



## WHITE PAPER



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## **1 - Short Description**

The SOLARIO Solar Energy Revolution is about a game-changing technology that has been developed and patented by a team of German engineers. The head of development, Joachim Kleber, is a solar industry veteran who participated in hundreds of national and international projects. Back in 2009 he started to develop a technology that would raise the efficiency of regular photovoltaic systems by combining the photovoltaic process with other energy-producing technologies.

In 2011 Kleber filed his technology for patent and the patent was granted in 2014. In the following years, Wismar University of Applied Sciences: Technology, Business and Design (Germany) scientifically proved a 3.8-times higher efficiency compared to other solar energy systems.

Solario, Inc. has been founded in 2018 to share the potential of this groundbreaking technology with the world. Through a global, 40-month crowdfunding campaign everybody is invited to join our Solar Energy Revolution.

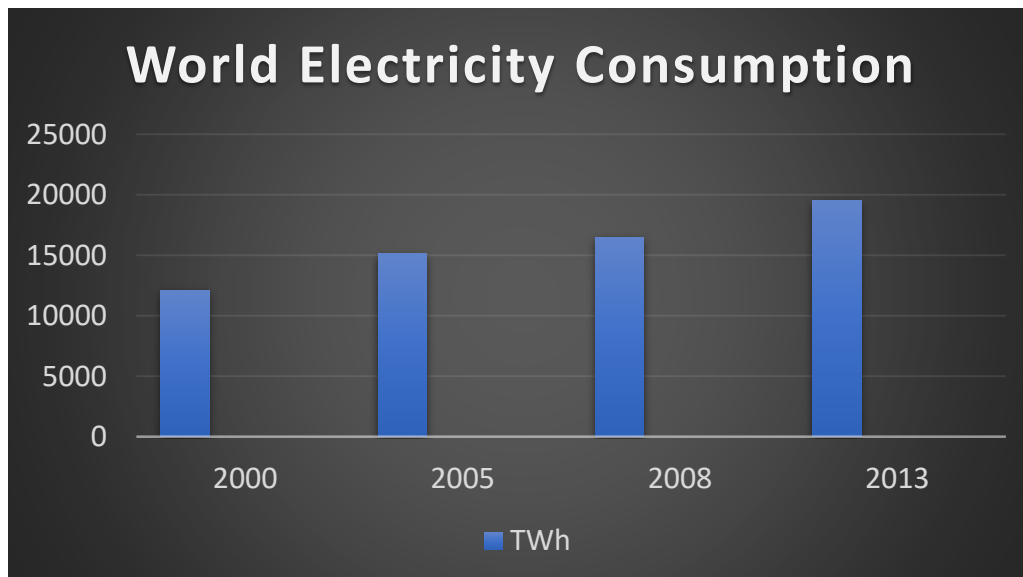
It is our goal to globally provide 100% clean energy and at the same time, to reduce the costs for electricity by at least 50%. Thanks to blockchain technology we will be able to establish local Micro Power Grids all over the world, delivering the best solar technology and the cheapest clean energy wherever it is needed.

During our international crowdfunding campaign we offer blockchain-based Solario Tokens (SOLR). Each SOLR Token is a voucher for 100kWh of electricity, to be delivered from January 2022.



## 2 - World Energy Consumption [1]

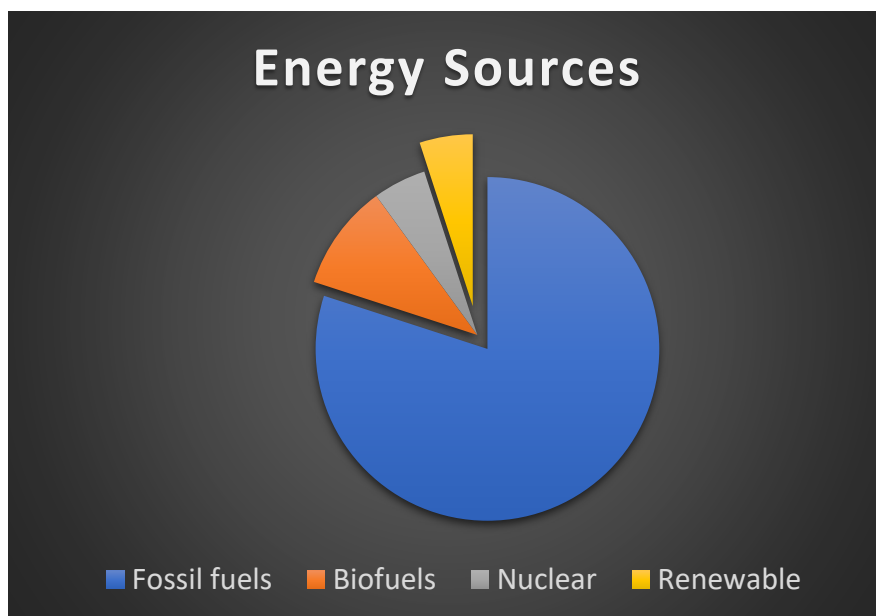
The total amount of electricity consumed worldwide was 19,504 TWh in 2013, 16,503 TWh in 2008, 15,105 TWh in 2005, and 12,116 TWh in 2000. By the end of 2014, the total installed electricity generating capacity worldwide was nearly 6.142 TW (million MW) which only includes generation connected to local electricity grids.[2] In addition there is an unknown amount of heat and electricity consumed off-grid by isolated villages and industries.



In 2014, the share of world energy consumption for electricity generation by source was coal at 40.8%, natural gas at 21.6%, nuclear at 10.6%, hydro at 16.4%, other sources (solar, wind, geothermal, biomass, etc.) at 6.3% and oil at 4.3%. Coal and natural gas were the most used energy fuels for generating electricity. The world's electricity consumption was 18,608 TWh in 2012. This figure is about 18% smaller than the generated electricity, due to grid losses, storage losses, and self-consumption from power plants (gross generation).



In 2016 while total world energy came from 80% fossil fuels, 10% biofuels, 5% nuclear and 5% renewable (hydro, wind, solar, geothermal), only 18% of that total world energy was in the form of electricity.[3] Most of the other 82% was used for heat and transportation.



Recently there has been a large increase in international agreements and national Energy Action Plans, such as the EU 2009 Renewable Energy Directive, to increase the use of renewable energy due to the growing concerns about pollution from energy sources that come from fossil fuels such as oil, coal, and natural gas. [4][5]

One such initiative was the United Nations Development Programme's World Energy Assessment in 2000 that highlighted many challenges humanity would have to overcome in order to shift from fossil fuels to renewable energy sources.[4]





### **3 - Solar Energy** [6]

Solar energy - power from the sun - is a vast, inexhaustible, and clean resource. Solar electricity generation represents a clean alternative to electricity from fossil fuels, with no air and water pollution, no global warming pollution, no risks of electricity price spikes, and no threats to our public health.

Solar energy can also heat water, cool and heat homes, and provide free, natural lighting. And once a system is in place to convert the solar resource into useful energy, the fuel is free.

The solar resource is enormous. Just 18 days of sunshine on Earth contains the same amount of energy as is stored in all of the planet's reserves of coal, oil, and natural gas.



Averaged over the entire surface of the planet, a square meter collects 4.2 kilowatt-hours of solar energy every day, or the approximate energy equivalent of nearly a barrel of oil per year.



## 4 - SOLARIO Technology

The SOLARIO Technology is combining classic photovoltaic (PV) processes with other energy-producing technologies. As a result, the efficiency of our technology is about 3.8 times higher than the average PV system. A patent has been granted by the European Patent Office (Patent EP 2606512) for this technology in 2014.

In short words, the SOLARIO Technology solves the three biggest problems of photovoltaic systems:

#1 PV systems produce electricity only when the sun is shining

#2 PV systems use only a small part of the solar energy

#3 Due to the heat of solar energy, PV systems produce less electricity

The SOLARIO Technology is delivering electricity 24/7, because it is converting not only light, but also heat into electricity. Thanks to latent heat storage systems, electricity is produced and provided around the clock.

In detail, the SOLARIO Technology is a hybrid system for the generation of electricity from solar energy. It is combining classic PV technology, Peltier elements, thermoelectric modules, and latent heat storage systems. As a result, our technology is about 3.8 times more efficient than regular PV systems. This high efficiency rate has been scientifically proven by the renowned Wismar University of Applied Sciences: Technology, Business and Design in Germany.



[7]



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(54) **ANLAGE ZUR ERZEUGUNG ELEKTRISCHER ENERGIE AUS SONNENENERGIE**  
SYSTEM FOR THE GENERATION OF ELECTRICITY FROM SOLAR ENERGY  
INSTALLATION POUR LA PRODUCTION D'ÉNERGIE ÉLECTRIQUE À PARTIR D'ÉNERGIE SOLAIRE

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**JP-A- 59 097 457 US-A1- 2003 221 717**  
**US-A1- 2010 037 931**

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Anmerkung: Innerhalb von neun Monaten nach Bekanntmachung des Hinweises auf die Erteilung des europäischen Patents im Europäischen Patentblatt kann jedermann nach Maßgabe der Ausführungsordnung beim Europäischen Patentamt gegen dieses Patent Einspruch einlegen. Der Einspruch gilt erst als eingelegt, wenn die Einspruchsgebühr entrichtet worden ist. (Art. 99(1) Europäisches Patentübereinkommen).

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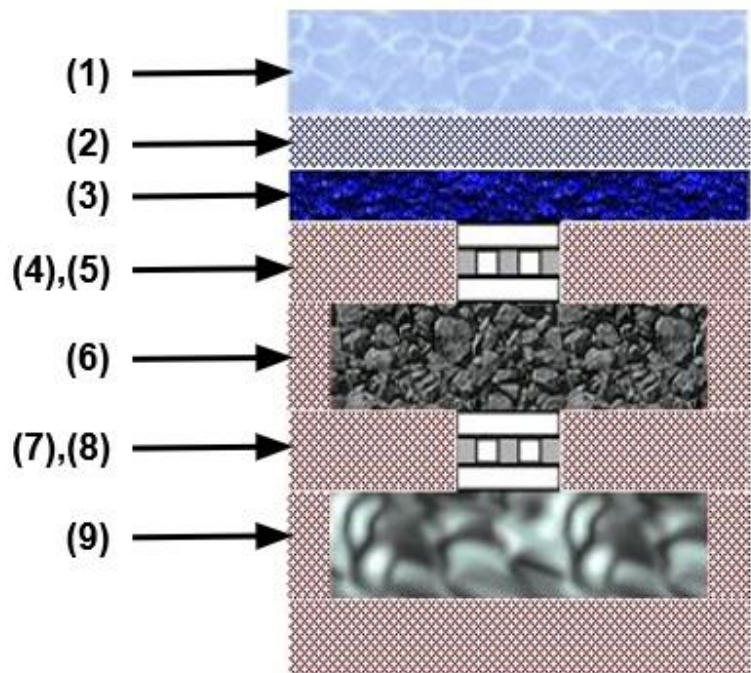
## 5 - SOLARIO Products

There are many application possibilities for the SOLARIO Technology. For example, it can be used to establish decentralized micro power grids, but it is not limited to stationary purposes. Based on first calculations, an electric car with a 1000-mile range could be built based on our technology. Even smaller devices like drones, laptop computers, and smartphones can be powered by SOLARIO in the near future.

Nevertheless, in the beginning we are focusing on developing a roof tile with SOLARIO Technology on board. It is the easiest way to deliver our clean, cheap energy all around the world. The setup and installation will be fast and easy, making private homes, schools, and other buildings independent from vulnerable public power grids. Small neighborhoods and communities can easily establish SOLARIO Micro Power Grids, where the consumption is automatically billed and paid on the blockchain.

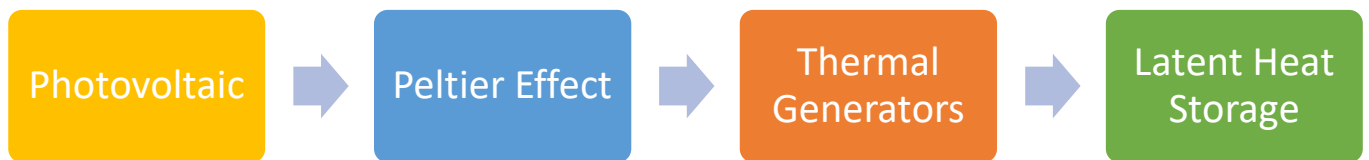
So, how exactly is the SOLARIO Technology built?

- (1) = weatherproof coating**
- (2) = protection layer and mechanical decoupling**
- (3) = photovoltaic cell**
- (4) = Peltier element and thermal generator**
- (5) = thermal insulation layer**
- (6) = stabilization layer with latent heat storage**
- (7) = Peltier element and thermal generator**
- (8) = thermal insulation layer**
- (9) = latent heat storage**





Thanks to the patented combination of different technologies, SOLARIO Roof Tiles keep the PV segment cool for better efficiency. At the same time, the heat from the sunlight is used to produce appr. The same amount of energy as from PV process, and the remaining heat is stored within the system to produce more energy at night, when the PV production is down. Thus, SOLARIO Technology is able to produce energy 24/7, even on cloudy days.



Compared to regular PV systems, that can be bought nowadays, the cost for SOLARIO Technology is expected to be the same or even slightly cheaper. Same for the lifespan of SOLARIO Roof Tiles. As stated by the inventor, the lifespan will be in the range of 25 to 40 years, with the same or less amount of maintenance needed.

Due to the smaller size of one unit (appr. 30cm x 30cm, 12" x 12"), transportation is easier, installation is faster, and SOLARIO Systems can be customized to the exact needs of each customer.

For the holders of SOLR Tokens there is no need to buy any roof tile for receiving electricity in return of their tokens. SOLARIO will establish micro power grids on their own costs to be able to provide energy for SOLR Tokens.

Those who are interested in buying SOLARIO Technology, there will be special offers for SOLR Token holders as soon as the sales price for SOLARIO Roof Tiles is calculated.



## 6 - Blockchain Technology

SOLARIO is using blockchain technology, because it provides the easiest, fastest, cheapest, and most transparent way of globally delivering our SOLARIO Vouchers as tokens, but even more important, blockchain is the perfect solution for automatic billing and payments, once our first SOLARIO Energy is delivered to customers.

Each SOLARIO Token (SOLR) is a voucher good for 100kWh of clean SOLARIO Energy. Once our global SOLARIO Energy Network is established (Jan 1, 2022), SOLR Tokens can be used by our customers to pay for electricity which has been produced within a SOLARIO Micro Power Grid (SMPG) in their area. If for any technical, political or other reasons no SMPG is available, customers can hold their tokens or monetize them on the SOLARIO Marketplace.



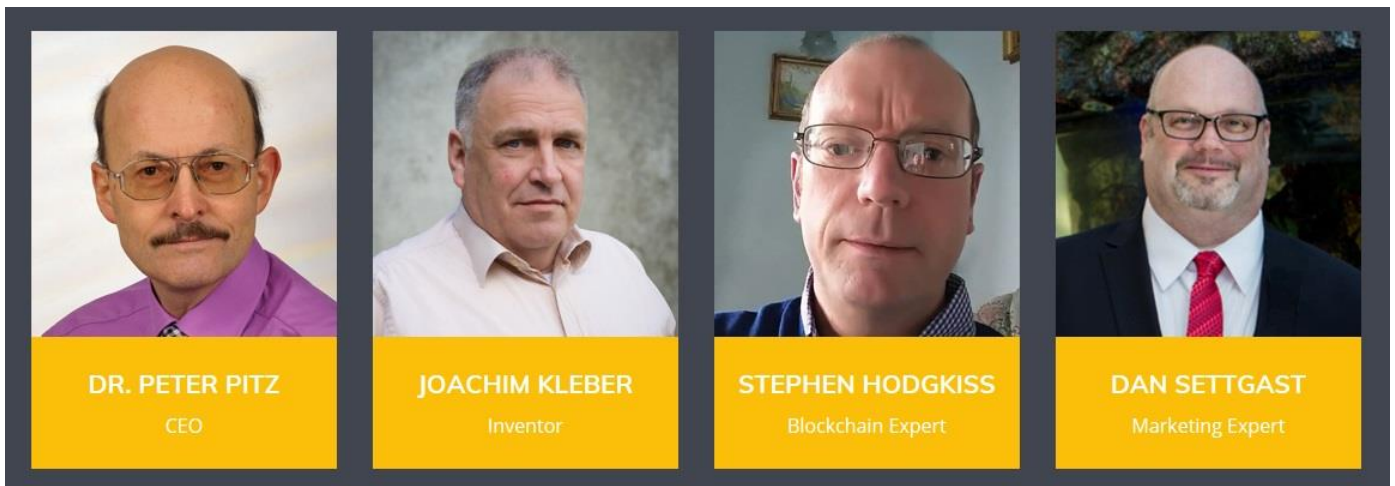
And blockchain technology is creating more opportunities for SOLARIO. Imagine electric cars producing and consuming SOLARIO Energy while they are on the road. As a member of the SOLARIO Network you could charge your car at any SOLARIO Micro Power Grid and you automatically pay with your SOLR Tokens. In a distant future, electric cars might produce more energy than is consumed for driving, so any SOLARIO powered electric car might become a mobile power plant, delivering clean energy to any house within the SOLARIO Network.



## 7 - SOLARIO Team

The SOLARIO Team is steadily growing and consists of more than 50 engineers, scientists, blockchain experts, legal advisors, and marketing expert, just to name a few.

Our core team is organizing the work flow and is taking care that all components of the SOLARIO Project meet our high and discerning standards.



## 8 - SOLARIO Token

The SOLARIO Token (SOLR) is a voucher for 100kWh of SOLARIO Energy to be delivered from January 2022. The tokens are available for sale during our crowdfunding campaign at fixed rates. The number of SOLR Tokens is strictly limited to 50 million tokens. After Phase 1 of the campaign is closed, there will be 40 batches of 700,000 SOLR Tokens each brought to the market; whenever one batch is sold, the price per SOLR Token will increase by US\$0.10.





The SOLR Token won't be traded on any exchanges because of its special status as a voucher. The vouchers always have a fixed price, and trading vouchers outside the SOLARIO Marketplace is not allowed.

Nevertheless, we are using blockchain technology for the fastest and most transparent way of distributing the vouchers. The SOLR Token is built on the Ethereum blockchain and each token is a smart contract for 100kWh of energy.

The SOLR Token is ERC20 compliant. The ERC20 Smart Contract Address is

[0x735798d778200307e7bbf59975d47905f0bb70df](https://etherscan.io/address/0x735798d778200307e7bbf59975d47905f0bb70df)



## 9 - Crowdfunding Campaign

The SOLARIO Crowdfunding Campaign started on May 8, 2018 with a special pre-crowdfunding offer for SafeZone members, where a total of 16 million SOLR Tokens are available with a special 10% discount. The official public crowdfunding starts on May 23, or after all pre-crowdfunding tokens are sold, whatever comes first. 6 million SOLR Tokens will be offered at US\$1.00 per token during Phase 1 of crowdfunding.





After 2 weeks, or after all 6 million tokens are sold, Phase 2 will begin, where 40 batches of 700,000 SOLR Tokens are sold. The price will go up by US\$0.10 every time when one batch is sold, or latest after 30 days.

| BATCH # | VOLUME       | PRICE   |
|---------|--------------|---------|
| 1       | 700,000 SOLR | USD1.10 |
| 2       | 700,000 SOLR | USD1.20 |
| 3       | 700,000 SOLR | USD1.30 |
| 4       | 700,000 SOLR | USD1.40 |
| 5       | 700,000 SOLR | USD1.50 |
| 6       | 700,000 SOLR | USD1.60 |
| 7       | 700,000 SOLR | USD1.70 |
| 8       | 700,000 SOLR | USD1.80 |
| 9       | 700,000 SOLR | USD1.90 |
| 10      | 700,000 SOLR | USD2.00 |
| 11      | 700,000 SOLR | USD2.10 |
| 12      | 700,000 SOLR | USD2.20 |
| 13      | 700,000 SOLR | USD2.30 |
| 14      | 700,000 SOLR | USD2.40 |
| 15      | 700,000 SOLR | USD2.50 |
| 16      | 700,000 SOLR | USD2.60 |
| 17      | 700,000 SOLR | USD2.70 |
| 18      | 700,000 SOLR | USD2.80 |
| 19      | 700,000 SOLR | USD2.90 |
| 20      | 700,000 SOLR | USD3.00 |

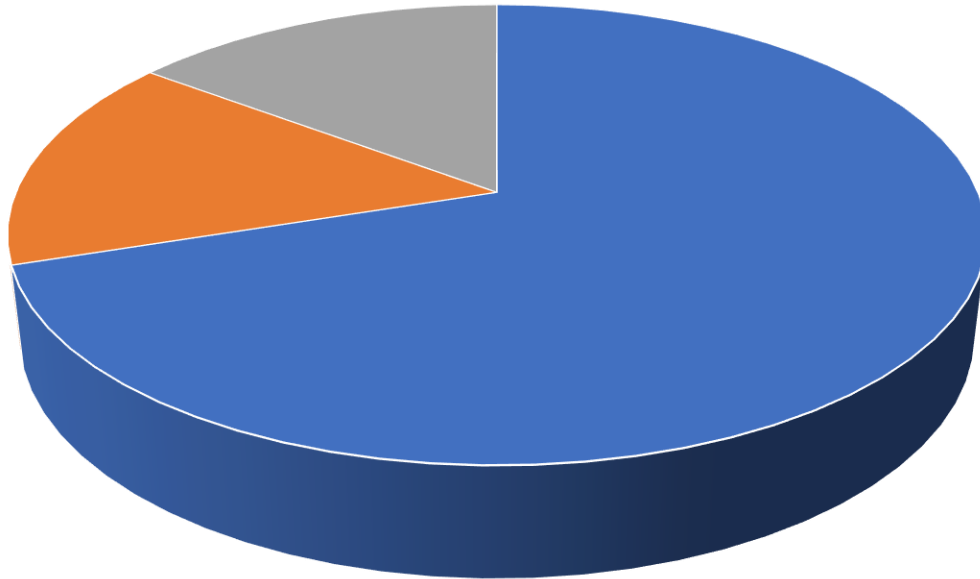


| BATCH # | VOLUME       | PRICE   |
|---------|--------------|---------|
| 21      | 700,000 SOLR | USD3.10 |
| 22      | 700,000 SOLR | USD3.20 |
| 23      | 700,000 SOLR | USD3.30 |
| 24      | 700,000 SOLR | USD3.40 |
| 25      | 700,000 SOLR | USD3.50 |
| 26      | 700,000 SOLR | USD3.60 |
| 27      | 700,000 SOLR | USD3.70 |
| 28      | 700,000 SOLR | USD3.80 |
| 29      | 700,000 SOLR | USD3.90 |
| 30      | 700,000 SOLR | USD4.00 |
| 31      | 700,000 SOLR | USD4.10 |
| 32      | 700,000 SOLR | USD4.20 |
| 33      | 700,000 SOLR | USD4.30 |
| 34      | 700,000 SOLR | USD4.40 |
| 35      | 700,000 SOLR | USD4.50 |
| 36      | 700,000 SOLR | USD4.60 |
| 37      | 700,000 SOLR | USD4.70 |
| 38      | 700,000 SOLR | USD4.80 |
| 39      | 700,000 SOLR | USD4.90 |
| 40      | 700,000 SOLR | USD5.00 |

After all 40 batches are sold, there will be no more tokens available and the crowdfunding is closed.



## 10 – Distribution of Funds



■ Development and Production ■ Affiliate Commissions ■ Administration

70% of all funds generated will be used for product development (SOLARIO Roof Tiles), production facilities, staff and material, transportation and installation of SOLARIO Technology.

15.2% off all funds will be paid to affiliate members through 'We Share Success' Affiliate Platform.

14.8% of all funds are for administration, salaries, organization, marketing, social media campaigns, taxes, and fees.

None of the SOLR Tokens or funds are distributed to team members.



## 11 - SOLARIO Marketplace

The SOLARIO Marketplace is a service for SOLR Token holders who decide to sell some of their vouchers due to changes in their personal situation or planning. The marketplace will open in Q4 2018 and the price for all SOLR Tokens offered is fixed to the current rate of the crowdfunding campaign.

There will be a 16% fee (15.2% for commissions, 0.8% for WSS) on every sale through the SOLARIO Marketplace due to connection to the 'We Share Success' (WSS) Affiliate Program. Thus, we make sure that the SOLARIO Marketplace is promoted by thousands of affiliate members all over the world.

Due to national laws, the SOLARIO Marketplace might not be available in all countries, and might be closed when legal requirements change.

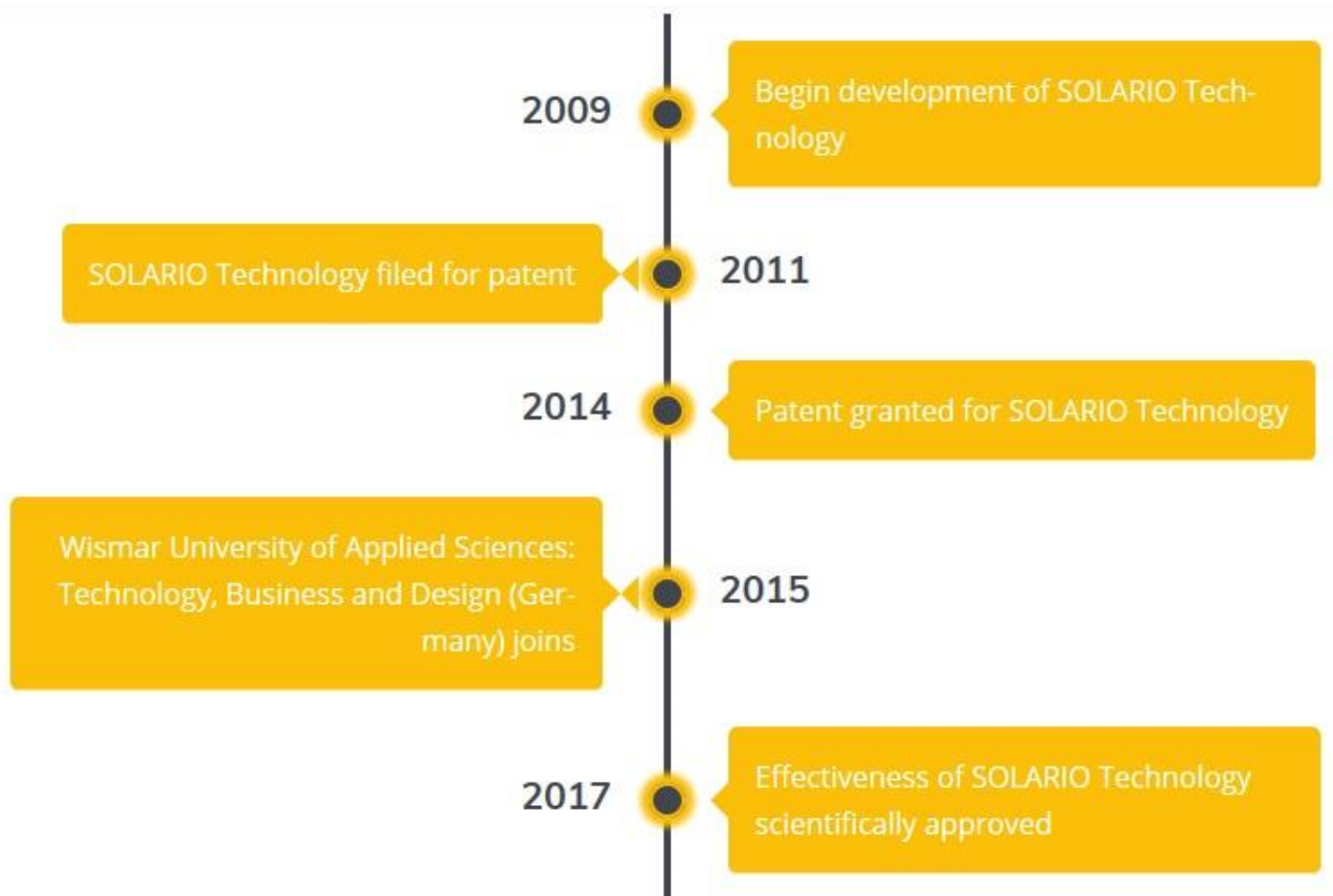




## 12 - SOLARIO Road Map

The first chapter of our success story has been written back in 2009, when Joachim Kleber, inventor of the SOLARIO Technology, started to develop a technology that would raise the efficiency of regular photovoltaic systems by combining the photovoltaic process with other energy-producing systems.

In 2011 SOLARIO Technology was filed for patent and the patent was granted in 2014. In the following years Wismar University of Applied Sciences: Technology, Business and Design (Germany) scientifically proved a 3.8-times higher efficiency compared to other solar energy systems.







Now it is time to share the SOLARIO Technology with the world. In May 2018 the global crowdfunding campaign for SOLARIO has been launched. Funds are needed for developing the first prototypes of SOLARIO Roof Tiles.

In Q4 2018 there will be a SOLARIO Marketplace established where SOLR Token holders can trade their tokens at a fixed rate.

It is expected that after one year of development the SOLARIO Roof Tile is licensed and certified, so that production can start in Q3 2019.

In early 2020 the first roof will be equipped with SOLARIO Roof Tiles.





In Q2 2020 the first facility for mass production of SOLARIO Roof Tiles shall be opened and 4 - 6 months later the first SOLARIO Micro Power Grid will be installed, connecting multiple private homes for the first decentralized SOLARIO Energy Network.

In 2021 SOLARIO Technology will be delivered and installed all around the world. The sequence of countries is depending on national certifications.

January 1, 2022 is picked as the historic date when the local SOLARIO Micro Power Grids all around the world will be connected through blockchain, and SOLARIO Energy will be delivered, billed, and paid 100% automatically, with no bank and no central energy provider involved.





## 13 - Sources

[1]

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