

Sauter has qualified – and we'll be playing our part at the 2006 World Cup.

No other sporting event casts such a spell over the whole world as the World Football Championship – officially known as the FIFA World Cup™. FIFA's most important event has grown in significance and popularity ever since the first tournament was held in Uruguay in 1930. And Sauter will be playing its part in 2006.

Millions of spectators will be sitting spell-bound in front of their screens as the whistle is blown in Munich to kick off the 2006 World Cup at 6 p.m. on June 9th this year. Thirty-two teams from all five continents will be battling for the famous golden trophy. The world's football aces will be working their magic on the spectators in the stadium and the television viewers at home. And we shall be able to admire not only plenty of

great goals (or so we hope), but also some wonderful stadiums.

Three World Cup stadiums with ultramodern technology from Sauter

The matches will be staged at a total of 12 different locations: Hamburg, Hanover, Berlin, Gelsenkirchen, Dortmund, Leipzig, Cologne, Frankfurt, Kaiserslautern, Nurem-

berg, Stuttgart and Munich. And the three most fantastic stadiums are equipped with control technology from Sauter:-

- The RheinEnergieStadion in Cologne
- The Allianz Arena in Munich
- The Commerzbank Arena in Frankfurt

Like all the World Cup stadiums, these three will have to drop their sponsors' names for the event, appearing as 'FIFA World Cup Stadiums'.

A sparkling opening at Munich.

Munich's new Allianz Arena was built a few kilometres from the Olympic Stadium at a cost of EUR 350 million; it was opened at the end of May 2005. This stadium has a gross capacity of 69,000 places for spectators; 59,416 of these are seats, and the upper gallery is also equipped with accommodation for disabled spectators and their companions.

Spectacular architectural and lighting effects

This is the arena where the German national team will appear in the opening match of the World Cup on June 9th 2006. Its outer shell alone makes it one of the most unusual and visually attractive stadiums in the world. The smooth facade consists of a diamond-patterned translucent casing which is bathed in projected light of different colours, lending magic and poetry to the building's appearance.

120,000 cubic metres of con-

crete and 22,000 tonnes of steel were used to build the stadium, which was designed by the renowned Swiss architects Herzog & de Meuron.

The spectacular facade consists of 2874 film cushions made of EFTE (ethylene tetrafluoroethylene). Electric fans keep these cushions – which are non-combustible, resistant to heat and cold, and self-cleaning – at a constant pressure of 350 Pascal. Each separate cushion can shine white, blue or red, creating a breathtaking backdrop at night. The light must change no more than once every two minutes to prevent the risk of distraction to passing traffic.

Excellent use of space and ground area

Another unique feature of this splendid arena is the three-tier interior with staggered angles of inclination. The upper tier rises at an angle of 34 degrees.

Europe's largest indoor vehicle park can

accommodate 10,000 cars, and a garden has been created on the roof of its four storeys. 150 exhaust-air fans located in the seven parking deck lightwells are positioned vertically to ventilate each individual parking deck on the basis of the induction principle. The automation stations for the parking decks are connected to the stadium's automation stations via optical transmission links.

Perfectly networked Sauter technology

The central bus system is the Sauter novaNet databus, which connects the individual DDC automation stations and is linked into the BMS computer/data server via an interface coupler. This and the operating stations are linked via Ethernet. Central consumption measurement is connected up to the BMS via M-Bus. A central monitoring system is used to monitor and activate the motor-driven fire dampers.

The connection to the BMS is handled via the MOD-Bus RT protocol. The



electrical plant is linked to the BMS via an EIB interface (with about 1000 data points).

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The following control technology is used:-

- novaPro management system
- 26 modular automation stations
- 72 compact automation stations
- 25 novaFlex universal controllers
- 106 ecos DDC intelligent unitary controllers