SuMPO EPD JAPAN VERIFIED

SuMPO EPD Japan

Third party verified

Environmental Product Declaration

In Confromance with

ISO14025 | ISO14040 | ISO14044

Hitachi Vantara, Ltd.

Hitachi Virtual Storage Platform One Block 85

H-65AH-CBXANNN / A-65AH-CBXANNN

Registration number	Verificartion date	Publication date	Expiration date	EPD type
SuMPO-EPD-2604-135-1	2026/4/8	2026/4/18	2031/4/7	Single Product EPD

* First publication date

Additional standards in conformance

N/A

EPD can be updated or withdrawn during the validity period. To confirm the validity of this EPD, check the following website:
https://ecoleaf-label.jp/epd/search

●General Information

＞Programme

Programme name	SuMPO EPD Japan
Programme operator	Sustainable Management Promotion Organization (SuMPO)
Address	KANDA SQUARE GATE 4F, 14-8, Uchikanda 1-chome, Chiyoda-ku, Tokyo, 101-0047, Japan
Website	https://ecoleaf-label.jp

＞GPI and PCR

GPI	SuMPO EPD Japan General Program Instructions v.2.1.1
PCR name	IT equipment
PCR registration number	PA-520000-BF-04
PCR publication date	2023/8 /15
PCR review panel chair	Ken Yamagishi
PCR valid until	2028/8 /14
PCR issuer	Sustainable Management Promotion Organization (SuMPO)

＞Verification

Verification Type	Third-party verification in conformance with ISO14025		
	☐ Internal	■ External	
	■ Third-party verification by individual verifier	☐ Third-party verification by verification body	☐ Third-party verification by system certification
Verifier	Tomoko Fuchigami (EFPRO LLC)		

＞Standards

Standards in conformance with;	■ ISO14040:2006	■ ISO14044:2006	☐ ISO14067:2018
	■ ISO14025:2006	☐ ISO21930:2007	☐ ISO21930:2017
	☐ EN15804+A2	☐ EN50693:2019	☐ ISO/IEC63366:2025

EPD owner is responsible for the information contained in the EPD and for environmental claims related to the information. For any inquiries or requests regarding the content of the EPD, please contact the EPD owner.

EPDs are comparable only if they comply with this document, use the same sub-PCR where applicable, include all relevant information and are based on equivalent scenarios. Comparability of EPDs is limited to those applying a functional unit.

The LCIA results are relative expressions and do not predict impacts on category endpoints, the exceedance of thresholds, safety margins or risks.

When using weighted averages for calculation, the life cycle impact assessment results, life cycle inventory analysis-related information, waste-related information, and environmental information on output flows do not correspond to information about a specific product.

●EPD Owner's Information

Name of company and dept.	Hitachi Vantara, Ltd. Storage Engineering dept.
Address	292 Yoshida-cho, Totsuka-ku, Yokohama-shi, Kanagawa-ken, 244-0817 Japan.
Contact	+81-45-870-1533
LCA practitioner	Hitachi Vantara, Ltd.
Company description	Hitachi Vantara, Ltd. is an IT solutions company within the Hitachi Group, focusing primarily on storage products. It provides enterprise storage systems and data management solutions, operating globally. https://www.hitachivantara.com/ja-jp/home

Environmental Product Declaration for Hitachi Virtual Storage Platform One Block 85

●Product Information

Product name		Hitachi Virtual Storage Platform One Block 85		
Product /model number		H-65AH-CBXANNN/A-65AH-CBXANNN		
Product sepcification	MASS	797.34 kg	Conversion factor	-
	Function	High-performance, highly reliable storage systems for large enterprises and organizations to securely and efficiently store, manage, and protect the vast amounts of data they handle in their operations.		
	Applications	Data storage in data centers and internet clouds, use in mission-critical operations, AI analysis, and more.		
	TS*	Provides high-speed, large-capacity data storage (up to 17.28PB) through the adoption of NVMe drives.		
★選択してください★	Service life	5 Years		
	In-use conditions	Data centers, etc.		
	reference	In accordance with IT equipment PCR, Life time has been set to 5years.		
Manufacturing site(s)		Hitachi Vantara,Ltd.		
Product description		Enterprise storage that combines high availability with efficiency and simplicity. NVMe-enabled all-flash configurations and highly efficient capacity reduction features deliver stable performance and simplified operations for diverse workloads. It also reliably protects data from various security risks, supporting business continuity. <Product Specifications> RAID controller chassis (max.) : 3 units Drive enclosures (max.) : 3 units Number of drives (max.) : 288 NVMe SSDs Storage capacity (max.) : 17,280 TB (1 TB = 1,000,000,000,000 bytes)		
Website		https://www.hitachivantara.com/en-us/home		

* TS: technical specifications,

●Product Content

Product components	Propotion (%)	Mass (unit)	
Disk array (including rack)			
Steel	53.6	427.17	kg
Other Metals	0.7	5.27	kg
Plastics	2.1	16.60	kg
Printed Circuit Boards	9.6	76.90	kg
Covered Copper Wire, Motors(FAN)	13.4	106.63	kg
Batteries	1.8	14.53	kg
Power Supplies	10.5	84.01	kg
SSD	8.3	66.24	kg
Packaging materials	Propotion (%)	Mass (unit)	
Cardboard	68.6	11.13	kg
Plastic	7.4	1.20	kg
Desiccant	24.0	3.90	kg

●Biogenic Carbon Content

Item	Content (kg-C)	Content (kg-CO_2 eq)
Biogenic carbon content per product	-	-
Biogenic carbon content in packaging	-	-

●LCA-related Information

＞EPD Type Information

EPD type	Product type	■ Single product EPD	☐ Multiple products EPD	☐ Industry-wide EPD	
	Site type	■ Single site	☐ Multiple sites		
	Value	■ Specific	☐ Average	☐ Representative	☐ Worst case
Geographical coverage		Global			
Description of representativeness for multiple-products/sites EPD		-			
Description of variation for multiple-products/sites EPD		-			
Description of products covered in the multiple products EPD		-			

＞LCA Information

Declared unit		Per Sales Unit (1 System)	
Mass per declared unit (Conversion factor to mass)		797.34 kg	
Reference flow (number of products required to fulfil the function)		–	
System boundary		☐ Cradle-to Gate	☐ Cradle-to-Gate with options	■ Cradle-to-Grave
LCA software		MiLCA for EPD 3.2.0.0	
LCI database		IDEA 3.1	
Characterization model		Climate Change: IPCC Sixth Assessment Report (IPCC, 2021), Other Impact Areas: LIME2	
Use of other background data		–	
Secondary data quality		The calculation was performed using data that met the secondary data quality standards specified by GPI.	
Primary data collection sites		Hitachi Vantara, Ltd.	
Primary data collection period		2025/1～2025/12	
Biogenic carbon		■ 0/0 approach	☐ -1/+1 approach
Information about electricity	Use	■ Average consumption mix	☐ Others
	Type	–	
	Purchase date	–	
	Issuing body	–	

＞Life Cycle Stages

Raw materials acquisition stage	Production stage	Distribution stage	Use stage	End of life stage
■	■	■	■	■

■ : declared stage　　– : stage not declared

＞Allocation

During the assembly process in the production stage, the factory's total electricity consumption was allocated to other products based on man-hours.
Specifically, the electricity consumed throughout the factory was distributed to each product using the labor time required for the assembly process.

＞Cut-off rules

IT equipment PCR (PA-520000-BF-04) follows the specified cutoff rules and does not implement any cutoff outside of those specifications.

＞System Boundary

The settings were based on GPI/PCR. Only processes defined as outside the system boundary by GPI/PCR are considered outside the system boundary.
Processes defined as outside the system boundary by GPI/PCR are not included in the calculation.
The temporal system boundary is 100 years.

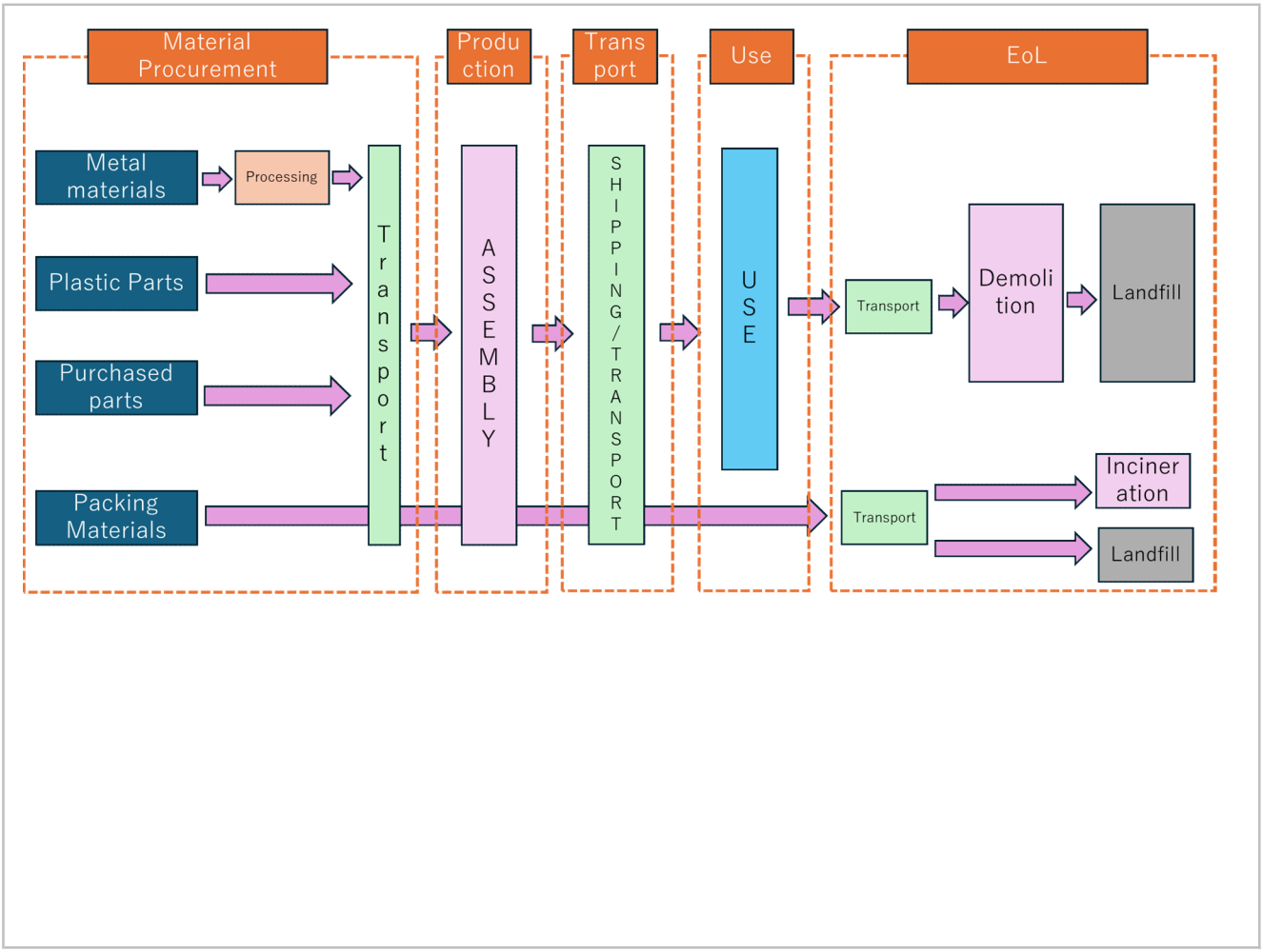
＞Scenario

The transport distances for raw materials and for End-of-life stage, as well as the use stage, were calculated using PCR scenarios.

＞Electricity Modelling

Calculations were performed using Japan's average grid electricity data for 2018 across all targeted life cycle stages.

＞Life Cycle Sytem Diagram



●LCA Result

＞LCIA Indicators

		Raw materials acquisition stage	Production stage	Distribution stage	Use stage	End of life stage
GWP	kg-CO_2eq	1.15E+06	3.42E+03	1.32E+02	4.37E+05	2.32E+02
Ozone layer depletion	kg-CFC-11eq	2.72E-01	8.27E-04	1.77E-09	1.06E-01	6.62E-06
Acidification	kg-SO_2eq	1.59E+03	3.36E+00	4.36E-01	4.29E+02	1.17E-01
Urban air pollution	kg-SO_2eq	1.25E+03	2.56E+00	1.63E-01	3.28E+02	7.02E-02
Photochemical oxidants	kg-C_2H_4eq	4.66E+01	6.59E-02	9.29E-04	8.42E+00	8.52E-04
Hazardous chem. - carcinogenic	kg-C_6H_6eq	3.59E+03	7.99E-02	6.55E-04	1.02E+01	1.01E-02
Hazardous chem. - chronic	kg-C_6H_6eq	3.13E+01	1.02E-02	4.26E-04	1.30E+00	2.38E-04
Aquatic ecotoxicity	kg-C_6H_6eq	1.12E+04	6.67E+00	2.09E-05	8.53E+02	5.76E-02
Terrestrial ecotoxicity	kg-C_6H_6eq	1.79E+05	1.62E+02	3.46E-04	2.07E+04	1.29E+00
Eutrophication	kg-PO_4^{3-}eq	1.91E+01	2.08E-04	1.35E-09	2.66E-02	8.28E-04
Land use - maintenance	m^2/year	1.24E+04	1.69E+01	1.10E+01	2.16E+03	1.28E+00
Land use - modification	m^2	2.60E+02	4.68E-01	2.21E-01	5.99E+01	2.66E-02
Resource consumption	kg-Sbeq	2.32E+02	2.32E-02	5.48E-04	2.97E+00	3.73E-04

＞LCI

		Raw materials acquisition stage	Production stage	Distribution stage	Use stage	End of life stage
Use of non-renewable resources	kg	1.62E+05	4.55E+01	1.32E-04	5.82E+03	1.10E+00
Use of non-renewable energy	kg	4.55E+05	1.28E+03	4.02E+01	1.64E+05	2.41E+01
Use of non-renewable energy	MJ	1.90E+07	5.30E+04	1.80E+03	6.78E+06	1.04E+03
Use of renewable resources	kg	9.49E+04	3.66E+00	3.36E-05	4.68E+02	3.93E-02
Use of renewable energy	MJ	4.78E+06	2.18E+04	4.58E-02	2.79E+06	1.73E+02
Consumption of freshwater resources	m^3	4.62E+03	4.91E-01	2.69E-03	6.28E+01	1.40E-02

＞Waste Indicators

		Raw materials acquisition stage	Production stage	Distribution stage	Use stage	End of life stage
hazardous waste disposed	kg	–	–	–	–	–
non-hazardous waste disposed	kg	1.44E+04	4.16E-01	1.14E-06	5.32E+01	8.34E+02
Municipal waste, landfill	kg	1.29E+00	1.58E-10	1.85E-15	2.02E-08	2.56E-02
Industrial waste, landfill	kg	1.44E+04	4.16E-01	1.14E-06	5.32E+01	8.34E+02

*It indicates the amount of waste generated throughout the lifecycle.

＞Output Flow Indicators

			Raw materials acquisition stage	Production stage	Distribution stage	Use stage	End of life stage
Components for reuse		kg	–	–	–	–	–
Materials for recycling		kg	–	–	–	–	–
Material for energy recovery		kg	–	–	–	–	–
Exported energy from waste (energy recovery efficiency≧60%)		MJ	–	–	–	–	–
Incineration of waste (energy recovery efficiency＜60%)	Waste disposed	kg	–	–	–	–	–
	Recovered energy	MJ	–	–	–	–	–
Waste disposed in landfill and energy recoved from landfill gas	Waste disposed	kg	–	–	–	–	–
	Recovered energy	MJ	–	–	–	–	–

＞Description of LCA Results

(1) Product Specs
・Product Name: Hitachi Virtual Storage Platform One Block 85 (H-65AH-CBXANNN/A-65AH-CBXANNN)
・Calculation Conditions :
The product consists of a RAID controller chassis (1 unit of H-65AH-B1NCBXANNN/A-65AH-B3NCBXANNN, H-F65AH-B1NCBXBNN/A-F65AH-B3NCBXBNN: 2 units) and drive boxes (H-F65AH-B1NNBX/A-F65AH-B3NNBX: 3 units), each equipped with the maximum number of 60TB NVMe SSDs (288 drives)
・Product Type Name Used in Scenario : Disk Array (equipped with solid-state disk drives)
<Main Product Specifications>
-Storage Capacity*1 : 17,280TB
-Expected Service Life*2 : 5 years
-Drive Type : Solid-State Drive (NVMe SSD)
-Drive Interface Type : NVMe
-Number of Drives : 288
・Measurement Conditions: Operating power consumption was measured using the method specified in the certified PCR (PA-520000-BF-04).
*1 This capacity is calculated assuming 1TB = 1,000,000,000,000 bytes.
*2 The expected service life is calculated based on the statutory useful life (5 years for computers and other equipment).

(2) Explanation of Interpretation and Limitations of Calculation Results
・Note that the use and maintenance phase was evaluated under general conditions and may not match the customer's specific usage conditions.
・For EPD calculation, raw material usage is based on our company data. However, collecting manufacturing data for thousands of components is impractical, so we utilize general raw material manufacturing data. Consequently, this data may not fully reflect the specific characteristics of this product.

●Additional Environmental Information

＞Additional Environmental Information not related to LCA

Production and assembly are conducted at an ISO 14001-certified factory, and waste is properly processed.

In accordance with the Hitachi Group Green Procurement Guidelines, our products comply with European RoHS Directive, European REACH Regulation, POPs Convention, US TOSCA, and other regulations concerning hazardous substances, and do not contain any hazardous substances.
Hitachi Group Green Procurement Guidelines:
https://www.hitachi.co.jp/procurement/csr/environment/pdf/green_en.pdf

＞Information on Hazardous Substances

Hazardous materials name	CAS No.	Standards or regulations
–	–	–
–	–	–
–	–	–

●Definitions of Terms

NVMe SSD : Non-Volatile Memory Express Solid State Drive

●References

・ISO14025:2006 Environmental labels and declarations — Type III environmental declarations — Principles and procedures
・ISO14040:2006 Environmental management - Life Cycle Assessment - Principles and framework
・ISO14044:2006 Environmental management - Life Cycle Assessment - Requirements and guidelines

●Version History