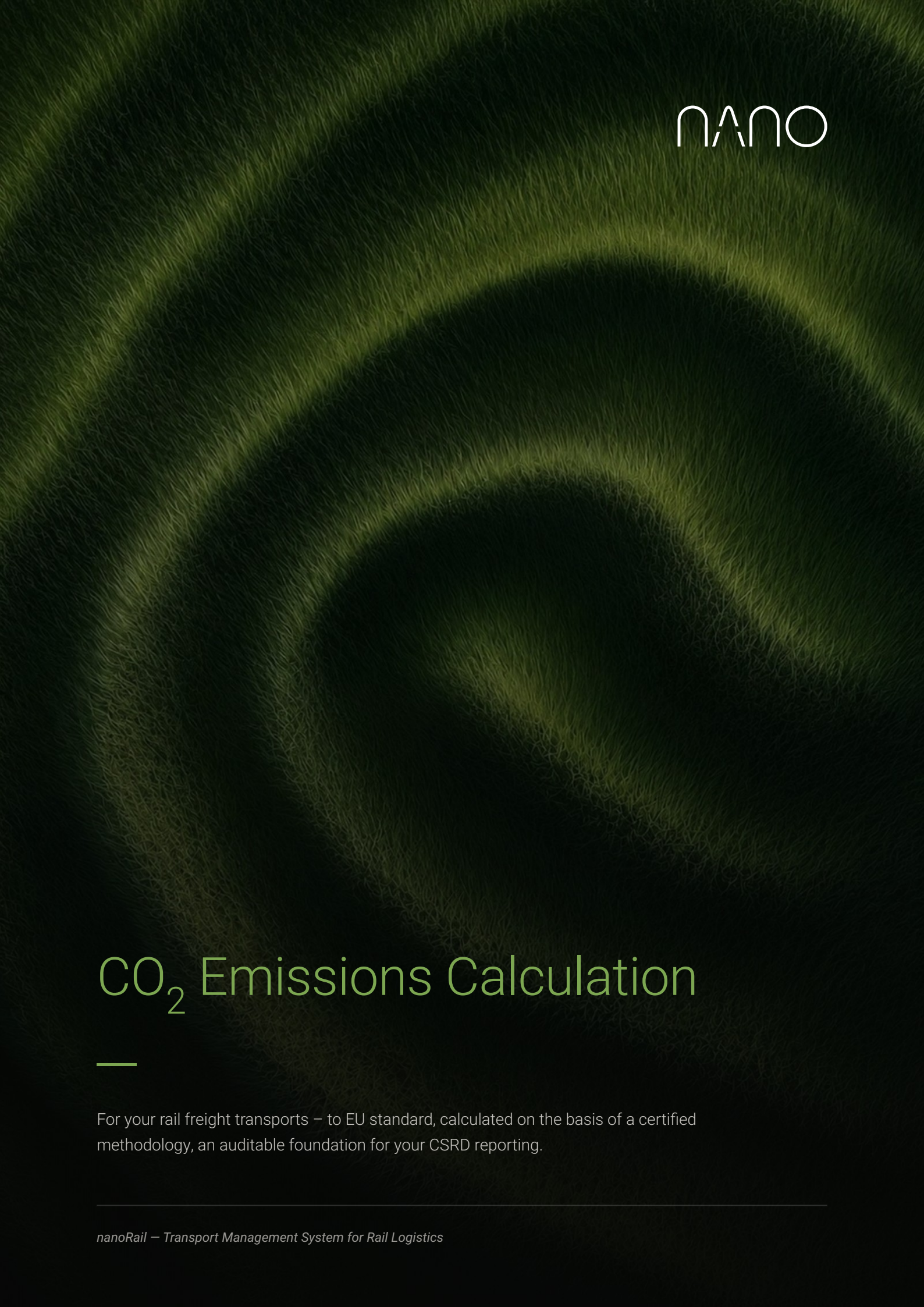

CO_2 Emissions Calculation

For your rail freight transports – to EU standard, calculated on the basis of a certified methodology, an auditable foundation for your CSRD reporting.

01 – CONCEPT

Integrated, precise and auditable

nanoRail precisely determines the CO_2 emissions of your transports directly from your existing transport data.

YOUR BENEFITS

01

Standard-compliant

Calculation based on ISO 14083 and the GLEC Framework V3.

02

Scientifically sound

Application of the certified EcoTransIT World methodology.

03

Verifiable

Documented calculation bases and auditable results for your reporting.

Visualization and Reporting

nanoRail provides the results both in the user interface and for reporting.

01

Emission values per train

Display of the calculated CO_2 emissions directly in the nanoRail user interface.

02

Automatic road comparison

Calculation of the emissions of a comparable road transport.

03

Transparent savings

Presentation of the CO_2 savings of rail compared to road.

04

Reporting

Provision of traceable and auditable emission values for CSRD reports, customer information and internal analyses.

ISO 14083 and EcoTransIT World

ISO 14083 defines the international framework for quantifying and reporting greenhouse gas emissions from transport chains.

For this, nanoRail uses the established and internationally recognized methodology of EcoTransIT World. The certified calculation methodology meets the requirements of ISO 14083 applying the GLEC Framework V3 and takes into account:

- energy consumption and greenhouse gas emissions as CO_2 equivalents
- direct emissions from transport operations
- the relevant scopes of the GHG Protocol
- the well-to-wheel perspective
- upstream emissions of the energy sources used
- comparison values by mode of transport and route

Since 1999, EcoTransIT World has been calculating the energy consumption and greenhouse gas emissions of different modes of transport. The calculation bases and emission factors are continuously updated in line with the latest scientific findings and recognized data sources.

04 – SCIENTIFIC AND TECHNICAL PARTNERS

IVE mbH, Hannover

Methodology and technical implementation

ifeu – Institute for Energy and Environmental Research, Heidelberg

Environmental and emissions research

INFRAS AG, Bern

Methodology for sea, air and inland waterway transport as well as external costs

Fraunhofer IML, Dortmund

Methodology for logistics nodes and transshipment processes

EcoTransIT World is supported by the EcoTransIT World Initiative and used by numerous companies from transport, logistics and industry.

nanoRail combines the scientifically sound and certified methodology with the automated processing of operational transport data.

05 – CONTACT

Questions about the methodology or integration into your reporting?

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Methodological basis: EcoTransIT World – Environmental Methodology and Data Update 2025, ISO 14083, Version 4.0 (IVE mbH, ifeu, INFRAS, Fraunhofer IML)

Note: The certification applies to the calculation methodology used. The quality and standard conformity of the calculation results require complete and factually correct input data.
