

dans TO INVEST AED 9 MILLION TO UPGRADE WORLD'S LARGEST TOWER SIMULATOR

Dubai, 22 September 2014. Dubai Air Navigation Services (dans), as part of its strategy to remain at the cutting-edge of an increasingly technology-driven Air Traffic Management (ATM) industry, is planning to invest AED9 million to upgrade the world's largest 360-degree tower simulator it has developed over the years at a cost of AED20 million.

The independently-managed Air Navigation Service Provider (ANSP) is tasked with Air Traffic Control (ATC), and Air Traffic engineering services at both Dubai International, currently the world's second busiest airport for international passengers, and Al Maktoum International Airport in Dubai World Central (DWC), being developed in phases to be the world's biggest airport with 200 million passenger capacity in the future.

The tower simulator is owned, operated and utilized by dans which provides the highest-class learning and training facilities to its employees while working towards achieving the goal of producing highly-skilled caliber of Air Traffic Controllers and Air Traffic Engineers.

Nils Olof Svan, Vice President for Strategy at dans, said: "We have a big use of this 3D full-scale simulator. We are at times running it in two shifts, totaling 18 hours a day. Return on investment (ROI) is high. The advanced facility is in a league of its own in terms of replicating the reality as close as possible which in turn helps in producing highly-skilled controllers, as well as facilitates safety evaluation of procedures and systems. Safety remains our top priority."

Located in Dubai World Central, the TOSIM tower simulator is capable of mimicking almost any airport in the world, which enables best practice used in other regions, to be trialed and, where required, enhanced in the simulator before deployment into the Dubai airspace. This capability also ensures the highest safety standards are

adhered to without the chance of disruptions to live operations. The simulator has the world's largest 360 cylindrical HD projection system.

The facility also enables prototyping and development of concepts enabling reductions in deployment time helping Dubai to keep pace with the continual traffic growth. In addition, this simulator provides a highly-accurate and close to reality training environment for controllers, resulting in reduced training times and saving money for the stakeholders.

Dubai's two airports are on a curve of exponential growth that will see a massive surge in aircraft movement in the coming years. Dubai Civil Aviation Authority (DCAA) forecasted aircraft movements for both airports rising to 665,000 in 2020, up from 307,283 in 2010. Between 1960 when the Dubai International opened and 2010, Dubai air traffic controllers handled 3.87 million aircraft movements.

According to the General Civil Aviation Authority (GCAA) projections, the UAE Flight Information Region (FIR) would have 1.13 million flight movements by 2020 and 1.62 million aircraft movements by 2030 – Dubai accounts for almost 80 per cent of the UAE's air traffic.

This emerging scenario calls for an efficient ATM system and the need for air traffic controllers to be compatible with the future requirements. The number of aircraft movements is expected to rise to 3000 a day over the next decade from the present 1327 a day.

The tower simulator has provided dans with the ability to support the Dubai airports for all tower-related training and research and development programmes. The simulator has been recognised by the industry for its distinction. In 2013, the organisation received the "Technology Implementation of the Year" award at the Aviation Business Awards (ABA).

Greg Pile, Head of Operational Technology at dans, said the simulator configuration and system specification ensures that the air traffic controllers are more prepared and better trained than ever before.

He added: "The system has been enhanced beyond any rival systems in the world by integrating all the controller tools from the live operation. These include communications, ground movement radar display, approach radar, airfield lighting, control and monitoring and electronic flight progress strips (EFPS)."

The real-time simulator is equipped with seven controller working positions and up to thirteen pseudo pilot positions which enables dans to be fully equipped against

tower expansion and increased airport and airspace complexities. High-resolution 3D databases, which are almost as fast as the resolution of the human eye, make the TOSIM simulation incredibly realistic. All important working positions and functions can be simulated by the replication and integration of various operational system components in the tower cab of the simulator.

Tower controllers are responsible for issuing information and instructions to aircraft under their control to achieve a safe, orderly and expeditious flow of air traffic and to assist pilots in preventing collisions between aircrafts flying in, and in the vicinity of the aerodrome traffic zone and aircraft taking off and landing.

Over the next two years, dans intends to invest up to AED9 million in upgrading the simulator to remain in the lead and a pioneer ahead of the competition in terms of technology.

The AED143 million, 91-metre control tower where the simulator-trained controllers ultimately take up positions is one of the tallest free-standing ATCT in the Middle East. This allows tower controllers the ability to see up to five miles in any aspect.

Phil Marques, (Head of Air Traffic Control, Dubai Airport), said the simulator has been enabling dans reach its goal of being the world's safest ANSP by producing highly-skilled professionals through the world's most-advanced tower simulator.

The facility currently operates 2000 hours of training a year or 300 training days annually, producing up to 40 controllers to take up positions in the control tower in a phased manner. A licensed controller requires a minimum of 160 training hours at the simulator to go the control tower, while a fresher is required a minimum of 400 hours training to hold position in the real world.

Currently, Dubai International and Al Maktoum International have 65 and 20 tower controllers. Taking into account the massive growth of both airports until 2050, more than 100 more tower controllers would be required.

dans is also involved with an Abinitio Tower Control Training Programme in collaboration with industry stakeholders from Sharjah to as far as Birmingham.

“The technology that drives this simulator and the training tomorrow's tower controllers receive, greatly contributes towards building confidence in them about taking up real life positions when away from the make-believe airport environment,” he remarked.

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“Over the years, dans has spared no efforts to be the best in every domain it operates in and that scenario will continue in the future as well given the huge growth opportunities that Dubai aviation industry expansion is generating for the industry stakeholders,” he added.

Notes to editors:

- AED20 million facility running to full capacity
- 3D tower simulator capable of mimicking any airport
- Dubai’s aircraft movements to reach 665,000 in 2020
- 12.4 per cent average annual growth in aircraft movements
- Increased airport and airspace complexities making controllers’ job increasingly challenging
- ATM is the single biggest challenge facing aviation industry