

Maximizing ROI and sustainability in metals through digital transformation

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Life Is On

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Our mission in metals

We help the metals industry adopt a culture of innovation that ensures long-term sustainability, productivity, energy efficiency, and value chain excellence.

Our digital-first approach integrates automation, power, and process solutions. The result of this connected consolidation is enhanced stakeholder return and a more sustainable, efficient operation.



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Challenges

Metals operations today face five main challenges.

License to operate

In addition to adhering to the highest safety standards, metals companies today need to contribute to progress and environmental sustainability. Expectations for responsibility are embedded in the industry’s social license to operate; metals companies must navigate stakeholder pressure while driving down OpEx.

CapEx and OpEx constraints

The demand to remain profitable in a very competitive landscape, all while doing more with less, is another hurdle metals companies must face.

Value chain responsiveness

Metals operations need to be able to swiftly pivot to the traditional value chain. Market changes and price volatility undergird the values that digitization brings to the metals industry, including improved connectivity and flexibility.

Workforce shift

By 2025, millennials will comprise 75% of the workforce. As experienced employees retire, it's important to transfer their knowledge by leveraging technology. Right now, however, the metals industry needs to attract new talent and improve gender diversity.

Culture of innovation

As it’s true in many industries, there's a relentless drive to accelerate digital transformation, technology adoption, and innovation to remain competitive.



Digital transformation — the promise of new technology

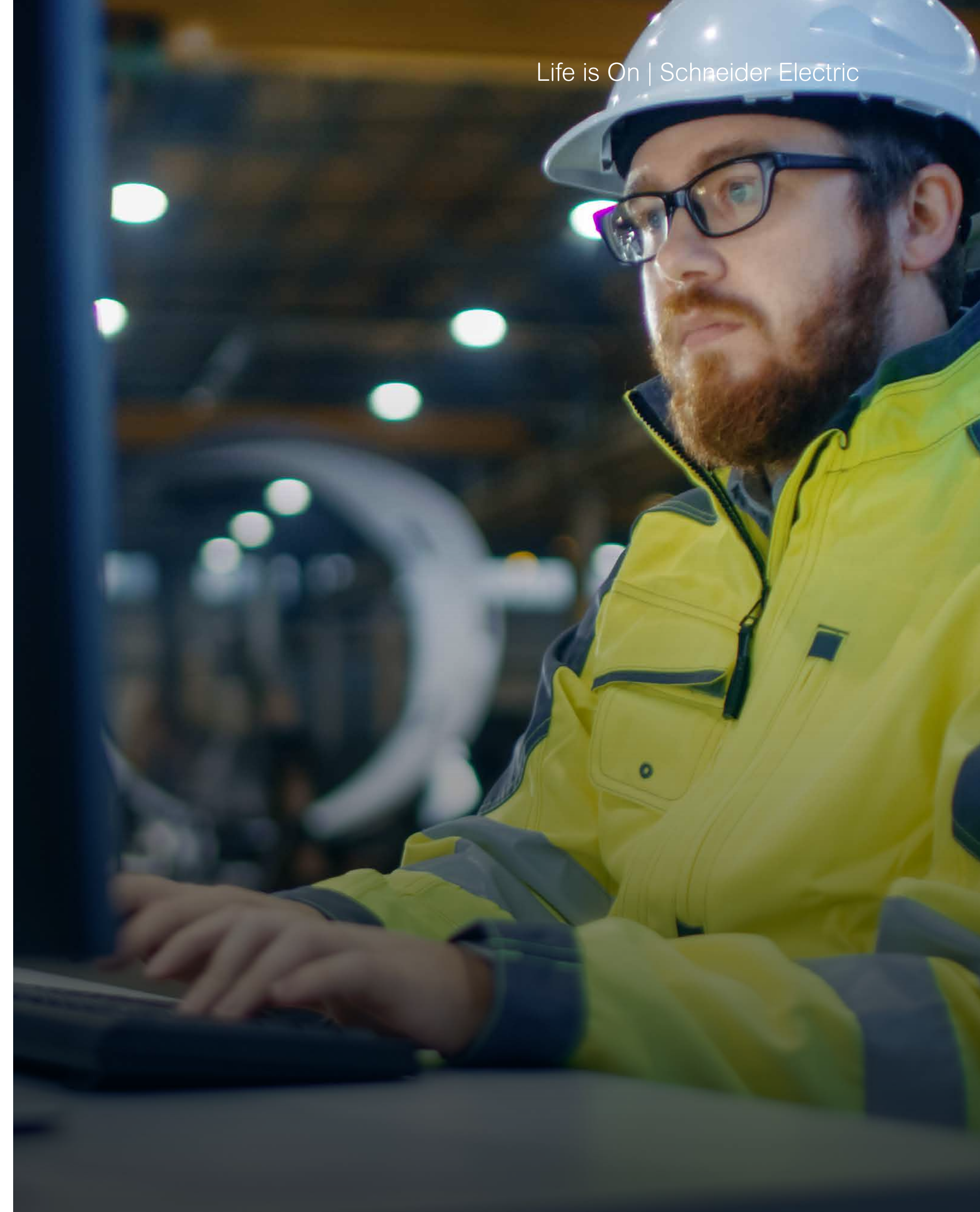
Digital technologies and IIoT

Digital transformation is happening all around us, and the metals industry has taken notice. The advantages of a digital, IIoT-connected environment are necessary not just for survival, but to attract the best and brightest of the next generation of workers. It's also a key contributor in maintaining and improving sustainability.

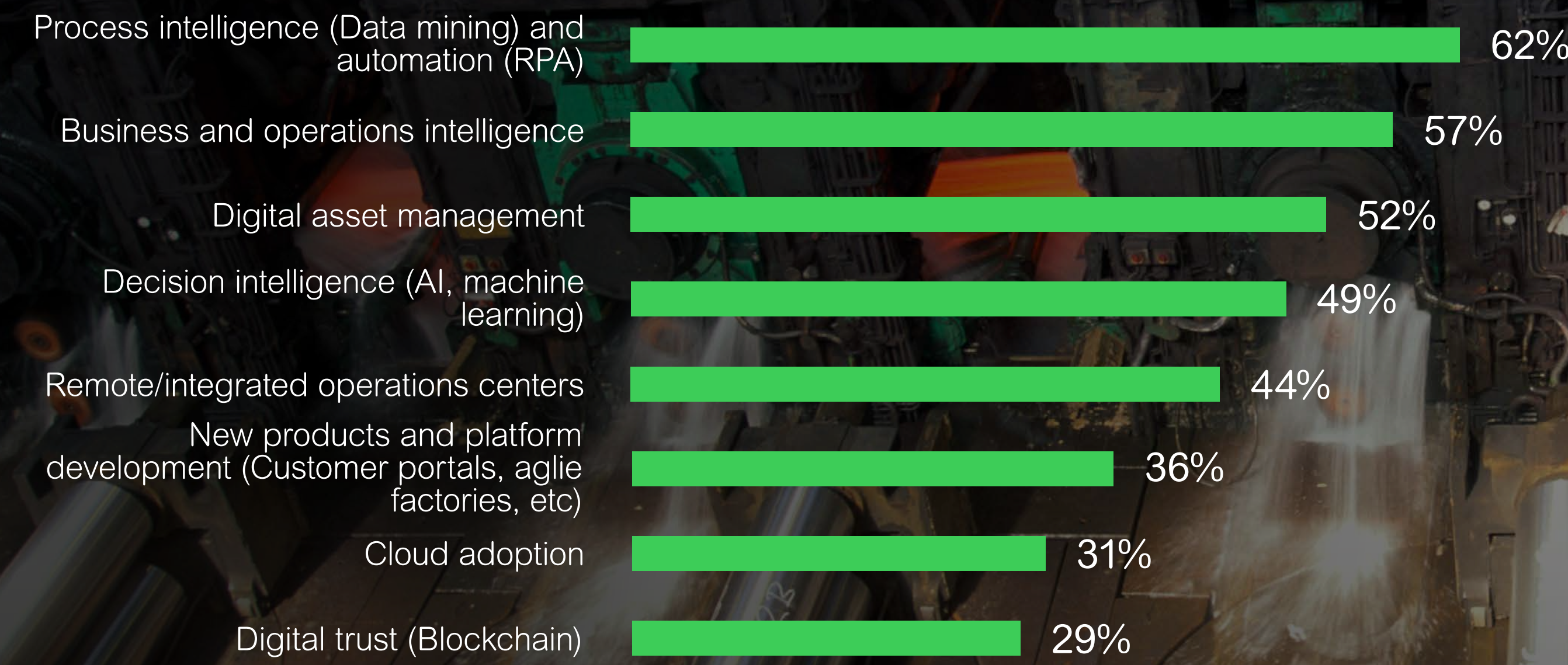
From data to wisdom

Smart devices and sensors are generating lots of data from processes, from both fixed and mobile equipment, and with unprecedented granularity. They even allow data to be collected from things such as fire extinguishers

and personal protective equipment that are not typically connected to a network. But massive amounts of data alone is not an answer. Companies need to derive real business value from this ocean of data and turn it into meaningful, insightful information – and that is achieved thanks to intelligent software and technology that can transform data into information, information into knowledge, and ultimately knowledge into action that advances efficiency and profitability.



Digital priorities over the next one to two years¹



91%
of mining and metals companies plan to increase investment in digital transformation during the next 12 months¹

¹ "The top 10 risks and opportunities" – EY, 2022



Our digital differentiator



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Why partner with Schneider Electric?

We empower through digital transformation to ensure our customers' competitive advantage.

We have an unrivaled ability to integrate power and process throughout the entire value chain — from design, planning, and scheduling to operation, production, and maintenance.

- Our deep industry knowledge features demonstrated value through a metals-specific application portfolio.
- We offer the greatest breadth of smart connected products, edge control solutions, and analytics that cover the entire industrial automation and energy management space.
- Our strategic partnership with AVEVA™ allows us to build digitally connected, unified environments.
- EcoStruxure for Metals delivers IoT-enabled solutions that drive operational and energy efficiency in this essential industry.





Resiliency through EcoStruxure

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EcoStruxure for Metals

What is EcoStruxure for Metals?

EcoStruxure™ is the IIoT architecture designed to improve profitability, efficiency and sustainability in the metals business. This open framework allows for seamless and cybersecure linkages of smart devices, edge control and software analytics. As a result, end users can generate more precise, and more profitable operational decisions ensuring optimized production and operations.

How are we different?

- 1. Most wide range of products and solutions, from energy management to industrial automation
- 2. Our solutions are scalable and interoperable; open standards allow for seamless integration of third-party systems and devices
- 3. Our offers enable users to access data on-premise or via the cloud, depending on your specific needs and requirements

Innovation At Every Level

We have leveraged advanced technology in IoT, mobility, sensing, cloud, analytics, and cyber security for solutions that deliver Innovation At Every Level.

Connected products:

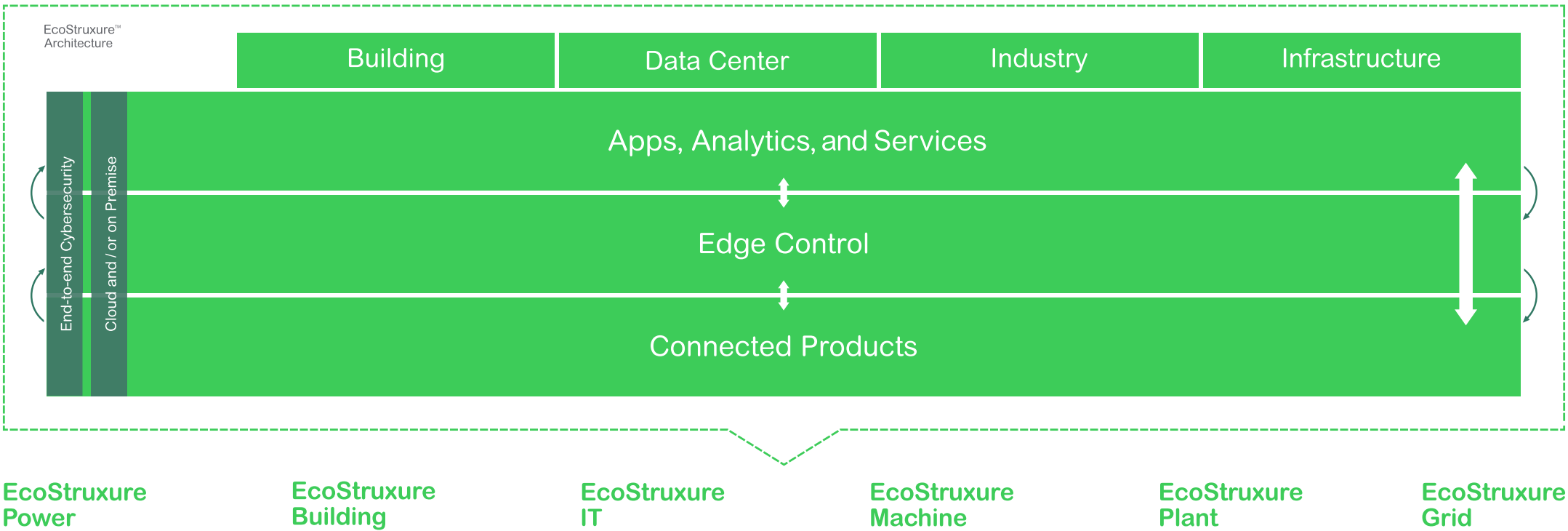
Because the Internet-of-Things starts with “things”, it is intelligent products like connected breakers, sensors, meters, process instrumentation, and motor drives that serve as the foundation of smarter operations and optimized production.

Edge control:

We deliver “real-time” solutions for control at the edge of the network because all control decisions can’t be made remotely, and having the ability to override control of devices at the edge of your network is essential.

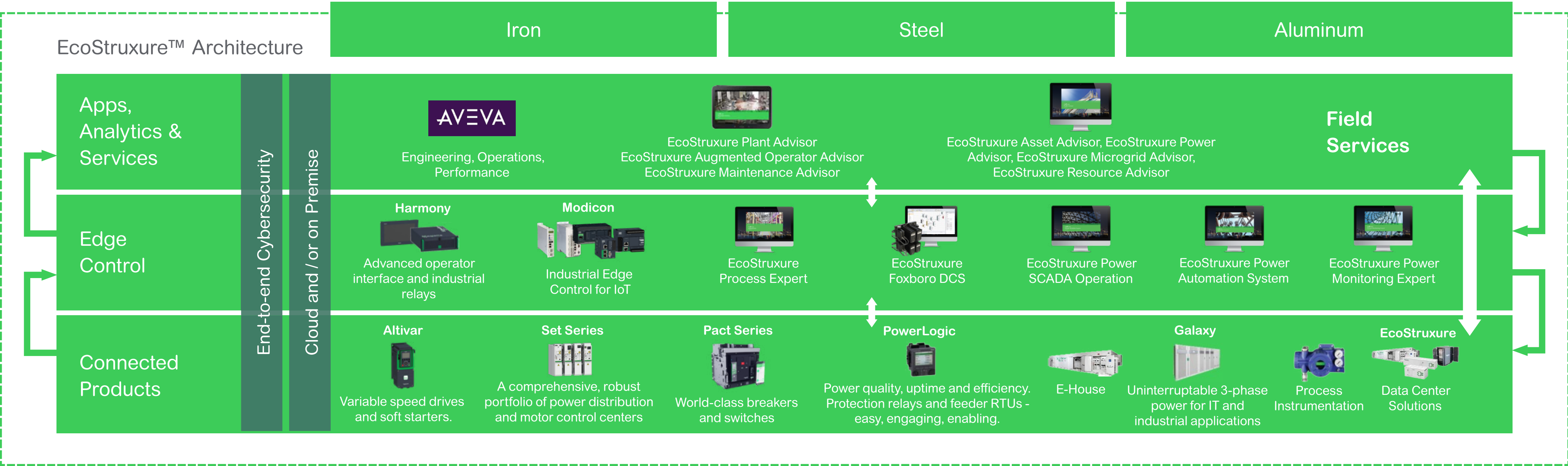
Applications, analytics, and services:

Sophisticated problem solving and analysis at the enterprise level optimizes business operations and maximizes results.



Innovation At Every Level

EcoStruxure™
Innovation At Every Level for Metals



* The Schneider Electric industrial software business and AVEVA have merged to trade as AVEVA Group plc, a UK listed company. The Schneider Electric and Life is On trademarks are owned by Schneider Electric and are being licensed to AVEVA by Schneider Electric.



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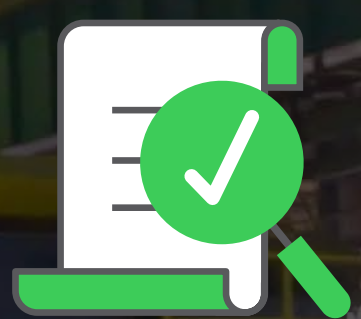
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Four values enabled by digital transformation

Discover the wide array of benefits unleashed by digital transformation.

Metals industry leaders will achieve their biggest successes by embracing digital technologies like IIoT and advanced analytics. We see four main areas that digitization will improve:



Maintain license to operate
Reduce emissions and provide cleaner, safe and reliable operation while ensuring compliance and brand image by increasing end-to-end sustainability and corporate transparency.



Improve asset efficiency
Digitally transform operations for reduced OpEx and resiliency. Improve process and technology interoperability through integrated power and process for data-driven decision-making.



Optimize value chain from resource to market
Increase value chain flexibility, agility, and predictability to boost competitiveness in a volatile environment.



Empower workforce
Retain knowledge, eliminate information silos, improve operator safety, and provide virtual learning programs, immersive training, and collaborative digital environments that allow for informed decisions in real time.



Maintain license to operate

Digital transformation helps our clients transition to renewable energy while facilitating clean, safe, and reliable operation. In addition to allowing metals companies to more easily meet compliance goals, digital transformation enhances brand image by increasing end-to-end sustainability and corporate transparency.

Digital transformation is greatly enhancing metals companies' social license by:

- Improving compliance and safety of people, buildings, and assets with integrated safety and security
- Reducing power incidents and supporting business continuity through reliable power distribution and automation
- Increasing corporate sustainability and transparency with a comprehensive strategy and implementation plan
- Optimizing resource usage with real-time control and operations analytics
- Decarbonizing and reducing energy costs while making it easier for companies to manage a complex energy mix
- Protecting business, assets, and people with end-to-end cyber security



Improve asset efficiency

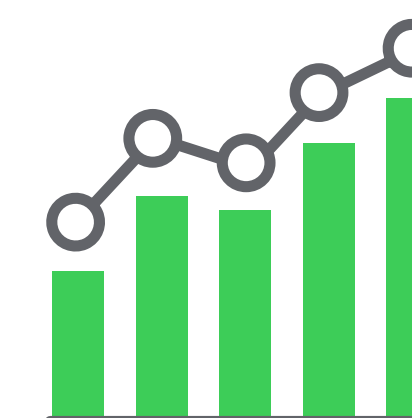
Digitally transform operations for reduced OpEx and resiliency. Improve process and technology interoperability through integrated power and process for data-driven decision-making.

Digital transformation is improving asset efficiency for the metals industry by:

- Mitigating information silos by unifying key power and process across the value chain
- Minimizing production losses through integrated asset performance

- Allowing for the real-time analysis of performance indicators through production optimization solution
- Reducing process variability and increasing profitability with state-of-the-art automated and advanced process control

- Improving operations efficiency by optimizing power and process engineering, and designing via simulation
- Decreasing costs by minimizing maintenance OpEx with an integrated, mobile workforce



Optimize value chain

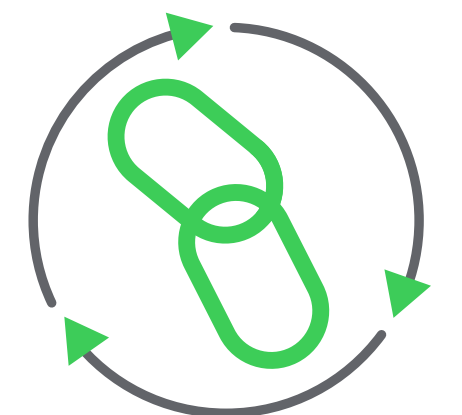
Increase value chain flexibility, agility, and predictability to boost competitiveness in a volatile environment.

Digital transformation is optimizing the metals industry's value chain at every level by:

- Improving decision-making by integrating key power and process information accross the value chain through integrated operation

- Optimizing value chain visibility with planning and scheduling solutions
- Reducing transfers, damages, and bottlenecks in supply lines with automated material handling solutions

- Improving response agility with real-time inventories that allow rapid containment measures and enable optimized stock levels and fast reaction to changing demand needs



Empower workforce

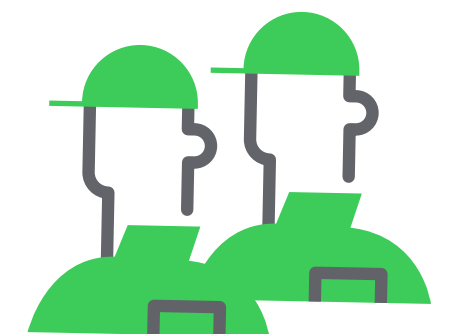
Retain knowledge, eliminate information silos, improve operator safety, and empower workforce through virtual learning programs, immersive training, and collaborative digital environments that allow for informed decisions in real time.

Digital transformation is optimizing the metals industry's value chain at every level by:

- Allowing for rapid training of new teams on safety and other best practices via immersive virtual training
- Enabling faster and better-informed decisions with instant, hands-off augmented reality digital diagnostics and maintenance

- Mitigating information silos for improved decision-making in a collaborative environment
- Equipping field workers with essential data on operations and maintenance, equipment diagrams, and operating history using digital, current, and valid technical and process information

- Lowering training costs with fast, easy access to training modules, especially during production stoppage



Companies that digitally transformed



Companies that digitally transformed

Hear directly from industry leaders on how they're bringing their operations into the digital age.

[ArcelorMittal ensures quality and safety while enhancing sustainability](#)

[ArcelorMittal sustainably modernizes the electrical network at its Beval facility with a circular economy approach](#)

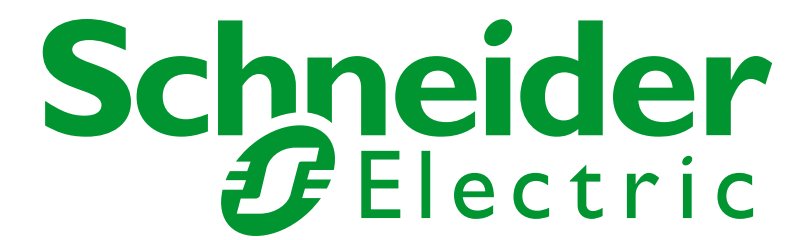
[Baosteel boosts logistics efficiency](#)

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