

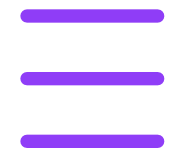
A man and a woman in a server room looking at a tablet. The man is on the left, wearing a light blue shirt, and the woman is on the right, wearing a dark blazer over a white turtleneck. They are both looking at a tablet held by the man. The background is a server room with racks of equipment and glowing lights.

eBook

Smart connected products

Businesses create resilient revenue with IoT

 software^{AG}



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New digital services for a truly connected world.

Expectations of your customers, management and business partners are changing fast as the world doubles down on digital. As an innovation leader in manufacturing, you're under pressure to:

- shorten development cycles
- outpace your competition
- deliver a Connected Customer Experience
- diversify your revenue by moving from equipment-only sales to digital services and software

The **Internet of Things** (IoT) is your technology of choice to deliver **smart connected products** and innovative new services to differentiate, grow and increase customer loyalty.

But don't take our word for it, see what the numbers say.

The numbers tell the story:

\$131 billion —

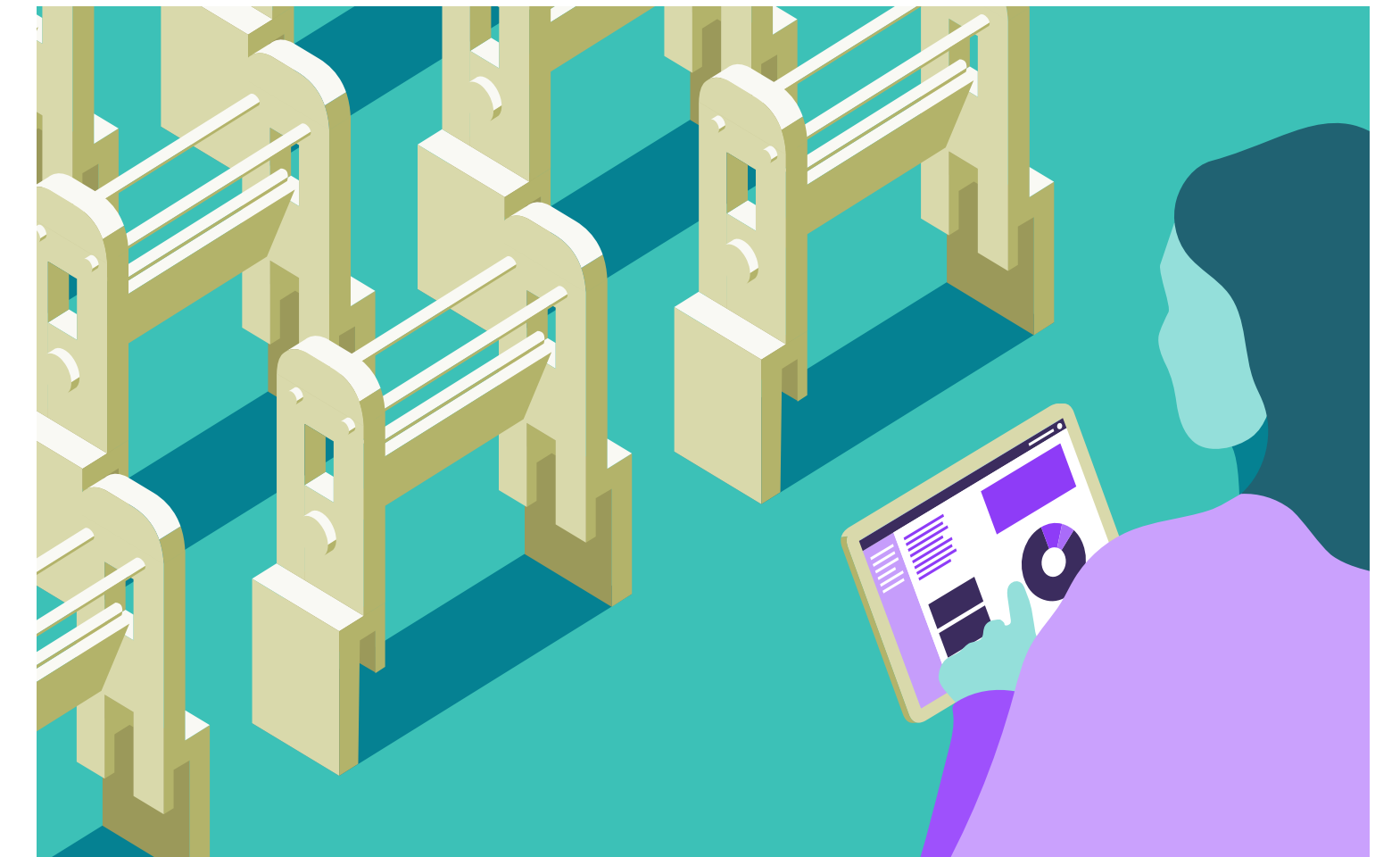
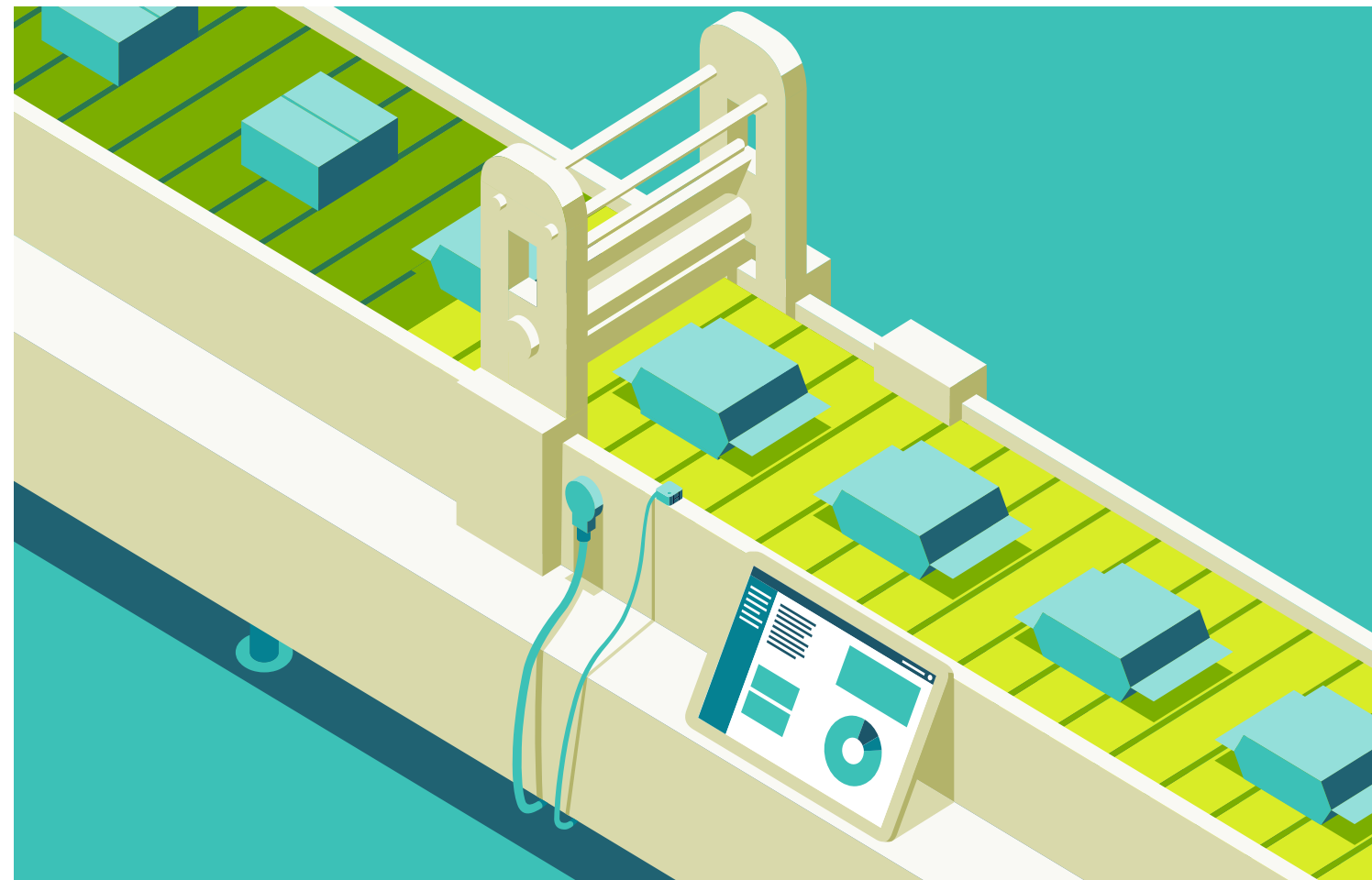
size of overall equipment-as-a-service market expected by 2025, a 35% increase from 2019¹

95% —

of McKinsey Machinery & Industrial Automation survey respondents expect to change their business models to be successful in the future²

83% —

The proportion of equipment sold as a service is expected to grow to 6.7% by 2025



The numbers confirm you should and must keep pushing forwards. Read on to meet real-world pros at connected products, see how you can connect products faster and achieve measurable business results and how to overcome the challenges that might be hampering your journey to [IoT maturity](#).

¹IoT Analytics, Equipment-as-a-Service Market Report 2020-2025.

²Changing market dynamics – Capturing value in machinery and industrial automation, McKinsey.

³The State of Services for Industrial Equipment Manufacturers 2020, TSIA

Why smart connected products?

What would happen if you stuck only with direct equipment sales? It's a pretty bleak picture: Margin and top-line revenue would shrink as sales would fall flat. Revenue would come from a smaller number of customers. Your competition would start offering more flexible pricing and services programs. This would make it tougher to acquire and keep new customers. Your organization would end up only being able to compete on price. And eventually—get left behind.

But it's relatively easy to deploy quick and simple [IoT use cases](#) that are low risk and act as a clear proof of concept to stakeholders. If you can demonstrate to your customers that you can create strategic, new value for them, you'll find yourself with a resilient recurring revenue that future-proofs your business. Freeing you up to focus more on innovation and design of new products and services to attract new customers.



Six reasons to get started:

1. Reduce downtime and maintenance costs

Smart connected products are less costly to maintain due to fewer on-site service calls. Real-time data keeps you informed of potential problems to address immediately – no need to wait for product failure. Get proactive with your field services and enable field service technicians to be sent to the right area at the right time, optimize your available resources and reduce your organization's carbon footprint in the process. McKinsey has shown remote asset condition monitoring can reduce maintenance costs by 30 percent and cut machine downtime by 50 percent. Software AG customers have, on average, experienced a decrease in maintenance costs by 50 % and a 23 % increase in 1st call repair rate & replace. Inspire customer confidence in your products and services by providing exceptional service and operational efficiencies.

2. Accelerate growth with new revenue streams & improve margins

Smart Equipment Manufacturers can double their services revenue within three to five years, without making large investments in CAPEX, developing new products or building extensive cost reduction programs, McKinsey reports. EBIT margins for services can be up to four times higher than those for original equipment. In fact, Software AG customers who connect their products report an increase in service revenue by up to 30.5 %, an increase in sales volume by 4.5 %, and an increase in total revenue in one year up by 2.4 %.

3. Provide the features your customers want

This is the era of the Connected Customer Experience, and IoT is at the front and center of it. For decades, companies have been selling products with features that they love but customers ignore. The capture of data and discovery of insights on usage and performance from connected products help you engage more deeply with customers and offer loyalty-building value. In a hyper digital world, users can compare products and test such features before committing to purchase—so they must be fit for purpose. Track how your products are being used and build new features that existing and future customers really need.

4. Execute on your sustainability strategy

No matter the IoT use case - remote monitoring, performance management, or pro-active quality management - there are sustainability benefits for you and your customers. IoT is a huge ESG value driver and an enabler of an organization's sustainability strategy. Sample deployments include smart metering, smart water management, energy management and air pollution monitoring.

5. Offer Equipment-as-a-Service

Making heavy investments in expensive assets is a risky business for anyone. Enterprise customers want to avoid big CAPEX investments, keep expenses in line with revenue and better manage costs. This has triggered a shift to wanting to pay for tangible outcomes. By offering **Equipment-as-a Service**, with charges based on actual usage (not downtime), you create revenue on a recurring basis, across the entirety of the product lifecycle, rather than on a one-off basis.



6. Build lasting customer relationships

Improve your customers' experience using insights on usage and performance from your connected products. Engage with your customers more frequently to help them get more value from your products. Customize service levels and pricing based on their use to deliver a truly unique and personalized offer that meets their business needs to drive growth and revenue.

²The future of maintenance for distributed fixed assets | McKinsey

³Tech-enabled transformations: A CEO's guide to maximizing impact in industrials (mckinsey.com)

Five success stories

These innovators are leading the way in using IoT to create a Connected Customer Experience, increase operational efficiency and generate new revenue in a [truly connected world](#).



Story #1:

Dürr—the future is IIoT

Background: [Dürr](#) makes and services robotic paint stations used by major vehicle manufacturers. To avoid costly errors during painting, Dürr wanted to monitor, gather and process real-time data on rotation speed and air supply at the paint stations. A critical requirement was managing the stations autonomously at the edge. In other words, aggregate and analyze data locally without having to send it to the cloud.

Solution: Dürr develops a software tool that seamlessly records all data from the automotive painting process. This creates a “digital fingerprint” for each painted body. If a quality problem occurs, the cause can be determined immediately using the recorded data.

Outcomes:

- Reduced errors, thanks to real-time signals every 8 milliseconds
- Lower manufacturing costs
- Better, faster decision-making
- Operators design and manage **streaming analytics** “on the fly”
- Won the German Innovation Award 2020 with EcoPaintJet, a ground-breaking innovation for the highly selective painting of cars



We have put extremely powerful analytical tools into the hands of those that understand the production process the best, opening a new era of streamlining and improvement.

Manager Digital Factory, Dürr

Story #2:

PRAB—pro at connected products

Background: [PRAB](#) is metalworking's leading manufacturer of automated metal scrap processing equipment, coolant recycling equipment, conveyors and industrial wastewater treatment solutions. The company had been attaching sensors to its equipment for decades. But the data collected stopped at the programmable logic controller. In 2015, PRAB got curious about [IoT-connected devices](#). "We began to understand we wanted access to the data produced at the customer's locations," said the Director of Engineering. "Without access to it, we can't learn from it to improve our designs."

Solution: PRAB embeds sensors in its products and innovates new ways IoT can benefit customers. By collecting live data on conditions like temperature and vibration, PRAB can proactively show customers how equipment is performing, how to prevent downtime, how to improve ROI, and what maintenance is needed to avoid service trips.

Outcomes:

- Instant insights into how equipment is performing at customer sites
- Less downtime due to predictive maintenance
- Improved product design
- Reduced onsite maintenance visits
- Stronger customer relationships



With Software AG, we were able to reduce our time to market by months, enabling us to deliver solutions and meet customer needs more quickly and, in turn, help our customers stay competitive.

Director of Engineering, PRAB Inc.

Story #3:

Lyreco—because employees love their coffee

Background: [Lyreco](#) is a key supplier of Nespresso® premium coffee and coffee machines for businesses that want to assure their employees have coffee without fail. Lyreco lacked real-time stock and sales insight, wanted to improve customer service, and increase cost savings when restocking and servicing machines.

Solution: Lyreco offers the VendMe solution based on IoT. By embedding sensors into connected Nespresso coffee machines, Lyreco can see and share data on the number of coffees consumed and monitor machine performance. Lyreco also collects data from vending machines and stock/operations management applications.

Outcomes:

- Near zero out-of-order and out-of-stock problems
- Fully automated management of coffee machines and inventory based on real-time usage, saving both fuel and money
- Reduced costs by improved operational processes
- Machine data integrated with Lyreco's SAP® system
- Quick solution delivery—set up in two weeks



The Cumulocity IoT solution for our Nespresso Capsule Dispensers helped us reduce out-of-order and out-of-stock situations to a minimum.

Technics and Operations Manager, Lyreco

Story #4:

GreenFlex—Powering growth with scaleable IoT

Background: For over 12 years [GreenFlex](#) has been supporting companies and territories in all their sustainable development, decarbonization and energy efficiency issues. Previously, GreenFlex had built its own IoT capabilities. But quickly, “we realized we needed a new platform to support our ambitions,” said Arnaud Dejean, IoT Technical Director at GreenFlex. “First, we needed scalability to connect more devices for production management, second, we wanted to make it easier for the operations team to set up and manage devices in the field.”

Solution: The [Cumulocity IoT platform](#) provides GreenFlex with a robust, high-performance solution to manage thousands of devices across customer sites. Implementation is fast and simple, helping GreenFlex save costs and accelerate growth of its energy efficiency services.

Outcomes:

- Accelerate business growth and range of customer services offered
- Monitor and control devices at hundreds of customer sites
- Easily connect new devices from field operations
- Expand the range of devices that can be connected
- Connect 3rd-party providers on the cloud



With Cumulocity IoT, we can move faster and operate with more stability, so we meet our customers’ needs and enhance our ability to deliver energy efficiency.

Sébastien Trédan, Chief Technical and Data Officer, GreenFlex

Story #5:

SMC—innovating smart field analytics

Background: [SMC](#) is a global leader in pneumatic systems that use compressed air to transmit and control energy. Customers are in automotive, electronics, machinery, IT and healthcare industries. “We noticed our end users were wanting to get more information out of their machines but didn’t know where to start,” explained SMC’s digital business development specialist. Most of SMC’s components were already fitted with sensors. So SMC takes the logical next step, connecting those sensors to help customers understand how components are performing in real time.

Solution: “Smart field analytics” using IoT enables SMC customers to avoid downtime by predicting equipment maintenance needs. Data generated by sensors in SMC pneumatic cylinders is monitored in real time at the point of origin. Customers know immediately machine latency times and get alerts to prevent impending faulty productions.

Outcomes:

- Proof of concept shows value in less than one week
- Quick solution delivery—to market in less than 4 months
- Reduced downtime of equipment at customer sites
- SMC can partner with customers to get reliable analytics tailored to each machine
- More IoT innovations underway—such as early detection of air leaks and monitoring energy to optimize factory efficiency



We have a very open partnership with Software AG. We have infinite knowledge in the area of machinery and data detection, and they have exceptional knowledge of data capture and analytics through IoT. Ours is the perfect union.

Expert, Digital Business Development, SMC Deutschland

Make IoT Simple

Beecham Research tells us that nearly **75% of IoT** projects are not considered a success, so knowing where and how to start with IoT can be difficult. Partnering with the right IoT provider makes all the difference.

Connect products quickly and efficiently

Shorten your innovation cycles with our **Cumulocity IoT** platform, best practices and advice from our **Professional Services**, and prebuilt **partner solutions**. Focus on business results by using a platform that's ready for you to connect and manage your products, easily develop applications to differentiate your offerings, **integrate your IoT data** and analyze that data in real time to discover valuable insights.

Make the most of your IoT data.

Most companies connect their things, then fail to go to the next step; so they miss out on the valuable insights hidden in their IoT data. With Software AG, you're empowered with easy-to-use **IoT analytics** so you can quickly see how to solve business problems, such as preventing equipment downtime and reducing maintenance costs.

Prove ROI in a short time frame.

With the **Cumulocity IoT** platform, customers can opt for a buy and build approach to IoT to achieve strategic business outcomes very quickly. Customers benefit from a cloud-native, resilient, secure IoT platform with pre-packaged self-service applications. They can then leverage our tooling to build their own innovative and differentiated services on top.

Software AG's **Cumulocity IoT QuickStart program** can help you ideate, build a proof of concept and prove its value. We can generate a business model and roadmap—even implement and support your project and scale your solution.

Learn from success.

We've guided projects that connect all kinds of sensor-enabled products for Equipment-as-a-Service, remote monitoring, **predictive maintenance** and other critical business uses—we know the pitfalls and the best practices. We can also put you in touch with customers who have built connected products, so you can learn from their experience. In addition, Software AG customers have access to tips and tricks from our **Tech Community** and can network with other companies via our user group focused exclusively on IoT.

The IoT Maturity Model

The path to smart connected products is not all or nothing. The [IoT maturity curve](#) shows a clear path to leveraging IoT solutions that deliver business benefits at every phase. Phase one begins with [remote monitoring](#) to give insights into equipment performance and usage, phase two optimizes existing business models through [smart field services](#) and [performance management](#) and finally phase three delivers new and disruptive [Equipment-as-a-Service](#) business models.



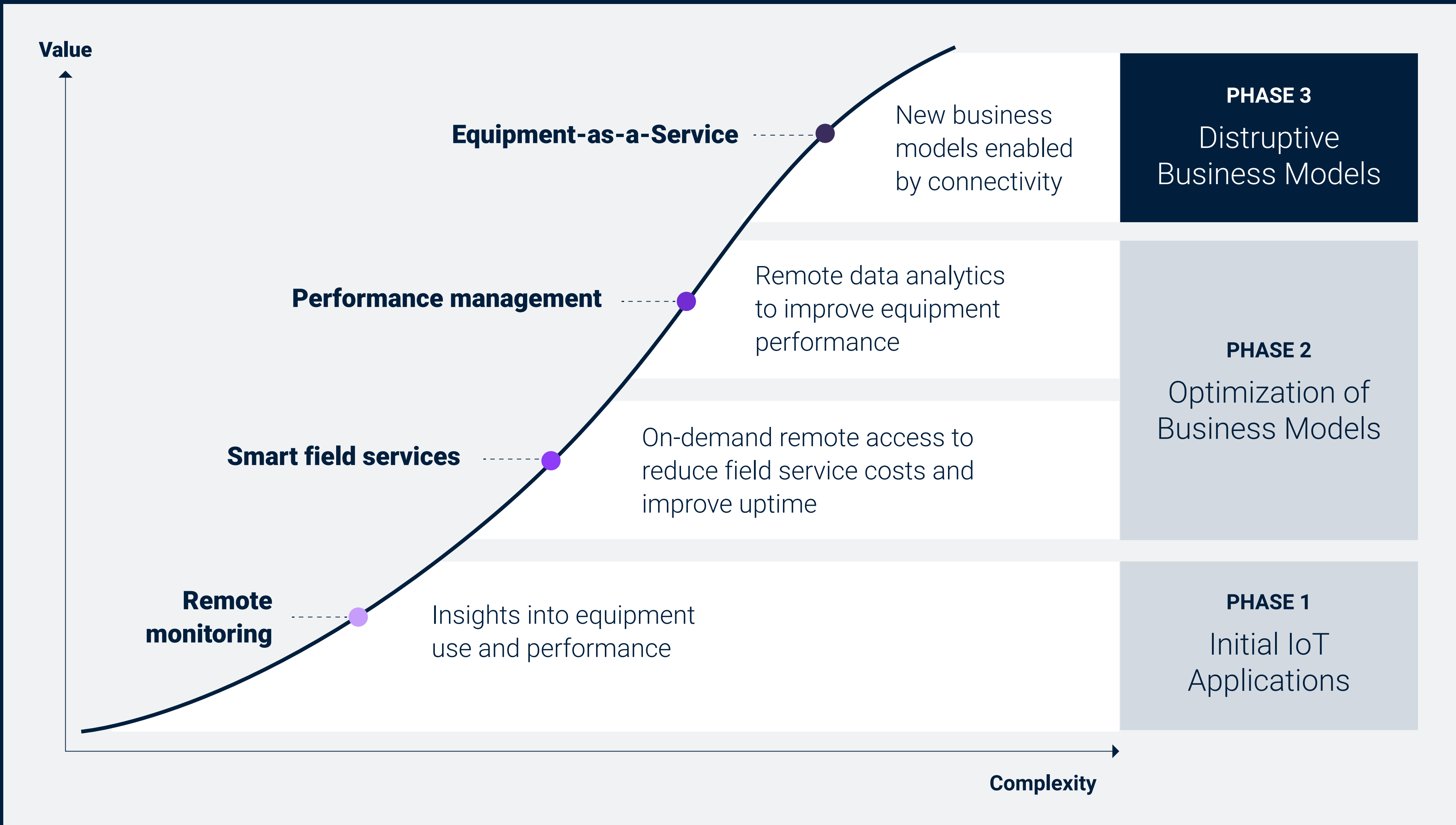


Image 2: The Software AG IoT Maturity Model

Take the next step

So where do you go from here? We'd love to be able to talk to you more about how smart connected products can add value to your organization. [Contact us](#) today to talk to an expert.

And if you're still learning, here are five assets to help continue your journey.

[Learn more about Cumulocity IoT](#)

[Try Cumulocity IoT free](#)

[Start a project with Cumulocity IoT Quickstart](#)

[Discover more about smart connected products](#)

[Read why the analysts say we're the ones to trust](#)

About Cumulocity IoT

Cumulocity IoT delivers ground-breaking IoT-enabled digital transformation projects quickly, simplifying the connected world. Quickly connect and manage your devices; monitor, control, optimize, and manage various IoT endpoints; develop IoT apps, and analyze and leverage IoT data across your business. With a truly cloud agnostic platform and advanced self-service capabilities, enable domain experts to easily contribute to the process of creating innovative new products. Leverage our core capabilities out-of-the-box with the freedom to develop and integrate your own proprietary tools.



Software AG simplifies the connected world. Founded in 1969, it helps deliver the experiences that employees, partners and customers now expect. Its technology creates the digital backbone that integrates applications, devices, data, and clouds; empowers streamlined processes; and connects “things” like sensors, devices and machines. It helps 10,000+ organizations to become a truly connected enterprise and make smarter decisions, faster. The Company has about 5,000 employees across more than 70 countries and annual Group revenue of over €950 million.

For more information, also follow on [LinkedIn](#) and [Twitter](#).

Learn more at www.softwareag.com