How industrial equipment companies can harness digital technologies and the Internet of Things to drive new customer services, business models and revenue streams
When digital technology and industrial equipment collide...

Today, virtually all industrial equipment (IE) manufacturers around the world are exploring how they can benefit from digital transformation of their businesses. In scoping out and pursuing the potential of digital, they’re being spurred on by a rich blend of opportunities and risks.

On the opportunity side, IE companies are attracted and energized by the promise of being able to tap into new revenue streams and build closer and deeper customer engagement through the industrial Internet of Things (IoT) and other digital channels. And in terms of risks, they’re eager to avoid the threat of digital disruption from traditional and non-traditional competitors both within and beyond their industry.
There’s no doubt that the opportunities that digital technologies present to IE companies are substantial—and potentially transformational. IoT, for example, at root, offers them the game-changing ability to understand in real time how each of their individual products is being used by customers, together with insights into each product’s current and future status. This information opens the way to the creation of new customer services and revenues that were never previously possible.

But the journey to digital enablement for IE companies is neither well-signposted nor easy. Over many decades—even centuries in some cases—they’ve built robust businesses based on deep understanding of their products. And while they’re adept at exploiting product and service know-how to add value for their customers, they’ve historically done this using traditional product development processes and innovation cycles measured in years.

With digital, these former assets can all too easily become liabilities. To succeed in the digital world, IE companies must learn to create and deliver compelling user experiences; design new services with innovation cycles measured in weeks or—at most—months; operate in agile environments that encourage and foster learning, testing and failing or succeeding quickly; and learn how to exploit software and data—rather than just hardware—to create value for themselves and their customers.
Shifting the focus to consumer-style experiences

The changes involved in adapting to these new imperatives are profound. IE businesses’ origins are as engineering-based B2B organizations competing on the functionality of their equipment. Their business model traditionally involved selling and servicing that equipment for a customer base that tended to be equally engineering-minded.

However, the advance of digital means the criteria by which IE companies are judged are changing, and fast. While their customers may be businesses, the individuals carrying out the buying are also consumers—who, like all of us, have become accustomed to the convenient and compelling experiences provided by digital services in their private lives. And whether consciously or subconsciously, when they go to an IE supplier’s customer portal or online parts ordering service, they’re comparing it with the digital experience they’re used to elsewhere. All too often, the comparison is a negative one.

Accenture’s experience and research across the IE industry confirm that most companies are struggling to make this transition. But this doesn’t mean it can’t be achieved. And for each IE company, the value of investing in transforming the B2B customer experience is underlined by the fact that everyone else in the sector is grappling with the same challenge. Put simply, the race is on, and winners will emerge. To lead the way, companies must find their own unique basis of differentiation and work out how to express and deliver that using digital technologies. Accenture can help you achieve these requirements, by combining and bringing to bear our deep understanding of digital in both the B2B and B2C domains.
Benchmarking digital maturity in IE at multiple levels

To gain further insights into how quickly and successfully IE companies worldwide are adapting to the rigors of competing in the digital, IoT-enabled world, we’ve conducted a benchmarking exercise on 16 IE companies focused on selling their products into the oil & gas, mining and utilities industries.

Using publicly available information, we structured the benchmarking around three layers of digital opportunity: IoT, online and digitally-enabled field-force. As shown by the indicative results in Figure 1, we assessed and rated the digital maturity of all 16 companies on a scale from no evidence/basic, via intermediate, to leading.
Looking in more detail at each layer, here are our main takeaways:

**IoT**

For IoT, we looked at solutions that connected to physical assets & equipment, extracted data from the asset remotely or allowed remote control of the asset and produced condition monitoring information about the asset as well as more advanced analytic insight to the asset performance.

The broad scattering of companies along the maturity continuum for IoT suggests that all are engaged in IoT-focused initiatives to some extent. But our research also shows that many of these initiatives are "point solutions" that target a particular problem and would be hard to scale or replicate. The IoT leaders are building platform-based IoT solutions to allow them to rapidly develop multiple new applications, products and services, and integrate the associated analytics.

**Online**

Again, the scattergun pattern of the benchmarking indicates that the companies reviewed all have active online initiatives under way. Our research findings show that many have customer websites and a few have developed a variety of mobile apps. However, most of these are relatively simple product information portals or product configurators, with some offering add-ons such as 3D product visualization. The leaders have moved furthest toward a consumer-style
online experience by developing customer-specific portals that allow customers to log on and access their own ordering information and history, as well as providing online product stores for equipment and spare parts.

**Digitally enabled field force**

Service sales from scheduled equipment maintenance, ad-hoc repair and tuning are often significant components of IE company revenues and strong contributors to margin and profitability.

While this layer has the highest proportion of organizations at the lowest level of maturity, it’s actually a huge area of opportunity for IE companies. By enabling their customer-facing workforces in the field to access and use back-office information via mobile and wearables, companies can add substantial value to their customer interactions and work more productively at the point-of-execution of their service. For example, by enabling the field engineers with real-time product performance data, IE companies can use IoT solutions not just to monitor how their products are running at customers’ premises, but also to predict when they’ll fail—enabling the field force to intervene with proactive maintenance to prevent downtime.

Yet very few of the businesses in our benchmarking have yet implemented strong digital field service solutions. Leaders in this area deploy integrated field engineering solutions facilitating work-order dispatch, routing, asset performance data, point-of-execution education and specialist support as well as customer information.
General Electric (GE), the world’s biggest industrial infrastructure company, has created GE Digital as a vehicle for consolidating its digital activities both internally and externally.

GE forecast that, by 2020, equipment it installed will produce one exabyte—or one billion gigabytes—of data every day\(^1\), and generating value from that data for GE and its customers is a major strategic focus. The company’s vision is to be digital throughout the value chain, from design to manufacture to end of life.

The company is investing in Predix, its open-architecture operating system and platform for building applications that connect to industrial assets, collect and analyze data, and deliver real-time insights for optimizing industrial infrastructure and operations. Deployed both within GE and across customers, Predix is designed to play several roles—including integrating manufacturing data end-to-end in GE, enabling customers to learn how to control and maintain the company’s equipment more efficiently and effectively, and supporting third-parties using Predix for their own products as an industrial IoT platform of choice.
Pursuing the “holy grail” of migrating from products to services

Across all the layers of maturity we’ve described, the clear direction of travel for the digital leaders in IE is a move away from their traditional model of selling and servicing products and toward a new model based on selling services or outcomes. Under this approach, IE manufacturers’ value proposition to customers is based not on selling them a piece of hardware, but on the continued availability and fitness of that equipment to fulfill the function the customer wants—be it propelling an aircraft, drilling for oil or maintaining the power supply to a city.

In providing this type of service-based offering, the IE supplier takes responsibility for maintenance and parts, freeing up the customer to focus on its own core business. This also means that the IE manufacturer embeds itself more deeply into the customer’s operations and supply chain—thus increasing customer “stickiness” and loyalty and providing the supplier with greater certainty and security around future revenues.
Schneider Electric is a leading global industrial equipment manufacturer headquartered in France. The company’s mission is to develop connected technologies and solutions to manage energy and processes in ways that are safe, reliable, efficient and sustainable. Schneider Electric has recently launched EcoStruxure™, its next-generation architecture and platform, to support all IoT-enabled solutions and make it easier to scale new digital services.

In a five-year collaboration, Accenture is helping Schneider Electric build and accelerate these digital services. A first step on this journey is the development of the “Schneider Electric Digital Services Factory,” which will enable the company to leverage millions of connected assets across its infrastructure and customer sites in order to build and scale new offerings rapidly in areas such as predictive maintenance, asset monitoring and energy optimization.

The Schneider Electric Digital Services Factory will provide a complete range of services to speed development from ideation to industrialization—including generating and incubating new ideas, designing and testing potential offerings, deploying and scaling offerings, and providing the analytics and IoT capabilities to accelerate application development. Within its first seven months, the Factory had created a clear vision and strategic intent to drive digital offerings across seven domains and had launched three ideation and incubation cycles across multiple business units to unlock value from new opportunities, with the aim of cutting the time from product ideation to market testing from three years to less than eight months.
So how can IE companies achieve the transformation?

From the results of our benchmarking, it’s crystal clear that there is a lot of experimentation under way as IE companies scope out the opportunities presented by data in general and IoT in particular. By virtue of their background as engineering-based developers of complex equipment, it’s relatively easy for IE manufacturers to generate data from their products, run analytics on that data and conduct pilots and proofs of concept. But the challenge then is scaling these up and monetizing them through new business models.

To position themselves to overcome these hurdles, our experience shows IE companies should focus on three priorities:

1. Digital strategy

Both for the "customer" and for the "enterprise." Many IE manufacturers are currently creating the role of "chief digital officer" (CDO), generally to lead how they use digital externally with customers. But there are also major opportunities internally to improve operations through digitizing the enterprise, reflecting the fact that migrating existing operations and customer relationships to digital are prerequisites for success with new business models. However, we find that few companies are currently addressing both the customer and enterprise perspectives of digitization effectively at the same time. To do this, organizations must ask questions like: how will we use digital to create value for our clients and ourselves? What should we prioritize? How will we monetize our data? And how can we use digital to improve our operations?
Most IE companies have not previously needed or invested in digital skills in areas like web design, online customer experience and mobile app development—so it’s hardly surprising that they don’t currently have these skills in their businesses. The software components in their products have traditionally been embedded programs created by dedicated in-house teams. But in the digital world they should do things like employ data scientists, build analytics centers of excellence and nurture skills in software engineering rather than just mechanical or electrical engineering.

Sales organizations, in particular, will need to be up-skilled as they move from product sales to articulating the power of software and analytics and even moving to outcome-based solutions. So they need to ask: what skills do we not have today that we’ll need tomorrow? How can we identify the capability gaps that will be created—in software, in analytics and so on—in the move to a digitally enabled IE company? And how will we integrate software components from across our digital ecosystem, including start-ups?

All IE companies should navigate the complex world of IoT and digital channels by rapidly putting in place the building blocks they’ll need in order to develop, offer and monetize new offerings and business models. Moving from a product to service orientation demands a new way of working organizationally. Specifically, it involves creating an ecosystem by taking a different view of the competitive landscape, being open to partnering and co-opetition, and prioritizing speed and time-to-market. All of this brings implications for organizational elements ranging from IT infrastructure to external relationships to workplace culture—meaning it requires not just technology transformation but also a substantial people change management effort. While they are already using digital to transform functions such as manufacturing, CRM, sales and servicing, to succeed in the digital environment IE companies will now need an IoT platform that connects and integrates all of this with customers—and does so securely, given today’s constant threat of cyber attacks not just on IT but also OT. In most cases, the fastest and most certain way to create this platform is to buy or rent components rather than build them and to partner and leverage the wider ecosystem to fast-track the innovation process.
How Accenture can help

Accenture Digital has the proven ability to help clients navigate their way through all aspects of their digital journey. Our goal is to help clients exploit the digital opportunity to the fullest with comprehensive offerings that cover digital strategy, industrial security assessments, online presences, analytics, mobility and IoT platform-based vertical solutions. Accenture’s deep knowledge of digital in both B2B and B2C models means we can help our IE clients devise and accelerate their digital strategies in ways that can maximize the opportunities and manage the related risks.

Our solutions cover all areas that may arise for IE companies at any stage of their journey to digital enablement, including:

- Digital and IoT strategy in the IE industry context
- Capability development and change management
- Innovation-as-a-service
- Ready-to-go Digital platforms for analytics and IoT
- Vertical industry applications to fast-track the benefits including Connected Asset Management and Connected Industrial Worker

By working collaboratively with Accenture, IE companies can quickly assess, target and harness the benefits of digital, including IoT—as well as opening up a wide array of opportunities for new business models, customer services and revenues.
REFERENCES

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