

# Augmented Reality Platforms

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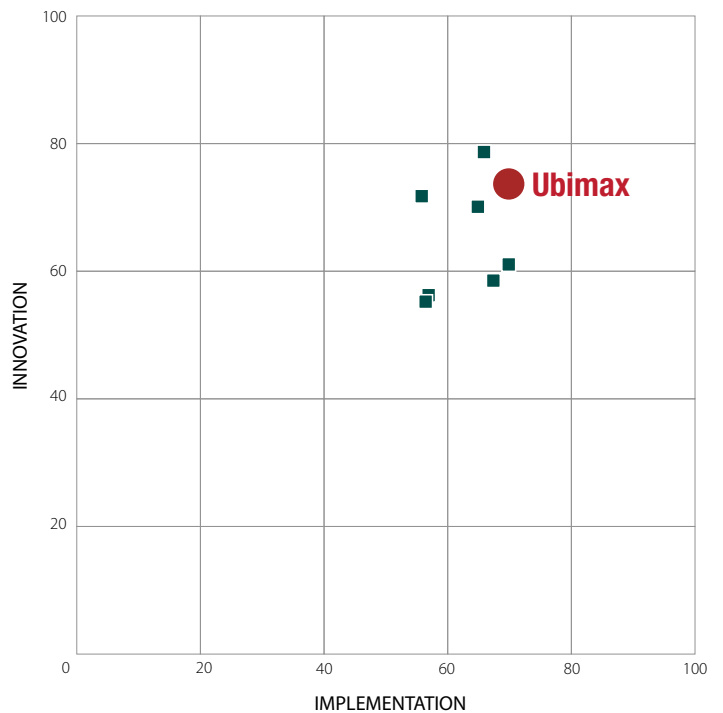


*“AFTER A SLOW BEGINNING, AUGMENTED REALITY (AR) PLATFORMS IN THE ENTERPRISE ARE BEGINNING TO TAKE HOLD AS COMPANIES REALIZE THE VALUE OF DEDICATED SOFTWARE AND PROFESSIONAL SERVICES FOR AR IMPLEMENTATIONS. WITHIN THIS MARKET, UBIMAX IS THE GLOBAL MARKET LEADER FOR ENTERPRISE WEARABLES AND AR SOLUTIONS, WITH A ROBUST PARTNER BASE AND SUITE OF OFFERINGS SPANNING END-TO-END. ”*

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Ubimax is a company operating globally, with headquarters in Germany and operational offices in the U.S. and Mexico. The company is focused on hands-free enterprise wearables and augmented reality (AR) solutions for the frontline worker, primarily in industrial verticals: manufacturing, logistics, etc. Smart glasses are the focus of the platform, but other wearables are also supported. Four primary solutions are offered: xPick (logistics), xMake (assembly, quality assurance, training), xInspect (inspection, maintenance, remote assistance), and xAssist (remote support, document sharing). Ubimax has more than 150 clients globally, with the company's xPick solution the most widely deployed Vision Picking solution worldwide. xCare, for healthcare usage, and xBuild, for construction, are also available. These are very similar to Atheer's four main offerings, which is sensible considering these products cover most use cases currently with ROI potential and modest entry barriers. The company is seeing a shift out of pilot phases and into larger-scale implementations, in line with the pace of the rest of the enterprise AR market.

Ubimax has an extensive list of partnerships and supported devices; Vuzix, Glass, Recon, RealWear, Westunitis, Microsoft, DAQRI, ODG, Meta, and others are supported. There is little missing in the way of smart glasses supported, both in number of devices as well as component and feature variety among those devices. VR HMDs, smart glasses, and other wearables are also supported. In addition, Ubimax is also offering its own proprietary RFID Band “xBand”, which helps to improve



speed and quality of many AR use cases. The score for component support is high as well because of this. Machine vision capabilities are strong, with support for 2D and 3D gesture control, 3D content manipulation, character recognition, marker and edge detection, and image recognition. Monocular and binocular smart glasses are supported. Ubimax offers professional services, alongside hardware and software implementation as well.

Ubimax's offerings are strong, but its operating footprint is somewhat limited in comparison to others in this assessment like Re'Flekt and Vuforia, which have a different solution set and scope than Ubimax. More direct competitors, such as Upskill and Atheer, are ranked lower. DHL is perhaps the best-known AR implementation for the company, using its xPick service globally. Some large automotive players like Volkswagen and BMW have also joined, as have some technology incumbents including Samsung and Intel. Although still growing, Ubimax has a very complete offering, ranking second within the usage-based group and third overall in the assessment.

## METHODOLOGY

Ranking criteria is broken down into two categories, innovation and implementation. Innovation is future-focused, examining forward-looking aspects of the companies, while implementation is focused on current market capabilities and relevance. After individual scores are established for innovation and implementation, an overall company score is established using the Root Mean Square (RMS) method:

$$\text{Score} = \sqrt{\frac{\text{innovation}^2 + \text{implementation}^2}{2}}$$

The resulting overall scores are then ranked and used for percentile comparisons.

The RMS method, in comparison with a straight summation or average of individual innovation and implementation values, rewards companies for standout performance.

For example, using this method, a company with an innovation score of 9 and an implementation score of 1 would score considerably higher than a company with a score of 5 in both areas, despite the mean score being the same. ABI Research believes this is appropriate as the goal of these matrices is to highlight those companies that stand out from the others.

Innovation criteria are composed of:

- **Machine Vision Capabilities:** How capable the platform is of utilizing sensors for machine vision. Aspects include depth sensing, face tracking, geo-registration, and simultaneous localization and mapping (SLAM), marker versus markerless tracking, object tracking, *etc.*
- **Data Visualization Capabilities:** How capable the platform is of visually presenting data, regardless of form factor. This includes 2D and 3D content display, application of geo-registration to visuals, data manipulation versus passive data display.
- **Cloud Connectivity:** Connectivity both within the platform itself and without. This includes cloud versus local storage, cloud versus local processing and recognition, cloud sync between devices, status sync, *etc.*
- **Use Case Applicability:** Where and how the platform can be used when considering inherent strengths and weaknesses. This includes use case opportunities in current and future markets, as well as vertical applicability across enterprise and consumer markets.
- **Smart Glasses Features:** Support specifically for the smart glasses form factor, regarding stereoscopy, head tracking, spatial tracking, and input methods (voice, gesture, gaze).
- **IoT Synergy:** Current capability or plans to support IoT integration with the platform, either through direct architecture integration or making data and metrics externally available.

Implementation criteria are composed of:

- **Device Support:** Breadth and depth of support for multiple form factors (monocular smart glasses, binocular smart glasses, mobile, *etc.*) and operating systems (Android, iOS, Windows, *etc.*).

- **Component Support:** Support for chipsets, cameras, sensors, displays, input devices, *etc.*
- **Customers, Partnerships, and Footprint:** Measure of traction through verticals, scale of current distribution, notable partners and customers, and plans for expansion.
- **Platform Breadth:** General scale and capability of offerings; list of features, integration potential into existing rollouts/infrastructure/use cases, *etc.*

- **Pricing:** Overall cost, scaling options, subscription versus non-subscription offerings, option for free trial/free tier.
- **Accessibility:** Ease of use, time to product, pilot phase support, additional platform support, availability of developer tools, strength of partner program (if applicable).

COMPANY	RANKING	OVERALL	IMPLEMENTATION	INNOVATION
RE'FLEKT	1	72.0	65.5	78.0
Ubimax	2	71.3	69.5	73.0
Upskill (APX) Skylight	3	67.0	64.5	71.0
Atheer AiR	4	66.8	73.0	69.5
Scope AR	5	65.2	69.5	60.5
DAQRI AR Platform	6	63.7	55.5	60.0
Pristine	7	56.0	56.5	55.5
Vital Enterprises	8	55.8	56.5	55.0

COMPANIES EVALUATED FOR THIS REPORT			
Atheer AiR	Kudan	Scope AR	
Augment	Marxent Labs	Ubimax	
Blippar	Maxst AR	Upskill Skylight	
Catchroom CraftAR	Pristine	Vital Enterprises	
DAQRI AR Platform	PTC Vuforia	Wikitude	
HP Aurasma	RE'FLEKT	Zappar	

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