

EMG Tokyo Use Case Deployment Details

One of the first major uses of diPlay was at the marquee, global sports event held in Tokyo in the summer of 2021, where EMG was responsible to the host broadcaster to deliver much of the technical architecture.

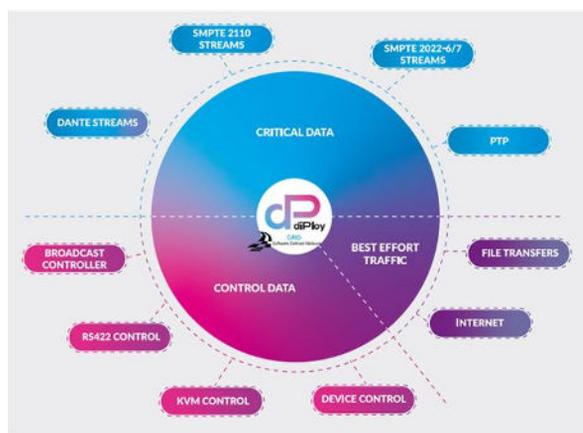
The heart of the event was the athletics stadium, which hosted the opening and closing ceremonies, as well as a full program of track and field events. To cover all requirements, and to provide full redundancy for the opening ceremony, EMG built a total of eight similar control galleries. These were physically sited in the broadcast compound, some 500 metres from the stadium itself.

The first requirement was to bring the outputs of cameras and microphones from within the stadium to the control rooms. This used a diPlay rack within the stadium, into which cameras and microphones were connected. Dark fibres then carried the uncompressed IP signals to the broadcast compound, where they were made available for production, via IP.

Cameras were mainly 4K HDR UHD units, although some POV cameras worked at different resolutions. Connectivity was mainly IP, but the diPlay racks could also accept SDI inputs. At the control room end, while much of the switching was in the IP domain, EMG used existing replay servers – again with SDI outputs, which needed to be converted to SMPTE ST 2110 IP

Imagine Selenio™ Network Processors (SNP) converted incoming signals and multiplexed them onto fibre for delivery to multiple galleries, where more SNPs split the feeds out for production – transparently and with virtually no latency. As far as the crew was concerned, the performance was just the same as having SDI cameras plugged into the tailboard of a truck.

To build eight galleries in the stadium that would only be used for a small proportion of the multi-sport event would have been highly inefficient. So EMG used further diPlay racks, again equipped with SNPs, to cover events at other venues, to be produced from the stadium.



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The road cycling, for example, was based more than 100km away, but was successfully cut and mixed in one of the stadium galleries. SNPs in the diPloy racks at the venue multiplexed all the signals onto a high-bandwidth IP link.

The coverage of the cycling also involved cameras on motorbikes, helicopters and fixed wing aircraft. The receivers for these were positioned to get the best live reception, and where necessary, further SNPs were used to connect the downlinks to the control room. The latency as the signals were converted, multiplexed and presented to the production switcher was so low that the director did not notice.

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