

Howden adapted and accelerated digital transformation in the face of disruption

Any business plan can appear sound—until the unexpected happens. Whether a game-changing technology alters the competitive landscape, or the market is rocked by external factors, disruption is a true test of any business.

As Howden sought to improve their service offerings and better support customers around the world, their strategy and technology were tested sooner than expected by the global impact of COVID-19. Read how Howden adapted and accelerated their progress in the face of disruption.

Howden is committed to delivering exceptional customer service

Headquartered in Glasgow, Scotland, Howden is a global engineering business that provides customers with industrial products. With a focus on quality solutions for air and gas handling, their products support multiple sectors—including power generation, wastewater, metals, mining, transportation, and oil and gas. Backed by over 160 years of experience, Howden's wide range of rotating equipment helps customers solve the toughest application engineering challenges.

Howden's mission is to provide exceptional service to all their customers, in all regions, for every single solution. So as their business and customer base grew—and their service model was challenged by the need for remote assistance and support by COVID-19—Howden had to find a way to efficiently scale their unique services and expertise.



Howden recognized an opportunity to improve their Data-Driven Advantage initiative

Even before the disruptive impacts of COVID-19, Howden asked themselves: how can we better support our customers and take our organization to the next level? In response, Howden launched their Data-Driven Advantage (DDA) initiative to better service the machines and equipment of their end-user customers. This broad digital transformation effort was well underway and further fueled by the adoption of new technologies, such as augmented reality and the Internet of Things (IoT).

Through connected products and operations, their DDA strategy created clear competitive advantages for themselves and customers. First, the DDA team aimed to give customers greater insight into their equipment through digital

solutions that fuel performance optimization. Second, to improve Howden's ability to scale expertise, the DDA team sought to mobilize their global service teams and customer support faster and more efficiently. And finally, to facilitate knowledge transfer and accelerate the sales process, they committed to offering detailed internal training and sales demonstrations remotely.

The DDA initiative included other key strategic objectives. For example, accidents are always a risk on site. Using experts to guide technicians through processes reduces the potential for mistakes and improves safety. And by limiting excessive travel, Howden would further their sustainability objectives. In the end, the digital transformation initiative would impact every aspect of their business.

Howden's Data-Driven Advantage initiative

has enabled them to create revenue streams. By improving their support offerings, they can help maintain the entire service lifecycle and grow their after-market business.



Howden partnered with PTC to put the right technology in place

Leveraging 160 years of experience and knowledge around rotating equipment, Howden engineers designed a solution to help customers optimize the performance of their equipment and processes. Working in partnership with PTC implementation and customer success teams, they created Howden Uptime—an industrial IoT-based platform that takes a wholistic approach to gathering, interpreting, and analyzing rotating equipment data. Now, Howden's digital systems turn data into meaningful insights for customers, enabling them to make decisions around operating equipment efficiently and reducing the total cost of ownership.

Augmented reality solutions were a natural extension of PTC and Howden's initial partnership, as they enabled Howden to explore strategies for improving their aftermarket service offerings. To further enhance the experience of owning Howden equipment, Howden engineers designed interfaces and apps for their customers' engineers to use while working on their rotating equipment. In collaboration with the PTC Customer Success team, Howden used Vuforia Studio to create immersive customer self-service experiences. Vuforia Studio is an efficient augmented reality authoring and publishing solution which leverages existing 3D CAD models and incorporates IoT data from ThingWorx.

With Vuforia Studio, Howden creates immersive mixed reality experiences for Microsoft's HoloLens 2, including animated repair sequences and visual overlays of machine data. This enhanced view provides a complete picture of the equipment and its place in surrounding processes, while key data and trends are presented in real-time so that manufacturers can improve performance.



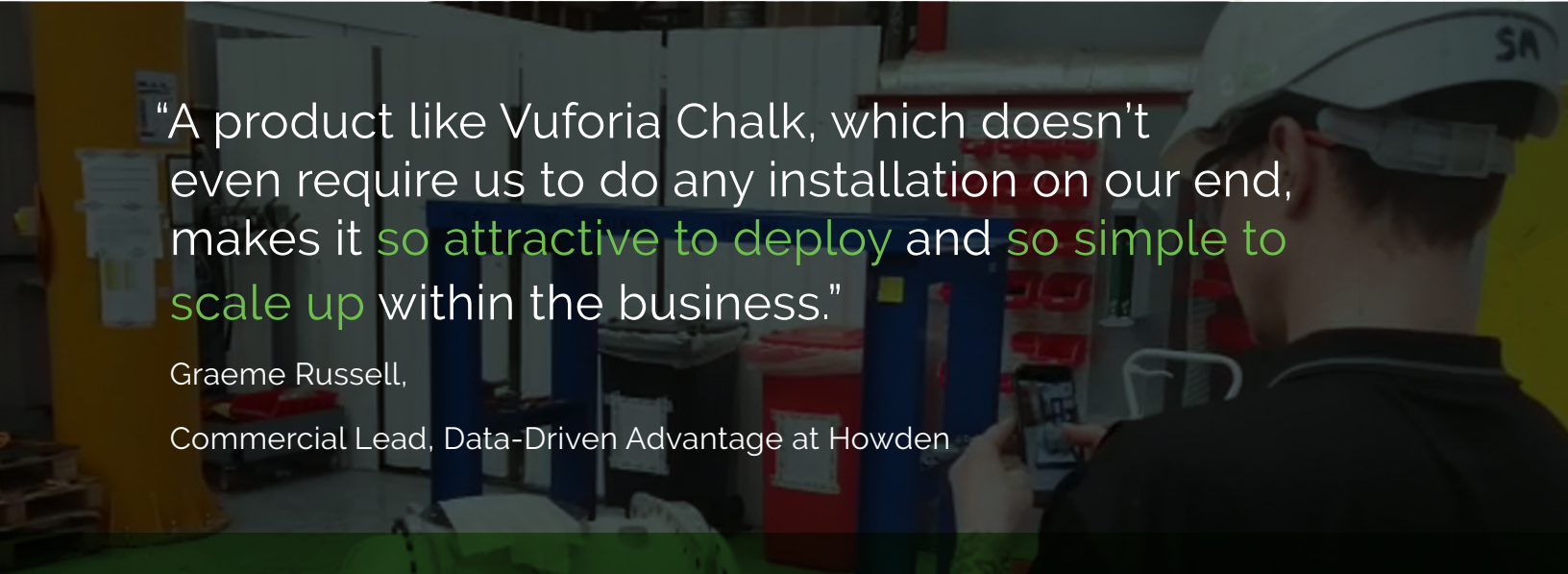
In response to COVID-19, Howden accelerated their digital transformation with two augmented reality use cases

When COVID-19 quickly changed how Howden needed to operate, their digital transformation initiatives—and their augmented reality initiatives in particular—took on a new urgency. To maintain their critical business operations and continue providing outstanding service to their customers, Howden identified two key use cases where augmented reality could help. Leveraging PTC technology, Howden set out to make expertise more widely available to local technicians, sales and manufacturing teams, and end customers without the need to travel on-site. Once again, the PTC Customer Success team was instrumental in the success of these use cases, as they helped orchestrate pilot studies, conducted initial trainings, and connected Howden with product experts and hardware suppliers.

Remote assistance for customer service teams

Howden's portfolio is built on different brands and products which originate from product units all over the world. While local business units are the first point of contact for customers, Howden's product experts and engineers often need to support these teams in remote locations and travel to customer sites when necessary. COVID-19 made this process nearly impossible.

Howden sought a new solution to enable better remote assistance and collaboration in the face of this disruption. For this initiative, Howden selected Vuforia Chalk, an augmented-reality-powered remote assistance application that connects technicians with experts. Now, Howden's office-based remote experts provide efficient and helpful support assessments to local field service technicians. Using Vuforia Chalk, experts and technicians make digital annotations on a live, shared view of a real-world environment and troubleshoot issues or guide multi-step solutions. Because Vuforia Chalk's digital annotations are anchored to the technician's view, multi-step solutions are easy to follow and



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Graeme Russell,

Commercial Lead, Data-Driven Advantage at Howden

the potential for mistakes and miscommunication is greatly reduced.

The results have been significant: experts are able to provide high-level troubleshooting, maintenance, and support to teams around the world. And Howden has seen clear customer satisfaction with the services they've offered.

"We wanted to focus on what we were good at—providing the equipment expertise. We didn't want to have to do any software development or worry about hardware requirements," says Graeme Russell, Commercial Lead, Data-Driven Advantage at Howden. "So, a product like Vuforia Chalk, which doesn't even require us to do any installation on our end, makes it so attractive to deploy and so simple to scale up within the business."

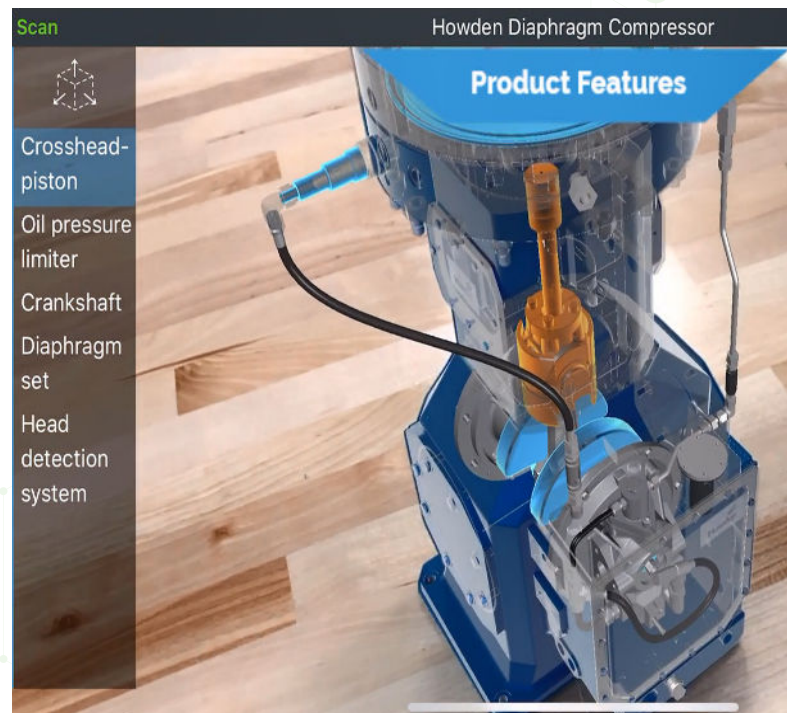
Immersive training, self-paced learning, and sales demonstrations

Just as important as facilitating a remote, personal connection with customers, Howden also saw the opportunity to make that same connection across internal teams. Howden designs and engineers Turbo Blowers in Europe and Asia for worldwide distribution. Due to the global nature of their business, Howden's product experts often had to travel to train sales teams and provide support between design engineers and manufacturing teams. Remote work conditions and social distancing made scaling expertise difficult.

Using Vuforia Studio, Howden helped scale training and accelerate the sales process. Vuforia Studio enables product experts to build 3D augmented reality training experiences that can be viewed anywhere and anytime on a variety of industry standard devices. Furthermore,

Vuforia Studio's integration with ThingWorx allows captured asset data to be presented in augmented reality as a visual overlay, streamlining the training and knowledge transfer process. Today, Howden's product units educate regional sales teams and other internal teams about complex product features in a manner that improves comprehension and retention.

Howden sales teams also use these immersive, full-size, virtual product experiences to improve their sales process. Virtual 3D product demonstrations empower them to show customers the size, scale, and functionality of massive compressors by providing them with an augmented reality experience viewable on their mobile device. This is particularly valuable as face-to-face sales meetings aren't possible due to COVID-19.



Howden adapted to a dynamic market and set themselves up for future growth

Howden is undergoing a massive digital transformation that will dramatically impact their business and how they interact with customers. That transformation—and their use cases around Vuforia Chalk and Vuforia Studio in particular—were only accelerated by recent events.

"We've been exploring the technology, looking at use cases and how it can solve our problems. When we've had to react, it's been really helpful. We had experience with Vuforia Chalk, we had the tests, and found it really easy to scale up," says Russell.

The impact was felt across all their business objectives. Howden was able to realize their goals of reducing service costs, lowering travel costs, improving workforce efficiency, and enhancing safety and sustainability. And the positive effect it had on their relationships with customers was clear.

"These use cases have resulted in requests for further work. We've been contacted with some troubleshooting advice, provided that with Vuforia Chalk, and in both cases, we've been asked to quote for further aftermarket work," says Russell.

Continuing their journey with Vuforia products, Howden already has several more use cases planned. As they create a new manufacturing line and facility layout in the Netherlands, they'll use Vuforia Expert Capture to implement standardized, repeatable processes that eliminate scrap and rework. They'll aim for continuous improvement, capturing metrics around risk, first time test yield, order-to-deliver time, and lead time variance.

By better supporting both their customers and internal teams, Howden has set the foundation for brand new service models while ensuring they continue to deliver exceptional results. These are disruptive changes that will fundamentally alter their business, and Howden couldn't be more excited about what's to come.

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