I²T

International Institute of Technology

COMPANY PROFILE

STRATEGIC PERSPECTIVE

ENERGY REVOLUTION

INSTITUTE

The International Institute of Technology I^2T is a research Institute established in Switzerland in 2023 with branches all over the World connecting ideas and intellects Worldwide. This Institute is adding to the outstanding scientific capabilities of Prof. Francesco Zanini to the outstanding financial and economic connections that Dr. Campisi developed in his 50 years career, first as Director at the Ministry of Finance in Milan, then as an Expert Accountant and International auditor.

The Heart of our Institute is the academic collaboration with leading universities from all over the World. Prof. Zanini has written hundreds of articles and publications that are still referenced as authoritative works regarding state of the art innovations in the semiconductor industry. Prof. Francesco Zanini with Commendator Luis Campisi are signing agreements with Companies, Governments and Institutions. The I^2T Institute works with fellow institutes and major industrial groups Worldwide, giving its clients access to cutting edge research and state of the art products.

In I2T Prof. Zanini is directing a team of proven scientists, engineers, and technicians in a very innovative way. Our Mission is to make renewable energies constant over time and create technologies for a sustainable World. The new approach is combining Einstein's Relativity Theory with Quantum Physics and Materials Engineering. This has resulted in game changing discoveries in the fields of solar power generation + improved mechanical and user efficiencies in many areas of Technology.

I^2T's Technology is patented Worldwide and exploitation rights are then given then to structured companies for mass production. A large proportion of I^2T profits are re-invested to push our Technologies forward. Our Partners in Korea, China, Japan, Switzerland, California, UK, Italy and France are successfully helping us in our Mission. Technology is commercialized only by authorized partners. Partners must sell the products providing a full service to end customers. The policy of our Institute is to avoid price speculation on the products done by the resale of the asset. The result is a proven technology that goes from the manufacturer directly to the end customer by means of an installation company that is selected in accordance with our values of experience and integrity.

LEADERSHIP

Name: Luis Campisi
Date of birth: 18/02/1949 – Buenos Aires
E-mail: campisi@i2tholding.com
Nationality: Italian & Argentine
Gender: Male

Commendator Luis Campisi began as a Prosecutor in the Executive Career of the Ministry of Finance, after few years reached the highest rank, Section Director and boasted recognition as the best Italian officer in the years 1981 – 1983 – 1984 with a record of successful assessments and tax trials won close to 90%. He founded Studio Campisi & Partners, with over 600 companies managed and administered. Among these, multinationals (NFO Bulk, Willich, Riva etc.), companies listed on the stock exchange (Veneta Gas and Serenissima Gas – Gruppo AEM and others), important purchasing cooperatives at European level (Coeco, EuroCME, Innovazione etc.) important large-scale retail groups (Miti Spa, Unes etc.), important cultural bodies such as the OXFORD School Group and others.
For over 27 years Studio Campisi has been a point of reference in the Milan of fashion, over 240 commercial companies have been clients of the Studio and among these stand out big names such as Versace (administration of three companies of the Group that managed all the shops in Italy) Kaiserman (the famous designer and creator of the Maison Ralph Lauren of which I was for two years – 4 fashion presentations, controlling partner) Verri, Les Copains and others.
Furthermore, the Models' Union and two of the most important Modeling Agencies were based in the Studio.
Dr. Campisi organized with the patronage of the Italian Embassy industrial and commercial cooperation projects for the creation of the Italy Village in the Dubai free zone, with the most important Business Bank of the Emirates, Dubai Investments Park and BPM Milano, operation managed by the C.I.E.E, Club International d' Expansion Ecomunique, founded and chaired by dr. Campisi. Honorable presence Talik Altayer, President of the Institute.
And much more that covers 50 years of serious and professional activity, which finds its natural outlet in the recent creation of the I2T scientific hub in Switzerland

LEADERSHIP

Name: Francesco Zanini
Date of birth: 10/10/1981 – Quistello (MN) ITALY
E-mail: zanini@i2tholding.com
Nationality: Italian
Gender: Male

Professor Zanini since early ages has shown excellence: Best Student Award, Faculty of Engineering, University of Parma. He was the ONLY STUDENT of his class to graduate with 110/110 cum laude AHEAD OF SCHEDULE on the official university agenda. Franchetti award for excellent school career for 2 consecutive academic years 2003-2004 and 2004-2005.
Prof. Zanini worked with Head of IEEE div. 1 Director: Prof. G. De Micheli. De Micheli's LAB is #1 in the world for excellence in semiconductor, former researchers actual position:
David Ku: Corporate Vice President, MICROSOFT
Jerry Yang: Founder and Chief YAHOO!
Prof. Zanini has written hundreds of articles and publications that are still referenced as primary reference works in state of the art innovations in semiconductor industry. Stanford University Environment is the Leading in the U.S.A., indeed dr. Condoleezza Rice, the former president of C.I.A. is there.
Prof. Zanini has collaborated in many project with top worldwide universities such as STANFORD. In the picture you can see the lab where prof. Zanini was. Now the software developed in this Lab lead by S. P. Boyd, Francesco Zanini co-Author is used in SpaceX's Falcon 9 and Falcon Heavy to guide their autonomous precision landing.
Prof. Zanini has given a fundamental contribution for the electronics controlling the QUALITY OF LIGHT EMISSION behind the HD RETINA LED Technology that we all know.

Prof. Dott. Francesco Zanini, was awarded by the ITALIAN NATIONAL ECONOMIC DEVELOPMENT A.E.R.E.C. for "having contributed with his work to the evolution of human knowledge while holding firm to the principles of morality, honesty and civil sense"

HIGH-LEVEL SCIENTIFIC NETWORKING

Professor Zanini in the image above is surrounded by some of the degrees he received from the world's top universities. Attending these universities allowed Professor Zanini to connect with those who are now the leaders and key players in the scientific revolution we are all part of. Sustainability combined with the rapidity of technological evolution is creating impressive opportunities for social, economic, and cultural development.
Through Professor Zanini, I2T has access to the most important channels of technological development, opportunities developed over years of excellence at the world's leading research centers. Below is a small selection of the Professor's publications, ALWAYS WITH A CO-SIGNATURE with Professor Giovanni De Micheli, President of Division 1 IEEE (2008-2009).

- Multicore thermal management with model predictive control - F Zanini, D Atienza, L Benini, G De Micheli 2009 European Conference on
- A control theory approach for thermal balancing of MPSoC - F Zanini, D Atienza, G De Micheli - 2009 Asia and South Pacific Design
- Online convex optimization algorithm for thermal management of MPSoCs - F Zanini, D Atienza, G De Micheli, SP Boyd - Proceedings of the
- Hierarchical thermal management policy for high-performance 3D systems with liquid cooling - F Zanini, MM Sabry, D Atienza, G De Micheli
- Multicore thermal management using approximate explicit model predictive control - F Zanini, CN Jones, D Atienza, G De Micheli - 2010
- Online thermal control methods for multiprocessor systems - F Zanini, D Atienza, CN Jones, L Benini, G De Micheli ACM Transactions on
- Temperature sensor placement in thermal management systems for MPSoCs - F Zanini, D Atienza, CN Jones, G De Micheli Proceedings
- Thermal-aware system-level modeling and management for multi-processor systems-on-chip F Zanini, D Atienza, L Benini, G De Micheli
- Introducing cognition in TDM PONs with cooperative cyclic through runtime F Zanini, L Valcarenghi, DP Van, M Chincoli, P Castoldi
- A combined sensor placement and convex optimization approach for thermal management in 3D-MPSoC F Zanini, D Atienza, G De Micheli
- Optimal multi-processor SoC thermal simulation via adaptive differential equation solvers - F Zanini, D Atienza, AK Coskun, G De Micheli
- A reinforcement learning approach to sensing design in resource-constrained wireless networked control systems
- Architectural Improvements Towards an Efficient 16-18 Bit 100-200 MSPS ADC - F Zanini - National University of Ireland Maynooth
- Design of Thermal Management Control Policies for Multiprocessors Systems on Chip. - F Zanini - EPFL, Switzerland
- Methodology for Minimizing Timing Mismatch in Time-Interleaved ADCs - M Soudan, F Zanini, R Farrell submitted to IMEKO 2007
- Thermal Management for 3D ICs/Systems - F Zanini - Design of 3D Integrated Circuits and Systems, 111-155
- Nasce l'Illuminazione per Giardino Ecologica ed Ecosostenibile - F Zanini - Italian Lighting, Speciale LED 41 2013
- Illuminare Outdoor con Classe ed Intelligenza - F Zanini - Italian Lighting, Speciale LED 39 - 2013
- Convex-based thermal management for 3D MPSoCs using DVFS and variable-flow liquid cooling - F Zanini, D Atienza, G De Micheli
- Methodology for Minimizing Timing Mismatch in Time-Interleaved ADCs - F Zanini, M Soudan, R Farrell CTVR - 2007
- Methodology for Minimizing Mismatches in Time-Interleaved ADCs - F Zanini, S Mickael, R Farrell- 2007
- Advances in design og energy efficient circuits and systems- F Zanini, MM Sabry, D Atienza, G De Micheli, S Park, S Han, N Chang,

DIPLOMATIC HONOURS

Professor Francesco Zanini was honored by the European Academy of Economic and Cultural Relations for "having contributed with his work to the evolution of human knowledge, in accordance with the principles of morality, honesty, and civility."
In addition, Dr. Zanini is currently holding scientific positions of international importance for many countries and governments, aiming to converge economic development opportunities with social and humanitarian development.
Among his various activities, the professor has also collaborated on the expression of technology in all its forms and expressions, including artistic ones. His scientific collaborations include those with leading architects, from the construction of luxurious private villas to the creation of large public spaces. For Professor Zanini, technology is a means through which we can achieve previously unattainable goals, such as relocating human living space within the natural context of our planet.
Governmental and diplomatic relations extend from China to the United States. People like Sir Peter Sharper, former Chief Scientific Officer of the Commonwealth, create long-lasting connections that enable us to apply our technologies to local needs.
Collaborating with governments is essential to us, as our ultimate goal is social growth and economic prosperity, and we are committed to creating the conditions for this.

TABLES WITH GOVERNMENT BODIES

Professor Francesco Zanini participates in important symposia where policies and visions regarding the evolution of the national energy system are defined and communicated. For I2T, the primary focus is not only the project's outcome, but also its social and economic impact.
The problem facing developing countries is the transfer of resources that could constitute a vital asset for the country, adding value to their economy and establishing a strong presence in international negotiations.
I2T's approach aims not to cede sovereignty but to increase it by attracting funding for projects based on EXISTING ASSETS, then using the proceeds from these investments to generate a financial stimulus that supports their development.
The liquidity thus created is REINVESTED IN PROJECTS with rapid payback periods. This allows for the creation of social and economic infrastructures to support such projects, such as investment in high-level EDUCATION and TRAINING.
Discussions with governments are important for identifying the best ways to collaborate, already laying the foundations for the country's future development.
Diplomatic relations have allowed our institute to engage with leading private and institutional players, enabling us to create value in every project we are involved in. For I2T, technology is the means by which we can revolutionize the world towards TRUE PROGRESS while respecting all local cultures and identities.
Our institute aims to represent a wind of opportunity in the global energy landscape, where energy is understood in its broadest sense in all aspects of life: intellectual energy, cultural energy, and energy as the ability to act, in both the individual and collective interest.

RESEARCH INSTITUTE COLLABORATIONS

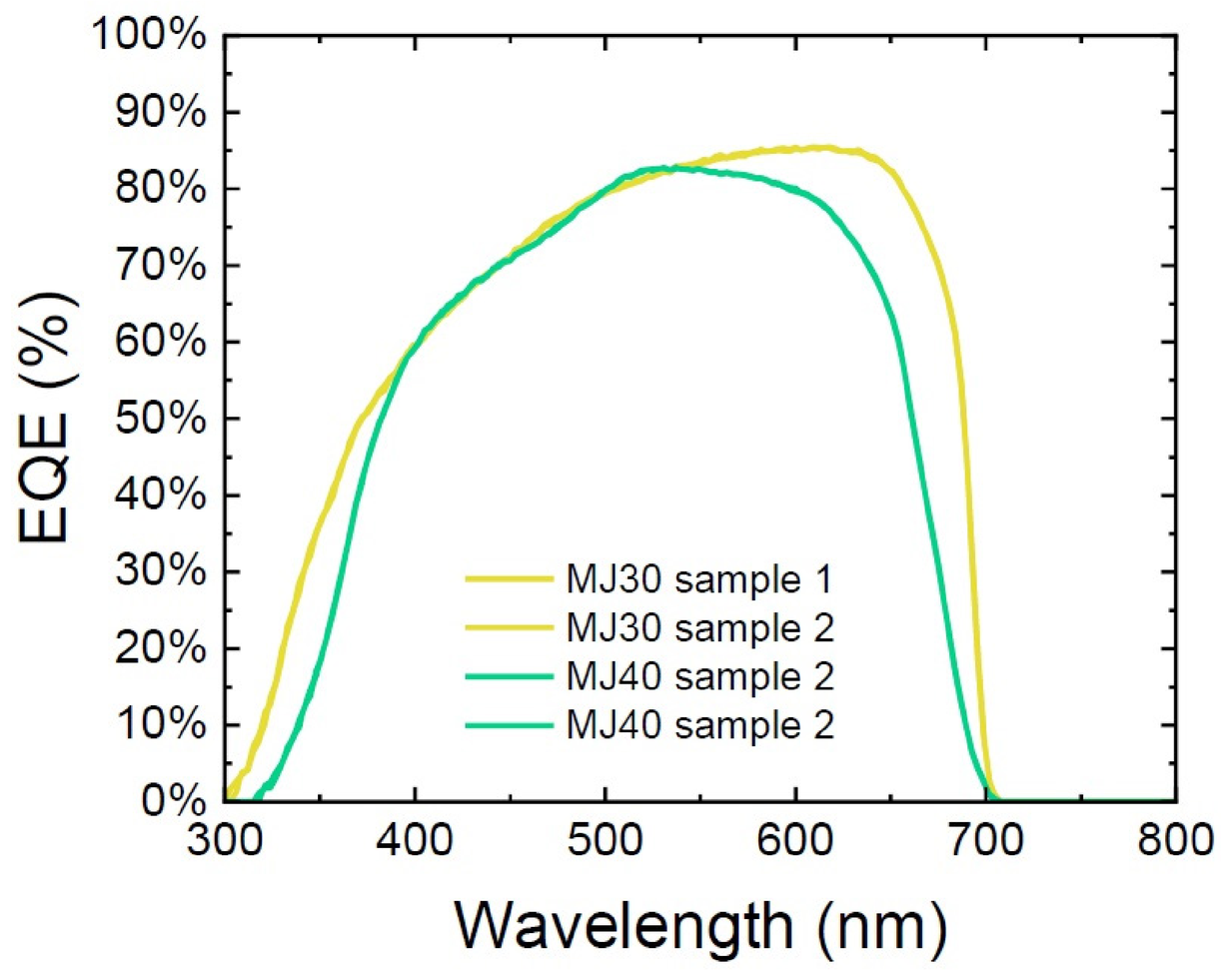
The way our Institute work is by the collaboration with top professionals and top expertise in the field under investigation.
Excellence come from all over the world and key ideas arise from the exchange of multiple high-level minds trained in different areas of human knowledge. In this way, a researcher can work with his own mindset, starting from his colleague's perspective.
This is the origin of I^2T excellence.
Alumni from Stanford University, Massachusetts Institute of Technology, Swiss Federal Institute of Technology Lausanne, Politecnico di Milano, Politecnico di Torino and top leading universities Worldwide are collaborating with our Institute.
At that point we identify a possible solution that is industrialized by structured manufacturing companies able to satisfy a worldwide demand and deliver quality products.
The industrialization process is engineered by our institute in a close connection with the company in order to tailor the design according to manufacturing needs for both speed, production price and accuracy.
When the pre-series product is engineered, it is tested in collaboration with Universities and Research Centers to verify its superior performance in comparison with state of the art technology.
At this point a new production line specific for I^2T products is than setup and ready to deliver excellence to the world.

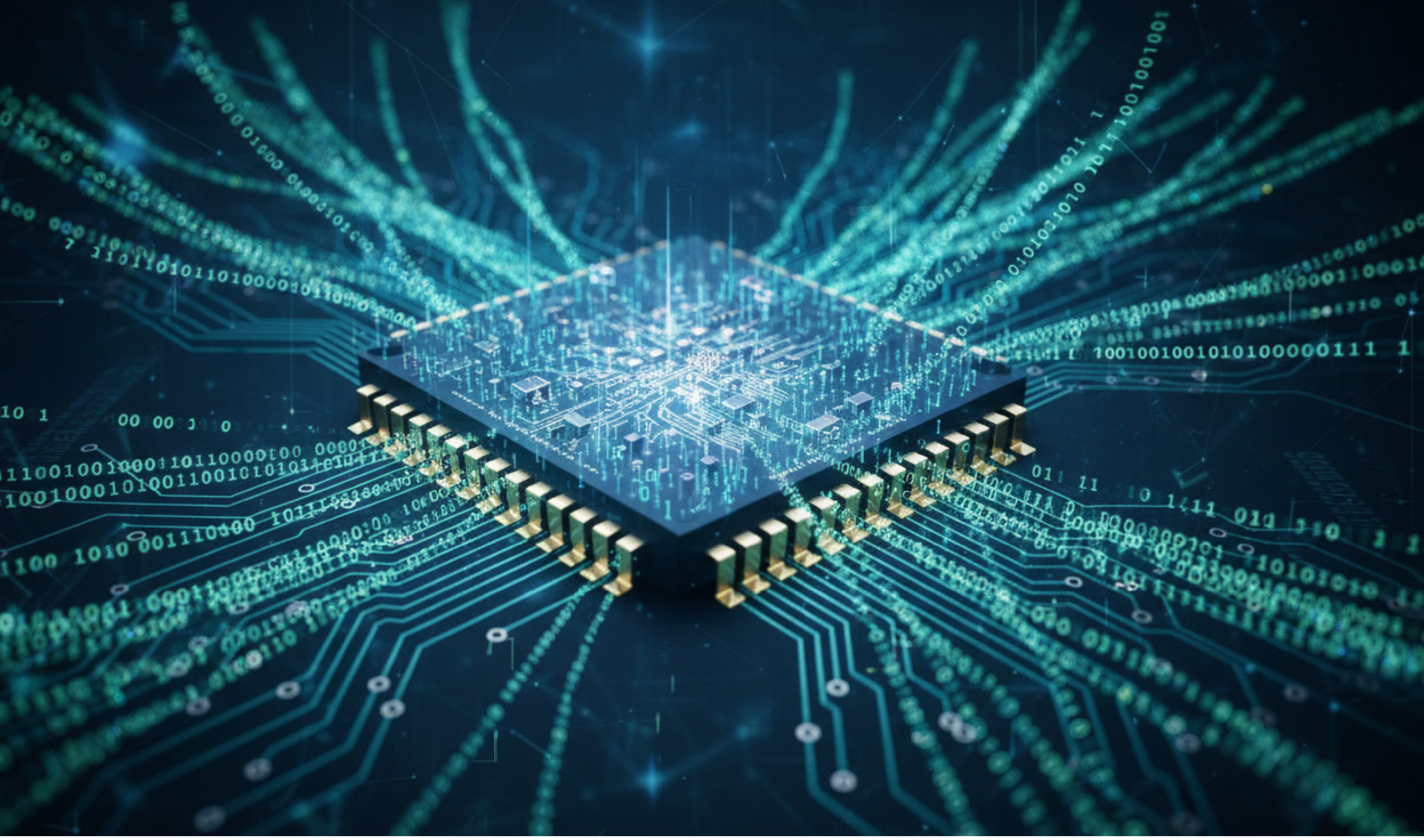
PHOTOVOLTAIC TECHNOLOGY

Standard photovoltaic technology converts with an average efficiency of 20% only the visible part of the light spectrum ranging from 380nm to 700nm. All the remaining part of the energy spectrum is transferred to the photovoltaic solar panel in forms of heat, decreasing drastically its performance. Furthermore, there is also a hidden problem related to the reflected light from the surrounding environment.

With the MK2 photovoltaic Technology developed by I^2T, we have achieved outstanding efficiency results by playing with interference and from many small low energy waves achieved as a result the conversion of a small number of high-energy waves into electricity by a specific bandwidth tailored nanostructured material.

We have tested the material in collaboration with KIWA and the University of Padova in different scenarios with resulting Equivalent Quantum Efficiency (EQE) higher than 80%.





DATA CENTER TECHNOLOGY

With the advance of technology, the number of cores integrated on a chip is increasing. Today, several multicore architectures are already commercially available. Power and thermal management are critical challenges for high-end multicore systems. Temperature gradients and hot-spots affect system performance and lead to reduced chip lifetimes. In the last years, thermal management techniques received a lot of attention. Traditional thermal control policies avoid violations of temperature bounds by transitioning processors in low-power modes, taking a performance hit to cool down. Unfortunately, not only high temperature, but also thermal cycles raise the failure rate of the system.

In our institute we have developed a method providing optimum solutions for linear dynamic systems subject to constraints with several advantages with respect to state-of-the art solutions for thermal control.

With our technology we have developed an architecture able to achieve up to 52 Peta HashRate in mining technologies with a limited number of ASIC machines with a limited amount of power consumption.

In addition to that we recover all the heat with an efficiency up to 90% with no need for cooling systems by means of heat pumps or others energy consuming systems.

In addition to that the way the computation is performed is utilizing the latest mathematical computational technologies to divide the solution space in smaller and faster computational complexity sub-regions that optimally utilize the several hardware resources.

The architecture and the power of the computational structure is time-varying according to both time varying computational needs and power availability making it perfect in the case of renewable energies.

The result is a computational architecture that has an extremely high return on the investment and moreover can work efficiently also in case of time varying energy or computational load.

SOIL REMEDIATION TECHNOLOGY

MPCD® is a 99% biodegradable molecular disruptor, based on sodium carbonate and sodium metasilicate, with the addition of a naturally extracted emulsifier/catalyst. It reduces hydrocarbons into smaller molecules making them easily attackable and digestible by bacteria living in the soil. Once the action of the microorganisms is over, only an inert residue remains, in an insignificant quantity.

MPCD® promotes the formation of micro-droplets of the contaminant. The micro-drops are subsequently encapsulated and stabilized by the combined action of the metasilicates and carbonates. Inside the microdroplets, MPCD® catalyzes the cracking reaction of the hydrocarbon chains, forming shorter chains that are more easily biodegradable by bacterial populations present in the soil/water.

The behaviour of MPCD® is similar to that of exo-enzymes produced by many species of bacteria and fungi which reduce complex organic compounds into simpler and more easily assimilable compounds.

MPCD® is diluted in water supersaturated with oxygen and then introduced into the soil. The application of the product occurs in the soil compartment, through injection with a high pressure pump into special rods installed underground up to a depth of 4m in the groundwater sector, through the infusion of the product into existing piezometers with this action the contaminant is eliminated without traditional cleanup which would be more invasive, time consuming and expensive.

MPCD is a product WITHOUT environmental impact, non-toxic, non-harmful, has the potential and performs the functions of a solvent, just like soda or acetone, but without being a solvent or an acid.

INSULATION TECHNOLOGY

We developed insulating material that are very strong structurally and at the same time with extremely low therm conductivity. Its impressive load-bearing abilities are due to the dendritic microstructure in which spherical particles of average size 2–5 nm are fused together into clusters. These clusters form a three-dimensional highly porous structure of almost fractal chains, with pores just under 100 nm.

Our materials are good thermal insulators because they almost nullify two of the three methods of heat transfer: conduction (they are mostly composed of insulating gas), convection (the microstructure prevents net gas movement) and radiation since they reflect infrared radiation. They are good conductive insulators because they are composed almost entirely of gases, which are very poor heat conductors.

Our material, despite Aerogel is a good radiative insulator because infrared radiation (which transfers heat) does not pass through them.

Owing to its hygroscopic nature, our material feels dry and acts as a strong desiccant.

The slight colour it does have is due to Rayleigh scattering of the shorter wavelengths of visible light by the nano-sized dendritic structure. This causes it to appear smoky blue against dark backgrounds and yellowish against bright backgrounds.

Our material is extremely light and it is very suitable for aerospace applications where the lighter is the plane structure, the heavier can be the payload.

We developed the material in either solid panels, blankets or liquid to be used as a paint to improve house thermal properties.

This product is perfect in housing thermal coat since thermal conductivity is extremely low, (0.012-0.014 W/m°K), making it a superior insulator with the difference that despite traditional Aerogel structures it allows air to pass through, allowing the wall to breathe and therefore preventing the formation of unhealthy environment inside the home.

HEATING & COOLING TECHNOLOGY

We have developed a quantum-physic structured material able to both heat and cool within 3mm thickness.
With I^2T far infrared rays and anions are also emitted. The way I^2T carbon nanotubes are produced allows the generation of specific far infrared heat waves that allow therapeutic heat generation. Moreover, anions discourages germ growth and promote human metabolism, providing a healthy heating living space.
The Panels allow also new opportunities in design, they can be personalized in different colors and allow also a more uniform distribution of radiant heat and refreshing air.
It is suitable for both large and small spaces with an extremely high energy saving due to the radiant transmission of the heat.
Despite traditional radiant panels I^2T panels can also generate refreshing air during the summer allowing a perfect air conditioning of the environment during the whole year.
The equivalent coefficient of efficiency can be up to 5 times traditional Joule-Effect based heating systems in large spaces and the ability to define locally the temperature is the key difference with traditional heat-pump solutions.
This product is suitable for companies where large areas are often not properly conditioned.
The energy efficiency of the structure is extremely high and moreover it can be synchronized with the photovoltaic production allowing ZERO ENERGY CONSUMPTION FROM THE GRID.
The system does not require any water-based circuit, just a simple connection between the panel and any thermostat. The system is safe since it works with a 12V continuous current allowing an extremely high protection in case of earthquakes, floods or fires.
The system is modular and can be dimensioned easily according to heating and refreshing needs by adding style to your living spaces.

QUALITY OF LIGHT TECHNOLOGY

Through collaboration with the companies that illuminated Leonardo Da Vinci's "Mona Lisa" at the Louvre, and with the company that created the RETINA LED technology, we have created minimalist-style products with precision optics that amplify the perceptual weight intended by the artist.
The quality of the light is of primary importance, and for this reason, through COLD LED technology, the LED is kept at a temperature just a few degrees above ambient temperature to prevent deterioration of the light emitted due to overheating of the LED itself.
As the LED overheats, it emits infrared rays, harmful both to works of art and to our own eyes.
The COLD LED technology significantly reduces infrared radiation emissions, and the special LEXAN protective screen blocks all UV emissions.
Our lamps are designed and manufactured to minimize the amount of light that directly hits the eye without first hitting the environment being illuminated. This allows the pupil to dilate as much as possible, capturing the image of the environment as clearly as possible. Colors are thus enhanced to their full splendor.
The result is directional and precise light, designed to enhance the nuances of light created by artists in their paintings and illuminated architectures.

INDUSTRIAL COLLABORATIONS

The production of all our technologies is carried out by specialized companies with the highest levels of skill, professionalism, and production quality, both in terms of production process certification and reliability in managing unforeseen events.
One of our direct representatives directly monitors the production process of each batch, further monitoring the supply chain. Delivery of the goods is also transported, insured, and guaranteed by the best transport and shipping companies.
Each product is branded and registered piece by piece, guaranteeing zero tolerance on the actual yield. This is the result of Military methodologies in management systems.
Defining batches allows production to be segmented and made identifiable and verifiable in relation to specific production, quality, and customer requirements. It involves verifying production and certifying its compliance with all established requirements.
It is not a simple quality control or final inspection, but a systematic process for verifying every element of the product. This activity also includes attention to aspects such as traceability and identification, "following" materials throughout the entire process. Furthermore, very often, the checks required to achieve batch certification are multiple and distributed across the different production phases.
I^2T periodically instructs KIWA to carry out checks at our production partners to ensure compliance with the strictest regulations and quality standards.
Most of our industrial partner are fully automated production facilities that require little to no human intervention and can theoretically operate with the lights off. These factories use advanced technologies like robotics, artificial intelligence, and the Internet of Things to handle processes from raw materials to finished products, enabling continuous, 24/7 operation and minimizing human error. This level of automation leads to benefits such as reduced overhead costs for energy and optimized efficiency.

GOVERNMENT COLLABORATIONS

I²T works primarily with governments and institutions to promote development, social, and economic well-being, all in the spirit of sustainable, and therefore long-lasting, development. I²T aims to leverage the many untapped resources that every country in the world possesses, coordinating and managing their exploitation through technological investment plans in collaboration with governments.

This creates wealth and thus new opportunities for young local talent.

Unlike the typical approach of multinationals that adapt and exploit the social and economic weaknesses and fragilities of states to generate profit, our goal is to create a CORRECT social and economic system. To this end, almost all profits are reinvested in investments aimed at the progress of the states that generated them.

Our initiative aims at bringing the world to a new technological revolution driving technology for health and security of humans and the environment in the 21st century.

I²T fosters collaborative research, bridging traditional disciplines (such as electrical engineering, bio-medical sciences and computer/communication sciences) and crossbreeding hardware and software technologies in the areas of environment and energy systems.

Most resources are re-invested in the most important and valuable resource of each country: young and smart talents in terms of both the Economic and the Scientific fields.

Starting from energy produced from renewable sources to fully automated production systems, I2T wants to elevate humanity to nobler tasks, detaching it from what machines can now do in place of man.

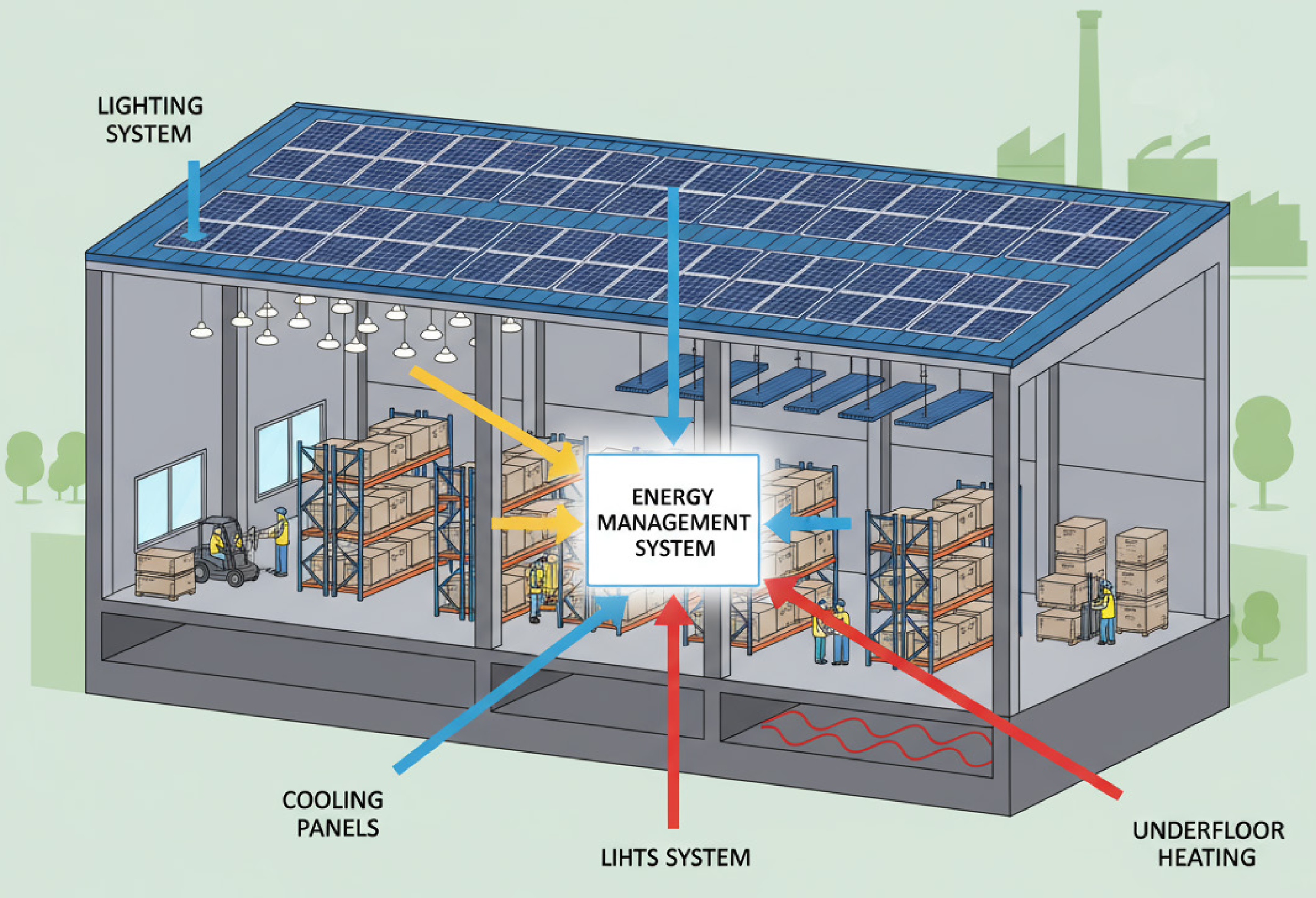
What we enjoy most about the new political and economic realities we encounter are the problems they pose, as we like to transform them into development opportunities for the country.

WIN-WIN PARTNERSHIPS

The way at I^2T we work is by improving interpersonal relationships and strengthening cohesion within a work group. It's not simply about working side by side, but about creating a synergy that enhances individual skills and generates better results than those achievable individually. Our primary objective is to transform a group of individuals into a united and empowered team, capable of addressing daily challenges more efficiently.
We stimulate collaboration to find creative solutions to problems and to reveal natural leaders and areas for improvement.
The I^2T Institute finances its research activity exclusively through royalties that derive from the actual economic results obtained from the incomes from projects where end users benefit from the use of the developed technologies.
Investment funds through our institution have the opportunity to have very rapid and therefore safer paybacks compared to traditional investments which are victims of market volatility.
Before being placed on the market, each technology is validated by notified verification bodies that certify the entire production process chain in order to guarantee full safety of the investment.
Our goals are long-lasting collaborations where both parties are happy to collaborate together.
Almost all of our collaborators and partners have a managerial background within large and important organizations and companies in various sectors, from environmental remediation to semiconductors to the management of large financial groups, all united by excellent professional results.

GLOBAL FOOTPRINT - ENERGY EFFICIENCY

Leading company with over 500 employees in Verona applies I2T technology in the lighting system. The lighting project made it possible to uniformly illuminate the structure, avoiding the shadow areas generated by traditional technologies.
The quality of the light had solar chromatic components that gave the light produced a quality never seen before.
The overall result was a saving of over 80% with a reliability never seen before on faults and on the reliability of the entire system with 0 FAULTS in over 10 years of use on over 500,000 LEDs installed.
Various companies in the industrial district of Modena and Reggio Emilia had the honor, through pilot projects, of being able to test I^2T technologies from the point of view of energy efficiency of the structure. The efficiency improvement had important results.
The result was an air conditioning and lighting system COMPLETELY created through photovoltaic production placed on the roof of the structures. The structures have over 50,000 square meters with volumes that at first glance are impossible to air-condition with current technologies based on heat pump systems.
The very high efficiency of the photovoltaic system created with I^2T technology converts the light and heat generated by the radiation of the roof into electric current which is then conveyed into the lighting system and the radiant system through an artificial intelligence system with proactive predictive calculation models. with very high efficiency placed in the floor screed.
The final result is air conditioning and lighting of the entire structure at zero cost and in a totally sustainable way.
Following image shows the conceptual diagram of how our system works ensuring the complete conditioning of the building in almost complete independence from the external grid.



I²T AI platforms can learn the typical behavior of a system, plant, or asset and perform precise simulations based on consumption forecasts, operating conditions, and expected adjustments. This enables early identification of energy inefficiencies and their possible causes, enabling predictive maintenance. This, through the implementation of corrective actions and the monitoring and management of anomalies, allows for reduced maintenance costs and faster resolution of related problems.

All this provides a comprehensive view of the consumption profiles of each asset and process, as well as the needs and availability of energy resources, facilitating their better coordination and optimization, finding the right balance between reducing costs, emissions, and production times while achieving specific production objectives.

With I²T technologies the power consumption is greatly reduced since we can divide the whole space in climatic zones according to their specific needs.

During summer the cooling panels transform the energy produced by the panels to create e refreshing air coming from the panels located under the ceiling of the building.

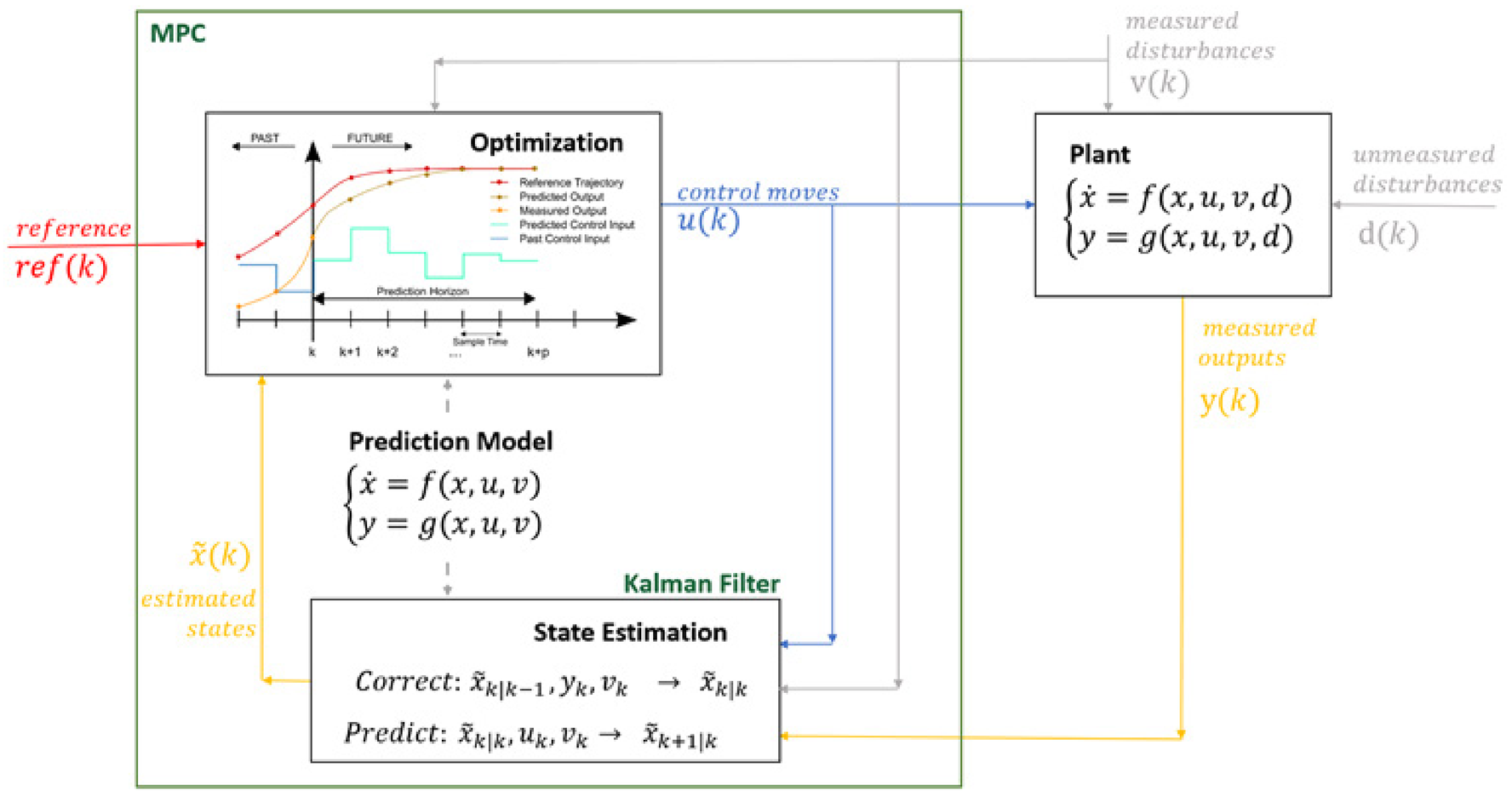
During the winter the panel can produce up to 300W/m² of electricity that is directly used to power the radiating twisted wires embedded in the floor screed. I²T micro-structured insulating material ensures that all the generated radiating heat is directed only inside the building by minimizing losses and ensuring a superior energy efficiency.

Lights are realized with more than 80% natural sunlight chromatic components ensuring a quality light that is restful for the eyes.

Results have shown an average reduction of 92% of the external grid energy request for lighting and air conditioning in large companies located in the Milano and Bologna Area.

GLOBAL FOOTPRINT - DATA CENTER

The aim of this project is to create a highly secure and efficient data center structure able to achieve an extremely high efficiency in energy utilization.
All data are transmitted and elaborated by a distributed data center structure that is robust and impossible to attach unless all distributed units are malfunctioning.
The cooling is performed by means of water to avoid noisy fans and allow the recovery of the wasted heat being able to produce 40°C Water perfect for pools and floor heating of the neighboring structures.
We developed a structure with specifically programmed Hardware Microprocessors able to modify and accelerate the computational speed according to both computational requirements and Energy Availability to achieve the best Energy Vs HashRate Possible.
Following diagram shows the Hardware Structure we have developed to efficiently compute and solve blockchain algorithms in an extremely fast and efficient way.



BUSINESS PLAN

Server Data:

52.2 P HashRate
500KW Power Consumption
Cooling Water Temperature: 40°C

Our Server is able to generate 52.2 P HashRate with a power consumption of only 500KW and at the same time provide 500KW of 40°C hot water for house heating.

Assuming an energy cost of 0.05 $/KWh we will have for a 24h/7 working time approximately 220 000$ of electricity bill with a turnover of approximately 1Million $ assuming the current price of Bitcoin (it is supposed to grow in the following years).

The resulting gross profit is 840 000 $ each year.

In a structure composed of:

6 Servers = 6*1Million=6Millions
Centralized Cooling Unit = 250 000 $
Security Location Arrangement = 250 000 $
Overall capex: 6.5 Millions

Operational cost including electricity bill: 1.320 Million
Turnover: 6 Millions
Gross Profit: 4.68 Million
Payback time: 1.38 Years

Additional income generated by the generated hot water in case of district heating:
500KWx24hx365=4380MWh/year
average price for district heating: 0.16$
Turnover: 700800$
Updated Payback time: 1.2 years

The Data Center can also be used for multiple tasks and possible utilization, and it is suitable for advanced AI algorithms for both Security and Management issues.
Traditional mining ASIC Technologies achieve 15.4 J/TH.
I^2T mining ASIC Technologies has achieved 9.5 J/TH while recovering 95% of the cooling heat.

Moreover I^2T mining technology is suitable for solar-powered system with time-varying energy availability without the need of large and expensive storage systems

GLOBAL FOOTPRINT - SOLAR POWERED STREET LIGHTING

Having streets, parks, and public spaces illuminated for free by the sun has been a major commitment for us. Thanks to the mathematical and physical knowledge that scientists have acquired through their training and collaborations with the world's leading research centers, they have simply solved problems that have limited the use of solar energy in public lighting for years.

The poor efficiency between the energy entering through radiation from the sun and the light that reaches our retina from the road surface has forced the use of enormous and unsightly solar panels, connected to enormous storage batteries with limited lifespans. Furthermore, these systems are only able to provide limited-duration lighting in the event of low levels of sunlight.

The real miracle that made possible to illuminate the road surface with over 5,000 lumens is due to the microprocessor contained in each power station, using algorithms that take into account the most modern notions of quantum physics, the charge flows from the battery to the LED with an average efficiency of over 99.8%.

Furthermore, thanks to the controlled injection of charge into the LED, the LED does not heat up, maintaining both its luminous flux and efficiency over time. The charge contained in the battery is also extracted in a controlled manner, greatly increasing its lifespan.

The versatility of the product is enormous, as the projector can be separated from the battery and the photovoltaic panel. This allows the product to be positioned for internal lighting as well, thus still being able to opt for free and solar-powered lighting even indoors.

The most important point is that this power system allows a great reduction of the cost per lamp compared with traditional stand alone solar lamp since the size of the battery is greatly reduced due to the increase panels and led efficiency.

BUSINESS PLAN

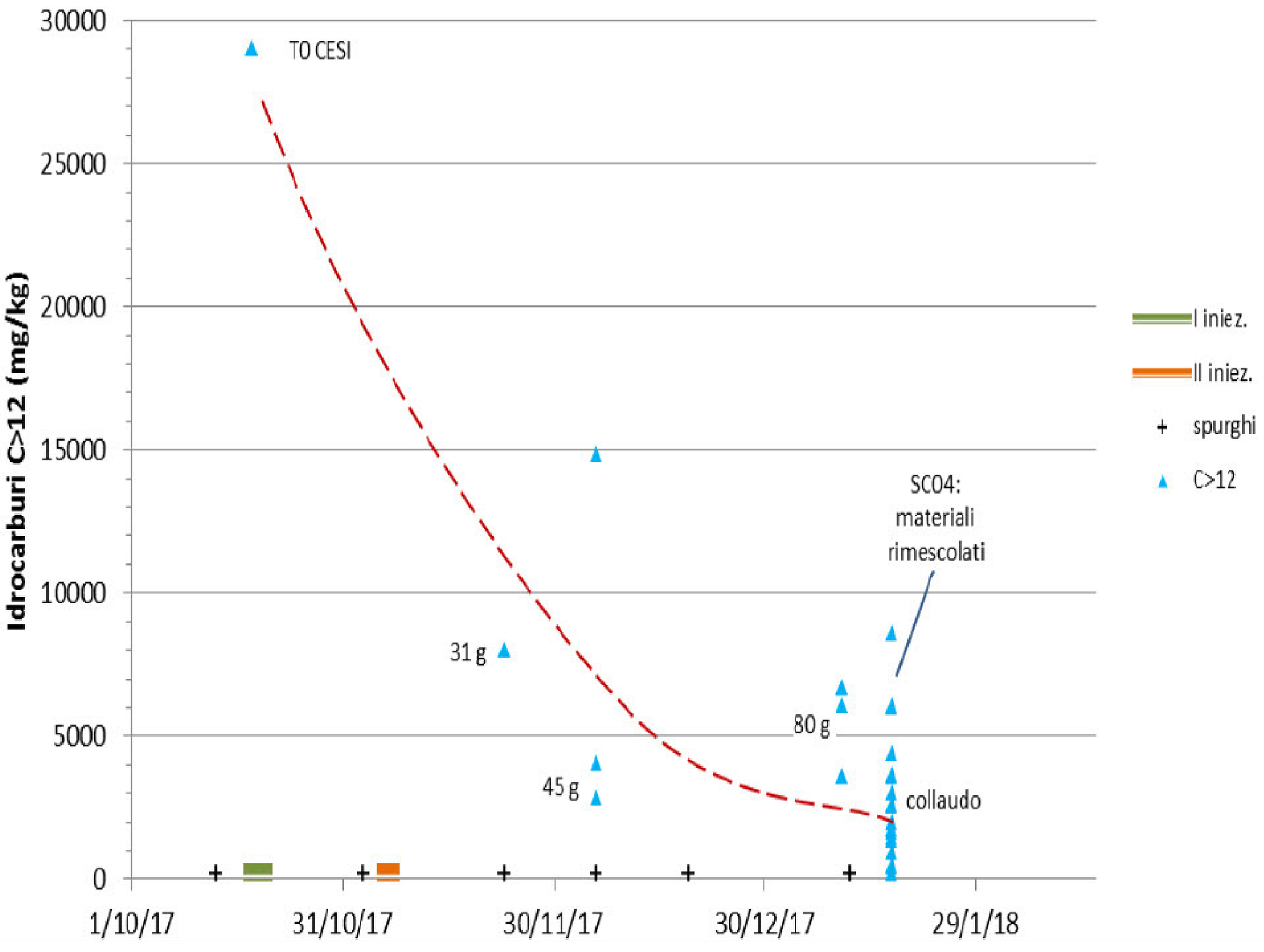
200Km of illuminated streets:
1 - MW Power Hub
5 - MWh Storage System
8330 - 25W street light 5000 lumen, 3000°K, 6m height, 200lm/watt efficiency
200km - Total length of the illuminated road
24m - distance between light points
6000m² - size of the Power Hub
light duration without sunlight: 24h or 2 consequent nights
Investment Costs (excluding Installation, cabling and building works)
2.0 Million - Power Hub including Storage
4.1 Million - Street Lamps including the pole
Total Cost: 6.1 Million
Cost per lamp: 732 $
The main advantage of the centralized structure is that the system is safe and reliable since the battery is located only in 1 place and not distributed all over the street network.
In addition to that the light structure is simple and so reliable.

11Km of illuminated streets:
60 - KW Power Hub
289 - KWh Storage System
480 - 25W street light 5000 lumen, 3000°K, 6m height, 200lm/watt efficiency
11km - Total length of the illuminated road
24m - distance between light points
300m² - size of the Power Hub
light duration without sunlight: 24h or 2 consequent nights
Investment Costs (excluding Installation, cabling and building works)
150K - Power Hub including Storage
240K - Street Lamps including the pole
Total Cost: 390K $
Cost per lamp: 812 $

720m of illuminated streets:
5 - KW Power Hub
20 - KWh Storage System
30 - 25W street light 5000 lumen, 3000°K, 6m height, 200lm/watt efficiency
720m - Total length of the illuminated road
24m - distance between light points
50m² - size of the Power Hub
light duration without sunlight: 24h or 2 consequent nights
Investment Costs (excluding Installation, cabling and building works)
15K - Power Hub including Storage
15K - Street Lamps including the pole
Total Cost: 30K $
Cost per lamp: 1000 $

GLOBAL FOOTPRINT - SOIL REMEDIATION

This report relates to the sampling campaign conducted on January 16-17, 2018, at the ENEL Piombino (ITALY) power plant in the so-called "CESI test field." During the aforementioned campaign, 15 soil samples were collected from five sampling points and three elevations. The two piezometers under investigation were also checked for the presence of an oily phase.
Analyses of samples from the selected sampling points show a DRASTIC REDUCTION in the hydrocarbon content in the soil, with concentrations in the worst case decreasing by at least an order of magnitude compared to the characterization campaign conducted in July 2017.



MPCD® soil remediation technology works worldwide and the global footprint is impressive. From the greatest refineries to the smallest gas station are very satisfied about the results of this innovative technology that is saving every day thousands of barrels of oil consumed in traditional systems by trucks and excavators to remove the polluted land and rearrange the area with unpolluted land after the remediation. This technology also reduces a lot the remediation time and cost compared with traditional technologies.

HIP
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Spoljnostarčevačka 82
26000 Pančevo
Republic of Serbia

Subject: Remediation plan for ecological problems in „HIP-Petrohemija" a.d. Pančevo

Dear Mr. Campisi,

Considering our previous successful cooperation on finding the solution for soil and groundwater remediation in HIP - Petrohemija, as well as in accordance to the conversations we had in AIKU Ambiente office on November 30th 2021, we're approaching you with an appeal to suggest us a several consulting and engineering companies which are able to develop a remediation plan for environmental problems we have in HIP Petrohemija.

This remediation plan should include an analysis of the current state of the environment, with a focus on risk assessment of further impact on the environment, with remediation proposals and an action plan for it's implementation for the following environmental problems:

1. Landfill for process sludge from Electrolysis plant,
2. Landfill for stabilized sludge from Wastewater treatment plant,
3. Landfill for sludge from Wastewater treatment plant,
4. Contaminated soil and groundwater and
5. Demolishing of Electrolysis, PVC and VCM plants (equipment decontamination, dismantling of equipment and disposal of generated waste)

Considering the complexity of this study, we are at your disposal for any additional clarifications.

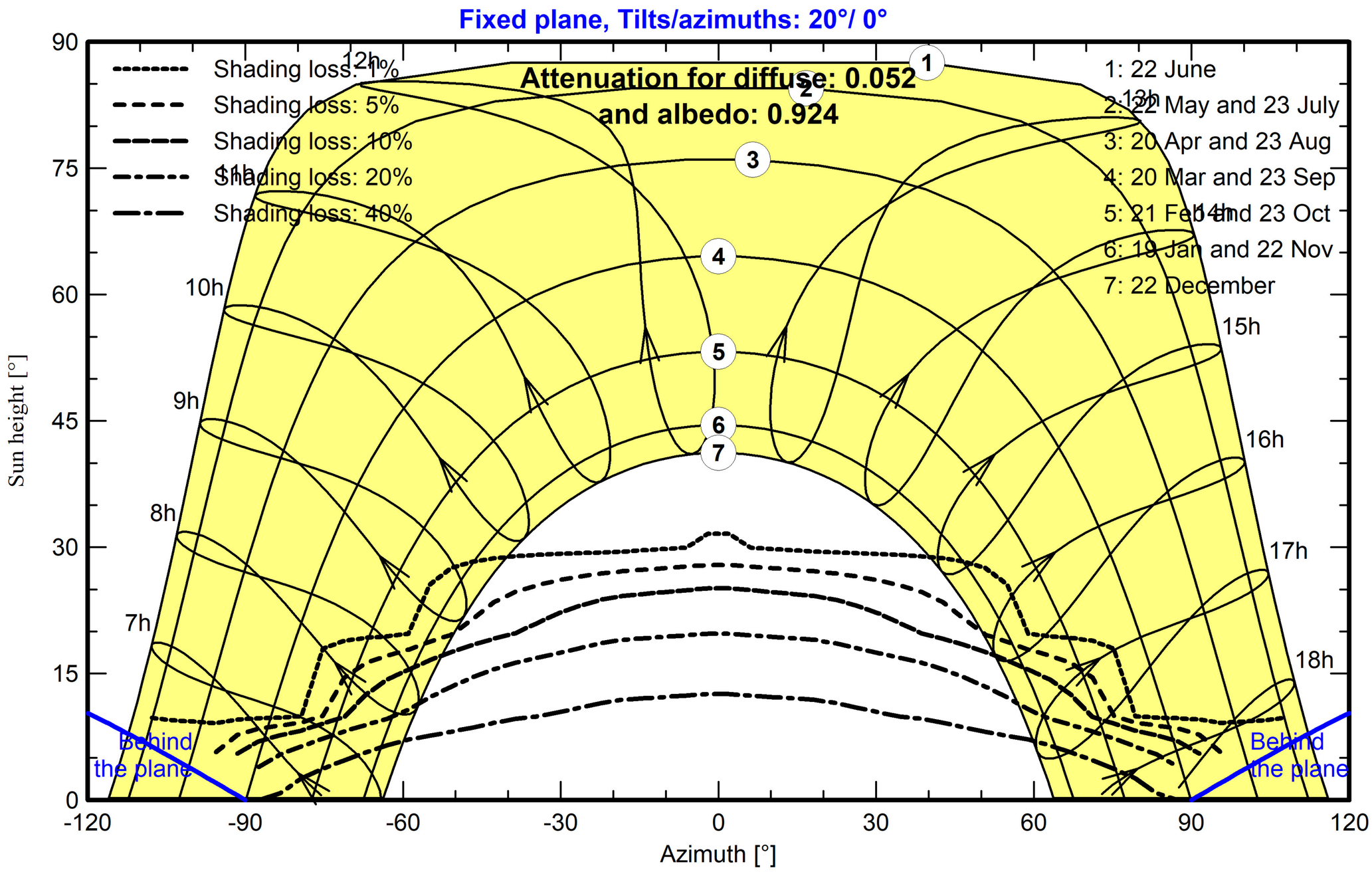
Sincerely,

„HIP-Petrohemija" a.d. Pančevo
Executive Director
Function of corporate and legal affairs

Dragan Zavišić

GLOBAL FOOTPRINT - SOLAR POWER PLANTS

A photovoltaic system built with our technology can reach 2 MW per hectare in Italy with over 2,000 hours of operation, more than twice the average output of a photovoltaic system built with traditional technology.
This is achieved through the combination of a series of patented technologies developed by our Institute. Following diagram is showing the resulting production over 1 hectar of land.
As it can be noted the energy production profile compared with traditional technologies is more flat and so the power production is both bigger and more uniform over time compared with traditional technologies.



BUSINESS PLAN

Following analysis is related to a 2GW power plant with a PPA @ 10 cent/KWh.
The plant shows a payback period of 2.5 years with an IRR of 40.58%.
This is an example of how our technology works compared with standard solar panels.
The ROI in a 20 year period shows a profitability of 734.5%.
Standard technology shows a different scenario with number that are from 2 to 3 times smaller
Our technology shows outstanding performances and in addition to that the way the power production is made shows a much constant production over time compared with traditional technologies that is perfect for data centers or industrial facilities where traditional solar power supply is not able to satisfy the constant requirement of energy supply.
Moreover the plant is made with a modular structure that makes the investment extremely safe and reliable and ready to scale for bigger and bigger energy demands.
With our technology we can produce up to 3GWh per hectare in an efficient, constant and reliable way, ensuring a constant power production over time.

Financial analysis

Simulation period

Project lifetime	20 years	Start year	2026

Income variation over time

Inflation	2.00 %/year
Module Degradation	-0.38 %/year
Discount rate	0.00 %/year

Income dependent expenses

Income tax rate	0.00 %/year
Other income tax	0.00 %/year
Dividends	0.00 %/year

Depreciable assets

Asset	Depreciation method	Depreciation period (years)	Salvage value (EUR)	Depreciable (EUR)
PV modules				
I2T-33-Mark1	Straight-line	20	0.00	942.717.600.00
Supports for modules	Straight-line	20	0.00	157.119.600.00
Inverters				
6250KVA-MV	Straight-line	20	0.00	1.345.000.00
		Total	0.00	1.101.182.200.00

Financing

Own funds	1.258.301.800.00 EUR

Electricity sale

Feed-in tariff	0.10000 EUR/kWh
Duration of tariff warranty	20 years
Annual connection tax	0.00 EUR/year
Annual tariff variation	0.0 %/year
Feed-in tariff decrease after warranty	0.00 %

Return on investment

Payback period	2.5 years
Net present value (NPV)	9.242.780.055.05 EUR
Internal rate of return (IRR)	40.58 %
Return on investment (ROI)	734.5 %

CONTACTS

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