	4,67E+03	0	0	2,20E+00	2,51E+01	1,82E-01	-2,89E+03
PENRT	MJ	5,09E+04	8,72E+02	2,65E+01	0	2,90E+01	0	1,01E+04	0	2,76E+04	0	0	1,38E+02	2,16E+02	2,06E+01	-2,34E+04
PENRM	MJ	3,62E+02	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PENRE	MJ	5,09E+04	8,72E+02	2,65E+01	0	2,90E+01	0	1,01E+04	0	2,76E+04	0	0	1,38E+02	2,16E+02	2,06E+01	-2,34E+04
SM	kg	1,84E+02	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FW	m^3	8,45E+02	2,69E+00	5,62E-01	0	3,55E+01	0	1,50E+02	0	2,85E+02	0	0	4,31E-01	4,27E-01	8,73E-01	-2,93E+02
Acronyms			PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water												

Waste indicators

RESULTS PER FUNCTIONAL UNIT															
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	4,37E+00	2,20E-03	6,51E-05	0	6,85E-05	0	2,07E-02	0	9,30E-03	0	0,00E+00	3,48E-04	5,62E-04	2,95E-05	-1,05E-01
Non-hazardous waste disposed	kg	5,32E+02	3,44E+01	1,13E+01	0	8,84E-01	0	8,92E+01	0	8,70E+01	0	0,00E+00	5,51E+00	1,16E+01	1,29E+02	-2,00E+02
Radioactive waste disposed	kg	1,75E-01	5,51E-03	1,33E-04	0	9,54E-05	0	2,15E-02	0	1,94E-01	0	0,00E+00	8,69E-04	1,16E-03	1,27E-04	-4,42E-02

Output flow indicators

RESULTS PER FUNCTIONAL UNIT											
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1 -B3**	**B4**	**B5-B7**	**C1-C2**	**C3**	**C4**	**D**
Components for re-use	kg	0	0	0	0	5,34E+00	0	0	0	0	0
Material for recycling	kg	3,61E+01	0	2,76E+01	0	1,34E+00	0	0	4,51E+02	0	0
Materials for energy recovery	kg	0	0	1,82E+01	0	0	0	0	2,32E+02	0	0
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0	0	0

Interpretation of the environmental performance results

The life cycle stage with the highest environmental burden is the product phase (A1-A3), with the following contributions for a functional unit:

Contribution of the product phase (A1-A3) to the total life cycle.	
Impact category	**Functional unit**
Climate Change	61,04%
Ozone depletion	74,59%
Photochemical ozone formation	72,11%
Resource use, minerals and metals	71,01%

The next stage is energy consumption (B6) which is in the Smart Point Locker use phase and contributes as the second stage with the highest impact with the following contributions:

Contribution of the energy consumption stage (B6) to the total life cycle	
Impact category	**Functional unit**
Climate Change	22,91%
Eutrophication, freshwater	31,13%
Resource use, fossils	30,99%

Module B6, which has the same consumption for the three models, decreases its contribution as its size increases. The larger locker requires a greater amount of materials and consequently the product stage (A1-A3) has a greater impact on the environmental contribution.

Additional information

Some of the environmental indicators of the 3 Smart Point locker models are presented in the following table (impacts for a *cradle to grave* (A1-C4) life cycle are included):

Impact category	Unit	SMART POINT LARGE	SMART POINT MEDIUM	SMART POINT SMALL
Weight	**kg**	**812,35**	**534,39**	**267,70**
Climate Change	Kg CO_2 eq	5,60E+03	4,68E+03	3,75E+03
Ozone depletion	Kg CFC_{11}	4,58E-04	3,61E-04	2,56E-04
Acidification	Mol H+ eq	2,99E+01	2,55E+01	2,10E+01

Conversion factors:

The conversion factors given in this table can be used to convert the values of the environmental performance results of the product represented in this EPD in the section Environmental information for the functional unit for the available models by multiplying them by these conversion factors. The conversion factors are averaged so that the results obtained are indicative and by no means exact, however, they are considered sufficiently representative to contribute to the transparency and quality of this EPD.

SMART POINT Model	Modules	Smart Point SMALL	Smart Point MEDIUM
Conversion factor PRODUCT PHASE	A1-A5	0,50	0,75
Conversion factor USE PHASE	B1-B7	1	1
Conversion factor END-OF-LIFE	C1-C4	0,37	0,68

References

- ISO 14040:2006 Environmental management - Life cycle assessment - Principles and framework.
- ISO 14044:2006 Environmental Management-Life Cycle Assessment-Requirements and Guidelines.
- ISO 14025:2006 Environmental Labels and Declarations-Type III Environmental
- Declarations- Principles and Procedures.
- EN 15804:2012+A2. Sustainability in construction. Environmental product declarations. Basic product category rules for construction products.
- GPI, General Program Instructions for the International EPD® System v4.0.
- PCR Construction products. PCR 2019:14 v 1.2.5, valid until 20.12.2024.
- PCR 2019:14-c-PCR-021 Furniture (c-PCR to PCR 2019:14) (Adopted from EPD Norway)
- Zirkel (2023). Life Cycle Analysis Report of Smart Point Locker

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