

ACCELIOS  
SOLAR



**Intersolar Conference Europe 2015**  
**„Solar Bankability“**

Matthias Graf von Armansperg

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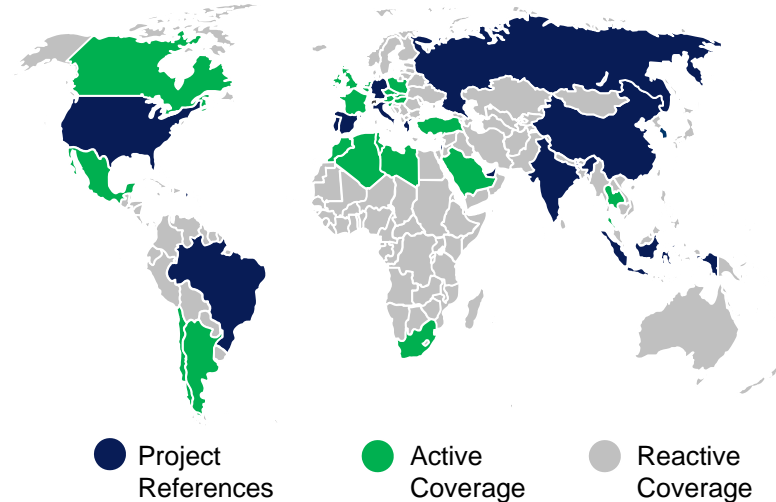
# ACCELIOS Profile

*ACCELIOS Solar offers technical and commercial advisory services with an integrated perspective on PV quality and risk management*

## Advisory Services

Services	PV Industry	Investors	Banks	Insurances	Governments
Strategic advice	✓				✓
Due diligences	✓	✓	✓		
Audits	✓	✓	✓	✓	
Expert opinions	✓	✓	✓	✓	
Claims management				✓	
Business modelling	✓	✓	✓		✓

## Regional Coverage



## References

- > 750 MW Commercial and technical due diligence of PV module manufacturers
- ~ 50 Production audits at PV module and inverter manufacturers
- > 10 Bankability books for module and inverter manufacturers
- > 1,500 MW Technical and commercial screening of PV project pipeline for banks and investors
- > 20 Commercial and technical due diligence of PV projects
- > 2,000 Insurance claims of PV systems

# Solar Bankability

*A bankability assessment requires a thorough due diligence of all potential project risks...*

<b>Finance</b>	<ul style="list-style-type: none"><li>▪ Revenues</li><li>▪ Cash flow</li><li>▪ Liquidity</li><li>▪ Financing</li></ul>	<b>Project company</b>	<ul style="list-style-type: none"><li>▪ Foundation</li><li>▪ Liabilities</li><li>▪ Losses</li><li>▪ Tax obligations</li></ul>
<b>Tax</b>	<ul style="list-style-type: none"><li>▪ Local taxes</li><li>▪ International taxes</li><li>▪ Acquisition/divestment taxes</li><li>▪ Depreciation</li></ul>	<b>Technology</b>	<ul style="list-style-type: none"><li>▪ System design</li><li>▪ Installation/commissioning</li><li>▪ Maintenance/repair</li><li>▪ Guarantees/warranties</li></ul>
<b>Legal</b>	<ul style="list-style-type: none"><li>▪ Site acquisition/ lease</li><li>▪ Authorizations</li><li>▪ Grid connection/PPA</li><li>▪ General contractor</li></ul>	<b>Insurance</b>	<ul style="list-style-type: none"><li>▪ Project specific concept</li><li>▪ All risks</li><li>▪ Revenues guarantee</li><li>▪ Project specific needs</li></ul>

# Solar Bankability

*...followed by an appropriate risk management strategy*

## A. Risk identification (along value chain/life cycle)

Identification

Impact assessment

Prioritization

## B. Risk allocation (liable party)

EPC

Component supplier

Operator

Owner

Lender

## C. Technical risk mitigation

Preventive design/commissioning

Preventive O&M

## D. Financial risk mitigation

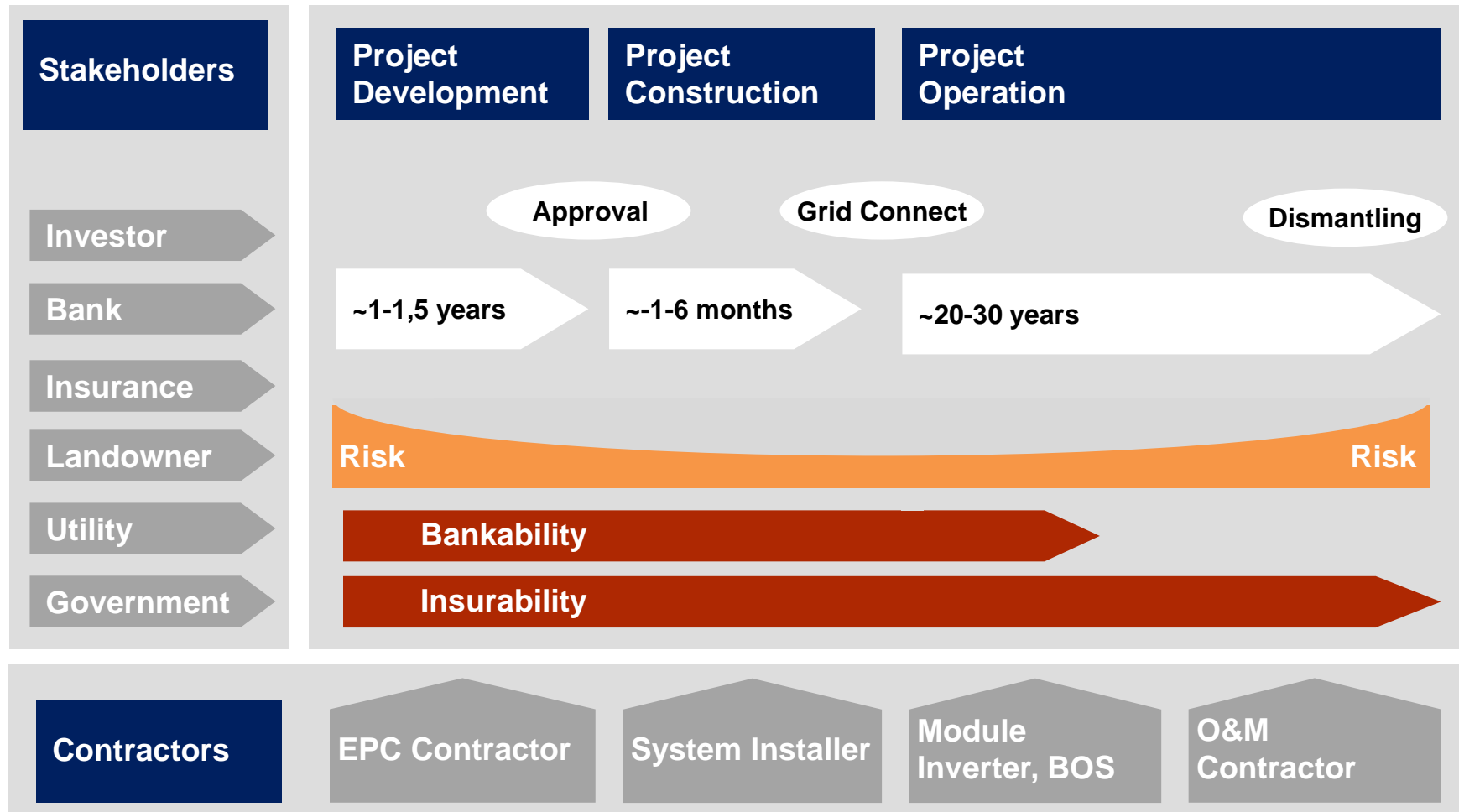
Insurance provisions

Investor provisions

Lender provisions

# Bankability

*The ultimate risk throughout the entire project life cycle will be borne by the project investor*



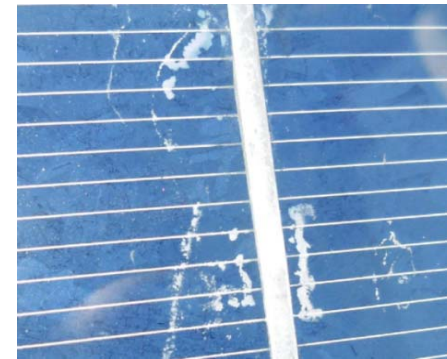
## Technical Risks

*Owner's engineers with specific PV industry expertise can assist investors in the assessment of technical risks*

Module: Hot spot



Module: Delamination



Mounting system: Statics

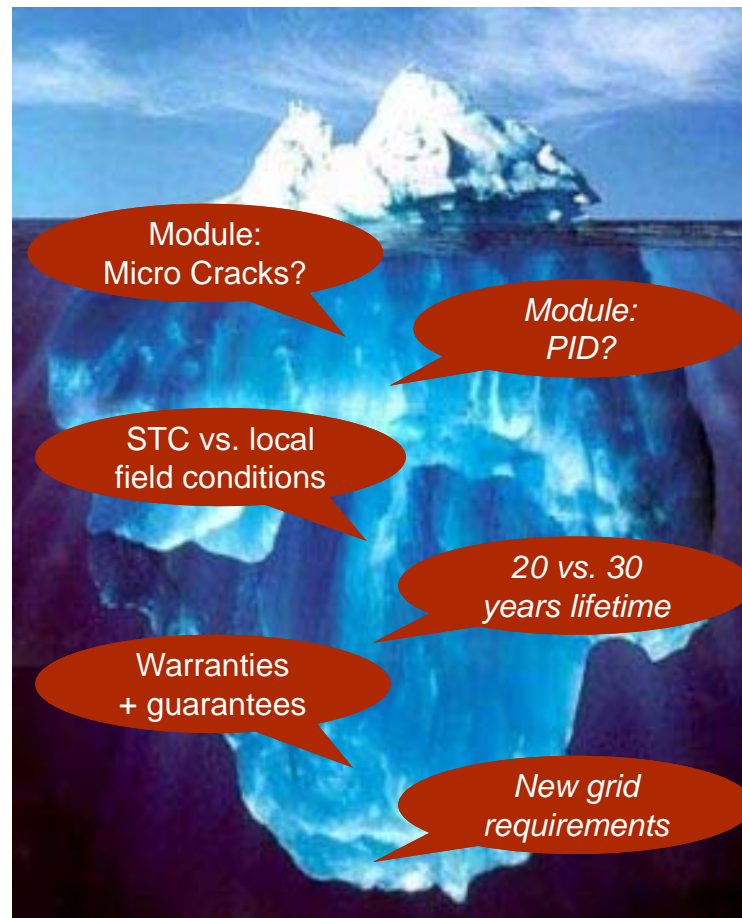


Cable: Animal bite



## Quality Standards

*The PV industry is highly dynamic and innovative. Not all risks are fully visible yet. Standards have to be constantly developed and updated.*



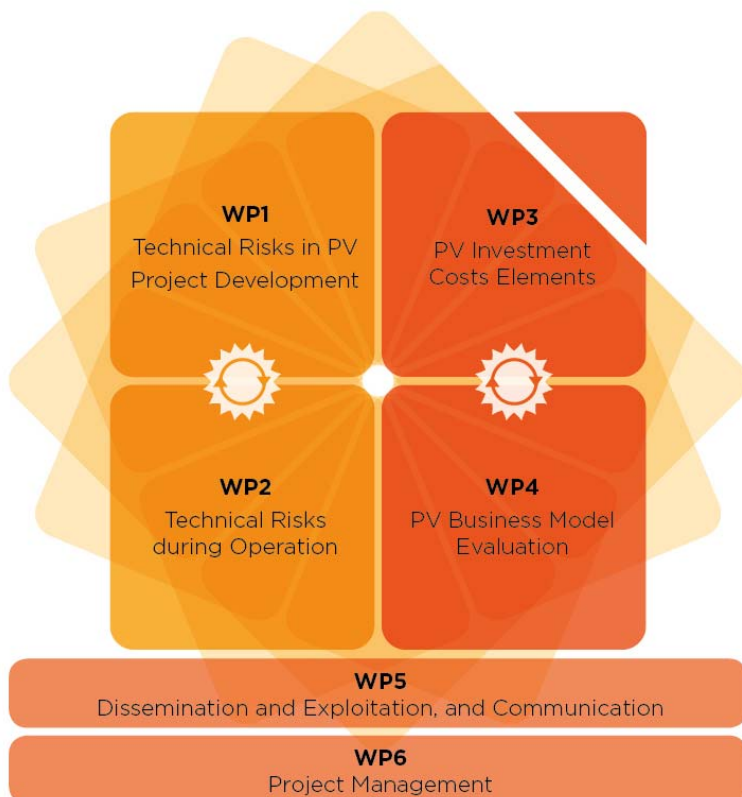




# Solar Bankability Project

*Quantifying and managing the technical risks for current and new business models to improve financeability and attractiveness of PV investments*

## Project workflow



## Consortium partners / work packages

- **Eurac Research (Italy) WP 1+6** 
- **TÜV Rheinland (Germany) WP 2** 
- **3E (Belgium) WP 3+6** 
- **ACCELIOS Solar (Germany) WP 4** 
- **SolarPowerEurope (Belgium) WP 5** 



The Solar Bankability project has received funding from the European Union's Horizon 2020 research and innovation programme under the grant agreement No 649997



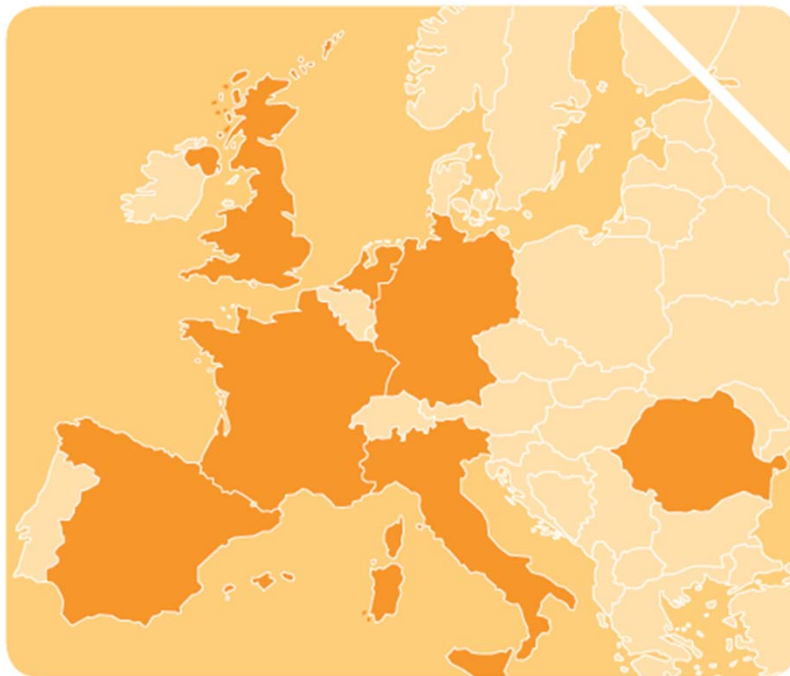


# Solar Bankability Project

*The project addresses financial market actors, owners & operators, industry, policy makers. The project covers 7 countries and lasts 24 months*

**Project duration: March 2015 – February 2017**

## Regional coverage



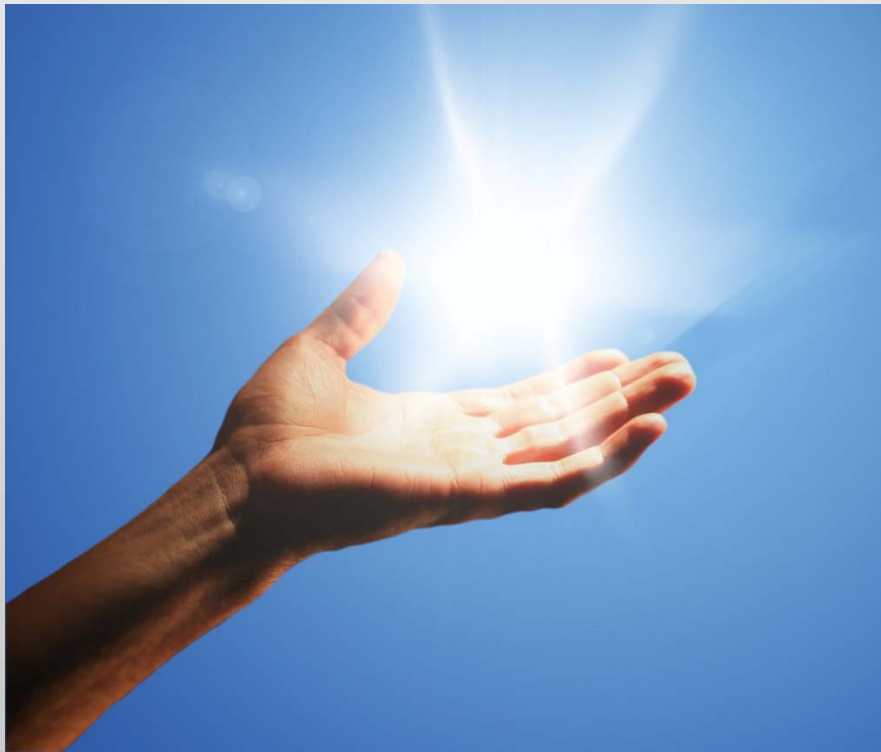
## Expected impact

- Reduce uncertainty, increase investors' confidence and trust towards PV investments.
- Valuation methodologies of PV investments based on standardized risk rating system.
- Standardized descriptions and proposal of models for cost calculation including practices for accounting of technical risks in PV energy investments.
- National strategies for financing solar photovoltaic energy investments.



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*Advisors in Solar Energy*  
*Markets – Technologies – Financial Solutions*



## Contact

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