



Overview

Project Title:

New radar consoles for Ops Room

Client:

Malta Air Traffic Services Ltd

Sector:

ATC

Completion:

May 2017

Project Overview:

Due to a requirement for a new ATM system to be installed, radar consoles for nine operator positions within the OPS Room were required. The project involved some extensive planning due to the need for a “shadowing phase”, where old and new ATM systems would be deployed at the same time until the new ATM system was fully commissioned and staff trained in its use. The resulting furniture design was a series of consoles set in a hexagonal layout.

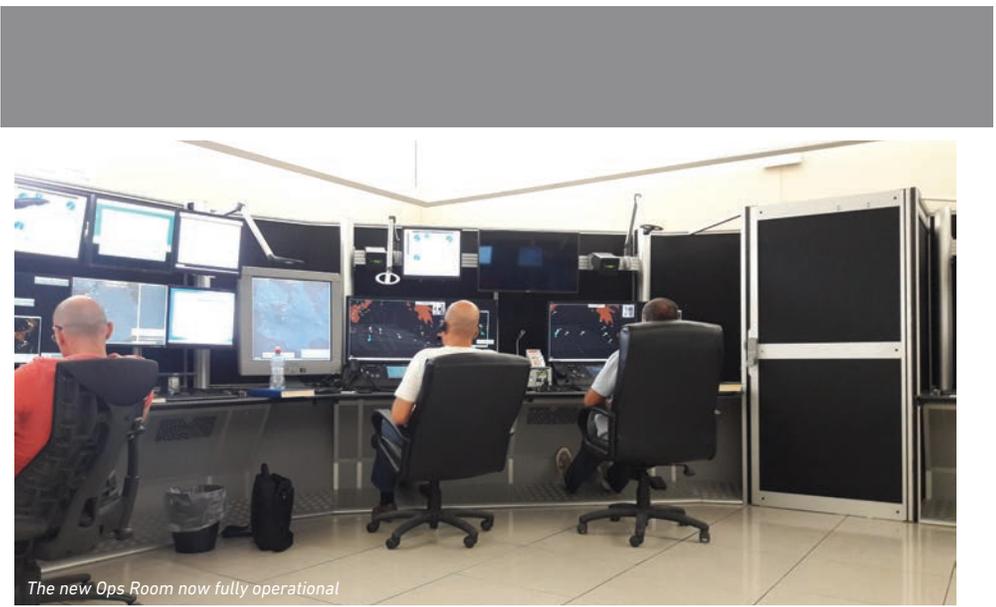
Client testimonial:

“...a team from MATS continuously supported Thinking Space personnel during the installation process. The transition process was fully coordinated with TS personnel and this facilitated simultaneous installation processes thereby reducing significantly the installation and testing execution times. The process turned out to be a success story thanks to the effort from all parties and the excellent teamwork. This was something that was noticed and appreciated by the MATS operational section who enjoyed their new environment”

**Frankie Dimech, Senior Head Technical Services
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The new Ops Room now fully operational

Case Study



Malta International Airport

Overview of client

The Malta Air Traffic Services (MATS) team are the Air Navigation Service Provider for Malta. They co-ordinate the movement of all aircraft, both commercial and private, within the main control tower and OPS Room, employing 135 staff in total*.

Malta International Airport (MIA) is the only airport in Malta, and serves the whole of the Maltese Islands. It has two runways and 28 aircraft parking stands with over 30 partner airlines operating there. A record number of 675,111 passengers were welcomed in July 2017, which exceeded the record held in August 2016 by 12%. An increase in traffic movements has also been recorded, where there is a growth of 13.6% of take-offs and landings from the previous year.

Scope of the project/Thinking Space's role

After meeting at ATC Global in 2012, Thinking Space were awarded the contract to design, manufacture and install new radar consoles for the OPS Room at Malta International Airport. MATS were to upgrade their ATC operations

room which involved the updating of their ATM system. This in turn required a great deal of planning so that operations remained active with no loss of service. So a “shadow mode” was planned, in phases, where both ATM systems would run at the same time.

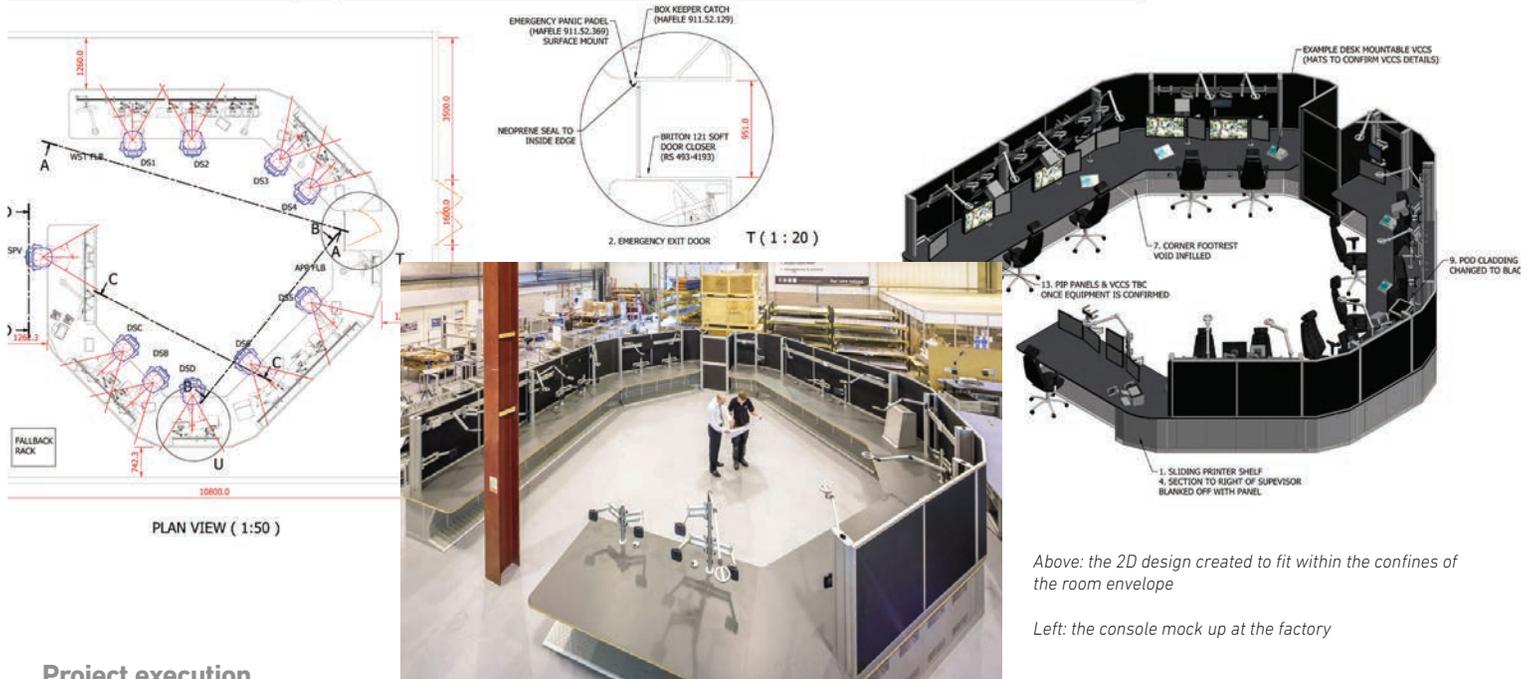
Initially, the requirement was to accommodate OPS teams for East, West, Approach and Supervisors. Therefore 1 two position console, 2 three position consoles and 1 five position console were specified. However, after some initial designs and consultations between both parties, it was realised that rather than having a number of workstations dotted around the OPS Room, a single hexagonal console design wrapping around the room was a better solution. This would improve co-ordination between the teams of operators and were positioned so that those teams who needed to communicate with each other had the ability to do so. Its design within the room limited distractions by other teams and sound-absorbing privacy screens were added to the rear of the consoles to limit noise and distractions from staff passing around the room.

Some of the features of the console included footrests, PIP panels, VCCS mounts, sliding printer shelves and an array of Novus monitor mounts and LED task lights.



Above: the 3D design proposal allows clients to appreciate their new environment

*correct as of July 2017 <https://www.canso.org/malta-air-traffic-services-mats>



Above: the 2D design created to fit within the confines of the room envelope

Left: the console mock up at the factory

Project execution

The original OPS Room transition plan consisted of various phases and it was intended to maintain the provision of operations from the OPS Room throughout the whole process. This plan was discussed with Thinking Space during the FAT process in 2013. However, due to the inevitable disruption to operations during the works, MATS reconsidered the original plan and developed another plan which made use of a temporary OPS Room. This was communicated to Thinking Space and it was agreed that the transition would be performed at a later stage.

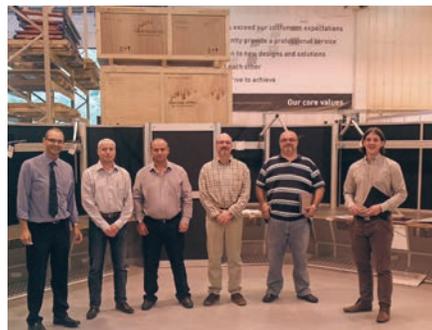
This caused some delay to the project but in the end the change of plan turned out to be the appropriate solution. The new plan consisted of the following phases:

- Phase 1 involved the installation of the new ATM system hardware within the new equipment room, together with new displays which were hosted on temporary furniture inside a segregated temporary area adjacent to the equipment room. A shadow team of controllers were to be stationed inside the temporary OPS Room, who would copy the actions of the operations controllers within the OPS Room during a set trial period.
- Phase 2 involved the active shadow operations during which the team of controllers in the temporary OPS Room were providing operations using the new ATM system while the ATCO team in the OPS Room were shadowing all actions on the old system. During Phase 2 therefore, the new ATM system was declared operational. The duration of this phase was 8 weeks to ensure that the new system was sufficiently reliable and resilient.
- Phase 3 involved the relocation of the old ATM displays inside the temporary OPS Room such that controllers would have the availability of all the ATM systems during the OPS Room refurbishment process. During this phase, operations were being provided solely from the temporary OPS Room while the old ATM system was being kept continuously updated to enable quick transfer of operations in case a severe problem on the new system developed.

This process enabled the execution of the last phase which consisted of removing the old consoles from the OPS Room, the removal of previous cable installations,



Above and below: FAT Inspection team 2013



Below: Installation of radar consoles nearing completion



upgrading of the electrical / cabling systems and the installation of the new Thinking Space consoles. All this work was completely transparent to operations.

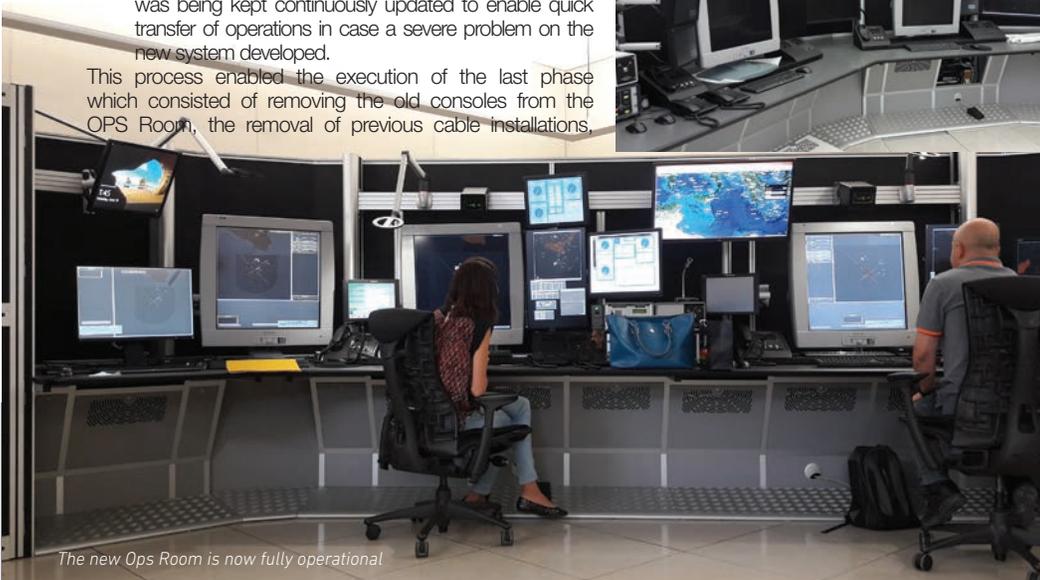
A team from MATS visited the Thinking Space factory in the UK in September 2013, for a detailed Factory Acceptance Test. The radar consoles were fully assembled along with Novus accessories and mounting solutions added. In fact, the console took up a large portion of the factory floor, but its' assembly and review was important to both Thinking Space and to the client, and is offered as a standard service for all clients. The consultation ensured that the console fully met MATS requirements and that all equipment would be accommodated satisfactorily. This would eliminate the risk of problems occurring during installation, which could hinder the project programme, and ultimately disrupt air traffic services.

The consoles were then broken down into partial elements and in early 2014, exported to Malta in eight crates, to be put into storage, awaiting their installation following phase 3 of the overall ATM project.

In May 2017, the Thinking Space installation team headed out to Malta to undertake the installation of the new consoles, working 12 hour days to minimise as much as possible the transition period. The beauty of a Thinking Space console is that it is easily reassembled, even after a number of years being in storage, thanks to the aluminium profile system used as the basis of all furniture builds and its easy connector system.

With the new OPS Room now fully commissioned and active, its operators have positive feedback for their new surroundings as their workload increases due to record numbers of visitors experienced this year. Frankie Dimech, Senior Head Technical Services at Malta Air Traffic Services Ltd, explained "The MATS team performed all the necessary preparatory work prior to the arrival of Thinking Space personnel. This included the reinforcement of the false flooring, reorganising of the cable tray system, the upgrade of the electrical supply distribution and the design of the console footprint that permitted the cutting of holes in the false flooring for cable entry. A team from MATS continuously supported Thinking Space personnel during the installation process".

"The transition process was fully coordinated with Thinking Space personnel and this facilitated simultaneous installation processes thereby reducing significantly the installation and testing execution times. The process turned out to be a success story thanks to the effort from all parties and the excellent teamwork. This was something that was noticed and appreciated by the MATS operational section who are now enjoying their new environment".



The new Ops Room is now fully operational