

QScan

Unlock hidden performance potential —
with drone-based scanning



Scan — Understand —

Where is your solar field losing performance?

Reliable data on the condition is often not available. This information is particularly important for making improvements and after incidents or replacements. Also, even well-performing solar fields often have hidden optimization potential.

QScan provides the data needed for clear decisions.

Drone-based measurements combined with smart data analysis deliver clear insights, actionable reports and practical recommendations.

Improve performance

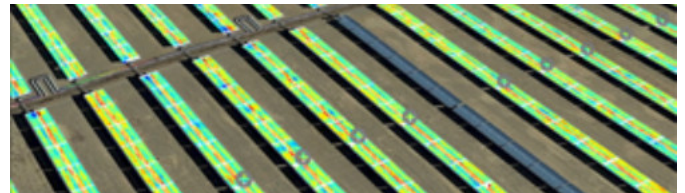
- » Identify losses and optimization potential
- » Understand the issues for informed decisions

Lower O&M costs

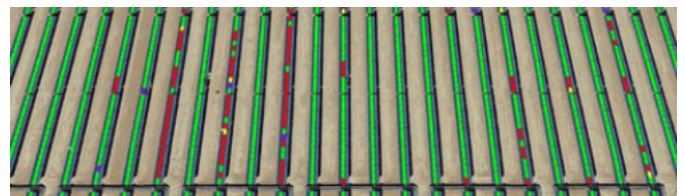
- » Reduce monitoring and maintenance effort
- » Enable preventive maintenance

Standardized execution & reporting

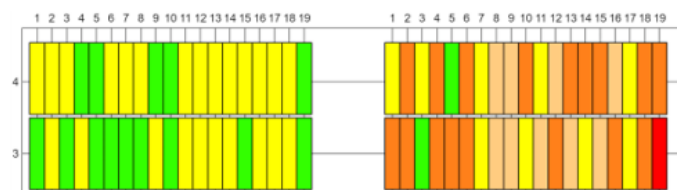
- » Minimal operational impact
- » Automated, low-effort reporting



Optical: Is collector performance affected by torsion, misalignment, shape deviations, or tracking offsets?



Thermal: Is receiver performance affected by air infiltration, hydrogen accumulation, or glass breakage?



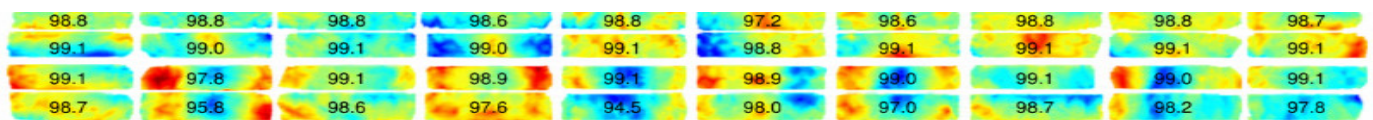
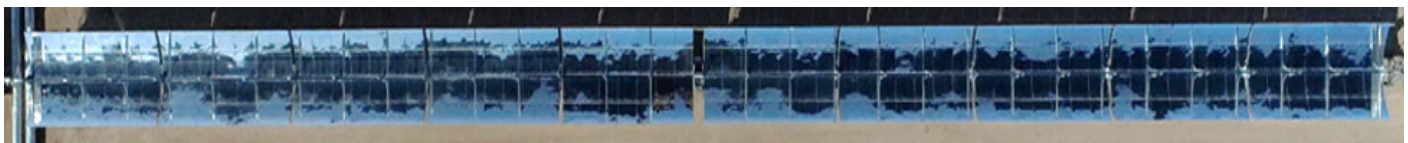
Hydraulic: Is field performance affected by poor hydraulic balancing?

Solar Field Insights

- Mirror and receiver breakage
- Receiver temperatures
- Receiver status (bending, air/hydrogen)
- Module and receiver alignment
- Collector torsion
- Collector shape deviations
- Tracking offsets
- Optical and thermal efficiency
- Hydraulic balancing

Provided Service

- Customized measurement plan
- Training of local staff (or full service)
- Operational within two days (remote onboarding, plant setup, and pilot support included)
- Automated drone missions with precise waypoints
- Remote evaluation
- Comprehensive report with color maps and statistical analysis
- Recommendations for corrective actions



Exemplary QScan measurement picture (top) and evaluation results (bottom) for one parabolic trough collector. The assessment exhibits concentrator shape errors (colored) and average intercept values per mirror row (numbers)

Selected Commercial References

 Year	 Country	 Performance issues	 Performance gain after repair
2025	China	Torsion & module alignment	Individual collectors improved by more than 5%
2025	Spain	Mirror shape deviation	Individual modules improved by up to 8%
2024	Spain	Tracking offset	Average tracking losses of 11% identified

Why QScan?



Proven CSP expertise
20+ years in solar field performance



Clear, actionable, data-driven insights
Proven in commercial CSP plants



Drone-based field assessment
Fast, reliable and non-intrusive



CSP expertise beyond drone inspections
Expert insights and targeted consulting