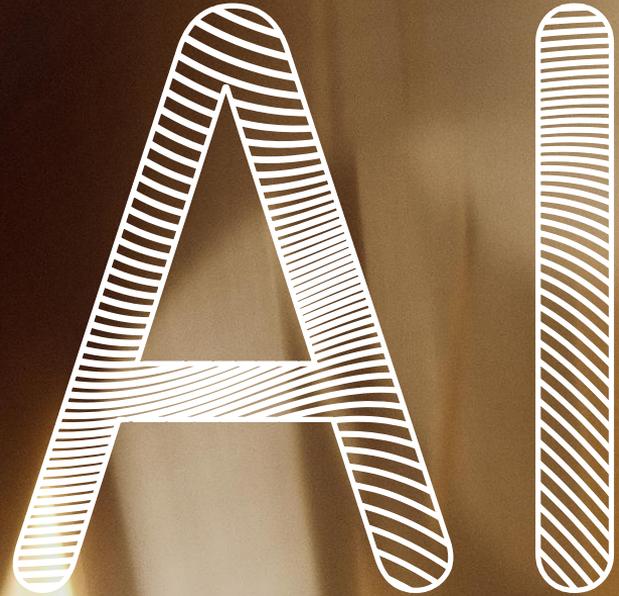


Accelerating towards a world that lasts forever with AI

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



TOP 3

areas of value
of AI for Outokumpu

SUSTAINABILITY

SAFETY

EFFICIENCY

TOP 3

areas of value
of AI for Outokumpu

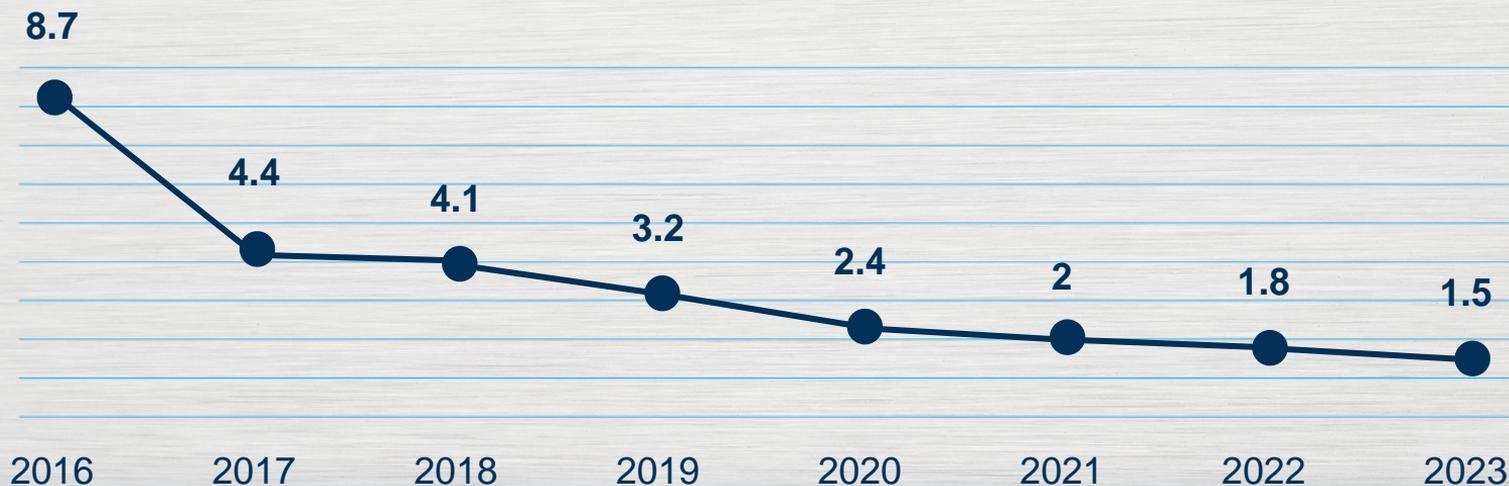




AI FOR SAFETY



Targeting zero incidents World-class safety performance, TRIFR 1.5



AI in safety

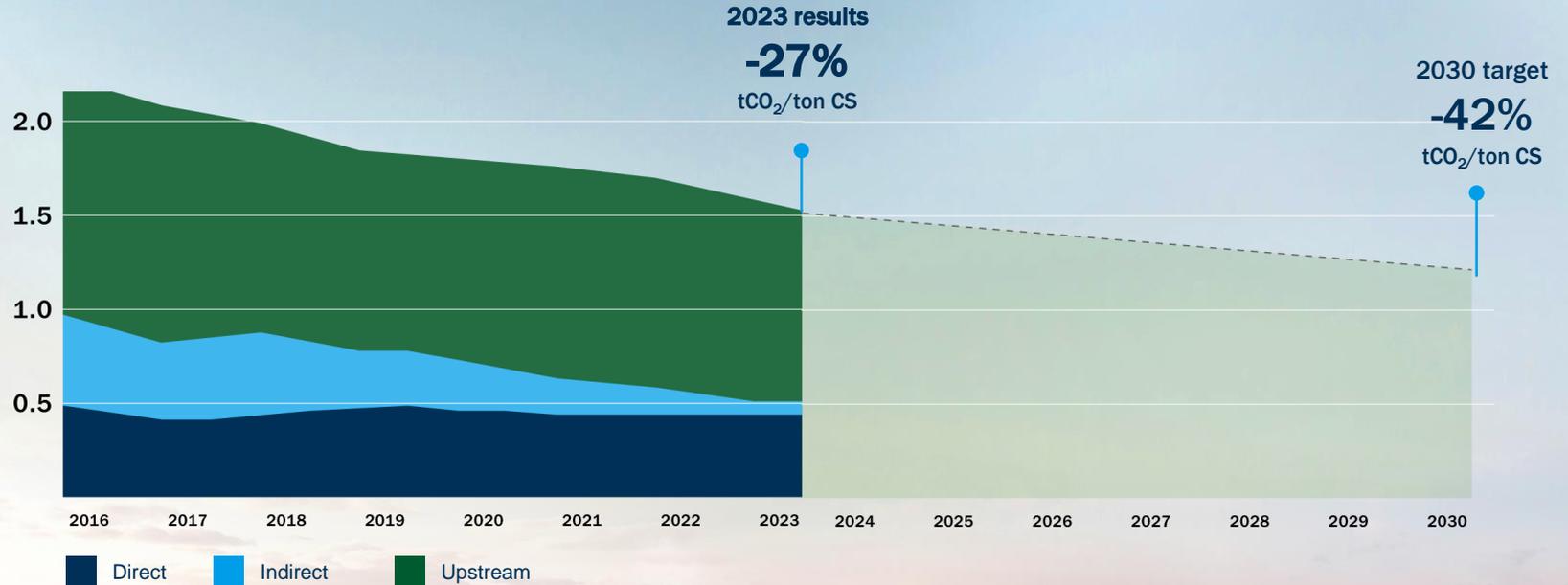
- We are utilizing AI and robotics for monitoring dangerous areas
- The vast amounts of data can be used for predicting issues





AI FOR SUSTAINABILITY

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

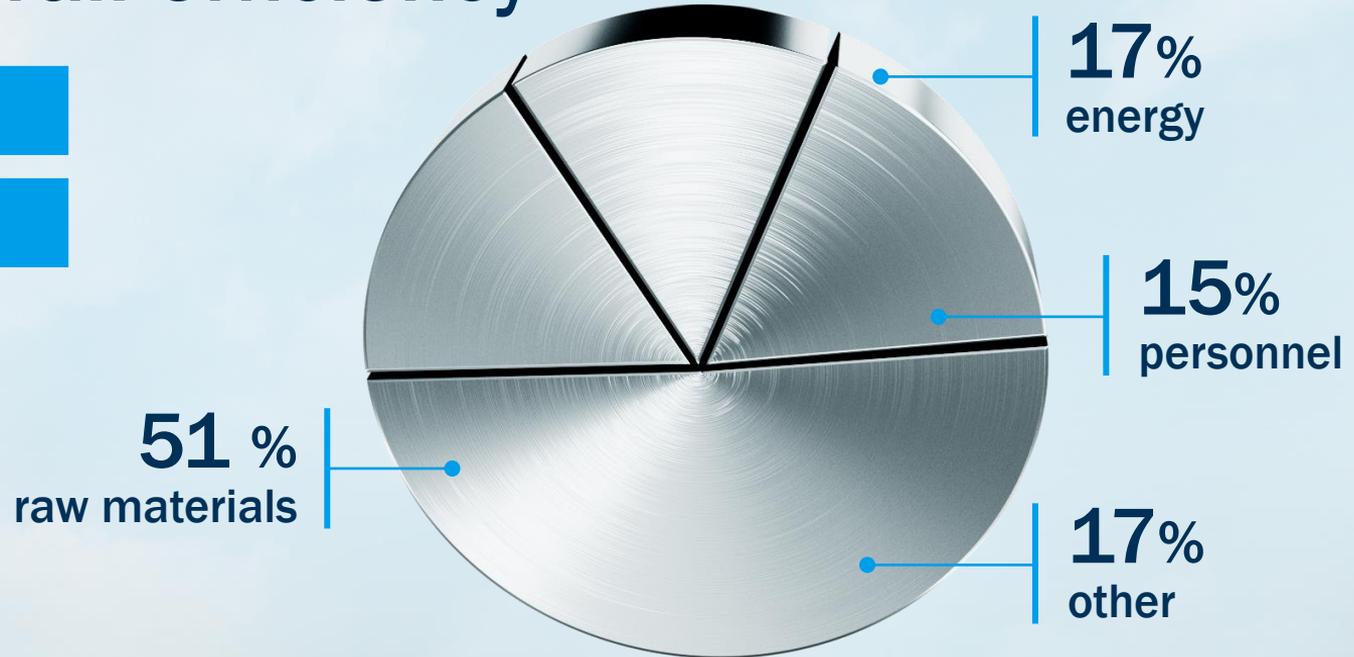


AI AND SUSTAINABILITY

AI can help improve sustainability – and overall efficiency

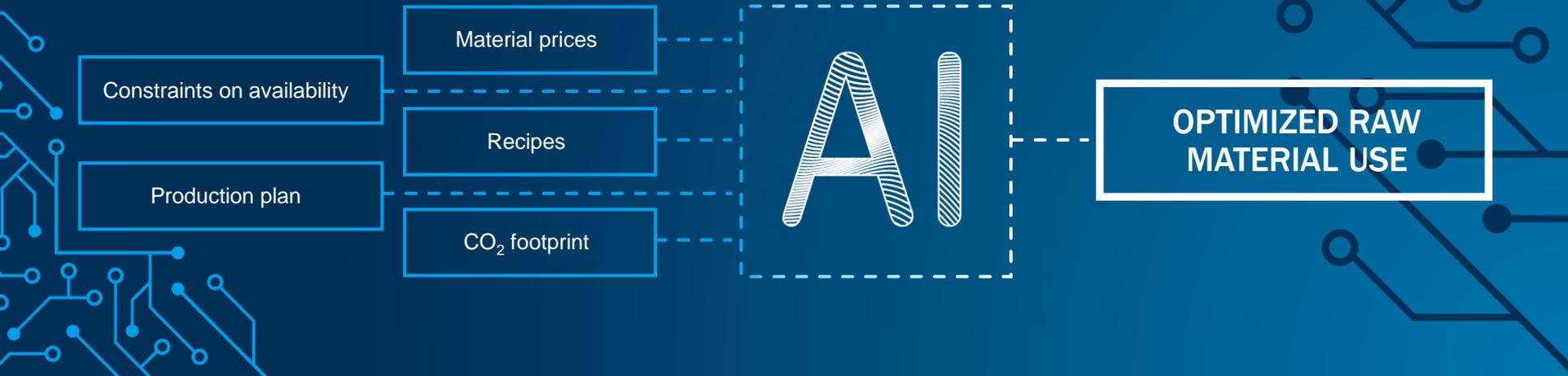
Raw material use

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 CO₂ 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



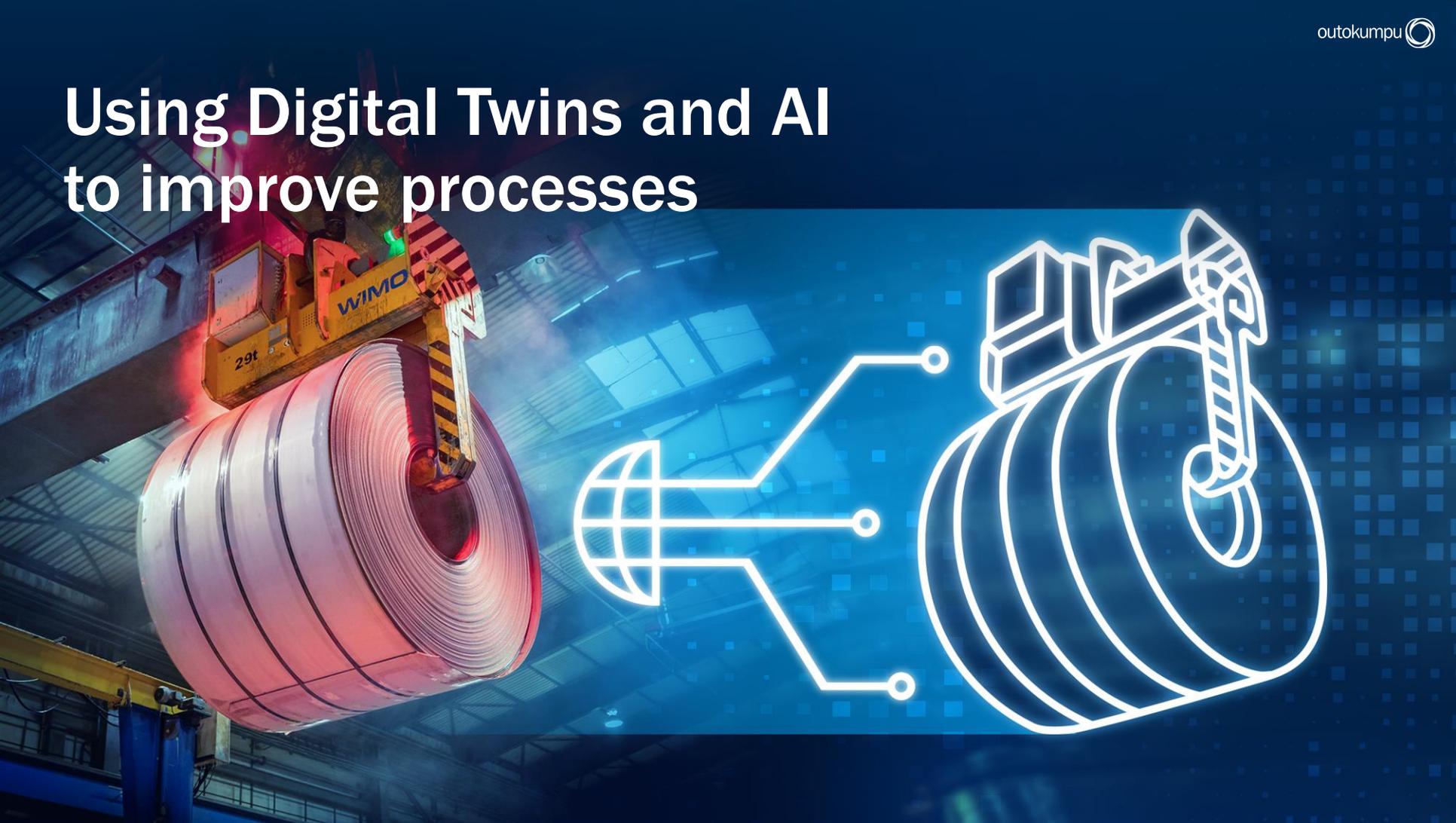
The surface inspection team decides on actions



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



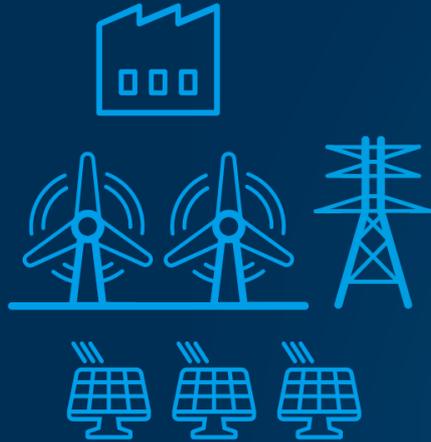
New alloys



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 