HelioMaroc Project

November 25th – 28th 2020

Presented by Daniel Benitez (DLR)
Project Overview

SENER’s Heliostats at Noor 3 plant in Ouarzazate

HelioMaroc design for low cost and high local content
Project Overview

HelioMaroc

Design Yield Analysis → Call for Tender → Assembly of Prototype → Test & Qualification → Evaluation Implementation

Morrocan Industry
Solar Cluster
Masen
DLR

Local Production → Demonstration Site Ouarzazate → Capacity Building

R&D

Heliostat for future CSP projects adapted to Desert Conditions

Innovation

Local Content
Main Tasks:
• Contact with Moroccan industry
• Coordination of call for proposals for prototype construction and installation
• Provide testing infrastructure
• Performance testing
Main Tasks:

• Heliostat design: foundation, tracking system, sandwich-type mirror, metal support structure
• Small scale prototype construction at DLR
• Capacity building regarding qualification
• Evaluation of results
• Benchmarking and recommendations for improvements
**Project Participants**

Consortium 1

![Consortium 1 Logo]

Consortium 2

![Consortium 2 Logo]

**Tasks of the Moroccan Consortia**

- Manufacture and install heliostat prototype
- Analyze test results
- Propose improvements

**Stakeholders search**

![Stakeholders Logo]
Current Status

- Heliostat fully designed by DLR
- Two consortia built and tested indoors one prototype each
- Both consortia are preparing the assembly of the heliostats at Masen’s testing platform in Ouarazazate
- DLR gave training to Masen regarding heliostat qualification
Next Project Steps

- Heliostats will be installed and operated for short tests at Ouarzazate
- Masen will perform the heliostat qualification with DLR remote support
- DLR will evaluate the heliostat measured data
- Main result will be the qualification and the experience gained by the consortia
Follow-Up Ideas

• Adjust the heliostat design in order to increase the local content and improve the quality
• Upscale the heliostat to 50m² (upcoming demonstration in 2021 by DLR for 20m²)
• Demonstrate the daily operation on a pilot plant with many heliostats (100+) „made in Morocco“
• Determine the durability of the local heliostats
• Integrate the heliostats into relevant applications (e.g. process heat for industry or rural applications)
Thank you for your attention!
Any Question?

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