

Arts & Leisure Case Study

Hagabadet baths

Sweden is a country with a liking for state-of-the-art technology. Hardly surprising then that it is a well-established market for Trend building controls. For the last ten years they have been supplied through Geomatic Styr AB, who last year was Trend's most successful international distributor.

Geomatic Styr has installed Trend systems in a wide variety of buildings, from schools, offices and shopping centres to car plants, ice rinks and concert halls. Among them are several landmark sites, such as Gothenburg Opera House and the city's historic Hagabadet baths, the latter having recently been reopened after renovation work costing £8million. The modern facilities the baths now boast include a £150,000 Trend building management system that closely controls and monitors all heating, ventilation and air conditioning services. As is often the case in Swedish buildings, the specification required that the services be very heavily monitored.



Originally constructed in the 1870's and then rebuilt and extended at the turn of the century, Hagabadet has now reopened as an up-market bathing and leisure complex. Its bathing areas include a main pool hall - whose striking Jugend-style interior has been painstakingly restored - and a smaller though equally distinctive Roman bath. There are also various treatment rooms (where it is possible to enjoy such exotic experiences as a seaweed massage), a fitness centre, restaurants and even a conference area. Total floor area is 4700m².

All HVAC control and monitoring functions are performed by 12 network linked Trend IQ251 controllers. Like all IQ2 series models these have a considerable data logging capability - which was an important feature on this application. The main operator interface is a Trend 945 supervisor.

On week days, all alarms are retransmitted via modem to another 945 operated by Gothenburg Energy - who provide Hagabadet with a remote bureau service. At night and at weekends, they are sent to the pager or mobile phone of whoever is acting as the on-duty engineer. Geomatic Styr has developed a special program which automatically switches alarms to the correct location, thereby ensuring continuous, round-the-clock maintenance cover. Each alarm event can be associated with three text messages with a total of 750 characters.

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All sensor values logged by the IQ controllers are uploaded at regular intervals and stored in an Access database. Energy consumption figures are calculated and displayed in an Excel spreadsheet.

The Trend BMS maintains optimum comfort conditions for the lowest possible energy consumption. It performs time and temperature control of the air conditioning in 12 individual zones, plus 20 ventilation plants (serving toilets, workshops, elevators, etc), food storage chillers, radiator and underfloor heating and domestic hot water. It also controls the output from a district heating system, which supplies the building with all its hot water needs.

An interface has been installed with the building's fire detection system and should the latter be triggered the BMS will automatically shut down all fans - thus reducing the risk of the fire spreading. An alarm would also come up at the 945 supervisor.

For the Hagabadet project, as on earlier contracts, Geomatic Styr added to the BMS's basic data handling software in order to meet the particular needs of the Swedish market. It carried out all system engineering and commissioning work, as well as building the control panels.

The Gothenburg-based company has offices in several other Swedish cities - including Stockholm and Malmo - and has a total workforce of 65. It also supplies Trend product to a number of independent systems houses.

Through Geomatic Styr, Trend has managed to capture 10% of the Swedish market for intelligent building controls.

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The logo for Trend Control Systems Limited, featuring the word "TREND" in a bold, orange, sans-serif font.