

The background is a dark blue gradient with abstract, glowing circular patterns and lines in shades of purple, blue, and green. These patterns resemble orbits or data paths, creating a futuristic and technological feel.

# Making AR Real

A Maturity Model strategy for maximum  
enterprise ROI

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## A Maturity Model strategy for maximum enterprise ROI

Major enterprises around the world have started down the road of exploring Augmented Reality technology as a way to enhance **the productivity, safety and capabilities** of their **industrial workforce**. According to a [2019 International Data Corporation \(IDC\) report](#), worldwide spending on **augmented reality (AR)** and virtual reality (VR) is forecast to reach \$160 billion in 2023 - with notable investments in training (\$8.5 billion) and industrial maintenance (\$4.3 billion).

\$8.5 billion



Investments in training

\$4.3 billion



Industrial Maintenance

\$160 billion



Spending on AR + VR in 2023



**Marcus Torchia**  
research director, Customer  
Insights & Analysis at IDC.

*“Augmented reality is gaining share in the commercial market due to its ability to **facilitate tasks, provide access to resources, and solve complex problems.** Industries such as **manufacturing, utilities, telecommunications, and logistics** are increasingly adopting AR for performing tasks such as **assembly, maintenance, and repair.**”*

## Challenges

One of the major challenges that all enterprises in all industries are facing as they explore the benefits of AR, however, lies in knowing **how to get the most from it**. As a new technology, which is now only on the brink of broad adoption, there is **little existing guidance** to help an organization successfully **navigate the journey** from initial AR exploration to broad adoption, mastery of the technology and maximum return on investment across the broadest possible set of use cases.

## Realizing AR's Value

That is why we have developed the Augmented Reality Maturity Model, as a way to guide enterprises in **realizing the full benefit of AR**. It builds on [our work last year in the development of the Augmented Reality Management Platform](#) as a new category of enterprise software aimed at tackling the velocity of business, product and technology change, the opportunities and challenges of advances in connectivity, scarcity of resources and talent - as well as the massive complexity of running large, at-scale operations.

# Achieving ROI takes careful planning

There are four distinct stages to the AR Maturity Model: **Exploring, Deploying, Connecting** and **Leading**. An organization will **achieve insight** and **ROI** at each stage of maturity, but will realize the **greatest benefit** at Stage 4 (the Leading stage) when it is truly using **AR as a competitive advantage**.

The model looks not only at the activities undertaken by the enterprise at each stage of AR maturity, but also at the strategies the organization will need to employ, the technology that is most appropriate to achieve its goals – along with the supporting content, budget and IT support it will need.

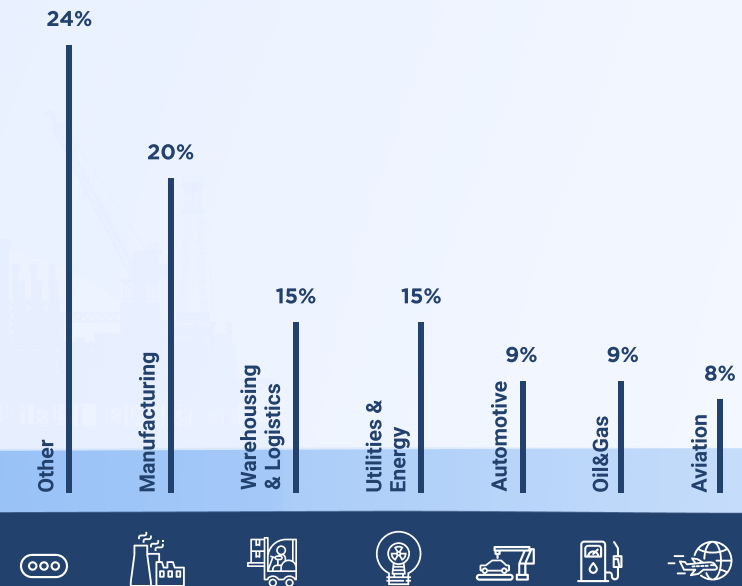
The AR Maturity Model by Atheer: Lite Version™





# AR Maturity is Already Underway

At the 2019 Enterprise Wearable Technology Summit (EWTS), we surveyed a broad swath of enterprise attendees and saw firsthand just where many organizations are in their AR Maturity. Even amongst those attending EWTS, only 18% of respondents say they had already launched AR in their company, while a whopping 42 per cent were exploring AR. It's also interesting to note the industries represented at this event - and the parts of the business that are starting to work on AR.

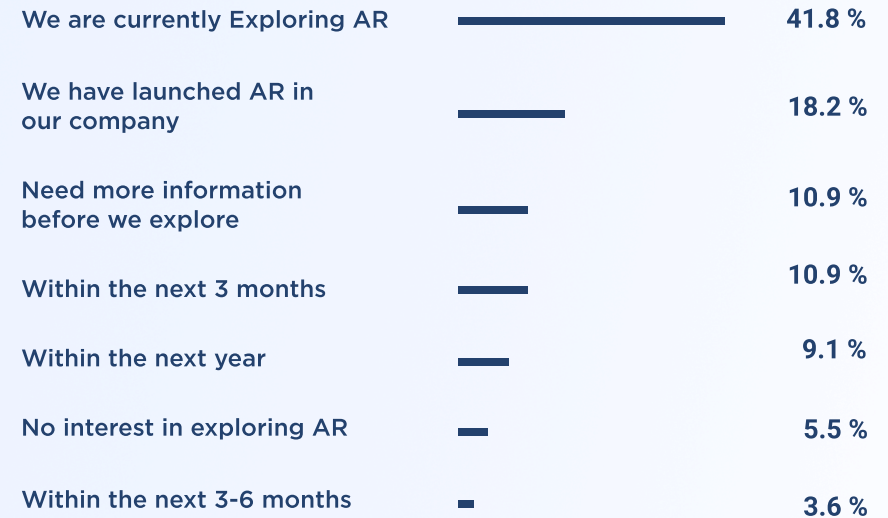


Industries Represented

## What part of the business is starting to work on AR?



## When will the enterprise start exploring AR?



## AR MATURITY STAGE 1

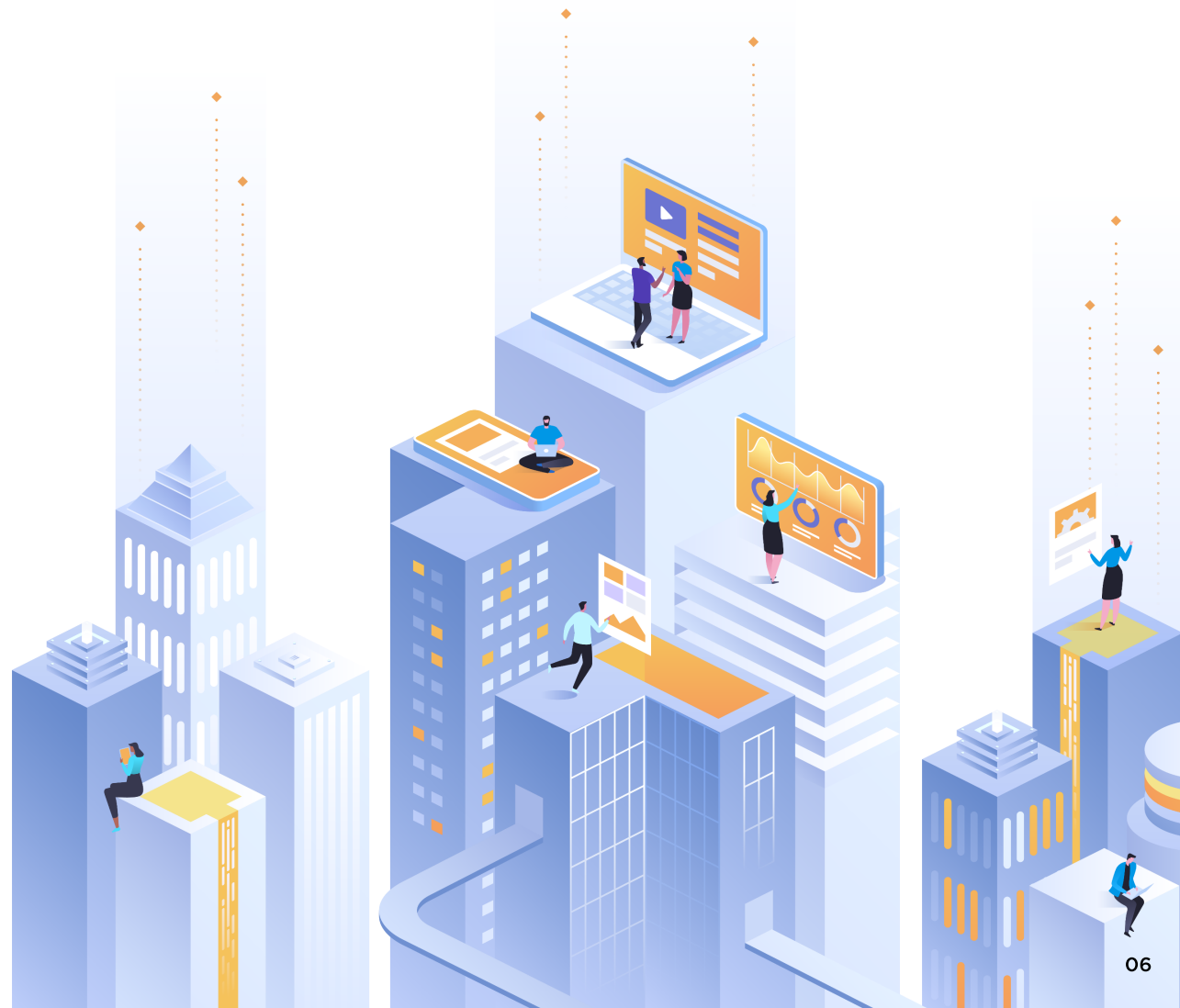
# EXPLORING

















## AR is Being Explored

At the Exploring stage, interest in AR could come from **anywhere in the company** - from field service to training, to maintenance and operations to innovation and research. Organizations in this exploring phase may not know a whole lot about Augmented Reality (AR), Virtual Reality (VR) or eXtended Reality (XR) - or be able to describe the differences between them.

They may simply be aware that wearable and/or mobile technologies could play an important role in better enabling their industrial workforce to be more productive, work more safely and collaborate more effectively. The interest could also come from awareness that a competitor - or respected supplier or partner - is starting to use AR and that it may be time to do the same.

Next, we'll take a detailed look at what happens in the Exploring stage.



ACTIVITIES	STRATEGIES	TECHNOLOGY	CONTENT	BUDGET	IT ROLE
 Learning about AR, VR, and XR	 Exploratory – There is no commitment to AR yet. The organization just wants to understand what it can do	 Hardware driven device strategy – interest in AR may be sparked by desire to explore use of smart glasses or AR applications on mobile devices	 Disconnected content, monolithic manuals, paper-based processes, first generation digital work instructions. No real sense yet of the power of ubiquitous, relevant, contextual content	 Limited or no budget specifically allocated to AR. Often an “innovation” budget is used – or several departments will cobble together a budget that uses a little discretionary budget from each	 Some minimal IT involvement – such as enabling ports, proxy configuration and mobile device management
 Understanding the landscape of AR software and hardware platforms	 Ad Hoc– There is also no larger plan around any AR work at this stage. May consist of one or more AR pilots or trials	 Ad Hoc Smart glass purchases with solutions looking for problems – may be a hunch that a particular piece of hardware could solve a problem	 One-off (and expensive) custom AR content development that scratches the surface of what is possible in AR, but could never scale		
 Gathering ideas from industry examples		 First experience with an AR software Platform			
 Exploring a singular use case or creating inventory of potential use cases		 Existing digital content being evaluated for AR			
 Using AR in a trial environment					
 Understanding the AR value drivers					

## How to get to Stage 2: Deploying

- 1 Download the [Atheer AR Journey Map](#).
- 2 Jointly plan use case implementations and identify sources of budget for AR work with interested departments.
- 3 Establish your budget for exploring the next stage of AR - being aware that you may need to include the cost of additional device hardware (such as smart glasses and expanded wireless network coverage).
- 4 Engage IT to ensure that you have the foundational IT infrastructure to support your AR use cases.
- 5 Prioritize the use cases you have identified.

## AR MATURITY STAGE 2

# Deploying





















## AR is in Production

The Deploying stage is particularly exciting. This is when an organization will start to achieve measurable benefit from Augmented Reality – and have a real focus on using it to meet real world business challenges.

The use of AR at this stage is typically in reaction to a specific business need – and is in support of one or more business use cases within the company. Example business cases may require use of “See What I See” video calling functionality, the development of work instructions and the initial collection and analysis of data about AR use. During this deploying stage, enterprises will also start defining a content strategy for AR that can inform future, broader deployment of richer, more powerful AR. Here’s what happens in the Deploying stage:





ACTIVITIES	STRATEGIES	TECHNOLOGY	CONTENT	BUDGET	IT ROLE
 AR software platform strategy is implemented or in the process of being rolled out	 Reactive - meaning that exploring AR is reaction to a specific internal or external business issue or circumstance	 Use case driven device strategy established, including smart phones, tablets and smart glasses	 Augmented digital task flows	 Discrete budgets for AR software and hardware available in different parts of the organization	 Corporate IT is involved
 One or more use cases being deployed to solve business problems	 Request driven - there is a specific request within the company to explore AR	 Video calling - "See What I See"	 Select enterprise content is integrated within an AR platform	 Security evaluations completed	
 Single or multi-departmental deployments		 Augmented task flows	 Existing 2D and 3D content assets are leveraged and new value created		 Mobile device management strategy defined
 Operating models and governance frameworks are being established		 Content strategy for AR is defined			
 AR value drivers are being refined as a result of real experience		 Collecting and acting on AR analytics			
		 Starting to consider IIoT use cases			

## How to get to Stage 3: Connecting

- Download the [Atheer RFP Template](#) and then use your prioritized use cases to issue a Request for Proposals (RFP) or Request for Information (RFI).
- Download, read and apply the ideas in the [Augmented Reality Management Platform white paper](#).
- Document ROI achieved in initial deployments.
- Apply the change management lessons gained in your AR exploration work.
- Engage the content teams that you know will be needed to work on your top use cases.

## AR MATURITY STAGE 3





















# Connecting

## AR is Connected to the Ecosystem

At the Connecting stage, the value of Augmented Reality to the entire enterprise is now clear. There's support for broad AR deployment across multiple business-validated use cases, the IT department is bought into a well-articulated AR strategy for the company, budgets have been approved for AR hardware and software and it is being rolled out in a proactive manner, with a formal change management process.

Most importantly, work is now underway to make AR a focal point of integration and connection – to enterprise systems (such as PLM, ERP and WMS), learning management systems as well as 3D and AR content development.



ACTIVITIES	STRATEGIES	TECHNOLOGY	CONTENT	BUDGET	IT ROLE
 Executive sponsorship in place.	 Proactive – AR deployments are part of a deliberate, overall company-wide AR strategy	 AR technology stack is industrialized	 Enterprise AR content strategy in place	 AR software and AR hardware is budgeted across the enterprise with input from line of business and IT	 Advanced IT involvement for monitoring and integration support
 AR strategy is now connected to the broader enterprise IT ecosystem	 Formal change management – The enterprise has a process in place to support mandated adoption by its workforce	 AR platform is being integrated with enterprise systems - PLM, ERP, CRM, SCM, LMS, WMS, etc.	 3D and AR content is codified		 Dedicated IT staff allocated to AR initiatives
 AR Steering Committee		 IIoT display of data within AR platform is enabled	 3rd party and OEM experts connected		
 Multiple connected and unconnected use cases deployed in a coordinated manner		 Product data and history flows both ways	 Learning content (LMS, LCMS, LXP, xAPI) is integrated		
 The enterprise-wide operating structure for AR is agreed and communicated across the organization		 End to end process integration			
 AR business value is being systematically measured					

## How to get to Stage 4: Leading

- Establish steering committee and executive sponsorship (top down initiatives).
- Deploy mobile device management.
- Allocate budgets from multiple departments for AR projects.
- Integrate with key enterprise systems - such as PLM, ERP, CRM, SCM, LMS and WMS.
- Move industrial IoT into production and integrate it into the ARMP.
- Publicize success story for industry recognition and encouragement of broad adoption.

## AR MATURITY STAGE 4

# Leading

## AR is Competitive Advantage

This is the point at which all people and processes in the organization are augmented, or well on their way to being so.

The value of the work undertaken in the previous stage to connect and integrate enterprise platforms, data and connectivity starts to be realized and fully appreciated when AR is used as a competitive advantage. During this stage, the capabilities of the AR platform are made available throughout the extended enterprise of suppliers and customers – and data from industrial IoT devices is leveraged within AR environments.

The role of AR in the organization is so fundamental by this point that a role like Chief AR Officer (or AR responsibility within the C Suite) is now either in place – or being considered – by many enterprises.



## ACTIVITIES



All people and processes are on their way to being augmented



Business processes are being re-invented



AR software platform is available to the extended enterprise (including extended supply chain and customers)



AR ROI is being maximized



Chief AR Officer in place or being considered



The enterprise is widely considered an Augmented Enterprise

## STRATEGIES



Predictive – Data from a well-integrated AR Implementation is used to predict everything from needed support content to maintenance scheduling



Continuous Improvement – Data from the AR implementation is used to drive continuous improvements in processes, the flow of work and how teams collaborate

## TECHNOLOGY



Interconnected glasses, devices, machines, sensors



AR is moving to the edge as 5G is leveraged



Predictive AR experiences



Intelligent and self adjusting task flows

## CONTENT



Personalized and adaptive



Enterprise AR standards emerge and allow for systematic re-use of content

## BUDGET



AR software and AR hardware investments are part of core operating infrastructure budget

## IT ROLE



AR is fully integrated into the enterprise IT strategy







# AR will Grow

With new hardware, 5G and Edge Computing - and you are ready for it!

Once your organization has arrived at a point where it is **using Augmented Reality as a competitive advantage**, it has hopped aboard a fast-moving train of associated technologies. According to Randall L. Stephenson, chairman and CEO of telecom giant AT&T, the arrival of 5G technology, for example, is coming fast. It could be a great enabler of AR adoption.



*In a May 2019 interview, he explained why it will make such a difference. "Within 5 years, 5G will change our world and society in ways we can't imagine now. 5G isn't just 'the next G,' it's truly a new generation. 5G will be up to 10 times faster than 4G, operating in near-real time, with a nearly imperceptible lag between action and response," he said, and then gave example of future use cases for 5G - including this description of how it will impact AR.*

*"When the network gives advanced warning that a piece of specialized equipment needs a repair, **augmented reality using low-latency 5G-enabled headsets** will make technicians more efficient," he explained. "Technicians can travel to a site and work with partner engineers at headquarters, who will **remotely guide them through the repair process**, using context-sensitive 3D animations to walk them through the necessary steps."*

Of course, this is by no means the only way in which new technologies will continue to enhance the ways in which AR can enhance the operations of an enterprise, its workforce and supply chain. Advances in Edge Computing, industrial IoT, mobile AR for smartphones and smart glasses - with support for gesture, voice and touch control - will also play a key role in the further evolution of AR.