

## New Moscow “Manege” with Sauter

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This building is known in Moscow as “Manege”. It is one of the most famous architecture masterpiece of Moscow. “Manege” is located right in the heart of Moscow near the Kremlin wall.



This unique work of the architect Osip Bovet had been opened 12 of November 1817 as horse manege. “Manege” is two-storey house of plane size 300m x 85m. The most interesting part of this building was the roof, a genius engineer work of Augustin Betancour. The roof construction was supported by the whole timber wood trusses.

In the Soviet time “Manege” became the Moscow State Art exhibition hall. “Manege” has the great history. What would it cost the episode of Nikita Ckrushev’s visit to the exhibition of young

abstract painters, had been held in “Manege”!

But the conflagration broke out in “Manege” at 14 of March 2004. The fire destroyed almost everything, and only walls had been kept safe.

Moscow government decided to restore “Manege” nearly at once.

Design institute “MOSPROEKT-2” was responsible for the “Manege” reconstruction design. It was not simple work. The unique roof construction was restored according to the surviving drawings of Augustin Betancour.

Whole reconstruction takes one year only, and new “Manege” has been opened by 26 of April 2005.

New Moscow “Manege” is controlled by Sauter’s system. Engineering center of Sauter – “Uniservice” has performed the delivery, installation and commissioning of the Sauter equipment.

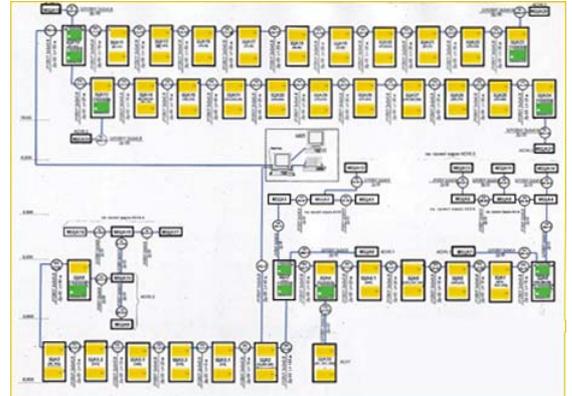


## BMS on “Manege”

The building management system EY3600 novaPro Open controls the reconstructed Moscow “Manege”. The BMS structure is shown on figure 1.

This system integrates the following subsystems:

- control of all engineering equipment, including ventilation, air-conditioning, heating and cooling systems,
- exterior and interior (main and reserve) lighting,
- hot-air curtains,
- gate locks,
- drainage systems,
- snow melting system.



Control panels indicated “ЩА” on fig.1 control the engineering equipment, and control panels indicated “МЩА” control the equipment for lighting, hot-air curtains, gate locks, drainage systems.

BMS includes the following automation stations:

- Nova Flex – 68 pieces
- Nova 230 – 11 pieces, which are the gateways for MODBUS protocol, used as communication medium for lighting controllers of ICP DAC series, models I7520, I7053, I7060.

This NovaPro Open has 5000 data points. Second computer performs the “hot reserve” function.

“Manege” has two exhibition halls: 1<sup>st</sup> - on the level 0.000, 2<sup>nd</sup> - on the level -6.600, conference hall, fund depository.

Architectural features of this building apply restrictions on the engineering equipment location. For example, some ventilation plants are located in intergirder compartments. Ventilation system regulates temperature, humidity and ventilation rate.

Lighting system is also very specific. “Manege” is situated on the central Manege square, where there are special requirements to the illumination design, so that “Manege” be in the general ensemble of the square. Exterior lighting, controlled by Sauter, fulfils these requirements.