

# SOPHIA Project Workshop

## *Marketing Methodology applied on the SolarDesign project*

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& SolarDesign Partners*

# Meeting agenda

- 1 Context and Issues
- 2 How to establish relevance of objectives : market attractiveness vs technical feasibility
- 3 Marketing methodology used
- 4 Balance between marketing analysis and technical parameters
- 5 Feedback from this experience

**Project full title** : "On-the-fly alterable thin-film solar modules for design driven applications"

**Project mission** : to develop novel solar cell materials, manufacturing processes and supportive actions to improve communication in the design value chain by:

- Development of a novel monolithic interconnection process for thin-film solar cells.
- Optimized designs of PV cells and modules for different application fields.
- Exploration of associated necessary adaptations of involved materials and process parameters.
- Demonstration of the novel PV material in design driven prototypes ranging from **solar charged mobile devices, solar lighting, Building Integrated PV** to full integration in **smart textiles**.

- Project start date: January 2013
- Project duration: 36 months
- Consortium: 11 participants / 6 countries
- Budget: 3,7 M€

## Consortium



# Meeting agenda

1 Context and Issues



2

How to establish relevance of objectives : market attractiveness vs technical feasibility

3

Marketing methodology used

4

Balance between marketing analysis and technical parameters



5

Feedback from this experience

## Market field maturity

Patents survey

Regulation



Technologies maturity

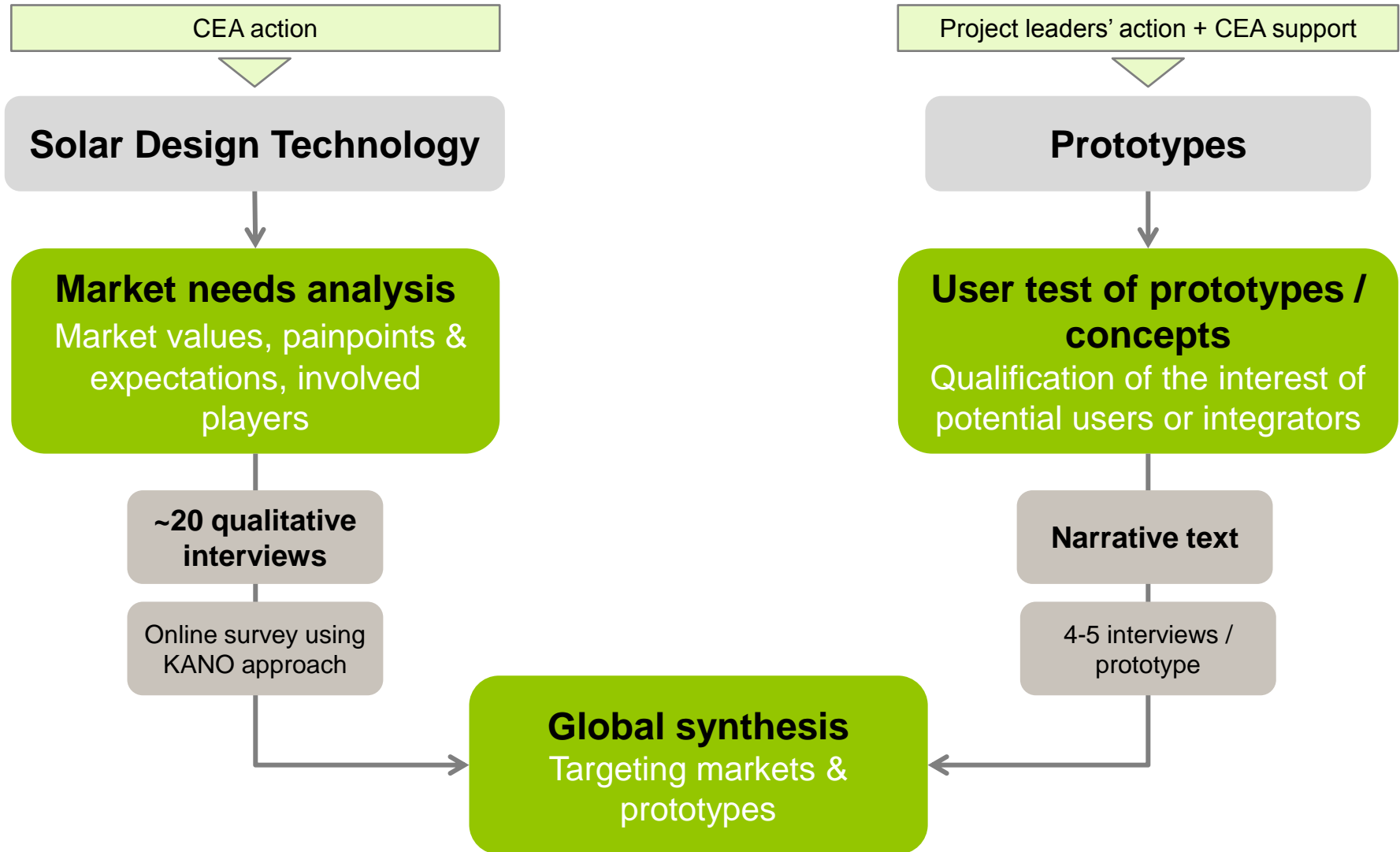
sales – competition

Cost of ownership

sales – windows

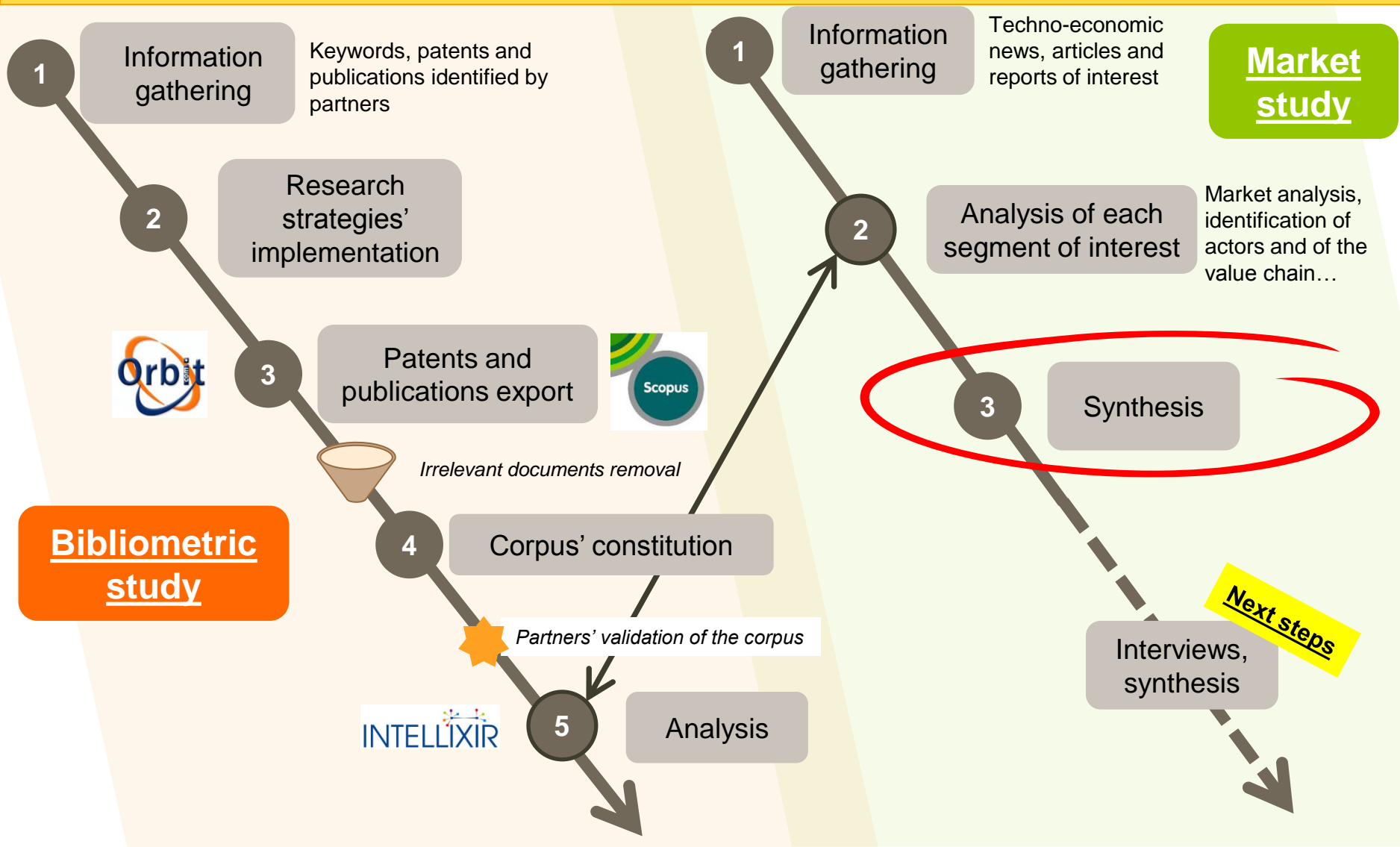
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# Methodology

## Global process of the market study

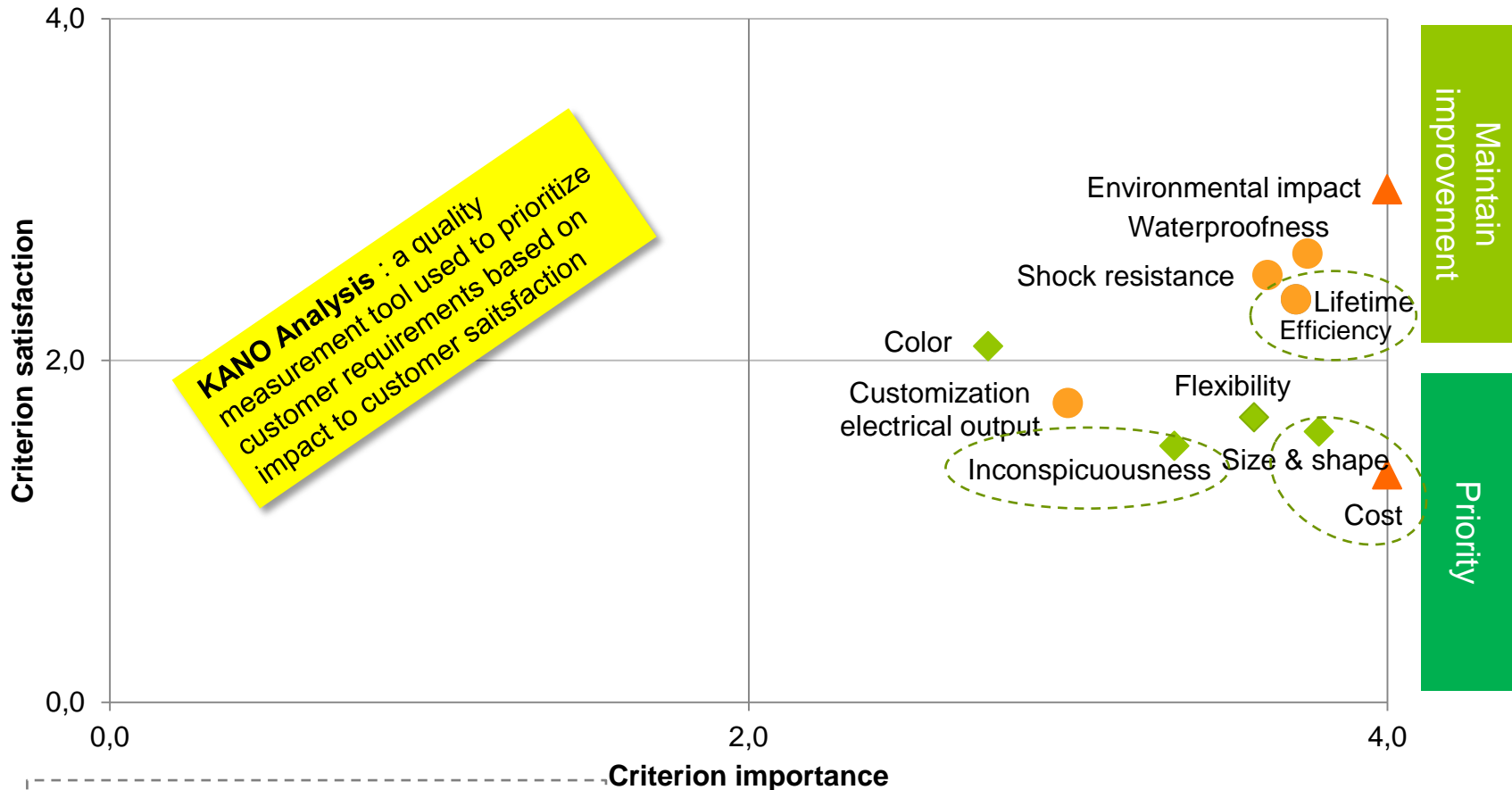




# Market attractiveness : synthesis

	Outdoor light with PV	BIPV with CIGS	Electronic charging with thin film	Textile PV patched	SmartTextile PV fiber
Market Stage	Mature	Growth	Emerging	Growth	Emerging
T.A.M in 2020 (estimated)	< 1 B€	> 10 B€	> 3 B€	> 2 B€	> 0,2 B€ ?
Patents	↑ 70% Chine	2004 ↗ 30% Chine	↗ 2007 ↘ 2011 ↗	Few patents	
Publications	Few	Few	mobile phone	↗ 2009 ↘	
Regulation	limitation of consumption Light level defined vs traffic	still confused, local specificity , difficult to apply globally	in favor of solar charging.	on going, start in 2006. European project	
Technical competition	Cristalline Cell (90%)	Cristalline (30%), CIGS (30%)	a-Si (techno is low), C-Si	CIGS	new technologies ?
Commercial competition	Big players (LED manuf + PV mod)	many Big & SME	many players (SME, Chinese)	many players from Textile (worldwide)	nobody
Sale window	open	open	open	open	2018-2020

→ 2 “aesthetic priorities” for BIPV sector: customization of the size and shape of the module and its discretion. Cost is also a driver of the technology’s diffusion.



### Legend

- Technical attributes
- Aesthetical attributes
- Other attributes
- One-dimensional
- Indifferent

# TOOLS for FIELD TEST

## Story Telling

SIARQ designs and offers a building integrated photovoltaic solution for geodesic structures available for purchase to geodesic dome manufacturers.

The target market of this BIPV solution is geodesic dome manufacturers who are interested in integrating photovoltaics into their structures. These manufacturers are already experts in mechanical engineering and other particular topics such as: aluminum extrusion, structural issues, mechanical solutions, process manufacturing, simulation software, passive solar gains, climatic conditions, etc. Geodesic dome manufacturers are very familiar with air conditioning and energy savings for their geodesic buildings making this process easier for them to complete.

## Qualitative interwiees



## « Kano » Questionnaire

### Solar Design survey

#### Flexibility

How important is the design of your PV integrated product?

1 2 3 4

Not at all important     Extremely important

How fulfilled are your needs regarding the design?

1 2 3 4

Not at all fulfilled     Extremely well fulfilled

How do you feel if the PV integrated product has a noticeable design?

1 2 3 4

I dislike it     I like it

How do you feel if the PV integrated product has NOT a noticeable design?

1 2 3 4

I dislike it     I like it

« Retour Continuer »



Terminé à 20 %

Fourni par  
Google Forms

Ce contenu n'est ni rédigé, ni cautionné par Google.  
Signaler un cas d'utilisation abusive - Conditions d'utilisation - Clauses additionnelles

## Interview synthesis template

Criteria evaluation	Solar Street light	BIPV geodesic	Portable solar lamp	Solar powered audio device	Solar cover for tablet	Solar awning	Wireless sensor network
Confidence in concept	Comments						
Target adequation	Comments						
Percieved benefits	Comments						
Created value							
Acceptance of changes							
Readiness to buy (time to market, price.)							
Other							
<b>Criteria validation :</b>							
<input type="checkbox"/>	<b>Yes</b>						
<input type="checkbox"/>	<b>Under conditions*</b>	* To be <u>precised</u>					
<input type="checkbox"/>	<b>No</b>						

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[...]

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# Match between market expectations vs. technical benefits

## Main expectations

- 0 Not at all
- 1 Yes but high risk of failure
- 2 Yes but could be easier with another technology
- 3 Yes
- 4 Can be achieved only with Solar Design

Is this characteristic achievable by Solar Design technical project ?

BIPV with PV					▶	Comments / arguments
Not satisfied	Phasme concept	p17 synthesis v6	3	12		
	Size and shape		3			
	Flexibility		3			
	Cost (pay back)		3			
PIPV					▶	Idem Bipv, except Efficiency because it is easier to achieve it with Cristalline
Must be Improved	Flexibility	p23 synthesis v6	3	11		
	Efficiency		2			
	Lifetime / cost		3			
	Shock		3			
Outdoor Light with PV					▶	It is easier with C-Si This system issue is not described in the technical program In the benefits list Many challenges : barrier film, CIGS new technology, battery and electronic alls intergrated in the same small casing
Must be Improved	Efficiency	p29 synthesis v6	2	7		
	Waterproofness		1			
	Environment impact		3			
	Lifetime		1			
Textile with PV					▶	In the benefits list not in the technical program it is easier to adapt Voltage and current when mounting a Module with C-Si cells ( wire connection ++ or +-)
Not satisfied	Flexibility	p35 synthesis v6	3	9		
	Size & shape		3			
Must be improved	Waterproofness		1			
	Electrical output		2			

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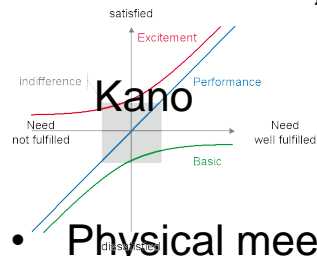
# FEEDBACK from this experience

Main results achieved thanks to this approach :

- Priorities, project key « exploitable results » have been clearly defined
- Conditions, barriers, strong and weak points have been pointed on
- Potential partners / customers are identified and integrated in the user or interested group

Resources required and recommendations

- Adapted Tools and methods know how:
  - Patents, international norms regulations ,and publications analyses



- Physical meetings between partners
- Methodology must be applied rigorously
- This market survey and technics' risk analysis approach should be a preamble to every development project