

FEATURE ARTICLE

Six Cities Live Surgery

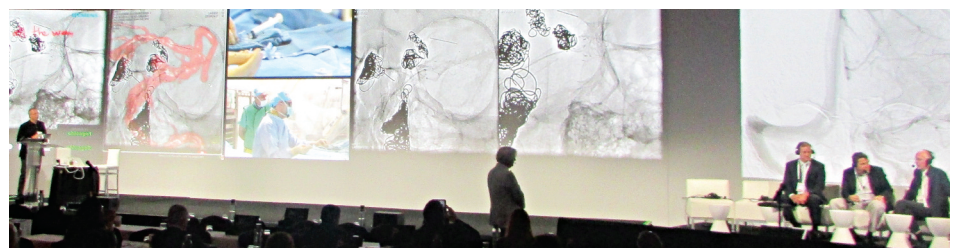
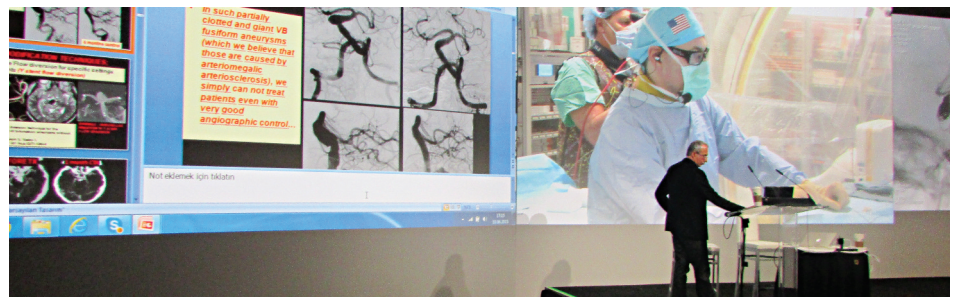
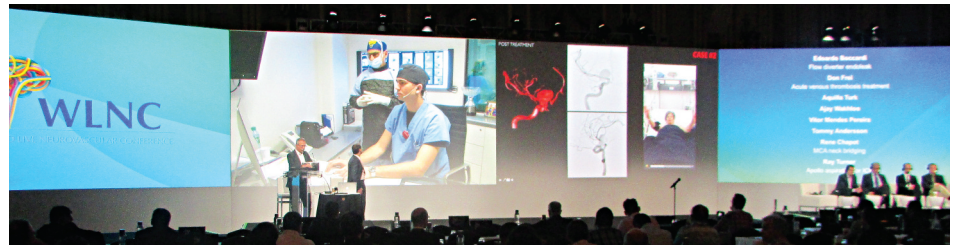
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When we at DEKON were brainstorming with our clients several years ago to develop novel alternative formats for an educational event in the field of neuroradiology, we certainly didn't think that our ideas would progress into one of our signature events some years later. However, from these beginnings, DEKON, in collaboration with a number of renowned international specialists in the field of cerebrovascular surgery and radiology, developed a new technically demanding and entertaining conference concept that also provided high-level learning for participants – the World Live Neurovascular Conference (WLNC).

When the WLNC was designed, the aim was to have the latest evidence-based data presented by leading physicians, nurses, and scientists in order to affect the practice of neurointervention and endovascular medicine. The conference has a broad audience, being intended for neurosurgeons, interventional neuroradiologists, neurologists, endovascular surgeons, residents, nurse clinicians, physician assistants and interventional technicians, and other health care professionals with a special interest in the field of neurointerventional and cerebrovascular surgery.

A central concept from the beginning of WLNC was the presentation of educational sessions in a large auditorium with live neuroradiology cases being transmitted by satellite from six cities in five different countries – Istanbul, Buenos Aires, Kobe, Shanghai, Chicago and Buffalo. The images for these sessions are transmitted through fully redundant inter-continental satellite uplinks and fibre links to achieve uninterrupted transmission. Since the inception of WLNC, the field of neurointervention has grown and proved to be very dynamic, with landmark trials and new-generation devices to treat stroke and brain aneurysm patients. This rapid pace of development has created very demanding challenges for the PCO and its technology providers. However, together with specialists in neurointervention, DEKON and its IT team has risen to this challenge; they have not only provided a showcase of great cases and experience from around the world, but also introduced new technologies and devices.

This year's WLNC, which was held in Chicago on 8–10 June, featured not only the six main hospitals providing satellite transmissions but also five other US hospitals in which doctors had been equipped with Google Glass in their treatment rooms. Using this novel technology of Google Glass live transmissions, WLNC delegates experienced everything in real time,



from the stroke call through to the surgery itself. This new initiative with the five US centres enabled the presentation of live stroke cases and allowed real-time discussions of the workflow and treatment of the acute ischaemic stroke patient.

The room setup was aligned with the needs of this educational event, enabling delegates in the auditorium to follow live surgery cases on the big screens. They could ask questions through their mobile devices to a panel of specialists on the stage who were acting as intermediaries for the surgeons performing the ongoing procedures.

And some details for those readers with a technical interest in the project.

- A digital matrix intercom panel was at the core of all communications; in 2015 for the first time, multiple centres were connected with almost loss-less IP audio codecs, backed up with PSTN lines.
- Attendees were part of the inter-active flow; a custom-built voting & questions software, running on Amazon Cloud servers, was made available to all delegates on all mobile device platforms, and distributed through a broadband Wi-Fi infrastructure.

- Another first in 2015 was a custom-built tablet computer system that enabled the doctors on stage to interactively control the playback of the live cases and to draw commentaries on the moving images.
- A second multi-camera setup was used for internet streaming of the event, through a content delivery network, to serve a high number of concurrent viewers worldwide.

WLNC was designed to provide a groundbreaking forum that brought both expert and novice providers together to share cases, highlight techniques and discuss new approaches to the treatment of complex problems. It is a living example of how, through close co-operation between healthcare specialists and an experienced PCO, an innovative event format can be developed, benefitting the practical learning that physicians need to improve patient outcomes. The next WLNC is being organised by DEKON in Shanghai, China, in 2016.