

An “augmented” training experience at AFI KLM E&M

Training in aircraft maintenance has just entered a new era, thanks to augmented reality.

Paris, Amstelveen, Dubai, 21 November 2019 – During the Dubai Airshow, AFI KLM E&M, the Gulf Aviation Academy (GAA) and Gulf Air tore up the rulebook for training in aircraft maintenance. They introduced a cutting-edge innovation using mixed-reality technologies developed by Nuveon, a joint venture founded between AFI KLM E&M and NLR, the Royal Netherlands Aerospace Centre. The start-up has perfected, and validated with an initial client (Gulf Air, with the assistance of GAA), the world’s first supplementary training module for MRO training dedicated to the Rolls Royce Trent 1000, using the HoloLens system. Modules for other engines, systems and aircraft types are available.

Innovation that surpasses reality

The HoloLens is a pair of mixed-reality smart glasses developed by Microsoft and is perfectly adapted to applications in the field of aviation training. In addition to giving the trainees complete freedom of movement, the device enables trainers to superimpose a virtual environment over their real surroundings. Complex mechanical systems and components, such as those in the Trent 1000 engine on the Boeing 787 – are accurately recreated as a hologram, allowing the trainees to collaboratively train as a team and get to know them without physical constraints.

An aircraft that’s always available for training

This is the key aspect of added value in “augmented training”: access to the physical aircraft is limited, and planes cannot always be available at the right time to meet the training needs of airlines and maintenance organisations. With HoloLens, the aircraft is at the trainee engineer’s fingertips for both practical and theoretical sessions.

As **Wanda Manoth-Niemoller**, Commercial Development Manager for Nuveon and Training AFI KLM E&M, explains: *“the students can develop their skills in a dynamic and efficient way with shorter training times. This new training method has taken on a technological but also an ecological dimension, by eliminating the need to transport*

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trainees or components. Moreover, the module validated with our Gulf Air client is Part 147-certified by the EASA and by the Bahrain CAA.”

Capt. Dhaffer Al Abbasi, Chief Executive Officer of Gulf Aviation Academy also added: *“This Technical Partnership with KLM will bring together our regional MROs and Operators, enabling us to provide the very best service and trainings from the MENA region to the Indian Subcontinent and more. It strengthens our company and enhances our leadership in the region by filling the training gap in regard to maintenance training and by different, new and innovative Training methods and approaches. 2019 was a great start to this collaboration as we hosted the first Practical Training using HoloLens Augmented Reality system, a step in enhancing and improving the training process for the Aircraft Maintenance Sector in the upcoming years.”*

A guaranteed “wow” factor

The first courses, delivered at GAA’s facilities, were an opportunity to practically demonstrate the full potential of augmented-reality training. The trainee’s initial hesitations were quickly allayed once they had tried the application, which generated a major “wow” factor.

Mr. Kresimir Kucko, Chief Executive Officer of Gulf Air confirms: *“the participants in the training module were quickly won over by the simplicity and modernity of the solution. We’re delighted to have played a role in this global first, and we’re looking forward to seeing more of these innovations developed in the near future.”*

Indeed, this is only the beginning of such new-generation training: following the 787/RR Trent 1000, Nuveon is preparing to launch similar solutions for the 777/RR Trent 800 and PW4000.

About Nuveon

Nuveon is a joint venture co-founded by AFI KLM E&M and NLR, the Royal Netherlands Aerospace. The structure’s goal is to integrate augmented reality technology throughout the MRO chain, encouraging its use in the everyday maintenance activity and staff training.

www.nuveon.com

About Gulf Aviation Academy (GAA)

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GAA was established in 2009 by Mumtalakat, and is a leading provider of high quality professional aviation training. The Academy serves the training needs of the aviation industry in the Kingdom of Bahrain and the Middle East and North Africa region, via an extensive range of training programmes for all aviation personnel including pilots, cabin crew and ground staff. The training facility operates 24 hours a day, seven days a week with internationally qualified training staff.

Having earned international recognition for its training standards and quality of service, GAA has been designated as an Approved Training Organisation (ATO) by the European Aviation Safety Agency (EASA), among other international agencies.

About Gulf Air

Gulf Air, the national carrier of the Kingdom of Bahrain, commenced operations in 1950, becoming one of the first commercial airlines established in the Middle East. Today, Gulf Air is a major international carrier serving 47 cities in 26 countries.

The airline operates double daily flights or more to 10 regional cities, in addition to select destinations in the Indian Subcontinent and Europe, from its hub at Bahrain International Airport. Gulf Air currently serves all its destinations with a combined fleet of 37 wide- and narrow-body aircraft. The modern fleet will herald a new era for Gulf Air as it continues to enhance its product and service offering. Renowned for its traditional Arabian hospitality, evidenced by the airline's signature family and business friendly products, Gulf Air is committed to being an industry leader and developing products and services that reflect the evolving needs and aspirations of its passengers. Gulf Air connects Bahrain to the world and, as such, is a key national infrastructure asset, serving as a powerful driver for the economy and supporting the Kingdom's on-going economic growth.

Gulf Air has been the Title Sponsor of the FORMULA 1 GULF AIR BAHRAIN GRAND PRIX ever since it made history as the first Formula 1 Grand Prix to be held in the Middle East in 2004. In addition, the airline has been Official Carrier of the Bahrain International Airshow since it was first held in 2010.

www.gulfair.com

About AFI KLM E&M

Air France Industries KLM Engineering & Maintenance is a major multi-product MRO (Maintenance, Repair, Overhaul) provider. With a workforce of over 14,000, AFI KLM E&M offers comprehensive technical support for airlines, ranging from engineering and line maintenance to engine overhaul, aerostructure and fan thrust reverser support, as

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well as the management, repair and supply of aircraft components, structured around a powerful logistics network. AFI KLM E&M supports almost 3,000 aircraft operated by 200 major international and domestic airlines.

www.afiklm.com or mobile.afiklm.com

About Royal NLR

NLR, or the Royal Netherlands Aerospace Centre, has been an ambitious knowledge organization for 100 years now, with the deep-rooted desire to continue to innovate. NLR makes aerospace more sustainable, safer, more efficient and more effective. Its innovative solutions and practical advice strengthen the competitiveness of the business community, while also helping to address social issues. NLR works in an objective manner, for and with the (inter)national business community and government agencies. The challenges we face in aviation will always outweigh our current capabilities, and the only way to ensure rapid innovation is by combining an in-depth understanding of customer needs with cutting-edge expertise and research facilities. NLR is the connecting link between science, industry and government.

www.nlr.org

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