Pyla Dune Observatory project is located in La Teste-de-Buch, in the South West of France, facing the Atlantic Ocean and behind the Pyla Dune. The dune is gradually moving in the West-East direction and is expected to cover up the whole project site within a decade.

Being the highest sand dune of Europe, it attracts millions of tourists each year. Several techniques have been implemented to stabilize the aeolian sands and slow down the displacement process, such as the plantation of pine trees all over the East side of the dune, fenced access to prevent from trampling, or fencing to increase the sand accretion rate. However, the general lack of information about the Pyla dune displacement issue leads to devastating consequences for its ecosystem.

The proposed design provides opportunities for learning, experiencing, exploring, documenting the land in a system of multimedia information through the natural cycle. The observatory is a landscape rather than an object, an experience rather than a fixed entity in space which creates a dynamic space as much as its human imprint of the event. Here the nature/culture logic is inverted; nature physically influences the building design and vice versa.

The design is focusing on understanding the dune ecology through the observatory itself by capturing, accumulating and storing its essence. The infilled sand is changing the Observatory spatial qualities, program and circulation through time.

The Tafoni concept led to the development of a parametrical shaft system related to the site environmental data. The topological map shows the overall distribution according to program requirements, site parameters vectors and topography levels. The 7 different shaft topologies allow for passive solar, passive cooling/natural ventilation, strategical viewpoints and sand infiltration into the building, in the sand tanks of the exhibition spaces.

"Nothing is built on stone; Everything is built on sand, But we must build as if the sand were stone." JORGE-LUIS BORGES