



Overview

Project Title:

New Air Traffic Control Tower Furniture at Dublin Airport, Ireland

Client:

Irish Aviation Authority (IAA)

Sector:

Air Traffic Control

Completion:

July 2019

Project Overview:

To support the redevelopment of Dublin Airport, a brand new visual control tower has been constructed, with a new parallel runway due to come into operation around 2021. The aim of the redevelopment is to help with airspace management and traffic flow as Dublin Airport continues to be one of Europe's fastest growing connectivity hubs.

As part of the redevelopment project, Thinking Space were employed to design and build the technical furniture required within the new control tower. Now having a 360 degree view of the airfield meant that control room furniture needed to be designed for optimum viewing angles for all desk positions. A total of 10 single operator consoles and 2 supervisor consoles, all being height adjustable, as well as 4 storage units were provided within the control room.

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We found Thinking Space very easy to work with and they were responsive and flexible regarding our needs. We have ended up with quality furniture, delivered and assembled in accordance with our specifications and we would consequently favourably consider Thinking Space for any future requirements.

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Paul McCann
General Manager Terminal Services
Irish Aviation Authority

Case Study



New Air Traffic Control Tower Furniture at Dublin Airport, Ireland

Overview of client

The IAA employs over 700 people at six locations around Ireland and has three main functions. They are responsible for the air traffic management of Irish airspace, the safety regulation of the Civil Aviation Industry, and the oversight of Civil Aviation security in Ireland.

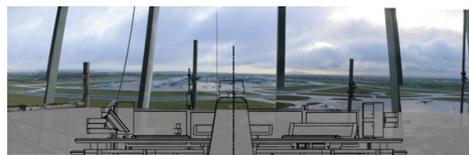
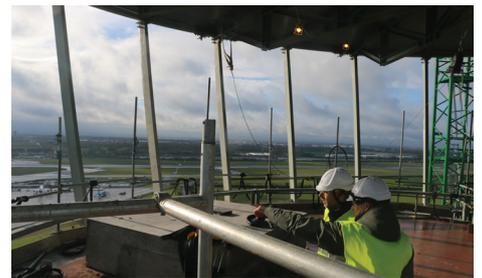
Dublin Airport has been operating since 1940, with its first flight to Liverpool, UK. Since then, more than 400 million passengers have travelled through Dublin Airport, with the old terminal building being a listed building and partially used for daily and business passenger operations.

Today, Dublin Air Traffic Controllers command almost 6000 square nautical miles of airspace. The new visual control tower is a landmark building, at 87.7m tall, it is the highest occupied structure in Ireland. It was designed as a slim, elegant, conical shaped structure by Scott Tallon Walker Architects, with BAM Ireland as the main contractor. Its height, as well as the façade has been designed to ensure Air Traffic Controllers have optimum views and clear lines of sight of both current and future runways.



Scope of the project

Having worked with the IAA on previous projects, including modifications to the consoles within the existing control tower, Thinking Space were tasked with creating ergonomic control room furniture for the new tower. Following the initial design process, a separate sight line survey was carried out by Thinking Space. Whilst the tower was still under construction with no windows or suspended floor, the team's objective was to show what each of the 10 Air Traffic Controllers could see when sat at their desks.



Each position was marked out on site, and eye line positions were calculated, with verification using BS ISO 11064 control room standards guidelines. 10 sets of images were taken to show what each position would be able to view by superimposing the consoles onto the panoramic view from the control tower. This helped identify any restrictions and find solutions and compromises in the design.

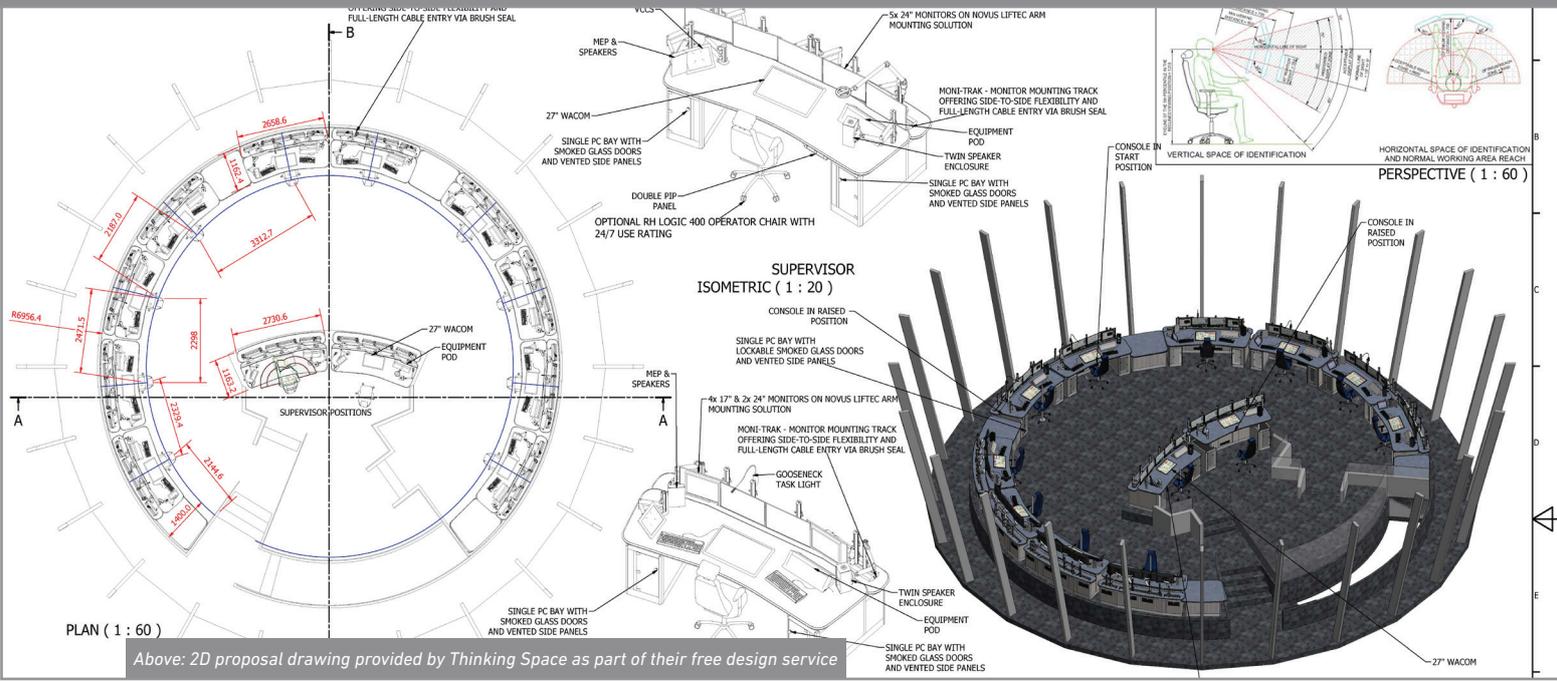
Top right: The new control tower at Dublin Airport

Bottom right: Sight Line Survey in progress

Bottom left: Superimposed panoramics provided by Thinking Space in their Sight Line Survey Report



improving working environments



Above: 2D proposal drawing provided by Thinking Space as part of their free design service

Project execution

The final design deployed a dropped back style console, so that the screens are able to be positioned lower than the main desk height and allowing the operator optimum views of the airfield. Twin actuation for the main and dropped back desk portion is provided, to give extra adjustability for the operator, at the touch of the paddle. Each of the 10 operator consoles is positioned around the perimeter of the room, with the two supervisor consoles in the middle. All desks are equipped with PIP panels, gas sprung monitor mounts, equipment pods and speaker mounts, footswitches and VCCS mounts. 4 storage units are included in the technical furniture provision. Nova Saphir worktops and Platinum Crepe

panels were the chosen finishes for the control room, creating a blue and grey cool, calming combination.

The client required a mock up of single position console before the remaining consoles were manufactured. One of the adjustments made to the design was to provide parallel actuation, rather than independently controlled worktop height, which Thinking Space adapted accordingly.

A further FAT inspection at the Thinking Space factory ensured that all equipment was positioned correctly, with any snags identified and additional equipment mounts identified. The consoles were then split in half for transportation to Ireland, lifted inside the tower and the halves reassembled and moved into their correct positions by the Thinking Space site installation team.



“The IAA chose Thinking Space for the design and installation of its controller consoles for our new Air Traffic Control Tower at Dublin Airport because of the world-wide reputation and significant experience of Thinking Space in the field.

We required infrastructure which is not only state-of-the art but also able to provide our controllers with the best possible facilities to support their traffic management at this busy international airport, in particular as a new parallel runway was being constructed to service the growing demand for air traffic. The requirement is for controllers to see all of the manoeuvring areas of the parallel runway as well as all the existing infrastructure. In addition, controllers also need to see the airspace in the environs of the runways and airport in general.

From the outset, Thinking Space embraced our overall requirements and quickly understood the operational concepts which drive our business. Numerous consultation sessions took place between Thinking Space and our operational and technological experts and this iterative process resulted in prototype furniture being built. This was evaluated in tandem with the teams in both organisations and proposed modifications were swiftly made.

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We have ended up with quality furniture, delivered and assembled in accordance with our specifications and we would consequently favourably consider Thinking Space for any future requirements’.

Paul McCann
General Manager Terminal Services, IAA

Above left and below, The height adjustable controller consoles are populated with accessories in the new Control Tower at Dublin Airport