

# Let's not waste our clean energy



SYSTEM INTELLIGENT MONITORING

SEIS & EIS

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# Our Vision

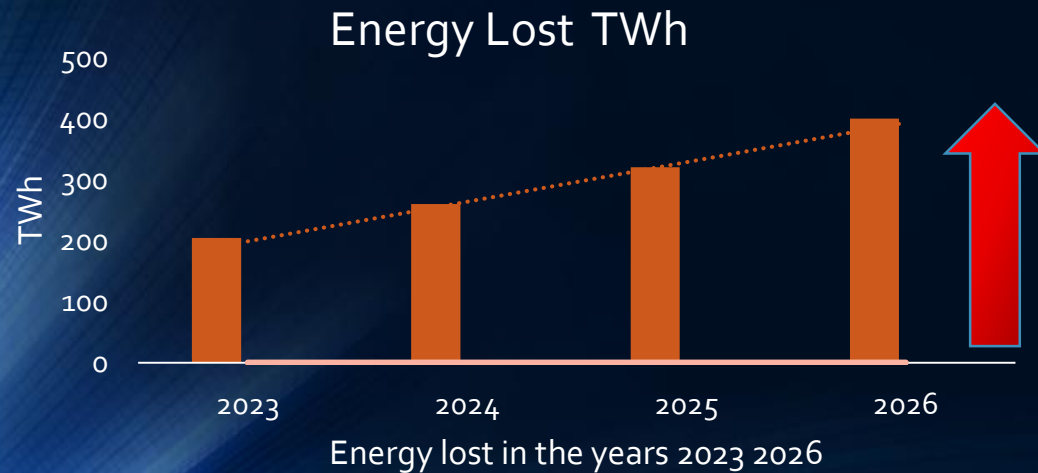
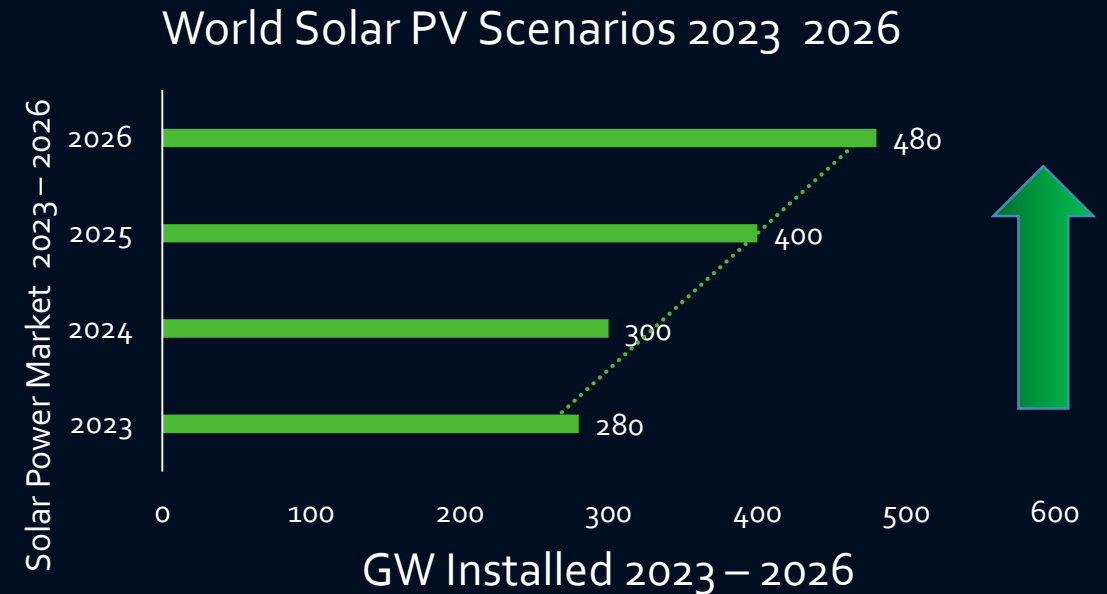
- ▶ It is possible to obtain the **maximum energy production** from solar systems, monitoring the system and intelligently planning maintenance interventions





# We have a problem to solve

World solar energy: 2022  
+ **25,3 %** solar energy installed



But about **15 – 20 %** of energy  
is lost due to lack of maintenance  
(2021 energy solar production **1,021.22  
TWh\***)



# We have a problem to solve

90% of owners of solar systems do not know the status of their system: the system is less profitable and not safe

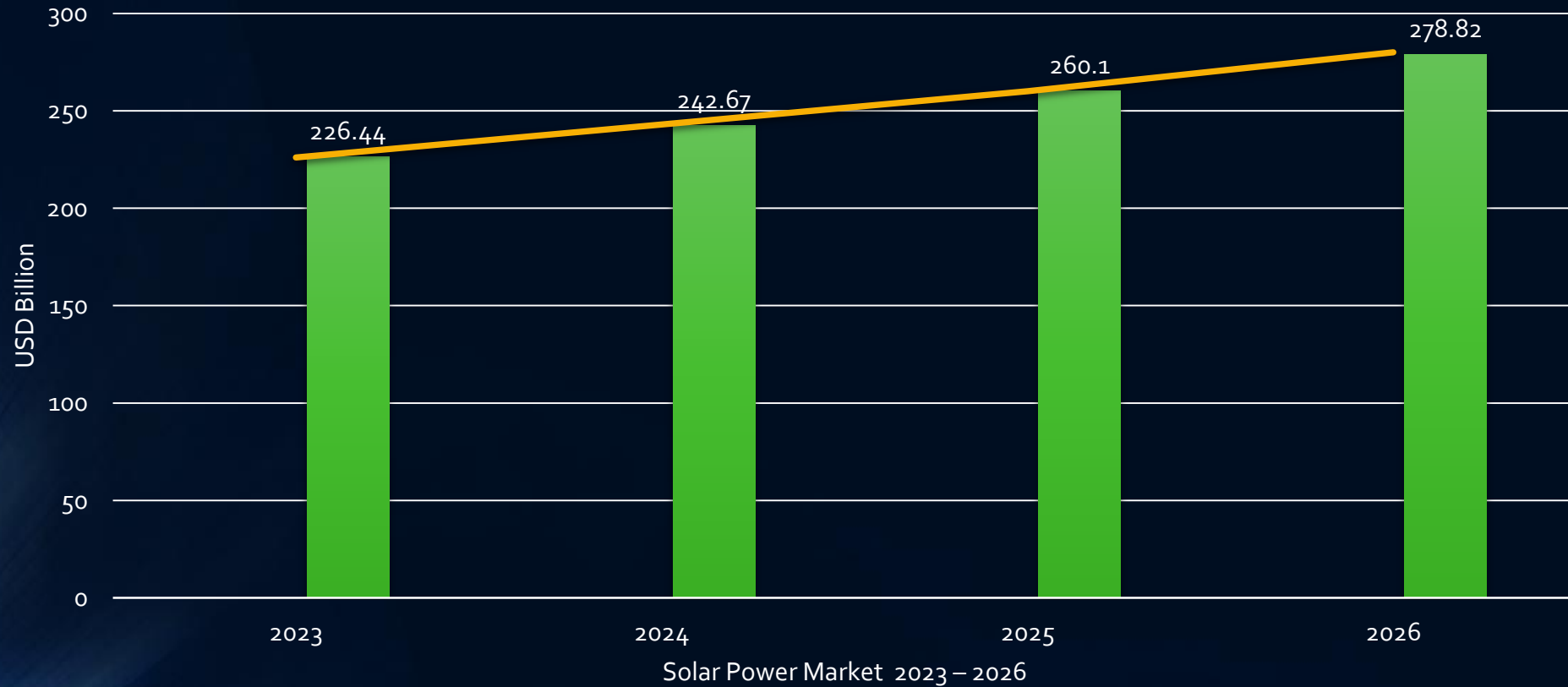


30 % of solar installations have malfunctions and damages  
fires may arise \*



# Market

Cumulative Global  
Growth of Solar Market expected to reach(\*)  
**\$ 371 Bln in 2027**



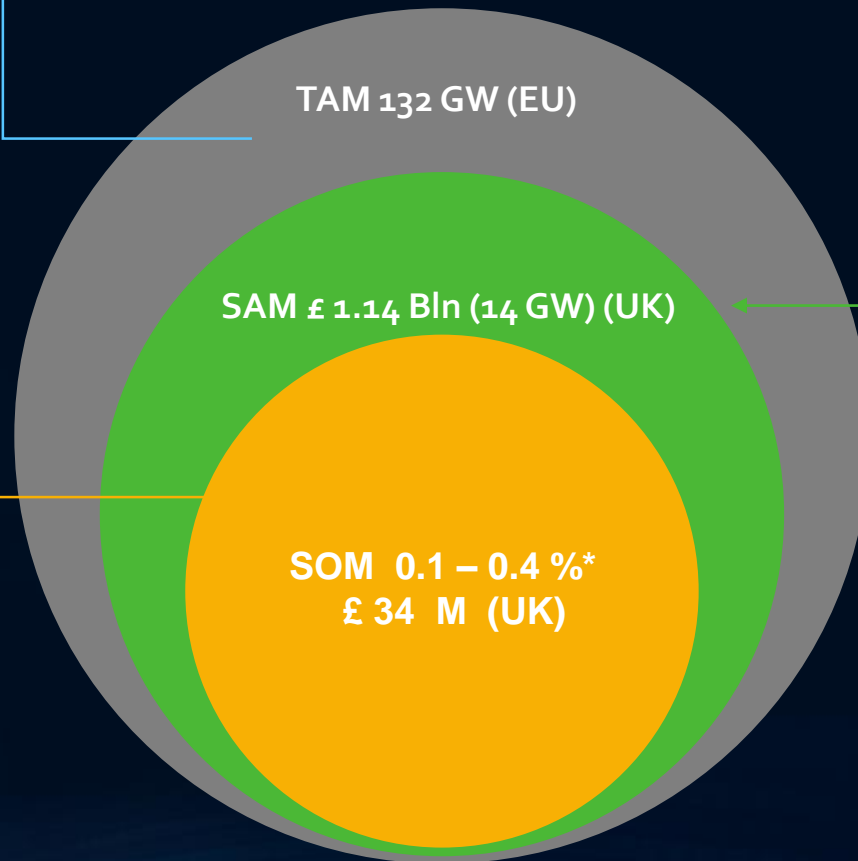


# Market Sizing

  
Total Addressable Market

  
Served Available Market

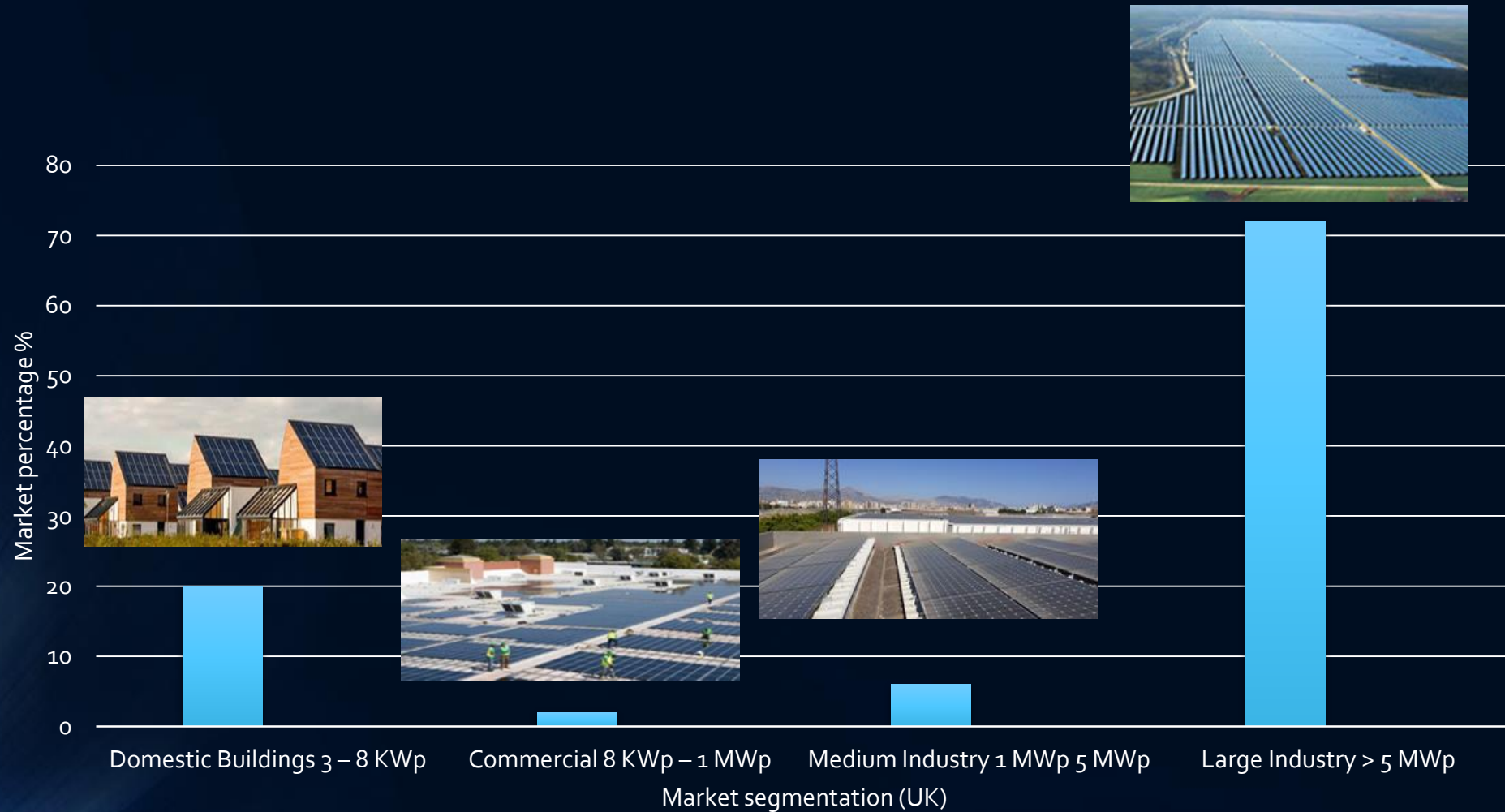
  
Serviceable and Obtainable Market



**(\*) UK (£ 34 M)**  
**14 GW**



# Market segmentation

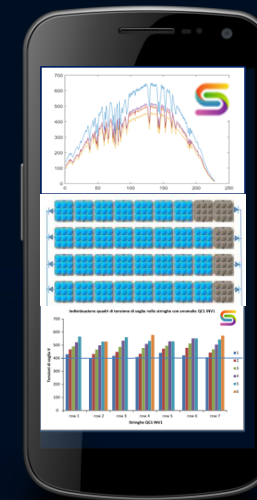




# Our Solution



Simon is a predictive AI/Machine Learning models platform managed by AI able to identify failures and anomalies of your solar system.



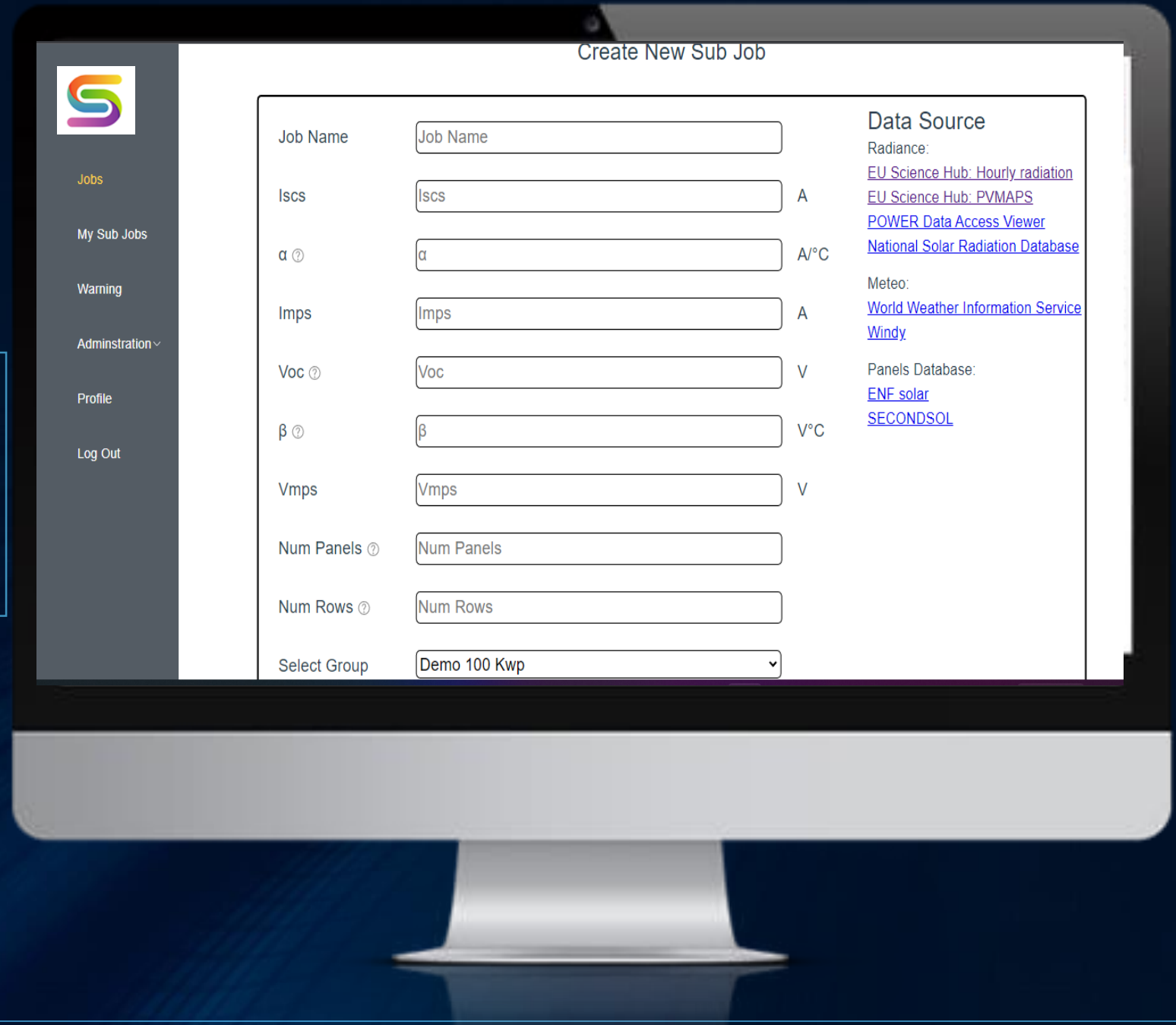


# SIMON Data Input

## Plant Characteristics

### Data sheet panels:

*Voc – Imps – Iscs – NOCT -Diode data etc*



Jobs

My Sub Jobs

Warning

Administration

Profile

Log Out

### Create New Sub Job

|              |   |     |
|--------------|---|-----|
| Job Name     | <input type="text" value="Job Name"/>     |     |
| Iscs         | <input type="text" value="Iscs"/>         | A   |
| $\alpha$     | <input type="text" value="α"/>            | A°C |
| Imps         | <input type="text" value="Imps"/>         | A   |
| Voc          | <input type="text" value="Voc"/>          | V   |
| $\beta$      | <input type="text" value="β"/>            | V°C |
| Vmps         | <input type="text" value="Vmps"/>         | V   |
| Num Panels   | <input type="text" value="Num Panels"/>   |     |
| Num Rows     | <input type="text" value="Num Rows"/>     |     |
| Select Group | <input type="text" value="Demo 100 Kwp"/> |     |

#### Data Source

Radiance:

- [EU Science Hub: Hourly radiation](#)
- [EU Science Hub: PVMAPS](#)
- [POWER Data Access Viewer](#)
- [National Solar Radiation Database](#)

Meteo:

- [World Weather Information Service](#)
- [Windy](#)

Panels Database:

- [ENF solar](#)
- [SECONDSOL](#)



Jobs

My Sub Jobs

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### Adminstrator Inputs

#### Algorithm selection

Inflection Point    Neural Network

Run condition type:    known condition    unknown condition

Estimated Nlrad:    Estmate Nlrad    Full Nlrad

Estimated Temperture:    Estmate Temperture    Known Temperture

Run process type:    Normal Simulation    Shading Simualtion

#### User input constants

Iscs  
 A

$\alpha$    
 A/°C

Imps  
 A

Voc   
 V

$\beta$    
 V/°C

Vmps  
 V

Num Panels

Num Rows

Files upload

• 00 : 00 : 00   0KB /0KB



Sub Job ID: 661910686101

Jobs

My Sub Jobs

Warning

Administration

Profile

Log Out

## Administrator Inputs

### Algorithm selection

Inflection Point  Neural Network

Train data type:  Measured data  Random data

### User input constants

Iscs

A

$\alpha$

A/°C

Imps

A

Voc

V

$\beta$

V/°C

Vmps

V

Num Panels

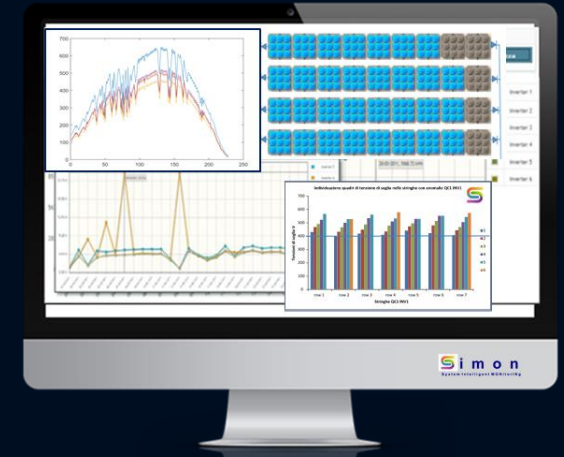
Num Rows

### Files upload



# Advantage

## Identification - Maintenance - Safety



- Info alert : description of the type of anomaly/alarm
- Identify the number of panels per string with faults or anomalies

**Identification of PV panel faults and anomalies**

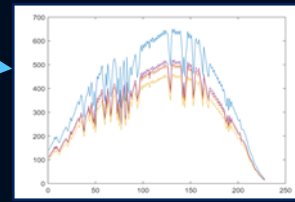
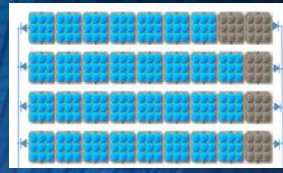
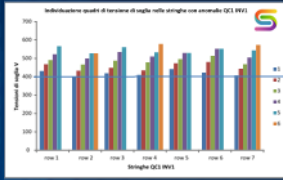
**Maintenance planning**

- Check the efficiency of your solar system
- Schedule maintenance: reduction of 1/6 of the intervention times

- Reduce risk factor: fire event
- Identify the effects of shading

**Increased system Safety**

- This allows us to negotiate and reduce the cost of maintenance contracts
- And also the insurance costs

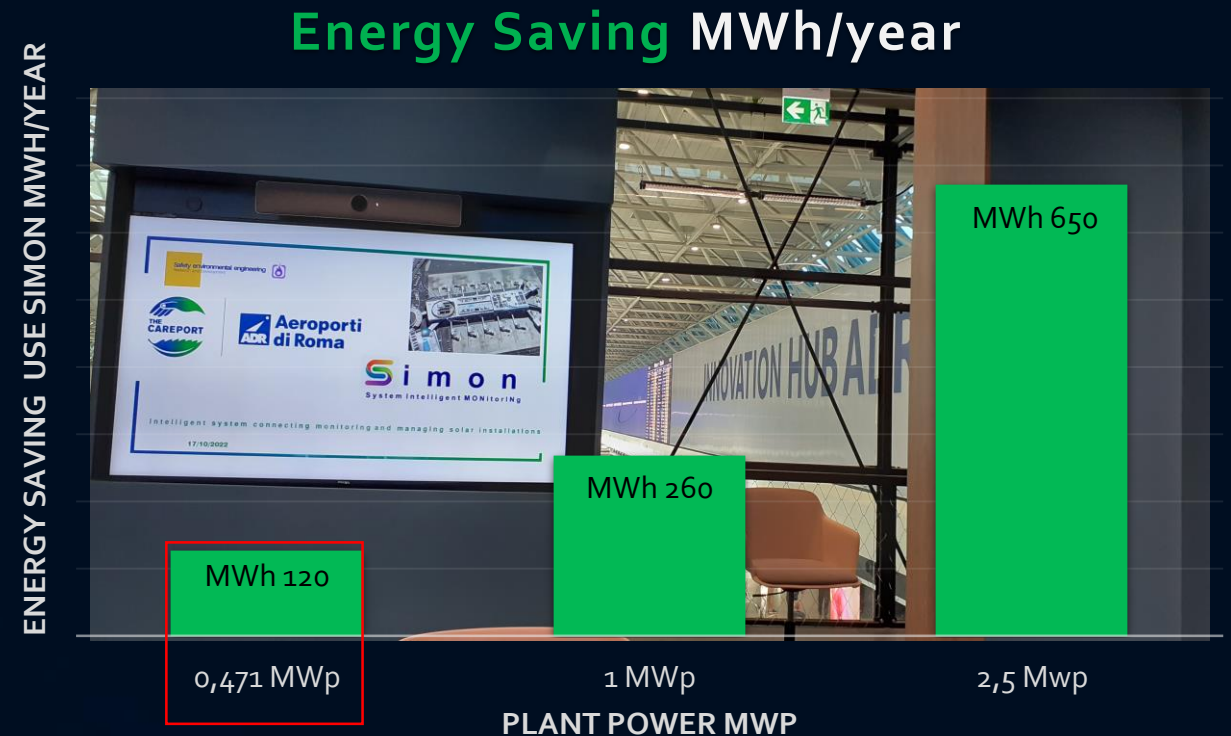




# Case Study: Rome Fiumicino Airport

In this case study we obtained the following **Energy savings (MWh/year)** as a function of the size of the plant:

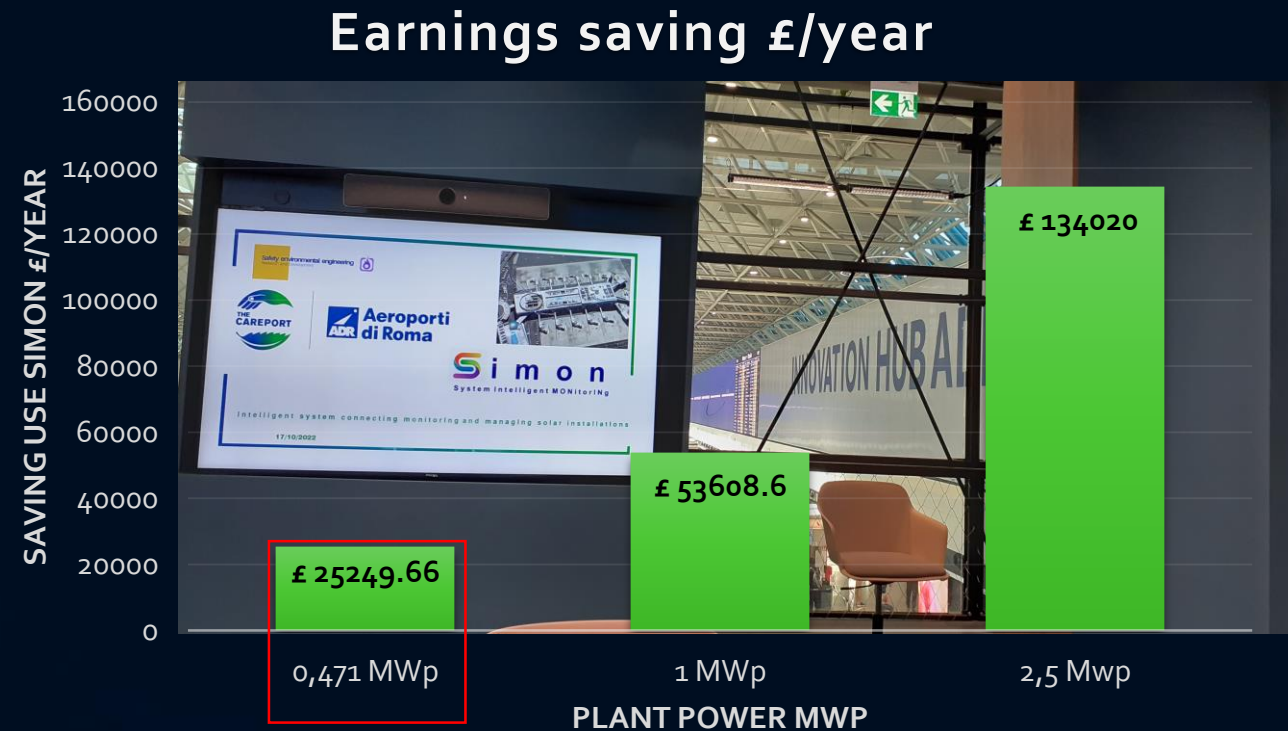
- Monitoring the plant with Simon;
- Planning maintenance and cleaning operations.



# Case Study: Rome Fiumicino Airport





















In this case study we obtained the following **Savings (£/year)** as a function of the size of the plant

- Monitoring the plant with Simon;
- Planning maintenance and cleaning operations





# Competition

|   | No additional devices<br>(microinverter,<br>optimizers )<br>needed                    | Real Time Alert   | Identification<br>Type Of<br>Failure  | Control<br>IOT Cleaning<br>device   |
|---|---|---|---|---|
|  <b>Simon</b><br>System Intelligent MOnitoriNg |    |    |    |    |
|  <b>Solar-Log™</b>                             |    |    |    |    |
|   |   |   |   |   |
|    |  |  |  |  |





# Our Marketing and sales strategy

## **B2B** (Installers, manufacturers, maintainers)

A **10% efficiency improvement** in a 1 megawatt scale solar park corresponds to **£ 50-60,000** of recovered earnings

The UK alone had over **14 GW** of installed solar capacity in 2022, so the market opportunity is huge.

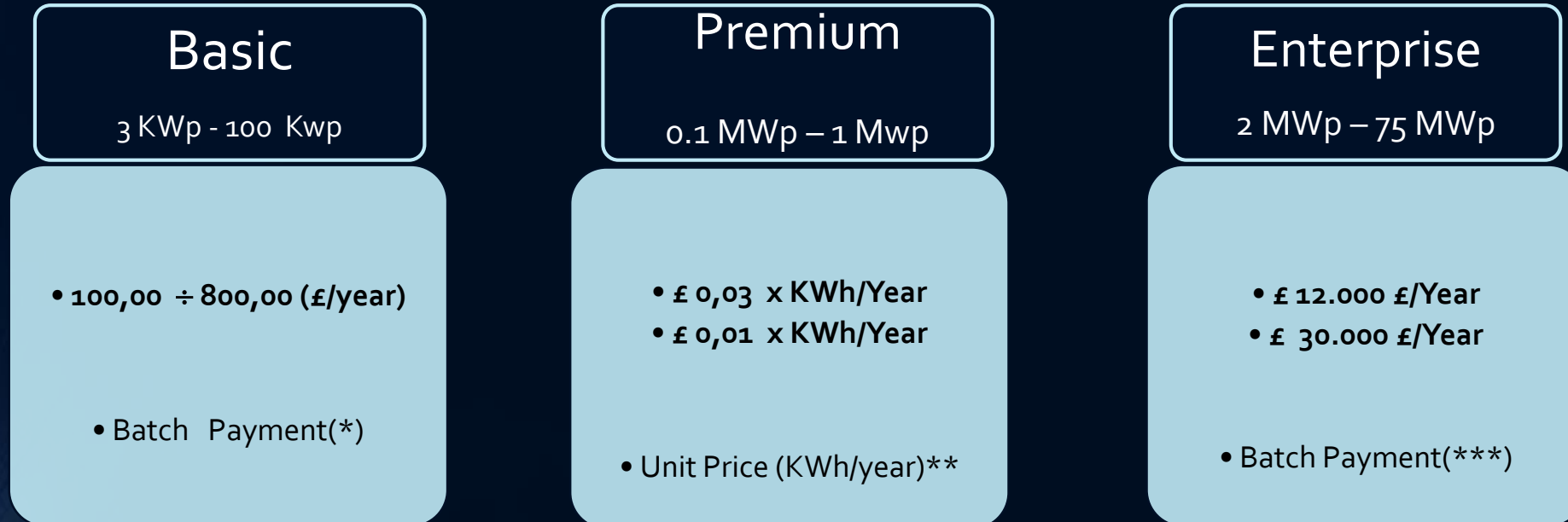
SIMON can be applied to all types of solar installations independently by their dimension (**domestic, civil buildings, historical buildings, hospitals,, commercial, industrial...**).







# Business Model - Subscription pricing



(\*) Limited Services, maximum 1 year

(\*\*) Energy produced in the plant during the year - Depending of the local tariff

(\*\*\*) Full Service 1 year (Negotiated according to the specific characteristics of the plant)

Leasing of monitoring equipment 0,1 £ KWp /year



# The Team

## Organisational Chart



**GIUSEPPE RAGONESE**

Co Founder/CEO



**DONATELLA TERMINI**

Co Founder/CTO

**Experienced Engineer** with over 30 years' experience in risk analysis. He strongly believes in safety and environmental and energy sustainability, these values are the basis of the statutes of see srl and seen Ltd. Award Sapio Research and Innovation 2018.

**Full Professor** University of Palermo (Italy). More of thirty-years of experience in experimental and numerical research. Award "Karl Emil Hilgard Hydraulic Prize", by ASCE 2017



## Advisor Board and Collaborators



**Giuliano Casale**  
AI Advisor  
Dept of Computing  
Imperial College London (UK)



**Yichong chen**  
AI Advisor  
Dept of Computing  
Imperial College London (UK)



**Poh-choo-pang**  
Advisor Business and  
Academic Development (UK)



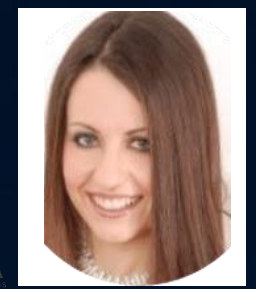
**Ajit Jaokar**  
AI Cloud Advisor Feynlabs. Ai  
Director Of Course Artificial  
Intelligence: Cloud and Edge  
Implementations University Oxford  
(UK)



**Marco Morbidini**  
IP, Management  
Kilburn & Strode LLP (UK)

**Kilburn & Strode**

**Samantha Dobson**  
Commercial and Finance  
Del Vigna Dobson (UK)

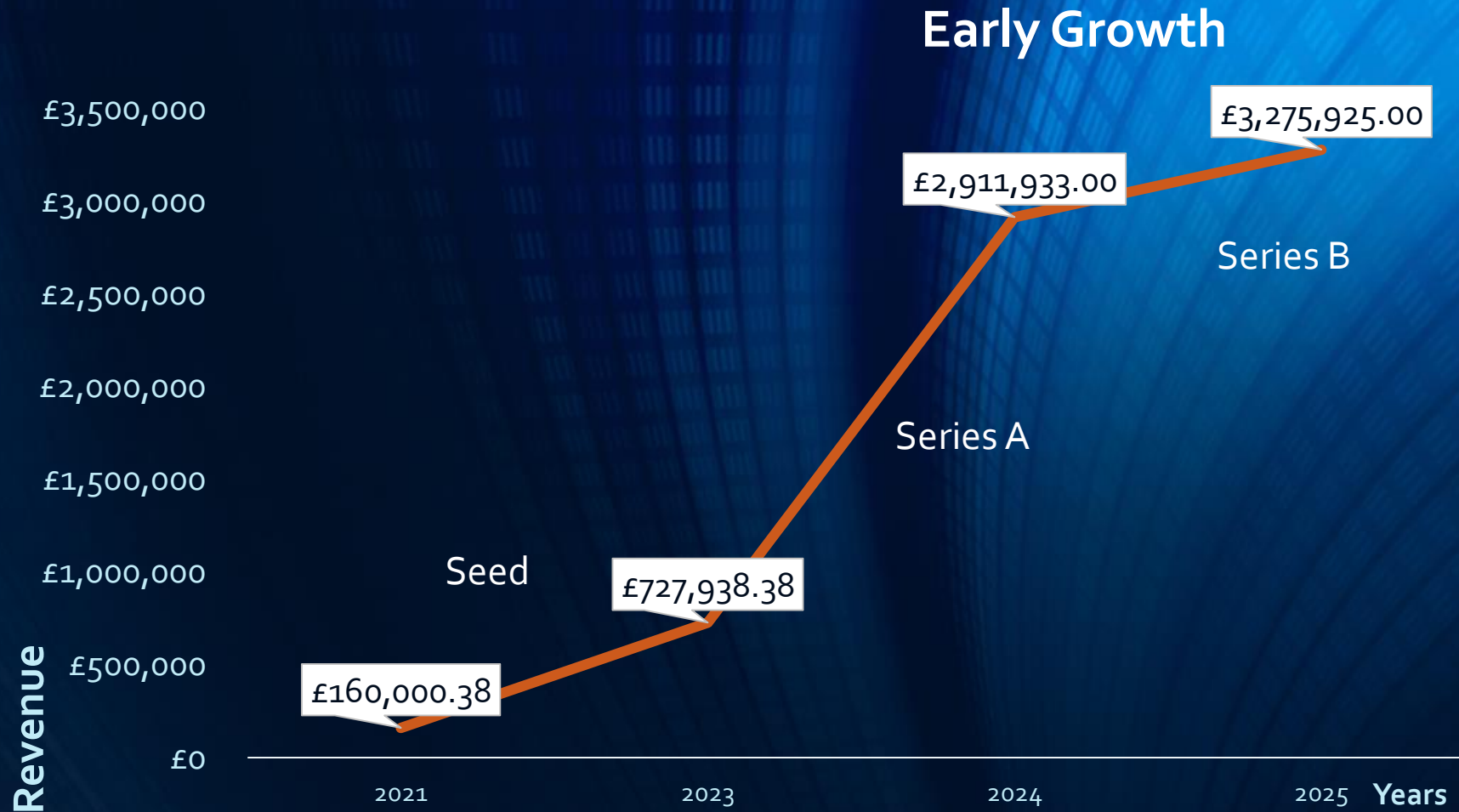




# Our tractions



# Forecast







# THANK YOU

We want to talk to you



Let's not waste  
our clean energy

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## BUILDING ADDRESS

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## EMAIL

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## TELEPHONE

(39) 3519747393



<https://www.linkedin.com/company/seeng-ltdnew>



<https://www.instagram.com/seengltd/>



# APPENDIX



# Financial

| Cash Flow Forecast                         |              |                |                |
|--|--------------|----------------|----------------|
|  | Total        | Total          | Total          |
|  | 2023         | 2024           | 2024           |
| <b>Revenue</b>                             |              |                |                |
| Energy produced (KWh)                      | 16.735.250   | 66.941.000     | 75.308.625     |
| Sale Price Per Unit x Kwh                  | £ 0,03       | £ 0,03         | £ 0,03         |
| <b>Total Revenue (monitoring service)</b>  | £ 560.630,88 | £ 2.242.523,50 | £ 2.522.838,94 |
| Revenue (una tantum) leasing software unit | £ 0,01       | £ 0,01         | £ 0,01         |
| Revenue (una tantum) leasing software      | £ 167.352,50 | £ 669.410,00   | £ 753.086,25   |
| <b>Revenue (software+monitoring)</b>       | £ 727.983,38 | £ 2.911.933,50 | £ 3.275.925,19 |



# Sustainability impact SDGs

SIMON technology ensures a constant energy produced per square meter of solar panel, leading to energy savings, a more predictable supply of energy, and an increase in the lifetime of solar panels. Our solution leads to a series of vital impacts, including an increased uptake of renewable energy, employment opportunities, reduction of safety risks associated with photovoltaic fields and the reduction of carbon emissions.







# What they say about us

## British High Commission New Delhi, India

We found your start-up to be novel and sustainable with an innovative solution that has the potential to address global challenge of climate change. We also ascertain your solution has a great competitive advantage with a sound business and financial model along with a competent team, board and advisors



## Innovative UK

The proposed innovation has great merit and the applicant has made significant progress, demonstrating entrepreneurial capabilities.



## Corporate Live Wire - Global Awards 2022/23

Seeng Ltd in this year's Global Awards Program for the category, Sustainable Technology Manufacturer of the Year and you have been selected as our 2022/23 winner!

