

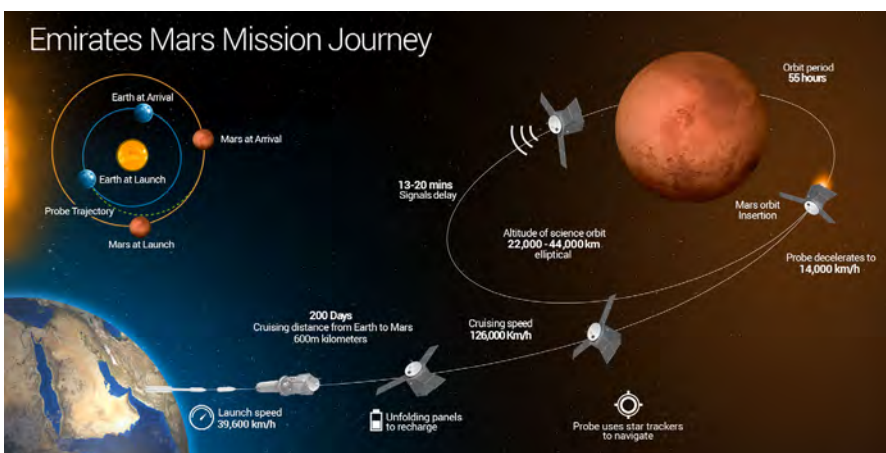
Abu Dhabi's Next Generation of Aerospace Engineers

An unmanned mission to Mars by 2021, massive airport expansions in Abu Dhabi and Dubai, and a thriving aero-structures manufacturing hub in Al Ain have created a strong demand for Emirati aerospace professionals in the UAE. The question now is – when will the national workforce be ready to take over?



In every industry and sector, the UAE aspires to employ its citizens in a meaningful way, and considerable investments have been made in research grants, partnerships with international institutions, and world-class training programmes that contribute to achieving this target. Today, the UAE's investments in the space sector have exceeded AED 20 billion.

Despite that, expatriates make up the majority of the workforce in the local aviation and aerospace industries, which have been growing at a rate significantly higher than the global average. "As the UAE continues to increase its focus on its aerospace, defense and satellite industries, the requirement for local expertise, especially highly-trained UAE nationals, will also increase," Dr. Ahmad Belhouli, Chief Executive Officer of Masdar, said. His statement was made during the signing of a Memorandum of Understanding (MoU) with Yahsat – a wholly owned subsidiary by Mubadala – and American aerospace manufacturer Orbital ATK, for the joint development of the region's first Master's level space programme.





Midfield Terminal Complex, Abu Dhabi Airport Expansion



Midfield Terminal Complex, Abu Dhabi Airport Expansion



Training UAE Nations at the Gulf Centre for Aviation Studies



Emiratization Training at Global Aerospace Logistics



Airbus Group Little Engineer workshop at UAE Space Strategy Launch Event

An exciting part of this degree is the student-led design, construction, and operation of a mini-satellite known in the industry as a CubeSat, set to be launched into space and monitored from the ground station. Indeed, this will be an exceptional opportunity for UAE graduate students to contribute to high-tech research into space technology, and have the chance to work alongside key Abu Dhabi stakeholders in developing CubeSats.

The academic programme aims to welcome its first group of graduate students at Masdar Institute in January 2016, who would receive a Master's degree in Engineering with a concentration in Space Systems and Technology.

'The launch of the Gulf's first Master's programme concentration in space systems and technology at Masdar Institute, in collaboration with Yahsat and Orbital ATK, will help

create the necessary environment to develop this talent base," Belhouli affirmed. Orbital ATK's President and CEO David Thompson added that their subject-matter experts will help in refining and structuring the curriculum, and provide for the use of their testing facility to assist students in verifying the design of their CubeSat before launch.

The three-way agreement was sealed one year after the establishment of the UAE Space Agency, which is now responsible for the development of the country's space industry, and for whom Emiratization is a top priority. According to the government entity, "space projects carried out by the UAE Space Agency will be led by nationals". These projects are expected to boost the nation's human capital through knowledge transfer from international partners, as well as increase knowledge about space exploration.

"The UAE Space Agency's focus on human development would be a true pillar of future progress," Director General, Dr. Mohammed Al Ahababi, stated. "Over the course of 2015, the UAE Space Agency will select 15 gifted students as an academic delegation traveling overseas and within the UAE. This educational mission will be carried out in partnership with the Ministry of Presidential Affairs and the Information and Communication

Technology Fund."

Aerospace services provider Global Aerospace Logistics (GAL) is playing a key role in this knowledge transfer. With a clear Emiratization strategy in place, the Abu Dhabi based firm has been utilizing expatriate experts to train and recruit UAE nationals to become aviation professionals, and eventually fill various positions in their company. To achieve that, GAL has been sponsoring high-potential UAE nationals through internships, and has partnered with Al Ain International Aviation Academy to offer UAE nationals scholarships in Aviation Maintenance.

Accredited by the Ministry of Higher Education and Scientific Research, the two-year scholarship course accepts UAE nationals with a GPA average of at least 70% for science and technical qualifications, and 80% for art stream. As an incentive, the scholarship provides accommodation for students residing outside Al Ain, as well as monthly monetary rewards.

Amongst all investments made in aerospace training in recent years, one of the largest came from Mubadala Aerospace, when it signed an AED 4.9 billion agreement with the UAE University in 2013. The goal was to prepare the next generation of Emirati technicians to work at Strata's aircraft composite production facility. With key

modules arranged to be delivered by Lockheed Martin, the initiative built on the success of previous programmes, which led to the employment of 95 Emirati staff at Strata between 2011 and 2012.

"The UAE's focus on space is no mere impulse or whim. The country's path to space dates back to 1976, when the late Sheikh Zayed bin Sultan Al Nahyan met the NASA team responsible for the Apollo Moon programme," Chairman of the UAE Space Agency Dr. Khalifa Mohammed Al Rumaithi said in a statement. That meeting, he added, "inspired nearly three decades of efforts guiding the UAE towards space and will be realised with the arrival the Hope Probe at the red planet in the coming years."

According to Badr Al Olama, Chief Executive Officer of Strata Manufacturing, Abu Dhabi's aerospace industry has room for nearly 10,000 new jobs in the years ahead. Speaking at the 2014 edition of the Global Financial Market Forum, the CEO said that his vision was to have every aircraft in the world manufactured with parts made in Abu Dhabi.

The Emirate's accelerated drive towards developing its aerospace capabilities perfectly conforms with the Abu Dhabi 2030 Vision. Of the nine different pillars identified by the government, six are met by the aerospace industry, which is very much knowledge based. The movement is also integral to the UAE's efforts to encourage innovation across the nation, following the pronouncement of 2015 as being the 'Year of Innovation', a declaration made last year by President His Highness Sheikh Khalifa Bin Zayed Al Nahyan.

- Heba Hashem



H.H. Dr. Eng. Mohammad Al Ahababi, the Director General of UAE Space Agency



Former NASA astronaut, Dr Donald Thomas visits the UAE Space Agency