



GREEN INNOVATION AND  
INVESTMENT FORUM

# SMART GREEN INDUSTRY

ideas  
meet  
capital

23rd and 24th of February 2016

An initiative of:



In co-operation with:



## Introduction

## Technology for the 21st Century

The economic system is currently transforming into a green economy—innovative technologies, process engineering as well as forward-looking green solutions are going to meet a growing demand in the next years. The Green Innovation and Investment Forum is the pan-European event in Baden-Württemberg to support researchers, start-ups and entrepreneurs with smart business ideas for green technology and eco-innovation from across the continent.

## Greetings

### Dr.-Ing. Hannes Spieth



Environmental technology and efficiency of resources are among the central issues confronting the world economy. Environmentally-compatible products and energy sources are essential, as are techniques for conservation of raw materials and reduction of emissions. In future, the ability to participate successfully in the global economy will depend increasingly on the efficient implementation of environmental technologies and techniques for resource conservation. Consequently the market for green technologies will further establish itself as a vital part of the world economy. It is of the essence

to bring innovative ideas quickly to fruition. Therefore, we support entrepreneurs in getting connected to partners, organizations and funding.

Dr.-Ing. Hannes Spieth is Managing Director of Umwelttechnik BW, the State Agency for Environmental Technology and Efficiency of Resources in Baden-Württemberg.

### Dr. Jürgen Jähnert



bwcon GmbH, a spin-off of Baden-Württemberg: Connected e.V., the leading high-tech cluster in Baden-Württemberg, intends to establish a platform and market place where innovative ideas in the fields of energy, green technology, and eco innovation can be discussed with relevant stakeholders from economy and finance. In order to positively contribute to the turnaround in energy policy, which Germany has decided for, and finally stimulate further innovation and entrepreneurship, bwcon GmbH with its service portfolio is well prepared to attend the further process of the best business ideas

towards further commercial exploitation.

After the success of the last year, I wish this second international GIIF edition and all participants a rewarding meeting, new inspiration and an overall sustainable success.

Dr. Jürgen Jähnert is Chief Executive Officer of bwcon GmbH.

## Opening Speech

### Franz Untersteller MdL



Baden-Württemberg is well-known as a global centre of inventiveness. Especially in the sector of green technologies we see an innovative community of entrepreneurs and start-up companies. I believe that in the upcoming years we will see even more of a worldwide growing demand for innovative products in the renewable energy sector, environmental engineering and resource-efficient production technologies. The Paris Climate Declaration and the G7-Alliance of Resource Efficiency have made the way clear towards a green and sustainable future.

Baden-Württemberg is strongly supporting and encouraging green technologies and resource efficient production. The Green Innovation and Investment Forum is, in many ways, a hub for innovation: the intense exchange of ideas and new concepts in the field of clean technologies will foster the culture of innovation that is needed.

Franz Untersteller is a member of the State Parliament and Minister of the Environment, Climate Protection and the Energy Sector Baden-Württemberg. He earned his Landscape Planning Engineering Degree at Nürtingen-Geislingen University in 1982. From 1983 to 2006 he served as the adviser for environmental and energy policy for the Green Parliamentary Group in the Baden-Württemberg State Parliament. Since 2006 he has been a member of the Green Parliamentary Group in the Baden-Württemberg State Parliament and since 2011 Minister of the Environment, Climate Protection and the Energy Sector Baden-Württemberg.

## Keynote

### Alf Henryk Wulf



Alf Henryk Wulf is a graduate of the Technical University of Munich (Technische Universität München) and holds an MBA from EM Lyon Business School. He joined Alcatel in 1991. He was appointed Sales Director for Germany, North and West regions in 1996, and became Key Account Manager Deutsche Telekom AG in 1997. In 2002, he served as Executive Vice President for Sales and Marketing for Europe, the Middle East, Africa and India. In 2003, he became a member of the board of Alcatel SEL AG and was made Executive Vice President Marketing and Sales responsible for Germany, Switzerland, Austria, Central

and Eastern Europe, and Russia. He became Deputy Chairman in 2006 and Chairman of the Management Board of Alcatel-Lucent Deutschland AG in 2009. As of 1 April 2012, Alf Henryk Wulf joined Alstom as CEO of the German country unit. Since December 2015 he is part of the GE Power AG as chairman of the management board.

closed session

23rd FEB 2016

## Programme

## GREEN TRAINING DAY (entrepreneurs only)

08:45 – 09:00

Registration and Coffee

**09:00 – 09:10**

### **WELCOME AND INTRODUCTION**

Valentina Grillea (bwcon GmbH), Florian Kopp (Umwelttechnik BW)

**09:10 – 09:20**

### **HOW TO PITCH—SOME DO'S AND DON'TS**

Valentina Grillea (bwcon GmbH)

**09:20 – 09:40**

### **SOME THOUGHTS ON ENTREPRENEURSHIP**

Joaquin Soucherain (bwcon GmbH)

**09:45 – 11:30**

### **COACHING SESSIONS**

**A**  
Test your financing

**B**  
Check your business model

**C**  
Protect your idea

**D**  
Test pitching battle

11:30 – 11:45

Coffee Break

**11:45 – 12:15**

### **Protecting your Business**

Peter Bittner (Peter Bittner und Partner, European Patent Attorneys)

**12:15 – 12:30**

### **Build GIIF Community—Venture Development Platform**

Martin Cremer (bwcon GmbH)

**12:30 – 12:45**

### **Testimonial GIIF 2015—How to get the Most from Tomorrow**

Nadine Antic (Global Flow GmbH, GIIF Award Winner 2015)

12:45 – 14:00

Lunch Break

**14:00 – 14:25**

### **Financing your Company**

Matthias Götz (Wert8 GmbH)

**14:30 – 17:45**

### **RUNNING SESSION: Venture Development Platform**

**14:30 – 16:00**

### **COACHING SESSIONS**

**A**  
Test your financing

**B**  
Check your business model

**C**  
Protect your idea

**D**  
Test pitching battle

16:00 – 16:15

Coffee Break

**16:15 – 17:45**

### **COACHING SESSIONS**

**A**  
Test your financing

**B**  
Check your business model

**C**  
Protect your idea

**D**  
Test pitching battle

**17:45 – 18:00**

**WRAP-UP and OPEN WORKING SESSION UNTIL 20:00**

open session

24th FEB 2016

## Programme

## PITCHING EVENT

11:00 – 11:45

Registration, Drink a Coffee with a Start-up

11:45 – 12:00

### WELCOME TO THE PITCHING EVENT

Dr.-Ing. Hannes Spieth, Managing Director Umwelttechnik BW

Dr. Christian Förster, Management Industry Cooperations, bwcon GmbH (Moderation)

12:00 – 12:20

### OPENING SPEECH

Franz Untersteller MdL, Minister of the Environment, Climate Protection and the Energy Sector, Baden-Württemberg

12:20 – 12:45

### KEYNOTE "The Future of Wind-Energy"

Alf Henryk Wulf, Chairman of the Management Board, GE Power AG

12:45 – 12:55

### INTERVIEW SESSION

Dr. Jens Ortgiese, Business Creation Officer, KIC InnoEnergy GmbH

Ulrike Steinbrenner, Member of the Board, Foundation Energy and Climate Protection BW

13:00– 14:00

Lunch Break—Meet the Panelists

### 14:00 – 15:30 EARLY STAGE I

**P01 GraviPlant** (Visioverdis)

Dr. Alina Schick, Anatol Ey

**P02 Turbocharger Mini Steam Turbine** (heat2power)

Jochen Friedemann, Patrick Dörnhofer

**P03 MVMANT** (Edisonweb)

Blochin Cuius, Riccardo D'Angelo

**P04 Smart Energy from Hot and Cold** (otego)

Frederick Lessmann, Matthias Hecht

**P05 Back Flow Flap as Wind-Tuning-System with High Profitability** (Ingenieurbüro WTS Klaus Röhm)

Klaus Röhm, Markus Riehl

15:30 – 16:15

Coffee Break—Meet the Panelists

### 16:15 – 17:45 EARLY STAGE II

**P06 Concentrated Solar Thermal Energy for Heating and Cooling** (Soltune)

Dr. Egbert Rodriguez Messmer

**P07 Smart e-Window, Heating System 4.0** (vestaxx)

Wiebke Kropp-Büttner, Dr. Bradley Tinkham

**P08 Gravitation Energy Storage Applications—GESA** (GESTech)

Dr.-Ing. Jorge Sanchez

**P09 Sichone-Turbine** (Pipe Hydro Energy)

Mulundu Sichone, Felix Müller

**P10 AQUACLEANER—Floating Solar Powered Devices for Water Aeration** (Aquacleaner UG)

Andreas Voss

17:45 – 18:15

### How Does a Deal Work—Interview

Lucille Bonnet, Investment Manager High-Tech Gründerfonds

Friedrich Rojahn, CEO Solandeo GmbH

From 18:30 onwards

### BEST BUSINESS IDEA AWARD CEREMONY

Reception Dinner at "Restaurant Garbe" (on invitation only)

### 14:00 – 15:30 ADVANCED STAGE I

**P11 Converting Refinery Waste into High-grade Fuels**

(Nexxoil GmbH)

Dr. Wolfgang Brysch, Arne Lüken, M.Sc.

**P12 Energy from Ocean Waves** (SINN Power GmbH)

Philipp Sinn, Rike Brand

**P13 NITROM—Nitrate Online Measurement** (TerrAquat GmbH)

Dr. Wolf-Anno Bischoff, Andreas Schwarz

**P14 PowerPyramide** (NewGreenTec)

Frido Stutz, Ralf Gazda

**P15 Waste Silicon Recycling for the PV Industry**

(Viridis.iQ GmbH)

Dr. Wolfgang Herbst, Dipl. Eng. Louis Parous

### 16:15 – 17:45 ADVANCED STAGE II

**P16 Accelerated Algae Biomass Production** (Celldeg)

Lars Böhr, Robert Lehmann

**P17 Wireless Low Power & Real Time Communication**

(endiio GmbH)

Patrick Steindl, Tolgay Ungan

**P18 foxySPEC** (foxySPEC GmbH)

Martin Joos, Stephan Scherle

**P19 High Productivity Weakwind Area Wind Turbine**

(Volksturbine)

Thomas R. Class

**P20 plantCube** (agrilution GmbH)

Maximilian Loessl



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## P 01

### Visioverdis GraviPlant

#### Matchmaking in early innovation phases



► **What is the problem?/Who has this problem?**

The trend of growing mega cities with sealed concrete spaces and astronomic costs per square meter of land worldwide calls for new solutions to maintain or establish a healthy livable environment.

► **Solution:** Our first product, the GraviPlant, is a high-tech long-term plant care system that allows to even grow small trees horizontally on facades of great heights.

► **Advantages and benefits:** The exploitation of new spaces for greening and growing plants creates a significantly higher amount of biomass in areas that have not been accessible for greening so far. The positive effects are temperature regulation, noise insulation, production of oxygen, reducing CO<sub>2</sub>, absorbing respirable dust and radiation protection amongst others.

► **Unique selling point:** The GraviPlant is cost efficient and produces healthy long living plants. Furthermore, it can be combined with existing concepts like for example "living walls" that are an increasing trend worldwide. Furthermore, its unique design prevents any possible damages on facades for example through leakage of water or roots.

► **Competition/competitors:** Established companies greening facades and spaces in a conventional way.

#### Technology and unique features

The GraviPlant consists of two separate components. The static control unit is permanently attached to the facade and contains most of the control systems and software. The plant units which are permanently rotating are detachable and include multiple sensors to monitor the plant. Hence the plants can be replaced in a easy manner.

#### Product (vision) and added value for (potential) clients

The GraviPlant presents a cost efficient way to green new spaces with healthy and long living plants that need a minimum of servicing and care.

#### Target customers and (potential) market volume

- Builders and owners of prestigious buildings
- Architects
- Managers of major events

#### More information

→ [www.visioverdis.de](http://www.visioverdis.de)



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## P 02

### heat2power Turbocharger Mini Steam Turbine

#### Matchmaking in early innovation phases



► **What is the problem?/Who has this problem?**

In industrial processes a lot of heat is wasted. The Fraunhofer Institut estimates a heat quantity at a temperature level >140°C of 316,000 TJ/year for Germany. In many sectors this heat is not used.

► **Solution:** The solution is to turn heat into electric power, a superior source of energy, using a Rankine Cycle. This heat recovery system (HRS) needs to be cost-effective.

► **Advantages and benefits:** E.g. cogeneration plants produce roughly the same amount of heat and electricity. With a HRS the electric output can be increased 5 to 10% resulting in a more efficient plant with higher profitability.

► **Unique selling point:** A lower price per kilowatt electrical power. E.g. conpower estimates 7,500 Euro per kilowatt for units up to 15 kilowatt. Our estimated price is 4,500 Euro per kilowatt. The use of a mass product allows this cost advantage.

► **Competition/competitors:** Competitors are established enterprises like Bosch KWK, Dürr Cyplan, TURBODEN as well as young companies like conpower, Electratherm, Ormat, orcan, TRIOGEN, DeVeTec, Infinity Turbine.

#### Technology and unique features

We develop a cost-effective heat recovery system to generate electricity using a modified turbocharger that serves as a steam turbine in a Rankine Cycle. A unique feature is the patented high speed gear drive.

#### Product (vision) and added value for (potential) clients

With a heat recovery system the electric output of a cogeneration plant can be increased by five to ten percent resulting in a more efficient plant with higher profitability. We expect a return of the client's investment after four years.

#### Target customers and (potential) market volume

Defining German cogeneration plants with an approximate number of 8,000 as a primary market, we estimate that around 5,000 plants could be equipped with a heat recovery system. With an investment of 100,000 Euro per system, the market potential has a size of approx. 500 million Euro.

#### More information

→ [www.heat2power.de](http://www.heat2power.de)



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## P 03

### Edisonweb MVMANT

#### Matchmaking in early innovation phases



#### ► What is the problem?/Who has this problem?

City administrations need to reduce traffic congestion and offer a solution which is, at the same time, economically viable and able to foster a car independent lifestyle. Citizens need to be able to move within the city in a convenient way, without bothering to own and operate a car.

► **Solution:** MVMANT is a complete platform that enables urban transportation on demand. The dispatching of vehicles is managed by predictive algorithms and by requests generated through the dedicated app. This allows to dislocate the vehicles when and where needed and match the mobility needs of citizens in the most efficient way.

► **Advantages and benefits:** By maximizing the seat occupancy ratio, revenues are increased, pollution per capita, travel time and costs are reduced, making this system competitive against using and operating a private car.

► **Unique selling point:** MVMANT is the ideal synthesis of bus and taxi and overcomes the limits of car- and ridesharing. In carsharing, vehicles stand idle most of the time, they have to be driven by the customer, they need to be parked and public administrations have to reserve precious parking spaces for them. Ridesharing (like Uber) are mostly illegal and antagonize with the public transportation system.

► **Competition/competitors:** Main competitors are carsharing and ridesharing companies (Car2Go, Uber). In some cities there are similar concepts like MVMANT, but most of them do not operate on fixed routes as we propose: Bridj, Chariot, Kutsuplus.

#### Technology and unique features

- Demand prediction through intelligent algorithms and advanced machine learning techniques
- Mobile app to select destination, check seat availability, reserve the trip and pay
- Embedded loyalty system similar to Payback where customers can earn free trips

#### Product (vision) and added value for (potential) clients

Cities can implement an economically viable urban mobility service without investing in infrastructures. Citizens will benefit of door to door mobility that is sustainable both from the environmental and economical point of view.

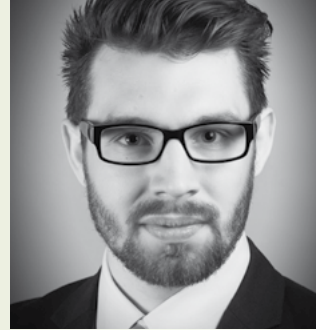
#### Target customers and (potential) market volume

The primary target is the urban transportation market. The urban population is estimated to be around four billion and will grow to six billion within the next 30 years. We calculate seven to fifteen Euro daily commission for every deployed vehicle. On a full deployment scale, we forecast 1,000 vehicles per million inhabitants.

#### More information

- [www.mvmant.com](http://www.mvmant.com)
- [facebook.com/mvmant](https://facebook.com/mvmant)
- [twitter.com/mvmant](https://twitter.com/mvmant)





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## P 04

### otego Smart Energy from Hot and Cold

#### Matchmaking in early innovation phases



► **What is the problem?/Who has this problem?**

Batteries are needed everywhere to power small electronic devices. Every year 1.5 billion batteries are replaced in Germany alone. 60% are not disposed of in an environmentally friendly way. With IoT there will be even more batteries. New concepts are needed to use ambient energy as a power source.

► **Solution:** Where ambient heat is available, the sugar cube sized TEGs from otego transform heat directly into electricity. They can work as a decentralized energy source for low power applications, and thus represent a robust and maintenance-free alternative to conventional batteries.

► **Advantages and benefits:** The use of ambient energy is not only easy on the environment. It strongly enhances convenience and comfort, because inconvenient battery replacements will be a thing of the past. Probably most importantly, however, is that otego's TEGs will lead to considerable cost savings.

► **Unique selling point:** otego brings together low-cost materials (special polymers) and large-scale production methods. The cost advantage will enable otego to be the first manufacturer to produce TEGs suitable for broad mass applications. Moreover the use of polymers makes the TEGs flexible and robust.

► **Competition/competitors:** otego directly competes with existing TEG-companies like Marlow Industries, Micropelt, O-Flexx, Laird, Tellurex or greenTEG. Until today every commercial TEG is based on the rare and therefore expensive material called tellurium. Therefore these TEGs are very expensive and totally uncompetitive.

#### Technology and unique features

The otego-technology develops inexpensive organic semiconductors (electrically conductive polymers) and processes them in large scale industrial machines. The electrical circuits are printed on ultra thin foils in roll-to-roll printing machines which are processed to TEGs in a fully automated folding process. High output voltage, flexibel and robust form factor and a low price are unique features.

#### Product (vision) and added value for (potential) clients

otego's business model is to produce low-cost TEGs (1.50 Euro per unit, contribution margin 55 percent) to sell them directly to producing companies (B2B). First applications are electronic heating valves, located right next to a perfect heat source, the radiator, and industrial wireless sensor networks. otego-TEGs will power these wireless devices batteryless through the use of ambient heat.

#### Target customers and (potential) market volume

Over one billion old fashioned heating valves in Europe are going to be replaced by modern electronic valves. Moreover a maintenance free energy supply for industrial wireless sensors is needed and otego-TEGs will be able to power billions of sensor completely self sufficient. The market is estimated to be as big as 950 million US Dollar.

#### More information

→ [www.otego.de](http://www.otego.de)  
→ [www.youtube.com/watch?v=RomL1Q-fopA](https://www.youtube.com/watch?v=RomL1Q-fopA)



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**Markus Riehl**

P 05

## Ingenieurbüro WTS Klaus Röhm **Back Flow Flap as Wind-Tuning-System with High Profitability**

### Matchmaking in early innovation phases



► **What is the problem?/Who has this problem?**

The problem is that EEG-ordinance in Germany reduced the pay for the wind-energy-output and therefore worsens profitability. The result is a decrease of wind-energy-installations in Germany of circa thirty percent in 2015. Future investments into wind energy will be questionable.

► **Solution:** The present innovation of a Wind-Tuning-System (WTS), which is a OEM-product or a supplementary installation from a Wind-Energy-Plant (WEP)-producer. It is based upon the bionic principle of back flow flaps (feathers going up). This principle has been tested from the DLR in the aircraft-sector and has been adapted by the inventor for the WEP-sector and is secured by an individual technology roadmap and international patent strategy

► **Advantages and benefits:** The WTS has a yield increase possibility on WEP of 2 to 10% (average 5%) and will presumably amortise within 2 years.

► **Unique selling point:** A significant higher yield than the competitors and therefore a higher profitability

► **Competition/competitors:** The competition of wind-tuning-systems, there is only one technology in place, that has only 2% yield increase. They are installed by WEP- and OEM-producers and service providers.

### Technology and unique features

Back flow flap technology (bionic principle of birds):

- Yield increase of 2 to 10% (average 5%)
- Noise reduction of 2 to 3dB(A)
- Reduction of Wind vibrations/gust (active back flow flap)
- Better life time of the rotor blades (active back flow flap)

### Product (vision) and added value for (potential) clients

Multifunctional active back flow flaps for Wind Energy Facilities

- Reduction of wind vibrations/gust (active back flow flap)
- Better life time of the rotor blades (active back flow flap)

### Target customers and (potential) market volume

- WEP-operators in Germany = 2,500 million Euro (25,000 WEP with a WTS-price of 100,000 Euro)
- WEP-operators in Europe = ca. 5,000 million Euro
- WEP-operators worldwide = ca. 25,00 million Euro
- The international WEP-market will increase with an average of ten percent per year until 2020

### More information

→ [www.ifau.info](http://www.ifau.info)



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**P 06**

## Soltune Concentrated Solar Thermal Energy for Heating and Cooling

*Matchmaking in early innovation phases*



► **What is the problem?/Who has this problem?**

The need to reduce the cost of thermal energy generation for conventional heating and cooling and industrial processes, in order to make industry more competitive. At the same time to replace fossil fuels by sustainable and renewable energy sources to increase energy self-sufficiency and reduce GHG emissions.

► **Solution:** A novel solar concentrating device with a fixed collector and two-axis solar tracking.

► **Advantages and benefits:**

- On/off switching depending on heat demand
- Two times higher energy generation per installation area than direct competitors
- No maintenance of thermal collector (main problem in competing technologies)
- For roof-top and up to centralized ground installations
- Low-cost system and low energy generation cost
- Environmentally friendly—no CO<sub>2</sub> and other GHG generation

► **Unique selling point:**

- Highly flexible heat generation, highest efficiency, small, scalable and low-cost product
- Direct generation of steam is possible

► **Competition/competitors:**

- Manufacturer of one-axis concentrating solar thermal collectors, e.g. NEP Solar, Protarget or Soltigua
- Fossil fuels

*Technology and unique features*

SolTherm uses a two-axis tracker and a fixed receiver, what leads to a higher efficiency and flexibility in heat generation, reduced maintenance and a higher heat generation per installed area.

*Product (vision) and added value for (potential) clients*

Main applications will be in roof-top installations for general heating and cooling with absorption chillers and for industrial processes. The energy payback time for clients is between three and five years.

*Target customers and (potential) market volume*

Residential and commercial buildings and food, pharmaceutical or textile industries are targeted. The annual market size for a ten percent replacement of fossil fuels for heating is 3.356 million Euro in south European countries.

*More information*

→ [www.soltunecpv.com](http://www.soltunecpv.com)



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## P 07

### vestaxx Smart e-Window, Heating System 4.0

#### Matchmaking in early innovation phases



#### ► What is the problem?/Who has this problem?

New energy standards now lead to three-quarter of heating costs resulting from initial investment. The fuel and energy costs are secondary. The percentage of renewable energy in the grid is increasing continuously. As a consequence, interest in electrical heating with low investment costs is growing.

► **Solution:** vestaxx innovative heating system is based on nano-coated heatable windows. These smart windows recoup boilers and circulation completely. Consistent, homeowner save up to 85% of investment costs and upgrade their home to a CO<sub>2</sub>-neutral building.

► **Advantages and benefits:** vestaxx offers an affordable and healthy heating system. Cooperations with local energy supplier enable low energy tariffs and the builder benefits from subventions. vestaxx offers a complete system to build smart e-windows and delivers additional devices for the installation in a building.

► **Unique selling point:** vestaxx combines an exceptional high-tech system solution, with an innovative sales approach and is the only supplier of heating systems based on windows that completely recoups boilers and circulation.

► **Competition/competitors:** Only a couple glass manufacturers offer heatable windows and are facing the following challenges: products are not easily integratable, it is very expensive to replace current heating systems and there is no complete systems currently available.

#### Technology and unique features

Prototypes (stage 5) are built, two utility patents have been filed, sample windows are ready for testing at the TU-Berlin.

#### Product (vision) and added value for (potential) clients

vestaxx will be structured for B2B sales and focus on two customer groups. Building product manufacturers sell vestalR to end customers (builders, developers) with a cost savings argument. Energy providers address end customers, who can reinvest savings from heating costs into components and systems for the smart home

#### Target customers and (potential) market volume

The market entrance will be accessed through the single family model home segment in Germany. The market size for vestalR in this space is estimated to be 300 million Euro annually. The growth segments such as: multiple dwelling units, hotels, non-residential, renovated building, and international combine for a volume of several billion Euro annually for both vestalR and vestaEC.

#### More information

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**P 08**

## GESTech Gravitation Energy Storage Applications—GESA

### *Matchmaking in early innovation phases*

► **What is the problem?/Who has this problem?**

One challenge of “Energiewende”, which restrains its development, is that on the one side an increasing demand for electricity storage capacity exists and will rise and on the other side there is only a limited number of technologies, which cannot satisfy the market requirements.

► **Solution:** Gravitation energy storage facilities with a mechanical frictionless linear vertical motor-generator energy converter and with a working medium density higher than water.

► **Advantages and benefits:** Significant contribution to the realization of “Energiewende” with an expected efficiency over 90%. There is no self-discharge over the time. Storage capacity is independent on operation cycles number. Environmental impacts are largely reduced. Contributes to decarbonization.

► **Unique selling point:**

- Reliable 24/7 electricity production
- Profit opportunities: power trading, renewables hedging
- Social acceptance enhancement due to high environmental performance
- Location flexibility: independent on water resources

► **Competition/competitors:** Important competing technologies are adiabatic compressed air energy storage, H<sub>2</sub>/CH<sub>4</sub> storage, stationary batteries and pumped hydroelectric storage. From this technologies only the PHS is mature, NaS stationary batteries are relatively mature, all other storage technologies are in development.

### *Technology and unique features*

All technical components are available on the market. They need to be adapted to the proposed function (like lift system). The plants cover the full range from small to large scale plant (decentralized plants). Applications in the power balancing market, in short- and long-term power storage. The device does not consume fossil fuels or other energy form. No radioactive activity.

### *Product (vision) and added value for (potential) clients*

The overarching goal (vision) of the project is the development and commercialization of GESA facilities for the power balancing and of the corresponding related service packages. The technology could be applied worldwide in isolated and connected power systems. Political and public perception of sustainability and “Green Image”—effects in short terms.

### *Target customers and (potential) market volume*

- Energy provider and grid operators worldwide
- BCG, by 2030, 25 to 30 billion Euro for additional energy storage in Germany have to be spent. Global investments will be approx. 280 billion Euro
- Germany, 2014\_Q1—Balancing power market, positive and negative power, primary 568 MW, secondary 2,000 MW, minutes reserve 2,500 MW
- Germany power storage, short term 14GW, 70GWh, long term, 18GW, 7,500GWh

### *More information*

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## P 09

### Pipe Hydro Energy (PHE) Sichone-Turbine

#### Matchmaking in early innovation phases

#### PIPEHYDROENERGY

► **What is the problem?/Who has this problem?**

Pumps mostly provide an excess of pressure to maintain a security of supply. This leads to a water supply system that consumes more energy than required. In most cases up to 60%.

► **Solution:** The PHE-Sichone-Turbine is an energy recovery plant, which can exploit even the smallest potentials economically by controllability and flexibility.

► **Advantages and benefits:** Throttles valves which burn energy, can be replaced by our turbine to convert the excess pressure energy into electric energy in the most efficient way possible. Thereby water utilities are able to reduce their carbon footprint and financial pressure by cutting down their energy demand.

► **Unique selling point:** Our turbine is able to adjust to varying pressure occurring in the pipes and operate stable and high efficient.

► **Competition/competitors:** The identified existing solutions are simply modified Pumps-as-Turbines. The only competitor with an alternative technical solution is Lucid Energy from the USA.

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#### Technology and unique features

Due to the stepless adjustability feature, the Sichone-Turbine can act as a power generating system able to reduce pressure in water pipes and can also control the flow as a pump.

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#### Product (vision) and added value for (potential) clients

Our vision is to provide a product for a more energy efficient water supply. Our turbine will enable water-intensive industrial & municipal facilities to produce clean & low-cost energy from their pipelines.

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#### Target customers and (potential) market volume

Starting in Germany there are more than 6,000 water suppliers. They have an installable capacity of 58 megawatt. Using turbines with specific investment costs of 1,200 Euro per kilowatt there is an adressable market with a volume of 70 million Euro.

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#### More information

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P 10

## Aquacleaner UG Floating Solar Powered Devices for Water Aeration

### Matchmaking in early innovation phases



Aquacleaner is in the business of developing and designing floating solar powered aeration pumps to enable water ventilation in ponds and pools.

► **What is the problem?/Who has this problem?**

Oxygen in ponds or water reservoirs is absorbed only through the surface of water. If aeration is not conducted, uncontrolled growth of algae can occur killing all life in the pond.

► **Solution:** Aquacleaner is a solar powered autonomous floating device that produces bubbles to facilitate oxygen exchange, which can be used in ponds instead of fix installed pumps or mechanical or chemical treatments.

► **Advantages and benefits:** Aquacleaner can be retroactively installed in a pond without civil works. Many of the alternatives use chemicals to treat ponds. This is not necessary with Aquacleaner. Solar panels and batteries give Aquacleaner independence from external power sources.

► **Unique selling point:** Simple and energy independent solution to deal with the problem of pond aeration. Technology dimensions for development are under control with most components being standard issue, which presents a swift and easy development cycle. No comparable system on the market.

► **Competition/competitors:** No competition so far; we are unique; we compete with fixed installations, mechanical measures and chemicals only.

### Technology and unique features

Aquacleaner can expand into other growing application niches such as aquaculture; fish-farming, Koi-farming and animal sanctuaries as well as marinas. Become an environmentally friendly alternative to well established pumps in the garden and swim pond applications.

### Product (vision) and added value for (potential) clients

The Aquacleaner-App will differentiate the product from all alternatives enabling higher attractiveness and customer loyalty to the product and its functions. We will offer information like: water quality, air and water temperature and an underwater camera in our Aquacleaner-App. This information will be available for the user anywhere/anytime.

### Target customers and (potential) market volume

Germany as an estimate: 154 natural pools, 3,000 in half-public areas (saunas, hotels/spas, sport clubs), and around 12,000 swimming ponds in private hands on top of up to 420,000 fish ponds ≥ 50 cubic meter. There is an estimate total of 4.2 million garden/fish/swim ponds in Germany including the smaller sizes. So our sales goal of 1,000 units per year is very realistic.

### More information

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P 11

## Nexxoil GmbH Converting Refinery Waste into High-grade Fuels

### Matchmaking in early innovation phases



► **What is the problem?/Who has this problem?**

10 to 20% of total oil throughput in today's refineries ends up as unrefinable residue (bottoms). Using current technology, these bottom residues can only be converted to low-value products like petroleum coke or heavy ship oil. Each percent of bottom residue significantly lowers the profitability of a refinery and creates a massive pollution problem.

► **Solution:** Nexxoil's patented READi™ technology can extract an extra 50 to 70% high-grade liquid hydrocarbon fuels from bottom residues.

► **Advantages and benefits:**

- More economical and higher value products than existing technologies
- Low operation and maintenance costs
- Highly profitable even at very low oil prices

► **Unique selling point:**

- More economical and higher value products than existing technologies
- Low operation and maintenance costs
- Highly profitable even at very low oil prices

► **Competition/competitors:**

- Delayed coking: produces mostly low-grade products (pet coke, gas oil)
- Visbraking: Converts only 20% of residues to light fuels
- Only 25% of refineries have any competing technology installed to date

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### Technology and unique features

- Single-vessel process combines cracking and distillation
- No consumables (i.e. catalysts or solvents)
- Produces standard refinery intermediates
- Existing proof-of-concept for various refinery wastes

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### Product (vision) and added value for (potential) clients

Get Nexxoil's technology installed in every oil refinery. This would effectively stretch the world's (usable) oil reserves by at least 5 percent, generate billions of dollars in added value and cut environmentally harmful refinery waste in half.

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### Target customers and (potential) market volume

75 percent of all refineries have yet no technologies installed to upgrade their distillation residue waste. These refineries are Nexxoil's primary target customers. This market segment represents a 1.5 billion US Dollar annual license revenue potential for Nexxoil. We aim to capture at least 10 percent of this market within 10 years.

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### More information

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P 12

## SINN Power GmbH Energy from Ocean Waves

### Matchmaking in early innovation phases



SINNPOWER

► **What is the problem?/Who has this problem?**

Most consumers at remote coasts are currently dependent on expensive and climate-damaging diesel generators to fulfill their energy needs—at a cost of 0.50 USD/kWh or more.

► **Solution:** SINN Power's wave energy converter uses a patented concept to generate electricity from ocean waves cost-efficiently, reliably and simply. It thus provides an ecological and economical alternative to diesel generators.

► **Advantages and benefits:** The first pilot wave energy converter can replace a diesel generator in 2016 already, saving about 780 t CO<sub>2</sub> and millions of Euros in fuel costs every year.

► **Unique selling point:** SINN Power's modular wave energy converter is simple enough to be installed at every coast, adaptable to serve both mini-grids and public grids, and cost-competitive because of the use of mass-produced standard components.

► **Competition/competitors:** Most of the current approaches to utilizing wave energy rely on large, expensive and unreliable high-tech facilities. With its low-cost, simple and robust concept, SINN Power avoids exactly those pitfalls

### Technology and unique features

The key to success for SINN Power's concept is modularity: It allows easy optimization of output, cost-efficient mass-production of components, simple transport, installation and maintenance.

### Product (vision) and added value for (potential) clients

SINN Power's cost-optimized and simple technology is ideal to supply remote mini-grids. By supplying public grids, SINN Power will eventually contribute to a successful global energy transition.

### Target customers and (potential) market volume

- Remote islands and coasts: 22 GW diesel generators = 48,000 modules = 1.4 billion Euro revenue
- Public grids: 1% of offshore wind parks = 390,000 modules = 11.7 billion Euro revenue

### More information

- [www.sinnpower.com](http://www.sinnpower.com)
- [facebook.com/SINNPower](https://facebook.com/SINNPower)
- [twitter.com/SINNPower](https://twitter.com/SINNPower)
- [youtube.com/c/SINNPowerWaveTech](https://youtube.com/c/SINNPowerWaveTech)



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## P 13

### TerrAquat GmbH NITROM—Nitrate Online Measurement

#### Matchmaking in early innovation phases



► **What is the problem?/Who has this problem?**

Vegetable and flower producers need high quality/unflawed plants. To date, producers overfertilize regularly to avoid negative effects like yellow leaves, less flowering etc. Especially nitrogen fertilization is hard to manage effectively.

► **Solution:** NITROM can measure and control nitrate, the main nitrogen (N) fertilizer, online in all moist or wet substrates from agricultural soil to wastewater.

► **Advantages and benefits:** The registered and protected utility model NITROM includes a robust and chemical free innovative measurement method of nitrate ( $\text{NO}_3^-$ ) in difficult environmental media and controls with a large data base the nutrient demands of vegetables and other plants.

► **Unique selling point:** The combination of tough analytical method, automatization and data based control leads to working hour and fertilizer savings and optimal plant production.

► **Competition/competitors:** Existing fertigation systems like DOSATRON are lower technology and cheaper, but require more knowledge and are less time saving and less secure. Fertigation equipment manufacturers like DOSATRON have a long history and a good market presence. NITROM could be an add on for better control to them.

#### Technology and unique features

The nitrate is measured chemical free in situ with a direct multi wavelength UV spectrometer. The major drawback of this approach was an interference between nitrate and dissolved organic compounds in the UV absorption. We have overcome this with a standardized site specific calibration. All other methods require huge equipment or analysis in the laboratory with extraction and chemicals.

#### Product (vision) and added value for (potential) clients

The product is a stationary or mobile sensor with pre-filtering to measure the nitrate concentration, an online data report via internet to a remote software via GSM, and the evaluation of the data based on thresholds from a data base. Vegetable producers profit by the remote and (semi-)automatized control of their liquid fertilization.

#### Target customers and (potential) market volume

Intensive horticulture: greenhouses and fields with irrigation systems. NITROM can be an upgrade to existing systems (link in) or the core control part of a new automatization invest in fertigation of the producer. Intensification and automated control are already an issue in markets like Israel, Spain, the Netherlands and intensive local production, e.g. Reichenau/Bodensee.

#### More information

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P 14

## NewGreenTec PowerPyramid

### Matchmaking in early innovation phases



► **What is the problem?/Who has this problem?**

Global warming, CO<sub>2</sub> emissions, use of fossil fuels, no combined sustainable systems available, too expensive, too many legal burdens and obstacle for installing wind turbines/1.3 billion people (UN) having no electricity and many who would like to contribute to climate protection and clean energy.

► **Solution:** Hybrid, compact, sustainable micro power plants for individual use at low cost for 24/7-operation.

► **Advantages and benefits:** It generates green electricity also by night and rain from renewable resourced in combination with storage and supply for households etc. It can be set up anywhere with no special skill and civil work required.

► **Unique selling point:**

- All-in-one, hybrid
- On small footprint
- At low cost
- Easy to install
- No foundation and permits required

► **Competition/competitors:** We have not found yet any competitors with the same combination in such a compact and flexible device. We are in competition with the big suppliers of cheap green electricity via the grids but also with the manufacturer of conventional diesel or gasoline generators.

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### Technology and unique features

It is a universally applicable, light-weight device for the personal, renewable power generation with wind turbines and photovoltaic combined, with storage batteries and a small ecological generator. This ensures a 24/7-power supply for any applications as an 'off-grid' or an 'on-grid' system.

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### Product (vision) and added value for (potential) clients

The vision is a personal, sustainable power generator for all, which can be used flexible everywhere and easily.

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### Target customers and (potential) market volume

Garden or flat roof owner, NGOs, telecommunication equipment relay stations and antennas observation and monitoring posts. Military, border patrol and police stations. Water pumps and water treatment stations. Development and relief agencies. Emergency departments and schools 400 pieces per year.

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### More information

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## P 15

### Viridis.iQ GmbH Waste Silicon Recycling for the PV Industry

#### Matchmaking in early innovation phases



► **What is the problem?/Who has this problem?**

The current utilization of silicon for the production of Photovoltaic (PV) cells is less than 50% due to high waste losses in two main steps of the process, which generates a total loss of usable silicon of >200,000 t/a. Additionally, the overall energy used to produce this waste partially offsets the positive influence that PV has on the global energy matrix. Therefore recycling of this waste into the PV value stream brings overall lower costs for solar energy and improves the resource and energy efficiency of the industry for a critical raw material.

► **Solution:** A new and efficient recycling technology has been developed that combines existing wet chemical process techniques and an adapted high temperature atomization process.

► **Advantages and benefits:** Utilizes lost raw material in the PV sector and converts low value waste into value added feedstock.

► **Unique selling point:** The end product is a silicon feedstock with optimum chemical and physical form to be reused in the PV industry.

► **Competition/competitors:** A low value end market for the wastes exists, however within the PV sector, there are no alternative industrial recycling processes.

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#### Technology and unique features

The process includes wet chemical and thermal process steps with the key step being a liquid metal atomization process (well established for metals such as titanium) which leads to a uniform end product.

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#### Product (vision) and added value for (potential) clients

High-end premium feedstock material for global polysilicon manufacturing (uniform silicon beads of 250 µm diameter) with an optimum quality to be used as feedstock for polysilicon production.

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#### Target customers and (potential) market volume

Existing PV industry: Wacker, Hemlock, REC, OCI, GCL etc. Market volume estimated to be about 500 million Euro per year

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#### More information

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P 16

## Celldeg Accelerated Algae Biomass Production

### Matchmaking in early innovation phases



► **What is the problem?/Who has this problem?**

Microalgae and cyanobacteria can be grown with much higher yield per area than crop plants and can be adapted to produce fuels and other valuable products of photosynthesis. A major problem for their practical and economic applications is slow growth and the low cell density obtainable in current pilot scale plants.

► **Solution:** Celldeg's patented bubble-free membrane-mediated CO<sub>2</sub> supply enables massive CO<sub>2</sub> mass transfer rates into the culture. In combination with full daylight conditions and turbulent mixing, it leads to a tenfold increase in growth rates, compared to conventional technologies.

► **Advantages and benefits:**

- Photosynthetic CO<sub>2</sub> conversion to high-value biomass and oxygen
- Highest volumetric and areal output in a shortened cultivation time
- Lower operation costs

► **Unique selling point:**

- Extremely high relative biomass output
- High yields and concentrations of products of interest
- Closed sterile system, suitable for pharma-grade cultivation

► **Competition/competitors:** Open pond cultivation; Closed photobioreactor systems derived from the classic bubble-column (PSI, Czech republic; Subitec, Germany)

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### Technology and unique features

Celldeg provides an innovative and flexible system for axenic culture of cyanobacteria and microalgae. Our user-friendly High-Density Cultivators (HDC) enable rapid growth up to an extremely high biomass concentrations.

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### Product (vision) and added value for (potential) clients

Once the Celldeg technology has been adopted by scientific community, we strive for industrial applications. We want to contribute to the development of the first cyanobacteria-based pharma production.

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### Target customers and (potential) market volume

- R&D in microalgae (>500 working groups), cyanobacteria (>400 working groups), moss (>150 working groups): 20 to 35 million Euro per year
- Dietary supplements: EPA, nutraceuticals, antioxidants, pigments: >1 billion Euro per year
- Pharma industry: antibiotics, special neurotoxins, cancer toxins, special antioxidants >5 billion Euro per year

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### More information

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P 17

endiio GmbH  
Wireless Low Power & Real Time Communication

*Matchmaking in early  
innovation phases*



▶ **What is the problem?/Who has this problem?**

Today's Low Power Sensor networks have limited battery lifetimes, need much maintenance, do not work in real time mode, are not robust, have a limited network size and the installation and development of systems are complicated.

▶ **Solution:** The real time and low power communication algorithm from endiio.

▶ **Advantages and benefits:** No batteries and/or longer lifetimes of sensors, maintenance free systems, no delays through real time communication, robustness and easy installations.

▶ **Unique selling point:** With endiio wireless communication technologies get real-time capable and energy-efficient at the same time.

▶ **Competition/competitors:** Texas Instruments, Intel, Google, ...

*Technology and  
unique features*

With new wake-up strategies our sensor systems need in real-time mode 10,000 times less energy than state of the art systems.

*Product (vision)  
and added value for  
(potential) clients*

Our vision is to manage the communication of all wireless sensors for the Internet of Things.

*Target customers  
and (potential) market  
volume*

Manufacturers of products and semiconductor companies. In 2025 more than 1 trillion sensors will be connected with the internet.

*More information*

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foxySPEC GmbH  
foxySPEC

Matchmaking in early  
innovation phases



► **What is the problem?/Who has this problem?**

In the chemical and biotechnological industry products are made in the gas phase, in the liquid phase or in processes with a combination of the phases. It is not possible to measure with one device during both phases simultaneously. In the anesthetic technique it is not possible to measure the concentration of anesthetic directly in the respiratory air or blood.

► **Solution:** With real-time process mass spectrometer foxySPEC it is possible to measure simultaneously and very precisely in two phases for the first time.

► **Advantages and benefits:** foxySPEC is a compact analyzing setup based on a new patented method for simultaneously realtime monitoring of gases and liquids with only one measuring system, which allows for example in-situ-analysis directly inside reactors such as fermenter.

► **Unique selling point:** There is no device available on the market that can measure in real-time from the liquid and gaseous phase simultaneously.

► **Competition/competitors:** There are only process mass spectrometers with gas inlet available. Other process analyzers such as optical sensors are less sensitive, not suitable for multicomponent systems but comparatively expensive.

Technology and  
unique features

Mass spectrometry with innovative patented inlet, in combination with control technology, "Tuning" and evaluation models.

Product (vision)  
and added value for  
(potential) clients

foxySPEC will be sold as a stand-alone measuring system. Three versions will be available: stand-alone-version for displaying the measured values, standard-version as a monitoring system and a custom-version for communication with an existing process control system to support the process (service).

Target customers  
and (potential) market  
volume

In B2B model, distribution partners are obtained selling the foxySPEC as part of their own system (OEM version). Distribution partners are manufacturers and/or suppliers of mass spectrometric analysis systems, equipment manufacturer for the chemical and biotechnology industries and manufacturer of anesthesia equipment. Manufacturer of reactor systems: Sartorius, Merck Millipore AG, Eppendorf AG, Bifinger AG (summing up to 10 billion Euro annual turnover).

Manufacturer of anesthesia and diagnostic equipment: Heinen + Löwenstein GmbH & Co.KG, Mindray Medical, ACUTRONIC Medical Systems AG, Drägerwerk AG & Co. KGaA, GE Healthcare (summing up to more than 20 billion Euro annual turnover).

More information

→ [www.igb.fraunhofer.de/de/presse-medien/presseinformationen/2015/foxySPEC.html](http://www.igb.fraunhofer.de/de/presse-medien/presseinformationen/2015/foxySPEC.html)



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## P 19

### Volksturbine High Productivity Weak Wind Area Wind Turbine

#### Matchmaking in early innovation phases



▶ **What is the problem?/Who has this problem?**

Wind turbines now work only starting at about 5 m/s wind speed, have to be stopped at about 18 m/s to prevent damage. Every operator has the problem, thus losing too many productive hours, when operating on the mainland (70% of Germany are weakwind zones!).

▶ **Solution:** New Volksturbine works with high efficiency from 2 m/s and never has to be stopped at highspeed winds

▶ **Advantages and benefits:** Lowers energy costs for small and medium companies on the long run about 40%

▶ **Unique selling point:** Works in weak wind areas! Starts producing much earlier than the 3-wing turbines

▶ **Competition/competitors:** Aircon, Easywind

#### Technology and unique features

The "Savonius"-system turbine wind shovels only give an 18 percent to 21 percent energy crop.

By three new combined ways of the wind energy DOUBLE induction and power extraction we push the results between 38 to 41 percent.

#### Product (vision) and added value for (potential) clients

"Volksturbines" are aiming at every industrial zone, in order to allow for 40 percent less cost of electric energy!

#### Target customers and (potential) market volume

The "Mittelstand" productive industry—potential market volume quantitative development, year 1 = 20 to 25 pieces; year 2 = 250 to 350 pieces

#### More information

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## agrilution GmbH plantCube

### Matchmaking in early innovation phases



#### ► **What is the problem?/Who has this problem?**

Nowadays people worldwide do seek a possibility to support themselves with fresh, healthy and sustainably produced leafy greens, vegetables and fruits. They worry about the origin, method of production and quality of their food.

► **Solution:** agrilutions plantCube is an automated vertical farming system designed for the smart home kitchen appliance market. It makes use of the technical state of the art and has automated lighting, watering, air conditioning and fertilization.

► **Advantages and benefits:** agrilution offers its customers a vertical farming ecosystem which enables them to grow their own fresh and sustainable food in their homes. By using the plantCube and its ecosystem they are able to cultivate salads, herbs and vegetables—without any worries or the need for a green thumb.

► **Unique selling point:** Our unique selling proposition is a complete vertical farming ecosystem consisting of a smart plug'n'play home-growing device and refill supplies, eliminating the need for a green thumb. Thereby, we enable you to grow the healthiest, freshest most taste intensive greens in your own home.

► **Competition/competitors:** The only company offering a similarly sized device targeting a similar target group is active in North America, and has proven there is a market for smart home-growing devices. However, their device is outdated and does not make use of state of the art.

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### Technology and unique features

The plantCube uses the newest LED-technology, intelligent self-control and -improvement as well as the options of connectivity. The whole system ist embedded in a closed ecosystem which provides you with an online-shop, technical support, etc.

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### Product (vision) and added value for (potential) clients

We envision a future with agrilution products in cities around the globe providing fresh, nutritious and local food to households, restaurants and supermarkets. Our goal is to get food production back to the hands of the consumer and into the city.

---

### Target customers and (potential) market volume

Of our total addressable consumer market in Germany 45 percent see themselves as organic food consumers, 30 percent have the right income to buy the product and 3 percent have bought wine coolers (which has some parallels to our product). In Germany we do have a 150 million Euro yearly market potential (520 million Euro for Europe; 420 million Euro for the US).

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### More information

- [www.agrilution.com](http://www.agrilution.com)
- [facebook.com/agrilution/](https://facebook.com/agrilution/)
- [twitter.com/agrilution](https://twitter.com/agrilution)

## INITIATORS & CO-OPERATORS

### An initiative of



- ▶ **bwcon GmbH**—Technology and Innovation for Baden-Württemberg was founded in 2014 as a spin-off of the Baden-Württemberg: Connected e.V. network, one of the most successful European technology networks. bwcon GmbH offers start-ups, entrepreneurs and SMEs continuous support in their innovation process and is involved in many regional and European activities and projects. bwcon GmbH supports first-time entrepreneurs in business recognition and accompanies young and growing companies via tailor made coachings, through a virtual business incubator as well as through pitching events and business plan awards. bwcon GmbH provides a platform for the cross-sectorial usage of technologies and interdisciplinary cooperation and is managing the Baden-Württemberg: Connected e.V. network with its more than 600 companies, organizations and research institutes. bwcon GmbH has a strategic alliance with Steinbeis foundation.



- ▶ **Umwelttechnik BW**  
Keeping you ahead. In order to promote the local growth of environmental technology, the State of Baden-Württemberg has established Umwelttechnik BW (UTBW) an agency devoted to environmental technology and efficiency of resources. UTBW is tasked with establishing a platform for enhanced networking of industry, science and government, initiating forward-looking projects, supporting businesses and institutions committed to environmental technology, and providing a clearinghouse for industry-relevant information.

### In co-operation with



- ▶ **KIC InnoEnergy** is the European company dedicated to promoting innovation, entrepreneurship and education in the sustainable energy field by bringing together academics, businesses and research institutes. Our goal is to make a positive impact on sustainable energy in Europe. We do this by creating future game changers with a different mind-set, and bringing innovative products, services and successful companies to life.



- ▶ As a non-profit entity, the **Stiftung Energie & Klimaschutz Baden-Württemberg** promotes environmental and climate protection. In order to pursue this purpose and invigorate new technologies and innovations in the field of energy supply and energy use we are looking for sustainable energy solutions — for the world generally and the digital city of tomorrow especially. As partner of the Green Innovation and Investment Forum 2016 we present two awards with the value of 3,000 Euro each to submitted innovations that contribute best to environmental and climate protection. The winners will be awarded as well a five-days training for sustainable entrepreneurship. The Stiftung Energie & Klimaschutz was founded in 2007 by EnBW Energie Baden-Württemberg AG.

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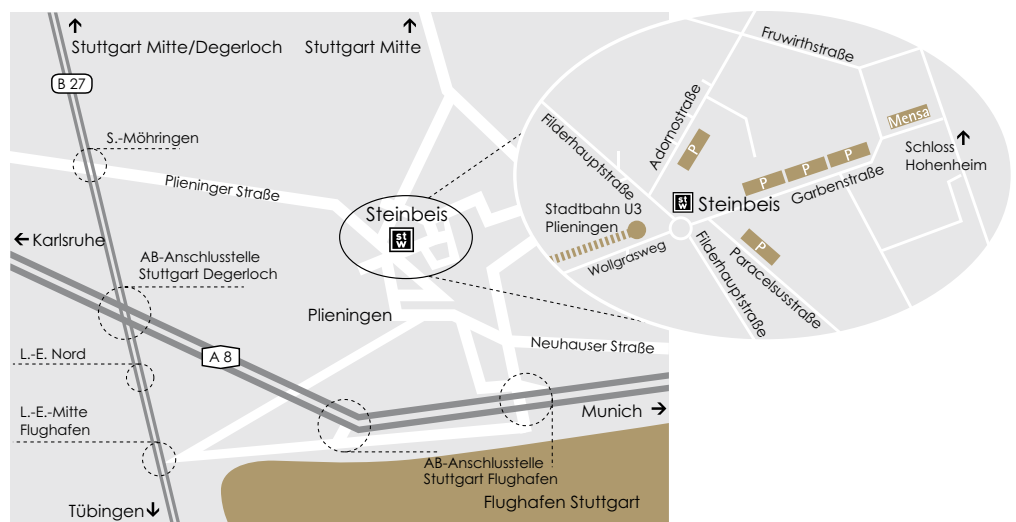
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## Venue

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Partners:



More information:

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