



CENER
ADitech

CENTRO NACIONAL DE
ENERGÍAS RENOVABLES
NATIONAL RENEWABLE
ENERGY CENTRE

IK4  **TEKNIKER**
Research Alliance

EASY: AN INNOVATIVE SMALL SIZE HELIOSTAT CONCEPT FOR SUBSTANTIAL COST REDUCTION



TECHNOLOGY

- High-precision cost-effective cable-based driving system.
- Single-facet and simple, lightweight structure design.
- Integrated automatic calibration system to assure the required precision over time.

MAIN FEATURES

- Based on low-cost off-the-shelf components.
- Backlash-free and low tracking error.
- Easy and fast assembly and deployment.
- No need for initial adjustments, canting or tough commissioning.

BUSINESS MODEL

- Searching for partnership with a manufacturing company for mass-production optimization and commercialization.
- Design of cable-based tracking systems available for heliostat developers.
- Open to other approaches.

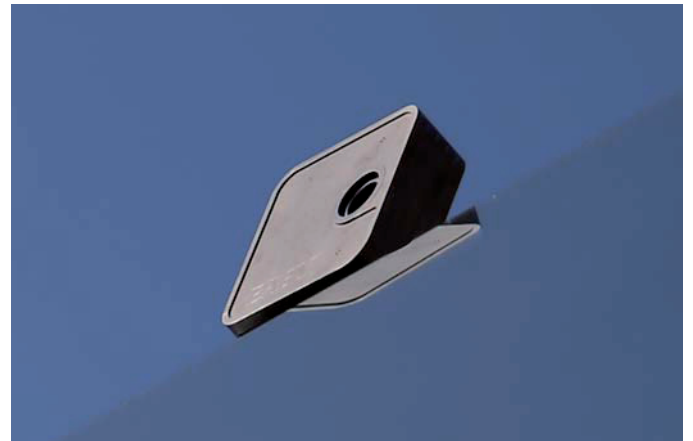




EASY: AN INNOVATIVE SMALL SIZE HELIOSTAT CONCEPT FOR SUBSTANTIAL COST REDUCTION

CURRENT DEVELOPMENT

- 1 Up to 8m² single-facet mirror
- 2 Simplified driving system
- 3 Weight reduction of the structure
- 4 Revisited design to reduce manufacturing costs
- 5 Embedded hardware solution for control and calibration



READINESS LEVEL

- First EASY heliostats tested in PSA (Plataforma Solar de Almería) from 2016 to 2017
- EASY final design validated in PSA during 2018



TEST RESULTS

- **Tracking accuracy:**
Stable over time, below 0.6 mrad RMS (reflected beam).

