MARPOSS and ENEA work together to optimize quality and efficiency of CSP parabolic panels.
VIS-PROFILE™
Geometric inspection of parabolic panels during the manufacturing process

VIS-profile™ is an optical measuring system able to check the shape of parabolic mirrors at the end of the manufacturing process.

A light source is placed in the focal line of the parabolic mirror. The mirrored surface is observed by a camera, placed some meters away from the panel and moved along the sample up to bottom. The geometric shape of the panel, obtained by image reconstruction, is compared to the nominal parabola and the deviations are detected.

The results obtained, displayed in a map graph, provide information about shape errors to improve the manufacturing process.

VIS-FIELD™
Inspection of the mutual alignment between linear parabolic mirror and receiving tube in the solar plant

VIS-field™ is a movable optical measuring system, installed on a trailer, to check the mutual alignment between linear parabolic mirror and receiver during and after installation of a module in the solar plant.

The module is rotated with the parabola axis horizontally oriented and is checked with VIS-field™ at a distance of about 10 meters, in daylight conditions.

A movable camera acquires the image of the receiving tube reflected by the mirror, starting from the vertex height to the lower end of the parabola.

The good/bad mutual alignment between mirror and receiver is evaluated through an analysis of the acquired images. In case of bad alignment, the software also provides information to improve the assembly operation of the system.