

# *the* **Laserist**

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## LOBO SUPPLIES SHOW SOLUTION FOR GRAND AMPHITHEATER IN SENISE, ITALY

LOBO Laser and Multimedia Systems realized a digital stage design

by Paolo Atzori

**T**his astonishing theater/multimedia environment was to be custom tailored for *The Myth of Origins*, a recapture of history, enriched by travel, laser, and video projections on waterspray canvas, choreography, magic dialogues, vision of the future, and business dangers, alternating live stage performances with image narrative, combining modern theater and cinema.

The idea was to also animate the ambitious setting of the Greek amphitheater-like Arena Sinni of Senise, an impressive scenic space of 4,000 square meters, 2,500 seats, and a 3,200-square-meters water basin respecting the surrounding environment with the predominance of local natural materials such as tuff and wood – an ideal scenario for experimenting with the most advanced technologies.

For this purpose, LOBO configured, supplied, and implemented a state-of-the-art lasershow system to take care of all arising laser light fantasies. It became a sparks system, equipped with an Optically-Pumped Laser Module, Model sparks-XG15. With a typical brightness (with PCS) ELB200: 1703 W/m<sup>2</sup>, its collimated beam, thanks to the LOBO PCS system, is outstandingly bright and perfectly suited for long distance projections such as in Senise.

Thanks to the triple stage active cooling system, the sparks is suitable for continuous operation at high ambient temperatures of more than



40°C, which can easily be the case at hot climate regions such as Senise. Along with the sparks, LOBO chose a failsafe LACON-5 – a hybrid parallel multiprocessor Laser and Multimedia Workstation in compact version, running in sync also with video, fire effects and other media. The standard optical signal transmission by Digital Data Link DDL-2 was the perfect option for overcoming long distance signal carriage, contrary to copper cable solutions – also underwater! Additionally, this feature generally enables the remote administration and configuration of devices supporting the DDL-2 protocol. The LACON-5 was equipped with all the necessary modules to be able to control any kind of standard DMX devices, RS-232 interfaced peripheral devices, and parallel I/O controlled devices via 20 configurable digital input or output channels (e.g. for remote control of the LACON-5 or fog generators, etc.) A Timecode Module was also implemented – a sort of plug-in electronics for the LACON-5 series with LTC reader/generator for time code according to SMPTE/EBU-standard for synchronization with external media systems.

For sufficient light and imagery projection area, LOBO provided water screens (jet version), respectively one on the left and one on the right. LOBO configured them to be 12 alignable 2m long distributor segments for creating a vertical rectangular water screen according to the fountain principle with a height of approx. 10m, including individually adjustable





nozzles (96 pieces) and special submersible pumps. Additionally, a 28m wide water screen (spray version) with an outstandingly homogeneous high density spray for high resolution imagery was put in the center of the basin. For this purpose, LOBO configured and implemented a central pump unit, consisting of two multi-level submersible pumps, with an integrated spray nozzle in stainless steel design for creating an almost semi-circular water film with a spray diameter, as already mentioned.

A multitude of LOBO fog and fan units were placed for an optimum of visual effects harvesting. Further complementary elements were led walls and video projector units, moving lights and fire walls. And now just envision this playground combined with the grandeur of scenes that play ruins, fleets, battles and giants.

The result is theater, cinema, dance and spectacular effects with state-of-the-art technologies – elements that, in perfect synergy, accompany the audience in the adventure of *Magna Grecia - The Myth of Origins*, the great multimedia show designed by Emir Kusturica. It alternates live stage performances with image narrative, comprising theater and cinema. The spectacle ran in its second season with 25 performances in 2017, that went until September 9, with an immensely positive response. For this purpose, LOBO configured, supplied and implemented a state of the art lasershow system to take care of all arising laser light phantasies. It became a sparks system, equipped with an Optically-Pumped Laser Module, Model sparks-XG15. With a typical brightness (with PCS) ELB200: 1703 W/m<sup>2</sup>, its collimated beam, thanks to the LOBO PCS system, is outstandingly bright and perfectly suited for long distance projections such as in Senise.

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Laser projectors on two full-motion robotic arms © Planetarium Hamburg / Fotografenwerk Hamburg

**O**n February 14, 2017, after 18 months of reconstruction, the Planetarium Hamburg reopened its doors again. Prominent people like Hamburg's first mayor Olaf Scholz and the Senator of Culture Dr. Carsten Brosda were invited to marvel at the inside of the planetarium. "We the people of Hamburg don't like to act up, but we like to have theaters. This beautiful old water tower is our biggest sky opera," stated Scholz. With a budget of almost 10 million Euros, the star theater has been completely modernized and equipped with the latest technology.

The centerpiece the laser and multimedia technology – was provided and installed by LOBO in record time just a few weeks before the reopening.

With one of the biggest and most modern show laser systems on the planet, LOBO is creating magical moments and an unforgettable 360-degree experience under the star dome. For one, this high-tech laser system consists of the optically pumped ultra-bright sparks® laser series – the brightest laser system on the planet.

With the laser modules in the basic colors, red, green, cyan, and blue, over 16 million colors can be generated by means of intelligent color mixing. Those modules are mounted in the sparks® PowerDeck and connected with the laser projectors inside the star dome via fiber optics.

The sparks® PowerDeck is a very special novelty – a laser light server that provides enough slots for up to eight optically pumped ultra bright sparks® laser modules. The common typical problem of dust contamination on the optics does not occur with the PowerDeck. This is because LOBO separated the air stream inside the PowerDeck (necessary for cooling the lasers) from the optical components. An additional benefit of the PowerDeck is the individual and easy extensibility. The PowerDeck works trouble-free from a room next door, leaving the sensitive dome acoustics void of distracting background noises. The special situation at the Planetarium Hamburg is that the size of the intended PowerDeck hosting room was quite small for the usual horizontal positioning of the device. Therefore, the ambitious LOBO engineers designed a frame that allowed a vertical positioning of the PowerDeck.

The sophisticated LOBO TriDome® system generates spectacular, high-precision and genuine 360-degree-real full-dome projections. This TriDome® system does not merely create less disturbing picture transitions, it also provides a highly increased show experience. The system consists of three laser projectors which are mounted at an angle of 120° with respect to each other at the horizon of the dome. With the application of a sophisticated, real time geometric correction and a new kind of digital projectors, this method is presently the only technical solution which offers the

necessary precision for seamlessly overlaying pictures of the star projectors as well as the All Dome video projection systems. In addition to that, the same projectors are in the position to generate impressive three-dimensional beam spectacles which transport the spectators into a world created by laser light.

"By means of the TriDome technology, coordinate systems become precise, i.e. matching to celestial bodies in form of a network of parallels and meridians displayed onto the dome. It is an ideal media for the training of astronavigation and for an educationally correct explanation of important motions of our earth in the universe. Scenes always dreamed of can be realized now – such as the view from the earth's core through a 'transparent earth.' The outlines of the continents and cities assigned to the corresponding zenith stars is projected absolutely matching with the stars of the Zeiss planetarium projectors and other full-dome projections. Everyone can imagine the enchanting scenes that can be created with laser graphics following the star constellations precisely, the supporting lines, and the stories of different constellations without appearing blurred or diffuse. This could be animated for children, theater performances, and for scientific simulations," said Thomas W. Kraupe, Consultant, Astrophysicist, and Director of Planetarium Hamburg.

