



A programme of:



# The Collider

Investors Day 2022  
**Startups One Pagers**

27th April 2022

**Sector:** Utilities

**Technology:** Power Grids Analytics

**Description:**

eRoots Analytics will provide a breakthrough power grid analysis software platform specifically developed for grids with high penetration of Power Electronics, such as those of Wind or Solar Photovoltaic generation.

Although the dynamics of power networks have been radically transformed in recent decades with the gradual penetration of renewables, the main analysis solutions available commercially are just incremental adaptations from the same techniques which have been used in conventional Power Grids. eRoots Analytics will produce a software analysis platform for Power Grids which can tackle its main analysis needs, even when the penetration of Renewable Energies and Power Electronics is high. The solutions provided by eRoots will have the highest level of accuracy in the industry, but at a much lower computation cost. For comparison purposes, a short circuit analysis of a relatively small Power Grid could take 30-40 minutes using the best accuracy performer, while with eRoots it could be computed in 0.1 seconds.

eRoots aims to reach ~5M € revenues by year 5 in the 3B € (10% CR) Power Grid software market, with a 64% estimated EBITDA margin, with the low CAPEX investments of software companies.

**Stage:** Seed

**Funding sought:** 250k€ < 500k€

**Why to invest:** The new geopolitical situation brought about by recent events will drive a radical shift in the global energy market map, with an even greater acceleration into renewable electricity generation (>20% CAGR, pre-Ukraine war). Current Power Grid analysis software will not be able to meet the needs of this new reality, for which eRoots Analytics is positioned with the best global expertise and patented technologies. A business model based on recurring software license sales, supported by engineering services, will ensure >60% EBITDA profitability.

**Team:**

**Jesús Fernández**, Co-founder and CEO. MBA MIT Sloan and PhD KIT (Japan). Founded 1 previous start-up which raised €6M. 6 years executive experience at Hilti. 3 years management consulting at Bain & Company.

**Oriol Gomis**, Co-founder and Development Lead. PhD UPC. 20 years of related research, with 200+ papers, 3 books, 6 patents. Corporate projects with GE Wind, RTE, REE, Alstom

**Eduardo Prieto**, Co-founder and Engineering Lead. PhD UPC. 18 years of related research with 55 papers, 3 book chapters, 4 patents. Corporate projects with Schneider, Siemens

**Marc Cheah**, Co-founder and Engineering Lead. PhD Cardiff University. FullStack Developer with 12 years of related research, with 21 papers and 1 book. Projects with Hyosung, RTE, REE.

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**Sector:** Cleantech / Green Hydrogen

**Technology:** Electrodes / Coating

**Description:**

JOLT's technology consists of a one-step ultrafast method to manufacture self-supported electrodes for use in hydrogen producing electrolyzers and fuel cells. The process produces metal oxides with significantly improved performance at a reduced cost.

JOLT's process can be applied to different applications involving the coating of surfaces for electrochemical applications and offers a new technology that will be competitive in the € multibillion electrolyser & fuel cell markets.

JOLT's technology has been classed as disruptive for the hydrogen market by energy consultancy, i-deals (a Spanish energy consultancy and subsidiary of Everis / NTT Data, Japan: <https://i-deals.es>).

**Stage:** Series A

**Funding sought:** 2.5M€

**Why to invest:**

- Achieve the global goal of 1.5 \$/Kg of green H2 (equaling the current cost of fossil fuels)
- Increased durability and robustness of electrodes
- Significant increase in energy efficiency of electrolyzers and fuel cells
- Faster manufacturing process with marked decrease in production cost. Lower energy consumption and easily scalable

**Team:**

**Leon Rizzi**, CEO. +25 years C-level in global technology companies. Founded 2 successful startups

**Arturo Vilavella**, COO. Chemical Engineer. +20 years of experience in operations, factory management.

**Alberto Bucci**, CTO. Post-doc Chemist. Developer of the technology

**Julio Lloret**, Chief Scientist. ICREA Profesor of Chemistry. 2 technology spin-offs.

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**Sector:** Industry 4.0

**Technology:** Hardware

**Description:**

UniSCool is a patented Direct-to-Chip Cooling solution that reduces electrical consumption between 30-70 % increasing reliability and components lifetime up to 20%.

Problem: The accelerated growth of data processing during the last decades has increased the need to attend to thermal loads in a more efficient and sustainable way. Solution : innovative liquid cooling self-adaptive heat sink capable of efficiently adapting the distribution of its heat extraction capacity to time-dependent and non-uniform heat load scenarios.

Target market Data centers and advanced semiconductors manufacturers

Applicability: Repeatable, scalable and simple design which can be easily implemented.

Versatility: The heat solution design can be adapted to a wide range of applications. Potentiality: Increase performance of fast-growing applications (AI, VR, autonomous cars, etc.)

Business model: Licensing and manufacturing solution.

**Stage:** Seed

**Funding sought:** 500k€ < 1.000k€

**Why to invest:** UniSCool has an unique patented technology, with a strong value proposition ahead of any competitor in market that arrives in the right moment with a great industry feedback and with an incredible team committed with the project since 2016.

The opportunity is huge, and our current metrics forecast a big growth in the next two years, doubling revenues and attracting VCs and CVCs to invest in next round.

**Team:**

**Ramón Jiménez, CEO.** ICAI Industrial Engineer. CEO Acciona Ind, Cobra, MD ABB. 25 years experience creating & growing companies. Energy, industrial, water & environment, services.

**Montse Vilarrubí .COO.** PhD Industrial Engineer. Postdoctoral researcher in thermal management systems. UniSCool patent creator. Trained in entrepreneurship & tech transfer.

**Jerome Barrau PI** PhD Industrial Engineer. UdL professor, experience in industry and thermal management research. UniSCool patent creator, owns 3 patents as co-inventor.

**Luc Fréchette PI** . PhD Aeronautics & Astronautics, Mechanical Engineer. UdeS professor, Canada research chair of microfluidics and power. UniSCool patent creator, co-founder of 2 spin-offs.

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## DEEP DETECTION

Detect whatever you want: Photon Counting x-ray cameras for industrial inspection



**Sector:** Industry 4.0; Semi-conductor Photonics

**Technology:** Hardware, X-Ray Camera

### Description:

There is a global demand for two unmet needs in inspection markets:

1. Detect low density objects: plastic, bones, fish-bone, crop debris.
2. Characterize objects: composition (e.g. amount of fat in meat, fruits maturation)

We have the world's first solution to do both these factors in real time, on continuous inspection lines from high-speed food production to detailed security scans. The particle physics technology has been adapted to the economics and performance needs of industrial line scanning. The tech, "multi-spectral x-ray", requires a unique know how of physics, engineering, applications and business, which our team has.

While our potential competitors are anchored in legacy x-ray or expensive science and medicine solutions, we are ready to go big with industry: x3 better detection through ultra sharp images and deep learning AI, and precise compounds identification.

Photon counting patent in USA, Europa, Japan and China let us obtain ultra sharp images in processes at high speeds. The objective is to close global commercial agreements with inspection machine manufacturers during Q3-Q4 2022.

**Stage:** Seed

**Funding sought:** 2M€

**Why to invest:** The industrial X-Ray camera market in global F&B can be penetrated very quickly due to standard form factors and interfaces. We focus on 3 growing markets: industry, recycling and security. A large number of clients purchase from a few suppliers tied to legacy technology. We already have 14 recurring worldwide clients very keen to participate in our industrial program, they can generate direct sales of 7-14 M€/yr. Profitable B2B business model. Right Time: technology developed and protected, clear market needs and the right team to deliver this tech in the targets markets. Photon Counting patent granted.

### Team:

**David Ciudad**, MBA (EAE). Business leader in technology and industrial sectors. Founded four companies: SIMPPLE, Populetic, Infinitem Projects, Woices (1 exit, 2 live, 1 close).

**Colin Burnham**, Masters (UPC). Innovation & technology commercialisation leader behind some of the worlds famous brands. Previous board member @PepsiCo Iberia and Europe SSA.

**Jose Gabriel Macias**, PhD Electronics Engineer (UAB) Designer behind the microchip for Deep Detection. Expert in ultra low power and noise.

**Mokhtar Chmeissani**, PhD Particle Physics (Uni Michigan). Research and technology transfer at CERN and IFAE. Multi-energy detector expert.

**High Energy Physics Institute**  
patent licensor, renowned in sensor  
research and manufacturing.



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# COOLING PHOTONICS - Cooling without energy consumption and pollution<sup>o</sup>



**Sector:** New Materials

**Technology:** Nanotechnology

## Description:

COOLING PHOTONICS provides passive cooling solutions that reduce energy consumption, with zero carbon emissions, increasing systems performance whilst decreasing operating costs.

Our products, applied on any surface hotter than the ambient, dissipates heat in form of infrared radiation in the most efficient manner, reducing its temperature, even under direct sun.

Our technology dissipates up to 250 W/m<sup>2</sup> for machines or devices that are 50°C above the ambient temperature (250W/m<sup>2</sup> is 30% of the heat that arrives from the sun to the earth). Under this conditions, our film can reduce the temperature of the device from 5 to 20°C depending on the properties of the material where you install it.

Our solution is simple, efficient, cost-effective, scalable and environmentally friendly.

**Stage:** Seed

**Funding sought:** from 500k to 750k

## Why to invest:

Potential (of the technology and team) to reduce energy inefficiencies and costs sustainably, contributing to solve Climate Change through a clear business opportunity.

## Team:

**Javier Achiaga**, co-founder&CEO. ESADE MBA, Civil Engineer.

**Juliana Jaramillo**, co-founder&CTO. PhD Physics & Energetics. ICN2 Senior Researcher. Patent Inventor.

**Antonio Cuenca**, co-founder&COO. Telecommunications & Industrial Engineer.

**Alejandra Jacobo**, PhD Materials Science.

**Neffe Gómez**, PhD Chemistry.

**Nikos Kehagias**, Advisor and collaborator, PhD Physics. Nanoimprint lithography expert. Patent Inventor.

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**Sector: DIGITAL HEALTH**

**Technology: AI, Wearables**

**Description:**

Ephion Health, a spin-off from Eurecat and Hospital Sant Joan de Deu, has developed a platform to monitor the clinical evolution of patients using wearable sensors and artificial intelligence algorithms. Mobility is a key indicator of disease severity, progress, and efficacy of therapy.

Traditional methods to measure patient mobility are subjective and imprecise.

Current solutions based on wearables rely on proprietary hardware as the only source of health data. These systems do not offer a complete picture of the patient's health and the data they provide is difficult to interpret by doctors.

Ephion Health product integrates data from multiple wearables, analyses it with artificial intelligence and provides a disease specific score of patient health status.

Our clients are hospitals (clinical practice) and pharmaceutical companies (clinical trials). In both cases our technology can be used in the hospital or remotely.

**Stage: Seed**

**Funding sought: €300K**

**Why to invest:**

Ephion Health will lead the digital transformation of clinical mobility assessments. Our products will improve the lives of millions of patients. We expect to have revenues above €40M in 5 years based on the first 4 products (DMD, MS, Frailty and Orthopedics). We envisage to start selling our first Medical Device certified product at the start of 2023, and then one new product every 6 months. Probable exits include Ephion Health being acquired by a Pharmaceutical Co. or a large wearable devices manufacturer.

**Team:**

**Quique Llaudet, CEO.** PhD, MBA, 20 years of international experience in the sector, founded 4 startups (2 failed, 2 ongoing), raised 5M€ in three funding rounds (Sarissa Biomedical, NLAB Bioscience, Linda Drinks, Leukos Biotech).

**Mireia Claramunt, CTO.** PhD, researcher from the Digital Health Unit of Eurecat. Technical leader of the EIT Health project where Ephion's technology was developed.

**Joe Zakzeski, COO.** PhD, researcher turned entrepreneur with corporate experience at BASF HQ.

**Sebastian Idelsohn, CSO.** PhD, his work experience covers the academic and the industry health sector. Project leader of the EIT Health project where Ephion technology was developed.

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**EXHEUS** – The world's most sophisticated health report based on RNA

**exheus**



**Sector:** Digital Health

**Technology:** RNA-Seq & AI

**Description:**

EXHEUS has created a unique health intelligence report that analyses the expression levels of the 22.000 genes of the genome through RNA sequencing and AI. RNA levels reveal how the genes are activated and switched on or off, giving to the client a completely new level of understanding of the body's function. The information obtained from the RNA levels is the basis of the lifestyle personalized recommendations that are provided in the report.

We are the world's first commercial DTC genetic test that analyze the whole RNA in blood samples of healthy vs unhealthy people. That means that the test have the technical capabilities to determine the expression levels of the 22,000 genes of our genome. Unlike DNA test, that only offer probabilistic information and are only performed once in a lifetime, our RNA tests provide real information on gene activation and can be performed on a recurring basis as many times as necessary. In addition, DNA is immutable while RNA constantly changes depending on lifestyle, so it is possible to carry out various analyzes over time to see how the activation of genes evolves.

RNA analysis gives gene expression (GE) information to measure the changes your body undergoes over a period depending on the actions carried out.

**Stage:** Seed

**Funding sought:** 500k€<1M€

**Why to invest:**

We are generating revenue and preparing the company to grow during 2022 around Spain being the market leader in the DTC genetic test sector. We are also planning the clinical study to obtain the CE & FDA certificate in order to allow us to enter the US market, which market size is about 255B\$ with a CAGR of 8,2%

**Team:**

We have a multidisciplinary team of 11 people in the areas of bioinformatics, genetics, nutrition, sports, marketing and business. Our founding team consists of:

- **Teresa Tarragó**, CEO. PhD & MBA ESADE. 20 years of experience in the health sector. Founder of Iproteos (1 exit) and Accure Therapeutics. Raised 13M€ in 3 funding rounds.
- **Pol Cervera**, COO. Marketing & Communications expert. More than 5 years of experience working with startups in more than 3 countries.
- **José Manuel Soria**, CSO. PhD IRO. 30 years of experience in genetics and omics Big Data. Director of Genomics of Complex Diseases Group of the Sant Pau Hospital Research Institute. (GenIncode, LeoPharma, Boehringer Ingelheim).
- **Alexandre Perera**, CTO. PhD UB. 20 years of experience in Artificial Intelligence & Big data applied to biotech projects. Founder of 1 Startup.

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