

SEAF – Sustainable finance through automation and standardization

Energy Efficiency Finance Market Place

November 18th, 2017

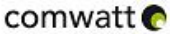
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COMPANY OFFERING

- Based out of New York and Italy
- **Financial Fund Manager** of Energy Reduction Assets (DR, EE, RES)
- Project Coordinator of the Horizon2020 project SEAF
- Chair of the Smart Energy Demand Coalition (SEDC)



SEDC Membership



Presentation content

1. SEAF project content
2. Main learnings, success and failures from US finance experience
3. Progress of SEAF project first year
4. Learnings and stakeholder reaction

1. SEAF project content



SEAF is a commercial project

SEAF - the Sustainable Energy Asset Framework

Bridging the Finance Gap

SEAF is funded by the European Commission

Budget: €1.700.000

Duration: 24 months

The Challenges of the Finance Gap

- **Project valuation/Optimization difficulties:** lack of standardised, independent, project valuation tools, which are needed to assess the return on investment (RoI) easily and at a low cost, and would allow small to mid-sized projects to find easier access to financing;
- **A communication gap between contractors and investors leading to a lack of trust:** it is often difficult for SMEs to present projects in a manner, which allows a financier to easily evaluate risks and benefits – in other words the financeability of the project;
- **A lack of standardization in the process** used for underwriting or management of energy **performance risks**, leading to lack of clarity and comparability in the project assessment and therefore to increased costs for all parties involved.

Project Goal:

Bridging the financing gap for sustainable energy projects across Europe

SEAF will enable the finance of small to medium sized projects by developing and deploying an independent, standardised project evaluation and project optimisation tool.

Key-stones of finance

The project combines the following existing functionalities:



1. **Valuation:** Robust independent ex-ante automatic valuation of SEA projects for both SEA contractors and SEA investors in different market environments against current market data



1. **Standardisation:** (SEA project optimisation through e.g. identifying additional revenue streams and providing partnering options;



1. **Risk Assessment:** Initial audit of the project's technical risks, including the proposal of risk transfer mechanisms such as insurance of equipment, business interruption or asset performance to increase investors' trust level in a project

Project Partners



ARISTOTLE
UNIVERSITY OF
THESSALONIKI



HSB Engineering Insurance



2. Joule US finance experience

Issues in US

SME/ESCO

- Banks have arbitrary ceiling on loans to service providers
 - Funds limit finance to a minimum of €1,000,000
 - Most projects are well under €500,000
- Finance is on the balance sheet – making the provider look like they are carrying high level of debt.

Financing party

- Legal work costly
- Due diligence costs on SME/ESCO
- Energy modeling standards are highly specific and require an engineer
- Market value data is complex and highly market specific

Financing focus US

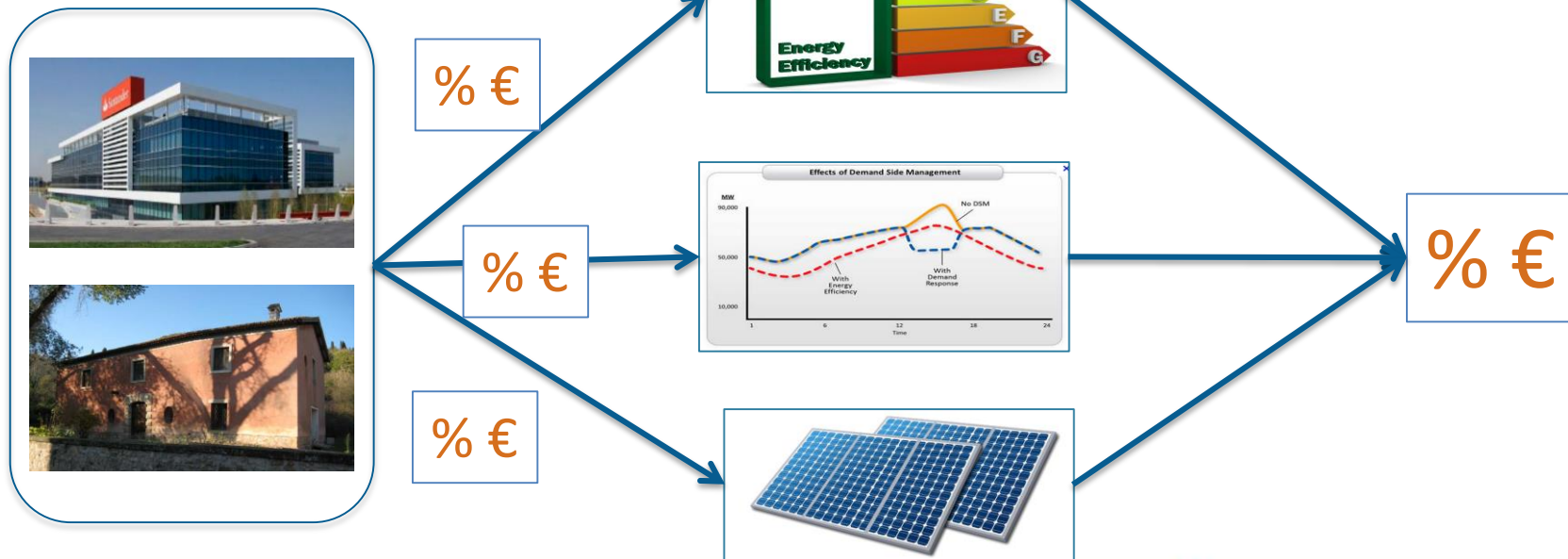
- Project from €2,000 to €500,000
- Clear pipeline of projects within the ESCO company
- Measurement and Verification on savings throughout the project
- Project will (probably) be **insured** by HSB
- Willingness to comply with **ICP** standardised protocols



Hartford Steam Boiler



Value & Finance Cross Cutting Business Cases



Example Europe



Copenhagen

Heating Energy Cost
Cooling Energy Cost

Programmable Thermostat	Manual Thermostat	Annual savings
€ 900.60	€ 998.49	€ 97.89
€ 154.30	€ 178.60	€ 24.30
Total savings		10.38%



Paris

Heating Energy Cost
Cooling Energy Cost

Programmable Thermostat	Manual Thermostat	Annual savings
€ 595.59	€ 660.33	€ 64.74
€ 274.97	€ 318.28	€ 43.31
Total savings		11.04%



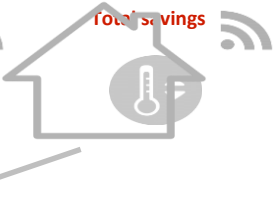
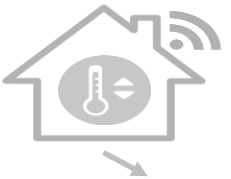
Barcelona

Heating Energy Cost
Cooling Energy Cost

Programmable Thermostat	Manual Thermostat	Annual savings
€ 355.13	€ 393.73	€ 38.60
€ 1'041.67	€ 1'205.74	€ 164.07
Total savings		12.67%

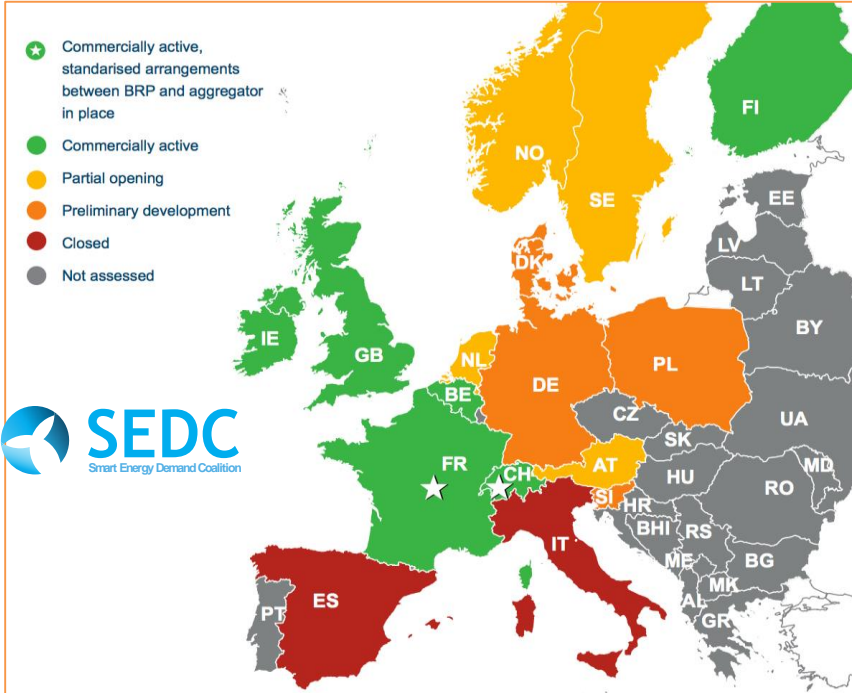


Energy Efficiency Alone

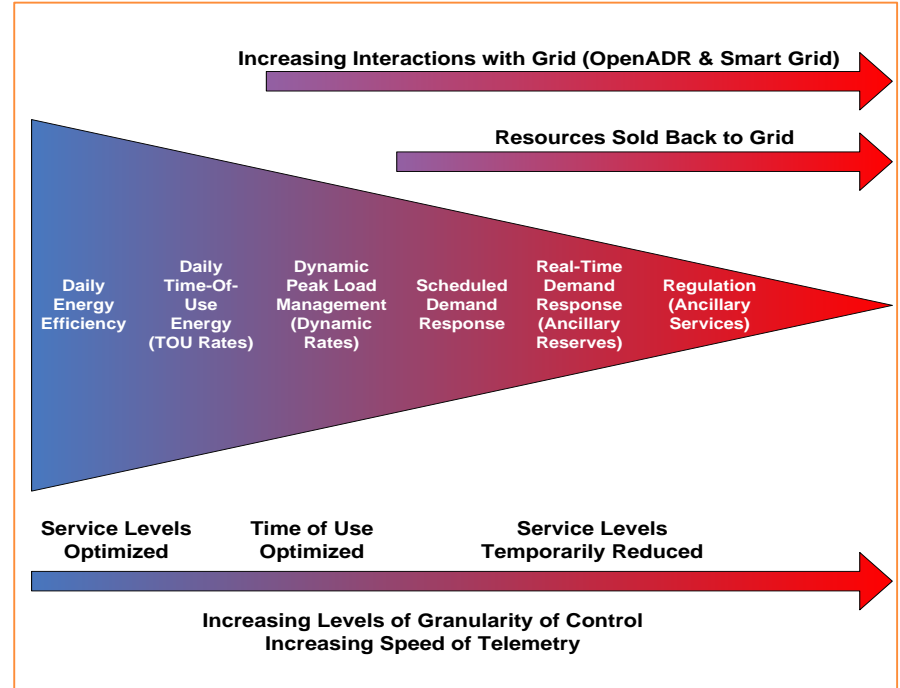


Potential for Demand Response

DR access spreading



Participating full range of markets



Valuation: Compare and Optimize



**Combining
Energy Efficiency
and Demand
Response**



Copenhagen

Heating Energy Cost
Cooling Energy Cost

	Programmable Thermostat	Manual Thermostat	Annual savings
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Paris

Heating Energy Cost
Cooling Energy Cost

	Programmable Thermostat	Manual Thermostat	Annual savings	Additional revenue
Heating Energy Cost	€ 595.59	€ 660.33	€ 64.74	€ 60.00
Cooling Energy Cost	€ 274.97	€ 318.28	€ 43.31	
Total savings			11.04%	--> 14.02%



Barcelona

Heating Energy Cost
Cooling Energy Cost

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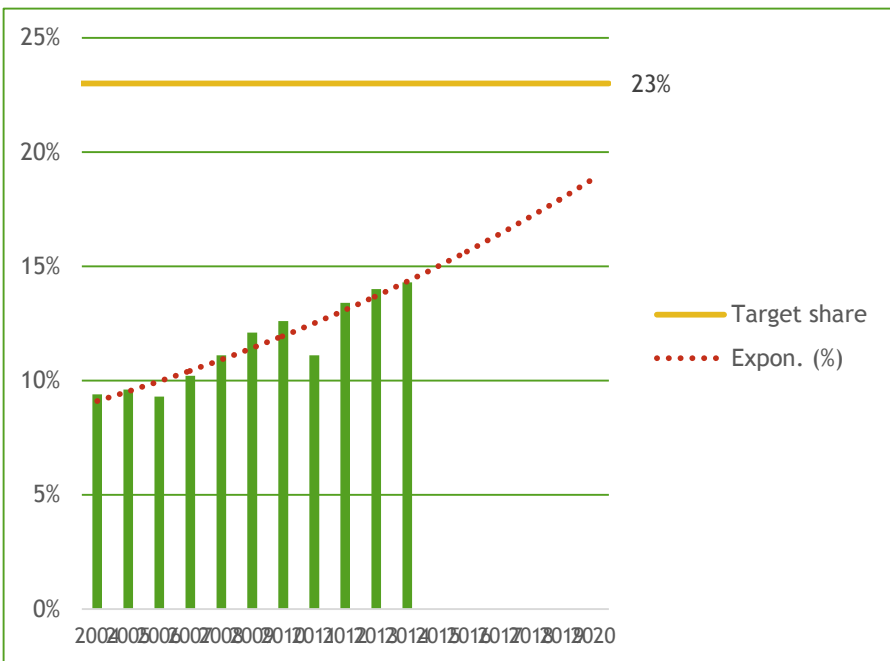
From 11% - 14%



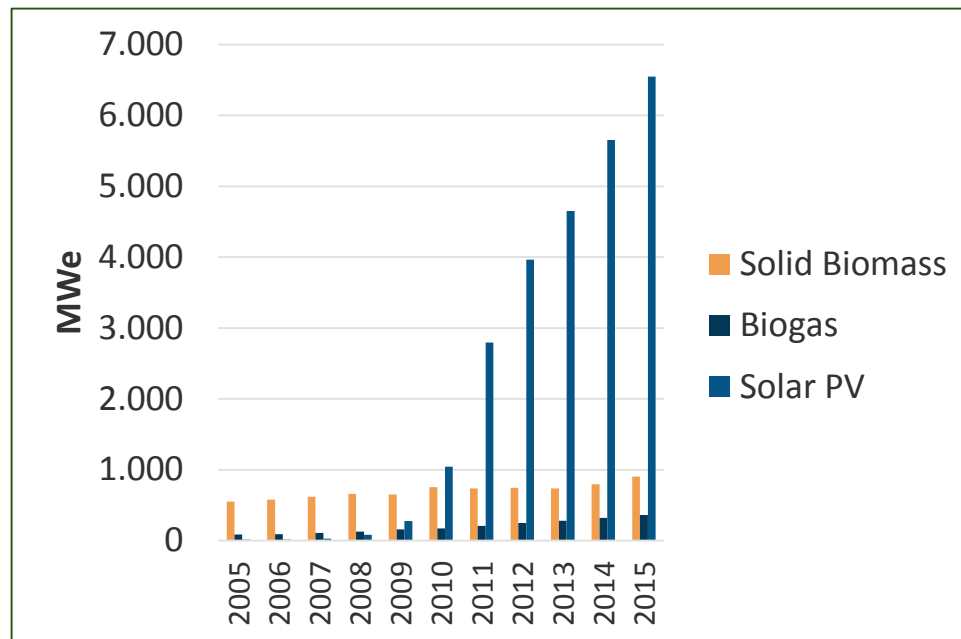


Asset Size Renewables

Share of RES in final energy consumption



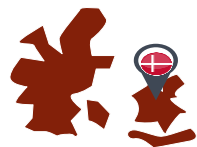
Projected Size of Renewable Resource



Valuation: Compare and Optimize



Combining distributed generation and energy management And RES



Copenhagen

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Cooling Energy Cost

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Total savings		11.04%	--> 20.00%



Barcelona

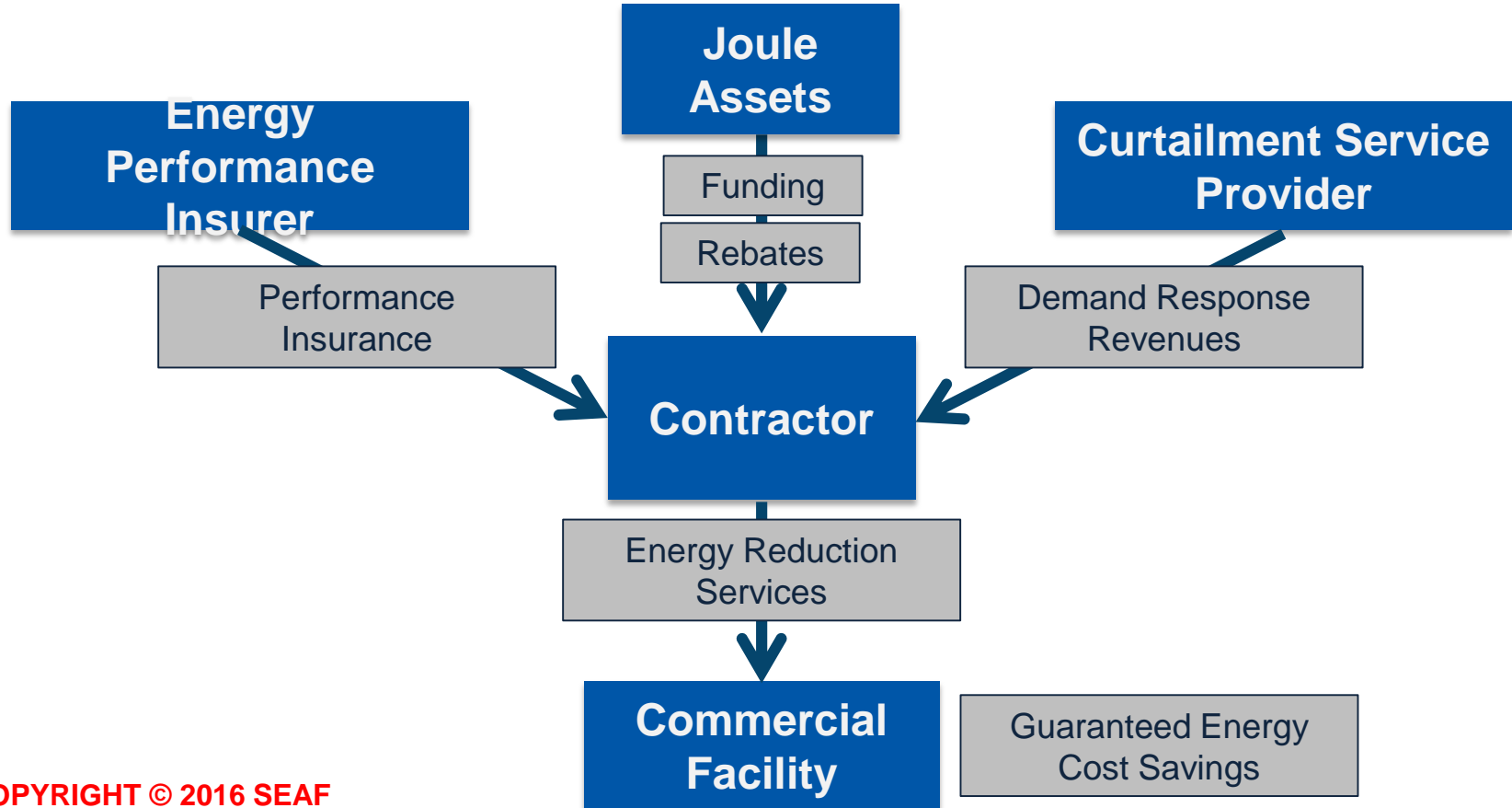
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From 11% - 20%



Financing Model Joule/SEAF



Main Learnings from US

- ESCOs may require **technical partnerships** as well as financial resources
- When insurance and standardization are built into finance – the financing model is very close to a **lease agreement** – supports scalability
- **Scaling is an issue:** important to foster pipeline – for example now working with large utilities support rollout of smart home

3. Progress of SEAF project first year

A year learning and implementing

Starting offer: Key-stones of finance

The project combines the following existing functionalities:



1. **Valuation:** Robust independent ex-ante automatic valuation of SEA projects for both SEA contractors and SEA investors in different market environments against current market data

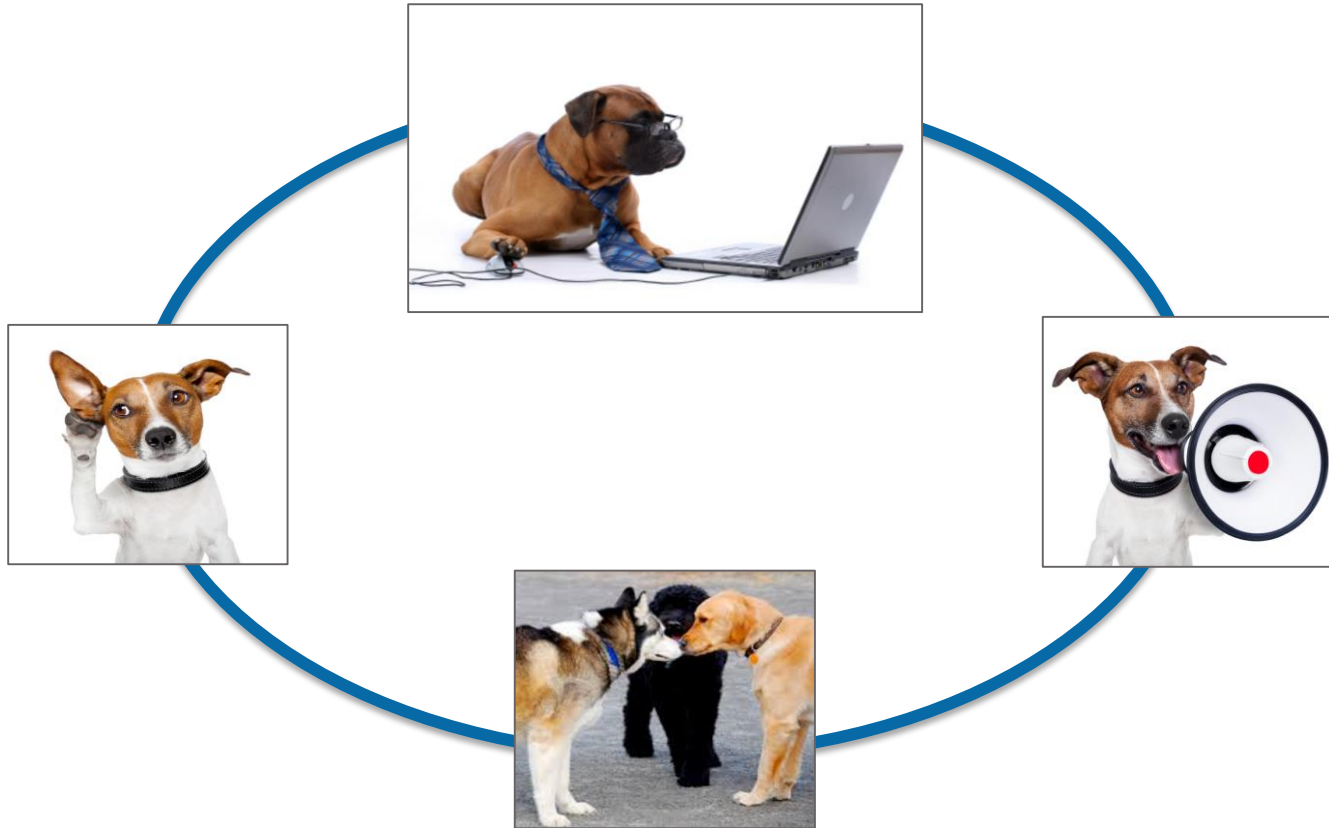


1. **Standardisation:** Use of ICP protocols or similar due diligence requirements to ensure comparable and consistent quality throughout lifespan. Consistent due diligence.

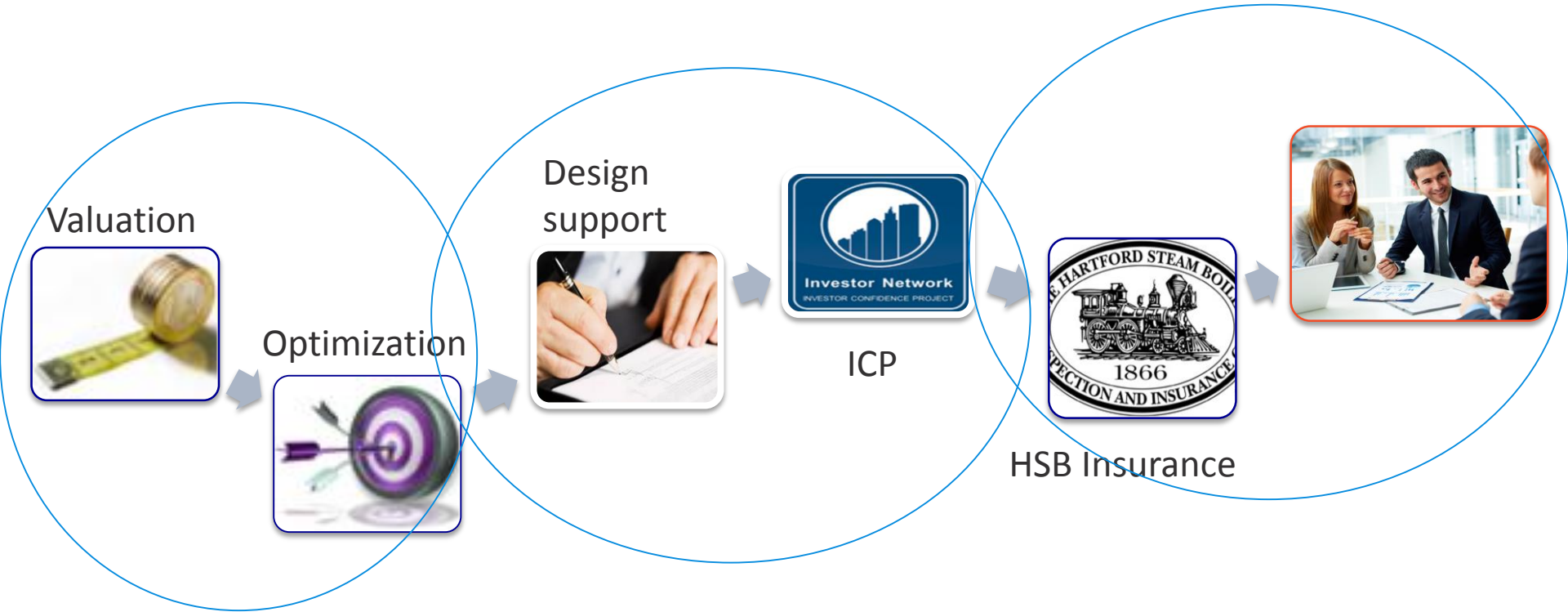


2. **Risk Assessment:** Initial audit of the project's technical risks, including the proposal of risk transfer mechanisms such as insurance of equipment, business interruption or asset performance to increase investors' trust level in a project

Stakeholder Engagement Process



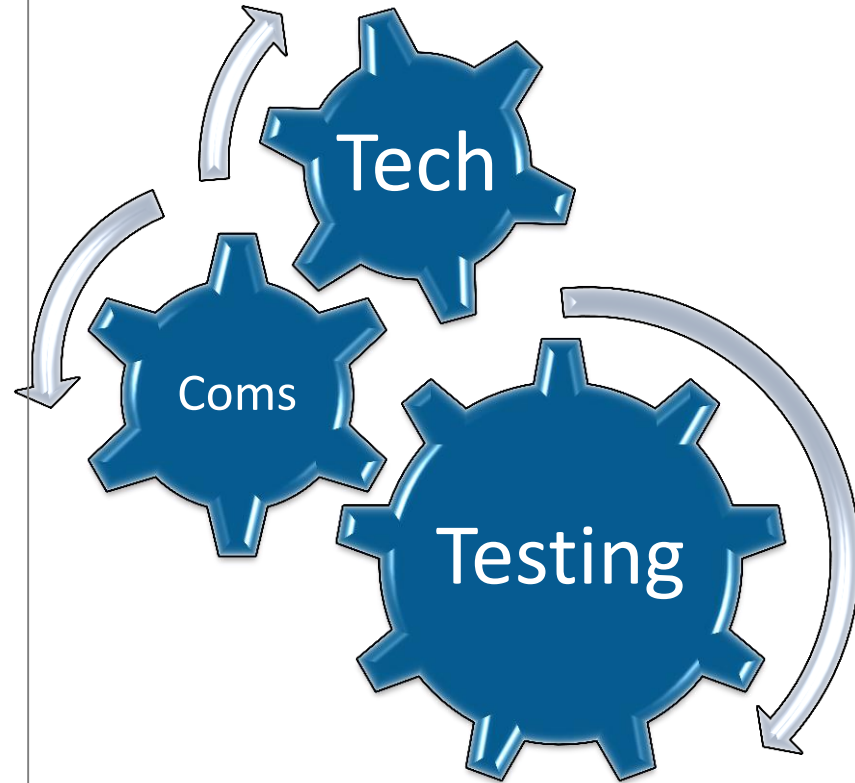
SEAF: become service centered – IT a support



Interactive Development Process

Current Status:

- ✓ 2 public events (Barcelona & Portugal)
- ✓ 30+ interviews and meetings
- ✓ Testing with first 8 users ongoing
- ✓ **Launch of beta version March 8th Milan**
- ✓ **First** feedback from investors received
- ✓ **First** contracts signed (both parties)
- ✓ **First** project being insured HSB through SEAF
- ✓ €6 million of projects being submitted
- ✓ Size between €2k and €500k
- ✓ All will be sent to network of investors



4. Stakeholder learnings and reaction

Main learnings from investors

Network of 12 funds/banks. Still requires further development for full matchmaking but Europe is largely covered.







Insights on investors:

- Success rate **below** 10%
- NO one fund or bank covers market needs (mismatch in design and needs)
- More money available than projects
- Complicated to mitigate risk and create scale

Substantial future learning expected during deployment phase
(risk mitigation, contractual expectations, communication gaps...)

Main feedback from investors

Reaction of investors SEAF elements:

- Standardization processes AND due diligence 
- Project pipeline creation  
- Insurance option 
- Introduction to contractors 
- Preliminary feedback as to quality of due diligence process 







Clear message and value proposition

Main learning from ESCOs

- Sales process of EE projects long and not easily scalable
- NO one sells EE (they all close deals with something else)
- Finance is one of several challenges
- Connecting the dots a challenge (meaning of finance for project structure and sales process)
- Foresight of financing process challenge
- Small is beautiful for sales
- Looking to avoid debt finance

ESCO reaction to SEAF elements

Staged and mixed value proposition:

- **Building trust** – ESCO - client - fund 
- **Valuation/optimization** 
- **Mitigate the maze of finance** 
- **Handshake service** 
- **Insurance appreciated** 
- **Standardization accepted** 



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*This presentation reflects only the author's view.
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Thank you!

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