



CASE STUDY

PLUNGE CAM - The free faller

SIS LIVE Special Cameras' chief designer Andrew Peakin was working at a world-famous event in Sydney, Australia in 2000 when the opportunity arose to see how the diving was televised at the Sydney International Aquatics Centre. It was here that the seed of an idea was sown, that the existing diving camera technology could be improved upon. It was another 5 years before a customer approached us to ask if we could develop the diving coverage. Our Special Cameras team fell upon the challenge with their usual enthusiasm and this led to a contract being signed to provide PlungeCam for the West Asian Games in Doha, 2005 and for the Asian Games in 2006.

The brief was to follow the divers as they left the 10m platform down into the water to a depth of 4m, as if you were diving alongside them, and then to reset the camera back at the 10m platform ready for the next diver, all at the touch of a button. The SIS LIVE Special Cameras department like nothing better than a technical challenge – and building PlungeCam was certainly that. The unique combination of skills available to the team proved again that almost nothing is impossible.

Constructing the 18.75metre long computer controlled vertical track and very small HD camera proved to be the easy bit. Making the lower section watertight was a little trickier. Dave Yates, engineering technician picks up the story – “We chose the largest servo motor with the most versatile motion control system that was available at the time. Schoolboy physics tells us of the motion profile needed and the rest is easy, or so we thought. The bottom section of the welded metal proved to be porous even at modest depths, so the challenge was to ensure there was no water ingress into the tube. We also had to put a lot of reinforcement into the structure to ensure it stood up to the water pressure.” Finally PlungeCam was ready for its first programme. The West Asian Games effectively became a test event for the larger Asian Games the next year, so the diving schedule was fairly easy. One unforeseen issue was the sound that the motorized drive system produced as the camera plunged downward. One of the quietest places anywhere is in a diving pool as the athlete dives and the crowd are completely silent until the diver enters the water. After the event there was some work conducted to reduce the noise to the

lowest level possible.

A year is a very long time in television so the Special Cameras team took the opportunity to make improvements to the design, so that by 2006 PlungeCam returned to service as a world beater. In 2010 the Commonwealth Games in Delhi offered another opportunity to move the design forward. “We had the chance to improve the operational controls and to make the rigging process easier” commented special cameras manager Paul McNeil. “We put two cameras in this time, one wide angle and one that can zoom right into the action. The camera operator has a very sensitive pan bar interface that allows very smooth operation. We also changed the track technology to produce a rock solid yet very smooth movement.”

SIS LIVE Special Cameras have a policy of continual development of all of the products and services they provide so the evolution of the Plunge Cam is far from over. You can bet your bottom dollar that right now, somewhere in a workshop in Langley or at an outside broadcast event, the team is dreaming up new and innovative ideas of how to bring the best coverage to audiences around the world.