![PTC logo]

PTC Provides Industrial Companies Clear Path to Value with Augmented Reality; Hot Technology Empowers People to 'See' Their Business in New Ways

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PTC Advances Leadership in Industrial Augmented Reality with New Product Offerings and Acquisitions

BOSTON--(BUSINESS WIRE)--Jun. 18, 2018-- PTC (NASDAQ: PTC) today announced at the sold-out LiveWorx®18 digital transformation conference a wide range of new initiatives for augmented reality (AR) coming out of its business unit dedicated to the advancement and application of augmented reality in industrial settings.

Augmented reality is one of the fastest growing segments of the technology market. AR superimposes digital information onto a person's view of the physical world. For manufacturers, augmented reality can enhance all functions within the product lifecycle, including engineering, manufacturing, marketing, sales, operations, and service. The transformative nature of AR and the vast opportunities available to businesses embracing AR were recently highlighted in a *Harvard Business Review* article, co-authored by Harvard Business School Professor, Michael Porter, and PTC CEO, Jim Heppelmann.

"We saw the significant benefit augmented reality could have for enterprises years ago, and the market is beginning to catch up and embrace the potential as well. Our recent momentum and continued focus not only strengthens our leadership in this space, but also enables PTC to help companies unlock the potential of augmented reality across all kinds of environments and use cases more effectively," said Jim Heppelmann, president and CEO, PTC. "Our dedicated augmented reality business unit enables us to sharpen our focus on the application of AR in industrial settings and create additional opportunities for businesses."

Award-winning Technology and Top Talent Meet Under Vuforia Brand
The dedicated PTC augmented reality business unit combines top talent and award-winning technologies, including the Vuforia® platform, the industry's most advanced and widely adopted AR technology platform. PTC has leveraged Vuforia to expand the capabilities of its market-leading ThingWorx® Industrial Innovation Platform, enabling customers to visualize, instruct, guide, and improve interactions with physical things.

PTC's augmented reality portfolio includes:

- Vuforia Engine – enables users to develop powerful cross-platform AR applications
- Vuforia Studio (formerly ThingWorx Studio) – enables users to reuse 3D CAD content, incorporate step-by-step instructions and IoT data, and scale AR authoring and publishing in industrial enterprises
- Vuforia View (formerly ThingWorx View) – with this universal browser, users can consume Vuforia Studio-created content on phones and tablets running iOS, Android, and Windows, as well as digital eyewear like Microsoft HoloLens
- Vuforia Chalk™ – enables technicians to get remote assistance from experts
- Creo® Design Share Solution – enables users to easily share Creo® 3D CAD content in augmented reality with partners and other stakeholders

Annotations Come to Life with Availability of Vuforia Chalk for Industrial Use Cases
The service use case for augmented reality gets even more powerful with the commercial release of the Vuforia Chalk ™ remote assistance app that empowers people to solve technical challenges faster by providing frontline technicians the instructions and guidance they need in real time. Vuforia Chalk combines advanced augmented reality technology with real-time video to connect a field technician with an expert so that the expert can see the situation in the field. The advanced computer vision technology in Vuforia Chalk uniquely enables users to draw digital annotations that accurately 'stick' to physical objects, allowing the expert to guide the technician through a process, step-by-step; even as a technician moves, a Vuforia Chalk annotation will remain anchored to its original location.

Commercial availability of Vuforia Chalk for iOS and Android devices begins today, with a free 30-day evaluation license available at chalk.vuforia.com. Additionally, an enhancement enabling the use of Vuforia Chalk in conjunction with Vuforia Studio is planned for Fall 2018.

Revolutionary Capability to Use AR for Training Added with Acquisition of Waypoint Labs
PTC recently acquired advanced AR technology from Waypoint Labs, an award-winning tech startup launched out of the MIT Media Lab. Waypoint™ software can chronicle the real-time movements of a person wearing an AR headset by monitoring the individual both audio-visually and spatially in three dimensions. It enables users to capture this information through a knowledge processing engine and convert it into any number of formats, including an interactive website with photos and videos, Microsoft Word documents with photos, or an interactive AR training where trainees wear a similar headset. Waypoint supports a variety of industrial use cases, such as enabling manufacturers to create and distribute service manuals and product documentation, and biotech labs to develop AR-powered standard operating procedures (SOPs) to improve quality and compliance.

The Waypoint and recently acquired Reality Editor™ software currently make up the PTC Reality Lab, a PTC incubation zone for emerging augmented reality technologies. PTC is working to integrate these newly acquired technologies into its existing augmented reality portfolio.

Continued Support for AR Devices
To make its entire AR portfolio more accessible and impactful, PTC continues to collaborate with leading hardware makers to advance the adoption of value-driving AR experiences. Today, PTC is announcing its immediate support of Realwear and Vuzix devices.

Collaboration with Local Organizations to Advance AR Innovation

PTC has become the newest member of the [MIT Media Lab](#), an interdisciplinary research lab that encourages the unconventional mixing and matching of seemingly disparate research areas. This collaboration will focus on understanding and building disruptive applications for AR and other technologies, with the goal of leading companies to new levels of operational efficiency and business fulfillment.

PTC also recently announced [a philanthropic project with Boston Children's Hospital](#), the number one pediatric hospital in the United States, to explore the use of augmented reality to help children with autism and related developmental disorders communicate and learn more effectively. The collaboration explores how augmented reality may be used to help children with autism understand tasks and the world more fully, by helping to bridge the physical and digital worlds by overlaying an image onto a physical environment. This passion project offers an opportunity for AR technology to make a real difference and improve lives.

Accolades, Adoption, and LiveWorx 18

The Vuforia platform has received accolades from industry experts and analysts, including a [recent award from Compass Intelligence for top B2B augmented reality application](#). The Vuforia platform continues to be widely adopted, with over 6,500 customers using Vuforia in industrial settings. In addition, more than 10,000 participants have joined PTC's Vuforia Studio Free Trial program, providing valuable feedback on use case priorities and hardware requirements, and over 500,000 registered developers use Vuforia as their preferred platform to create AR apps.

The topic of AR will take center stage at LiveWorx 18 in keynotes, as well as special sessions in which many customers, partners, developers, and industry analysts will discuss their use cases and benefits derived from the adoption of the Vuforia platform and other PTC AR solutions.

Additional Resources

- [PTC Augmented Reality](#)
- [LiveWorx 18](#)
- Harvard Business Review: ["Why Every Organization Needs an AR Strategy,"](#) authored by PTC CEO Jim Heppelmann and Harvard Professor Michael Porter

About PTC (NASDAQ: PTC)

PTC helps companies around the world reinvent the way they design, manufacture, operate, and service products in and for a smart, connected world. In 1986 we revolutionized digital 3D design, and in 1998 were first to market with Internet-based product lifecycle management. Today, our leading industrial innovation platform and field-proven solutions enable you to unlock value at the convergence of the physical and digital worlds. With PTC, manufacturers and an ecosystem of partners and developers can capitalize on the promise of the Internet of Things and augmented reality technology today and drive the future of innovation.

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The timing of any product release, including any features or functionality, is subject to change at PTC's discretion.

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Media
PTC
Jack McAvoy, 781-370-6143
Corporate Communications
jmcavoy@ptc.com