Servitisation to deploy energy efficiency: As a Service models in the European environment
Servitisation to deploy energy efficiency: As a Service models in the European environment

EaaS Project Leads

Mira Tayah
Expert Circular Economy at Agoria

Javier Martínez Belotto
Sustainable Finance Manager at ANESE

Dimitris Karamitsos
Senior Energy Efficient Business Developer at BASE

Arno Nijrolder
Business Analyst Sustainable Energy at EIT InnoEnergy
Servitisation to deploy energy efficiency: As a Service models in the European environment

Iain McKechnie
Director of Strategic Programmes The Advanced Services Group
Servitization to deploy energy efficiency: As a service models in the European environment

What is Servitization?

8th July 2021 (15:30 CET)

(for external use)

Prepared and presented by Iain McKechnie
080721

Director of Strategic Programmes
Advanced Services Group,
Aston Business School, UK
What I’ll cover today…

1. My role, ASG and why it’s my pleasure to be an Advisory Board Member for EaaS

2. What is Servitization?

3. Some of the areas where you see it applied / the market trend-growth on Servitization.

4. How it can help accelerate the implementation to energy efficiency?
THE ADVANCED SERVICES GROUP

The servitization centre of excellence at Aston Business School
ABOUT THE ADVANCED SERVICES GROUP

A centre of excellence at Aston Business School, Aston University

Focused exclusively on servitization and advanced services

Providing education, training, research and a global network of like-minded professionals

Helping global manufacturers and technology innovators to develop services-led strategies
An example of our activities...


SERVITIZATION LIVE

Everything as a Service

4-6 Oct 2021  VIRTUAL BUSINESS EVENT

Register
When manufacturers start to investigate adding services to support their products, the services tend to fall into 3 broad categories: base; intermediate and advanced.
With each step taking them closer to the customer.
Types of Services

Until they reach a point where ‘a sales transaction’ turns into ‘capability delivered through a contract’.
Biggest problem – knowing where to start!
Our academic transformation roadmap

The Advanced Services Group’s ‘Transformation Roadmap’, shown below, is the framework we use to help manufacturers understand the journey they are about to embark upon.
Help manufacturers, of all sizes and geographies, to create new value with their customers based upon the provision of an outcome or capability.

Help manufacturers to understand how to provide ‘advanced services’ to support their products in use.

Help manufacturers to apply the best revenue model to ensure they get paid in the most appropriate way for the new value being delivered.

Help the manufacturer to improve their competitive advantage and their relationship with their customers.
We help manufacturing firms to move from being product-led firms to services-led firms by working with them on their business model, their value propositions, their revenue models and their value delivery systems. In doing so, we increase the value created by the manufacturer and the benefits to the customer - which has a positive effect on their revenues and margins. The Advanced Services Group’s ‘Services Staircase’, shown below, is the model we use to identify potential value & competitive advantage.
The five megatrends studied are:

1. Health and Aging: The aging society and increasing importance of healthy living and lifestyle
2. **Green and resource scarcity**: The increasing demand for **environmentally friendly products and services**
3. Value change towards transparency, diversity, individualization and freedom of choice, as well as demand for meaning and connectedness
4. Inequality and Social Exclusion: The increasing market share of poor customers, the demand for ‘frugal innovations’ and ‘micro-provision’
5. Globalization and the need for community: The increasing emphasis on communities, localities, etc. to foster identity in a globalized world
Energy-related Case Studies...

- **Nederman**: Filtration - Clean Air
- **Alstom Transport**: Energy Saving
- **Caterpillar**: Fuel Burn & Idle Time
- **KONE**: Improved Equipment Efficiency
- **Orica Mining Services**: Utilise Energy More Efficiently
- **Goodyear**: Fuel Reduction & Carbon Emissions
Some of the other areas...

Aerospace = ‘Glass Factory’

CS = 3D scans

Food = ‘NGRM’

TT = Cloud Services
UK Government MMS - Project #40693

£1.7m (£2m)

August 2020 to June 2022

Digital Servitization Demonstrator – with BDR Thermea: HaaS

Project Progress - Highlights

WP3- Demonstrator build

WP4- Demonstrator test

WP5- Roadmap & Training Materials

Design (WP2)
- Aug 20- Jan 21
- Design Haas Model, Digital solution & Room

Build (WP3)
- Feb 21- Jul 21
- Build Haas Model, Digital solution & Room

Test (WP4)
- Aug 21- Jun 22
- Test with customers to refine model, solution & demonstrator

Roadmap + training Materials (WP5)
- Feb 21- Jun 22
- Roadmap- Training material

Commercialisation + Dissemination (WP5-7)
- Aug 21- Jun 22
- Identify + Pilot Customer(s)
Help is available…
HOW TO ENGAGE WITH THE ADVANCED SERVICES GROUP

1. Sign up & downloads
2. Miniguide
3. Masterclass
4. Advanced Services Partnership
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Session 1

Perspectives from Technology Providers

Eduardo Moreira
Global Services Director at Signify

Alix Weil
Product Manager & Sustainable Energy Engineer at Delta-EE

Tomas Sanz De SantaMaria
Project Director at GreenYellow
Servitisation to deploy energy efficiency: As a Service models in the European environment

Eduardo Moreira
Global Services Director at Signify
Turning CapEx into OpEx to generate free cash flow. How can Light as a Service can help you?

Servitisation and as a service models for intelligent lighting
Efficiency as a Service (EaaS) Virtual Dialog

Eduardo Moreira, July 8th
Our purpose is to unlock the extraordinary potential of light for brighter lives and a better world.
Signify, the world leader in lighting

- 100% Carbon Neutral Company
- Our goal is to DOUBLE our positive impact on the environment and society
- We employ 37,000 people in 74 countries
- Ours sales in 2020 hit €6.5B ~75% professional
- We are #1 in conventional, LED and connected lighting systems and services
- Industry Leader in our category in the Dow Jones Sustainability Index (2017, 2018, 2019)
Our world is changing

Population growth and urbanization

More demand for light

Resource challenges

More energy-efficient lighting

Digitization Connectivity

More connected lighting
Imagine... managing your facility remotely

Imagine... minimizing the energy consumption

Imagine... citizens feeling safely and welcome

Imagine... improving your productivity
GREAT, but

• I have little time to organize a lighting upgrade

• I’ll have a hard time to justify the investment

• I hate surprises and don’t want to take risk
We’ve got you covered with our Light as a Service offers

At Signify we offer an end-to-end approach including design, build, operation and maintenance of the lighting installation.

Together we will focus on optimizing your business.

Easy to experience, end-to-end solutions ranging from design and build to operate and maintain, with guaranteed performance commitments

Our advanced lighting systems and services deliver

- The best quality light
- Significant energy savings
- Operational efficiency
- Improved business outcomes
Through Light-as-a-Service, you can turn CapEx into OpEx & generate free cash-flow.
Through Light-as-a-Service, you can turn CapEx into OpEx & generate free cash-flow.

Example:
“50K savings per year means a return on Investment of 25% per year.”
Through Light-as-a-Service, you can turn CapEx into OpEx & generate free cash-flow
Through Light-as-a-Service, you can turn CapEx into OpEx & generate free cash-flow

Example:

“10K instant annual savings, 50K annual Service Fee during the Service Agreement, and 40K new annual Energy Cost.”
Through Light-as-a-Service, you can turn CapEx into OpEx & generate free cash-flow

Example:

“10K instant annual savings, 10k maintenance cost after the Light as a Service Agreement, and 40K new annual Energy Cost.”
LaaS offers a higher cumulative free cash-flow than a traditional CAPEX approach

- Positive cashflow from day 1
- Free up cash over time
- Improved debt-equity and other financial parameters on your balance sheet
- Hassle-free high-quality lighting
- Guaranteed performance over contract duration

Cumulative Cash Flow Analysis

- LAAS enables extra 100k cumulative cash-flow over 10 years
- LAAS enables an instant free cash-flow
Praxis and Brico stores (Maxeda), Netherlands and Belgium

“Light as a Service is perfect for us. All we do is pay for a service contract for all of our stores. Our program comprises the entire conversion of all our stores, including the removal of old lighting and the installation of new LED luminaires. The maintenance of the lighting is also part of this.”

- Henk Schurink
Constructions and Shop Fixtures Manager, Praxis

Find out more
Design for eternity. That was one of the ambitious starting points for the renovation and new construction of the Antwerp Management School.

Managing director Geert Vyncke did not want to follow well-trodden paths for the most sustainable building possible. Instead, he chose Circular lighting as part of the solution, demonstrating that this sustainable lighting concept perfectly combines cost savings and comfort.
Signify’s collaboration on lighting with the world’s leading steel and mining company ArcelorMittal results in beautiful, sustainable LED light.

Delivered through our hassle-free Light-as-a-Service offering, it helps to promote worker comfort and delivers a safer, better lit environment for all the works and collaborators of this important industrial plant in Sagunto, Spain.
Taking on board the campus’ eco-friendly approach, we rolled out the circular lighting service in all of their parking garages.

With Signify retaining responsibility for maintenance of the new lighting, the High Tech Campus management team was able to focus their time elsewhere. On top of this, our circular lighting service delivered a 70% saving on energy consumption across the parking garages.

We also provided the campus with the option of updating luminaires as the latest technology becomes available, resulting in a fully future-proof system.
A lighting solution that fits your business needs, our capabilities:

- Global presence and local experience delivering multi-tiered support
- World-class innovation capabilities and deep application and system expertise
- One-stop shop: systems and services across the lighting value chain
- Proven record of quality and reliability – no unpleasant surprises

Light as a Service Virtual Dialog - Eduardo Moreira
If you have any questions or require further information, feel free to reach out and connect:

Eduardo Moreira
Global Services Director
eduardo.moreira.neto@signify.com
www.linkedin.com/in/eduardocmoreiraneto/
www.signify.com
1. **Procurement process**
   - Procuring a service is different than procuring a product.
   - Focus on a best value (over economical life-time) procurement process

2. **Early legal involvement**
   - Outcome based performance contracts need to be assessed in more details than standard T&C for the purchase of products to secure your benefits over time
   - Give your legal department time to go through the proposed agreement

3. **Accounting assessment**
   - An off-balance treatment might be possible in the right set-up.
   - Involve your technical accounting team to work with legal on the agreement to make it a true service agreement

4. **Operational responsibilities**
   - Define upfront a clear responsibility matrix for your teams and subcontractor
   - Engage with 1 partner and avoid grey areas of accountability
Standard Managed Services

Optimize your energy and maintenance costs to benefit from a solid return on investment.

Costs (€)

- **200 K** Investment
- **100 K** Current energy & maintenance cost
- **50 K** Savings
- **50 K** New energy & maintenance cost

**Example:**
“50K savings per year means a return on investment of 25% per year.”

The investment is earned back via energy savings, after which you enjoy full savings benefits.

**Example:**
“50K as new annual energy and maintenance cost for the years to come.”

Year 1

Year 2-5

Year 6 onwards

Cost: €100K - €50K = €50K

Example:
“50K savings per year means a return on investment of 25% per year.”
Light as a Service

No upfront investment while keeping the savings, resulting in positive cash flow from day one.

Example:
“10K instant annual savings, 50K annual Service Fee during the Service Agreement, and 40K new annual Energy Cost.”
Best option for instant free cash flow
Analysis of an industrial customer roll-out

Do you have multiple sites? We can accelerate the renovation with a factor 3~5 whilst boosting your free cash flow

Example:
• 50 medium site production site
• 1 year delay on Capex approval process
• Factor 3 acceleration of renovation
• 5 years’ financing

Accelerated Renovation Cumulative Cash flow analysis

- Classic CAPEX model
- Light as a Service
What is needed for your facilities to benefit from LaaS?

As a rule of thumb, if you have a facility with:

- 500 light points with conventional technology
- 4000 burning hours per year
- 4~5 years remaining lease period or owned by you
- 0,1 euro/kWhr as energy cost

You will be able to benefit the free cash-flow with LaaS
Servitisation to deploy energy efficiency: As a Service models in the European environment

Alix Weil
Product Manager & Sustainable Energy Engineer at Delta-EE
HEAT-AS-A-SERVICE
A PRESENTATION BY DELTA-EE

CONTACT
alix.weil@delta-ee.com
About Delta-EE

We enable organisations to develop the best strategies, business models and customer propositions for the energy transition. Our breadth & depth of expertise spans:

### New Energy Business Models

- **EVs & Electricity**
  Understand the opportunities and challenges from sector coupling between electricity and transport

- **Flexibility & Energy Storage**
  Take advantage of the opportunities emerging from an active demand side

- **Heat**
  How channel disruption, sector coupling and new technologies are changing the heat sector

- **Distributed Power**
  Global market insight & expertise into the growing role of decentralised generation

- **Digital Energy**
  Opportunities in the connected home market and how digitalisation is changing the energy customer relationship

#### Delta-EE provides:

**Subscription Research Services**

Provided by dedicated research teams that get under the skin of ‘new energy’ markets in Europe and globally, and understand future market direction.

These Services bring Delta-EE’s subscribers deep expertise on all the topics of ‘new energy’ and access to experts for ongoing support.

**Consultancy**

Delta-EE’s consultancy team provides clients with bespoke confidential research and insight to answer the critical questions which are impacting their business.

Our consultancy levers knowledge from our Subscription Services to provide tailored support and advice.
Some of our research

Helping you understand how the energy transition is evolving across Europe

Heat
- New opportunities for electrification of heat across Europe
- Heat as a Service
- Heating market in multi-family homes
- Integration with district heating
- Green finance for energy efficiency and low carbon heating

Digital
- Annual state of the European market
- Connected controls for heat pumps
- Energy insights in self-generation
- Energy insights solutions database
- Energy insights in heat decarbonisation

Energy Systems: Flexibility & batteries
- Annual state of the Storage and Flexibility markets
- Energy storage for carbon management
- The role of interoperability and embedded connectivity in demand side flexibility
- Integrating DSF into Energy-as-a-Service offerings

New Energy Business Models
- Net Zero Cities: what are the opportunities for energy companies?
- The State of the New Energy Market in 2021
- New Energy SPACs and IPOs
- Energy as a Service

EV charging
- EV charging country reports
- The future directions of commercial charging solutions
- The clash of EV energy solutions: V2G versus stationary storage and smart charging
- Modelling EV energy consumption across charging segments

Local Energy Systems
- What is the role of energy communities in the green transition?
- Opportunities and challenges for microgrids business models
- Value of resilience

Distribution Network
- Integration of renewable energy assets on the distribution network
- Transactive energy
- Flexibility for DSOs

Hydrogen
- Clean hydrogen production tracker
- Hydrogen application case studies
Distinguishing between heat product-as-a-service and heat outcome-as-a-service

THE HEATING EQUIPMENT

- monthly payment rather than upfront payment (product-as-a-service)
- Contract: finance + maintenance, lease / rental
- Connectivity: remote monitoring

THE ENERGY USE

- selling outcomes rather than inputs (outcome-as-a-service)
- Metering: fuel input, heat output, warmth outcome
- Service level agreement: pay-per-use, subscription (limited or unlimited)
- Control: default, optimised
Distinguishing between different heat service models using a risks framework

- **Heat contract / Heat output as a service**
  - Financial risk
  - Technical risk
  - Performance risk
  - Regulatory risk

- **Asset rental or leasing / Finance and maintenance contract**
  - Financial risk
  - Technical risk
  - Performance risk
  - Regulatory risk

- **Warmth contract / Heat outcome as a service**
  - Financial risk
  - Technical risk
  - Performance risk
  - Regulatory risk

- **Efficient asset leasing / Performance guarantee**
  - Financial risk
  - Technical risk
  - Performance risk
  - Regulatory risk
What are the commercial benefits?

<table>
<thead>
<tr>
<th></th>
<th>Product</th>
<th>Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appliances sold</td>
<td>100</td>
<td>110 ▲</td>
</tr>
<tr>
<td>Total revenue</td>
<td>€ 1.3m</td>
<td>€ 2m ▲</td>
</tr>
<tr>
<td>Total profit</td>
<td>€ 250k</td>
<td>€ 400k ▲</td>
</tr>
<tr>
<td>Reduction in energy costs</td>
<td>0%</td>
<td>-30% ▼</td>
</tr>
<tr>
<td>Upfront cost to customer</td>
<td>€ 5,500</td>
<td>€ 0 ▼</td>
</tr>
<tr>
<td>Monthly cost to customer</td>
<td>± € 64</td>
<td>€ 108 ▲</td>
</tr>
<tr>
<td>Total cost to customer</td>
<td>€ 13,120</td>
<td>€ 13,000 ▼</td>
</tr>
</tbody>
</table>
How are companies financing it?

2) Equity
Investment funds (e.g. Econic)

3) Debt
Banks
Leasing companies
- Bank owned (e.g. BNP Paribas)
- Independent
- Manufacturer (e.g. Siemens)
Corporate bonds (e.g. E.ON)
Crowd funding! (e.g. Thermondo)
Customer demand will not be a limiting factor for heating service models within the next 10 years.
More on heat as a service

- **Series 9 Episode 2**: In conversation with Joris Jonker: scaling a business, investment and growth
- **Series 7 Episode 3**: How is Heat as a Service emerging in the European heating market?
- **Series 5 Episode 1**: Electrifying heat in the Netherlands – the role of data and services
- **Series 3, Episode 7**: Home Energy Management: What is it and where’s it headed?
- **Series 2, Episode 4**: Transforming homes with super-insulation and high-efficiency heating
- **Series 1, Episode 3**: Heat as a Service – selling comfort to the customer
Servitisation to deploy energy efficiency: As a Service models in the European environment

Speaker

Tomas Sanz De Santa Maria
Project Director at GreenYellow
EFFICIENCY AS A SERVICE
BY GREENYELLOW
GREENYELLOW EN BREF

Unique experience in the energy market for 14 years.

Our ambition: Make the energy transition from our clients successful.

17 Countries & 500 Employees
315 million € sales in 2020
+ de 273 000 T. de CO₂ avoided in 2020

+ 3000 Energy Performance Contracts
For 85 M€ in savings per year for our clients

More than 350 solar projects throughout the world

+ 1,7 M m² Of installed solar panels

+ 1,2 Billion € invested
on solar and energy efficiency projects for our clients

3 actionnaires robustes
Objective: Minimize energy consumption for our Clients.

Advantages of using EaaS:

- Avoid initial investment by the client
- Implement the most appropriate technologies available
- Put incentives in place to:
  - Achieve the most amount of savings possible.
  - Maintain these savings through time!
Situation BEFORE Intervention

- Client pays for gas and electricity
- Client produces and consumes its own cold and heat.
- Inefficient Equipment
Situation AFTER Intervention

- Machines Upgraded/Optimized
- Monitoring installed
- Energy Consumption Reduced
Energy Performance Contract (EPC)

- Engagement on the savings

Cold Service Agreement (CSA) or Heat Service Agreement (HSA)

- Engagement on the cold/hot water plant’s efficiency

Cold as a Service (CaaS) / Heat as a Service (HaaS)

- “Selling” the cold/heat produced

All models, for the same project, end up with the same savings for the client and same invoice for Greenyellow.
Follow Baseline creation methodology

Define relevant variables for creating Baseline Formula
- Degree Days or OAT
- Open/close days
- Production volume/mass
- Internal temperature

Impossible to create this formula for new buildings

Hard to adjust to operation/building modifications

Taken from IPMVP
Cold Service Agreement

Modeling the cost/MWh_th after installation to define the goal.

Agree upon an average performance based on modeling
- EUR/MWh_th
- COP

If after installation, measured cost is outside tolerance: penalty.

Other performance penalties possible:
- Failure to achieve temperature
- Operational time
Caas/Haas

- Client pays for utilities to providers

- Client pays for thermal energy produced by greenyellow

- GY discounts cost of utilities

- Incentive for GY to operate as efficiently as possible.

**Invoice** = $\text{Fix} + Q_{\text{real, th}} T_{\text{th}} - C_{\text{real, e}} T_e - C_{\text{gas}} T_{\text{gas}}$
Benefits
Durable reduction in the energy consumption

72 Ton of CO₂ avoided/year
83% Of energy savings

Initial investment done by greenyellow: 100%

SOLUTIONS

CHILLER REPLACEMENT WITH HEAT RECOVERY
IMPROVED EFFICIENCY AND «FUTURE PROOF» REFRIGERANT
HEAT RECOVERY REPLACING ELECTRIC HEATERS TO KEEP CHOCOLATE HOT.

INSTALLATION OF BMS TO FOLLOW KPI’S AND GAINS

REDUCTION OF 976 MWh/year

GARANTEED SAVINGS
6 YEAR CONTRACT

• Sector: Food Industry

Contribuer aux valeurs et à la politique RSE de l’entreprise
EFFICACITÉ ENERGÉTIQUE

Nous apportons des solutions pour renouveler et optimiser vos services et votre performance énergétique, sans investissement.

Maîtrise de l’ensemble de la chaîne de valeur du projet efficacité énergétique

Etude, conception et réalisation  Financement de projet  Suivi et garantie de performance

Efficacité Energétique

Nos projets visent la mise en œuvre de solutions énergétiques sur les postes de consommation principaux, afin de favoriser un maximum d’économies.

Conception efficace

Efficacité et design vont de pair pour créer des environnements qui ont un impact sur l’expérience client et l’environnement.

Froid-as-a-service

Avec ce type de contrat nous renouvelons l’ensemble du système de réfrigération, garantissant l’efficacité maximale de l’équipement et vous ne payez que pour l’énergie consommée.
Are you ready to **SHIFT TO PROFITABLE ENERGY**?
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Perspectives from Financiers

Letizia Coradeschi  
Associate, Energy Efficiency at SUSI Partners

Ian Robertson  
Executive Director, Invigors EMEA Ltd.

Simon Lutzenberger  
Head Sustainable Finance Solutions CH at CHG-MERIDIAN
Servitisation to deploy energy efficiency: As a Service models in the European environment

Speaker

Letizia Coradeschi
Associate, Energy Efficiency at SUSI Partners
SUSI ENERGY-AS-A-SERVICE MODEL
Customized financing solutions for energy efficiency projects

8 July 2021
SUSI Partners AG is a global independent leader in sustainable infrastructure and a one-stop shop investment manager with over EUR 1.5bn of assets under management.

SUSI AT A GLANCE

INVESTED TO DATE

INVESTED BY TECHNOLOGY

INVESTED BY REGION

SUSTAINABLE ENERGY INFRASTRUCTURE INVESTMENTS

**EQUITY PLATFORM**

- SUSI Renewable Energy Fund I (EUR 57m), fund exit
- SUSI Renewable Energy Fund II (EUR 383m), fully invested
- SUSI Energy Storage Fund (EUR 252m), investment phase

**CREDIT PLATFORM**

- SUSI Energy Efficiency Fund I (EUR 235m), fully invested
- SUSI Energy Efficiency Fund II (EUR 289m), investment phase

INVESTED TO DATE

EUR 969m

INVESTED BY TECHNOLOGY

- Renewables 50%
- Efficiency 40%
- Storage 10%

INVESTED BY REGION

- Europe 92%
- Americas 5%
- Asia Pacific 3%

Data as of 31 March 2021

SUSI Asia Energy Transition Fund – first close: USD 81m

SUSI Energy Transition Fund (OECD) – first close: EUR 297m
Despite its well-known advantages in fighting the climate change, the widespread utilization of energy efficiency measures is far lagging behind its potential.

There is not one single specific reason which impedes energy efficiency to progress quicker, but rather a subset of single minor issues which when combined can prevent projects from implementation.

Those preconditions need to be tackled in an orchestrated manner including the lack of available financing for such projects.

→ Energy efficiency specific market obstacles can be overcome among others by implementing a smart structuring to unlock the financing issue.
UNLOCKING THE MARKET: SUSI 3-PARTITE-MODEL

- Outsourcing of non-core activity
- Balance sheet and budget-neutral financing solution for implementation of energy efficiency measures
- Service payments without balance sheet impact

- Focus on technical implementation
- Service based business model with corresponding improvement of balance sheet ratios
- Non-recourse financing solution provided by SEEF

- 100% Capex financing
- Financial structuring customized to project requirements
- Provides off-balance sheet structures
- Aggregation of small projects
- Multi-country framework feasible
SUSI ENERGY EFFICIENCY FUND I (FULLY INVESTED)

END CUSTOMER
- Private: 56%
- Public: 44%

TECHNOLOGY
- Streetlighting LED: 36%
- Commercial LED: 34%
- Combined heat & power: 18%
- Other: 12%

TRANSACTIONS EXECUTED
- 5

PRIVATE VERSUS PUBLIC
- Public: 44%
- Private: 56%

TECHNOLOGY
- Streetlighting LED: 36%
- Commercial LED: 34%
- Combined heat & power: 18%
- Other: 12%

INCEPTION DATE: 2013
Y YEARS FUND LIFETIME: 12
TONS OF CO₂ SAVED*: 840K
EQUITY INVESTED: €235M
DIFFERENT COUNTRIES: 12
CLOSED DEALS: 40

*Based on existing portfolio as of 31 December 2020.
SUSI ENERGY EFFICIENCY FUND II (INVESTING)

**END CUSTOMER**
- Private: 60%
- Public: 40%

**TECHNOLOGY**
- Commercial LED: 32%
- Streetlighting LED: 22%
- Combined heat and power: 15%
- Building Efficiency: 13%
- Solar self-consumption PV: 7%
- Smart metering: 10%
- Various: 1%

- **Transactions executed**

---

**2018**
**INCEPTION DATE**

**15**
**YEARS FUND LIFETIME**

**230K**
**TONS OF CO₂ SAVED***

**€289M**
**TOTAL COMMITMENTS**

**13**
**DIFFERENT COUNTRIES**

**27**
**CLOSED DEALS**

*Based on existing portfolio as of 31 December 2020.

SUSI Partners | Servitisation to Deploy Energy Efficiency | Confidential
# Partner of the World’s Leading Light Manufacturer by a Global Financing Agreement

## Key Facts

<table>
<thead>
<tr>
<th>Item</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume</td>
<td>Up to EUR 35 million</td>
</tr>
<tr>
<td>CO₂-Savings</td>
<td>18,275 Tons of CO₂ p.a.</td>
</tr>
<tr>
<td>Tenor</td>
<td>Between 5 and 10 years</td>
</tr>
</tbody>
</table>

## Project Overview

<table>
<thead>
<tr>
<th>ESCO</th>
<th>Largest lighting manufacturer with commercial operations worldwide and over 100 years’ experience at the forefront of lighting technology.</th>
</tr>
</thead>
<tbody>
<tr>
<td>End Customers</td>
<td>Customers range from SMEs to large multinationals across industries, located in seven European jurisdictions.</td>
</tr>
<tr>
<td>Measures</td>
<td>Lighting-as-a-Service (“LaaS”): full retrofit of existing lighting with energy-saving equipment, enabling remote monitoring and smart maintenance.</td>
</tr>
<tr>
<td>Financing Structure</td>
<td>“True Sale of Receivables” structure allows SUSI to purchase a portfolio of receivables that is off-balance sheet for the lighting manufacturer.</td>
</tr>
<tr>
<td>Advantages</td>
<td>Long-term relationship approach with a highly cost and time efficient structure for all involved parties. Available financing on a recurring basis through a multi-country and multi-currency framework agreement. The framework allows for repeated sales of receivables whereby single transaction will be automatically eligible for financing if certain pre-agreed parameters are fulfilled. The agreement also entails the possibility to refinance existing projects if certain pre-agreed parameters are fulfilled.</td>
</tr>
</tbody>
</table>
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Servitisation to deploy energy efficiency: As a Service models in the European environment

Ian Robertson
Executive Director at Invigors EMEA Ltd.
FINANCING ENERGY AS A SERVICE
— AN INDEPENDENT ADVISORY’S PERSPECTIVE —

NICK FEASEY & IAN ROBERSTSON
EXECUTIVE DIRECTORS
The journey towards EaaS & its key enablers

- The provision of services can drive creation of customer value and competitive advantage.
- Customer financing underpins this and enables services provision at scale.
- Both require effective management of the various risks involved.
- Performance Advisory is key as data driven insight (via IoT) points to where value and risks lie.
- Monthly subscription provides a singular services contract, with a focus on outcomes within EaaS.

### Equipment Service Spectrum

|-----------------------------|-----------------------------|---------------------------------|-----------------------------------|-------------------------------|---------------------------|-----------------------------|

### Evolution of EaaS Offerings

#### Evolution of Equipment Finance

<table>
<thead>
<tr>
<th>Product Sales</th>
<th>Traditional Sales Financing</th>
<th>Separate Finance &amp; Services Contracts</th>
<th>Subscription Contracts</th>
<th>EaaS Contracts</th>
<th>Usage Based Contracts</th>
<th>Utility Contracts</th>
</tr>
</thead>
</table>

### Financing Solution Spectrum

<table>
<thead>
<tr>
<th>“Equipment Finance 1.0”</th>
<th>Financing Solution Contracts</th>
<th>“True Equipment Management”</th>
</tr>
</thead>
</table>

Potential for competitive advantage through effective management of risk and extension of services.
Finance and Funding - The Key Enabler

- Transforms the elements of equipment, service and consumables (along with associated asset depreciation) into a single periodic payment. A fundamental part of the customer value proposition.
- Financing can often present challenges around revenue recognition within an OEM/Distributor.
  - This can impact targets and key metrics.
- It can also reduce the impact on their balance sheets and free up capital for other business purposes.
- Various financing models are available to match with the needs and constraints of the OEM / Distributor.
- New risks associated with EaaS and PPU models need to be assessed, mitigated and managed
  - Either internally or in partnership with 3rd parties.

To reduce the impact on revenue recognition:
- Simplest way is to fund deals through assignment of receivable type structures.
- Helps overcome a key hurdle for product led and revenue focused organisations.
- Enables availability to all customers.

Ultimately, what makes an asset fundable?
- Risks are quantifiable and there are cost effective mitigants available
- Availability of data
- Quantifiable servicing risk that can be underwritten
- Enforceable financing T’s & C’s.
- Proven asset class.

Source: Technology-as-a-Service Playbook 2016 (TISIAL), adapted by Invigors EMEA
**Benefits for Society at Large**

- Extension of equipment’s useful economic life
- Responsible disposal and energy recovery
- Harvesting of end of life assets for spares and materials
- Most efficient lowest cost solutions
- Local repair and maintenance and less transportation
- Fewer equipment failures & higher productivity
- Lower energy & water consumption in production
- Less raw material consumption

---

**Sustainability & the Triple Bottom Line**

- People
  - Bearable
    - Disassembly in Mind
    - Design for Reusing
    - Circular Design
    - Repair
    - Maintenance & Service
    - Extension of Economic Life
  - Equitable
    - Responsible disposal and energy recovery
    - Harvesting of end of life assets for spares and materials
    - Most efficient lowest cost solutions
    - Local repair and maintenance and less transportation
    - Fewer equipment failures & higher productivity
    - Lower energy & water consumption in production
    - Less raw material consumption
  - Viable
    - Bebareable
    - Equitable

- Planet
  - Responsible disposal and energy recovery
  - Harvesting of end of life assets for spares and materials
  - Most efficient lowest cost solutions
  - Local repair and maintenance and less transportation
  - Fewer equipment failures & higher productivity
  - Lower energy & water consumption in production
  - Less raw material consumption

- Profit
  - Responsible disposal and energy recovery
  - Harvesting of end of life assets for spares and materials
  - Most efficient lowest cost solutions
  - Local repair and maintenance and less transportation
  - Fewer equipment failures & higher productivity
  - Lower energy & water consumption in production
  - Less raw material consumption

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**INVI GORS**

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As experienced multi-disciplinary practitioners from the manufacturer and funder communities, Invigors helps determine the strategic drive towards Equipment-as-a-Service, supporting the safe, timely and successful delivery of all its critical components. To enable clients to remain highly relevant, financially resilient and environmentally sustainable.

**Experience**
- Industry Knowledge
- Cross Functional Expertise
- Global Coverage

**Insight**
- Strategic Insights
- Risk Management

**Impact**
- Partnering DNA
- Accelerated Delivery
- Rapid ROI

**Independent and networked.**
- Able to work solely in the client’s interests, independent of any individual funding provider.
- Provide access to an unrivalled choice of potential funding partners and innovative funding structures.

**Contacts:**
- nick.feasey@invigors.com
- ian.robertson@invigors.com
- tim.pearce@invigors.com
Servitisation to deploy energy efficiency: As a Service models in the European environment

Speaker

Simon Lutzenberger
Head Sustainable Finance Solutions Switzerland at CHG-MERIDIAN
ABOUT THE SPEAKER

Simon K. Lutzenberger – Head Sustainable Finance Solutions

creating tailor-made technology usage models with an engineering background and a lot of passion for sustainability

• started career as a network engineer with a focus on WiFi and Security solutions
• more than a decade in various international Sales and Business Development positions at Cisco, HPE/Aruba and PTC/ThingWorx added a keen sense for the special challenges of large international organizations
• extensive experience with large IoT deployments and the challenges they bring, including adopting new business models

In his current role at CHG-MERIDIAN in Baden, Switzerland, Simon is helping customers and partners with the Financial Engineering and other services required to enable sustainable technology usage concepts.

Simon is passionate about sustainability, green technology and Handball.
CHG-MERIDIAN develops tailor-made usage concepts and manages efficient technology investments.

We support our customers competently, independently and are easy to do business with.
COMPANY INTRODUCTION

CHG-MERIDIAN GROUP FACTS

CHG-MERIDIAN has been active worldwide for over 40 years.

The company's headquarter is in Weingarten, Germany.

CHG-MERIDIAN Schweiz AG is located in Baden and operates throughout Switzerland.

LEASE ORIGINATION 2020

1’925 B CHF

880’000 Remarketed equipment (assets) in 2020

Share of remarked assets
95% of all returned devices at CHG-MERIDIAN are being remarked

82% Information Technology
13% Industrial Technology
5% Medical Technology

Volume of lease origination broken down by technology sector

over 12’500 customers

27 countries
approx. 1,100 employees

> 15’000 TESMA® users
(Technology- and Service-Management-System)

7.23 B CHF

total value of managed technology portfolio as of 31. December 2020
COMPANY INTRODUCTION

International Coverage CHG-MERIDIAN Group

Including Cross-Border Coverage
COMPANY INTRODUCTION

OUR TECHNOLOGY AND SERVICE CENTERS IN EUROPE

1. Asset rollback
2. Certified data eraSURE®
3. Refurbishment
4. Remarketing
EXAMPLES: INDUSTRIAL
Flexible, efficient, holistic
CHG-MERIDIAN is the leading international provider of leasing solutions for intelligent industrial infrastructure
Servitisation to deploy energy efficiency: As a Service models in the European environment
Key take-aways

*Servitisation can*

1. ... accelerate the implementation of energy efficiency
2. ... accelerate the digital transformation of industry
3. ... stimulate the Circular Economy
4. ... be a growth market for financial actors
Servitisation to deploy energy efficiency: As a Service models in the European environment

EaaS Project Leads

Mira Tayah
Expert Circular Economy at Agoria

Javier Martínez Belotto
Sustainable Finance Manager at ANESE

Dimitris Karamitsos
Senior Energy Efficient Business Developpear at BASE

Arno Nijrolder
Business Analyst Sustainable Energy at EIT InnoEnergy
Servitisation to deploy energy efficiency:
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Thank you

Mira Tayah - mira.tayah@agoria.be
Arno Nijrolder - arno.nijrolder@innoenergy.com
Javier Martinez - jmartinez@anese.es
Dimitris Karamitsos - dimitris.karamitsos@energy-base.org