Liverpool Hospital Carpark Solar System Functional Description

The solar system will be Installed on a bespoke, purpose-built shade structure on the rooftop of the carpark development. The system will consist of approximately 1032 high efficiency Trina solar panels which will generate energy from the sun whilst also shading the car spaces.

The solar panels convert sunlight into direct current (DC) electricity. Each Individual panel Is connected to a Tigo power optimiser which makes sure every single panel Is producing the maximum amount of power possible and reduces impacts from shading or uneven soiling. The panel and optimiser pairs are all connected series to a bank of panels pairs called a string. These Individual strings route the DC electricity down the carpark levels to the ground floor Inverter station.

The Inverter station consists of four 110kW SMA Core 2 Inverters and a secondary control panel. The Inverters convert the DC electricity Into Alternating Current (AC) electricity at the right voltage and frequency to be used by the building or to be exported to the grid. The secondary control panel ensures the system Is always operating within the strict limits of energy quality required by electrical networks and also Isolates the system In the event of a grid fault.