



Product Environmental Footprint

EMISSIONS AS STRATEGIC VALUE DRIVERS ALONG THE VALUE CHAIN - TRANSPARENT WITH EXA

TRANSFORMATION WORLD 2023





ENVIRONMENTAL
E



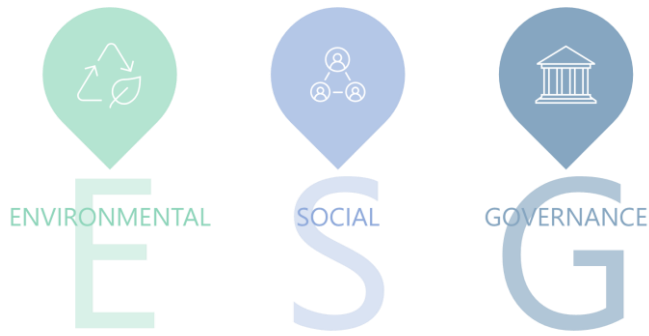
SOCIAL
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"INVESTING IN ESG IS NOT A TRADE-OFF BETWEEN VALUES AND VALUE. IT IS A WAY TO ACHIEVE BOTH."

- Christine Lagarde: President of the European Central Bank (2021) -



Environmental, Social, and Corporate Governance (ESG):

ESG focuses on evaluating a company's environmental, social, and corporate governance practices for long-term sustainability and stakeholder value.

ESG factors include environmental impact (such as emissions and resource usage), social responsibility (including employee welfare and community engagement), and corporate governance transparency.

ESG is driven by international guidelines and national regulations to promote responsible business practices.



Corporate Sustainability Reporting Directive (CSRD):

The CSRD is an EU directive that expands ESG reporting obligations for large companies operating in the EU.

The CSRD aims to enhance ESG reporting by requiring more comprehensive and standardized information, including Scope 1-3 emissions.

Scope 1 emissions refer to direct greenhouse gas emissions from a company's own operations, while Scope 2 emissions encompass indirect emissions from purchased energy. Scope 3 emissions cover indirect emissions from the entire value chain, including suppliers, customers, and transportation.

Companies will need to report on a wider range of ESG issues, including Scope 1-3 emissions, and undergo third-party assurance of their reports.

The CSRD promotes transparency, comparability, and reliable ESG information for informed decision-making.



GENERAL ESG CHALLENGES

Lack of standardized processes, knowledge and resources



COMPANY VALUE

Lack of transparency in ESG leads to lower evaluation and potentially to higher external financing costs



REPUTATION

Essential to address social expectations, stakeholder needs, and unlock business potential



DATA MANAGEMENT

Granular data required for processing and enriching emission information, material-level emission factors needed



PRODUCT
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ENVIRONMENTAL
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FOOTPRINT
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"TAKE A PROACTIVE STEP TOWARDS SUSTAINABILITY AND ENSURE YOUR FUTURE COMPETITIVENESS."

EMISSION TRACKING

Complete transparent split of emissions for all individual materials thanks to a granular break down of the E2E value chain

EMISSION LEDGER

Emission tracking in inventory "Emission Ledger" in parallel to cost "New Currency"

EMISSION ANALYSIS

Groupwide analysis of emissions for all products to identify emission drivers for each end product, to optimize portfolio performance

TRANSPARENCY

Track the impact of measures implemented to achieve sustainability targets companywide and across system borders

WHAT-IF SCENARIOS

What-if scenarios for simulating potential optimizations within E2E value chain processes

E2E REPORTING

Automatically derive E2E value chains from ERP data, increasing data quality and providing granular data insights for final emission reporting

DATA AUTOMATION

Manage E2E value chains and related emission information also in non-harmonized system landscapes

SEAMLESS INTEGRATION

Integrate all SAP systems, regardless of the size, location, or release version thanks to standard connectors

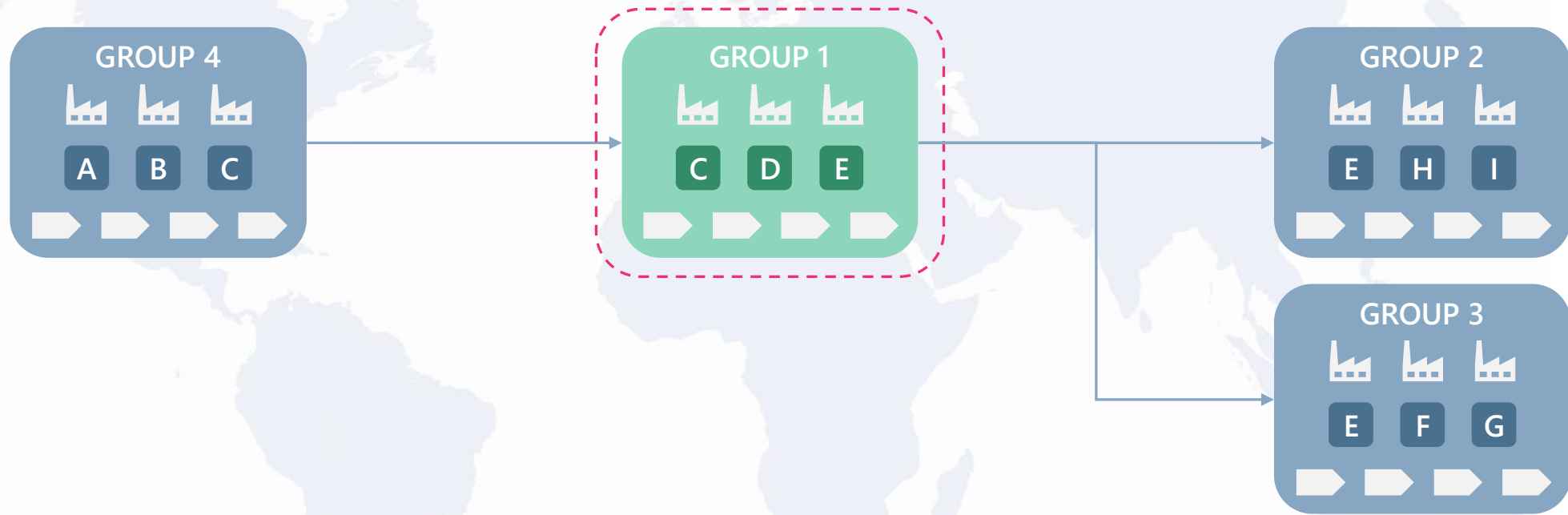
Collaborative Ecosystem: Mutual Dependencies and Shared Responsibility

COMPREHENSIVE AND REALISTIC SUSTAINABILITY REPORTING

- Corporations must create a comprehensive and realistic sustainability report
- Globalized value chain networks create interdependencies between groups
- Data at the material level is crucial for reporting

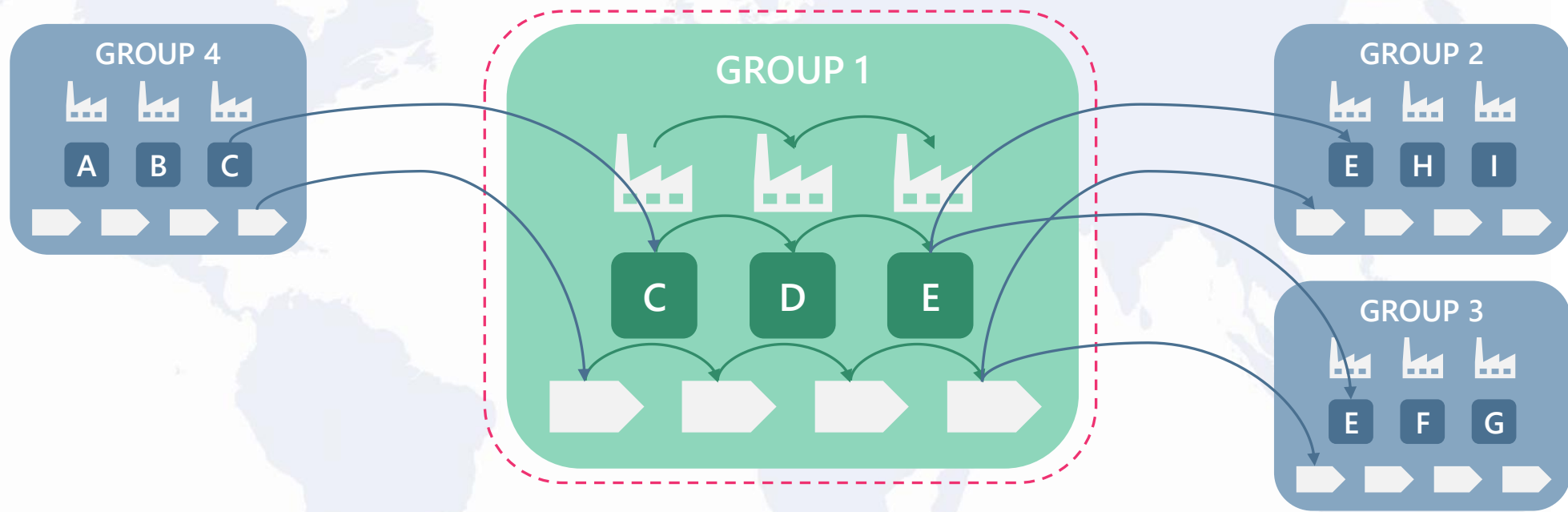
INFORMATION AT MATERIAL LEVEL REQUIRES

- Identification of upstream and downstream partners in the value chain network (Group 2,3,4)
- Break-down of the value chain of Group 1 and considering the involved parts of the value chain in the network
- Allocation of emissions from externally sourced products (Group 4) to Group 1 products



Collaborative Ecosystem: Understand Your Individual Role

- Group 1 comprises independent companies with specific roles e.g., production, distribution, headquarters / administration in the internal value chain network
- Each company contributes individually to procurement, production, and sales within Group 1, necessitating identification and allocation of contributions and associated processes to specific products
- Material level and the related activities are critical for emission reporting, as it enables accurate mapping and tracking of emissions throughout the value chain network of Group 1
- Reporting emissions at material level provides a comprehensive understanding of environmental impact and individual responsibilities within the value chain
- Tracking emissions at material level enables effective environmental management and sustainability initiatives



Decoding Emission Data: Unveiling Individual and Final Emission Values

EMISSION DETERMINATION SOURCES

The necessary data for determining emissions provided by suppliers or Life-Cycle Assessment (LCA) databases. LCA databases provide for example the average emissions for specific raw materials calculated according to ISO 14067.

EMISSION DETERMINATION FOR MATERIALS

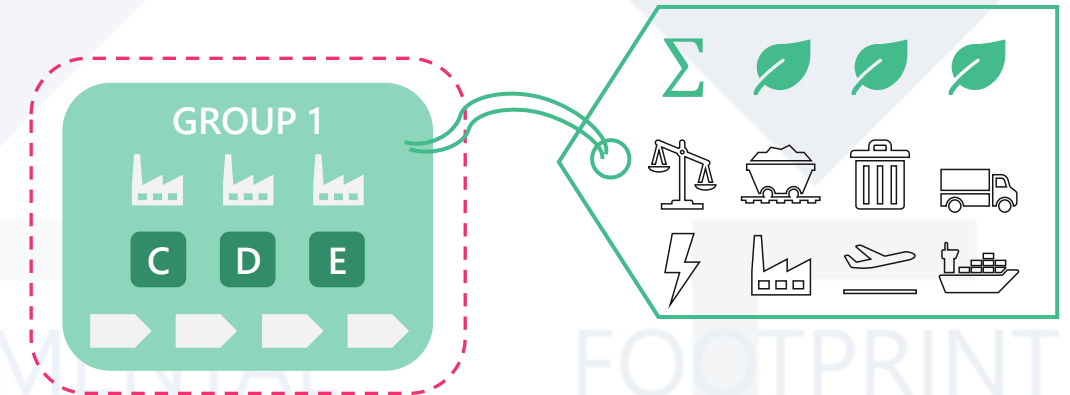
- Direct determination of emission values for the respective material
- Scope 3: External Sourced Materials

EMISSION DETERMINATION FOR SERVICES / PRODUCTION

- Allocation of emission values from participating companies to internal services provided within the production of a specific product
- Scope 1: External power consumption
- Scope 2: Energy generation

EMISSION DETERMINATION FOR TRANSPORTATION

- Direct determination of emission values for the underlying transportation activities, especially for intercompany transports
- Scope 3: Intercompany and external transportation activities



Σ PEF GROUP 1 = Σ PEF GROUP 1 Companies split into individual

Σ PEF Materials + Σ PEF Production & Transportation Activities

Your Individual Product Environmental Footprint: Transparent With EXA PEF

DATA ACQUISITION

- SAP ERP 4.7
- SAP ECC
- SAP S/4HANA
- Non-SAP via Flatfile Integration

EMISSION GATHERING

- Material Emissions: Supplier, LCA DBs
- Transport. Emissions: Supplier
- Production Emissions: Internal Allocation

EMISSION HANDLING

- Emission Calculation
- Emission Versioning
- Emission Historization

PEF ANALYTICS

- GVC Breakdown
- What-If Scenarios and Simulations
- Portfolio Analysis

Thank You!

CONTACT US

EXA AG

Mittermaierstraße 31
69115 Heidelberg
GERMANY

@: info.emea@exa-ag.com

T: +49 6221 67921-0

www.exa-ag.com

SNP SE

Speyerer Straße 4
69115 Heidelberg
GERMANY

@: info@snpgroup.com

T: +49 6221 64 25-0

www.snpgroup.com

