The Cretaquarium is currently operated by the Hellenic Centre for Marine Research, a public research institution on oceanography and marine research. Its exhibits focus on the marine fauna of the Mediterranean region and include sea organisms from over 250 species in more than 60 tanks. Cretaquarium first opened its doors to the public in December 2005. It has recently undergone extensive renovation, involving the addition of new tanks, species, educational programmes and innovative services. As one of Europe’s largest aquariums, Cretaquarium offers visitors a unique opportunity to explore the magnificent Mediterranean Sea world.

Main characteristics of the pilot project
The pilot project has been developed in the reception area, all visitation areas and exhibitions, technical areas, basement and exterior.
The lighting designed aimed mainly at saving energy. The fixtures need to be controlled by a system capable of dimming and switching single luminaries and connected to a daylight sensor to save energy when possible. Flexibility, easy maintenance, and cleaning must be carefully considered in the new design.

The specific challenges of each space are listed below.
• Reception area: the lighting system must direct visitors’ attention to the reception desk and guide visitors to the exhibitions. The lighting design needed to strengthen the theme of marine world.
• Entrance to the exhibition zone: the new lighting system needs to help visual brightness adaptation for the visitors entering into a dimmed exhibition environment from a brightly lit reception area.
• Multi-Function Room: the lighting system needs to be flexible when space is required to be transformed for special event purposes. Colour changing light fixtures must be allowed for creating different ambient conditions and effects.
• Exterior: the lighting system needs to enhance the presence and character of the building at dark. Building signage and sculptures must be highlighted to drive visitors’ attention. Specific attention should be paid to the choice of fixtures that need to be robust against vandalism and damage, and suitable for resisting marine corrosion.

Extract from ARUP lighting design concept for Cretaquarium Reception Area
Results
Besides the general lighting conditions improvements, the results obtained in terms of energy consumption are very good. The possibility to dim and switch off some lights in areas where security is not an issue, even increase the good results obtained with the new lighting system.
• Better light quality, reduction of the reflections on the fish tanks windows
• Flexible lighting that can adapt to various needs in the multi-functional room
• Dimming that generates additional energy savings
• Energy and cost savings!
• More visible and attractive building at night.

Next Steps
The lighting system needs now some fine-tuning in order to reduce even more the energy consumption. To do so, a good balance between security requirements (especially for the outdoor and technical areas) and energy savings needs to be found.