Outokumpu Tornio stainless steel mill

The biggest recycling center
in the Northern Hemisphere

Site visit for institutional investors, analysts and bankers
June 15, 2022
Niklas Wass – EVP, Business area Europe operations
Simon Schmidt – SVP, Operations Tornio

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Tornio area

Size of the area:

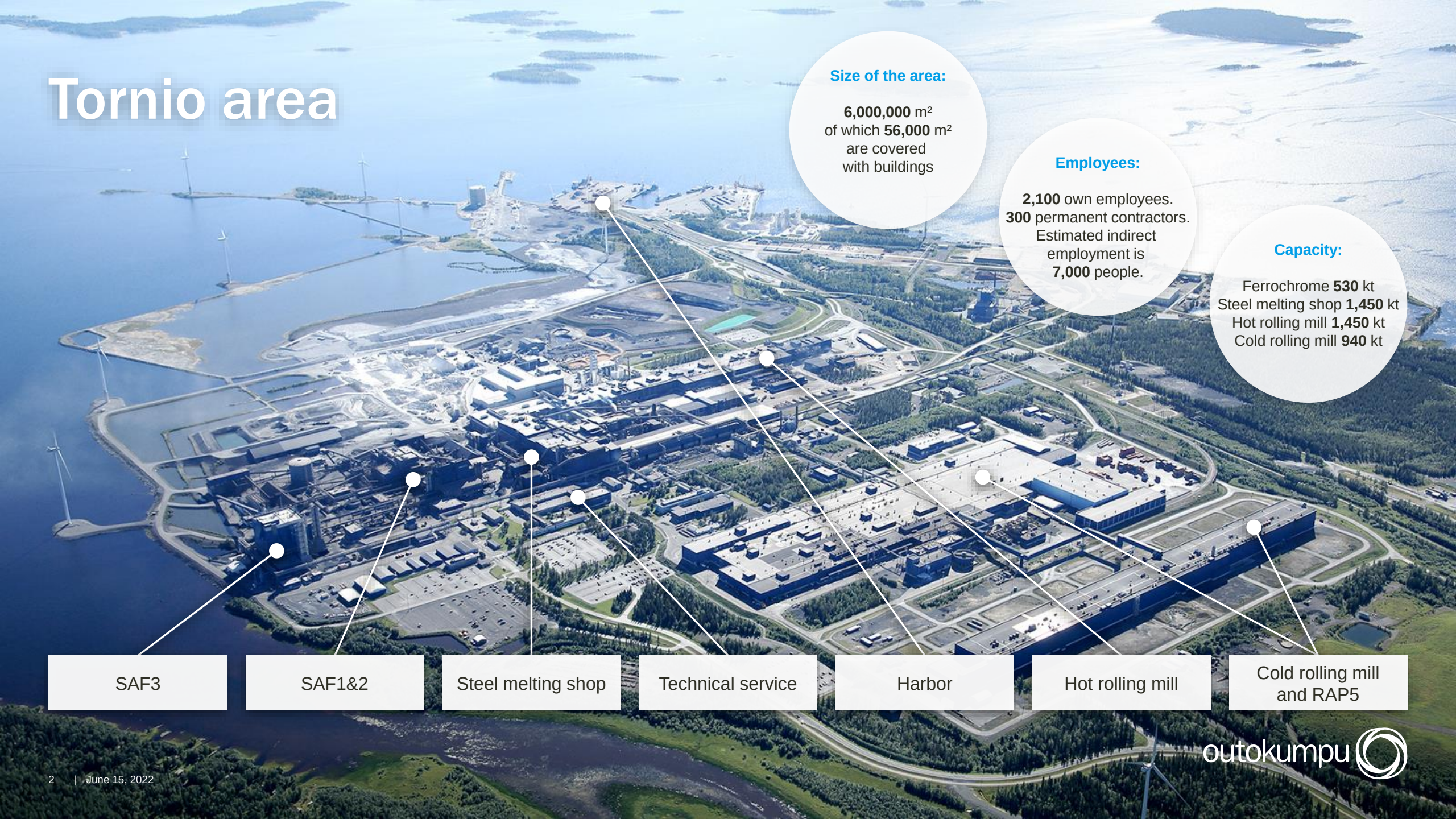
6,000,000 m²
of which **56,000** m²
are covered
with buildings

Employees:

2,100 own employees.
300 permanent contractors.
Estimated indirect
employment is
7,000 people.

Capacity:

Ferrochrome **530** kt
Steel melting shop **1,450** kt
Hot rolling mill **1,450** kt
Cold rolling mill **940** kt



SAF3 | SAF1&2 | Steel melting shop | Technical service | Harbor | Hot rolling mill | Cold rolling mill and RAP5

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We extract significant value from our fully integrated ferrochrome and stainless steel operations in Kemi and Tornio

Kemi-Tornio integration provides several cost and operational benefits

- Liquid ferrochrome in steel melt shop (energy saving and capacity)
- Usage of carbon monoxide (CO) in heating furnaces instead of liquid natural gas (LNG) leading to lower emissions/costs
- Slab direct charging to hot rolling mill (energy saving)
- Lower internal logistic costs
- Lower personnel and administrative costs (synergies from internal services, projects, management/ leadership)
- Lower WIP inventory levels/ shorter lead times supported also by fast response to quality defects

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Our Tornio stainless steel plant is the biggest recycler in the Northern Hemisphere

1
Industry leading recycled content

Recycled material content >90%*

2
In-house ferrochrome with low carbon footprint

CO_2 footprint of our ferrochrome is 70% lower than the industry average

3
High usage of low carbon electricity

>80% of our electricity in Europe is carbon neutral*

*) Share in 2021

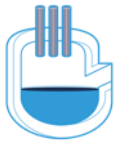
Our value stream in Tornio stainless steel mill

Steel melting shop

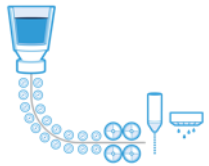

Liquid ferrochrome


Recycled steel

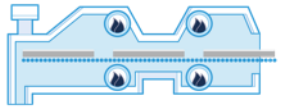

Ferrochrome Converter

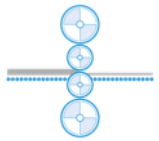

Electric Arc Furnace


AOD Converter

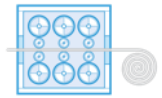

Continuous Casting Machine

Hot rolling mill


Walking Beam Furnace


Roughing Mill


Steckel Mill

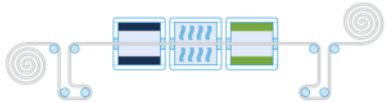

Tandem Mill


Bell Furnace

Cold rolling plant


Annealing and pickling line


Sendzimir Mill

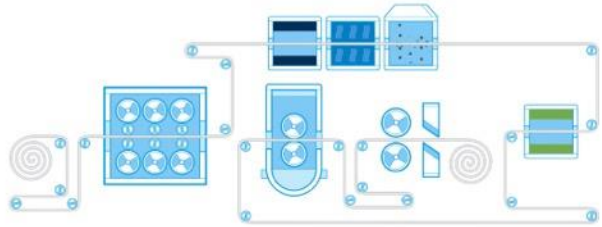

Annealing and pickling line


Polishing line


Slitting Line


Cut-to-lenght Line

RAP-line



Logistics


Coil and sheets


Transportation


Customers

Terneuzen


Slitting Line


Cut-to-lenght Line


Coil and sheets

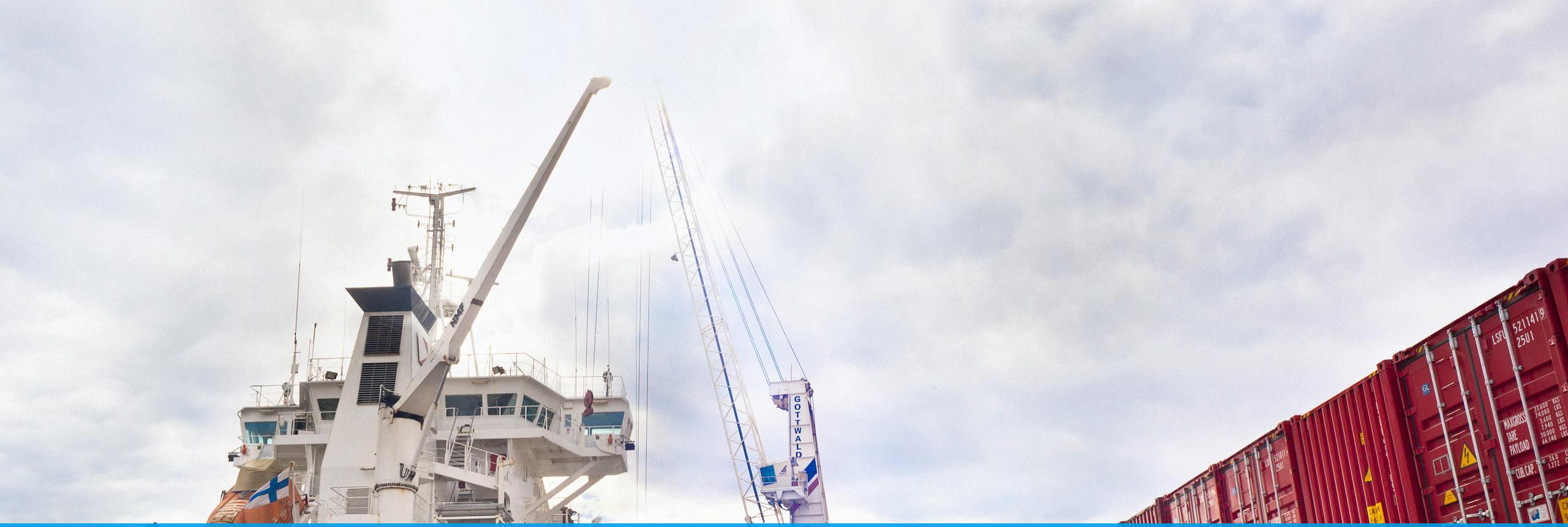

Customers

In 2021, we broke several records in our Tornio operations

New annual record of 1.427kt in hot rolling mill

New annual record in steel melting shop L1 and the highest steel melting shop production ever!

RAP5 performance was the best ever in Q1 2022



Operations – BA Europe

Introduction

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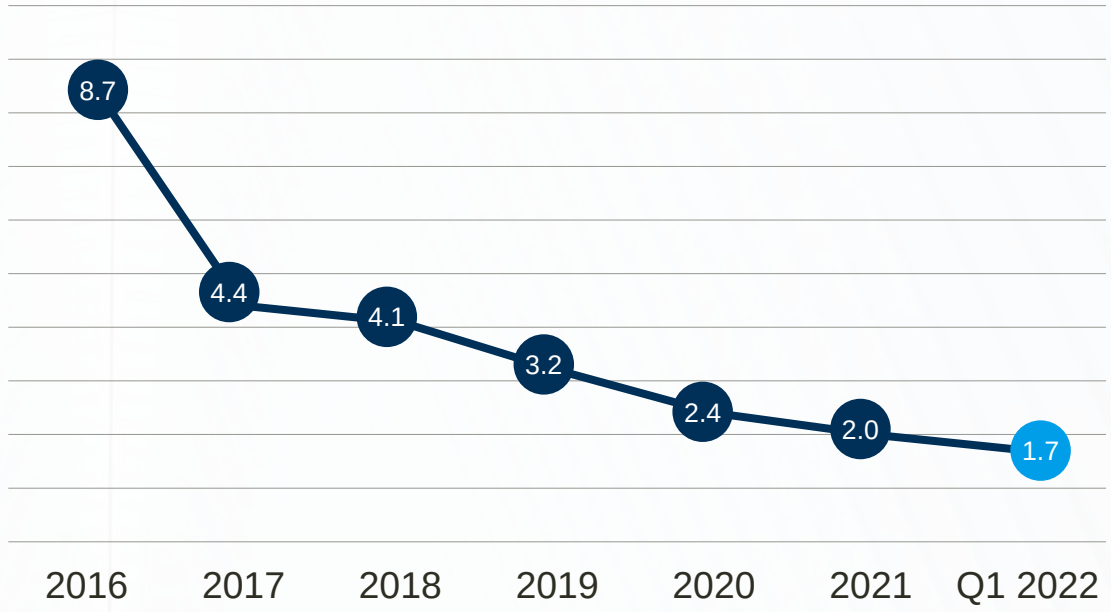
Continuous improvement in safety performance

Strong focus on safety

Total recordable injuries frequency rate (TRIFR)

Number of total recordable incidents per million working hours



Operation Europe team, location and rotation

Niklas Wass
EVP Operations Europe

Rober Sträßer
SVP – SCM Europe

Avesta

Integrated production
+ Core, Supra & Pro - Semi prod´s
+ Core, Supra & Pro - Thick & wide

Teijo Södervall

Tornio

Integrated production
+ Classic - Semi prod´s
+ Classic - Efficient commodities

Simon Schmidt

Terneuzen

Finishing integrated with Tornio
+ Classic – Efficient commodities
+ Finishing & distribution hub

Tommi Kuronen

Nyby

Cold rolling & Finishing
+ Forta Duplex & Ultra
+ High-end Pro

Christian Dufhaus

Krefeld

Cold rolling & Finishing
+ BA Moda, Core & Dura
+ Tailored finishing

Cem Kurutas

Degerfors

Quarto plate rolling & finishing
+ Core, Supra & Pro
+ Tailored Quarto Plates

Pål Åström

Dillenburg

Cold rolling & Finishing
+ BA Core, BA Supra & Therma
+ Deco & High quality surfaces

Thorsten Piniek

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Strategy Phase 1 has been executed through hundreds of smaller projects since launch

Example 1: Reduce over-alloying

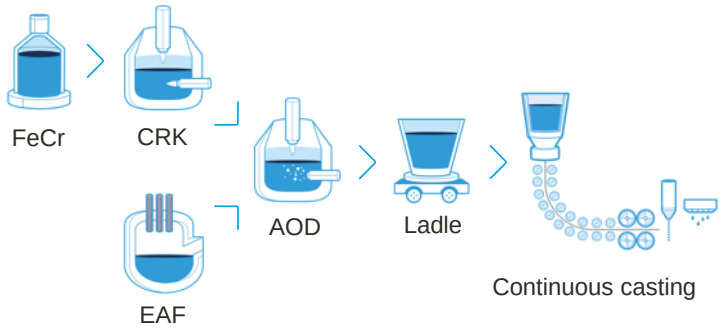
Business area	Europe

Workstream	Cost & Capital Discipline

Yearly financial impact	100,000+ euros

Background / Reason for change

- Analysis of products has identified slight over-alloying for specific grades in the past



Actions

- Composition targets were changed to result in less over-alloying
- Tight controls were in place, to ensure that composition targets were not underrun

Results

Reducing the compositions lead to financial improvements related to Raw material procurements.

Reducing raw material consumption, such as Chrome and Manganese, it also reduced GHG emissions (scope 2 from Ferrochrome production and scope 3 for other raw material supplies) and thereby provides sustainability improvements.

Additionally, slightly higher nitrogen content leads to additional improvements on Argon consumption during AOD process.

Strategy Phase 1 has been executed through hundreds of smaller projects since launch

Example 2: Project #25116 BAL1600 Waste heat utilization

Business Area	Europe

Workstream	Cost & Capital Discipline

Yearly financial impact	100,000+ euros

Current state /Reason for action

- Natural gas was used to provide hot steam for heating up cleaning section and drying coils after rinsing
- Aim of the project was to reduce the usage of fossil energy and utilize the excess heat generated from the furnace of the Bright Annealing Line at the exhaust

Future state / Actions taken

- Heat Exchangers were installed to utilize the excess heat
- The gained energy is then used to generate steam and thereby the need for natural gas was reduced significantly
- This provided not only cost savings but also helped on the path to become more sustainable

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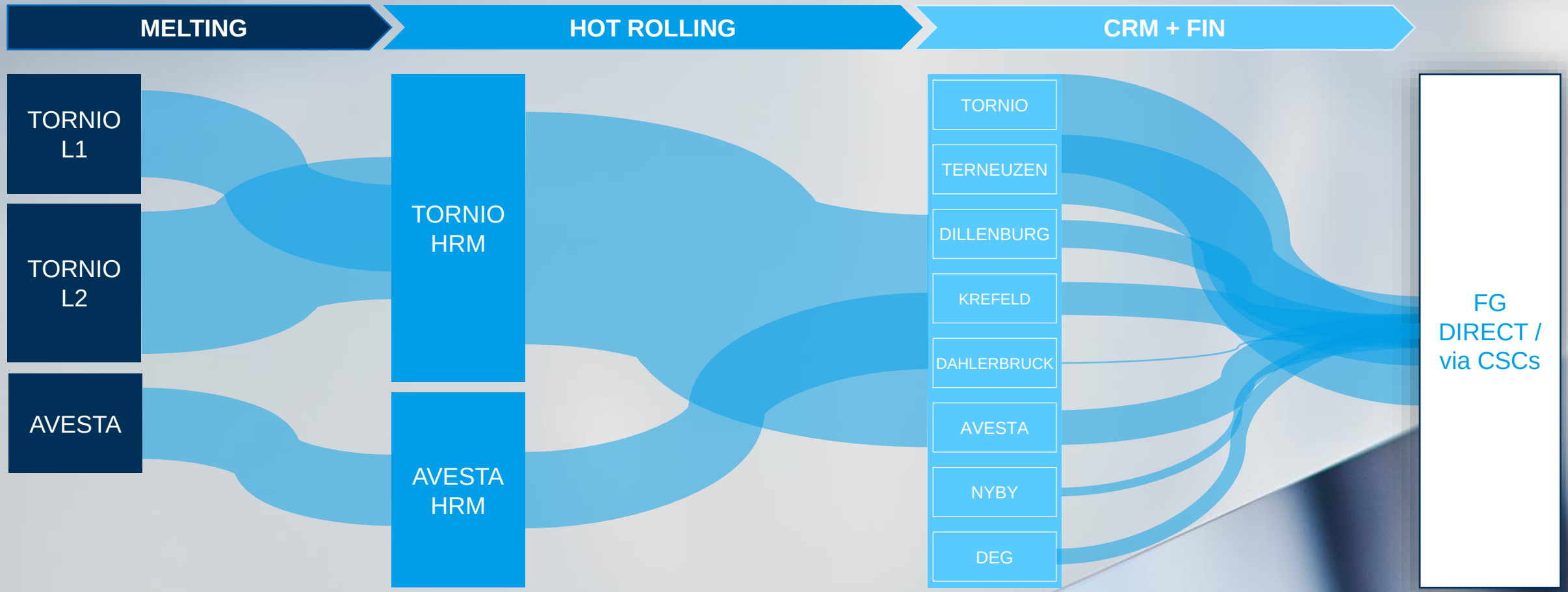
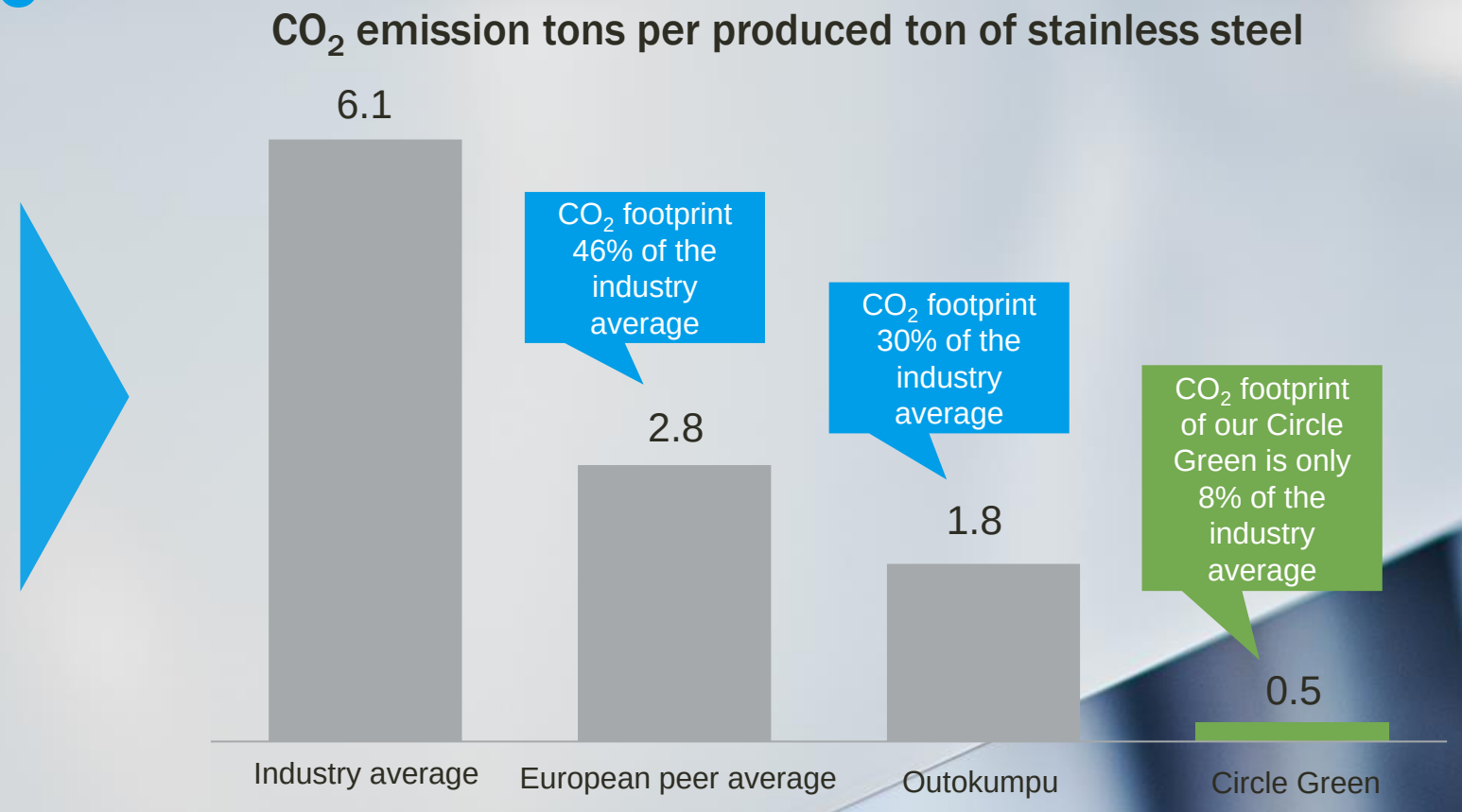
Material flows



We are the industry leader in sustainability – our Circle Green has 92% lower CO_2 footprint than industry average

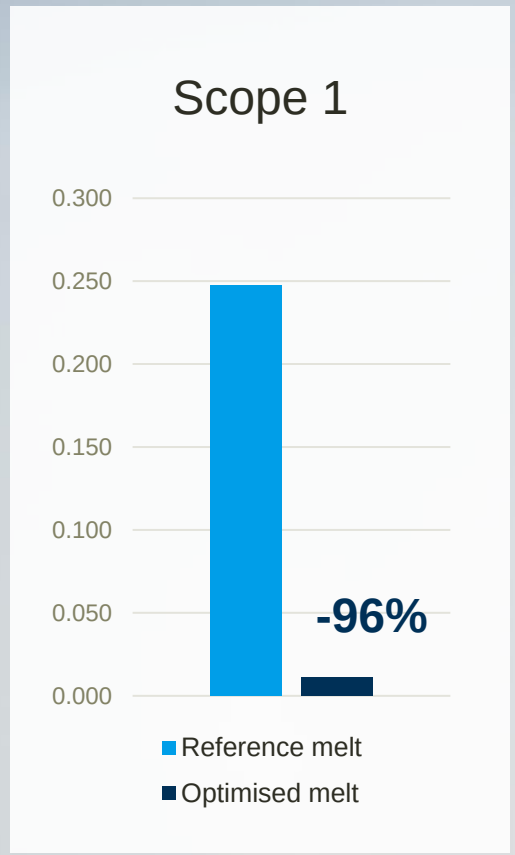
Expanding gap between Outokumpu and competitors creates a leverage for green line products

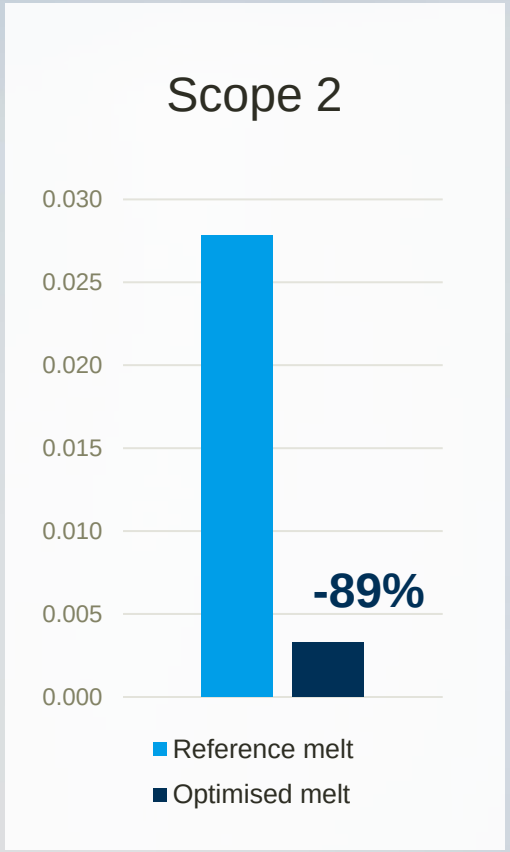


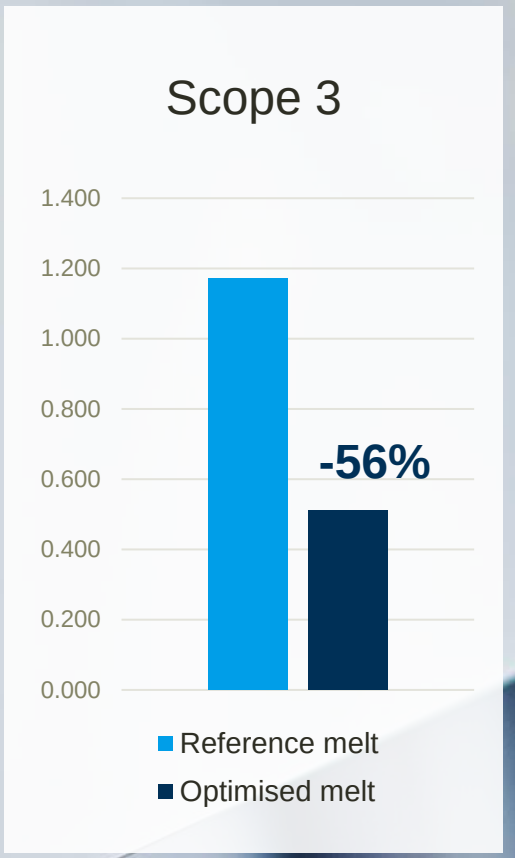
CO_2 reduction targets

Overall CO_2 reduction 64%

Driven by material and consumable selection in combination with very targeted production.







Key takeaways

We are getting the strategy done – and we are well fitted to go forward

We are meeting the increasing sustainability megatrend by improving our already best-in-class footprint

We have managed unprecedented disruption by Covid-19 and the war in Ukraine, delivered what we promised and even increased production by 13%

Tornio site tour agenda

14.20	Safety introduction
14.30	Visit to steel melting shop
15.05	Visit to hot rolling mill
15.40	Visit to RAP#5
16.10	Visit to harbour
16.30	Bus transfer back to main office
17.00	Bus transportation to Oulu airport
18.30	Arrival at Oulu airport
19.40	Finnair flight AY465 to Helsinki

Thank you!

Stay tuned and
follow us on

www.outokumpu.com

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