

# An immersive Extended Reality (XR) education environment with embedded Artificial Intelligence training support aids.



**OVERVIEW**

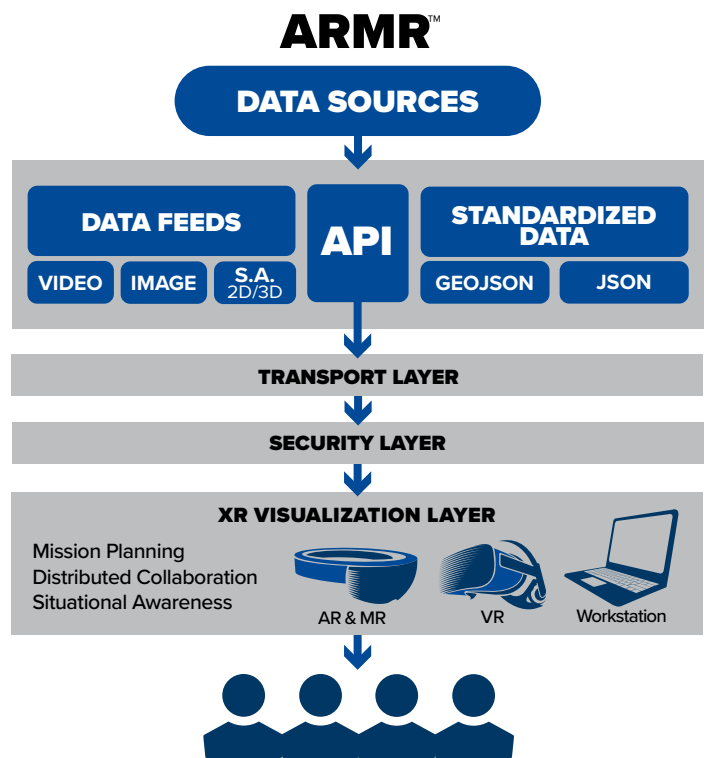
The Armed Forces have a national defense-related mission need in the area of mobilizing an Immersive Artificial Intelligence (AI) Framework allowing Warfighters, experts and trainers to rapidly create immersive content and then systematically and objectively quantify the efficacy of Augmented Reality (AR)-enabled simulations. There is an opportunity to enhance mission training functions by implementing an immersive Extended Reality (XR) education environment with embedded AI training support aids. ARMR is a robust XR training capability with embedded AI that accelerates the creation of adaptable, scalable, intuitive and measurable training solutions for mission command environments.

**TECHNICAL**

ARMR is based on a Service Oriented Architecture (SOA) that delivers standardized training data to a heterogeneous environment of emerging display platforms. ARMR provides real-time, tactical and non-tactical training data to a dynamic set of immersive display technologies through platform and device agnostic interfaces. It is built on top of industry best practices in information assurance (IA) to mitigate costly data spillage.

ARMR integrates an AI-based framework built around a deep Convolutional Neural Network (CNN) architecture that provides the ability to automatically detect and identify targets of interest.

ARMR leverages the power of the deep CNN classification and identification algorithm to initially determine if there is a target of interest via the immersive display. Embedding the AI platform with ARMR provides the trainee additional training aides to enhance the training experience.



**ARMR is a robust XR training capability with embedded AI to accelerate the creation of immersive mission training solutions.**

- Application instantiations operate in standalone or unified configurations across separated locations
- Platform independence supports current and next generation immersive display platforms.
- Streamlines data by leveraging industry vetted data interchange formats to provide training data, full motion video, and static imagery.
- State-of-the-art security protects data from both inadvertent and malicious intrusions, minimizing security incidents.

**SECURITY / OPERATION**

ARMR security features include role-based login, application authentication and message encryption. Further, the ARMR Application Programmer's Interface (API) operates inside a container isolating the API from the rest of the system as an extra layer of security, while ensuring the software does not conflict with other required system dependencies.

Arcarithm provides required training on how to operate ARMR, and how to understand the output, with onsite training available. A training manual is provided with each ARMR license, and Arcarithm provides call center support as well.

**LOGISTICS & LICENSING**

ARMR can be activated on up to four different computers assigned to a single named user per license. A named user may not use a program on more than two computers simultaneously.

Licensing is available with two options – Perpetual and Annual. The license is restricted to a single country of operation. Global individual licenses are available to serve users around the world. Software Maintenance Service is included with terms based on the type of license (Perpetual or Annual), includes the latest updates with twice-yearly updates, and worldwide technical support from specialized engineers. For more details and pricing contact us at 866-533-1999 or [info@arcarithm.com](mailto:info@arcarithm.com).

**SYSTEM REQUIREMENTS**

CPU	Intel Core i3 or AMD Athlon 6 (or better)
Memory (RAM)	64-bit System: 16 GB minimum 32-bit System: 8GB minimum
Operating Systems	Ubuntu 16.04 or higher Red Hat 7
Graphics Card	Standard
Minimum Screen Resolution	1280 x 720 pixels
Storage	256GB

**PRODUCT DETAILS**

Manufacturer	Arcarithm
Product Name	ARMR™
Version	2020
Manufacturer Part Number	A2020E
Product Type	Single License
Platform	Linux
Shipping Method	Digital delivery (or DVDs)

**ABOUT ARCARITHM**

Deep Learning and Artificial Intelligence (AI) are buzz words commonly used throughout defense and commercial markets, often without true understanding of those terms. At Arcarithm, we are defining those terms and more, with proven solutions on par with multinational tech leaders. From the big picture distinction between strong and weak (or narrow) AI, to the fine-grained focus of deep versus shallow neural networks, Arcarithm delivers a depth of understanding and operational maturity beyond the capability of most companies. Our experience with every aspect of algorithm design, training, deployment and evaluation allows Arcarithm to produce quality products quickly and effectively, with the highest levels of reliability and accessibility.



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