AENAOS - Research Project Fact Sheet

Title of Project	**Design and Development of the "Controlled Temperature Building Shell" concept - completed**
Project Acronym	AENAOS
Funding Program	Sustainable Development and Competitiveness. Development of Innovative Products, Services and Processes. Ministry of Energy, Commerce, Industry and Tourism, Republic of Cyprus
Project Identifier	-
Total Budget	246285 €
Starting – Ending Date	11/2017-05/2020
Consortium	1. CrossWise Ltd, Coordinator 2. Frederick University, Cyprus 3. RTD Talos Ltd
Project Objectives	1. The key objective of this project is to commercialize a novel concept, the Controlled Temperature Building Shell. The operation principle of the Controlled Temperature Building Shell is based on the continuous induction of controlled-temperature air within the building envelope, conditioned with the use of a heat pump, resulting to a steady building shell temperature. 2. The introduced concept will be validated both with the use of finite element analysis (Comsol Multiphysics), as well as with the implementation of a comprehensive life cycle assessment. 3. The validation of the experimental design will be achieved through the development of pilot elements and optimization of their geometry. In particular, the project consortium will proceed with the construction of a small test cell using the innovative element. The purpose of constructing the experimental building is to carry out validation measurements of the experimental design and, if necessary, to improve the geometry of the product.
Work Packages	WP1: Project Management WP2: Product Design WP3: Pilot Development and Optimization WP4: Demonstration Activities WP5: Commercialisation and Market Penetration WP6: New product certification
External References	https://doi.org/10.1016/j.dib.2021.107034 https://doi.org/10.1016/j.proenv.2017.03.094
Role in the project	Principal Investigator