



▲ The 1,400t hangar roof was lifted into position in just two days using VSL's expertise and equipment.

The newly-built aircraft repair centre in Mošnov will be the largest service facility of its kind in middle and eastern Europe. The project was in preparation for about four years with the aim of creating sufficient capacity for the servicing and repair of the largest modern airliners. The project's owner is Central European Aircraft Maintenance, which is part of the Geofin group. The general

construction contractor was Vítkovice Holding Group and the general designer was Hutní projekt Ostrava a.s.. Design of the hangar's steel structure was by Excon a.s. and the hangar roof lifting technology was supplied by VSL Systems (CZ), Ltd. The repair centre consists of two structures – the main hangar hall and the adjacent service building. The hall's ground plan dimensions are 143.5m by 80m. The imposing steel roof structure is made up of seven framework arched trusses with a construction height of 12m at the centre of the span. They are seated on 14 fixed-end framework columns. The roof structure, including the roof jacket, was assembled at ground level before it was lifted into its final position. This method of installing large-span hall

roofs has been adopted worldwide and VSL has had the opportunity to participate in a number of such

Scope of works performed

- Design support during the application of the VSL lifting system
- Installation of the lifting system and lifting the roof to its final position



▲ The columns were fitted with VSL SLU 120/500 lifting units.

projects. The system's implementation in Mošnov drew on knowledge gained on earlier projects. The roof structure was lifted from the assembly position to its 22m final height using 14 VSL SLU 120/500 hydraulic cable lifting units, each with a loading capacity of 120t. The lifting units were fitted to the columns that support the 143.5m-span arched roof trusses in their final positions. The lifting cables consisted of 12 prestressed strands with a strength of 1,770MPa and a loading capacity of 26t, anchored at the ends of the arched girders using anchor heads.



▲ Anchoring the cables using anchor heads

▼ SLU 120/500 hydraulic lifting units carried out the lift.



▼ EHP pumps drove the lifting units.



The lifting units were driven by EHP 4/8 MS and EHP 2/8 MS hydraulic pumps. The structure being lifted was monitored throughout the lift using position sensors, while the synchronisation of the lifting units was carried out by the VSL Bravo control system. It evaluated the

▼ The VSL Bravo control system in operation



OWNER

Central European Aircraft Maintenance

ENGINEER

Hutní projekt Ostrava a.s.
Excon a.s.

MAIN CONTRACTOR

Vítkovice Holding Group.

STEEL STRUCTURE ASSEMBLY

Hutní montáže, a.s.

ROOF STRUCTURE LIFTING

VSL Systems (CZ) Ltd.
V násypu 339/5
152 00 Prague 5
CZECH REPUBLIC
tel.: +420 251 091 680
fax: +420 251 091 699
e-mail: vsl@vsl.cz
http://www.vsl.com

DATE

June 2007

structure's position and the lifting force on each lifting point in order to avoid exceeding the maximum allowable deformation of the structure. With an average lifting speed of 4m an hour, the entire 1,400t structure was successfully lifted to its final position in two days.



www.vsl.com