



## Leonardo and Italian Air Force: new Artificial Intelligence applications in the aeronautical sector

*“AIRtificial Intelligence” is a 48-hour technological marathon that has involved startups, developers and researchers, with the contribution of Oracle as a technological partner*

**Florence, 12 December 2019 - Intelligence, automation and interconnection:** these are the keywords of a revolution that through technology aims to improve and create more efficient working processes on a large-scale. Through an innovation process that focuses on **artificial intelligence** (AI) to create a technological ecosystem capable of evolving independently under manned guidance and supervision.

The “*AIRtificial Intelligence*” initiative by **Leonardo** and the **Italian Air Force**, benefits from **Oracle**’s technological partnership, and represents a concrete response to bringing together the “players” in AI – startups, developers, researchers and universities – to the aeronautical sector in an open innovation approach. The primary objective is to experiment and develop the most promising solutions which have emerged from the hackathon to quickly put advanced tools and technologies at the disposal of aeronautical maintenance technicians. An event has been developed using an innovative formula: a **48-hour marathon** with **nine competing teams**. The teams challenged each other in the implementation of **virtual assistance solutions** to optimise **maintenance and training interventions** applicable to **aeronautical systems**. These technologies also have a significant impact on **ecological sustainability**, so much so that they are defined as ‘**green solutions**’ for the results they produce in terms of **cutting costs** and **lowering the impact on the environment**.

The **hackathon**, the second organised by the Air Force Logistics Command in collaboration with Leonardo, took place at the **Institute of Military Aeronautical Sciences of Florence**, a centre of excellence for the formation of the leadership of the Armed Forces. The jury comprised of the Logistic Commander AM, **Giovanni Fantuzzi**, the Commander of the AM Schools, **Aurelio Colagrande**, the CTIO of Leonardo, **Roberto Cingolani**, the Director Scientific of the Italian Institute of Technology, **Giorgio Metta**, **Daniele Nardi** of the Department of Computer, Automation and Management Engineering of the “Sapienza” University of Rome and the Director of the Digital 360 Group, **Mauro Bellini**, and together they evaluated the work of the nine teams. The presentation of the various projects took place in the presence of the Undersecretary of Defense, Hon. **Angelo Tofalo**, the President of the Defence Committee of the Chamber of Deputies, the Hon. **Gianluca Rizzo**, and the Chief of Staff of the Italian Air Force, **Alberto Rosso**. The Senior Vice President Customer Support, Services and Training of Leonardo, **Umberto Panetta**, and the Technology Country Leader of Oracle Italy, **Alessandro Ippolito**, were also present.

“Initiatives like those of today – underlined the **Chief of Staff AM, Alberto Rosso** – represent a valuable opportunity to know, evaluate, appreciate and share ideas and solutions proposed by talented young people who come from startups, research centres and Italian universities, worlds with which the armed forces and industry must know how to speak to in order to share information to develop and increase knowledge, to innovate and to face a future where technology and digitalisation continue to evolve in a unicum towards imponderable realities”.

“Artificial Intelligence is a sector with enormous potential that increasingly pervades our lives”, these are the words of **Roberto Cingolani, Leonardo’s Chief Technology and Innovation Officer**. “AI applications are a great man’s ally and will outline the future of our planet, also in a sustainable way, provided that AI will be defined in an ethical-legal framework that allows people to remain integral, in a perspective in which ethics infiltrates the digital world and not the opposite”.

**AI**Rtificial Intelligence is just one of the initiatives carried out by the **Italian Air Force** within a broader process of innovation in various organisational and functional fields, particularly in the “**Logistics 4.0**”. Two main areas of application identified for this project are **maintenance training**, that thanks to the use of virtual platforms can be optimised and speeded up, as well as **remote maintenance activities**, which through the support of a **virtual assistant** will be able to find application in particular conditions, such as operations outside national borders where highly specialised technicians may not always be present. These are areas in which the use of artificial intelligence systems applied to **predictive maintenance** will bring great benefits in the field of flight safety, particularly with the prevention and detection of failures and inefficiencies.

The partnership between Leonardo and the Italian Air Force aims to take on new challenges and to develop – through the use of enabling technologies such as AI, **augmented reality** and **mixed reality**, certified **blockchain** and **Big data** analysis – solutions that are cutting edge in the sector of **Customer Support, Services and Training**. Leonardo’s goal is to expand the portfolio of advanced services and develop solutions adapted to each customer’s operational need based on an increasing focus **customer needs**.

A decisive contribution came from **Oracle**, the **technological partner of AIRtificial Intelligence**. Oracle has long engaged in the study and application of **AI** and **Machine Learning technologies** through a collaborative approach with which the most modern **Cloud solutions** are made available – from infrastructures to platforms up to application software – with all the technical and consulting support necessary to reduce human error and improve decision-making and business strategies and processes in the light of vast amount of available data, thanks also to the **Internet of Things** and soon to **5G**.

**Hackathon numbers:**

- **40** from **startups, developers** and **researchers**
- **70** participants from **mentors**, tutors and **support staff** have collaborated to the initiative
- **9 Prototype Proposals** were presented
- **3 use cases** in the challenge

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