White Canvas
Health center and school in refugee camp, Bassikounou, Mauretania

Summary and appraisal by the jury
The project takes on the difficult task to provide public amenities in refugee camps. The submitted proposal for a health center and school was specifically developed for the Mbera refugee camp in southeast Mauritania of more than 100,000 people, near the border with Mali. Foldable and easily-erectable tent structures form the basic units for the school and health center facilities. Phase Change Material (PCM) accumulators are used for air-conditioning, taking advantage of the temperature differential between day and night for creating stable and safe conditions without additional energy requirements – the colder air at night cools the hot air during the day. The use of this simple but effective technology in semi-desert or desert areas helps to improve living conditions in the camp, upholding the human dignity of the refugees and enhancing their chances for stability and self-reliance.

Sustainability concept
The use of phase change materials (PCM) in accumulators for air conditioning is a brand new method of utilizing these materials. The development of PCMs is fast, there are more and more different kinds of PCMs available. The PCM accumulator can be used in every building, independent of structure or function, in climates with relatively high diurnal temperature variations. Since it only uses the daily temperature variation for air conditioning, it does not require further energy for functioning. By providing better living conditions, it helps refugees to keep their human dignity and to ease their pathway back into society. It creates better conditions for education and protection of children, thus in the long term giving hope and the possibility for a more equitable future life. Since the PCM accumulator is easily installed on any building, it eliminates the need for air conditioning, it is a small step in making the lives of the refugees better. But it may be an important step. By meeting the needs of refugees, creating a protective environment where individuals have a chance to feel equality and human dignity – their potential to work, think, and act responsibly is enhanced. The opportunity for children to learn enhances their potential productivity both in an economic and academic framework.

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Project data
Context Architecture, building and civil engineering
Client ArchSus Group
Background Research project
Planned start August 2018

The jury praised the basic premise of the design proposal that combines the intelligent deployment of technology with social objectives. Two technical aspects were specifically praised. First, the sophisticated light-weight system for the tent structures was considered a highly appropriate solution for satisfying the specific needs of instant construction. Second, the use of PCM accumulators as an environmental control system to cool or heat the air was deemed a brilliant answer for improving comfort levels.

During the planning procedure of the project retained the target to satisfy real, existing expectations. Pracicality, ease of construction and low production costs were preconditions of the project. In this case, aesthetics focuses on simplicity and practicality serving a basic need that responds also to environmental requirements.

The PCM accumulator can be used in different types of buildings throughout similar climates. It is a small step in making the lives of the refugees better, but it may be an important step. By meeting the needs of refugees, creating a protective environment where individuals have a chance to feel equality and human dignity – their potential to work, think, and act responsibly is enhanced. The opportunity for children to learn enhances their potential productivity both in an economic and academic framework.