

Sustainable transition invites a collaborative approach in the supply chain

futureSTEEL congress | November 2023

Sander Heinhuis | Tata Steel Nederland

Together we make the difference

“From wind to steel, from batteries to electric vehicles, our ambition is crystal clear: The future of our clean tech industry has to be made in Europe.”

President von der Leyen
State of the Union Address, September 2023



The European journey

First climate-neutral
continent by 2050.

At least 55% less green house
gas emissions by 2030,
compared to 1990 levels.



You are here.










In addition to legislative driven scope 1 and 2 targets, many companies are self-imposing scope 3 CO₂ reduction targets

Status: June 2023

Automotive industry




Selected companies	Scope 3 target ¹	Target year
	100%	2030 ²
	100%	2040
	100%	2038
	100%	2040
	50%	2030 ⁵
	30%	2030 ⁴
	20%	2030 ³

Construction industry

Selected companies	Scope 3 target ¹	Target year
	75%	2030
	50%	2030
	42%	2032
	35%	2030 ⁴
	20%	2050
	15%	2030 ⁶
	12%	2030

Selected companies	Scope 3 target ¹	Target year
	50%	2030
	50%	2030
	50%	2030
	42%	2030
	30%	2030
	20%	2030
	20%	2030

Engineering industry

Selected companies	Scope 3 target ¹	Target year
	Pending	2030
	50%	2030
	50%	2030

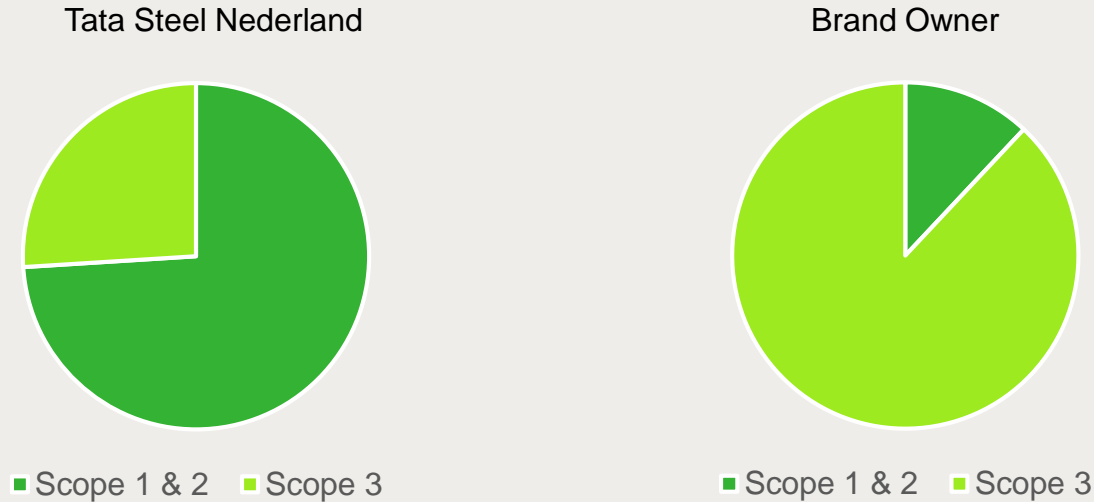
Packaging industry

Selected companies	Scope 3 target ¹	Target year
	100%	2050
	16%	2030
	42%	2030

1. Includes nearest-term Scope Upstream target announced, if no upstream interim target announced the final upstream target is included | 2. Porsche targeting "balance sheet CO₂-neutral across the entire value chain from 2030", not clearly aligned with GHG protocol, 100% Scope 3 Upstream assumed | 3. Interim Scope 2 Upstream target of 20% reduction by 2030 and 100% reduction by 2050 at the latest (final target year has not been announced) | 4. Final target includes 100% Scope 3 Upstream "carbon neutral" by 20250 | 5. Polestar's target is to "halve emission per sold car is 2030 compared to 2020" and they have the Polestar 0 project to produce the first carbon neutral car by 2030 | 6. ABB's overall Scope 3 target is 15% reduction by 2030, but Scope 3 Upstream target is not yet set

Source: Company Sustainability Reports, Annual Reports, Science Based Targets Initiative

Decarbonising value chains, also depends on decarbonising energy intensive foundation industries



There is a variety of key success factors external to our value chains for Europe to successfully lead the charge against climate change



Europe's sustainable transition also invites us to take a collaborative value chain approach



When developing solutions, let's recognise some key drivers

50%

Scrap plays a key role, but cannot fulfil world steel demand. Even by 2050 scrap can only fulfill 50%* of the total global steel demand.

* Steel iron and steel producers association

1.5 °C

Immediate action, also smaller and incremental CO₂ reductions are key as greenhouse gas emissions have a cumulative climate effect

Zeremis[®]

Zeremis – short for zero emissions – is our promise to the planet to become carbon neutral by 2045. The Zeremis brand represents the journey Tata Steel Nederland is taking with our customers, together towards a zero-carbon emissions, circular world.

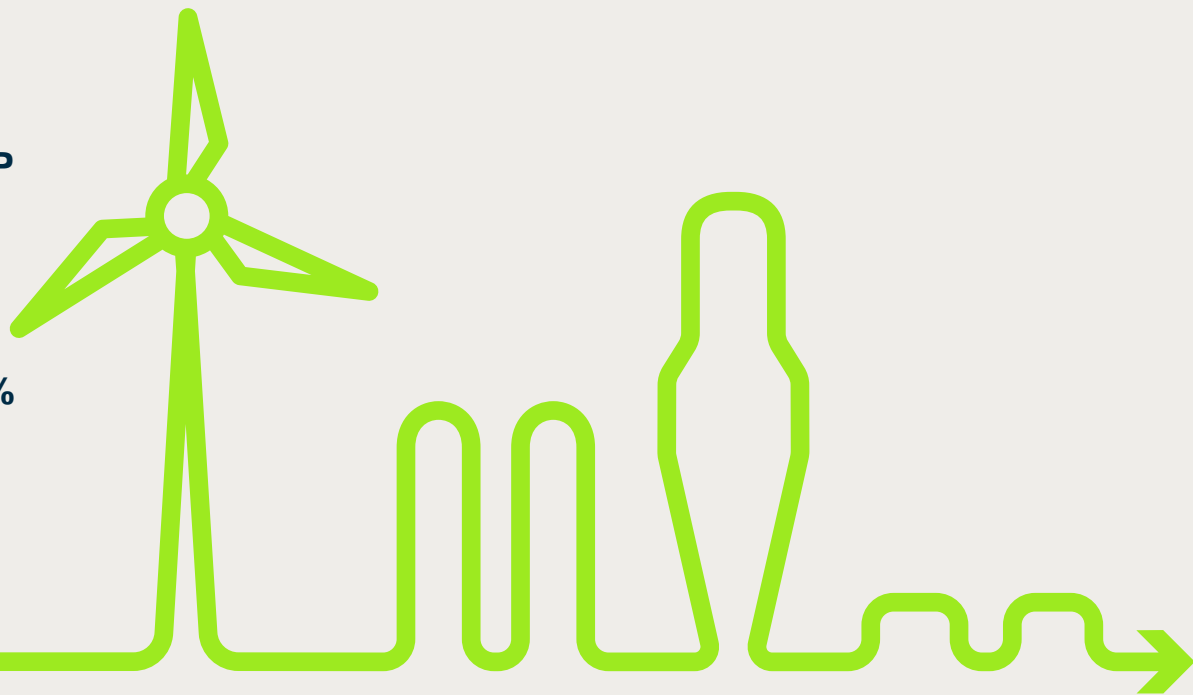


**Tata Steel Nederland will be
CO₂ neutral by 2045 and
reduce its emissions by 5MT
annually by 2030**

**First phase of our asset
transition introducing a DRP
EAF technology**

Saving 40% CO₂ emissions

**Increasing circularity to 30%
scrap usage from 2030**



We are introducing a range of new solutions under the Zeremis brand covering the full supply chain

Zeremis®

Low carbon
emission steel

Recycled
content

Zero-carbon
logistics

Carbon neutral
downstream
operations

Partner
Solutions

Zeremis®
Carbon Lite

Zeremis®
Delivered.

Available here
Zeremis®
Carbon Lite
Low-CO₂ steel
from Tata Steel

Accelerating change



What does this mean for our product offering?



Zeremis[®]
Carbon Lite

Pre-2022

Good starting position

TSN has obtained a very good starting position through historic focus on efficient and sustainable production, leading to crude steel with a footprint reduction of ~7% vs. European average

2022 to ~2030

Mass balanced green steel

We are accelerating projects to save carbon emissions, capture these savings in a carbon bank and launch a carbon balanced green steel offering based on declarations by July 2022

By 2030

Embodied green steel

We will shift to a different production process using DRI to significantly reduce the footprint of steel, enabling us to launch an embodied green steel offering by the end of this decade

Post-Mid-2030's

Only embodied green steel

Post Mid 2030's we will convert our entire site towards new production technologies to further reduce the footprint of TSN and sell higher volumes of embodied green steel

An aerial photograph of a winding asphalt road that curves through rolling green hills. The hills are covered in lush grass and some small trees. In the distance, a small cluster of buildings is visible. The lighting suggests a bright, sunny day, with shadows cast across the landscape.

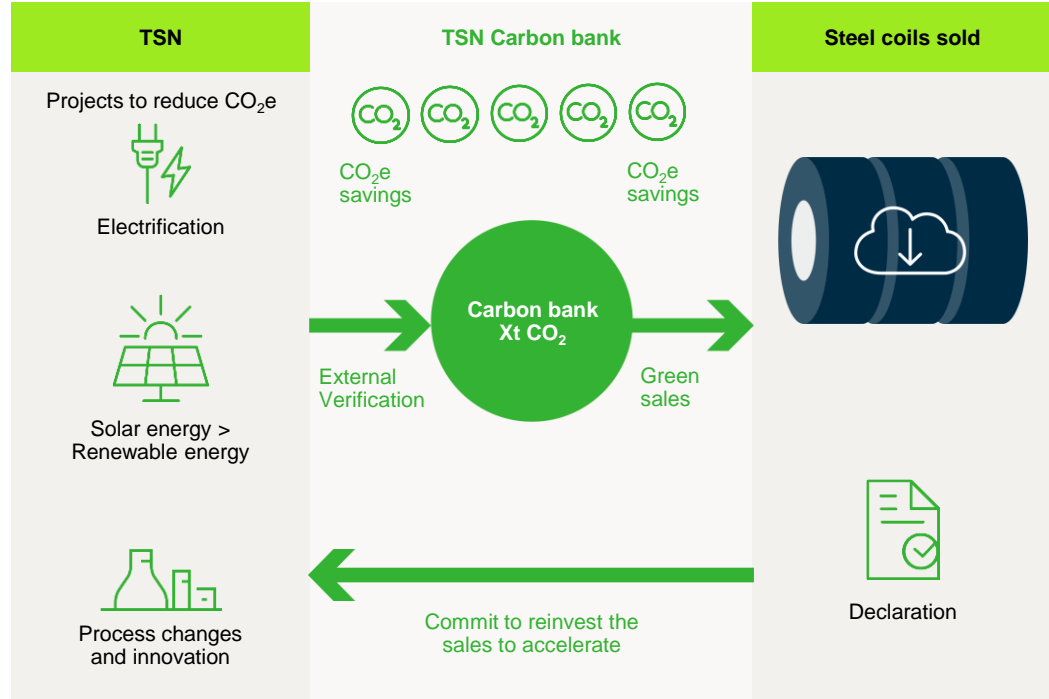
Zeremis[®]

Carbon Lite

- Enables you to reduce your carbon footprint now
- A flexible solution that lets you choose the CO₂e intensity reduction that you need
- Independently assured by DNV
- CO₂e savings can be reported as a reduction in scope 3 emissions

Recent carbon savings realised by Tata Steel Nederland are independently assured by DNV and compiled in our central carbon bank

Our Carbon Lite solution draws on credits from this bank in the form of declarations, meaning you can meet your specific carbon reduction targets.



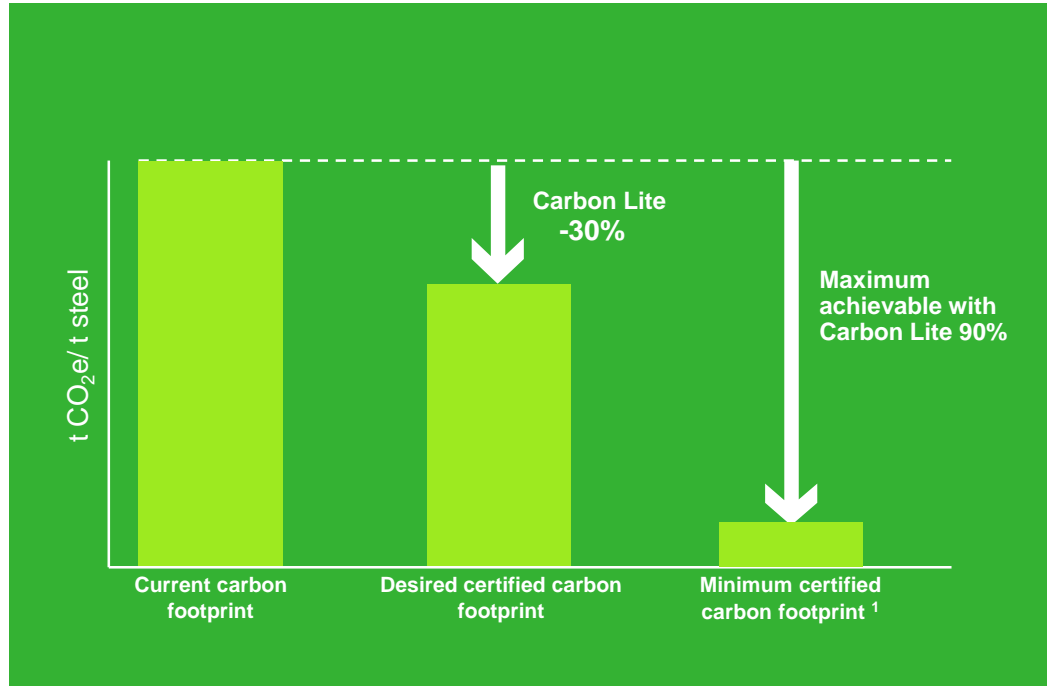
Zeremis Carbon Lite offers an insetting mass-balanced CO₂ reduction, and is limited to those emissions we have influence over

A key element of the scheme is that it is an insetting scheme. That is, the CO₂e reductions happen in the supply chain where the steel you are purchasing is made.

Our standard Carbon Lite solution is designed to offer a 30% reduction in CO₂e intensity versus the EU average.

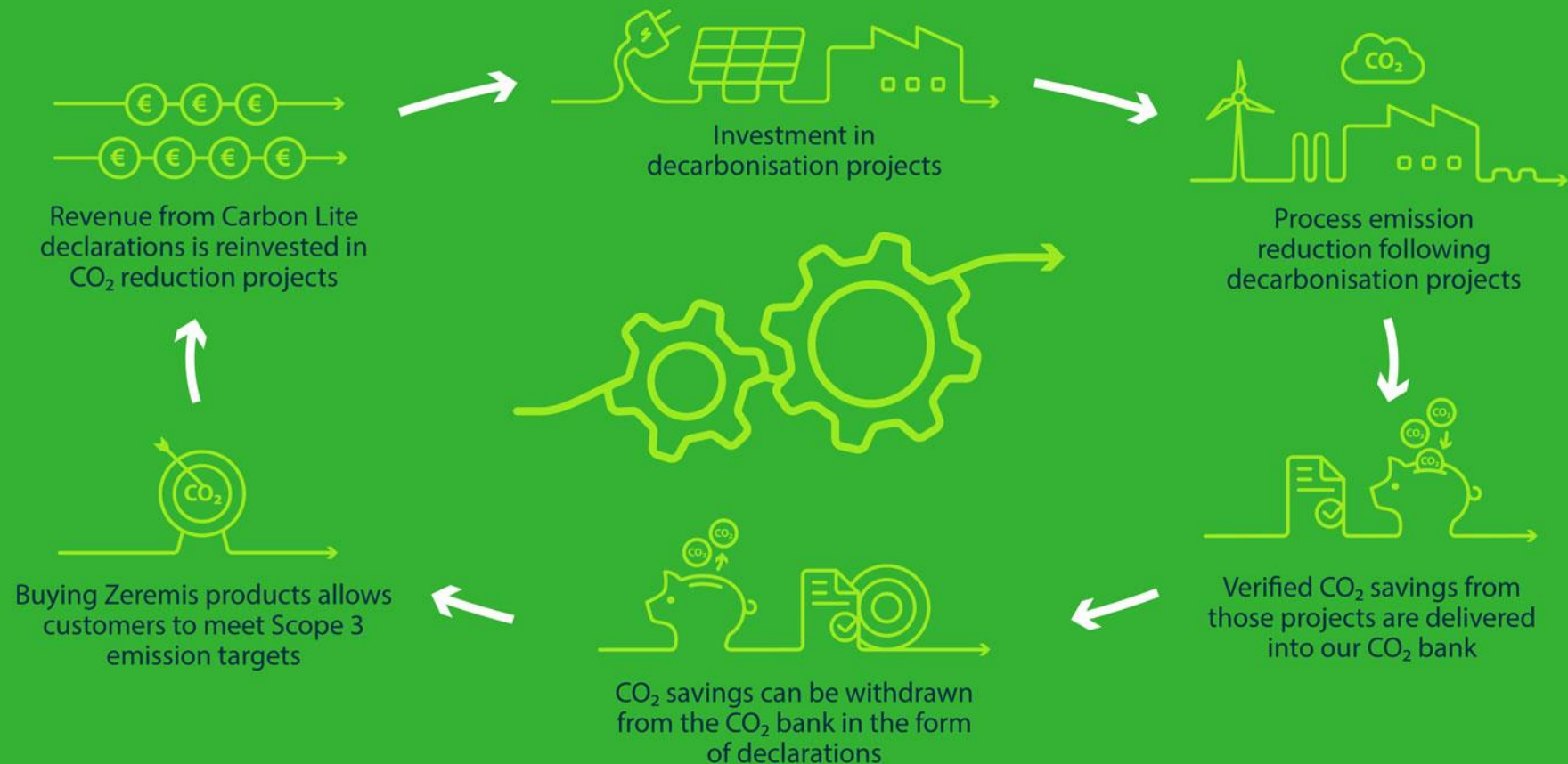
As a flexible solution, Carbon Lite can meet the exact reduction targets you require, so you can go as far as you need to. (max 90% reduction)

1 - Carbon Lite can only be used to reduce the part of the product carbon footprint which relates to TSN's direct emissions and purchased electricity



The Flywheel: how Zeremis Carbon Lite accelerates decarbonisation

TATA STEEL



... and here at Blechexpo we introduce **Zeremis Delivered.** supporting our joint short term and long term ambitions towards carbon neutral delivery



Participation in EU funded research project on solid hydrogen barge

Interreg
North-West Europe
H2SHIPS

Battery electric truck pilots



Biofuels road transport
300KM available today

Hydrogen truck



2019

Baseline fiscal year

2022

Biofuel pilots
on HVO100
for barges



2023



Partnership ZES to study
feasibility of zero-emission
sailing by modular energy
containers



Biofuel pilots
on sea-going
vessels

25%

2024

2030

30%

2045

Carbon
Neutrality

Experiments
with:
Electrification

Progress achieved by:

- Load optimisation
- Modality selection
- Heavy loads
- Loop transport

TATA STEEL | FUTURESTEEL NOVEMBER 2023



Outlook: battery electrification and fuel cell technologies

... and here at Blechexpo we introduce **Zeremis Delivered.** supporting our joint short term and long term ambitions towards carbon neutral delivery



Participation in EU funded research project on solid hydrogen barge

Interreg 
North-West Europe
H2SHIPS
Hydrogen Shipping Hub

Battery electric truck pilots



Biofuels road transport
300KM available today

Hydrogen truck



Zeremis[®]
Delivered.



**Carbon
Neutrality**

< 2019

Baseline fiscal year

2022

Biofuel pilots
on HVO100
for barges



2023



Partnership ZES to study
feasibility of zero-emission
sailing by modular energy
containers



Biofuel pilots
on sea-going
vessels

**Experiments
with:**
Electrification

Progress achieved by:

- Load optimisation
- Modality selection
- Heavy loads
- Loop transport

TATA STEEL | FUTURESTEEL NOVEMBER 2023

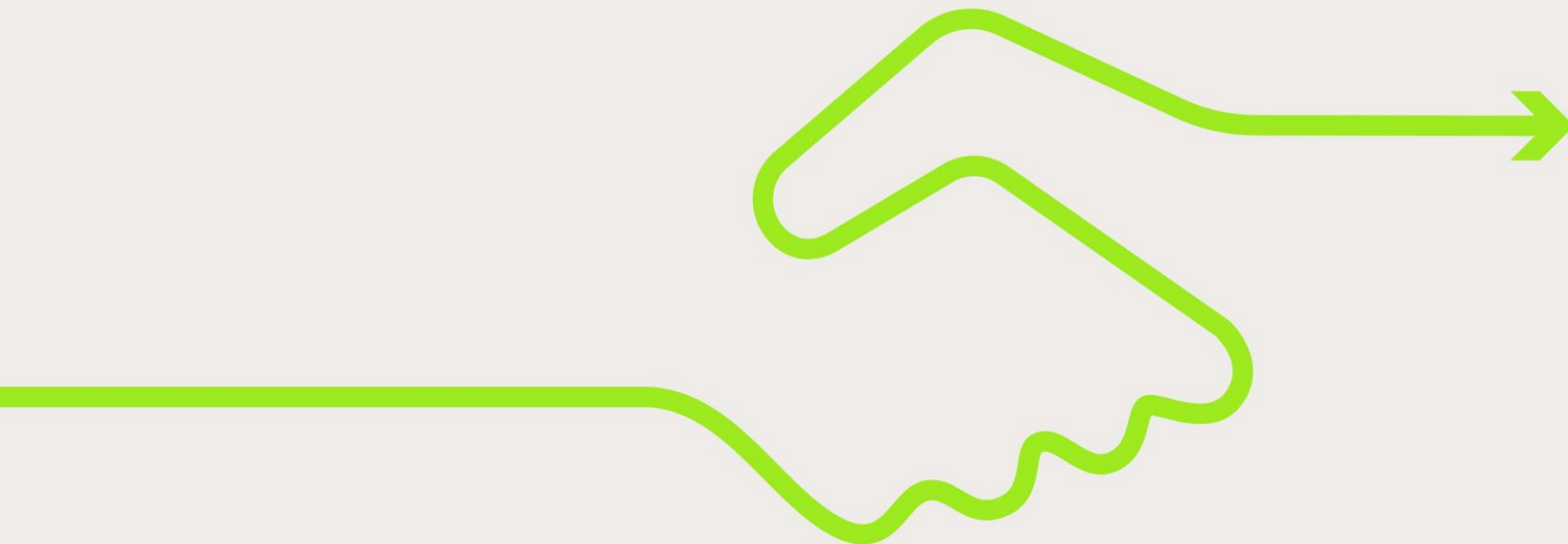
← Outlook: battery electrification and fuel cell technologies →

Zeremis[®] Delivered.

- Get your product delivered using bio-fuel with a CO₂e saving up to 90%
- Tata Steel Nederland is on track to achieve carbon neutral transport by 2045
- We introduce a broad range of zero emission logistics solutions across modalities such as battery electrification and fuel cell technologies
- The logistics CO₂e reduction contributes to your Scope 3 targets and allows for incorporation in EPD's



**Tata Steel Nederland is your partner to
navigate Europe's sustainable transition**



Zeremis®

Sander Heinhuis
Director Marketing

Tata Steel Nederland

sander.heinhuis@tatasteeleurope.com

