

7 Ways Augmented Reality Addresses C-Suite Priorities

From operational efficiency and revenue growth to upskilling and compliance, AR is the tool business leaders never knew they needed

“AR creates business value in two broad ways: first, by becoming part of products themselves, and second, by improving performance across the value chain—in product development, manufacturing, marketing, service, and numerous other areas.” - Michael E. Porter and James E. Heppelmann

Source: [A Manager's Guide To Augmented Reality \(HBR\)](#)

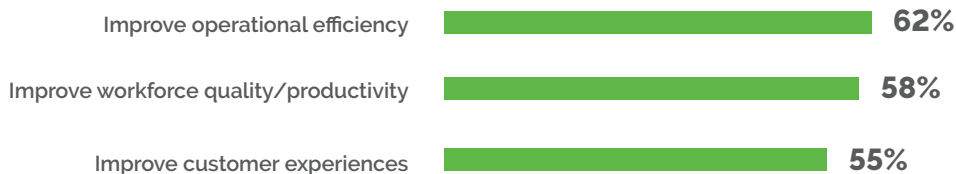
Leadership at industrial organizations are adopting augmented reality to address their top business priorities

WHAT ARE THE TOP BUSINESS PRIORITIES/DRIVERS FOR YOUR ORGANIZATION?



Source: [Forrester Consulting](#)

WHAT BUSINESS BENEFITS HAVE YOU SEEN/DO YOU EXPECT TO SEE BY ADOPTING AR SOLUTIONS



Source: [Forrester Consulting](#)



Augmented Reality (AR) is an emerging technology that is transforming how people visualize, share, and consume information.

Chances are good that you've already experienced some form of AR by now; probably as a consumer-facing mobile app that brings items such as your car, wine bottle or soda can to life. What may come as a surprise is that in industrial settings, purpose-built AR solutions are helping frontline employees reach new levels of performance, productivity and prevention. Traditional work instructions and SOPs are being replaced with immersive, on-demand AR experiences that are intuitive, highly engaging, and far more effective. AR is having a similar impact on sales and marketing activities, where an AR-led digital transformation is reducing costs, minimizing friction throughout the sales cycle, and helping brands differentiate their products.

Thanks to easy-to-implement use cases that make a significant impact across multiple areas of the enterprise, AR is quickly gaining traction as a must-have workforce technology. For business leaders in search of opportunities for growth, operational efficiency, and managing employee retention, AR solutions are being prized for their ability to address their top priorities.

7 Ways Augmented Reality Addresses C-Suite Priorities:

1. Training and Knowledge Transfer
2. Health and Safety
3. Corporate and Regulatory Compliance
4. Service Enhancement
5. Manufacturing Optimization
6. Sales Acceleration
7. Marketing Impact

1. TRAINING AND KNOWLEDGE TRANSFER

An agile workforce is key to thriving in today's competitive industrial market. Business leaders are overcoming workforce knowledge gaps and skills shortages by using AR to rapidly train new employees and upskill existing ones. With experiences that are either pre-authored by a designated subject matter expert (SME) or delivered 1:1 through real-time remote assistance applications, AR enables employees to both create and consume work instructions, mentoring opportunities, and experiential learning activities – without disrupting day-to-day operations.







Volvo's implementation of AR work instructions has reduced the training time for QA inspectors by 60%"

Source: [Volvo Group Delivers Digital Thread Through Lens of Augmented Reality \(PTC\)](#)

As a visual medium, AR is uniquely able to transform the knowledge of one into the knowledge of many. This is incredibly valuable when organizations need to pivot on the fly, as many business leaders have experienced this past year. AR-powered training programs significantly accelerate the learning curve for employees, so they can take on new tasks and follow unfamiliar workflows with confidence and ease. As a result, industrial organizations are enjoying faster growth opportunities, greater employee satisfaction, and a more agile and competent workforce.

BEST AR SOLUTIONS FOR TRAINING EMPLOYEES:

-  [Remote Assistance](#)
-  [Knowledge-Based Work Instructions](#)
-  [CAD-Based Work Instructions](#)
-  [3D Work and Training Experiences](#)

2. HEALTH AND SAFETY

Keeping skilled frontline employees healthy and safe is a top priority for today's business leaders, and best-in-class industrial organizations are now relying on augmented reality-based solutions to keep employees both connected and safe as they work.





In the past, section managers traveled four times a month to give safety permissions on-site, spending 4 hours on each trip. We can eliminate this, which is a big deal for us,"

Source: [Toyota Enables Secure Communication with Vuforia's Augmented Reality Remote Expert Assistance Tools \(PTC\)](#)

With the well-documented challenges of the global pandemic, today's new workplace requirements, peer-to-peer training and over-the-shoulder mentoring can be tough to execute. Furthermore, newly trained employees (or even well-tenured ones who have been tasked with unfamiliar work) often require expert guidance to prevent errors which could pose a safety risks to themselves and fellow employees. This is where augmented reality excels at providing expert guidance—including when social distancing measures in place.

AR-powered work instructions provided when and where they are needed and presented directly in the field of view, help frontline employees make better decisions, faster. This is achieved by significantly reducing the working memory and attention load placed on the employee, easing cognitive resources for other important tasks at hand. AR experiences can also incorporate safeguards and checklists to prevent workers from moving forward with a dangerous procedure without actively acknowledging safety instructions. If additional expertise is required, AR-powered remote assistance can enable more effective real-time collaboration anytime, anywhere. This capability addresses both the current challenge of social distancing, and more broadly provides remote flexibility a geographically dispersed workforce.

BEST AR SOLUTIONS FOR EMPLOYEE SAFETY:

-  [Knowledge-Based Work Instructions](#)
-  [Remote Assistance](#)



3. CORPORATE AND REGULATORY COMPLIANCE

Large industrial organizations mitigate risk by adhering to a host of rules and regulations. Augmented reality can be a useful ally for organizations that need to ensure they are following both their own internal compliance structure, as well as all applicable laws and regulations. AR supports these priorities by promoting a high degree of consistency into standard operating procedures (SOPs) as well as process insights for traceability.




Poorly written SOPs are one of the most common causes of deficiencies and observations cited in 483s & warning letters from the FDA."

Source: [Improving Standard Operating Procedures with Augmented Reality \(PTC\)](#)

Organizations in heavily regulated industries typically maintain thousands of SOPs, but it's difficult to keep them accurate and up to date. Many organizations struggle to simply transcribe their SOPs. Using augmented reality, SMEs can quickly and independently record workflows from their point of view, without disrupting their daily work. SMEs can pause and annotate each step of a workflow to point out safety hazards, blind spots, dependencies, and anything else of note. These first-person recordings can be published into "approved" content libraries of augmented reality experiences which become immediately available to other employees. It is even possible to maintain an audit trail to ensure each step of the task has been completed correctly.

BEST AR SOLUTIONS FOR COMPLIANCE:

 [Knowledge-Based Work Instructions](#)

4. SERVICE ENHANCEMENT

Service organizations are measured on getting work done on time, on budget, and correctly the first time. When service technicians can view and interact with digital information in a real-world environment (instead of combing through paper manuals) they can save valuable time and effort.

“A situation that previously would take a minimum of one to two hours to resolve and perhaps require the travel time and expense to send an expert technician can now be easily handled by the customer.”

Source: [Howden Creates Mixed Reality Solutions to Enhance Customer Experience \(PTC\)](#)

AR helps technicians follow step-by-step work instructions more accurately by providing them with information in the context of the physical task they're performing. Technicians using AR resolve issues faster and complete a higher number of jobs per shift, so fewer repeat visits and on-site technicians are needed per dispatch. In fact, the immersive step-by-step instructions, powered by AR technology, are so easy to consume many leading organizations are using them to enable customer self-service. In fact, some leading organizations are shipping their products with AR hardware devices. As such, augmented reality-powered service is becoming a competitive differentiator for the organizations that implement it.

BEST AR SOLUTIONS FOR SERVICE:

- ☞ [Remote Assistance](#)
- ☞ [Knowledge-Based Work Instructions](#)
- ☞ [CAD-Based Work Instructions](#)
- ☞ [3D Work and Training Experiences](#)

5. MANUFACTURING OPTIMIZATION

Rapidly escalating operating costs make workforce efficiency a critical component in manufacturing. It's imperative that frontline employees take the necessary precautions to optimize production runs. Human error can result in several types of manufacturing waste, causing industrial organizations to leave millions on the table each year. If a line isn't properly cleaned or the wrong assembly component is embedded into another system, the entire run may need to be recalled. As a result, any materials used or time spent on that run are lost.

Standardizing instructions and operating procedures in order to minimize waste can generate millions in potential annual savings. Less scrap and rework directly reduces operating costs and increases margins, in addition to reducing a company's potential impact on the environment.

Augmented reality can help manufacturers reduce waste and minimize costs by empowering frontline workers with on-the-job procedural guidance and more effective training. With a combination of better, clearer in-context work instructions, SOP documentation, and access to remote experts, companies can cut back on manufacturing mistakes that cost them millions in lost revenue and resource allocation. Service organizations are measured on getting work done on time, on budget, and correctly the first time. When service technicians can view and interact with digital information in a real-world environment (instead of combing through paper manuals) they can save valuable time and effort.



With frontline workers following paper-based SOPs for such a complex process, they typically end up scrapping 10% of their product yield."

Source: [Leading Pharma Company uses AR to Transform On-the-Job Training \(PTC\)](#)



(AR) allowed us to drag and drop the 3D models we already have to create better work instructions to deliver to our production floor in hours at a tenth of the cost."

Source: [BAE Systems Leverages the Power of Mixed Reality \(PTC\)](#)

BEST AR SOLUTIONS FOR MANUFACTURING:

- ☑ [Remote Assistance](#)
- ☑ [Knowledge-Based Work Instructions](#)
- ☑ [CAD-Based Work Instructions](#)
- ☑ [3D Work and Training Experiences](#)

6. SALES ACCELERATION

While AR is proving its worth in manufacturing and service contexts, it can also provide substantial benefits to sales and marketing teams. The same capabilities that allow employees to operate and service products can be harnessed to provide portable, customizable, and evocative product visualizations for customers that are otherwise difficult and expensive to share.



Online vs. offline buying experiences have trade-offs. Online stores provide ease-of-shopping yet lack tactile experiences or the ability to visualize products in context. Meanwhile, brick-and-mortar stores deliver experiences that are more immersive, but are restricted by geography, relative inconvenience, and the inability to evaluate all available customization options. Augmented reality combines the best of both worlds to deliver customer experiences that heighten accessibility, customization, and engagement.

“The AR experiences created in Vuforia Studio allowed the customer to see a full-scale digital representation of the proposed solution in their own environment, showing the exact placement within the greater power grid system. This allowed the customer to ensure the solution met their specifications before the final system was built and shipped.”

Source: [Hitachi Energy Leverages a Suite of PTC Technologies to Improve the Customer Experience](#)

With AR, customers can select the exact version of the product they want consistent with online purchasing—and then interact with the digital approximation of that product in a way that offers greater tangibility and engagement. AR can even be used to visualize and configure how products will spatially fit within a customer's environment. After the selling process, AR-driven digital product companions and user guides can help owners better understand and enjoy their purchases. Unlike static PDF guides, companies can upgrade and enhance AR experiences over time.

BEST AR SOLUTIONS FOR SALES:

-  [3D Work and Training Experiences](#)
-  [Custom AR Applications](#)

7. MARKETING IMPACT



Marketers of industrial products can face inherent constraints. Assuming tradeshows can even take place, given the current COVID-19 pandemic, products may be too large, heavy, or expensive to bring to venues. Limitless customization potential can make demonstration versions seem generic or unsuitable. Meanwhile, key differentiating capabilities - such as the safety features on a car - are often hidden or invisible.

“ This is a truly immersive and futuristic experience. It is the perfect technology to visually enhance all the features hidden inside the all new QX50.”

Source: [INFiniti Creates Augmented Reality In-Store Experience \(PTC\)](#)

By leveraging digital twins or augmenting physical products with digital experiences, marketing can more easily and cost-effectively engage prospective customers. Interactive product demonstrations can take place at any physical location and provide the unlimited customization options customers seek. AR experiences can even be transmitted to a prospective customer, who can take the content back with them to share with their team members. Augmented reality takes marketing impact to the next level.

BEST AR SOLUTIONS FOR MARKETING:

-  [3D Work and Training Experiences](#)
-  [Custom AR Applications](#)



Interested in finding out more about augmented reality?



[READ THE EXCLUSIVE INTERVIEW →](#)

Explore expert insights from Forrester Vice President and Principal Analyst, J.P. Gownder as he highlights the key role augmented reality will play in the future of work and its quantifiable benefits, including:

- Increased productivity due to the hands-free enablement.
- Decreased unnecessary site visits.
- Reduced secondary truck rolls.
- Increased equipment uptime.



[READ THE BUYER'S GUIDE →](#)

Try our buyer's guide for evaluating AR technology based on its ability to address your business challenges.

- Recognize use cases with maximum ROI potential.
- Prioritize capabilities for building successful AR projects.
- Ensure potential AR software solutions will meet your objectives—before you invest.