



Sustainable Power for Steel

The digital path to profitable decarbonization

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Finance and operations roadblocks impacting Green Steel projects

Is this viable?

- 1 New global equilibrium
- 2 High investment needs
- 3 Access to clean energy
- 4 Energy pricing

- New Gov. Administrations (USA)
- EU Clean Industrial Deal

- €4.4 trillion investment by 2050 (McKinsey)
- €15.1 billion/year in addition to the regular annual CapEx of €103.8 billion (McKinsey)

- Power demand increased 30% in the last decade, and is accelerating (WM)
- X2 electricity consumption in steel sector with electrification (UK Steel)

- Around 45% of Germany companies to reduce production due to high energy costs. (DHIK survey)
- Energy prices in Germany, among higher in the world (DIHK)
- Energy costs can represent 180% of steel producers GVA in the UK (UK Steel)

Technology can help

Design Phase

Power Digital Twin
Power Consulting
Energy as a Service

Design-Operate Phase

Green Energy Sourcing
Power Purchase Agreement
Power / Process Simulation

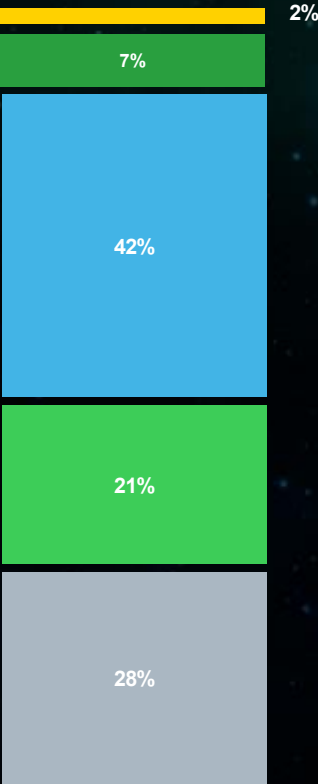
Operate and Maintain Phase

Process Digital Twin
Unified Power and Process
Software, Analytics and Business
Insights
Universal Automation

Industry is moving towards decarbonized materials despite the challenges

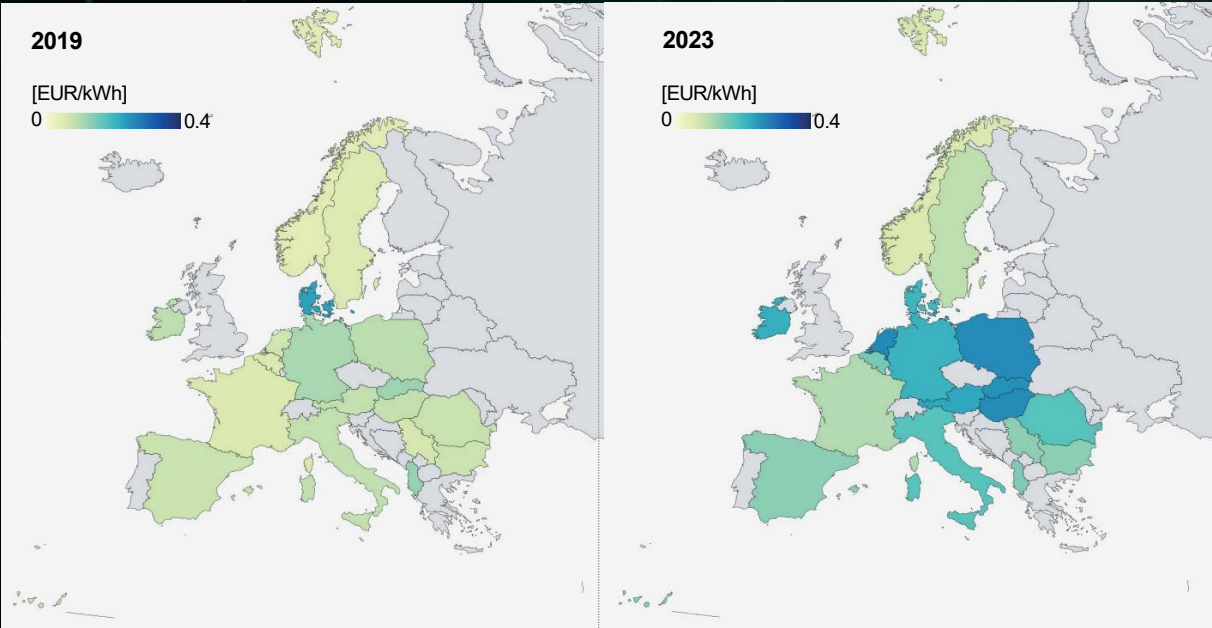
Breakdown of total cross-value chain capital investment, 2020–2050, percentage

- CO₂ storage and transport
- Hydrogen infrastructure
- Electricity generation
- Electricity networks
- Steelmaking capacity



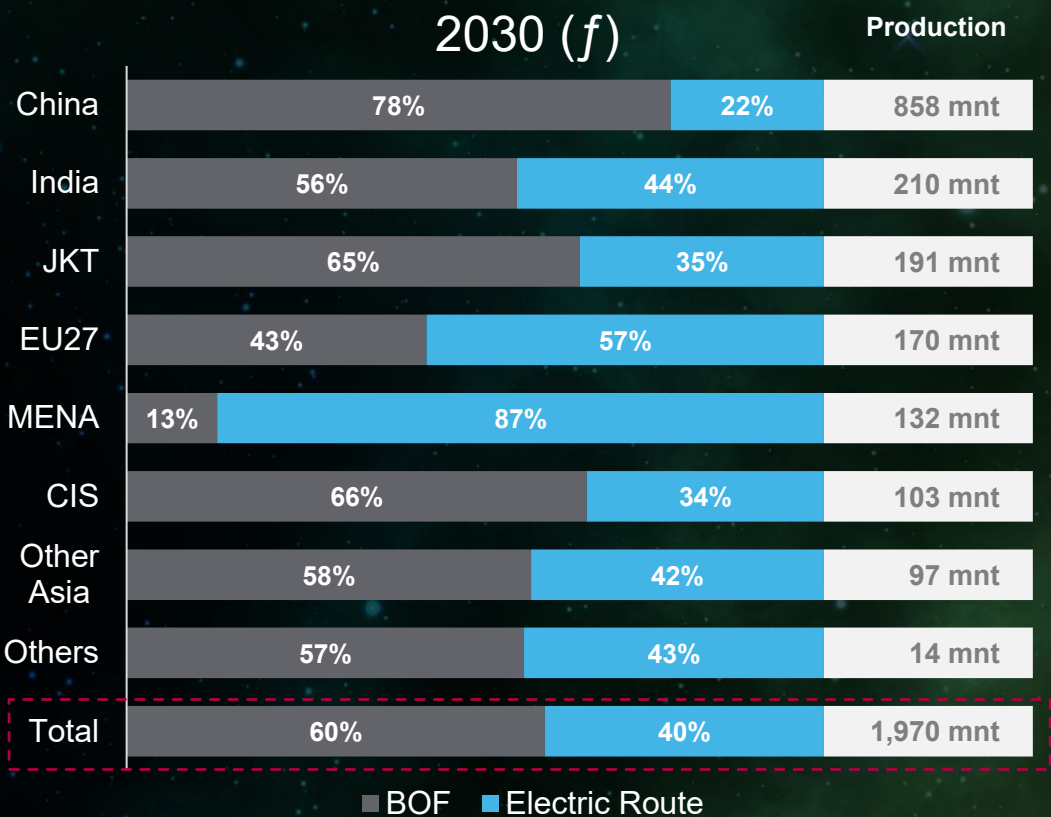
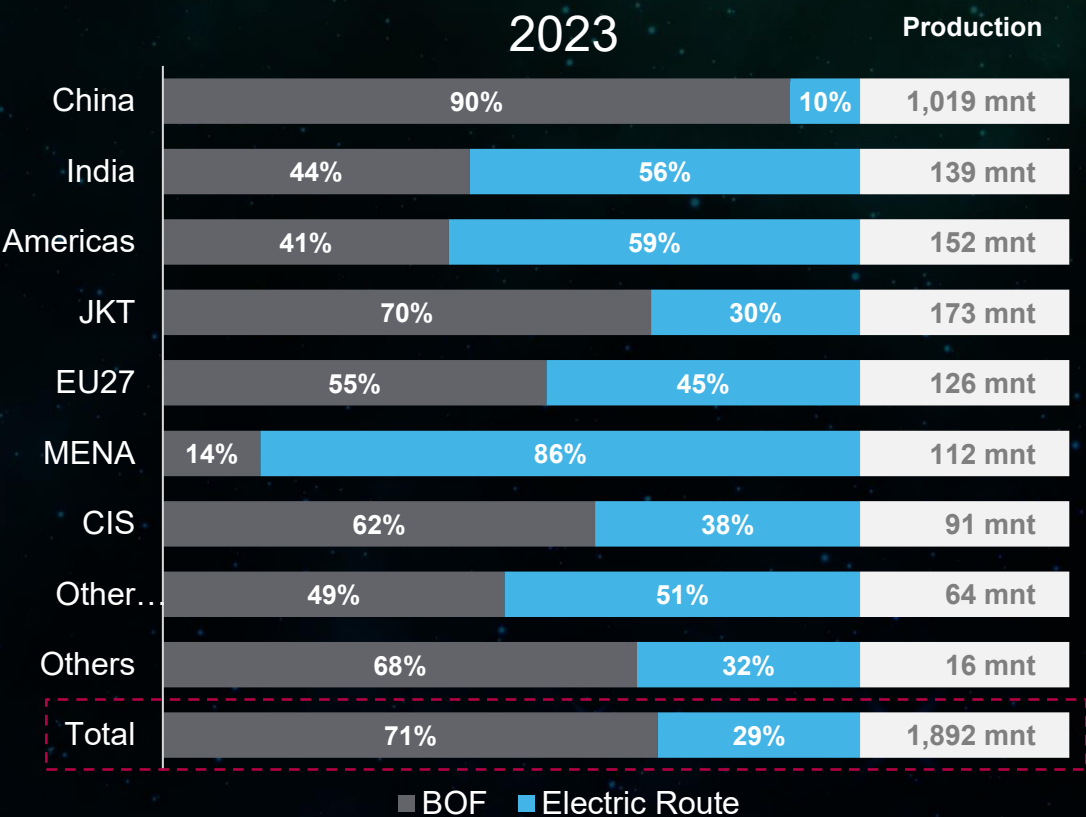
MPP analysis

Price of electricity for EU large non-household consumers*



Eurostat (2024). *Annual consumption of 150 000 MWh or higher.

EAF replacing BF-BOF



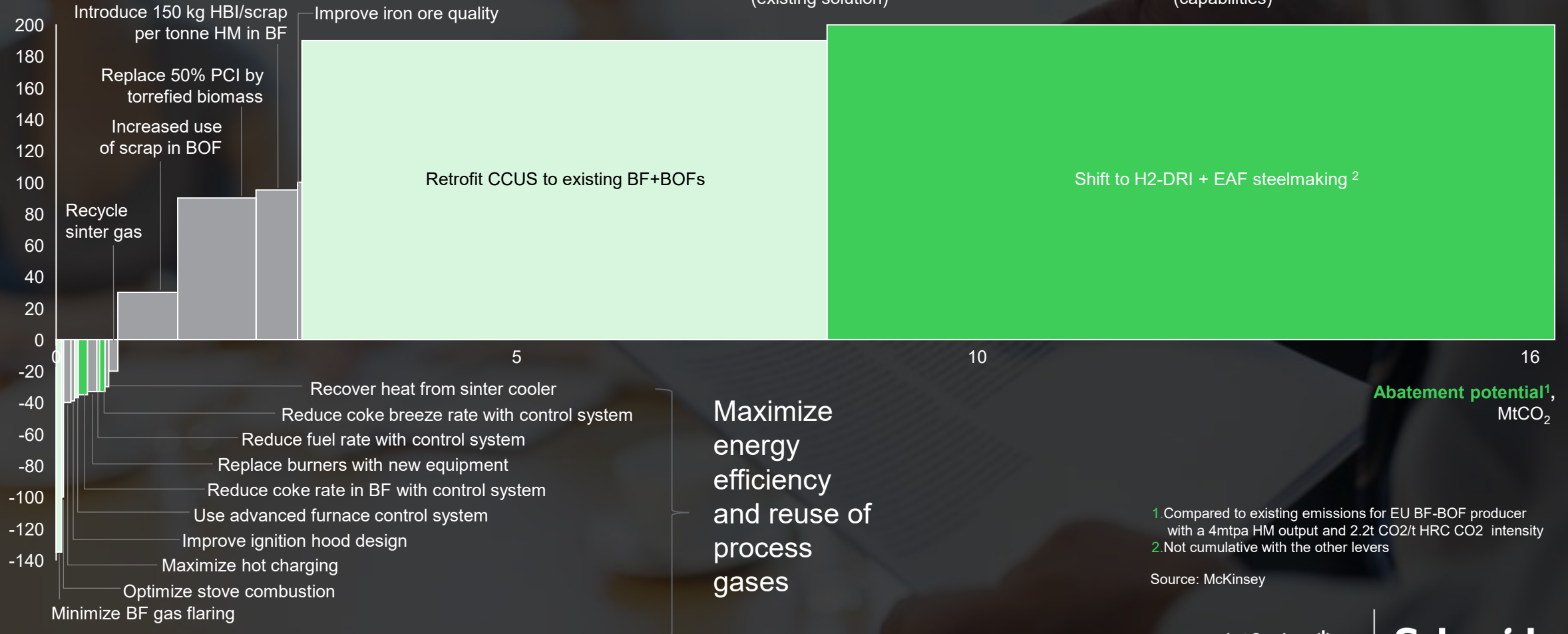
Source: WSA, BigMint

What does it mean Green Steel?

Understanding abatement potential

Indicative – not exhaustive

2030 Abatement cost, USD/TCO₂



Digital energy, process and automation technology to achieve profitable sustainability

Emission abatement potential

10-15%
Incremental Levers on
existing assets

>50%
Significant investments
on existing assets

>80%
Major investments to develop
entirely new assets

Our solutions

DESIGN

We support your transition to **new green technologies**

1 Green H₂ production



2 Carbon capture technology



3 Green by design



OPERATE

... while deploying our **unique market leader expertise** in energy management, green energy sourcing and integrated power & process

4 Energy strategy



5 Energy management solutions



6 Digital integrated power and process



7 PI, data and analytics

Enabler

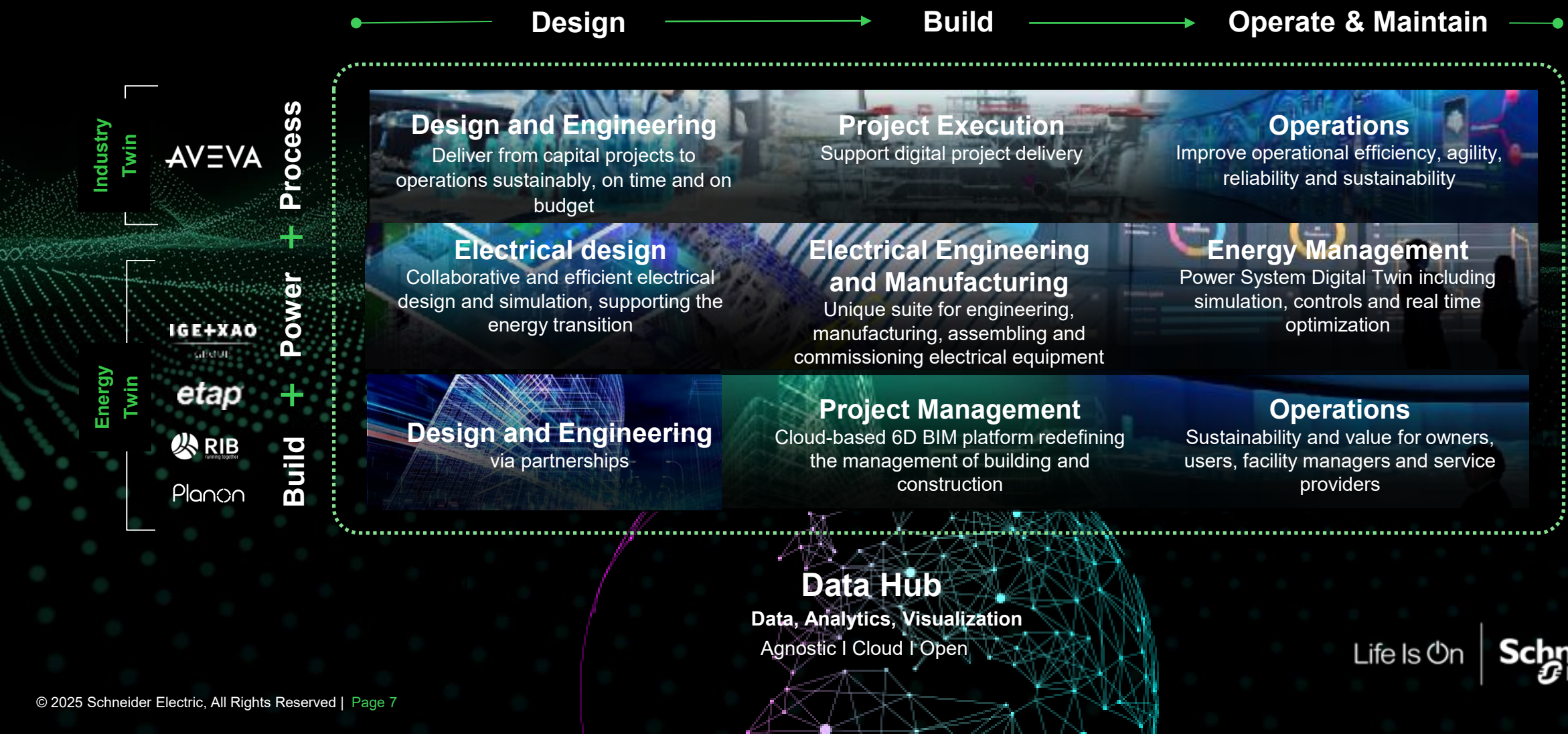
MAINTAIN

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One set of applications to build your enterprise digital twin towards Green Steel

Design & Build ➔ Operate & Maintain





Four real-live decarbonization projects

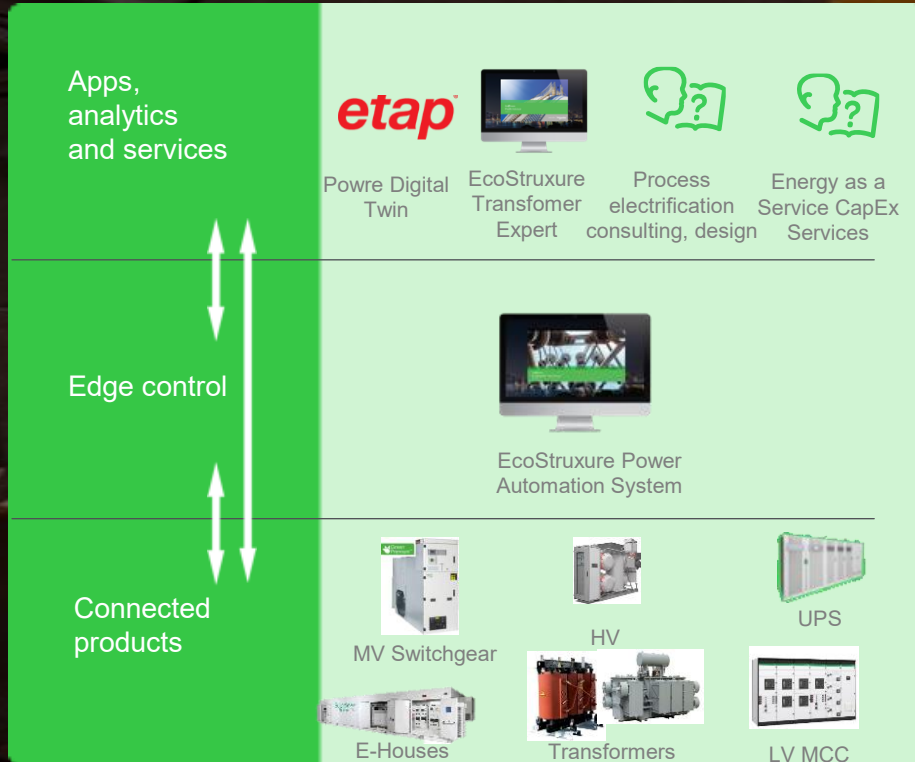
Design – Operate - Maintain

World's first large-scale green steel manufacturing plant

DESIGN

Getting the best TCO on steel decarbonization with electric furnace and green hydrogen production

EcoStruxure™ for Steel
Innovation At Every Level



Green by design process

25% CapEx and OpEx savings

95% reduced CO2

Ball Corporation

Access to energy switching to renewables

DESIGN- OPERATE

EcoStruxure™ for Metals
Innovation At Every Level

Apps,
Analytics
And services



Green Energy Sourcing

Edge
Control

Connected
Products

65% of renewable energy by 2024

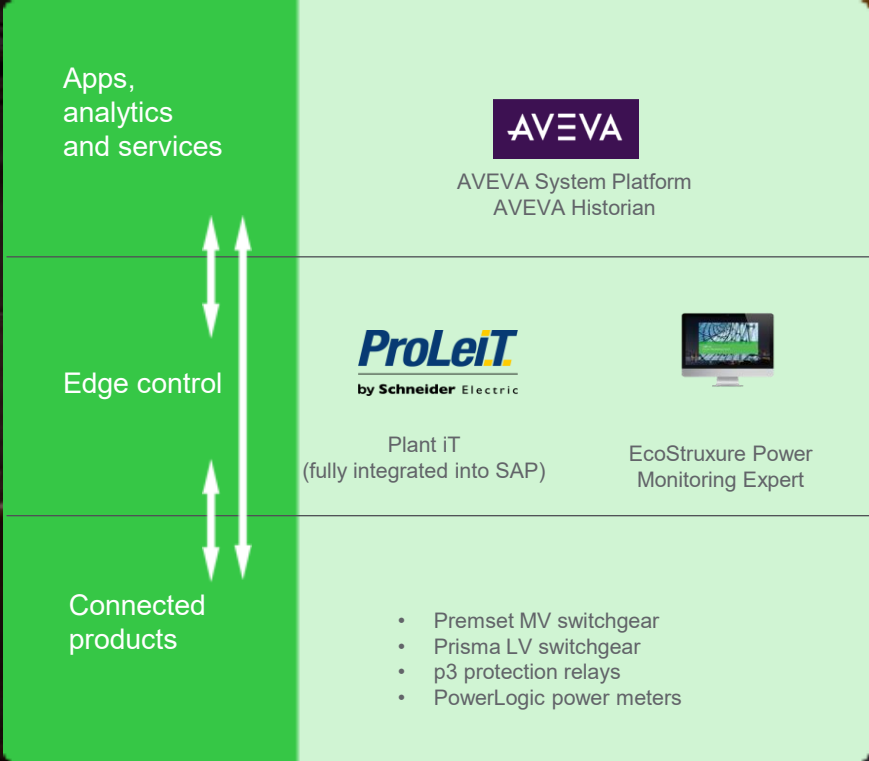
30% decrease of scope 2 greenhouse gas emissions by 2024

European steel manufacturer, supplier to automotive, consumer goods, aerospace and railway

OPERATE

Integrated power and process solution to produce efficient steel

EcoStruxure™ for Steel
Innovation At Every Level



Increased **productivity** by implementing a data-driven approach and increased visibility

Higher **asset utilization** through asset performance mgt, predictive analytics and Artificial Intelligence

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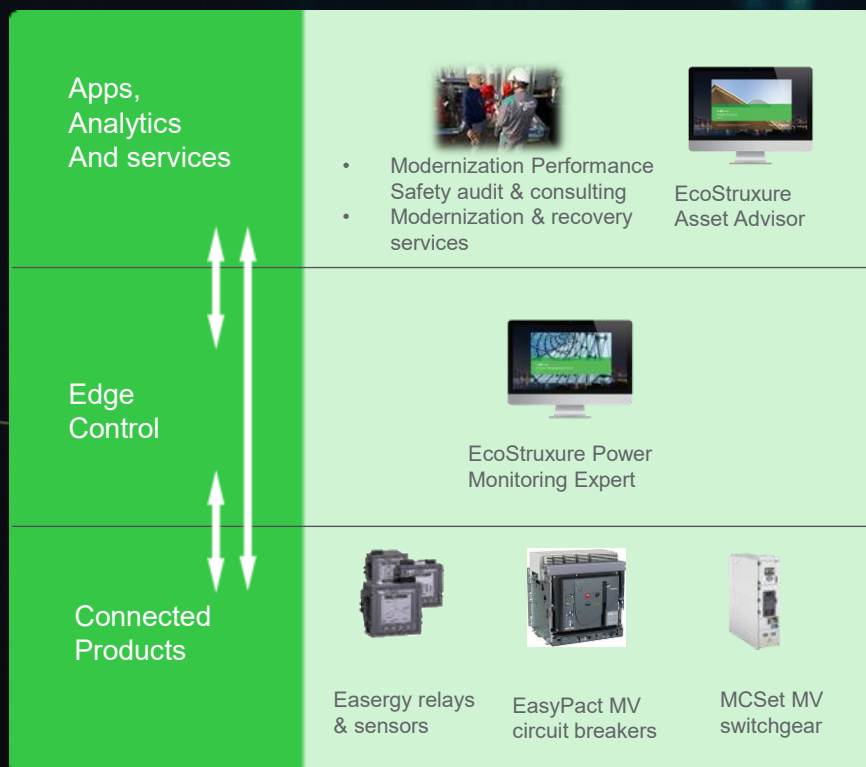
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ArcelorMittal

A circular economy approach to modernize power distribution, asset management and maintenance

EcoStruxure™ for Steel
Innovation At Every Level



170 eq metric tons of CO₂ saved
26 metric tons of materials saved
5-10% less downtime

"If I had to sum up this project with Schneider Electric in three words, it would be: proximity, flexibility, and support,"

Sébastien Michon
Industrial Project Engineer
ArcelorMittal Belval

[Video](#) [HTML](#)

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As Schneider Electric, we have been through the sustainability journey ourselves



Zero waste to landfill sites

206 up from 30 in 2014

Net Zero sites

30 sites



Energy consumption

-35% since 2009

Renewable electricity

80% up from 2% in 2017



Water consumption

-30% since 2007

Medical incident rate

-88% since 2010



Looking forward

We will continue to lead the effort for a climate positive world with our 2030 commitments aligned with 1.5° scenario and validated by science-based targets

#1 Sector leader



#1 Most Sustainable Company



Ranked #1



A global **industrial technology leader** in electrification, automation, and digitalization

1. Full year 2024

Unprecedented partner network
>1 million partners

ESG champion
and sustainability partner

Multi-hub model
150 000+ employees

World-leading portfolio
with increased digital footprint

€38bn
revenues¹

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