

# Transport and Erection of the Visual Control Room (VCR) at Heathrow Airport

**Client:** BAA

**Design:** Richard Rogers Partnership

**Structural Engineer:** Arup

**Steelwork Contractor:** Watson Steel Structures

CIVIL 47



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**Above:** Cab being transported overnight by three SPMTs

**Above:** Cab at its final resting place ready to be jacked up.

BAA decided to construct a new air traffic control tower 87 metres high (designed by Richard Rogers Partnership) to replace the existing 45 metre tower which wasn't high enough to monitor aircraft movement around the new Terminal 5.

Due to the restrictions on site and to minimise any impact on Heathrow's operations it was decided to build the cab (which is the top part of the control tower) off site at an area near Terminal 4 and then transport the whole unit with the temporary works (necessary for the lifting up) already attached.

Due to the success of previous airport projects (for Gatwick Air bridge and Heathrow Terminal 5) both Fagioli SpA and Fagioli PSC were called upon again to carry out the transportation and erection operations.

## The Transportation

The whole unit weighing 900 tonnes was transported from the construction site 2km across the airfield using three of Fagioli SpA's computer controlled six axle SPMTs (Self Propelled Modular Transporters) to the final position near Terminal 3.



### The Jacking

Fagioli PSC's Towerlift system comprising of three 16 metre high towers and three L600 strand jacks were used for the lifting operation. The top section of the VCR was lifted twelve metres at a time to install four 12m high steel sections underneath. The final height of the VCR stands at 87 metres above grade.

To stabilise the VCR tower Fagioli PSC also supplied six L180 Strand Jacks in tension frames as guy systems. Three of these jacks were operated simultaneously with the lifting system so that as lifting progressed the guys were released under constant load. The other three jacks were operated as storm guys and stayed at nominal load during the lifting operations.



**Above:** Close-up of towers and jacking system

**Below:** The mast and cab are jacked up as a unit then a new section of mast is inserted underneath.

