

# 1. Preamble

## 1.1. Agreement and Liability waiver

### Solution Submission Form summary

The Solution Submission Form consists of six sections made up of a series of questions, with the types of information to be provided in detail below. Experts will assess your solution based on this information and against criteria defined by the World Alliance.

 READ THE SUMMARY

### Agreement signature

By submitting my solution(s) to be assessed for the World Alliance 1,000 Efficient Solutions Portfolio, I agree to (...).

I CONFIRM MY AGREEMENT WITH THIS DECLARATION

### Expert Pool restrictions

You are given the possibility to signal some of the listed entities below if you consider there is a risk of conflict of interest, a relational issue or any reason you consider relevant. These will be excluded from the Expert Pool as a consequence. Keep in mind that each entity you blacklist represents a number of Experts that won't be able to assess your solution, i.e. an additional time delay for your solution to undergo the whole application process.

SaladGenic 

\*when online you will visualize a list of all the entities our Experts belong to.

It is important to note that we onboard new experts every week and that we cannot guarantee that the above list is up to date. Write here the name in capital letter separated by a coma of entities (not listed above) you do not want to be assessed by specifically.

FURTHER RESTRICTIONS

Aeroplants; WaterLife.

### References and sources

Please remember that, throughout all this application form and each time you are referring to or using information and data to support your argumentation, you shall mention your references and sources.

### Eligibility for the equivalence fast-track with European Innovation Council (EIC) Accelerator Pilot Phase-2 / SME Instrument Phase-2

Have you received for your solution in the past 5 years a EU Seal of Excellence of funding from the European Innovation Council (EIC) Accelerator Pilot Phase-2 / SME Instrument Phase-2? If you did, will be eligible to the fast track program of the Solar Impulse Label (...).

I CONFIRM I AM ELIGIBLE

## 2. Solution's brief

### 2.1. Identification

#### Public Information

The elements inserted in this section are public and will be used to create your Solution's profile page on the Solar Impulse website.

#### Name & Website

To help us identify your solution throughout the assessment process, please provide the following information.

WHAT IS THE OFFICIAL NAME OF YOUR SOLUTION (THIS CANNOT BE THE SAME AS THE COMPANY NAME) ?

**PLANTSHUB- Soil-less Aeroponic Growing System**

PLEASE ENTER BELOW A LINK TO YOUR SOLUTION'S WEBSITE.

**www.plantshub.it**

Please use the [Guidelines for the photo standards](#) for the image uploads.

LANDSCAPE IMAGE (min. 1500x500)

Please make sure both header image and landscape image are the same!



HEADER IMAGE (min. 500x333)



#### Which network introduced you to the Solar Impulse's Label and the 1000 Solutions Challenge?

Please specify here if you were introduced to our process by a Network, meaning an entity providing funds, awards, support or any start-up accelerator, which has access to a community of solutions.

**GREENTECH SOUTH**



\*when online you will visualize a list of all the networks (multipliers) that work with the Solar Impulse Foundation.

#### How would you describe your Solution in one sentence?

Information must be comprehensible to a non-expert audience (general public).

- The structure of the sentence should be: **what** (what the solution is) + **how/technology** (how it works or what technology underpins it) + **function/problem solved** (what purpose the Solution has) + **where/for whom** (in what context or for which customer)
- It should ideally be 90 characters (min. 70, max. 120)
- Example : "A heat exchanger using solar power to (pre)heat domestic water in buildings"

ONE SENTENCE DESCRIPTION

87/120

An urban farming system using aeroponic technology to produce leafy plants for the food retail industry

What is your client buying? The Solution is a:

Product, Service

\*when online you will visualize the three key categories to select from: product, process, service.

Rationale: Which problem is the Solution trying to solve?

CONCEPT

0/2000

Global food waste is estimated at 33% (€25B/yr.) during storage, processing, and transportation. Aeroponic system aims at substituting current obsolete cultivation methods, by bringing an innovative approach focused on agro-engineering. The main principle is using an aerosol (mist) in closed or semi-closed environment, which is sprayed directly onto the plant's roots. The principle is similar to hydroponic systems, where roots are placed in a liquid solution, but has the advantage of significantly increasing the nutrients' uptake, reducing stress related to drought/flood, as well as stress due to variations in oxygen concentrations. The rationale of this Solution is to have an in-house system capable of producing high quality products with 95% less water compared to traditional agriculture (field or greenhouse). The environmental benefits are significant, in particular the Solution aims at promoting soil and land conservation and reducing the CO<sub>2</sub> emissions related to transport/distribution. Lastly, vertical farms are also capable of achieving a higher crop yield; for instance, lettuce grown on an agricultural field (1x1 meter) yields 3.9 kg of product/year, while when grown on the same acreage in a greenhouse 41 kg/year can be harvested.

## What is the state of maturity of your Solution?

### TRL5 and below

I do not have a prototype yet, nor a proof of concept for my solution

### B - Prototype testing in the real world

Solution has been tested in its “final” version with a pilot/demonstration project in real life conditions. Its corresponds to TRL 7-8.

### D - Small scale commercialization

Solution has been commercialized in the market and started to test its scalability in real conditions with external supports and involvements.

### C – Initial Market commercialization

### A - Prototype testing 1:1 in lab

Solution has been conceptualized and validated /or in improvement in an experimental environment or “laboratory” at scale 1. It corresponds to TRL 6-7.

### C - Initial market commercialization

Solution has been commercialized in an initial market. It corresponds to TRL 9.

### E - Medium and large scale commercialization

Solution is fully market ready widely commercialized with clear outcomes of its impact measurable.



If you do not have a prototype at scale 1:1, you will not be eligible for the label and will be automatically rejected from the selection process. We encourage you to reapply when you have passed the equivalent of TRL 6.

## In which geographical areas the Solution is currently available (tested) or sold?

REGIONS

Europe



\*when online you will visualize a list of individual countries as well as continents.

## Select here the UN’s Sustainable Development Goals (SDGs) subcategories that fits best your Solution’s application.

Please try to be as precise as possible and focus on the most direct sectors of implementation of your Solution, as it will be used for matchmaking, database tools and Expert’s assignment.



CATEGORIES

- Clean water and sanitation
  - > Water distribution and use
    - > Smart irrigation
    - > Aeroponics
- Sectors in Affordable and clean energy
- Sectors in Industry, innovation and infrastructure
- Sectors in Sustainable cities and communities
- Responsible consumption and production
  - > Agriculture and farming for food production
    - > Crop farming innovation
    - > Precision fertilization
    - > Land management

\*when online you will visualize a list of sub-categories for each SDG domain.

## 2.2. Media

### Public Information

The elements inserted in this section are public and will be used to create your Solution's profile page on the Solar Impulse website.

### Videos (recommended)

Once labeled, this video will be used to create your Solution's profile page on the Solar Impulse website, the video must be:

- About the Solution NOT the company;
- High quality and professional (no home-made);
- From a public domain (e.g. youtube link);
- In English or with English subtitles.

VIDEO 1



VIDEO 2



## Photos

Once labeled, these pictures will be used to create your Solution's profile page on the Solar Impulse website, photos must be:


- About the Solution NOT the company;
- High quality and professional (no home-made);
- Print quality (up to 10 MB per picture);
- .jpg or .png.





## 3. Feasibility

### 3.1. Business opportunity & strengths

 Information not shared publicly, to be used for Expert's evaluation only

The aim of this Section is to allow the Experts to clearly picture, and therefore understand the nature of the Solution being described, what it does, and how it works. You must include qualitative and quantitative information that can be described precisely and measurably.

#### What are the characteristics of your business environment? Please identify:

- Market gap: what is the potential market for the Solution?
- Potential sales: who are your targeted customers?
- Competitiveness: Who are your direct competitors and what are your advantages over them?
- Impact: what is the potential (or actual) impact on multiple sectors/markets?

BUSINESS ENVIRONMENT

0/2000


This Solution is aimed at customers such as small, medium, and large food retailers that wants to produce locally grown, pesticide-free products – in particular leafy greens - with the best quality of indoor farming. Consumers perceive that food grown locally is fresher, healthier, and better for the environment, therefore our customers are highly interested in purchasing this product. Indeed, growing locally guarantees that the product is fresh (it hasn't been sitting on a truck for a week) and local (it wasn't grown in a different country) with a low carbon footprint.

Vertical farming is becoming more and more popular, as it can produce the same quantity and quality of crops all year round, and, effectively takes-up less space compared to greenhouses. A major advantage is the possibility to set it up and operate it in densely populated areas or land which is unsuitable for agriculture (e.g. brownfields and former industrial sites). Even though the advantages of this technique are clear, vertical farms are not widely implemented yet.

As per the report published by Allied Market Research (The global aeroponics industry) the key players include : AeroFarms, Aeroponics (AERO Development Corp), BrightFarms Inc, Evergreen Farm Oy, LettUs Grow, CombaGroup SA, Altius Farms, Ponics Technologies, Living Greens Farm, and Freight Farms. Our direct competitors are companies based in Europe who offers a similar product (aeroponic and hydroponic systems), for instance Jones Food Company (JFC) in UK and Intelligent Growth Solutions (IGS) in Scotland. We offer competitive prices and better locations compared to our competition. We expect that with the constant increase in population, which is forecasted for the coming years, similar Solutions will effectively be able to co-exist in the market.



### 3.2. Solution's technical description

 Information not shared publicly, to be used for Expert's evaluation only

The aim of this Section is to allow the Experts to clearly picture, and therefore understand the nature of the Solution being described, what it does, and how it works. You must include qualitative and quantitative information that can be described precisely and measurably.

#### Provide information on operation, function, and use of your Solution.


- Does the Solution meet its stated purpose and functionality as designed? How?
- How it works for the intended customer/user?
- If available please include graphic depicting the Solution and links from relevant patents.

SOLUTION IN DETAIL

0/4000

Our Solution is both a product (the actual aeroponic system/setup) and a service, as we provide technical support in setting-up, maintaining and improving yields of the vertical farm system. The plants are grown without sun or soil in a fully controlled indoor environment; the system relies on the latest technologies applying smart-light, smart-nutrition, and smart-pest-management. Indeed, the whole system is constantly monitored (through continuous data collection) and data points are used to test and improve the growing system using AI and forecasting models. The real-time monitoring can also ensure that high pressure pumps, sprinklers, and timers are constantly controlled to prevent costly break down that would result in crop-loss. The patent for this solution is available under ID-EU1009:12 at <https://worldwide.espacenet.com/>.

### 3.3. Solution's properties and characteristics

 Information not shared publicly, to be used for Expert's evaluation only

The aim of this Section is to allow the Experts to clearly picture, and therefore understand the nature of the Solution being described, what it does, and how it works. You must include qualitative and quantitative information that can be described precisely and measurably.

#### Provide a detailed description of the Solution's key features, such as:

- For physical products: dimensions, material and components, durability and lifetime.
- For digital products: nature of data (public, private), type of software, dependence on license.
- For financial products: minimum input, transparency metrics, audit system.
- For processes: details of the process, info on maintenance and performance, modification needed.
- For services: software information, payment partner, reliance on additional tools.


SOLUTION'S DETAILS

0/2000

For our physical product (aeroponic system) the dimensions, materials, key components, durability and lifetime are described below. The aeroponic systems can be purchased on several dimensions, according to the needs and size of the customer (food retailer); we offer units from 80 m<sup>2</sup> to 2000 m<sup>2</sup>. The key components of the aeroponic system are : water sensors, spray timers, hydro-atomizing spray jets,

microchips, and computer interface for data collection (schema available [here](#)). The leafy green plants grow on a special medium which is supported by a reusable cloth that is designed to improve germination and plant growth, the cloth ensure that both minimal evaporation and correct temperature are maintained. In particular, the solution chamber (where the nutrient and water mist are sprayed onto the plant's roots) is made from BPA-free recycled plastic material obtained from one of our key suppliers based in Europe. The material used has a lifetime of 15 -18 years, and the modularity of the system allows for small changes, replacements and upgrades without having to dispose of the whole structure. Lastly, we have a very efficient recollection and recycling system in place, which allows customers to dispose of the damaged/end-of-life components in exchange for seeds-vouchers or online workshops. For the service (technical support and data collection) the information is provided below. Our technology is a software in the cloud, that turns in real time (thanks to artificial intelligence) raw data collected from sensors/meters into personalized action plans, in order to achieve better harvesting results, without need for further investment. We directly sell a monthly subscription to the client (on average 15-50 Eur/month), and provide real-time data visualization, predictive analytics and recommendations for managing at best their vertical farm. The amount of the subscription fee depends on the number of data streams connected to the platform, as well as the duration of the commitment and the number of features chosen.

### 3.4. Scalability and deployment

 Information not shared publicly, to be used for Expert's evaluation only

The aim of this Section is to allow the Experts to clearly picture, and therefore understand the nature of the Solution being described, what it does, and how it works. You must include qualitative and quantitative information that can be described precisely and measurably.

**How can the Solution be scaled up and deployed in its intended operational environment?  
Please provide details on its supply chain and:**


- Availability of inputs or raw materials and their quality and prices (supply chain);
- Location and reliability of the suppliers;
- Efficiency factors that can have a positive impact on productivity (economy of scale);
- Distribution and maintenance strategy (for products) and data storage (for software);

SCALABILITY

0/2000

We purchase our raw materials and key components from raw material suppliers based in Europe, we produce and assemble the components of the aeroponic system in house and sell a turnkey Solution to our client (food retailers). As previously mentioned, we offer complete support during installation and full maintenance as well as customised data analysis. We have a reliable set of suppliers across Italy, and some located in Europe, that ensure high-quality and long-lasting material is used to produce our product. The system is built in a way that individual components can easily be replaced – if needed – and all of them fully guaranteed and replaced without additional charges for 3 years.

### 3.5. Technical limitations & areas of improvement

 Information not shared publicly, to be used for Expert's evaluation only

The aim of this Section is to allow the Experts to clearly picture, and therefore understand the nature of the Solution being described, what it does, and how it works. You must include qualitative and quantitative information that can be described precisely and measurably.

**If the Solution maturity is below TRL 9 (commercialization stage), please detail further the technical constraint(s) or challenge(s) that still need to be overcome in order to achieve commercialization.**

WEAKNESSES


0/2000

The Solution maturity stage is slightly above TRL 9; however, we would like to point out that the biggest downside of aeroponic culture, and more in general of vertical farms, is the large amount of energy it takes to grow crops: between 1-18 kWh per kg. However, the energy used in vertical farms is not wasted, as effectively vertical farms are more energy-efficient compared to regular greenhouses. Nevertheless, vertical farms have a higher yield (10X) and overall less plant waste generated. Lastly, we are working toward improving the quality of the material used, as well as ensuring a proper and efficient energy monitoring system and data collection is implemented to be able to reduce the energy consumption, prevent and forecast energy shifts to optimize the process.

To be noted that the indoor farming, to date is still facing technical limitations that have the potential to be overcome in the future, however it cannot completely substitute every line of products, but it should be seen as a complementary technique to implement for specific crops.

Indeed, fruits and vegetables are the most suitable plants for vertical farming, as they require less time to grow, low water supply, and less sunlight. Crops, such as sugarcane, rice, and wheat, among others, require high amount of water and more harvesting time, and are hence, difficult to cultivate under vertical farming.

## 4. Environmental Impact

 Information not shared publicly, to be used for Expert's evaluation only

### 1.1. SEI

**SEI (Solution Environmental Impact): In this section we aim at evaluating the environmental impact of your Solution**

The Solar Impulse Foundation uses a preliminary screening tool in form of an excel file (SEI excel file) to estimate the environmental impact of Solutions compared to their Mainstream Alternative.

To proceed, please download the *SEI questionnaire* below and fill it with as much detail as possible and upload it **as a PDF document** it in this section.

Our team will come back to you with the *SEI Excel File* and some impact estimations by email that you will be asked to also upload in this section after your first Submission, along with the Questionnaire. Both the Questionnaire and the Excel File will be available to the experts for the assessment.

*Disclaimer: If you have already started working with the original **SEI excel file** (before May 2022), you have the choice to continue with it, or switch to the questionnaire.*



Examples below which you can use as a reference to answer the questionnaire: [SEI Questionnaire Example Software](#) and [SEI Questionnaire Example Product](#).


Also, for your information here are some examples of SEI Excel Files that will be generated for the assessment: [SEI Excel File Example Software](#) and [SEI Excel File Example Product](#).

\*Please notice: the final results obtained in the 06.Recap table sheet of the SEI Excel File that our team will provide could be used publicly ONLY in the Solution public page of the Solar Impulse site. They are in no way a replacement for a complete third party LCA, which requires more resources and details. That said, the SEI results can be used internally by the Solution Company.

[SEI Questionnaire Plantshub Uploaded](#)

## 5. Profitability

### 5.1. Financing

 Information not shared publicly, to be used for Expert's evaluation only

**What type of financial resources do you rely on?**

- PUBLIC FINANCING
- PRIVATE FINANCING
- OTHER FINANCING


**How is the construction or setup of your Solution funded at present (CAPEX: equity, bank financing, loans, grants...)?**

0/2000

When we created our legal structure in 2018, we launched a crowdfunding campaign that reached 145% of its objective thanks to 300 contributors and a company from the Etiad Group (Public Financing). The crowdfunding campaign was made in order to launch our proof of concept (at small-scale) in the south of Italy. We then developed our next operations with 7 new clients, including the one mentioned in the case study above (FOODFRANCE).

We are also backed by strategic investors and private and institutional Venture Capital firms. We went through an initial seed funding and an A-round in 2018-2019 (Private Financing). Lastly, we received awards and been accredited by many private and public organizations such as Italian CleanTech, VentureKick and, Startup Top 100.

### 5.2. Human assets

 Information not shared publicly, to be used for Expert's evaluation only

**How has the size of your team grown in the past years?**

- How many people did you start with, and per year with how many do you grow?
- Provide details of your intangible asset/intellectual human capital (e.g.know how, skillsets, competences) and how do you plan to maintain it?


HUMAN ASSETS

0/3000

The company started in 2018 with 2 founders, and the team today is constituted of 40 people, with very different profiles and backgrounds. Under the leadership of the CEO, the company is structured in three

teams: 5 PhD graduates and 5 Post-docs from prestigious universities and 10 engineers with over 20 years of experience coming from different industries working on R&D. In addition our team is composed of 5 graduates from the best business schools in the marketing and sales team and 15 experienced technicians in the manufacturing team (also in charge of setup and maintenance).

### 5.3. Current profitability

 Information not shared publicly, to be used for Expert's evaluation only

Is your solution already commercialised profitably ?

 No

### 5.4. Forecasted profitability

What is your plan to achieve the breakeven sales volume? Please provide your yearly expected revenues and costs for the next 5 years and explain your strategy. Also, please indicate any regulatory or legal barrier preventing today the commercial development of the Solution.

Include assumptions about:

- Total costs to deliver one unit to a client;
- Sales prices per unit;
- Manufacturing CAPEX and OPEX;

PLAN TO ACHIEVE PROFITABILITY

0/1000

Regarding the first point - Total cost to deliver an unit to a client and Sales price per unit – we cannot be entirely specific on the cost of our Solution, as it is highly dependent on a wide variety of factors (size, customisation), however we can give indicative estimates of the costs and savings involved. The Client (as per example of FOODFRANCE) will save over 350'000 EURO of inbound freight per year. Our financial prevision sets 2021 as our breakeven year. Our OPEX are comprised between 200.000€ and 400.000€ per year depending on the number of projects on the field. They cover the expenses for local salaries for the installation of the vertical farm structures, and the AI monitoring. Our target is to reach 10 projects per year to generate a profit. We are confident that the European market is a sufficient starting point to launch and expand out business in the next 12 months. Yearly Revenue estimates (EUR): 2018: 0 – 2019: 200K, 2020: 400K 2021: 400K 2022: 800K Yearly Costs estimates (EUR) 2018: 400k – 2019: 200K, 2020: 200K 2021: 200K 2022: 400K

When do you expect to achieve breakeven point? Give a date (year) and volume.

BREAKEVEN TIME

2021

\*when online you will visualize a date in the format YYYY.

BREAKEVEN REVENUE (IN EUR)

1'000'000 EURO

\*when online you will be able to select the volume in a numeric format.

**Please provide details about the market analysis in the context of your business plan. Please specify:**

- Total Addressable Market (the largest possible market);
- Served Available Market (the proportion of that market that fits you);
- Target Market (the proportion of that market that you seek to reach);


0/6000

Europe is traditionally the largest market, that is implementing advanced techniques in hydroponics smart greenhouse horticulture. The major vegetable and fruit crops that are grown using hydroponics in European countries include, cucumber, tomatoes, roses, and peppers among others. As consumers are becoming increasingly aware of the quality difference in greenhouse-grown vegetables, the demand for hydroponics culture is increasing in Europe.

The demand for aeroponics industry is expected to increase rapidly, owing to rise in popularity of organic food and disease-free environment in the agriculture sector. The technologies used in this farming enable to keep track of plant growth and harvesting, which further drives the market growth. As per the report published by Allied Market Research, the global *aeroponics industry* was projected at \$578.7 million in 2018 and is anticipated to hit \$3.53 billion by 2026, registering a CAGR of 25.6% from 2019 to 2026. The region across Asia-Pacific held the largest market share in 2018, accounting for nearly half of the total market share. On the other hand, the Europe is estimated to register the fastest CAGR of 28.8% during the forecast period.

Europe was the largest producer of hydroponic crops in 2018. It is still the largest market for hydroponically produced crops. Europe has traditionally been at the forefront of implementing advanced techniques in hydroponic smart greenhouse horticulture.

## 5.5. Client's economic incentive

 Information not shared publicly, to be used for Expert's evaluation only

**What is the financial impact of your Solution for your client compared to the mainstream alternative? Must indicate:**

- Sales price (price range or ratio);
- Use cost over lifetime;
- Payback time.

ECONOMIC

0/2000

As mentioned in the section above, it is not simple to calculate exactly the sales price, given the that each aeroponic farm is designed around the client's needs.

The up mentioned calculation (340'000 EURO savings of inbound freight per year) does not include additional savings related to climate-change impact on products and supply-chain situation across the country (e.g. failed or low harvesting periods, lack of supply, spoilage of products during transport). The Solution, as previously mentioned, has a higher yield, meaning that our customer will be able to provide more fresh greens to the market (over 50% more), compared with the previous supply chain strategy, savings are estimated to be between 300'000 and 500'000 EUR/year. This rough estimate does not include additional potential savings and improved efficiencies (achievable over time) driven by the AI monitoring system that controls the smart-light, smart-nutrition, and smart-pest-management. As previously mentioned, the monthly subscription cost on average 15-50 Eur/month and provide real-time data visualization, predictive analytics and recommendations for managing at best the vertical farm. The amount of the subscription fee depends on the number of data streams connected to the platform, as well as the duration of the commitment and the number of features chosen.

We are confident that the Solution offers strong financial returns, which is expected to generate a 20% Return on Capital Employed within 5 years (depending on local construction and energy costs).

### Is your Solution providing hidden benefits / added value for society that would translate into quantifiable savings? (optional)

Please indicate here if your Solution has a positive impact on society and how it can translate into savings. For instance, public health savings if your solution improves air quality.

SOCIAL

0/2000

Aeroponics is an environment-friendly and profitable technology. Indeed, vertical farming reduces over ripening of vegetables and fruits and minimizes the use of chemicals, fertilizers, and pesticides sprayed on the crops, which could lead to health issues. Also, no insects or agricultural pests can attack the plants in vertical farming. It has been promoted by the various governments and non-governmental organizations for its benefits in terms of food security. The need for food supply against the explosive population increase by 2050 has catalysed the growth of the hydroponics market. Another interesting point, which has not been addressed in this application, is the potential for large-scale production of biopharmaceutical proteins to be used for making new drugs and vaccines. Conventional methods of manufacturing biopharmaceuticals involve use organisms, which are highly expensive. However, using existing agricultural technologies, such as vertical farming to produce biopharmaceuticals in plants is cost-effective, requires less time and efforts, is pollution-free, and easy to measure. While difficult to establish quantifiable savings, it is clear that this technique holds several advantages that can positively impact society.

## 5.6. Needs

### How can Solar Impulse support you?

NEEDS

Enhance credibility, Meet potential new clients, Investments opportunities.





\*when online you will be able to select among the following options: Create new partnerships, enhance credibility/recognition, meet potential new clients, Network with other cleantech innovators, provide investment opportunities, Strengthen visibility/communication, Support through political lobbying, Other.

### Provide details if necessary

What support would you require from external stakeholders - investors, public authorities, companies, Experts - to reach your goal?

0/2000

There are several limiting factors which restrains the growth of the vertical farms' market, including: initial investments to setup the vertical farm, requirement for skilled workforce, and lack of information/awareness around the operational and technological benefits of complete aeroponics farming method. As a result, we are looking for enhancing our credibility through the label and meeting new potential clients.

## 6. The Solutions Explorer

### 6.1. Solution

#### Your Solution's Public Page

This section will be used to create your Solution's profile page on the Solar Impulse website. It must be clear and understandable by general audience (see example [here](#)).

**IMPORTANT :** A poor level of information in this section will impact the time needed to publish your Solution on the website, its addition to the 1000 Solution portfolio, as well as your access to further opportunities.

#### In simple words, what is the Solution about? How does it work?

For example : « The Solution aims at providing a sustainable, profitable, and ecologically healthy option to traditional farming for small, medium, and large food retailers. This Solution relies on indoor farming techniques and controlled environment agriculture technology, to improve plant development stages, growth, and health (...) »

#### PUBLIC SHORT DESCRIPTION

0/1000

In traditional farming, growing an adequate amount of healthy food is a big challenge. Moreover, protecting the crops from inclement weather, reduction in fertile land due to growing industrialization and urbanization, and low availability of cultivable land, are big hurdles for traditional farming. The increasing consumer demand for pesticide- and herbicide-free food and the growing requirement to reduce the carbon footprint of traditional agricultural practices are among the major factors supporting the wide adoption of aeroponics farming across the globe. PLANTSHUB- Soil-less Aeroponic Growing System aim at providing a sustainable, profitable, and ecologically healthy option to traditional farming for small, medium, and large food retailers. This Solution relies on indoor farming techniques and controlled environment agriculture technology, to improve plant development stages, growth, and health.

**Please include 2 key technical facts about the Solution expressed in numbers.**

For example: 250 kg product/metric ton can retain up to 75000 L of water, 3000% more effective than sawdust, 20 times stronger than PP).

KEY TECHNICAL FACT 1

0/300

High production efficiency per area (> 900 plant per m<sup>2</sup>)

KEY TECHNICAL FACT 2

0/300

Lifetime of around 20 years

KEY TECHNICAL FACT 3 (OPTIONAL)

0/300

Capacity equivalent to around 300 m2 of crops

**Clients**

CLIENTS

Clients selected

\*when online you will be able to select among the following options: B2B, B2C, B2Cities, B2G, Other.

**6.2. Impact**

** Your Solution's Public Page**

This section will be used to create your Solution's profile page on the Solar Impulse website. It must be clear and understandable by the general audience (see example [here](#)).

**Please include 2 key environmental benefits about the Solution expressed in numbers.**

For example : 70% reduction of CO2 emission, 90% recycled, 20% degradation in 2 weeks

KEY ENVIRONMENTAL BENEFIT 1

0/400

Can reduce emissions up to 64% compared to conventional heated greenhouses

KEY ENVIRONMENTAL BENEFIT 2

0/400

Can reduce water consumption up to 70% compared to conventional heated greenhouses

KEY ENVIRONMENTAL BENEFIT 3 (OPTIONAL)

0/400

**Please include 2 key economic benefits about the Solution expressed in numbers.**

For example : less than 3 years payback time, 20% cheaper than mainstream alternative, 2700 euro savings/year.

KEY ECONOMIC BENEFIT 1

0/200

340'000 EURO savings of inbound freight per year

KEY ECONOMIC BENEFIT 2

0/200

20% Return on Capital Employed within 5 years

### 6.3. Looking for


#### Your Solution's Public Page

This section will be used to create your Solution's profile page on the Solar Impulse website. It must be clear and understandable by the general audience (see example [here](#)).

### How can Solar Impulse support you?

Please select from the list what you would like to get from the label and the World Alliance network.

NEEDS

Enhance credibility, Meet potential new clients, Investments opportunities 

\*when online you will be able to select among the following options: Credibility, Funding, Network, New clients, Partners, Visibility.

### 6.4. Your Solution page

#### Your Solution's Public Page

This section will be used to create your Solution's profile page on the Solar Impulse website. It must be clear and understandable by the general audience (see example [here](#)).

*In this section a preview of your Solution's Public page is available. If needed, please adapt your submission so that the Solution's profile page looks complete for the general public and is in accordance with our standards.*