



**TECHNOLOGY TRANSFER
DIRECTORATE**

START-UP
Portfolio & Projects

YEAR 2022

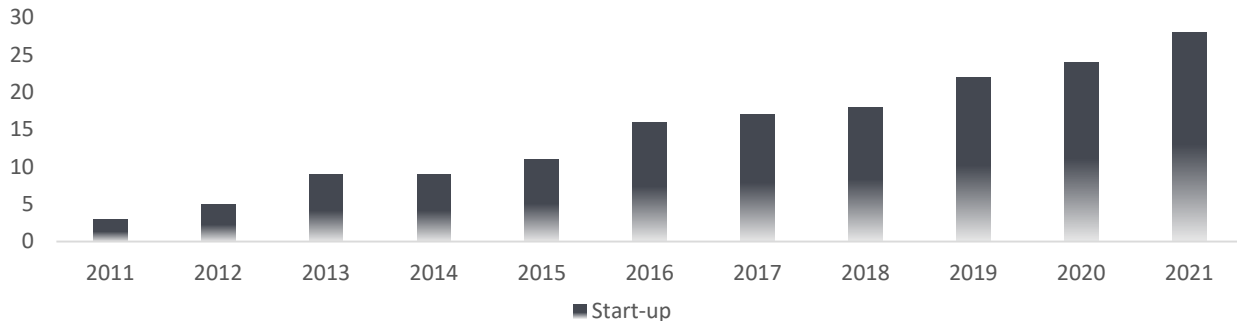
OVERVIEW

Selection of
Start-ups and
Start-up
projects



IIT START-UP ACTIVITY: INTRODUCTION

IIT LAUNCHED START-UP BY YEAR (CUMULATIVE)



Boosting Start-ups: Economic education Activities

Entrepreneurial education at IIT will feature seminars, talks, calls for ideas, and events with investors. One example is the High Tech Entrepreneurship Workshop in partnership with Università degli Studi di Genova - Department of Economics (Unige-DIEC) and Université Université Côte d'Azur (UCA). The workshop will foster cross-contamination between economics students and potential start-up founders at IIT.

IIT START-UP DEAL FLOW

The start-up deal flow has been evaluated to highlight the status of internal business opportunities. Each case has been analyzed in terms of developmental stage, sector, and cash needed, with a particular focus on pre-incorporation start-up opportunities. On this basis, the IIT start-up deal flow has been categorized as follows:

ACTIVE BUSINESS IDEAS

Business ideas generated by IIT research and technology activities. These ideas are innovative, distinctive, marketable in the medium-term, and fulfill a customer need.

Active business ideas are a potential target for a proof-of-concept investment round.

PROOF OF CONCEPT

START-UP PROJECTS

These business ideas are more developed. The potential founder is defining the future company's team and business model. Start-up projects are a potential target for a seed investment round with incorporation.

SEED

LAUNCHED START-UPS

These operational companies are usually independent of IIT and will be at one of a wide range of developmental stages. Launched start-ups are a potential target for a seed to Series A+ round.

SEED/SERIES A+

ASSESSMENT RESULTS

At December 2021 IIT's sizable deal flow has a pipeline of about 50 pre-incorporation start-up projects originating from all IIT research domains.

ACTIVE BUSINESS IDEAS

35

PROOF OF CONCEPT

START-UP PROJECTS

19

SEED

LAUNCHED START-UPS

28

SEED/SERIES A+

PORTFOLIO PRESENTATION: SELECTION

- **Launched IIT start-ups** - these operational companies are usually independent of IIT and will be at one of a wide range of developmental stages.
- **IIT start-up projects** – these are more developed than active business ideas. The potential founder is defining the future company's team and business model.
- **Active business ideas** – business ideas generated by IIT research and technology activities. These ideas are innovative, distinctive, marketable in the medium-term, and fulfill a customer need.

BESIDE THE MONEY: IIT start-ups, start-up projects and business ideas are always on the lookout for managerial skills, business development support, industrial partnerships and networking.

Launched IIT Start-ups

Selection of IIT start-ups



IIT@Genoa



LAUNCH YEAR
2016



INVESTORS
Sergio Dompè



MONEY RAISED
15 million



KEY PEOPLE
Sergio Dompè (founder and president), Simone Ungaro (founder & CEO)



FTEs
27 (Dice 2021)

MOVENDO TECHNOLOGY (GENOA)

Movendo is a rising star in IIT and Italy, combining tech, teamwork, and industrial partnership. In late 2016, it secured a series A round of investment worth €10 million. In June 2020 a series B round of € 5 million. Movendo uses advances rehabilitation technologies to develop medical devices and solutions that are effective, intuitive, and simple to use. The first marketed device is Hunova, an innovative robotics platform for the functional evaluation and rehabilitation of the lower limbs and body. Movendo was spun off from IIT's Rehab Technologies Facility, a research initiative that develops and designs new prosthetic, orthotic, and rehabilitation devices with great technological impact.

- SEED FUND
- EARLY STAGE FUNDS
- LATE STAGE FUNDS
- STRATEGIC ALLIANCES**



BEDIMENSIONAL



IIT@Genoa

BEDIMENSIONAL (GENOA)

BeDimensional closed a series A round in Q1 2018. It is in the scale-up phase. BeDimensional was spun off from IIT's Graphene Labs. It uses patented technologies developed with support from the EU's Graphene Flagship project. BeDimensional modifies and tailors the properties of graphene and other two-dimensional crystals to produce innovative materials in response to the challenges of the modern manufacturing industry.



LAUNCH YEAR
2016



INVESTORS
Pellan Group



MONEY RAISED
20 million



KEY PEOPLE
Vittorio Pellegrini, Francesco Bonaccorso, Andrea Gamucci, Alessandro Morini



FTEs
26 (Dic 2021)

SEED FUND

EARLY STAGE FUNDS

LATE STAGE FUNDS

STRATEGIC ALLIANCES



IIT@Genoa

ACOESIS (GENOA)

Acoesis will develop technology to help people affected by sensorineural hearing loss, a disability which cannot be corrected medically or surgically. Shaped like a pair of glasses, Glassense is a wearable device that can innovatively elaborate acoustic information. The company will develop, manufacture, and distribute innovative systems in the related sectors.



LAUNCH YEAR

2019



INVESTORS

Business Angels, LigurCapital



MONEY RAISED

900K



KEY PEOPLE

Luca Brayda, Luca Giuliani



FTEs

7 (Dic 2021)

SEED FUND

EARLY STAGE FUNDS

LATE STAGE FUNDS

STRATEGIC ALLIANCES



IIT@Genoa

BIKI TECHNOLOGIES (GENOA)



LAUNCH YEAR

2014



INVESTORS

Self-financed



KEY PEOPLE

Andrea Cavalli, Sergio Decherchi, Walter Rocchia,
Andrea Spitaleri, Giovanni Bottegoni



FTEs

4 (Dic 2021)

BiKi Technologies has been founded by a multidisciplinary team of computational chemists, engineers and biochemists working at the intersection of basic and applied research. BiKi provides pharmaceutical and biotech companies with innovative in-silico technologies for drug design and discovery. BiKi methodologies are built around molecular dynamics simulations and related approaches, such as enhanced sampling, to estimate free energy and kinetics. These are combined with innovative algorithms to address key challenges in computational drug design, including koff prediction, allosteric pockets detection, druggability prediction and fully flexible docking.

SEED FUND

EARLY STAGE FUNDS

LATE STAGE FUNDS

STRATEGIC ALLIANCES



IIT@Genoa

CORTICALE (GENOA)

Corticale designs, realizes and distributes a next-generation of high-definition (HD) minimally invasive brain interfacing components to empower neurotech industries and make them more productive and competitive in developing pre-clinical research instrumentation and medical-grade neurotech devices.



LAUNCH YEAR

2021



INVESTORS

Business Angels



MONEY RAISED

2 million



KEY PEOPLE

Fabio Boi, Gian Nicola Angotzi, Luca Berdondini



FTEs

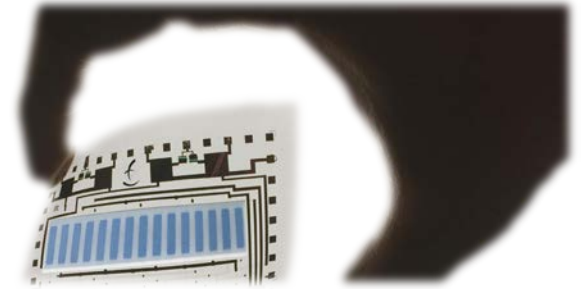
8 (Dic 2021)

SEED FUND

EARLY STAGE FUNDS

LATE STAGE FUNDS

STRATEGIC ALLIANCES



IIT@PoliMi



LAUNCH YEAR

2019



INVESTORS

Eureka! Venture SGR, Pariter Partners,
Pariter Syndacate, Cogliati Holding,
Printed Electronics Holding S.r.l



MONEY RAISED

900K



KEY PEOPLE

Giorgio Dell'Erba, Mario Caironi,
Paolo Colpani



FTEs

6 (Dic 2021)

FLEEP TECHNOLOGIES (MILAN)

FLEEP is a platform for the realisation of smart systems on plastic foil. It gives intelligence to the plastic by developing integrated circuits realised only with polymer materials and manufactured through scalable printing techniques. The start-up integrates its Printed ICs with flexible and printed sensors, batteries, solar cells and displays to realise astonishing new products for new user-product interaction.

SEED FUND

EARLY STAGE FUNDS

LATE STAGE FUNDS

STRATEGIC ALLIANCES



IIT@Genoa

FORESEE BIOSYSTEMS (GENOA)



LAUNCH YEAR

2021



INVESTORS

Multi Channel Systems
Holding GMBH



MONEY RAISED

500k



KEY PEOPLE

Giovanni Melle, Michele Di Paolo, Francesco
De Angelis



FTEs

2 (Dic 2021)

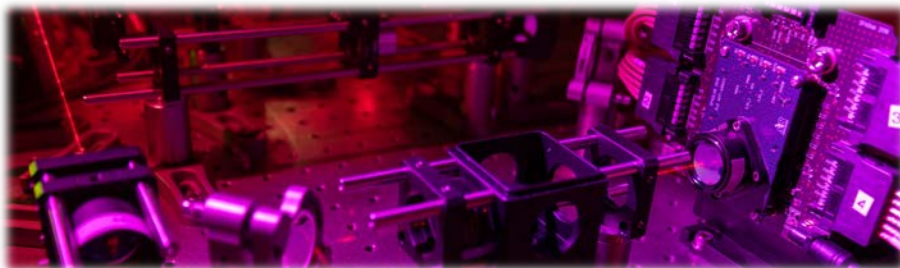
Foresee biosystems aims at producing and commercializing an innovative platform for the pre-clinical evaluation of drug-induced toxicity on human heart cells (cardiomyocytes), proposing a solution able to bridge the technological gap between the development and the biological evaluation phases of a drug. The platform couples a well-known and widely commercial technology for monitoring the electrical activity of cells (extracellular electrophysiology on Micro Electrode Array - MEA) and an innovative method based on optical technologies that allows for intracellular access and the recording of action potentials generated by the cells.

SEED FUND

EARLY STAGE FUNDS

LATE STAGE FUNDS

STRATEGIC ALLIANCES



IIT@Genoa

GENOA INSTRUMENTS (GENOA)

Genoa Instruments is pioneering new technologies in the field of super-resolution optical microscopy and advanced photonics. After 10 years of academic research on new microscopy techniques, detectors, and image processing algorithms, the company aims to spread super-resolution live-cell imaging combined with time-resolved spectroscopy to all research laboratories.



LAUNCH YEAR

2019



INVESTORS

Fondazione Golinelli,
Università Bocconi



MONEY RAISED

170K



KEY PEOPLE

Marco Castello, Simonluca Piazza



FTEs

6 (Dic 2021)

SEED FUND

EARLY STAGE FUNDS

LATE STAGE FUNDS

STRATEGIC ALLIANCES



LAUNCH YEAR

2014



INVESTORS

Progress Tech Transfer, SBC SPORTSTECH-QFC BRANCH



MONEY RAISED

482K



KEY PEOPLE

Pier Paolo Pompa, Mariada Malvindi, Mauro Moglianetti, Deborah Pedone



FTEs

6 (Dic 2021)



HIQ-NANO (LECCE)

HiQ-Nano is a start-up company born with the goal to develop innovative ideas and out-of-the-box approaches in the field of point-of-care diagnostics, home testing, and colorimetric assays powered by an extensive know-how on nanomaterials. HiQ-Nano has a broad portfolio of products, including high-quality nanomaterials for the R&D sector of major companies and universities, colorimetric diagnostic devices for home testing, and POC tests for pharmacogenomics and predictive healthcare.

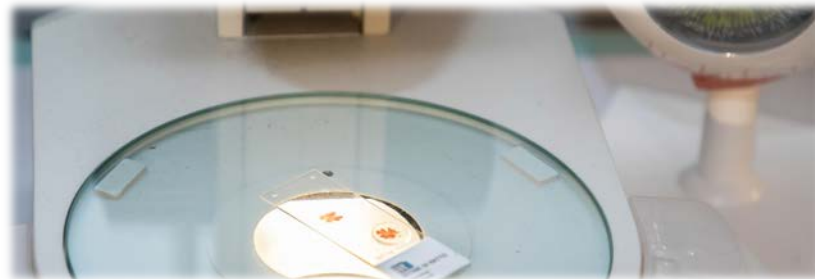
SEED FUND

EARLY STAGE FUNDS

LATE STAGE FUNDS

STRATEGIC ALLIANCES

NOVAVIDO



IIT@Genoa and IIT@PoliMi

NOVAVIDO (GENOA AND MILAN)

Novavido is a start-up focused on the development of retina prostheses. Born upon the results of a long-standing collaboration between Istituto Italiano di Tecnologia and IRCCS Sacro Cuore Don Calabria Hospital, the company is now working to create a breakthrough nanotechnology-based medical device to recover vision in blind patients affected by retinitis pigmentosa. Novavido works on a disruptive technology based upon the use of a photovoltaic polymer in the formulation of nanoparticles.



LAUNCH YEAR

2021



INVESTORS

Alfasigma Spa, Utopia Sis, G-Factor, Istituto David Chiossone Onlus, Club 2021 ss



MONEY RAISED

6 million



KEY PEOPLE

Giovanni Manfredi, Fabio Benfenati, Guglielmo Lanzani



FTEs

5 (Dic 2021)

SEED FUND

EARLY STAGE FUNDS

LATE STAGE FUNDS

STRATEGIC ALLIANCES



IIT@PoliTo



LAUNCH YEAR
2008



INVESTORS
Etroninvest Ltd &
Investors from ICO



MONEY RAISED
6 million



KEY PEOPLE
Alessandro Chiolerio, Vincenzo
Guarnieri, Paolo Pandolfi



FTEs
17 (Dic 2021)

POLITRONICA (TURIN)

Politronica is a digital manufacturing company, which develops functional materials and technologies for printed electronics and 3D-printing applications. Politronica's mission includes HW/FW/SW development for digital manufacturing and an environmentally responsible operation. Politronica has developed and spin-offed the widest, privately owned network of 3D printers based on a single model machine of its own production, creating the company UBIQUE.WORLD to digitize the retail segment.

SEED FUND

EARLY STAGE FUNDS

LATE STAGE FUNDS

STRATEGIC ALLIANCES



IIT@PoliMi



LAUNCH YEAR
2016



INVESTORS
OMET Group



MONEY RAISED
2 million



KEY PEOPLE
Antonio Iacchetti, Mario Caironi,
Guglielmo Lanzani, Michele Garbugli



FTEs
9 (Dic 2021)

RIBES TECH (MILAN)

Ribes Tech arose from a research partnership between the Center for Nano Science and Technology at IIT Milano and OMET, a printing machines company. The goal was to develop a polymer-based, roll-to-roll printed photovoltaic technology. OMET is a financial and industrial partner for Ribes Tech, which is creating a novel process for printable plastic photovoltaic modules. These can be used to integrate energy sources into consumer products and smart buildings. Several applications are in the launch phase for the B2B market, with the goal of replacing standard power sources.

SEED FUND

EARLY STAGE FUNDS

LATE STAGE FUNDS

STRATEGIC ALLIANCES



IIT@Genoa

SMARTMICROOPTICS (GENOA)

SmartMicroOptics (SMO) aims to offer everyone access to the microworld, by developing a family of innovative products in the fields of microscopy, consumer electronics, and micro-optics. The company was spun off from research into imaging systems for neuroscience investigations.



LAUNCH YEAR
2016



INVESTORS
Equity crowdfunding campaign



MONEY RAISED
257K



KEY PEOPLE
Andrea Antonini, Tommaso Fellin



FTEs
5 (Dic 2021)

SEED FUND

EARLY STAGE FUNDS

LATE STAGE FUNDS

STRATEGIC ALLIANCES

IIT Start-up projects and Active business ideas

Selection of start-up projects and business ideas
arising and developed
by IIT researchers



IIT@Genoa



STATUS

Start-up
project



REFERENCE PEOPLE

Jorn Malzahn, Nikolaos Tsarakis



INCORPORATED IN (EXPECTED)

2022



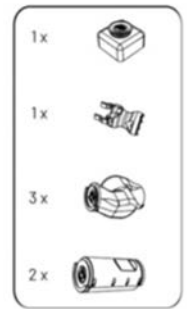
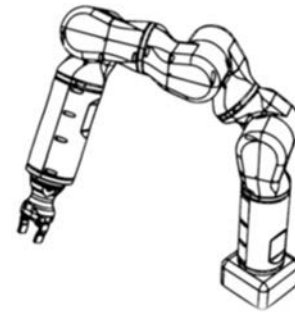
TRL

7-8



IIT TECHNOLOGY

The project exploits patents,
know-how and design
developed at IIT



ALBEROBOTICS (GENOA)

Alberobotics, leverages on more than 10 years of experience in robot design and control. Alberobotics offers user-reconfigurable high-performance collaborative mobile robotic manipulation solutions to equip professionals and end-users alike with the tools to address labour shortages and implement digital transformation. High user reconfigurability, performance, force sensitivity, physical resilience and precision are all characteristics of the Alberobotics technology.

€ NEEDED



ALKÍ-VÍO



IIT@Genoa

ALKÍ-VÍO (FROM IIT JOINT LAB@NOVACART)



STATUS

Start-up project



REFERENCE PEOPLE

Alexander Davis, Maria Erminia
Genovese, Malena Oliveros, Athanassia
Athanassiou, Fulvio Puzone



INCORPORATED IN (EXPECTED)

2022



TRL

6-7



IIT TECHNOLOGY

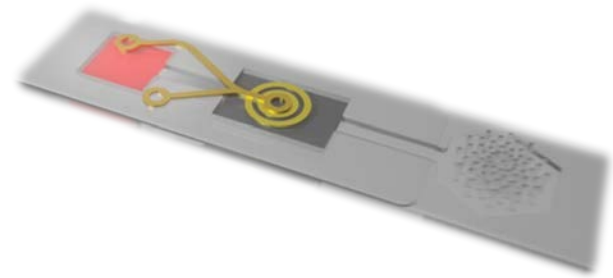
The project exploits patents and know-how developed at IIT and Novacart SpA

Alkí-vío proposes sustainable biocomposites based on the reutilization of industrial residues of paper and cardboard, in accordance with the principles of circular economy. Alkí-vío's products' portfolio comprises a range of biopellets that can be used like conventional plastics as entry materials in industrial transformation melt processes to obtain a versatile range of final items, particularly suited for rigid and semi-rigid packaging, interior design, automotive, households and consumer goods. Alkí-vío's products have a natural look but can also be colored and have properties comparable or superior to conventional plastics and are compostable and biodegradable at the end of their life. Moreover, Alkí-vío's offering includes the possibility to provide customized products to meet specific needs and dedicated consulting services.

€ NEEDED



BRYLA



IIT@CRIB



STATUS

Start-up project



REFERENCE PEOPLE

Ottavia Bettucci, Valeria Criscuolo, Francesca Santoro



INCORPORATED IN (EXPECTED)

2023



TRL

4



IIT TECHNOLOGY

The project exploits know-how developed at IIT

BRYLA (NAPLES)

BRYLA develop portable electrotherapy devices based on a stimulation system through a 3D organic conductive material and integrated sensors to monitor the healing process. The BRYLA patch is self-powered through the integration of an organic solar cell which powers the stimulation system. The hardware is developed to accelerate the wound healing process while the software architecture facilitates the monitoring of the healing process.

€ NEEDED





IIT@CRIB



STATUS

Start-up project



REFERENCE PEOPLE

Giorgia Imparato, Francesco Urciuolo, Costantino Casale



INCORPORATED IN (EXPECTED)

2023



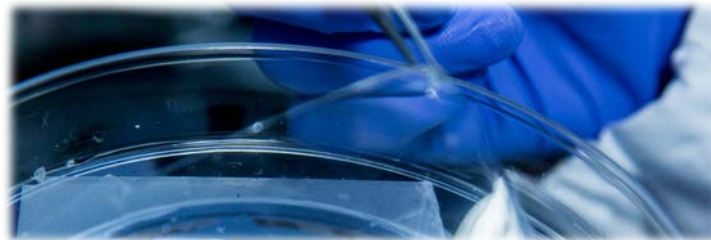
TRL

5



IIT TECHNOLOGY

The project exploits patents developed at IIT



HISTÓS (NAPLES)

The start-up project aims to produce a human skin equivalent (HSE) to accelerate testing of drugs and compounds. The team will develop HSE for customized medical treatments, increased safety of chemical products, to repair damaged human tissues/ cells and reduced animal testing. The company will sell HSE and provide services on HSE models for other companies.

€ NEEDED





IIT@Genoa



STATUS

Start-up project



REFERENCE PEOPLE

Daniele Pucci, Enrico Valli,
Kourosh Darvish, Claudia Latella,
Yeshasvi Tirupachuri



INCORPORATED IN (EXPECTED)

2023



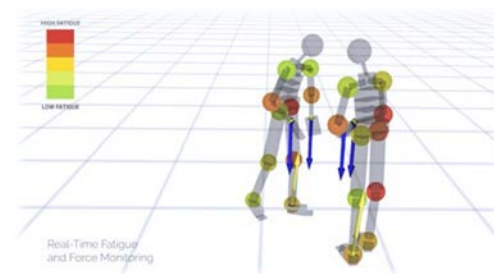
TRL

4



IIT TECHNOLOGY

The project exploits patents and know-how developed at IIT



IFEEL (GENOA)

iFeel aims to be a disrupting player in the field of human fatigue monitoring by providing enhanced measurements tools across different market segments. The proposed technology is meant to be a wearable sensing system for the assessment of fatigue through quantitative real-time measurement and evaluation of human motion and articular stress. The outcome of iFeel is useful for different market segments such as gaming, health, safety, medical rehabilitation, and sports

€ NEEDED





IIT@SSSA



STATUS

Start-up
project



REFERENCE PEOPLE

Gianni Ciofani, Attilio Marino



INCORPORATED IN (EXPECTED)

2022



TRL

6



IIT TECHNOLOGY

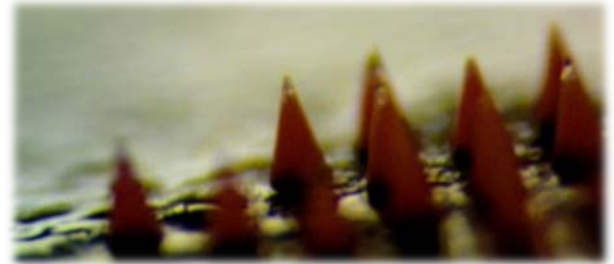
The project exploits patents
and know-how developed at
IIT

KIDARIA BIOSCIENCE (PONTEDERA - PI)

Kidaria proposes the preparation and commercialization of vegetal-based extracts with remarkable antioxidant properties for cosmetics, nutraceuticals and biomedical research. Products made with these extracts are vegan and obtained following a green sustainable approach. Remarkable protective effects of these extracts have been demonstrated on human dermal cells and a first prototype of hydrating face cream has been already prepared.

€ NEEDED





IIT@CRIB



STATUS

Start-up project



REFERENCE PEOPLE

Raffaele Vecchione



INCORPORATED IN (EXPECTED)

2023



TRL

4



IIT TECHNOLOGY

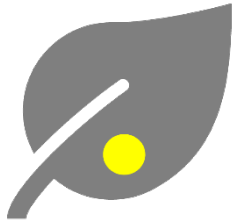
The project exploits patents developed at IIT

MINE (NAPLES)

MINE is an example of a start-up project that has secured funds from an industrial player but not from financial investors. MINE recently received financial sponsorship from an Italian pharma company to go deeper on research and development aspects (for this reason, it is not considered in the active deal flow pipeline). The project aims to develop painless and effective delivery systems for cosmetics, drugs, and vaccines, using patches of polymer microneedles. MINE promotes a controlled release before being fully assimilated by the body. It can release multiple active principles, with different kinetics.

€ NEEDED





IIT@Genoa



STATUS

Start-up project



REFERENCE PEOPLE

Isabella Fiorello, Fabian Meder, Barbara Mazzolai



INCORPORATED IN (EXPECTED)

2023



TRL

3-4



IIT TECHNOLOGY

The project exploits patents and know-how developed at IIT

ONLEAF (GENOA)

By taking inspiration from nature, OnLeaf aims to provide bioinspired sustainable and smart materials for precision agriculture and plant bioengineering in order to preserve resources, enhance crop productivity and reduce the use of pesticides. Our first prototypes consist of miniature plant-inspired micropatterned patches for targeted delivery of treatments to plant leaf vascular tissues.

€ NEEDED



PROTESO

IIT@Genoa



STATUS

Start-up project



REFERENCE PEOPLE

Stefano Toxiri, Christian Di Natali, Tommaso Poliero, Matteo Spósito



INCORPORATED IN (EXPECTED)

2022



TRL

7-8



IIT TECHNOLOGY

The project exploits know-how developed at IIT



PROTESO (GENOA)

PROTESO addresses the growing prevalence of musculo-skeletal disorders in the workplace and associated costs. We have developed an active back-support exoskeleton for manual material handling. The device improves ergonomic conditions by reducing the loading on the lower spine. Following laboratory validation, it is now being tested in collaboration with companies that represent potential future customers in sectors such as food, manufacturing, warehousing, logistics. We use this activity to test the market and refine the product.

€ NEEDED





IIT@Genoa



STATUS

Start-up project



REFERENCE PEOPLE

Jacopo Zenzeri, Maddalena Mugnosso, Amel Cherif



INCORPORATED IN (EXPECTED)

2022



TRL

7



IIT TECHNOLOGY

The project exploits know-how developed at IIT

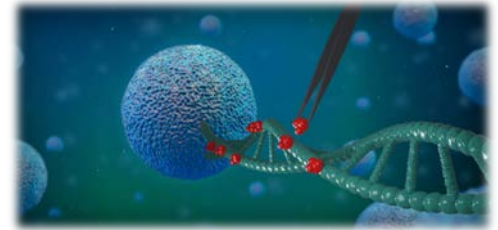


REWING (GENOA)

The start-up project will develop innovative technologies for sensorimotor rehabilitation. Its first product is Wristbot, a three degrees of freedom robotic device for wrist rehabilitation and assessment. Wristbot is a robotic platform that exchanges forces with the patient's wrist and provides visual feedback through a virtual reality environment. The strength of ReWing technologies stays in its artificial intelligence, based on neuroscientific evidences and trends, able to assist patient's wrist movements with tailored exercises to provide effective and engaging rehabilitation solutions. The company will mainly address the professional healthcare market, keeping an eye on the home rehabilitation and other potential markets.

€ NEEDED





IIT@Genoa



STATUS

Start-up
project



REFERENCE PEOPLE

Valter Tucci, Angelo Serani



INCORPORATED IN (EXPECTED)

2023



TRL

3-4



IIT TECHNOLOGY

The project exploits patents
and know-how developed at
IIT

TUSER (GENOA)

TUSER (Targeting Units for Specific Epigenetic Remodelling) is a novel approach to CRISPR technology that will allow us to enter the market of gene editing with a revolutionary, easy-to-use, dynamic, and reversible tool. Our technology is designed for all laboratories' that use CRISPR and for enhancing the efficacy of current therapies.

€ NEEDED





IIT@CNI



STATUS

Start-up project



REFERENCE PEOPLE

Valerio Voliani, Maria Laura Ermini



INCORPORATED IN (EXPECTED)

2023



TRL

4



IIT TECHNOLOGY

The project exploits patents and know-how developed at IIT

NOBLETOUCH (PISA)

NobleTouch is an innovative startup idea born from the most advanced scientific research in nanobiotechnology. NobleTouch aims to produce the highest quality face creams for the luxury market by employing the latest discoveries on nanomaterials. The nano-architectures are totally biodegradable and contain precious and active noble metals. The peculiar design of our nanomaterial ensures a 2-days long action, an improved penetration in the skin and cells, and the activation of a unique cellular metabolism.

€ NEEDED



Rehab VR



IIT@UniFe



STATUS

Start-up
project



REFERENCE PEOPLE

Antonino Casile



INCORPORATED IN (EXPECTED)

2023



TRL

4-5



IIT TECHNOLOGY

The project exploits know-how developed at IIT

REHAB VR (FERRARA)

RehabVR exploits the power of modern virtual reality to develop and test in patients next-generation rehabilitation and tele-rehabilitation applications. In RehabVR, the patients (e.g. stroke patients) are immersed in a virtual environment where they perform different motor and cognitive tasks, while the doctor can in real-time and remotely monitor what they are doing, change their rehabilitation routines and vocally interact with them.

€ NEEDED



NOTES

NOTES



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This report was produced by the
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