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Introduction

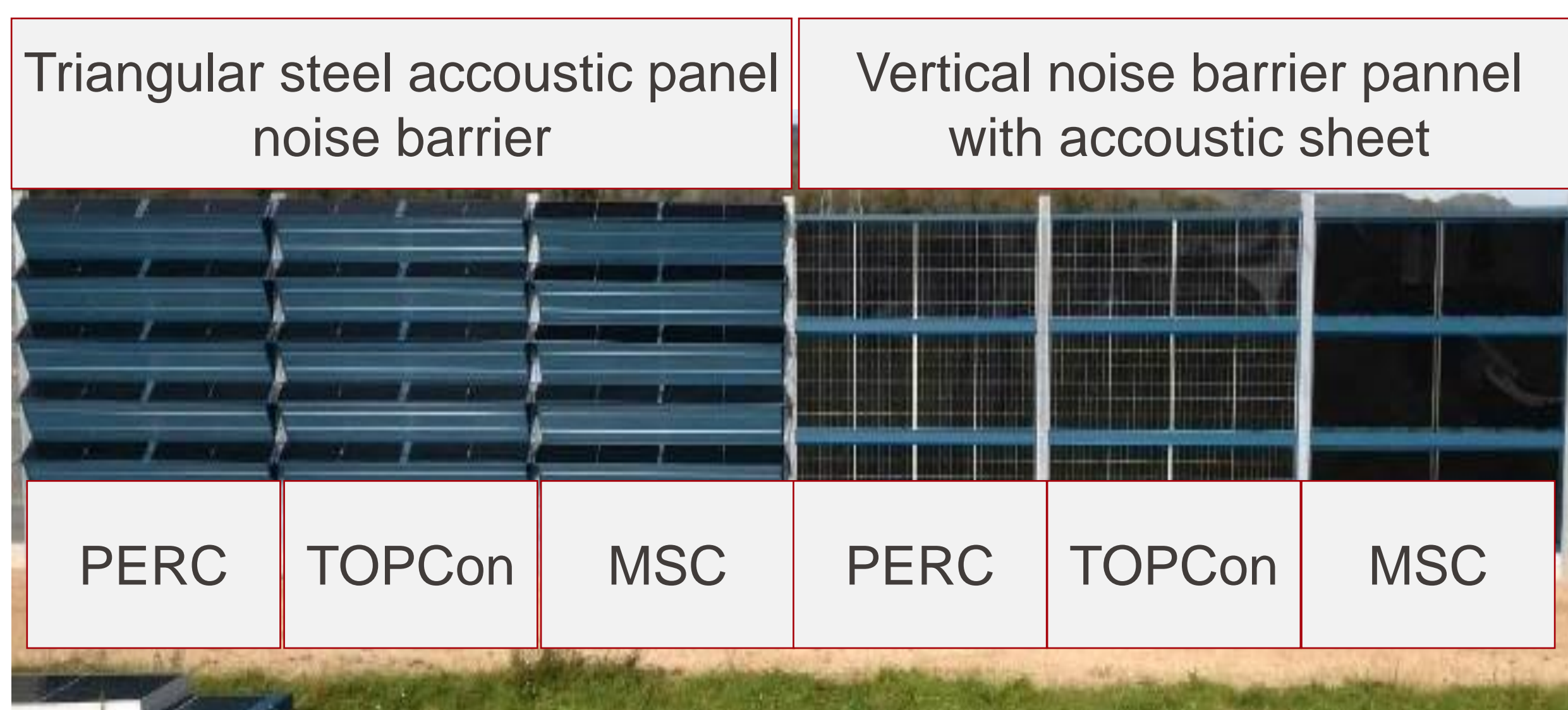
- **Context:** Demonstration of newly developed technology in several urban PV scenarios
- **Aim:** Analyze the degradation and performance of the newly developed solar modules

Technology

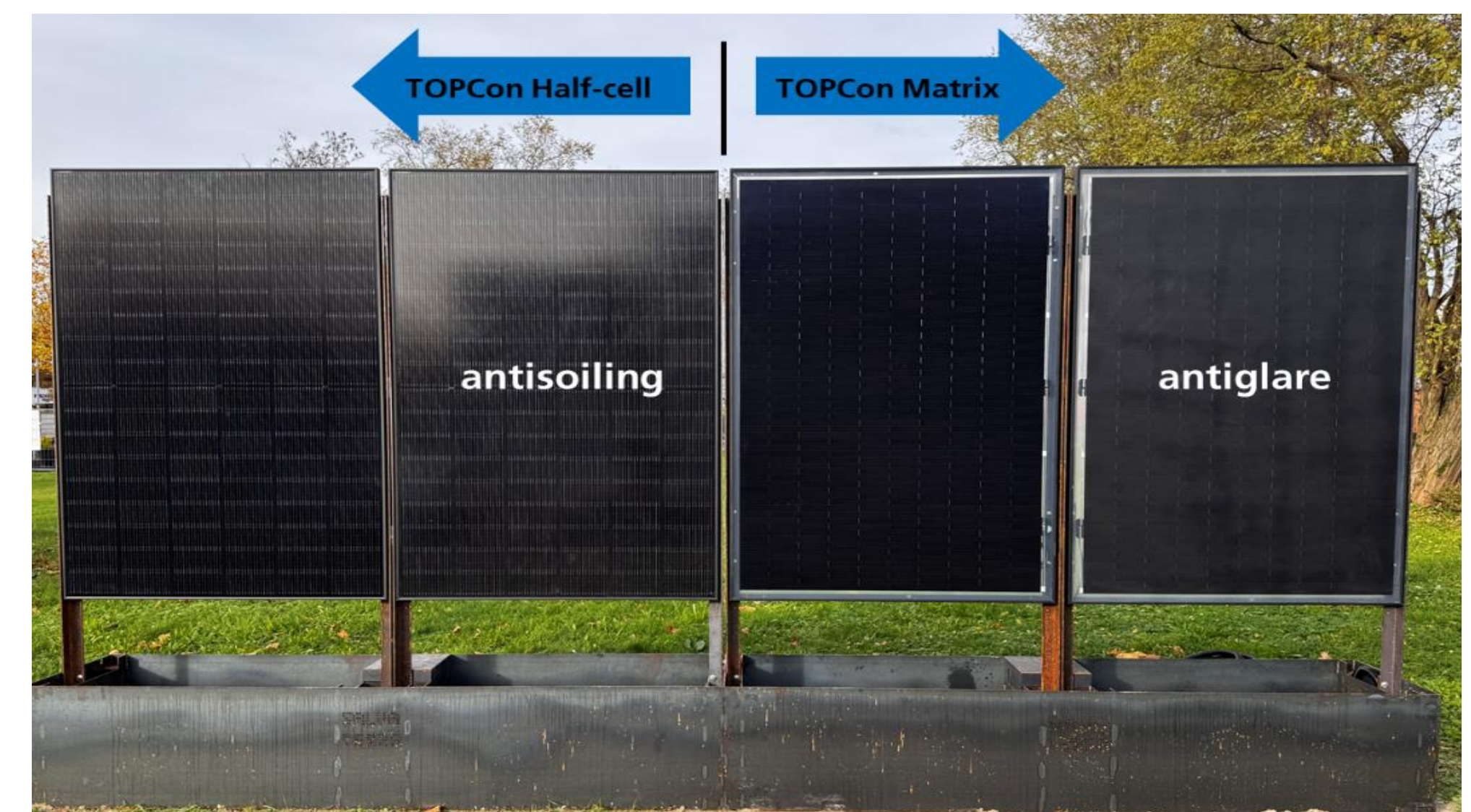
- **Matrix shingle technology (MSC):** Special cells arrangement to improve shadow resilience
- **UV Downshifter foils:** Protection against UV to reduce degradation overtime

Results

1. Photovoltaic noise barrier and green barrier



- Photovoltaic noise barrier with different technologies (PERC, TOPCon and MSC) and noise cancellation methods



- Green barrier with different technologies (TOPCon and MSC) and coating (antisoiling and antiglare)

2. Roofs and facade



- 270 m² roof covered by MSC solar tiles

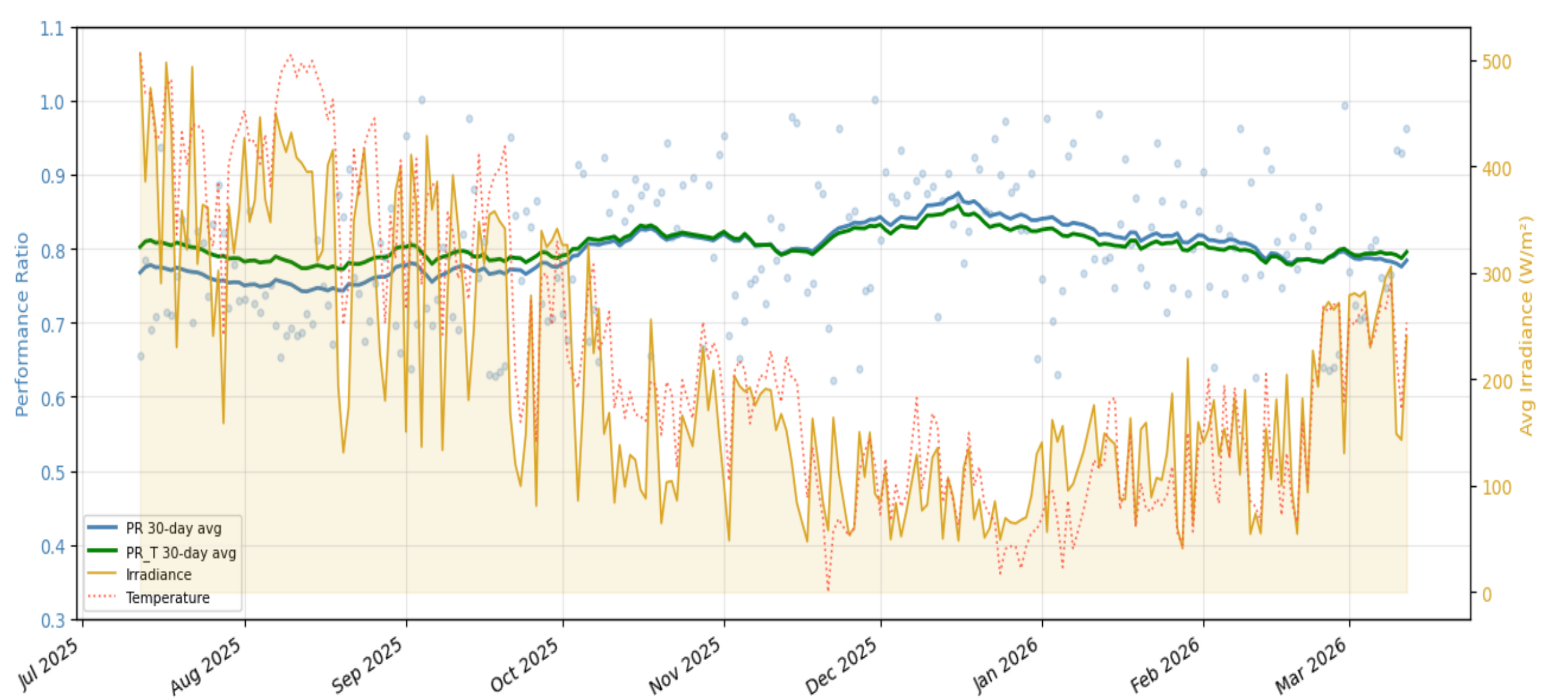


- 24 m² façade covered by MSC terra-cotta solar tiles

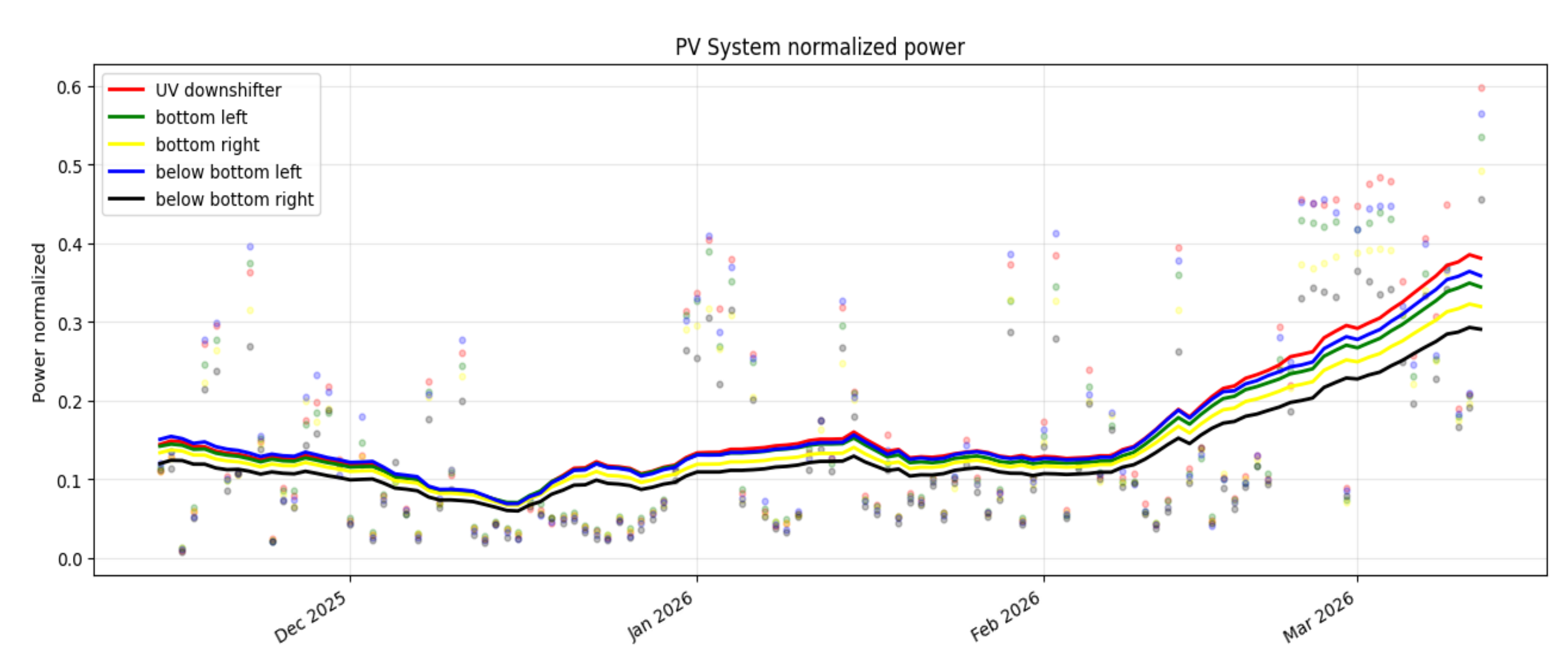


- 62 m² roof covered by MSC solar tiles with a UV downshifter row at the top (red rectangle)

3. Preliminary results



- 8 months of data for the east side of the 270m² roof with irradiance sensor are analyzed
- No meaningful degradation of performance ratio can be seen, the newly developed MSC solar tiles seem to be stable



- UV downshifter and directly bottom left/bottom right rows normalized power production comparison
- No performance loss due to the UV protection, need to wait degradation to validate the UV protection

Conclusion

- **Demonstrators:** The newly developed MSC solar tiles and modules are giving good power production, all demonstrators are running successfully since their installation
- **Degradation:** First 8 months of degradation analysis show promising results, must be confirm after at least a full year of data

Acknowledgements

This work has received funding from the European Union and the Swiss State Secretariat for Education, Research, and Innovation (SERI) under grant agreement 101136094 (SPHINX project).

