

The European Coordination Hub for Open Robotics Development

E++ 4th Review Meeting WP4 – RIF@Peccioli

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Barcellona, March 25, 2019



















WP4 – RIF@Peccioli

- 1. RIF@Peccioli Model
- 2. Key Achievements
- 3. Towards RIF@Peccioli sustainability
 - The Italian Competence Center on Industry 4.0 ARTES 4.0
 - The AI Digital Innovation Hubs Network project
 - The Digital Innovation Hubs in Healthcare Robotics
 - The TERRINet project
 - Regional Projects (Centauro, FID-U4E, SMASH and REVYTA)

Summary



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RIF@Peccioli



An innovation driver to link discovery and delivery, and to bridge the Valley of Death



RIF@Peccioli model



The strategy of RIF@Peccioli

The strategy:

- **STRENGTHENING** the Peccioli RIF by engaging **MORE** research and testing infrastructures in the nearby area.
- **Distributed** and modular RIF rather than concentrated

5000 people ONLY in Peccioli, 120.000 in Valdera (Peccioli + Pontedera)



Tuscany

Peccioli (PI)

Services and Ambient Assisted Living Robotics Laboratory RIF Echord ++

Pontedera home of THE BIOPOBOTICS INSTITUTE Sunda Superiore Sant'Anna

Pisa SSSA main location, and large concentration of researchers, facilities and students



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RIF@Peccioli model



Tuscany: high concentration of knowledge thanks to high quality universities and research centres and labs



Research centres

Pontedera

Center for Micro-BioRobotics IIT

Livorno

- Research Centre on Sea Technologies and Marine Robotics
- Industrial BioRobotics Laboratory

Pisa

 EndoCAS on Computer Assisted Surgery

QJoint research labs

- Massa BioRobotics for Parkinson disease Lab @ ASL
 - Pisa Translational Neurorehabilitation Laboratory @ CNR
 - Analysis and Treatment of Neuromotor Disorders lab
 @ AOUP
 - Robotic and Biomechatronic Tech Lab in Neurorehabilitation @ Stella Maris
 - N2Lab Microneurography ans microstimulation Lab
 @ CNR
- Firenze Movement Assistance and REhabilitation Lab @ Fondazione Don Gnocchi
- Grosseto · Laboratorio di Tecnologie per le Aziende del Territorio
 - CERTEMA Multidisciplinary Technological Laboratory
- **Volterra** Rehabilitation Bioengineering Lab @ Auxilium Vitae
- Budrio (BO) REPAIR Lab @ INAIL Prosthetic Centre

Extending the coverage of our RIF offer to a wider range of potential users (3.7 million inhabitants, industries,...)



A receptive industrial ecosystem for Robotics

- **Tuscany** ranks third in Italy for number of industries and employees in the field of robotics
- **Tuscany** hosts many important industries manufacturing or related to robotics*:
 - 83+ industries

lies on robotics

PHARMA INTEGRATION

- average annual turnover per company 5.5 M€
- 25 employees on average







GE Oil & Gas iovo Pianone





*RIS3 Tuscany – Research and Innovation Strategies for Smart Specialisation 2014-2020



RIF@Peccioli model: focusing on SMEs!



Peccioli as a unique place for testing advanced robotic solutions in real environments







Vineyards

Farms



Landfills



Retirement homes



City centre



Museums

Service Robotics and Ambient Assisted Living Lab

RIF@Peccioli model: a real case



GRAPE experiment (Call II) visiting RIF@Peccioli: Castellani vineyard









RIF@Peccioli staff helped GRAPE experimenters in finding:

- Vineyard with specific characteristics (pruned wineyard, GRAPE system deploys dispensers for the biocontrol of plagues)
- Accommodation in the vineyard estate
- Internet connection

Hosting period: January 5 – 9, 2018





RIF@Peccioli model

Pontedera as a place where high quality services can be provided together with contacts with Large Enterprises (LE)





Legal and ethic aspects



Economic aspects



Insurance



Benchmarking

Protection

Istituto di BioRobotica Scuola Sant'Anna













Peccioli



Workflow of RIF@Peccioli: from contact to collaboration and beyond



RIF@Peccioli model



Workflow of RIF@Peccioli – Toward engagements

1 2 3 4 5 6 Engagement

The **new corporate identity** gave the spin to produce new information material to spread the voice about the RIF@Peccioli activities.

A **new ECHORD++ presentation** has been created, together with a document, explaining the project, its story and the services RIF@Peccioli can provide to the customers.









Scuola Superiore

From Lab to Market

ECHORD++ per le aziende

L'Istituto di BioRobotica

PRESENTAZIONE

L'Istituto di BioRobotica della Scuola Superiore Sant'Anna è un centro di eccellenza universitaria nato nel 2011 e rapidamente divenuto un protagonista di spicco del settore nello scenario internazionale.

Primo nella classifica dei dipartimenti di Ingegneria di tutta l'Italia, è un punto di contatto dell'ateneo pisano con i più prestigiosi centri di conoscenza internazionali grazie alle competenze del proprio staff ha preso parte a più di 65 progetti di ricerca nazionali e internazionali ed ottenuto finanziamenti per circa 5,5 milioni di Evro (dato 2016).

La missione è quella di creare un nuovo concetto di ingegnere: non solo scienziato e accademico, ma anche inventore, imprenditore, in grado di sviluppare progetti di alta innovazione tecnologica.

LE NOSTRE BASI

La proposta dell'Istituto si basa infatti su tre pilastri strettamente correlati: l'educazione universitaria; la ricerca di avanguardia; l'innovazione.



 18 Faculty (docenti e ricercatori)
 87 studenti PhD

+200 persone nello staf

The 2018 RIF@Peccioli model



Refining the model of the RIF@Peccioli towards a sustainable configuration







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Key achievements

- **15 new contacts** with companies in this period
- 8 new collaborations which will be concluded in 2019
- The National Competence Center (CC) on Industry 4.0 named ARTES 4.0 "Advanced Ro-botics and enabling digital Technologies and Systems 4.0", coordinated by SSSA, successfully passed the negotiation phase and the project was financed by Ministry of Economic Development. On December 10, 2018 the organizing body of the CC in Industry 4.0, was formally established
- RIF@Peccioli registered as fully functional European Digital Innovation Hub
- RIF@Peccioli accepted in the Digital Innovation Hubs Network project
- SSSA coordinates the European TERRINet Project "European Robotics Research Infrastructure Network"
- SSSA is partner of the DIH-HERO project (Digital Innovation Hubs in Healthcare Robotics) under the Horizon 2020 Grant Agreement No. 825003. The DIH will develop a broad-based pan-Euro-pean network of Digital Innovation Hubs specialising in Healthcare Robotics

RIF@Peccioli - Results



Statistics from December 1, 2016 to October 11, 2018



RIF@Peccioli - Results



	Date	RIF User	Location	User Type	Type of Support	Outcome
Belvedere SPA innovazione · progetti · sviluppo	31/01/2018	Belvedere	Peccioli	SME	Consultancy	Feasibility Study on a mobile robotic platform for urban freight transportation
EK@LAV servizi integrati di lavanderia	20/04/2018	Ekolav srl	firenze	SME	Consultancy	Collaboration on picking and placing on industrial laundry
Enapter	31/05/2018	Enapter srl	Pisa, Italy	SME	Consultancy	Consultancy for the Hydrogen generator optimization
	21/06/2018	Prometec	Massa	SME	Consultancy	Collaboration for Industry 4.0 marble machine digitalization
Esaom Cesa	28/06/2018	Grupporeco	Lecco	Large Business	Consultancy	Consultancy for a Robotics solution in extrusion process of aluminium
Cantieri Navali Portoferraio Vannuçci	10/07/2018	Esaom cesa	Isola d'elba	SME	Consultancy	Consultancy for a Robotics solution in refitting activities
	16/07/2018	Vannucci Piante	Pistoia	Large Business	Consultancy	Consultancy for a Robotics solution on precision farming
ecoCanny	17/07/2018	Reply - Syskoplan	Roma	Large Business	Consultancy	Evaluation for partnership on implementation of HMI
EURE	01/09/2018	Bianucci - Ecocanny	Lucca	SME	Consultancy	Consultancy for a creation of a robotic warehouse
	15/09/2018	Eureka	Lucca	SME	Consultancy	Scientific publishing digital platform
	16/09/2018	Mati spa	Pistoia	SME	Consultancy	Consultancy for a Robotics solution on precision farming
GENUS1975 SRI.	21/09/2018	Sintecnica	Cecina	SME	Consultancy	Evaluation of possible collaboration on waste recycling management
DBF	15/10/2018	Genus1975	Lucca	SME	Consultancy	Digital support on ecommerce of biological products (supply chain and warehouse)



Mobot - Collaborative Robotics Project: Belvedere Spa, Peccioli Town Council, Spin Off Mediate Robotics of Biorobotics Institute and the BioRobotics Institute

On September 2018 RIF@Peccioli started a consultancy for a feasibility study on a mobile robotic platform for urban freight transportation for the center of Peccioli.

Designed to carry items through small towns and rural areas, MoBot will help Peccioli's citizens and users in daily shopping, assisting them with a variety of tasks. MoBot is highly adaptable, capable to handle short runs and carry heavy loads. It is small enough to work in a narrow space but it can be adjusted to changed conditions. It was developed by Mediate, a spinoff of SSSA, in collaboration with the BioRobotics Institute and with the support of Peccioli Town Council and Belvedere Spa. MoBot fully complies with the safety standards for human-robot collaboration. Funding from Belvedere SpA to Mediate: 250.000 Euros







CART DESIGNED BY SANT'ANNA SCHOOL SPINOFF COMPANY MEDIATE, WITH SANT'ANNA SCHOOL INSTITUTE OF BIOROBOTICS, COMBINES RESEARCH, TECH TRANSFER, MOBILITY SOLUTION

Implementation and testing of a new release to improve quality of life for citizens in Peccioli, a small village in Tuscany. MoBot, stands for "Mobile Robot". It was designed by Sant'Anna School spinoff company Mediate Srl, in cooperation with Sant'Anna School Institute of Biorobotics





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The TERRINet project, the Competence Center ARTES 4.0, the AI Digital Innvation Hubs Networking project, the DIH-HERO project, the Regional Projects (Centauro, FID-U4E, SMASH and REVYTA)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
		E++	RIF Funded by	EU							
						TERRINet Funded by EU					
			CC ARTES 4.0 CC ARTES 4.0 Funded by MiSE and Public proposal and Private Partners				CC ARTES 4.0 Funded by Public and Private Partners				
						AI DIH Network proposal	AI DIH Netw	vork project			
						Regional Proje	Regional Projects - Centauro, FID-U4E, SMASH, REVYTA				
								DIH-HEF	RO project		
CH	RD++	~~~ [®]	TER	RINet	ARTS	4.0 Industry 4.0 Cor Advanced Robo	npetence Center on tics and enabling di	gital TEchnologies (& Systems	THERO	AI DI

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The 2019 RIF@Peccioli model: RIF@Peccioli was transitioned into the national CC ARTES 4.0



The main objective of the fifth and final period of ECHORD++ for the Robotics Innovation Facility (WP4) Peccioli@RIF was to explore mechanisms to continue the RIF beyond ECHORD++ funding.

RIF@Peccioli has commenced the establishment of the promising National CC ARTES 4.0 that will provide innovation services to businesses so as to allow them to reinforce their competitiveness in digital technologies



The Competence Centers funded by the Italian Ministry of Economic Development (MiSE)



- Manufacturing 4.0, Politecnico di Torino Funded with € 10,5 Millions
- Made in Italy 4.0, Politecnico di Milano Funded with € 10,6 Millions
- BI-REX, Università di Bologna Funded with € 9,2 Millions
- ARTES 4.0, Scuola Superiore Sant'Anna di Pisa Finanziamento: 10,66 Millions
- SMACT, Università degli studi di Padova Funded with € 7 Millions
- Industry 4.0, Università degli Studi di Napoli Federico II

Funded with € 12,5 Millions

- Start 4.0, CNR 'Consiglio nazionale delle ricerche' Funded with € 6 Millions
- Cyber 4.0, Università degli Studi di Roma "La

The Competence Center ARTES 4.0 "Advanced Robotics and enabling digital ECH RD" TEchnologies & Systems 4.0"

The RIF@Peccioli model inspired ARTES 4.0 - a network structure of 13 universities and 115 companies with a total budget of 36 million Euro covering 7 Italian regions

ARTES 4.0 is a highly specialized network in the areas of Advanced Robotics and Enabling Digital Technologies such as Communication Networks, Big Data, Data Mining, Cybersecurity, Cloud, Industrial Internet, Internet Of Things, Additive Manufacturing, Simulation and Models Of Business Integration. ARTES 4.0 covers the entire Italian territory and will be able to provide support to SMEs in developing and facilitating 14.0 transformational projects in all domains





The CC ARTES 4.0 Model



The RIF@Peccioli model inspired ARTES 4.0

1



Companies that require the ARTES services to solve their innovation needs

Training

Innovation Projects

The company self-finances the project or uses 3 the MiSE cofinancing for the development of the project



The services offered by the ARTES 4.0 network to companies in particular SMEs

- Awareness about I4.0 in particular for the SMEs, also in collaboration with the Italian and European DIH network, through technical advisory on I4.0
- **Training activities** at various levels, through live demos on new technologies and access to I4.0 best practices
- High quality Research and innovation in robotics and enabling digital technologies
- Business Development
- Financial support, through a network of various funding bodies
- Furthermore, the development of physical infrastructures with demonstration production lines where to carry out on-line training and innovation projects

The CC ARTES 4.0 program provides:

- the activation of about 150 projects with companies (120 with SMEs) for the next three-year
- 100 new PhD I4.0 positions in the three-year period
- 10 Masters
- 25 courses on I4.0 Technologies

Towards RIF@Peccioli sustainability



RIF@Peccioli has the ability to connect the industrial and academic world, acting as a mediator. RIF@Peccioli in the last year has offered its services to companies that do not work in the robotics sector: as the RIF operates mainly in the Peccioli and Pontedera areas, we extend our services to the manufacturing sector which is the local key market. **ARTES 4.0 has extended the areas of competence of RIF@Peccioli**:

• From a **GEOGRAPHICAL** point of view, the CC operates directly in 7 Italian regions with the strategic and operational coordination of the Pontedera central node (HUB).



Towards RIF@Peccioli sustainability



ARTES 4.0 has extended the areas of competence of RIF@Peccioli

From the **TECHNOLOGICAL** point of view, the nodes of the CC ARTES 4.0 have demonstration production lines with collaborative robotics systems and augmented reality solutions. The excellence of the partnership skills in the areas of communication networks, big data, cybersecurity, cloud, industrial internet, Internet of Things and interconnected sensors, additive manufacturing, simulation, and business integration models, is a further enabling technological asset for the CC ARTES 4.0.



Towards RIF@Peccioli sustainability



ARTES 4.0 has extended the areas of competence of RIF@Peccioli

 From the point of view of the REFERENCE MARKET, the partner companies represent important industrial companies, in robotics and digital enabling technologies, energy and oil & gas, transport, of mechanics / mechatronics, electronics and telecommunications, pharmaceuticals and biomedical.





Business Model Canvas for RIF@Peccioli developed during the RIF Booster program

The activities required of RIF@Peccioli, in order to produce value for their customers, include conducting acknowledged research, technology development, establishing networks, and efficient teamworking. Furthermore, **RIF@Peccioli customers are** requesting support for **prototype** evaluation, business model developmentand the identification of possible resources for financing, as well as technology training and education.

Key Partners	Key Activities	Value Proposition	Customer relations	Market & Customer	
 Consultancy firms Proof of concept stakeholders Foundations Universities Research centres Public and private investors Certification bodies Public bodies National industrial associations 	 Conduct research Networking Innovation Proof of concept Business development Training Technical solution development Branding Teamwork Fundraising Key Resources Management and tech resources ** Outreach resources ** Eacilities 	 Economic growth Socio- economic growth Applied knowledge Competence for employees at companies Network Academic knowledge Branding of customers 	1. Dedicated personal relationships 2. Digital relationships 2. Digital relationships 3. Web, social media and calls 3. Personal meetings 4. Via SSSA	Segments 1. Private companies 2. National public bodies 3. EC 4. Regional funding bodies	
Cost Structure Personnel, facilities, ou sales	ıtreach, network,	 Revenue Streams 1. Private companies (pays for economic growth, applied knowledge, competence for people, network) 2. Regional funding bodies and EC (pays for economic growth, socioeconomic growth, applied knowledge, competence for people, network) 3. National funding (pays for economic growth, socioeconomic growth, applied knowledge, network, academic knowledge) 			



The Financial plan of ARTES

- The total amount of costs envisaged for the establishment and start-up of the CC ARTES 4.0 is € 16.634.250. The Italian Ministry of Economic Development (MiSE) co-financed the total costs for a value of € 7.150.000. In addition to the total amount of funding provided by the MiSE, the CC ARTES 4.0 could employ the monetary, human and instrumental resources made available by the partners of the ARTES 4.0 network. The total amount of these resources is equal to € 1.858.050 of cash contributions and € 17.741.027,30 of in-kind contributions.
 The total amount of costs envisaged for the development of innovation projects with SMEs is € 36.3 million of which € 3.510.000 million (subject to modification during the negotiation, that is being concluded within a few
 - weeks) will provided by the MiSE as a stimulus to the demand for innovation and € 32.79 million will be made available by the companies proposing the innovation projects.

START-UP OF ARTES 4.0 MiSE Funding: 7.150.000 €

DEVELOPMENTOF INNOVATION PROJECTS MiSE Funding: 3.510.000 €

Members Funding: 19.600.000€

The overall results of the CC ARTES 4.0



In the years 2019-2023 we highlight the achievement of economic and financial sustainability connected to the positive delta between revenues and costs also thanks to the financing provided by the MiSE in the three-year period.

(values in € 1000)	2019	2020	2021	Total in the three years	2022	2023
Revenues	3.583	6.691	10.778	21.051	9.189	11.16 9
Costs	3.258	5.249	8.128	16.634	8.128	8.128
Delta between revenues and costs	325	1.442	2.650	4.417	1.062	3.042

The CC ARTES 4.0 revenue details by line of business

The role of ARTES is designed to cover the entire innovation chain: from understanding the need, to the realization of the project, to the training of human resources employed by the client companies





The revenues of the CC ARTES 4.0 and their evolution over the three years



The estimated revenues in the three-year period come mainly from the co-financing of private and public partners, with an incidence of approximately 43% of the total, followed by co-financing of the MiSE (36%) and finally revenues from the sale of services (21%)





When the CC will be fully operational the goal will be to obtain the fully sustainability







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The RIF@Peccioli was registered as fully functional European Digital Innovation Hub (established in 2013)



http://s3platform.jrc.ec.europa.eu/digital-innovation-hubs-tool/-/dih/1326/view

ECHORD++, a robotics research project which promotes the interaction between robot manufacturers,

researchers and users. (https://ec.europa.eu/digital-single-market/en/content/echord

Service Examples **Digital Innovation Hubs** Turf Europe srl **RIF BioRobotics Institute** RIF BioRobotics Institute O Click on the following link if you want to propose a change of this HUB Client profile: Turf Europe srl was founded in 2009 by private partners and turfgrass industry companies. All Turf Contact Data Organization Europe partners have over 10 years experience in building and maintaining turfed areas of all types, and in carrying our scientific and applied turfgrass research. In 2010 Turf Europe obtained the status of Coordinator (University) Organizational form University of Pisa Spinoff Company, with the entry of the same University among the partners. (part of) Public organization (part of RTO, or Scuola Superiore Sant'Anna university) **Client Needs:** Coordinator website Turnovei Development of innovative establishment techniques for field and greenhouse 1.000.000-5.000.000 Year Established Provided Solution: Number of employees 2013 >100 Development of a robotic mobile platform able to check the soil conditions in football arenas Location Viale Rinaldo Piaggio 34, 56025, Pontedera % More details: http://www.turfeurope.eu/ (Italy) **Evolutionary Stage** WHIRLPOOL HIGH CHEST Website Fully operational Client profile: Social Medi Whirlpool is a worldwide company operating in household appliances Geographical Scope Santa Lucia Contact informatio **Client Needs:** La Borra Paolo Dario Val di Cava National The long-term objective of the HighChest project is to create a new generation of household appliances pecciolirif@gmail.com +39050883420 aligned with the main European environmental policies and able to guarantee an increased Leaflet I @ OpenStreetMap contributors Funding competiveness based on technological and design innovation. The expected improvements are the reduction of energy consumption, a better use of materials, the reduction of the environmental impact in Link to national or regional initiatives for digitising industry Horizon 2020 the production process, the development of new features promoting eco-efficient behaviors and food · National specific innovation funding waste reduction. The major topics of the HIGH CHEST PROJECT are ENERGY EFFICIENCY (The RIF BioRobotics Institute has been selected as one of the national Competence Center foreseen in Thermodynamic Optimization, New Insulation Materials, New Compressor Electronic Control, Efficiency the National Industry Plan 4.0 (http://www.sviluppoeconomico.gov.it/index.php/en/202-newsenglish/2036690-national-industry-4-0-plan) in Production Cycle & Logistic), GREEN (Recycled Material use, Life Cycle Improvement) and ECO-The hub's coordinating organisation is one of the European Commission's FP7 funded project, EFFICIENT BEHAVIOURS (Best Ergonomy, Remote Food Management, Better Food Preservation)

Provided Solution:

Development of a smart refrigerator with the above mentioned features.

The RIF@Peccioli in the Digital Innovation Hubs Network Project



The Steering Committee of the Digital Innovation Hubs Network project and representatives of the European Commission have confirmed the selection of RIF@Peccioli application among 150 other applications (30 Hubs in total selected among 150 eligible Hubs)

Value proposition of the Digital Innovation Hubs Network project

The European Commission (EC) has launched a preparatory action to create a European Network of Digital Innovation Hubs with focus on AI. To achieve this goal, the action - managed by PwC, together with CARSA and Innovalia - is intended to lead to the development of a blueprint for cross border collaboration based on a thorough assessment of hub business models, common systems, collaboration and governance structures. The project will provide assistance in the modelling of a cross-border cooperation blueprint for DIHs and will support the creation of a network of DIHs allowing for the transfer of technical knowledge and the development of an integration and cooperation plan between hub/networks with DIHs and stakeholders at the EU level

RIF@Peccioli will take part in a coaching and mentoring programme providing support for the management of legal and financial issues concerning cooperation

The AI DIH network web site: https://www.ai-dih-network.eu/project.html





The coaching and mentoring programme has been developed by PwC, in consortium with CARSA and Innovalia, and related activities started in March with a kick-off meeting for all selected DIHs

Selected DIHs are located across Europe and aim to create a network of supporting facilities to promote innovation and new technologies at European level. The network leverages territorial expertise and skills, in order to exploit synergies between countries



Rome, Italy - 19-20 March 2019 - Digital Innovation Hubs Network Project - Launch of the coaching and mentoring programme







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The DIH-HERO project



The Scuola Superiore Sant'Anna is a hub in the European DIH-HERO project - Digital Innovation Hubs in Healthcare Robotics. The project, aims to accelerate innovation and the implementation of robotics for healthcare.



DIH-HERO has received €16m financing from the European Commission as a part of the Horizon 2020 programme (grant agreement n. 825003). The project partners are: Universiteit Twente (lead partner), Scuola Sant'Anna, Politecnico di Milano, in cooperation with Fondazione Politecnico di Milano, Istituto Italiano di Tecnologia, RWTH University Hospital Aachen, Fraunhofer IPA, CEA, Fundación Tecnalia Research & Innovation, DLR, Imperial College London, DTI, Interuniversitair Micro-electronica Centrum, ETF, ETH Zurich, Fundacja Rozwoju Kardiochirurgii im prof Zbigniewa Religi, EURECAT and iTechnic. The project started in January 2019 and will end in December 2022.

Each of the partners coordinates relations within a network of satellite organizations in healthcare robotics. The consortium's aim is to build an independent platform to connect companies, hospitals, academic institutions, investors and other stakeholders, helping them to collaborate and co-operate in making their robotics products and services available to medical and healthcare professionals.





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Synergistic funding and activities



The **European Robotics Research Infrastructure Network** (TERRINet) aims at building a unique distributed and world-class Robotics Research Infrastructure



The First Call for Application will close on March 31, 2019





Transnational access means free of charge, trans-national access to research infrastructures or installations for selected user groups. The access includes the logistical, technological and scientific support and the specific training that is usually provided to external researchers using the infrastructure.





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Industry 4.0 Scenario in the CENTAURO Project (FAR FAS 2014-2020 Tuscany Region)



iWear Wearable mobile system for relieving weight for handling tools and materials for motorcycle assembly..



ana 🛛 ┥









Centauro Project (FAR FAS 2014-2020 - Tuscany Region): background and results



Regional project on precision farming SMASH - Smart Machine for Agricultural Solutions Hightech



Development of field robots for spinach monitoring and collection (Regional Project start 2018)



Creation of a collaborative, modular and integrated robotic ecosystem for the agricultural crops, from the Precision Agriculture perspective. The project will provide technological tools to address and solve some issues concerning food safety and environmental sustainability of crops.

2 case studies: vines and vegetables. Robotic ecosystem with different modules:

- mobile unit (AgroBot);
- Regione Toscana (Bot):

Regional project on Circular Economy REVYTA – Fiberglass recovery of Trains, Camper and Yacht



Development of dual arm robotic platform for disassembling (Regional Project start 2018)



- Study and development of innovative collaborative robot for disassembly.
- A disassembly line will be created for largescale objects (boats, railway wagons, campers) that contain significant fiberglass parts.
- A dual arm collaborative robot will be equipped with vision system and advanced sensors for cooperating safely with human operators in the fiberglass dismantling process



RIF@Peccioli – Preparing for the future



Some synergistic funding and activities – The **Robotics Atelier, Pontedera 2018-2019**

- The Robotics Atelier wants to become
 - a benchmark for high-tech companies
 - a place where kids and adults can have fun and spend time playing and learning







 Consultancy on intellectual property, financial, technical and legal assessment, business planning, R&D fund raising for startup enterprises







TRAINING COURSES in collaboration with Pontech scrl and Modartech on fashion design and automation

2.8 MEuros already available from the Tuscany Region

Crea©tivity

- Permanent museum of robotics
- Robotic theatre
- School of robotic art and design
- Fab-labs
- Enterprises accelerator
- Demonstration, exhibition and tests rooms







A new call on CE in the **Regional Development Plan**



TECHNOLOGY READINESS LEVELS



THE PCP TOOL IN TUSCANY

A. PROCESS DEVELOPMENT PHASES

Phase 1 - Exploration

Analysis of the contextual, cultural and economic factors of the regional territory and identification of the coast as a strategic area for the development of the regional economy through the PCP tool

Design phase

Development of a 'New Deal 2.0' Plan proposed to the Tuscany Region, based on a "Entrepreneurial State" able to directly ntervene on the demand for (radically) innovative products an services in the field of Circular Economy

Phase 2 - Dissemination

tool is implemented

Presentation of the actions under the 'New Deal 2.0'

Plan to public and private stakeholders (regional government, enterprises, trade associations) with the aim of identifying the sector in which the PCP 2016-2020

B. DEFINITION OF A PRE-COMMERCIAL PROCUREMENT ACTION ON CIRCULAR ECONOMY



New action on **Circular Economy in** the Regional **Development Plan**

8. Land

Reclamation

activities

A new Tuscan Center for Circular Economy

Scapigliato: the first Bio-Automation Center on Circular Economy



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Thank you for your attention











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