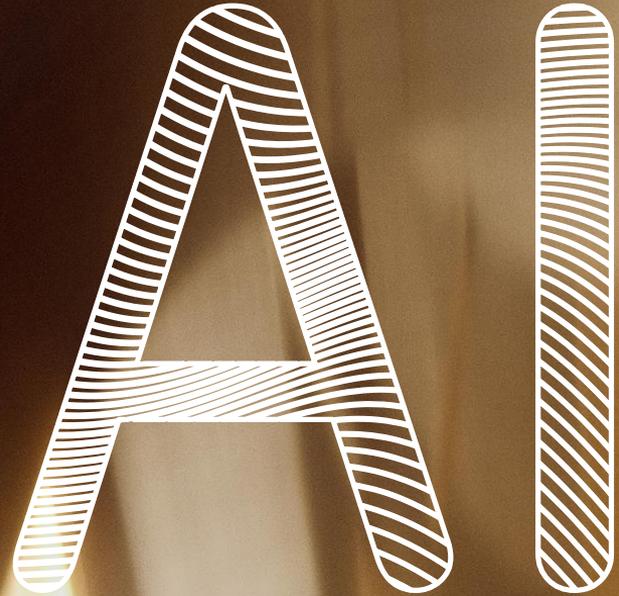


# Accelerating towards a world that lasts forever with AI

Heikki Malinen  
President & CEO, Outokumpu Oyj

26.3.2024





**We are at a turning point.  
AI is not new – but it is becoming  
more and more prevalent.**



# Internet changed the way we look for information.

Generative AI will do the same for utilizing information.



# Generative AI and data protection in close cooperation



Prevention of  
attacks



Vulnerabilities



Data leaks

AI



Where can  
AI have most  
impact in  
steel industry?

3 key areas →

# TOP 3

areas of value  
of AI for Outokumpu

SUSTAINABILITY

SAFETY

EFFICIENCY

# TOP 3 areas of value of AI for Outokumpu

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# TOP 3

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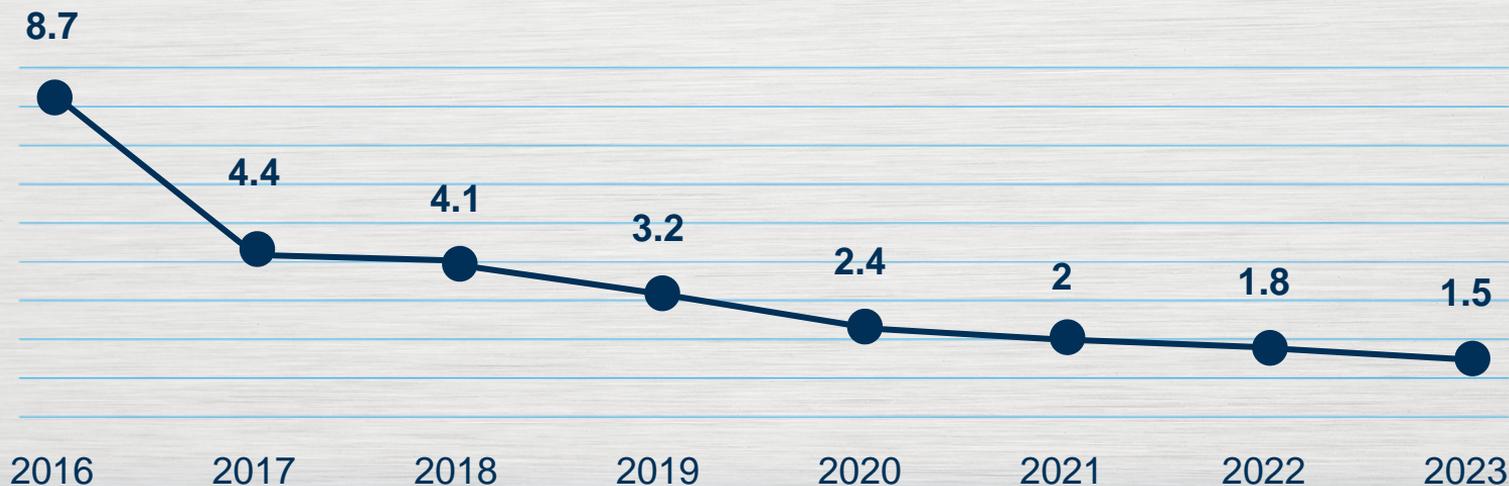




# AI FOR SAFETY



## Targeting zero incidents World-class safety performance, TRIFR 1.5



# AI in safety

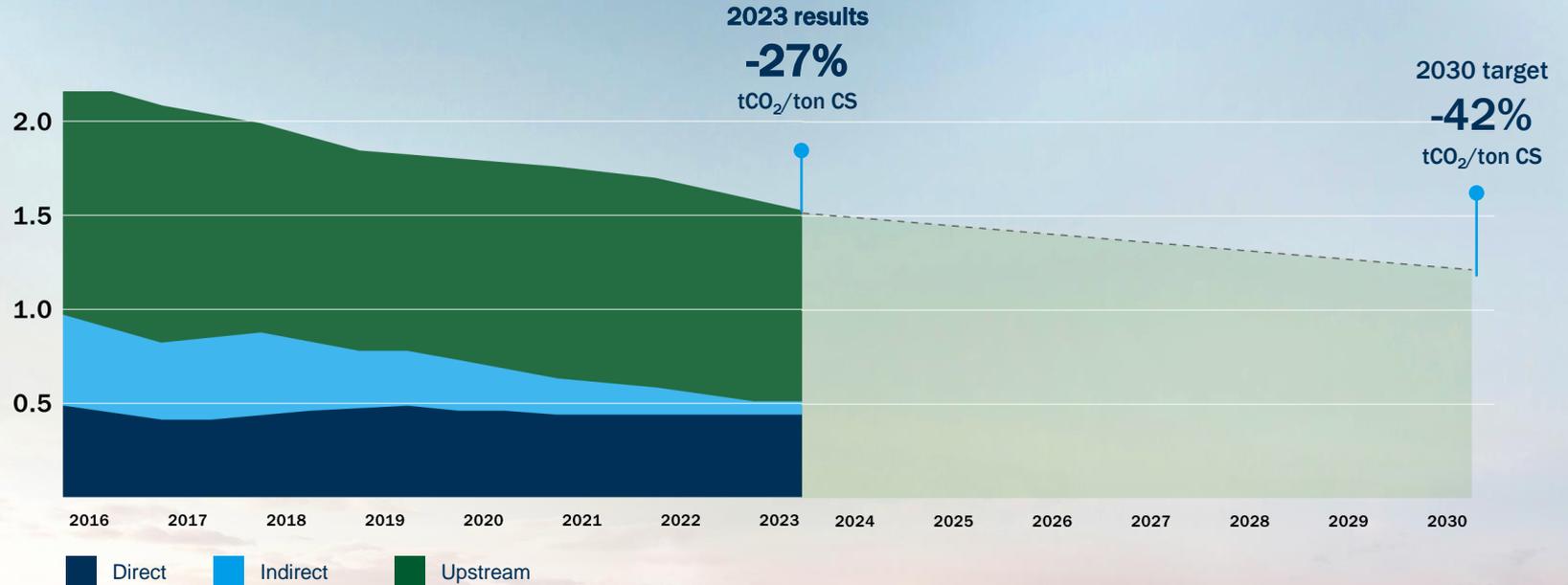
- We are utilizing AI and robotics for monitoring dangerous areas
- The vast amounts of data can be used for predicting issues





# AI FOR SUSTAINABILITY

# Outokumpu is committed to a decarbonization strategy aligned with 1.5 degrees – circularity and innovation at the core

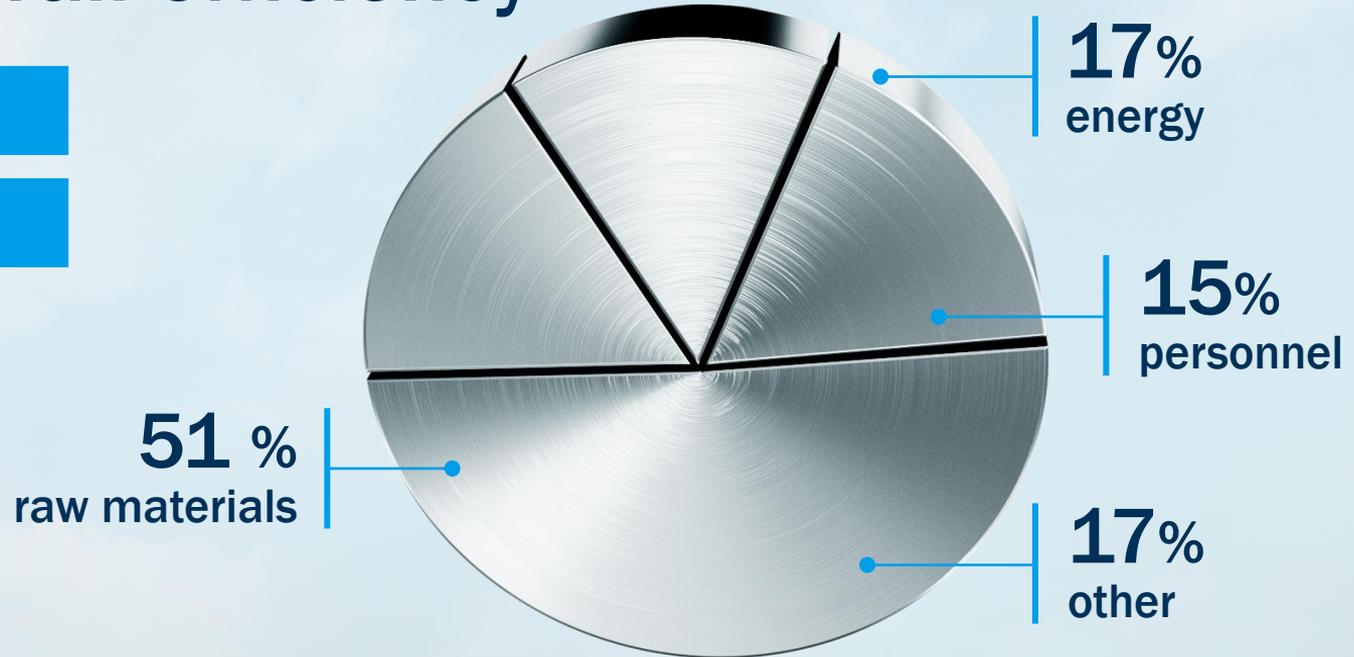


AI AND SUSTAINABILITY

# AI can help improve sustainability – and overall efficiency

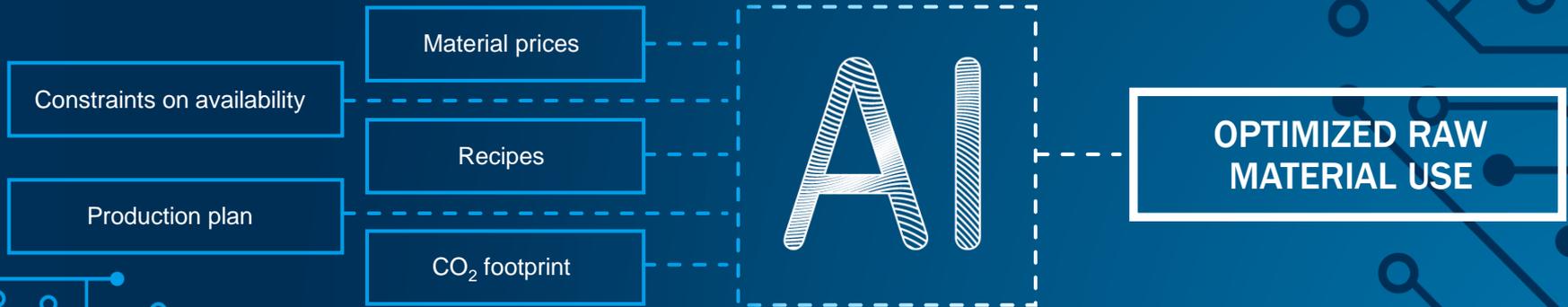
Raw material use

Energy use



# Raw material optimization

- More than half of our costs are in raw materials and we consume more than 2 000 000 000 kg of materials annually – even small savings have a huge impact
- AI can be used to optimize raw material cost and CO<sub>2</sub> footprint



# Optimization of energy usage

**3,7 TWh**

in 2023



**185 000 households\***



\*if average consumption is 20 000 kWh/year



AI

FOR  
EFFICIENCY

# Outokumpu automated surface inspection system



The model analyzes coils and flags serious defects



A human operator reviews images of flagged coils

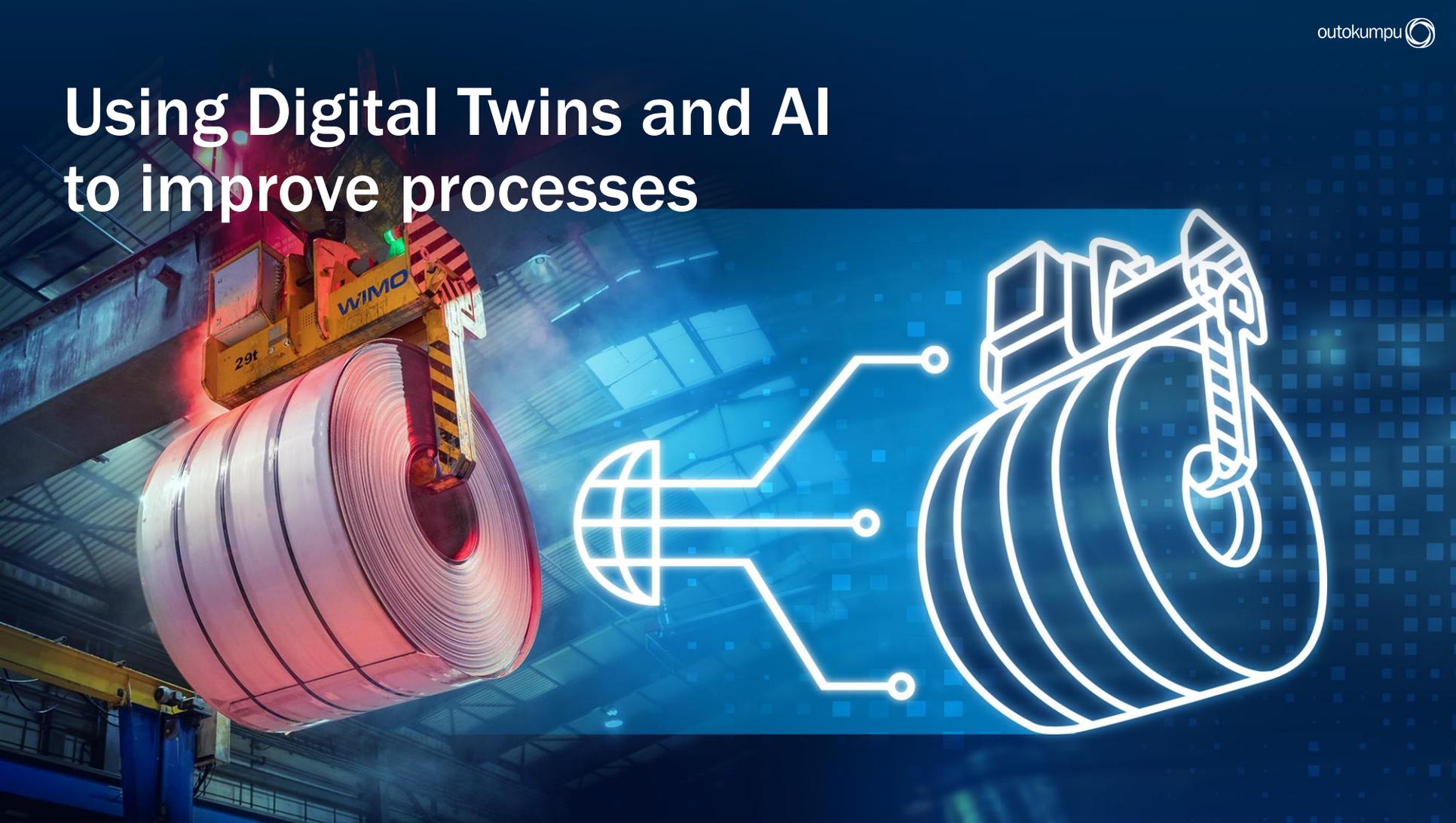


The surface inspection team decides on actions



FEEDBACK FOR ROOT  
CAUSE DETECTION

# Using Digital Twins and AI to improve processes



# The human link – interfacing with AI

How can we interact with AI  
in challenging conditions?

Augmented Reality together with  
AI can provide new possibilities:

IMPROVED QUALITY

LESS ERRORS

FASTER MAINTENANCE

HIGHER YIELD





AI

... and things we have  
not yet even dreamed of

Discovering something entirely new with the help of AI

outokumpu 

# Generative AI supporting innovation

AI augmented operations



Re-imagined processes



## Human and AI in collaboration – for our future

Previously impossible ways of improving sustainability



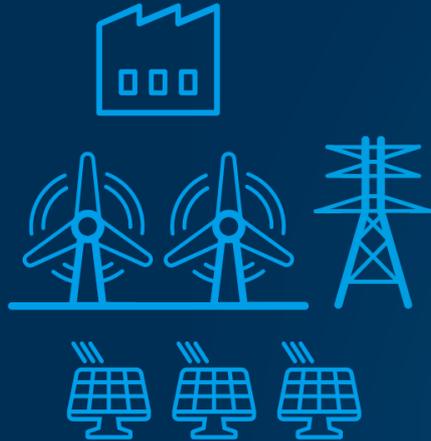
New alloys



Novel designs



# This may not necessarily be easy



Generative AI requires a lot of energy – how do we prioritize?



Utilizing data is a key – how will the EU regulation impact this?



Developing AI requires highly skilled people – how do we ensure that?



**Accelerating towards  
a world that lasts forever  
with AI**

outokumpu 