



## DIGILOG

Transport ecosystems enable seamless data sharing, fostering environmentally sustainable logistics practices

22 November 2023



# Ahola Concern

## AT GLANCE



REVENUE  
2022 ↑  
**€130M**



LONG HISTORY  
FOUNDED IN  
**1955**



SUPPORTED  
EMPLOYEES  
**700**

THIRD GENERATION

**FAMILY  
BUSINESS**



CUSTOMERS

**3000+**



OUR VALUES

- OPENNESS
- TOTAL RESPONSIBILITY
- RESPECT FOR THE INDIVIDUAL



ACTIVE  
VEHICLES  
**550+**



**LONG-TERM  
RELATIONS**

We want to invest in long term personal relations with customers, partners and personnel

- Ahola Transport
- Ahola Special
- Ahola Digital



**5**  
OFFICE  
COUNTRIES

Finland  
Sweden  
Estonia  
Poland  
Macedonia

# Ahola Digital INTRODUCTION

**40+**  
EMPLOYEES



**20** OF  
YEARS LOGISTICS  
EXPERIENCE



**ISO**  
9001 AND 27001  
CERTIFIED

**50**  
APPLICATIONS  
AND TOOLS  
DEVELOPED



SUSTAINABLE  
LOGISTICS  
SOLUTIONS



TRUSTED  
**R&D**  
PARTNER



PARTNER OF CHOICE

OWN  
**NATIVE**  
**CLOUD**  
PLATFORM



KOKKOLA,  
FINLAND  
LOCATED



# Ahola Digital SEGMENTS



## City Logistics solutions



## Road Transport solutions



# Ahola Digital

## ROAD TRANSPORT SERVICES



### DRIVERS

### BACK OFFICE



Driving Report



Checklist



Damage Report



Waybill



Deviation



AMC



Digital Online (TMS)



Live Monitor



Tower



Track & Trace



Shift Planner



Emissions Calculator



Customer Portal



E-Learning



Guides



Certificates



Ticket System



Newsfeed



Platoon



Partner Portal



Logistics PM Tool



Auth



Manage



Storage



Connect



Fleet Manager

# Logistics **EVOLUTION 5.0**



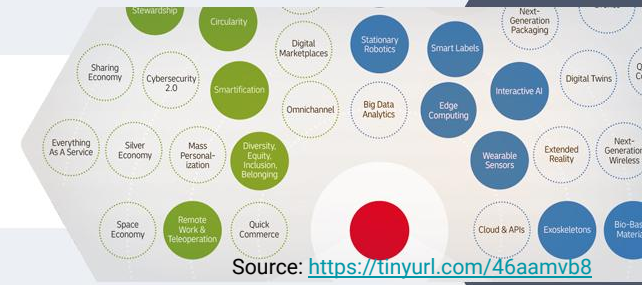
**Logistics 4.0** did introduce IoT, Big Data, BI & Cloud Computing. Logistics 5.0 will continue to emphasize reconciling the human and machine, which will ultimately enable industries to improve the means and efficiency of logistics production.

**Logistics 5.0** will be complemented by three pillars of Industry 5.0

- ★ Human Centricity
- ★ Resilience
- ★ Sustainability

The highly **automated, connected, and intelligent digital ecosystem** will thrive along with a human touch in Logistics 5.0. A Following presentation will show how Ahola Digital is driving to the future of Logistics

# Logistics EVOLUTION 5.0



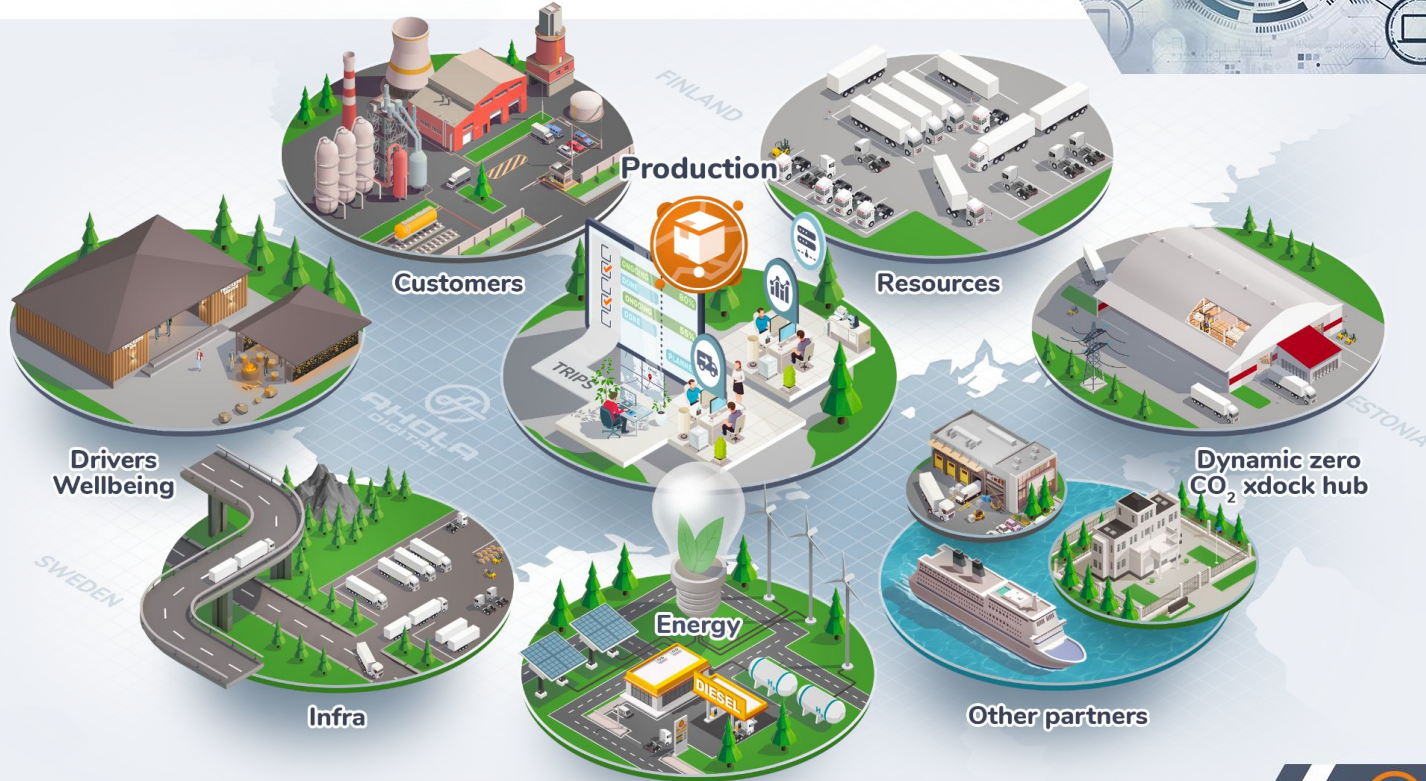
## Human-centric

## Sustainable

## Resilient

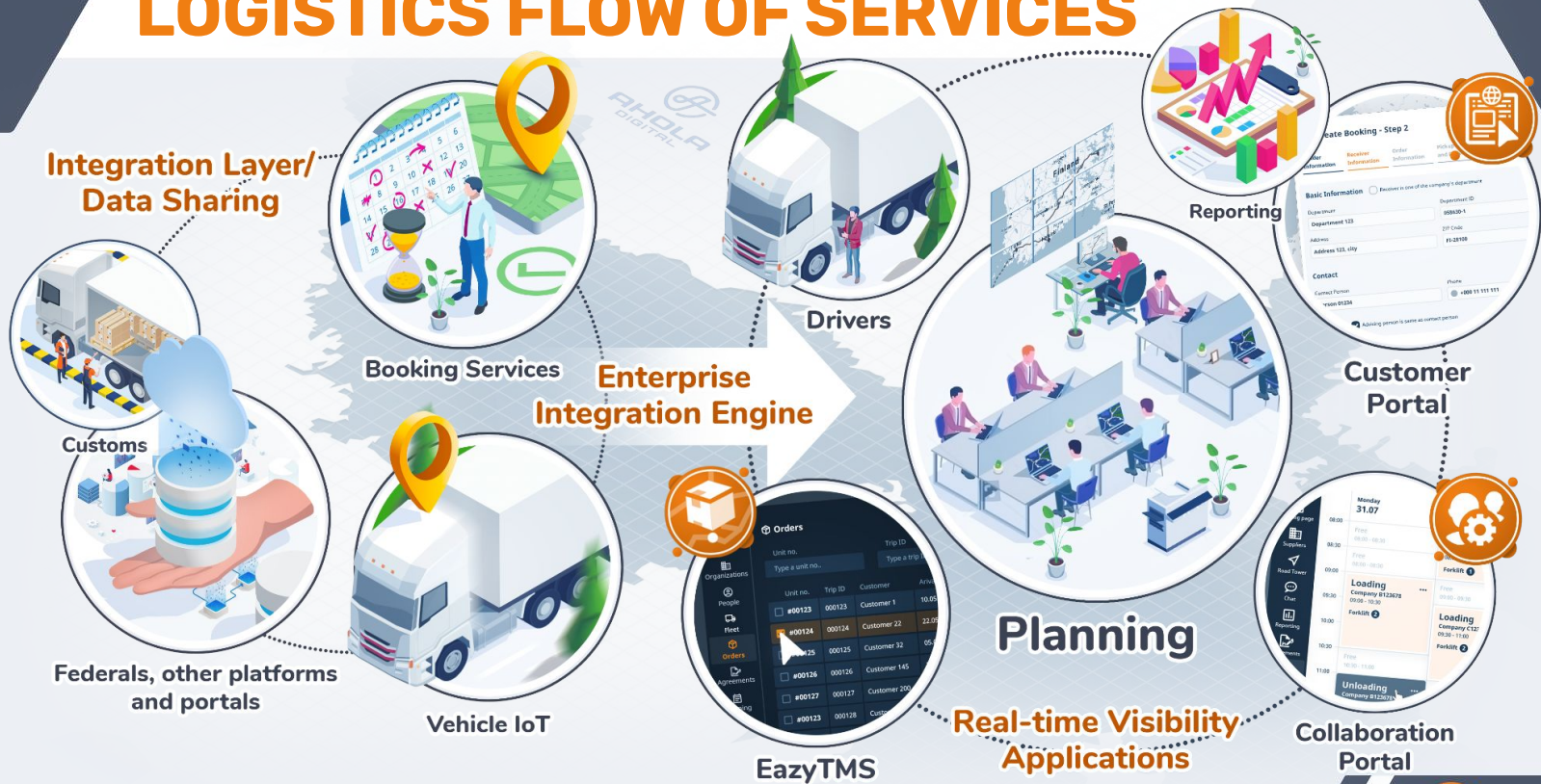
Customer-centric supply chains (CCSCs)	Human-centric manufacturing automation	Environmental perspective		
Human rights and well-being of workers	Human-centered human-robot collaboration (HC-HRC)	Social perspective	Applications for supply chain optimization	BT, DTs, AMT, 5G, Cobots, AR & VR, SCaaS
Human-machine interaction (HMI)	Supply-chain skill development	Economic perspective	Data management and analysis	BDA, ML/AI, CC/EC
Human-centered technological innovation	Human-in-the-loop technology (HITL)	Supply Chain 5.0	Data collection and processing	IoT sensors and devices, IIoT and G-IIoT, CPS

# Ahola Digital **LOGISTICS EVOLUTION 5.0**





# Ahola Digital LOGISTICS FLOW OF SERVICES



# Greener Logistics Solution IN AHOLA CONCERN



## Customer Testimony

"Based on the 2019 data comparison, it can also be stated that the emission reduction achieved by Ahola Transport in Nordic countries, meets the 39% emission reduction level given for Finland by 2030 is accomplished already in 2019" - DNV GL Business Assurance Finland Oy Ab  
11.6.2020

## Lower Fuel Consumption and Higher payload

### Optimized Fleet

- Modern truck technology
- High load capacity concepts

### Professional Skills

- Quality standards
- Assisting technology
- Training and coaching
- Driver approval and certification program

### Production Efficiency

- Empty driving
- Utilization rate

## Real-time Operations

- Dynamic transports
- Connectivity
- Digitalization
- Minimized waste

## Carbon Neutrality

### Energy Choices

- Alternative energy choices
- Green KM services
- Monitoring
- Optional climate compensation

## Eco Driving Service Efficiency

# Greener Logistics Solution

## SUSTAINABLE WAY



# Moving from a **REACTIVE TO PREDICTIVE**



## STANDARD VISIBILITY

Information a location of goods is manually entered transmitted regular intervals by EDI. Because this information is only available several hours a day after-the-fact, it is unreliable and does not allow for proactivity



Transport Flow

## REAL-TIME VISIBILITY

Information is captured on real-time systems (e.g. telematics, smartphones, IOT and API:s) and provides live location information of goods at that present moment. The information is reliable and allows for post-delivery performance analysis

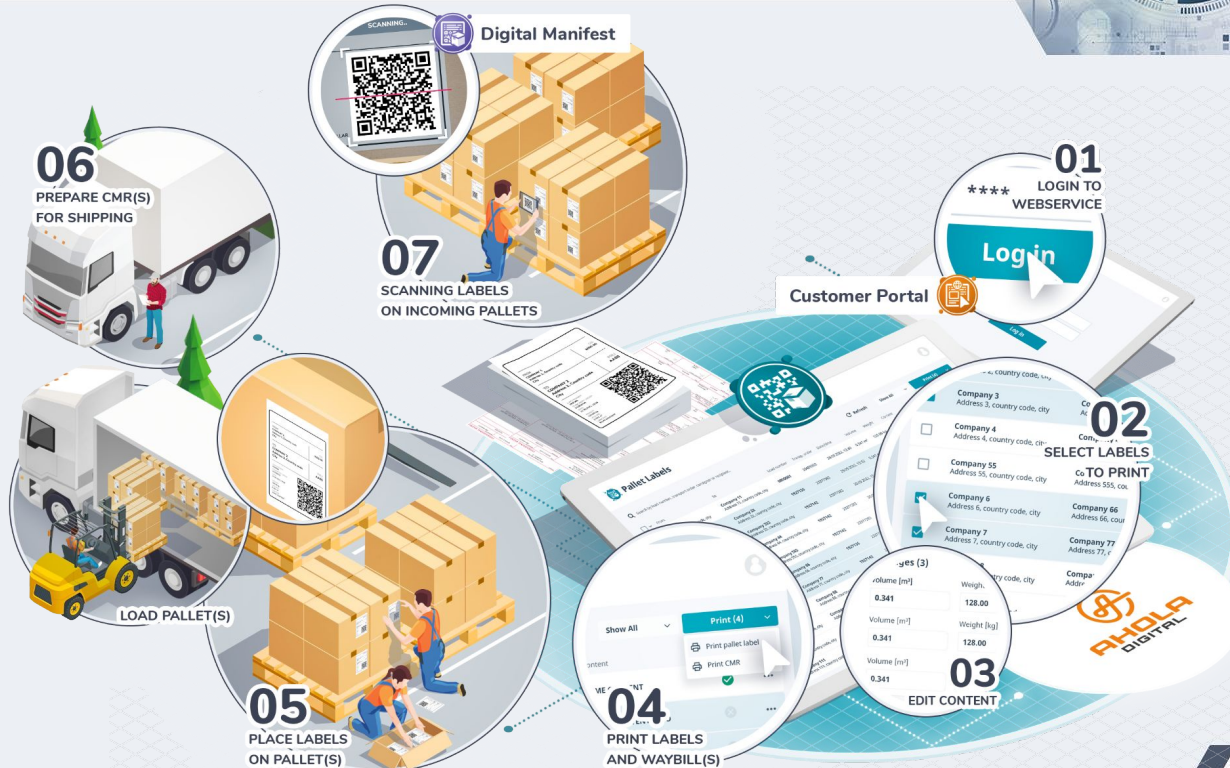


## PREDICTIVE VISIBILITY

The Information Collected is real-time is cross-checked with previously collected information, such as road traffic, estimated delivery times and routes to calculate an estimated time of arrival (ETA), making it possible to alert stakeholders several hours/days in advance



# Smart LABELS



# Ahola Digital ECRM

**PARCELS**

PENDING(4)    ONGOING(12)    DELIVERED(23)

PARCEL ID	RECIPIENT / DESTINATION CITY	Show QR	Edit CMR	Export PDF	Create CMR
2301-1860856-1	Company 111, city 111				
2301-1860856-1	Company 2222, city 2222				
2301-1860856-1	Company 33, city 33				
2301-1860856-1	Company 444, city 33				
2301-1860856-1	Company 55555, city 111				

**PARCELS**

PENDING(4)    DELIVERED(23)

PARCEL ID	Show QR	Edit CMR	Export PDF	Create CMR
2301-1860856-1				
2301-1860856-1				
2301-1860856-1				
2301-1860856-1				

CMR • 2301-1860856-1    PRINT    SAVE

**SIGNATURES**

**INFORMATION**

SENDER REFERENCE: 5683981

CONSIGNOR  
Company 55555

CONSIGNOR ADDRESS  
Address 555, city zip code, country

CMR • 2301-1860856-1    PRINT    SAVE

**SIGNATURES**

**INFORMATION**

SENDER REFERENCE: 5683986

CONSIGNOR  
Company 55555

CONSIGNOR ADDRESS  
Address 55555, city zip code, country

CONSIGNEE  
Company 444

CONSIGNEE ADDRESS  
Address 444, city zip code, country

NOTIFY / DELIVERY ADDRESS  
Address 444, city zip code, country

RECEIVER REFERENCE: 5683986

DATE: 16.01.2023

REFERENCE NUMBER: 2301-1862037-1

VAT NUMBER

CARRIER  
**Company Logo**  
Address, city zip code, country  
+000 11 1111 111, Fax +000 11 1111 112

CMR • 2301-1860856-1    PRINT    SAVE

**SIGNATURES**

**INFORMATION**

CUSTOMER SIGNATURE:

DRIVER SIGNATURE:

ADD SIGNATURE:

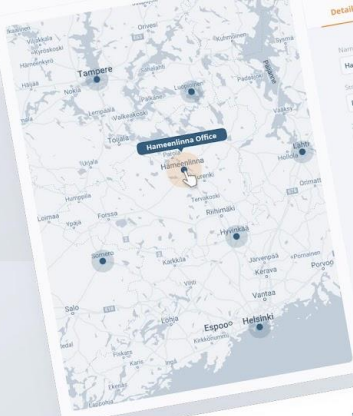
**ADD SIGNATURE**

CUSTOMER SIGNATURE:

PRINTED NAME

COMMENT

**ADD**



**Details**

Department ID: 05800-1

Name: Hämeenlinna Office

City: Hämeenlinna

Street: Paanaleonkatu 18

Country: Finland

ZIP Code: FI-28100

Invoice: Printable Invoice

Send for Approve

Monday Loading Begin: 07:00 AM Loading End: 07:00 PM Unloading Begin: 07:00 AM Unloading End: 07:00 PM

**Blank Booking**

Create a blank new booking.

Create a new booking from a previously saved completed booking

Partial Delivery 281021 - 28 Oct 2021

Sort: Weekly Delivery 301021 - 30 Oct 2021

Partial Delivery 281021 - 28 Oct 2021

Create

Receiver contact name

Sender contact name

Custom pallets

Euro pallets

Euro pallets

Euro pallets

Ongoing

Ongoing

Ongoing

Ongoing



**Company name logo**

Customer name: Company name 1 Contact person: - Email address: - Org ID: 106394 Report period: 07.06.2023 Ahola Transport contract: -

Total amount of tkm\* produced during period: 115531053.33

NOX - emission kg: 114217610.47 HC - emission kg: 12985.71 CO - emission kg: 12985.71 PM - emission kg: 12985.71 CO<sub>2</sub> - emission kg: 12985.71 Sox - emission kg: 12985.71

**Euro Classes**

The result shows the distribution of EURO classes for all of our own and contracted vehicles in the end of 2020.

**Nordic area (%)**

Euro 5: 12.73% Euro 6: 87.27%

**All market areas (%)**

Euro 5: 12.73% Euro 6: 87.27%

**The Continuing Environmental Work**

The basis of the continuing environmental work within Ahola Transport consists of the company management's environmental targets, national and international programmes as well as the input from customers, other interested parties and the general environmental awareness in the community. The company's environmental work also complies with the applicable legislation.

**Nordic countries (grams CO<sub>2</sub> per tkm)**

2005: 58.74g  
2015: 34.80g  
2020: 24.82g

**All market countries (grams CO<sub>2</sub> per tkm)**

2005: 58.74g  
2015: 36.96g  
2020: 28.84g



**CUSTOMER PORTAL**

PUBLIC

\* The most applicable unit for freight transport activity is tonne-kilometre. A tonne-kilometre, abbreviated as tkm, is a unit of measure of freight transport which represents the transport of one freight tonne of goods over a distance of one kilometre.





Company B123567  
Address name and number, zone, city name

Company B123567  
Address name and number, zone, city name

Company B123567  
Address name and number, zone, city name

Company B123567  
Address name and number, zone, city name

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Company B123567  
Address name and number, zone, city name

Company B123567  
Address name and number, zone, city name



**Hey Supplier**

Welcome to the Collaboration Portal

Web-based application where you can easily manage client communication and business administration for your productized services.

[Get started](#)

Developed by  AHOLA

Warehouse A123789

31.07 - 06.08.2023

Monday 31.07	Tuesday 01.08	Wednesday 02.08	Thursday 03.08	Friday 04.08	Saturday 05.08
08:00 Free	08:00 Loading Company A123 Forklift 1	08:00 Free	08:00 Free	08:00 Free	08:00 Free
08:30 Free	08:30 Free	08:30 Free	08:30 Free	08:30 Free	08:30 Free
09:00 Loading Company B123478 Forklift 2	09:00 Loading Company C123467 Forklift 2	09:00 Unloading Company B123478 Forklift 2 Hand Truck 1	09:00 Free	09:00 Free	09:00 Free
09:30 Free	09:30 Free	09:30 Free	09:30 Free	09:30 Free	09:30 Free
10:00 Free	10:00 Unloading Company B123478 Forklift 1 Pallet Jack	10:00 Free	10:00 Free	10:00 Free	10:00 Free
10:30 Free	10:30 Unloading - Goods type information here	10:30 Free	10:30 Free	10:30 Free	10:30 Free
11:00 Free	11:00 Free	11:00 Free	11:00 Free	11:00 Free	11:00 Free
11:30 Free	11:30 Free	11:30 Free	11:30 Free	11:30 Free	11:30 Free
12:00 Free	12:00 Free	12:00 Free	12:00 Free	12:00 Free	12:00 Free
12:30 Free	12:30 Free	12:30 Free	12:30 Free	12:30 Free	12:30 Free
13:00 Free	13:00 Free	13:00 Free	13:00 Free	13:00 Free	13:00 Free
13:30 Free	13:30 Free	13:30 Free	13:30 Free	13:30 Free	13:30 Free
14:00 Free	14:00 Free	14:00 Free	14:00 Free	14:00 Free	14:00 Free

Warehouse A123789

31.07 - 06.08.2023

Monday 31.07

Tuesday 01.08

Wednesday 02.08

Thursday 03.08

Friday 04.08

Saturday 05.08

08:00 Free

08:30 Free

09:00 Loading Company B123478 Forklift 2

09:30 Free

10:00 Free

10:30 Free

11:00 Unloading Company B123478 Forklift 1 Pallet Jack

11:30 Free

12:00 Free

12:30 Loading Company B123478 Forklift 1

13:00 Free

13:30 Free

14:00 Free

REQUIRED EQUIPMENT

Type: Add a equipment...

Hand Truck

Dolly

Pallet Jack

Forklift

Quantity: 1

[Save](#)

[Cancel](#)



**SUPPLIER PORTAL**

Company B123567

Address name and number, zone, city name

Drivers

Vehicles

Search vehicle by registration number or model.

ABC-001 Mercedes-Benz

ABC-321 ANCS heavy grand

FGH-456

PUBLIC





# Transparent Emission Calculation

## TOP LEVEL FEATURES



Assessing usage of alternative fuels, conduction of what-if scenarios



CO<sub>2</sub> and other air pollutants



Ready for CO<sub>2</sub> Auditable reporting



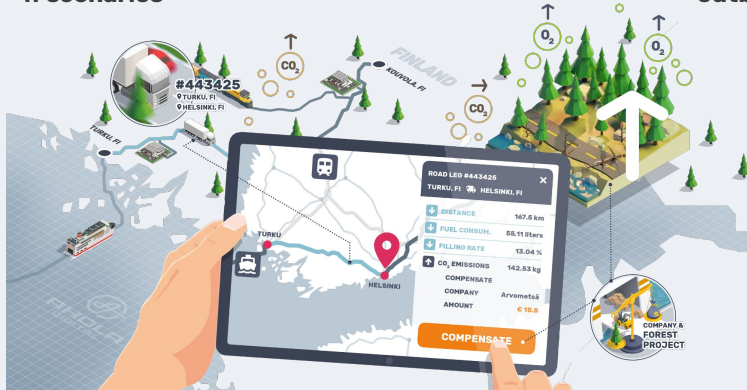
Covering complete inbound and outbound flows



All transport models and intermodal transports



Global scope

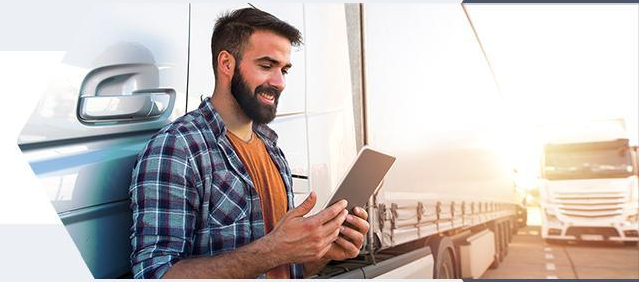


OPENAPI Reporting interface



Various data input structures

# Transparent EMISSION CALCULATION

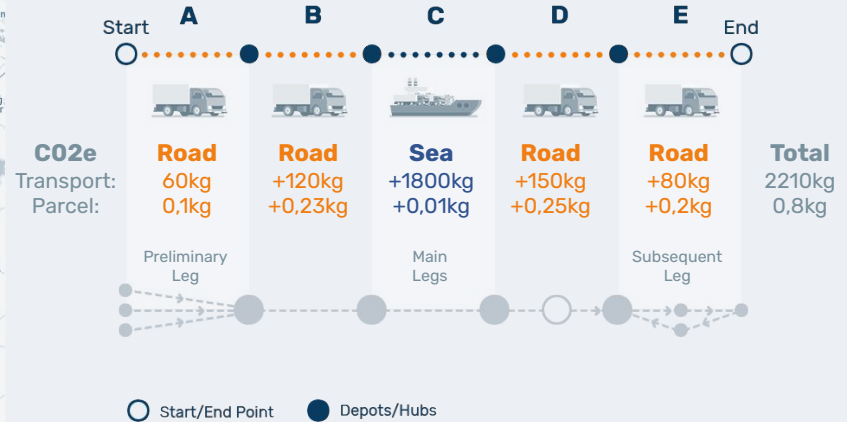


- Emissions from all transport operations, all fuel types plus allocation to products/product lines and customers.
- We calculate TTW (Tank To Wheel) and Well-to-Wheel (WTW) values

## Calculation Highlights

- All transport modes available, including intermodal
- Emissions allocation down to SKU/product level
- Inclusion of special factors such as haul type e.g.
- Norm-compliant usage of surcharges, e.g. empty rides or distance adjustments
- Comprehensive and regularly updated master data (vehicles, energy mixes, conversion factors...)

## Leg - specific Shipment Calculation (table contains illustrative values)





# WELCOME TO EMISSIONS CALCULATOR

- Connect to TMS systems to automatically calculate emissions
- Manually insert the values for calculations
- Dynamic tracking of emissions
- Create and provide reports for the customers

New to Emissions calculator? [Create your free account](#)

[Sign into Emissions calculator](#)

Developed by Ahola Digital



## EMISSION CALCULATOR

PUBLIC

**Emissions Calculator**

Start date: 14 Mar 2022, End date: 20 Mar 2022, Operative area: Baltic

Vehicle: [Type a registration number], Start city: [Type a start city], End city: [Type a end city]

Customer name: [Type a customer name], Ferry arrival city: [Type a registration number], Supplier: [Type a supplier]

Trip ID: [Type a trip id], Ferry departure city: [Type a supplier], Ferry company: [Type a registration number]

Map Tracking, Fuel configurator, Fuel factors, Default fuels for modalities, Report for modalities, Report as PDF, Report as Excel, Search an email

Enterprise

Show advanced filters, Search

**Emissions Calculator**

Start date: 14 Mar 2022, End date: 20 Mar 2022, Operative area: Baltic

Vehicle: [Type a registration number], Start city: [Type a start city], End city: [Type a end city]

Customer name: [Type a customer name], Ferry arrival city: [Type a registration number], Supplier: [Type a supplier]

Trip ID: [Type a trip id], Ferry departure city: [Type a supplier], Ferry company: [Type a registration number]

Filter by: Baltic, Road, From 14 Mar 2022, To 20 Mar 2022

We found 764 search results

Trip ID	Vehicle	From	To	Details	Legs
2206-262980	DPR-318	Turku, Finland	Helsinki, Finland	Operative area	
		Start date: 18 April 2022, 09:30	End date: 22 April 2022, 15:30	Filing rate	
		Distance: 245 km	Empty distance: 71,778%	Load capacity	
		Comb. empty weight: 3900 kg	CO2 emissions (equivalent):		
		Energy consumption: T2W: 13.5 MJ, W2W: 12.2 MJ			

Sweden, Finland, Estonia

Enterprise

**Emissions Calculator**

Start date: 14 Mar 2022, End date: 20 Mar 2022, Operative area: Baltic

Vehicle: [Type a registration number], Start city: [Type a start city], End city: [Type a end city]

Customer name: [Type a customer name], Ferry arrival city: [Type a registration number], Supplier: [Type a supplier]

Trip ID: [Type a trip id], Ferry departure city: [Type a supplier], Ferry company: [Type a registration number]

CO2 emissions by modality

Total CO2 emissions: 87,129kgs

- Road: 33,718kgs (38.6%, 5.8% ↓)
- Water: 44,153kgs (50.6%, 1.4% ↑)
- Railway: 9,278kgs (10.6%, 0.2% ↑)

Distance travelled by modality (km)

Total: 9,820km

- Road: 1,254km (38.6%, 5.8% ↓)
- Water: 4,532km (50.6%, 1.4% ↑)
- Railway: 3,545km (10.6%, 0.2% ↑)

Fuel consumption by modality (liters)

Total: 520.6l

- Road: 196.5 liters (38.6%, 5.8% ↓)
- Water: 150.2 liters (50.6%, 1.4% ↑)
- Railway: 52.3 liters (10.6%, 0.2% ↑)

Empy driving from total distance (%)

Total: 10.8%

- Road: 38.6%, 5.8% ↓
- Water: 50.6%, 1.4% ↑
- CEE: 10.6%, 0.2% ↑

Enterprise

**Emissions Calculator**

Start date: 14 Mar 2022, End date: 20 Mar 2022, Operative area: Baltic

Vehicle: [Type a registration number], Start city: [Type a start city], End city: [Type a end city]

Customer name: [Type a customer name], Ferry arrival city: [Type a registration number], Supplier: [Type a supplier]

Trip ID: [Type a trip id], Ferry departure city: [Type a supplier], Ferry company: [Type a registration number]

Fuel factors

Fuel	Energy [MJ/l]	CO2 [kg/l]	TTW	WTW
Diesel D5	31.7	31.7	31.7	38.4
Diesel D5	31.7	31.7	31.7	38.4
Diesel D5	31.7	31.7	31.7	38.4
Diesel D5	31.7	31.7	31.7	38.4

Default fuels for modalities

Connect modalities with the fuels that should be used for default calculations and define average fuel consumption per modality

Railroad, Maritime, Air

Enterprise



# Logistics 5.0

## GENERATIVE AI

To enable true endless trip where cargo space is moving on:

- Continuous selling of capacity
- Continuous analysis of route conditions
- Continuous calculation of energy consumption and charging
- Continuous route optimisation based on sold capacity
- Road analytics (surface affects Energy consumption)
- Weather forecasting on multiple route options
- Keeping in mind of Customer parameters like a opening hours
- External dependencies like a ferry deadlines e.g.



"When there is an increase in the number of parameters that are constantly changing, humans become the final decision makers. However, machines powered by AI can continuously learn and adapt to new information in real time, making them an integral part of decision making that goes beyond just historical data."

# THANK YOU FOR YOUR INTEREST!

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