<u>Augmented Reality for Enterprise Alliance</u> <u>Announces its Statement of Needs</u> <u>Requirements Platform</u>

10th April 2024



BOSTON, MA - APRIL 10, 2024 - Today, the <u>Augmented Reality for Enterprise Alliance</u> (AREA) announced a new tool called the <u>AREA Statement of Needs</u> (ASON) online platform. The ASON tool empowers enterprise users and AR solution providers to define and refine requirements collaboratively, ensuring alignment with industry best practices and specific use cases.

"AR is a technology that poses challenges enterprises must address to have successful project implementation," said Mark Sage, Executive Director of AREA. "We're offering enterprise users and AR solution providers an innovative tool they can use to streamline their planning and execution of AR implementations."

Key Benefits:

- Streamlined research and planning to simplify scoping AR projects with ready-built, actionable use cases and requirements.
- Accelerated development allows users to generate RFP/RFQ proposals faster and more efficiently, speeding up the development lifecycle.
- Enhanced collaboration: users can work seamlessly with stakeholders, suppliers, and team members.
- Search and reporting functionalities to streamline workflows.

Try the free **ASON** tool today.

About the AR for Enterprise Alliance (AREA)

The AR for Enterprise Alliance (AREA) is the only global membership-funded alliance helping to

accelerate the adoption of enterprise AR by supporting the growth of a comprehensive ecosystem. The AREA accelerates AR adoption by creating a comprehensive ecosystem for enterprises, providers, and research institutions. AREA is a program of <u>Object Management Group</u>® (OMG®). For more information, visit the AREA website.

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The evolution of delivering immersive media over 5G/Cloud

10th April 2024



This blog post introduces a white paper from Ericsson, an AREA Member. The full paper can be read <u>here</u>.

Introduction

With the availability of more Augmented Reality (AR) and Virtual Reality (VR) headsets, people are starting to experience more realistic and interactive immersive services. Thanks to the advanced technology embedded into the headset we are getting more powerful devices, able to compute and render images of increasing resolution and quality. Yet the development of longer and more realistic experiences is progressing slowly, limited by battery consumption, device form factor, and heat dissipation constraints. Many service providers have started to deploy services in the cloud to address these issues. However, running the application in the cloud imposes additional challenges: latency, bandwidth, reliability, and availability of the service. 5G cloud architecture can overcome those issues with solutions that can be applied incrementally, each differently affecting the complexity of the application, but each improving the ultimate experience for the user. Additionally, the ultimate vision for 5G architecture as applies to immersive experiences calls for new relationships among the ecosystem members – the consumer, communications service provider, hyperscale cloud provider, and developer/service provider.

This paper examines key aspects to launch an immersive service using 5G cloud infrastructure.

First, reviewing recent offerings and developments, then walking through a set of use cases each exploiting more and more offload to the cloud. We follow with a description of 5G technologies that satisfy the use cases, and finally, reflect on the evolution of the stakeholders' ecosystem in relation to their technical and commercial relationships to establish an immersive service using 5G.

Object Management Group Hosts Event on the Impact of Digital Transformation across Industries

10th April 2024



"Leading organizations across all industries are advancing their digital transformation efforts with cutting-edge technologies in Gen AI, digital twins, IoT, AR/XR, 5G, and more," said Bill Hoffman, Chairman and CEO of OMG. "The OMG family of consortia offers an event filled with insightful presentations, interactive panel discussions, workshops, and live demos. You will meet executives from leading companies who share stories about their deployments, use cases, experiences, and challenges."

Agenda

- 8:30 am 9:30 am Exhibit Hall Cross-consortia Demo Sessions. Demos feature Security and Trust, Immersive Factory of the Future, Al Infused-Compliance and Assurance, Multi-Agent Modeling, Smart City Microcosm, Intelligent Transportation, Fintech, and Smart Assets.
- 9:30 am 10:00 am Keynote: Digital Transformation and Artificial Intelligence; The Coming Wave of Radical Upheaval in Industry and Manufacturing. The impact of humans and new technologies on the world in the present and long term.

 Keynote speakers: Dr. Adam Drobot, President and Chairman, Open Tech Work, and guest.

- 10:15 am 10:45 am OMG Community of Consortia; Advancing Value through Digital Transformation. With a cross-consortia focus on Generative AI and enabling technologies, Consortia leaders talk about areas you can influence and become part of developing best practices driving the next digital transformation era.

 Presenters: Mike Bennett, CTO, Object Management Group SDO; Dan Isaacs, CTO & GM, Digital Twin Consortium; Mark Sage, Executive Director, AREA.
- 10:45 am 11:15 am Panel: Unlocking Growth: The Value of Digital Transformation in Today's Landscape. Industry experts and thought leaders discuss the impact of digital transformation across various sectors.

 Panelists: Claudio Soarzo Cataldo, Director, Head of Digital Technology (Chile) at NTT DATA;

 Bassam Zarkout, Founder, IGnPower; Bob Martin, Senior Principal Software and Supply Chain Assurance Engineer, MITRE; Daniel Young, Senior Manager Product Standards, Toshiba America.
- 11:15 am 11:45 am Panel: Dynamics of Al: Exploring the Benefits and Challenges. Explores topics related to Al adoption, including enhanced operational efficiency, intelligent decision-making, data-driven strategies, implementation, interoperability, regulatory challenges, and responsible computing.

 Panelists: Dr. Adam Drobot, President and Chairman, Open Tech Work; Eric Stahlberg, Director of Cancer Data Science Initiatives, Frederick National Laboratory for Cancer Research; Pieter Van Schalkwyk, CEO, XMPro; and Marlon Rodgers, Software Engineer, IT Lead, Lockheed Martin.
- 11:45am 12:15pm Enhancing Realties: The Integration of AR/XR & Digital Twins. This panel brings together experts at the intersection of AR/XR and digital twins to discuss the transformative potential of their integration. From leveraging real-time data visualization through spatial computing capabilities, the discussion will explore innovative applications, challenges, and future trends. Join us as we uncover the synergies between AR/XR and digital twins and their role in shaping the future of immersive realities.

 Panelists: Carlos Toro, Head of Data and Analytics (Chile) at NTT DATA, Digital Twin Coordinator LATAM (Global Innovation Center); Justin Piwetz, Asset Management Lead Research and Innovation in Virtual Technologies, BP; Ursla Vold, XR Engineer, Lockheed Martin; and Ashley Stowe, Director, Oak Ridge Enhanced Technology and Training Center
- 1:00 pm 1:30 pm Panel: Navigating the Interplay of 5G and XR Technologies.

 Explore the complexities of connecting various devices through advanced networks, including mobile, portable, and wearable XR devices.

 Panelists: Christine Perey, Founder, Perey Research and Consulting; Aristides Staikos, 5G and XR Industry Expert, Former Verizon/US Navy/US Army; and Tangi Meyer, DELMIA Augmented Experience Strategic Planning, Dassault Systemes.
- 1:30 2:30 pm Workshop: Demystifying Digital Twins: Practical Approach for Digital Twin Development. Learn about the Composable Framework, including the Digital Twin Capabilities Toolkit and Reference Architecture Platform Stack from the Digital Twin Consortium Ambassadors driving the next digital transformation era. DTC Ambassadors: Pieter Van Schalkwyk, CEO, XMPro; David McKee, CEO, Counterpoint Technologies; Carlos Toro, Head of Data and Analytics (Chile) at NTT DATA, Digital Twin Coordinator LATAM (Global Innovation Center).
- 2:30 pm 2:45 pm Upcoming Member Engagement Opportunities and Wrap-Up.

 Learn about Consortia events and activities.

About Object Management Group

When tech organizations, governments, and academia must solve discrete pieces of a technology puzzle or discuss matters of common interest, they often seek to join or form a consortium. Since 1989, Object Management Group® (OMG®) has created and nurtured a productive community with common technology interests and problems to resolve. OMG is global, not-for-profit, and vendor-neutral. For more information, visit the OMG website.

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Top 2024 Enterprise AR Trends To Watch

10th April 2024



As we ease out of the first month of 2024, we are now fully engaged in the new year. In the past 30 days, I've had an opportunity to learn from my peers, such as <u>Tom Emrich of Niantic</u> (<u>trend watches on his newsletter</u>) and the co-chair of the AREA Research Committee, <u>Samuel Neblett of Boeing</u>, and to reflect on the projects in which I'm involved.

I've compressed my vague sense of hope and excitement down into a few enterprise AR trends I will be watching over the next 11 months. These are not predictions but significant areas of focus that I believe will drive innovation and the adoption of enterprise AR. I'm now officially keeping track of these trends to see where, how, and if they come about.

Please share these with your colleagues and your partners. Do you have evidence that either confirms or questions any of these trends in your companies? I hope you will share your evidence, feedback, and ideas with me at cperey@perey.com.

Artificial Intelligence

The convergence of AI and AR is the most significant and least surprising of the trends to watch in 2024. The signs are everywhere.



#1 Enterprises are beginning to internally test Generative AI (GenAI), including LLM lakes and private co-pilot solutions. Early adopters will increasingly combine these capabilities with AR tools. There are dozens of ways that the use of AI improves workflows and reduces the costs of enterprise AR. Well-positioned and programmed AI can extract relevant content from corporate data sets for visualization. Here are a few examples of where and how GenAI could boost AR:

Using Digital Twins for baseline and AI for detecting and matching features in 3D environments (rare in 2023), we expect enterprises to expand their interest in and need for spatially-aware apps and services. For example, we will see a proliferation of AR-assisted Visual Positioning Services for navigation and risk detection based on 3D maps.

Combined with advances in hardware (see below), GenAI will permit the automatic generation of richer AR experiences for hundreds of use cases, including but not necessarily limited to 3D spatial maps. Multi-modal LLMs, an advanced type of AI that can understand and generate not just text but other types of data, such as images, audio, and possibly even video, are on the rise. These Multi-modal AI models incorporate previously captured scenes into new instructions. They will detect sounds from the environment and predict risks or propose the user to respond in specific ways without being programmed/coded in advance.

#2 Al and computer vision advancements could address concerns over privacy in data collection and handling. Privacy and sensitivity to security risks from the use of cameras and other sensors in the workplace continue to be obstacles to large-scale AR deployments. With Al, real-time image and feature detection, blurring, and obfuscation methods can be combined with AR displays (or their associated services and software) with lower cost and power. Enterprise AR solutions for protecting the privacy of things, places, and people (AR device users and those around them) with Al in the loop will proliferate in response to the need for compliance with corporate privacy policies as well as national and international regulations.

Hardware



#3 Aside from a few roles (e.g., architects or those viewing medical imagery), knowledge workers don't need to spend their time or money on large, virtual screens (aka Apple Vision Pro). Video see-through isn't a viable substitute for Optical see-through in the workplace, where employee tasks require hands-free AR and peripheral vision. Video quality issues, including distortion, fixed camera IPD, high ISO, low dynamic range, low camera resolution, and low frame rate, are

exceedingly difficult (think: high power use) to overcome. However, a lot of money will be invested, and marketing campaigns will make people try. Try though they will, the entire Video see-through headset push will not make a significant dent in reducing the optical see-through requirement for enterprise AR displays. I've heard repeatedly that any risk manager who would approve the use of video see-through XR displays for use in a production environment where risks are high is risking their employment.

#4 Smaller, more powerful, and less power-consuming sensors will be more economical to deploy and manage. In addition to the lower cost of implementation and management of IoT, more specialized semiconductor solutions, especially those specialized in computer vision but also for processing audio and motion, are increasingly being added to AR display devices. Imagine sensors on the device detecting the user's need for corrective lenses and then generating the corrected version of the real world (enhanced with AR, of course) without the user's being aware or needing to wear two pairs of glasses. The improvements in display capabilities, combined with cheaper hardware distributed in the user's environment (think: intelligent spaces) and connected to AI in the display or on edge computing hardware, are making context awareness less expensive to acquire and more reliable. A deeper understanding of context translates to many of the other trends identified below.

#5 More companies will introduce lightweight, cheaper (and less capable) AR glasses to the market. Not all users need or want a full "computer" on their heads. There are more ways to add value than a helmet or a heavy and powerful wearable AR display. Some devices are offloading processing to tethered phones. Others offer wireless, monocular AR glasses to display only heads-up messages to users. We will also watch for the audio-only AR glasses segment to expand where voice prompts and Al-enabled audio responses satisfy the use case requirements.

UX

#6 New modes of interaction are beginning to

complement/replace/displace the need for controllers and virtual keyboards. We are already starting to see more use of eye tracking, gaze, and natural gestures (e.g., pointing with better hand tracking) for inputs. Improvements in hand gesture tracking technologies will, in many cases, translate to lower cognitive loads and lower computational loads. Neural inputs using a headband or muscular signals via a wristband allow users to control all their digital



devices using natural human interfaces. The user's tongue might even become a source of input. Also, look out for brain sensing with EMG.

#7 Similarly to #6, due to new and different sensors in devices, there will be developments in how users receive/perceive the digital data in context in the workplace. In addition to animations, video clips, still images, and text, we will see rapid experimentation and exciting opportunities to use spatial audio and to provide just-in-time instructions and information to users using combinations with other wearables (e.g., watches and smart garments).



Infrastructure

#8 Private 5G networks, combined with 5G compatible hardware and cloud and edge computing, will permit richer experiences without heavier or power-consuming devices. While the verdict is still out on the cost-effectiveness of private 5G networks based on current implementations and use cases, they are gradually improving. There will be more 5G support in the next-generation AR displays. These core enabling technologies will lead to increased adoption of AR experience streaming and collaborative AR experiences.

#9 Security for AR experiences may be addressed in the network using improvements in off-device and automatic authentication of AR users and devices. Ensuring corporate

cybersecurity is an enormous concern for all IT departments, and most AR devices are ill-equipped to meet all the requirements. Expertise in security risk reduction is not a core competency of most AR providers. Innovations to ensure high corporate data protection, privacy and reduce exposure from AR user intentional or inadvertent actions will come from network technology providers. They and their service provider customers have solutions that are emerging from research and will be tested in the near future.

Software



#10 Low-code/no-code will continue to gain traction with the assistance of AI. There are now dozens of low-code/no-code solutions available. The problems are figuring out which ones meet the enterprise requirements, including but not limited to security concerns. While AI eats away at the need to manually code experiences, subject matter experts are becoming the authors of more and more custom experiences. The biggest winner from this trend will be medium-sized companies without the necessary engineering resources to meet all their AR use case needs. With the low-code/no-code options reaching greater maturity and ease of use, the need for dedicated and highly paid AR experience developers and tools with steep learning curves will diminish.

#11 Standards are increasingly relevant and, combined with the expanded support of open-source libraries, reduce the need to develop and maintain display-specific apps and content for delivering experiences across a range of AR devices. Although W3C WebXR continues to evolve slowly, the processing requirements for Web-based solutions are being increasingly met by the hardware in a broader range of AR display devices. The improvements in network infrastructure also make more edge processing possible. Using the Web to provide AR experience content is highly scalable and can be entirely deployed in a company's Intranet. Khronos Group's OpenXR is already widely adopted on AR hardware and, combined with support for gITF, is significantly simplifying the development of content creation platforms (fueling the nocode/low-code trend). We expect that other standards will be adopted for AR experiences.

#12 **AR developers' skill sets and tools become more specialized, and the learning curves become steeper.** On the one hand, Al and adopting standards simplify and accelerate the creation of AR experiences; they also introduce new risks. These are golden opportunities for specialization. AR developers and those with expertise in adjacent fields will increasingly have new offerings, such as deeper integrations with Learning Management systems, Enterprise Resource Planning, and Product Lifecycle Management platforms. Editing of AR experience recordings to

Augmented Reality for Enterprise Alliance Publishes Latest Research on the Deployment of Wearable AR in Highly Secure Corporate Environments

10th April 2024



"Many organizations are rightly concerned about cybersecurity threats and forbid the use of unsecured devices," said Mark Sage, Executive Director of AREA. "The industry needs to integrate AR hardware and software, including AR applications, with existing enterprise infrastructure while ensuring proper access controls are in place, and that, if an individual device is lost or stolen, no information is compromised."

The research addresses securing AR content and data at the application layer for multi-user devices. Typically, only one person at a time will use wearable and hand-held XR devices; the sessions must be authenticated, with content and generated artifacts removed once they have ended. Organizations must encrypt simulated sensitive information at rest, in transit to a device, and from the device upon logout or closing of the application.

This research will demonstrate an implementation of application-level authentication in the Unity development framework, the most widely adopted and supported application framework for head-mounted augmented reality devices. The outcome of this research provides a design pattern that organizations can apply in sensitive corporate environments, with a detailed discussion on additional cybersecurity considerations. The research also includes a Unity code that only the AREA members can access.

Please view an executive summary of the research report on the <u>Deployment of Wearable AR in Highly Secure Corporate Environments</u> from the AREA website. Please also consider the website's executive summaries of other AREA resources and enterprise guidance. To learn about AREA membership, visit the AREA <u>website</u>.

About the AREA

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Object Management Group Announces Transform! @InfoComm 2024 Program Committee

10th April 2024



"Many senior technology and engineering professionals are leading digital transformation efforts across many industries," said Ron Zahavi, Conference Program Director, CEO, and Founder of Auron Technologies, LLC. "Our Transform! @InfoComm 2024 program committee is developing an event that guides professionals through the journey of digital transformation from concept to operations with real-life case studies, cross-collaborative models, and demonstration solution show cases, tailored to all maturity levels."

The Transform! @InfoComm 2024 program committee members include:

- Prith Banerjee, Chief Technology Officer, Ansys
- Salla Eckhardt, Sr. Vice President Commercial, OAC Services
- Angel Hanson, Chief Event Officer, Angel Events
- Bill Hoffman, Chairman and CEO, OMG
- Kathleen D. Kennedy, Sr. Director MIT Horizon, Executive Director, MIT Center for Collective Intelligence
- Edy Liongosari, Chief Research Scientist, Accenture
- Jim Morrish, Founding Partner, Transforma Insights
- Oriette Nayel, Principal Project Executive and Consultant
- Christine Perey, Spime Wrangler, PEREY Research & Consulting
- Tim Scannell, Vice President, Strategic Content, IDC
- Said Tabet, Distinguished Engineer, Dell Technologies
- Rob Tiffany, Chief Product Officer, Red Bison
- Pieter Van Schalkwyk, CEO, XMPro
- Shyam Varan Nath, Specialist Leader, Al and Analytics, Deloitte
- Bassam Zarkout, Executive Vice President, IGnPower
- Ron Zahavi, Conference Program Director, CEO and Founder Auron Technologies, LLC

At Transform! @InfoComm 2024, exhibitors will deliver hands-on experiences through an Innovation Hub and solutions showcases, where they will highlight new technology trends, breakthroughs, products, and services. Attendees will discover new opportunities for economic growth and efficiency, exploring innovation across diverse industries, from business and government to academia, and multiple topics, including cybersecurity, generative AI, augmented reality, digital twins, responsible computing, IoT and edge, business architecture modeling, and more.

The <u>InfoComm 2024</u> team is taking inquiries for exhibit and sponsorship opportunities for Transform! @InfoComm 2024.

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About InfoComm

InfoComm is the largest technology exhibition and conference in North America focused on the pro AV industry. The exhibition is produced by the Audiovisual and Integrated Experience Association (AVIXA), and currently ranks as the 28th largest trade show in the United States by Trade Show Executive. In addition, AVIXA and its partners produce a global portfolio of trade shows and conferences, including InfoComm China, Beijing; InfoComm India; InfoComm Asia; Integrate; and Integrated Systems Europe.

About OMG

When tech organizations, governments, and academia need to solve discrete pieces of a

technology puzzle or discuss matters of common interest, they often seek to join or form a consortium. Since 1989, Object Management Group® (OMG®) has created and nurtured a productive community with common technology interests and problems to resolve. OMG communities include Augmented Reality Enterprise Alliance (AREA), BPM+ Health, Consortium for Information and Software Quality $^{\text{TM}}$ (CISQ $^{\text{TM}}$), Digital Twin Consortium® (DTC), Industry IoT Consortium® (IIC $^{\text{TM}}$), OMG Standards Development Organization (SDO®), and Responsible Computing (RC $^{\text{TM}}$). OMG is global, not-for-profit, and vendor neutral. Visit OMG.

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Object Management Group Seeking Speakers/Showcases for Transform! @InfoComm 2024

10th April 2024



"At Transform!, attendees will experience the digital transformation journey from concept to

deployment," said Ron Zahavi, Conference Program Director, CEO, and Founder of Auron Technologies, LLC. "We're looking for presentations, panelists, and solution showcases that delve deeply into today's transformative trends in areas that boost operational efficiency, productivity, sustainability, and revenue."

Call for Transform! Speakers

Transform! solicits presentations focusing on all aspects of a digital transformation journey, from defining digital transformation to why companies embark on digital transformation, when and where to start, and how to execute and measure digital transformation.

Use case/business case submissions should highlight measurable metrics for transformative business outcomes. For those presentations that include case studies, we give preference to those with an end-user customer.

We prefer real deployments and later-stage projects over early-stage proof of concepts. The Call for Speakers for Transform! is open through November 3, 2023. Submit your speaking proposal <u>here</u>.

Call for Transform! Solutions Showcases

Transform! seeks solutions showcases to demonstrate digital transformation solutions on the exhibition floor. We are looking for digital transformation solutions that address a particular enduser and customer need in the market. Proposals should include digital technologies, show a measurable digital transformation impact on people, processes, and organizations, and address business problems. We prefer solutions based on a customer/end-user use case.

If we accept your showcase, you will receive a complimentary space on the allocated exhibit floor. The Call for Transform! Solutions Showcases is open through November 17, 2023. Submit your showcase proposal <u>here</u>.

About Transform! @InfoComm 2024

At Transform! @InfoComm 2024, attendees will discover new opportunities for economic growth and efficiency, exploring innovation across diverse industries, from business and government to academia, and multiple domains, including cybersecurity, generative AI, augmented reality, digital twins, responsible computing, IoT and edge, business architecture modeling, and more.

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AREA and Digital Twin Consortium Announce Tech Fusion

10th April 2024



Tech Fusion comprises insightful presentations, interactive panel discussions, hands-on workshops, and live demos, and all focused on exploring the synergy between augmented reality (AR) and digital twin technologies. Leading companies will share information about their deployments, use cases, experiences, and challenges at the event.

"Forward-looking organizations are advancing digital transformation efforts with augmented reality and digital twins," said Dan Isaacs, GM & CTO of DTC. "We are thrilled to invite you to a ground-breaking event that promises to revolutionize the way organizations perceive the future of these technologies."

"At the Tech Fusion information day, AR and digital twin experts will share their real-life digital transformation implementation stories," said Mark Sage, Executive Director of the AREA. "Attendees will learn how they overcame challenges and barriers to adoption for these leading technologies."

The conference will feature presentations on AR, digital twins, AI, large language models (LLMs), and agent-based modeling, among other topics. Please visit the <u>AREA</u> or <u>DTC</u> websites to view the agenda for the Tech Fusion: Augmented Reality & Digital Twin Information Day. The price is \$99. Register today for the event on the <u>AREA</u> or <u>DTC</u> websites.

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About Digital Twin Consortium

Digital Twin Consortium is The Authority of Digital Twin. It coalesces industry, government, and academia to drive consistency in vocabulary, architecture, security, and interoperability of digital twin technology. It advances digital twin technology in many industries, from aerospace to natural resources. Digital Twin Consortium is a program of Object Management Group® (OMG®). For more information about Digital Twin Consortium, please visit our website at

https://www.digitaltwinconsortium.org

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<u>Augmented Reality for Enterprise Alliance</u> <u>Announces New Research</u>

10th April 2024



BOSTON, MA - JUNE 28, 2023 - Today, the <u>Augmented Reality for Enterprise Alliance</u> (AREA) published a new research report entitled <u>Effectiveness Evaluation of Augmented Reality for Delivering Highly Dexterous Work Instruction</u> (ERADEX). The report reviews the state of the art of XR in the context of training and adoption within the industry, followed by details of the AR trials used to deliver highly dexterous work instruction, including methodologies and results.

"COVID-19 placed unprecedented pressures on human resources, forcing the industry to resolve new challenges of delivery of products on time and within accepted quality frameworks while continuing to upskill their workforce despite the global challenges," said Mark Sage, Executive Director, AREA. "XR technology within training/onboarding has proved to offer increased benefits of time and efficacy to the workforce. AR offers manufacturers improved processes, the flexibility of working methodologies, less time and cost to train, and the opportunity to upskill staff to different levels of the workforce."

Composite Manufacturing companies face real challenges in reducing waste, completing tasks within a shorter timeframe, and working with a consumer-driven right-first-time production process. Training is required to maintain high-quality standards, but continuous workforce training is costly and time-consuming.

Training the workforce includes a full spectrum of levels of workers' training needs, e.g., upskilling proficient employees, as well as initial training for newly recruited employees. Composite manufacturing companies must balance the quality and consistency of training needs with waste reduction and address a fully sustainable approach to quality and measurable productivity and output.

Some questions the reports answers include:

- How does AR for high dexterity tasks differ from other instruction delivery methods?
- How are users impacted by the delivery of AR instructions in high-dexterity tasks?
- What are the key factors (e.g., cost structure) informing decision-making and driving return on investment in delivering work instructions for particularly dexterous, manual tasks?
- What are the key factors (e.g., cost structure) informing decision-making and driving return on investment in delivering work instructions for particularly dexterous, manual tasks?

Please view an executive summary of the entitled <u>Effectiveness Evaluation of Augmented Reality for Delivering Highly Dexterous Work Instruction</u> (ERADEX) research report from the AREA website. Please also view executive summaries of other AREA resources and enterprise guidance from the AREA <u>website</u>, including <u>3D Mapping Solutions for Enterprise AR</u>, <u>AREA 5G</u>, <u>AR – Research Introduction Summary Report</u>, and <u>AR ROI Best Practice Report And Case Study</u>.

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The Industrial Metaverse and Digital Twinning

10th April 2024



An interview with Mark Sage of the AREA and Dan Isaacs of Digital Twin Consortium.

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