



The European Coordination Hub for Open Robotics Development

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

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Paolo Dario,  
The BioRobotics Institute  
Scuola Superiore Sant'Anna, Pisa, Italy

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Luxembourg, February 21, 2018



# Summary

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## WP4 – RIF@Peccioli

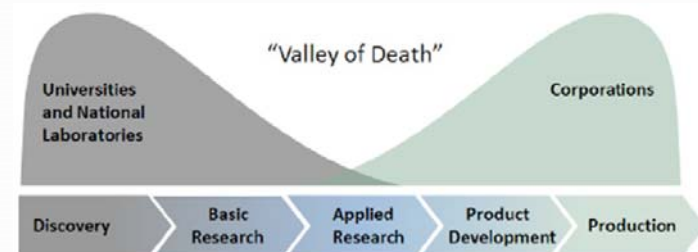
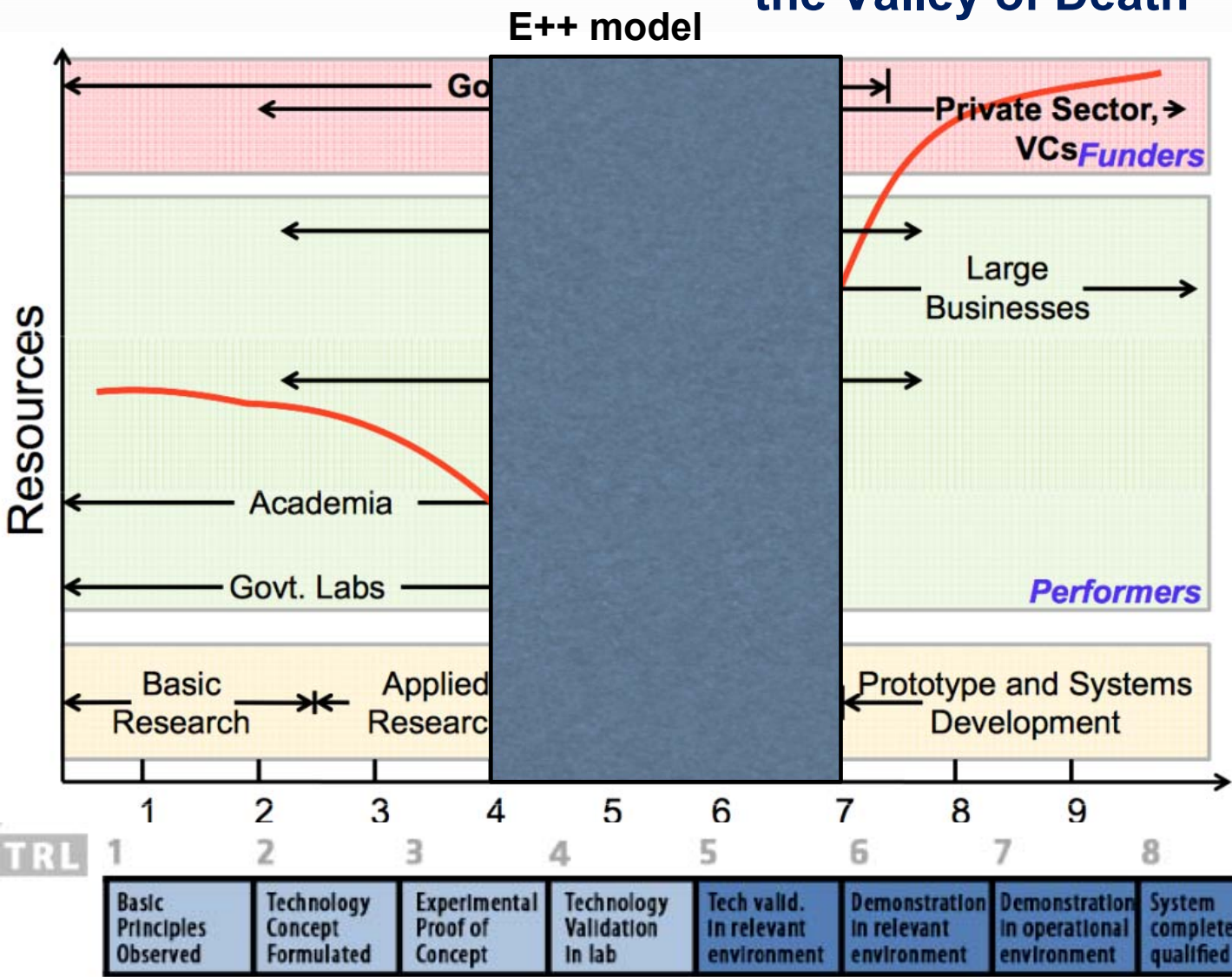
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**1**  
RIF@Peccioli  
Model

**2**  
RIF@Peccioli  
Results

**3**  
RIF@Peccioli  
Preparing for the future

# RIF@Peccioli as an innovation driver to link discovery and delivery, and to bridge the Valley of Death



Published online 11 June 2008 | *Nature* **453**, 840-842 (2008) | doi:10.1038/453840a

News Feature

## Translational research: Crossing the valley of death

A chasm has opened up between biomedical researchers and the patients who need their discoveries. Declan Butler asks how the ground shifted and whether the US National Institutes of Health can bridge the gap.

Declan Butler



# 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)

More than 1 million  
people  
in the Coast area

3.7 million people in  
Tuscany

#### Peccioli (PI)

Services and Ambient  
Assisted Living Robotics  
Laboratory  
RIF Echord ++

#### Pontedera home of



#### Pisa

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



# 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

## Joint 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 and 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

### Budrio (BO)

- Rehabilitation Bioengineering Lab @ Auxilium Vitae
- REPAIR Lab @ INAIL Prosthetic Centre

**Extending the coverage of our RIF offer to a wider range of potential users (3.6 million inhabitants, industries,...)**





# A receptive industrial ecosystem for Robotics

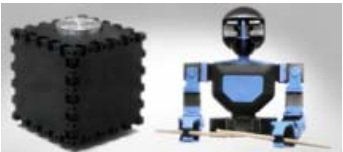
- **Tuscany** ranks third in Italy for number of industries and employees in the field of robotics
- **Tuscany** hosts many important industries manufacturing or related to robotics\*:
  - 83+ industries
  - average annual turnover per company 5.5 M€
  - 25 employees on average



spin-off



120.000+ units sold worldwide



# RIF@Peccioli model: focusing on SME!

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



Farms



Vineyards



Landfills



Retirement homes



City centre



Museums

**Service Robotics and Ambient Assisted Living Lab**





# RIF@Peccioli model

## RIF@Peccioli equipment improvement



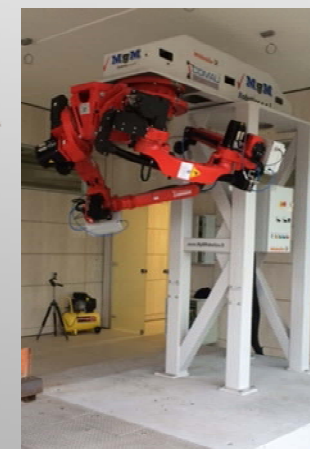
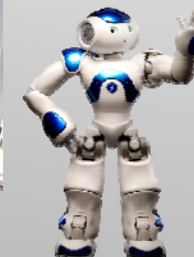
October, 2013

1. Scitos G5, Astro v1
2. Scitos G5, DoRo v1
3. Scitos G5, CoRo v1
4. Dust Cart, Oro



Today

1. Scitos G5, DoRo v2
2. Scitos G5, CoRo v2
3. Scitos G5, Astro v2
4. YouBot Kuka, KUBO
5. Nao
6. UR5 manipulator
7. Lasky + UR5 manipular
8. Comau Dual Arm





# 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 vineyard, 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)



Acceptability



Legal and ethic aspects



Economic aspects



Insurance



Benchmarking



Protection

Istituto di BioRobotica  
Scuola Sant'Anna





## RIF@Peccioli model

Increasing number of collaborations with large manufacturing industries



Lots of companies developing cutting-edge technologies,  
interested in robotics solutions





# RIF@Peccioli model



The evolution of RIF@Peccioli: a model of technology transfer tuned to the Tuscany customers



- We revised and modified our services on the basis of the territory needs
  - Large presence of SMEs and artisans
  - Large industries: GE, Piaggio, pharmaceutical
  - **Excellence** in sectors:
    - Food
    - Fashion
    - Paper
    - Marble and stone
    - Yachts and harbours
    - Trains



PIAGGIO



the **MENARINI** group



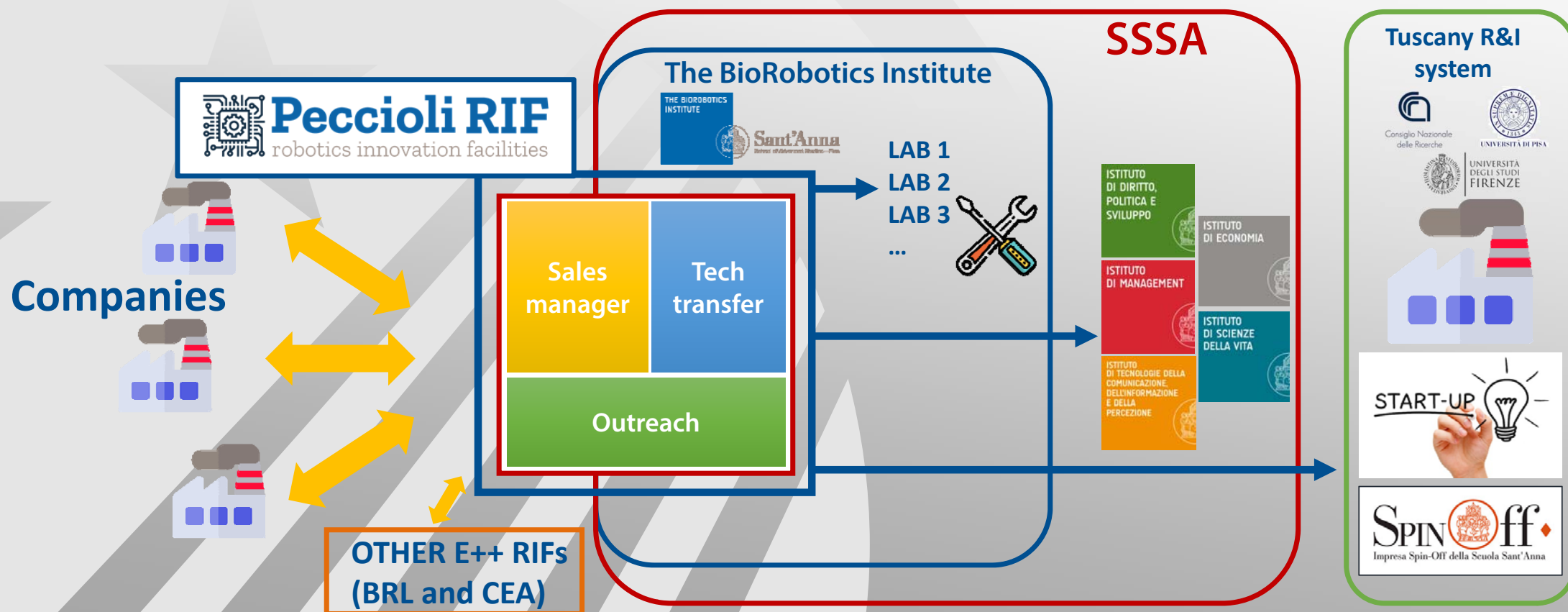
**AnsaldoBreda**  
A Finmeccanica Company



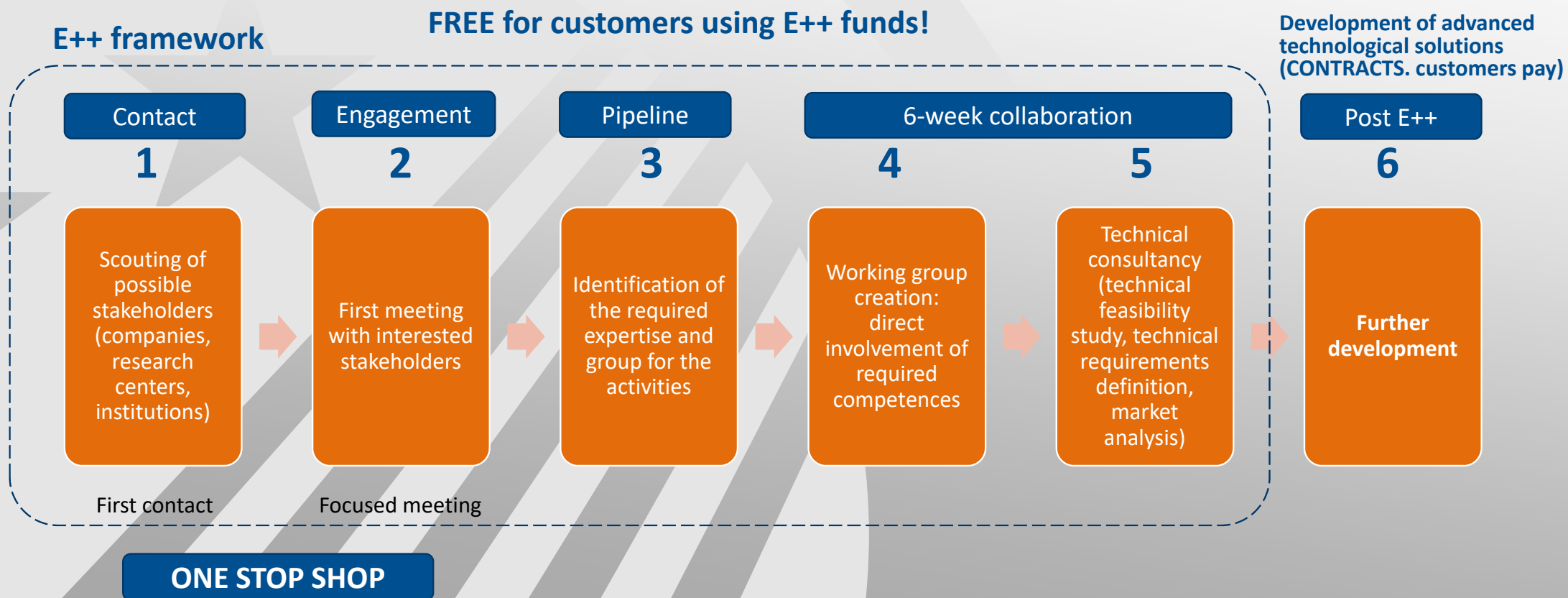
Competences, testing fields and collaborations spread along Tuscany:  
a unique "one-stop-shop" for our industries

# The current RIF@Peccioli 2018 model

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



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





# RIF@Peccioli model



## Workflow of RIF@Peccioli - Contact



### Contacts

In order to improve the outreach effectiveness, RIF staff developed a new approach to the customers.

From this work came out a brand new corporate identity:

- RIF Logo
- Brochure
- Folders
- Letterhead
- Mailing template
- PPT template
- Corporate Identity manual



**la robotica che serve.**

Gentile xyz,

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Curabitur egestas congue leo imperdiet iaculis. Sed et erat eget tortor vestibulum egestas eu ac justo. Etiam non odio libero. Nunc vulputate ornare nulla, vel viverra magna. Sed elit elit, commodo nec magna ac, scelerisque congue purus. Curabitur at auctor enim, at ultricies lorem. Nunc in eros leo. Vivamus mollis velit mi, in faucibus metus molestie et. Orci varius natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Pellentesque rhoncus enim egest lacquet auctor. Quisque nisl mi ut eros.



# RIF@Peccioli model



## Workflow of RIF@Peccioli – Toward engagements



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.



### 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 Euro (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.

#### Educazione universitaria:



- 18 Faculty (docenti e ricercatori)
- 87 studenti PhD
- +200 persone nello staff



Peccioli RIF  
Via Boscioni 1 - 56037, Peccioli (PI), Italy

## Workflow of RIF@Peccioli – The team

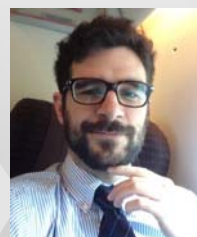


- **Dedicated extended team (SSSA+TeD)** for improving the RIF
- Different competences and **well-defined roles** in the workflow (from contacts to collaborations)

### SSSA



Paolo Dario  
coordinator



Gastone Ciuti  
Delegate to  
Technology Transfer



Francesca Cecchi  
Project manager



Enza Spadoni  
Technology transfer



Lorenzo Barsocchi  
RIF manager



Damiano Giuntini



Teresa Pagliai

### TechnoDeal



Statistics from December, 1 2016 to November, 30 2017

133

## Contacts

- 28 System Integrators
- 24 Direct contact
- 37 Mailing campaign
- 44 Events

37

## Engaged companies interested in RIF services

- First meeting arranged
- General needs specified

23

## Companies in the pipeline

- Meetings
- Brainstorming
- Context Analysis

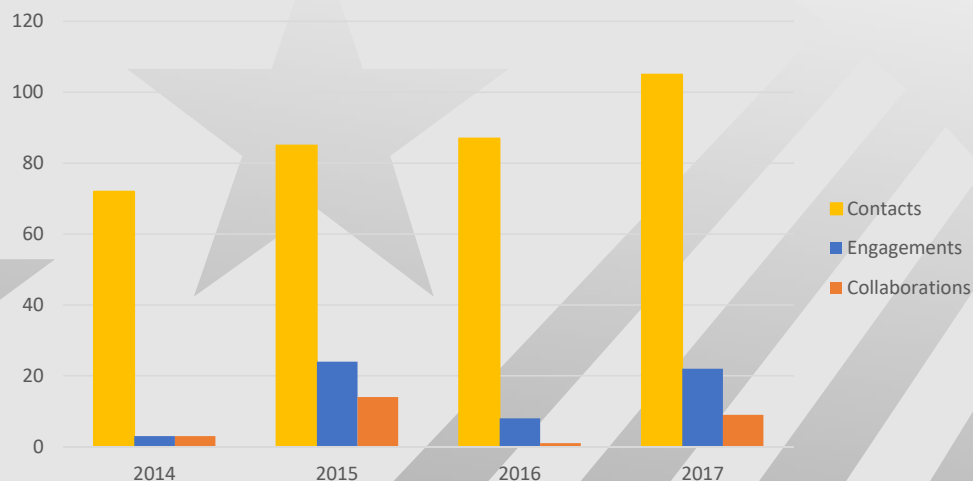
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## Collaborations

- Mostly SMEs
- Companies not in the robotics field
- Consultancy

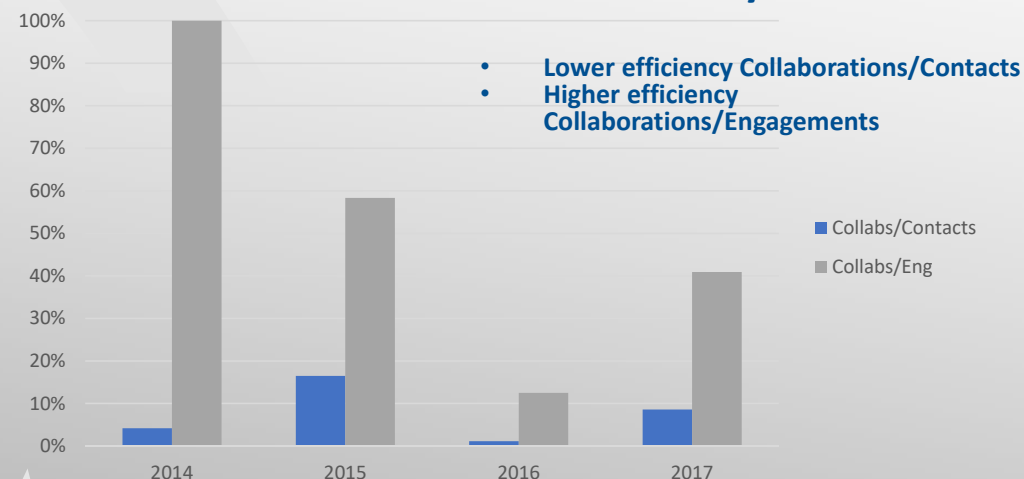
## RIF@Peccioli - Results

# From Contacts to Collaborations: measuring EFFICIENCY (Collaborations/Contacts)



- In **2014** RIF@Peccioli had **high efficiency but low numbers** in collaborations: start of RIF and dissemination activities, focused contacts with already known companies.
- In **2015** and **2016** RIF@Peccioli had a **boost in dissemination but low efficiency until 2017**, where more contacts led to collaborations.

### Evaluation of the efficiency



Year	Collaborations	Engagements	Contacts
2014	3	3	72
2015	14	24	85
2016	1	8	87
2017	9	22	105

**Average of 53% of Engagements became Collaborations**

## Nine collaborations in 2017

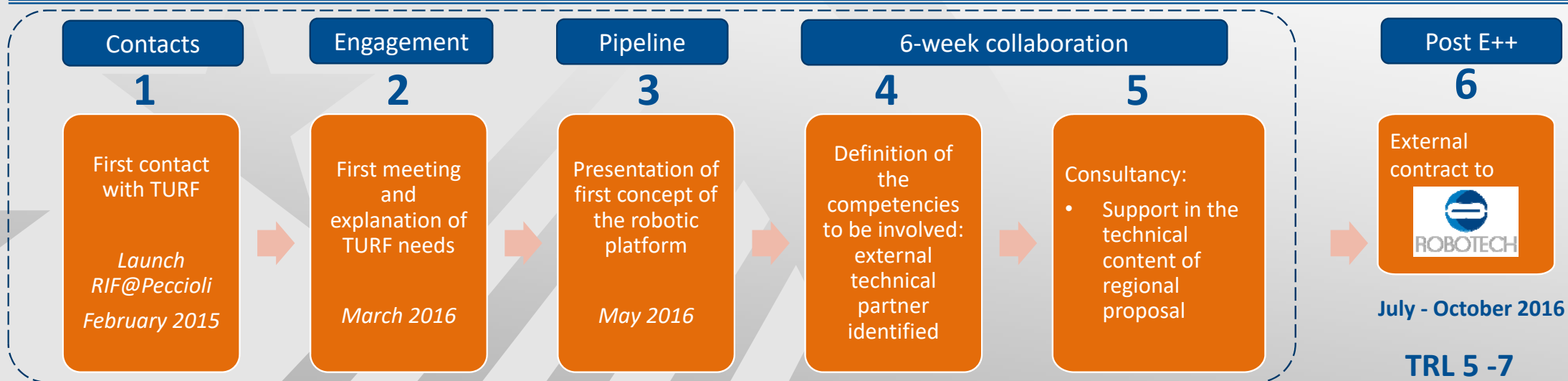
Company name	Type of collaboration	Subject
Geostech	Consultancy	Consultancy for the creation of an innovative startup and patent
Nest Srl	Consultancy	Creation of an innovative startup and patent
Gemme SpA	Consultancy	Development of an intelligent <b>traffic monitoring system</b> (technology validation)
ALS (Angelantoni life science)	Consultancy	Technical feasibility study for a <b>robotic automatic sterilization system</b>
Archa	Consultancy	Collaboration on <b>precision farming</b> (submitted joint project)
Masmec	Consultancy	Collaboration on <b>medical robotics</b> (submitted joint project)
Morpheos	Consultancy	Collaboration on the development of a <b>smart room for promoting maternal-child health</b> in the first 1000 days of life (submitted joint project)
Giannoni&Santoni	Consultancy	Collaboration on <b>digital robotic fresco</b> (submitted joint project)
Isart	Consultancy	Consultancy for the creation of an innovative startup and patent





## RIF@Peccioli model: Case Study 1 (2016)

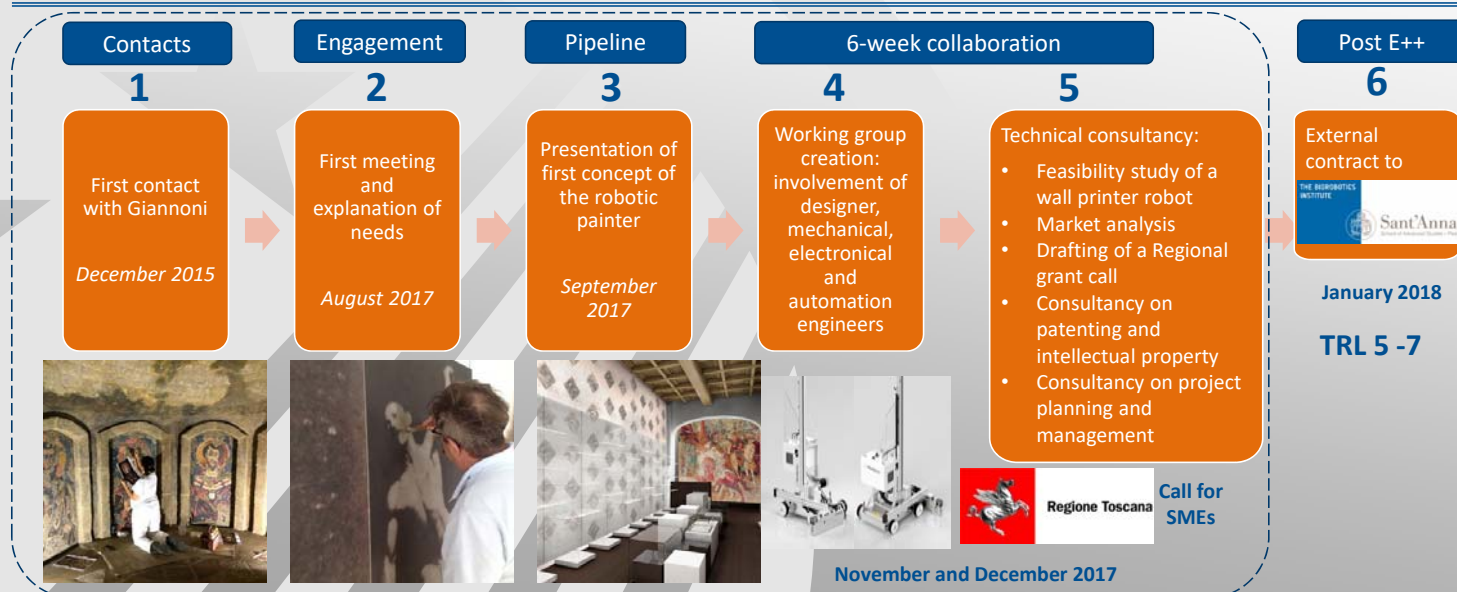
### The case of TURF s.r.l.: Development of a robotic mobile platform able to check the soil conditions in football arenas



June and July 2016

Filippo Lulli will show later TURF Europe

## Case study – Giannoni & Santoni: wall printer robot



## RIF@Peccioli model: Case Study 3 (2018)

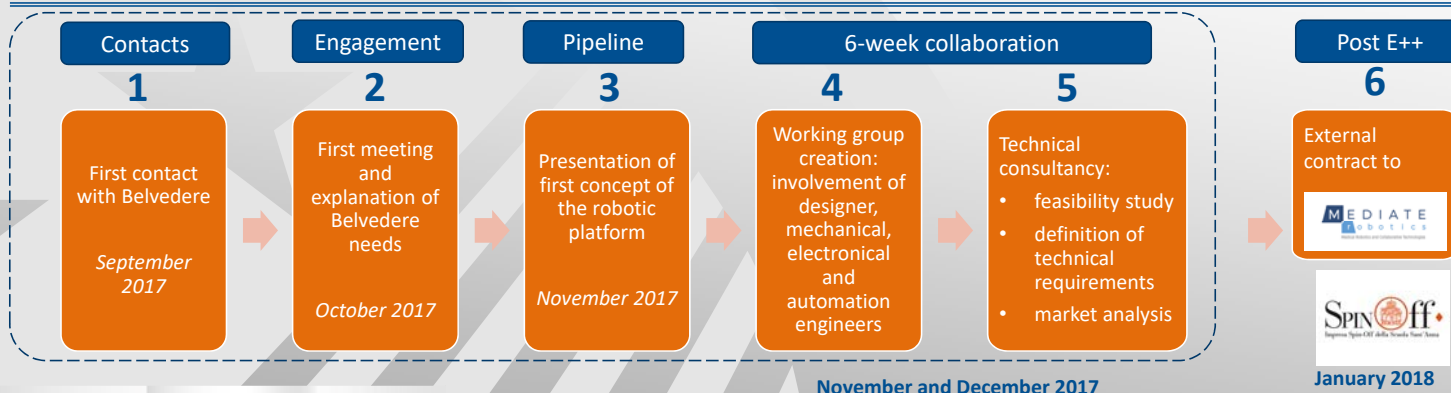


**Belvedere** S.p.A.  
innovazione · progetti · sviluppo



### Collaboration with Belvedere S.p.A., Peccioli – January 2018

Design and development of a Mobile Robotic Platform for urban freight transportation for the center of Peccioli



TRL 5 -7

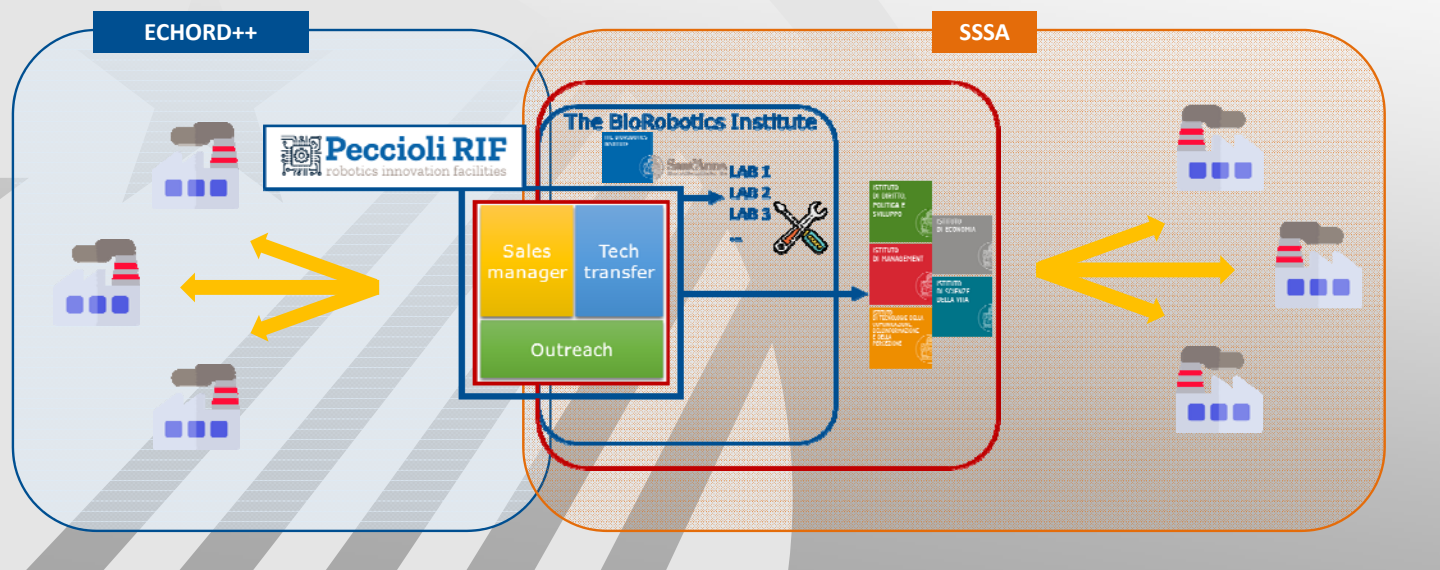
A company in the pipeline in RP3 became a collaboration in RP5



RIF@Peccioli – In addition to strictly RIF-related activities



A NEW and MORE POWERFUL ECOSYSTEM for INNOVATION is GROWING



**RIF@Peccioli – In addition to strictly RIF-related activities**



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## **A NEW and MORE POWERFUL ECOSYSTEM for INNOVATION is GROWING AROUND THE RIF@PECCIOLI**

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- **Robotics Festival** (Pisa, September 2017. Planned in September 2018). 10.000 participants, 1.5 BILLION contacts estimated worldwide
- National Plan Industry 4.0, **Competence Centers** (EUR 40 million, Call 2018-19)
- **Tuscany Regional Platform** on Industry 4.0 (DIH branded. EUR multimillion budget)
- **EU TERRINet Project** on Robotics Research Infrastructures (EUR 5 million budget, 4 year duration). ALL Echord++ partners INVOLVED!
- **Robotics Atelier** (EUR 3 million investment, Tuscany Region and Pontedera Municipality)
- **PCP on Circular Economy**: two phases (EUR 50 thousand + EUR 1 million) for a total of EUR 2.5 million, Tuscany Region, Spring 2018
- Many **new collaborations** with **large industries**
- Standard instruments for **preparing RIF Business Plan** (SWOT, Business Canvas Model, Value Proposition Model)

## RIF@Peccioli – EXTREMELY WIDE MEDIA COVERAGE



**Festival della Robotica: the first international festival totally focused on robotics, extraordinary opportunity for engaging SMEs (new contacts) and System Integrators**



**28**  
System Integrators

- Mailing campaign
- Workshops and events @ Festival della Robotica



**7 – 13 September 2017**

- Over 10.000 attendants
- More than 11 locations
- 1200m2 of exhibition space
- 50 events among workshops, conferences, exhibitions, concerts



**Media coverage estimated by our press office: about 1.5 billion people**

- EU
- US
- Brazil
- Venezuela
- Argentina
- Canada
- Japan





## RIF@Peccioli – Preparing for the future



### Synergistic funding and activities – the Call by the Italian Ministry of Economic Development (MISE) for the creation of I4.0 Competence Centres (Call open NOW. Deadline April 30, 2018)



Ministero dello Sviluppo Economico



Il Ministero dello Sviluppo Economico

Direzione Generale per la Politica Industriale, la Competitività e la Piccola e Media Impresa  
IL DIRETTORE GENERALE

VISTA la legge 11 dicembre 2016, n. 232, recante "Bilancio di previsione dello Stato per l'esercizio finanziario 2017 e bilancio pluriennale per il triennio 2017-2019" e, in particolare, l'articolo 1, comma 115, che prevede che "con decreto del Ministero dello sviluppo economico, di concerto con il Ministero dell'economia e delle finanze, da adottare entro centoventi giorni dalla data di entrata in vigore della presente legge, sono definite le modalità di costituzione e la forma di finanziamento, sul fondo di 20 milioni di euro per il 2017 e di 10 milioni di euro per il 2018, di cui di competenza ad alta specializzazione, nella forma del patrimonio pubblico-privato, messi in capo di promozione e realizzare progetti di ricerca applicata, di trasferimento tecnologico e di formazione su tecnologie avanzate, nel quadro degli interventi contenuti al Piano nazionale Industria 4.0";

VISTA la legge 11 novembre 2011, n. 180, recante "Norme per la tutela della libertà d'impresa. Statuto delle imprese";

VISTO il decreto legislativo 31 marzo 1998, n. 112, e successive modifiche e integrazioni, recante "Disposizione per la razionalizzazione degli interventi di sostegno pubblico alle imprese, e norme dell'articolo 4, comma 4, lettera c), della legge 15 marzo 1997, n. 59";

VISTA la legge 7 agosto 1990, n. 241 e successive modificazioni e integrazioni, recante "Nuove norme in materia di procedimento amministrativo e di diritto di accesso ai documenti amministrativi";

VISTO il decreto del Presidente della Repubblica 28 dicembre 2000, n. 445, recante "Testo unico delle disposizioni legislative e regolamentari in materia di documentazione amministrativa";

VISTO il regolamento (UE) n. 651/2014 della Commissione, del 17 giugno 2014, pubblicato nella Gazzetta Ufficiale dell'Unione europea, n. 187 del 26 giugno 2014, che dichiara alcune categorie di aiuti compatibili con il mercato comune su applicazione degli articoli 107 e 108 del Trattato e, in particolare, il capo I e gli articoli 25, 27, 28 e 29;

VISTO il decreto del Ministro dello sviluppo economico di concerto con il Ministro dell'economia e delle finanze 17 settembre 2017, n. 214, pubblicato nella Gazzetta Ufficiale n. 4 del 9 gennaio 2018;



#### INDUSTRY 4.0

**Peccioli RIF**  
Industria 4.0 Competence Center



**SSSA CC**



- The RIF@Peccioli will be a **CANDIDATE**
- Expected funding: 40 M€ (2017-18)

**Our Competence Center proposal will be based on the concept and experience of the E++ RIF**

## RIF@Peccioli – Preparing for the future



## Synergistic funding and activities – the EU TERRINet Project



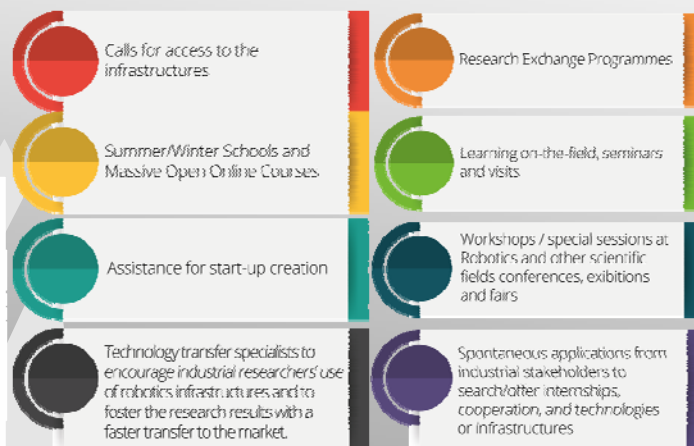
The **European Robotics Research Infrastructure Network (TERRINet)** aims at building a unique distributed and world-class Robotics Research Infrastructure

Grant agreement No.	730994-2
Expected starting date	December 1, 2017
Duration of the project	48 Months
EC funding	5.000.000,00€ (4999236,25)

Running now!

13 partners from 7 EU countries  
and one Associated Country  
(Switzerland)

All E++ Partners are in  
TERRINet Consortium  
(SSSA coordinator)



## 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



# Crea@tivity

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



- Educational activities
- Consultancy on intellectual property, financial, technical and legal assessment, business planning, R&D fund raising for start-up enterprises



- **TRAINING COURSES** in collaboration with Pontech srl and Modartech on fashion design and automation



# The PCP CALL in the Tuscany Region (Call to be published in SPRING 2018)

## 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

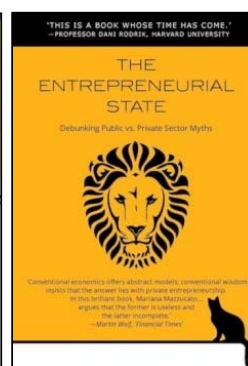
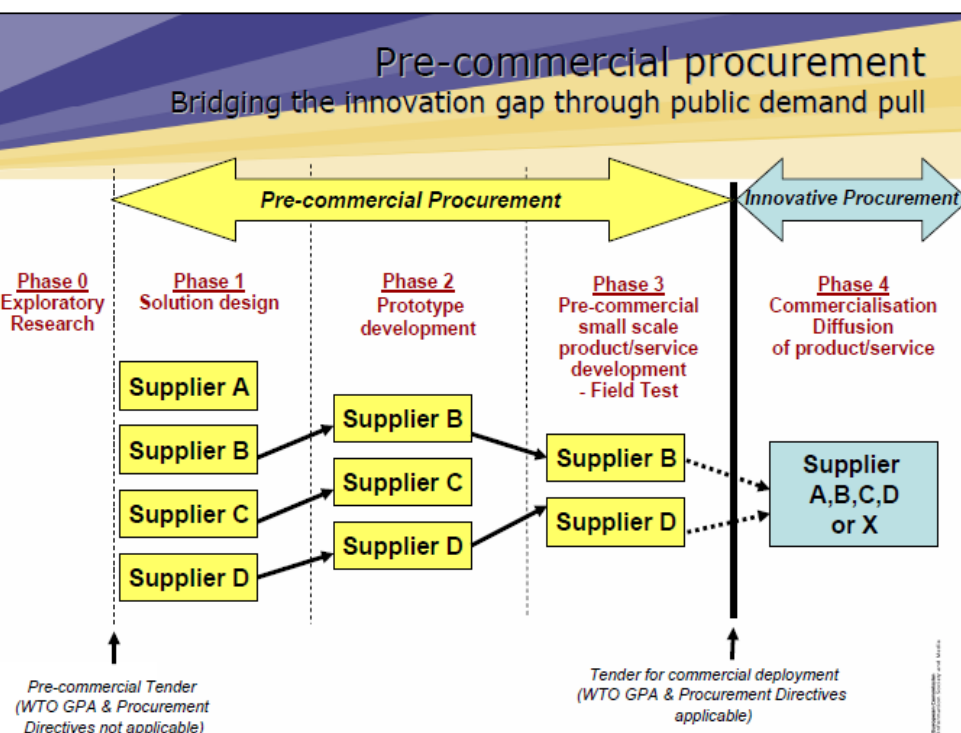
## Design phase

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

## Phase 2 - Dissemination

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 to experiment the PCP tool**

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



1. New services for the health of citizens through new technologies
2. Program on the independent life of the elderly population (Ambient Assisted Living e Smart Communities)
3. Implementation of the fastest and most open Digital Infrastructure in the world
4. New infrastructure for 3D Printing / Digital Manufacturing
5. Development of the concepts and applications of the Circular Economy ('zero waste' program), including smart grids
6. Advanced ship dismantling systems
7. Advanced local monitoring systems (through MEMS sensor networks) and remote (via satellites, balloons or drones) of incipient environmental disasters (earthquakes, landslides, floods, fires, etc.)
8. Advanced building redevelopment plan, without land use
9. Logistics (ports, airports, handling of goods and people)
10. New technologies for agriculture and fish farming
11. Marine Strategy & Blue Growth
12. Advanced technologies for the promotion of a culture and tourism system

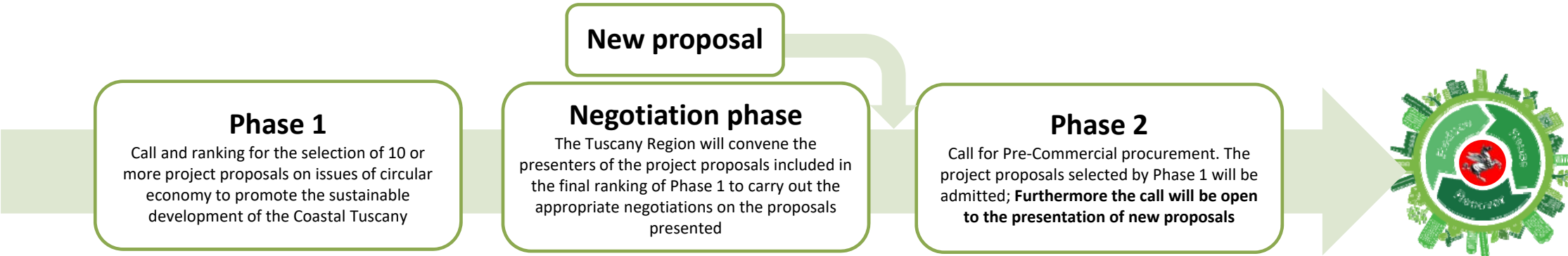
## A. PROCESS DEVELOPMENT PHASES

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

- **Specific challenge:** The challenge is to implement a Pre-Commercial Procurement in order to finance innovative technologies that facilitate the transition to a circular economy. The objective is to bring radical improvements to the quality and efficiency of the economic and productive system of the Tuscany Region.
- **Purposes:** PCP actions targeting consortia of Large, Medium, Small and Micro Enterprises, with the possibilities to include Research or University Institutes/Departments, that wants to procure together the development of innovative solutions in the field of Circular Economy to promote the sustainable development of the Coastal areas of Tuscany Region
- **Scientific and Technological priorities and Areas of Interest:** This topic is open to project proposals providing innovative solutions, including new automation and / or robotics systems, new processes, new business models and / or new supply chain agreements for the activation of circular economy processes in the following sector:

1. Marble quarrying activity	2. Dismantling activities in shipyards	3. Processing and Production activities in the paper industry	4. processing and production activities in the tanning industry	5. Reducing landfilling of at least 5% (prevention, recycling and waste recovery)	6. Innovative approach addressing a new manufacturing collaborative robots	7. Crop Reclamation activities	8. Land Reclamation activities
							

# C. PHASES OF THE EVALUATION PROCESSES



## Internal structure – SWOT Analysis

**S**

- Easy access structures and resources
- Only Internal interfaces
- Technical and consultancy competencies
- No business risk

**O**

- SSSA excellent reputation
- Not well explored market
- Private investments attractiveness
- Excellent reputation for calls and projects
- Competence Centre national call
- Economic recovery and new investments

**W**

- Complex structure with lots of bureaucracy
- Internal office configuration to be defined
- Internal roles redundancy
- Companies-Academia interface problems
- Possible role overlapping with other SSSA offices

**T**

- Market limited to manufacture
- Entrepreneurs not skilled in state-of-the-art robotic technologies
- High costs
- Capability to be different than other Industry 4.0 services

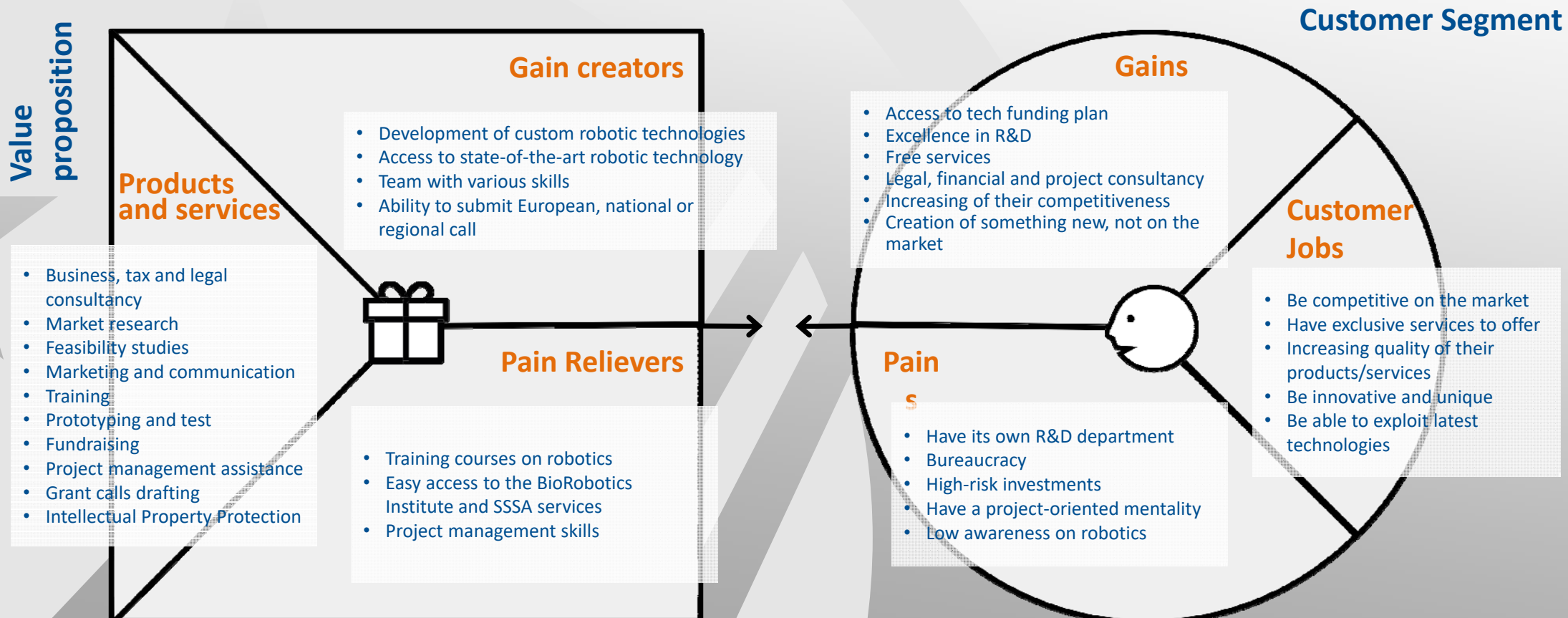


# RIF@Peccioli – Preparing the future

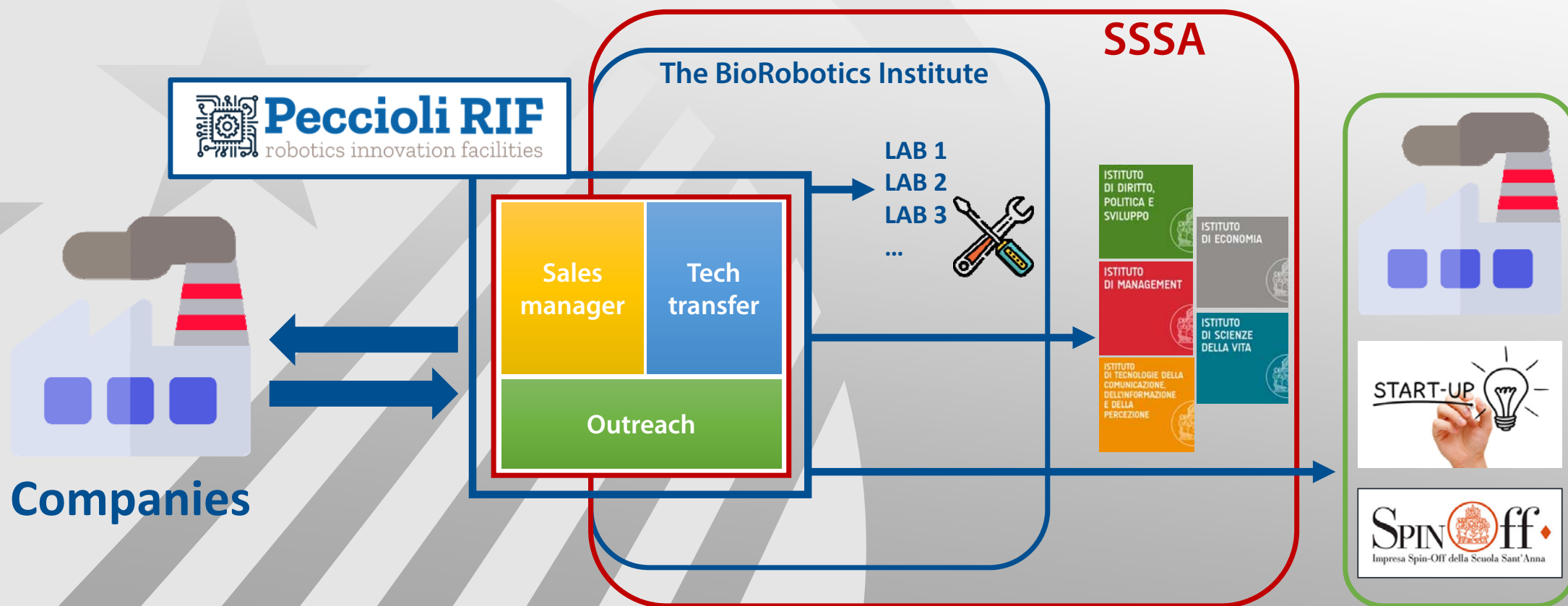
## Business Model Canvas

Key partners	Key activities	Value proposition	Customer relationship	Customer segments
<ul style="list-style-type: none"> <li>Region (joint ventures)</li> <li>Nation (joint ventures)</li> <li>Europe (join ventures)</li> <li>Research Centres</li> <li>Company networks</li> <li>Investors</li> </ul>	<ul style="list-style-type: none"> <li>Robotics training</li> <li>Education on Industry 4.0 plan</li> <li>Collecting national and regional calls</li> <li>Outreach activities</li> </ul>	<ul style="list-style-type: none"> <li>Business, tax and legal consultancy</li> <li>Market research</li> <li>Feasibility studies</li> <li>Marketing and communication</li> <li>Training</li> <li>Prototyping and test</li> <li>Fundraising</li> <li>Project management assistance</li> <li>Grant calls drafting</li> <li>Intellectual Property Protection</li> </ul>	<ul style="list-style-type: none"> <li>Events and fairs</li> <li>Direct contact</li> <li>Indirect contact (banks)</li> <li>Dedicated assistance</li> </ul>	<ul style="list-style-type: none"> <li>Start-Ups</li> <li>SMEs</li> <li>Large companies</li> <li>Company networks</li> <li>Public Administration</li> <li>Government institution</li> <li>Educational institution</li> </ul>
	Key resources		Channels	
	<ul style="list-style-type: none"> <li>BioRobotics Institute labs</li> <li>SSSA and UVR office</li> <li>SSSA Spin-Offs</li> <li>Company Networks</li> <li>Grant calls</li> <li>Test partner</li> </ul>		<ul style="list-style-type: none"> <li>Website</li> <li>Newsletter</li> <li>Events</li> <li>Information material</li> <li>BioRobotics Institute offices</li> </ul>	
Cost structure			Revenue streams	
<ul style="list-style-type: none"> <li>Personnel</li> <li>Structures</li> <li>Trainers</li> <li>Materials</li> <li>External consultancies</li> </ul>			<ul style="list-style-type: none"> <li>Technical development contracts</li> <li>Consultancy contracts</li> <li>Training courses</li> </ul>	

## Value Proposition Canvas – Manufacturing field (SMEs)



## On sustainability. The Internal structure

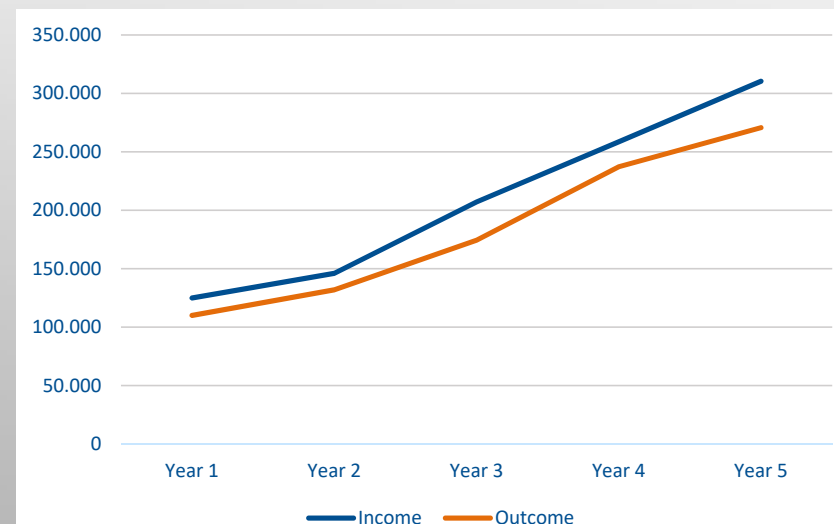




## Business Plan: the traditional approach

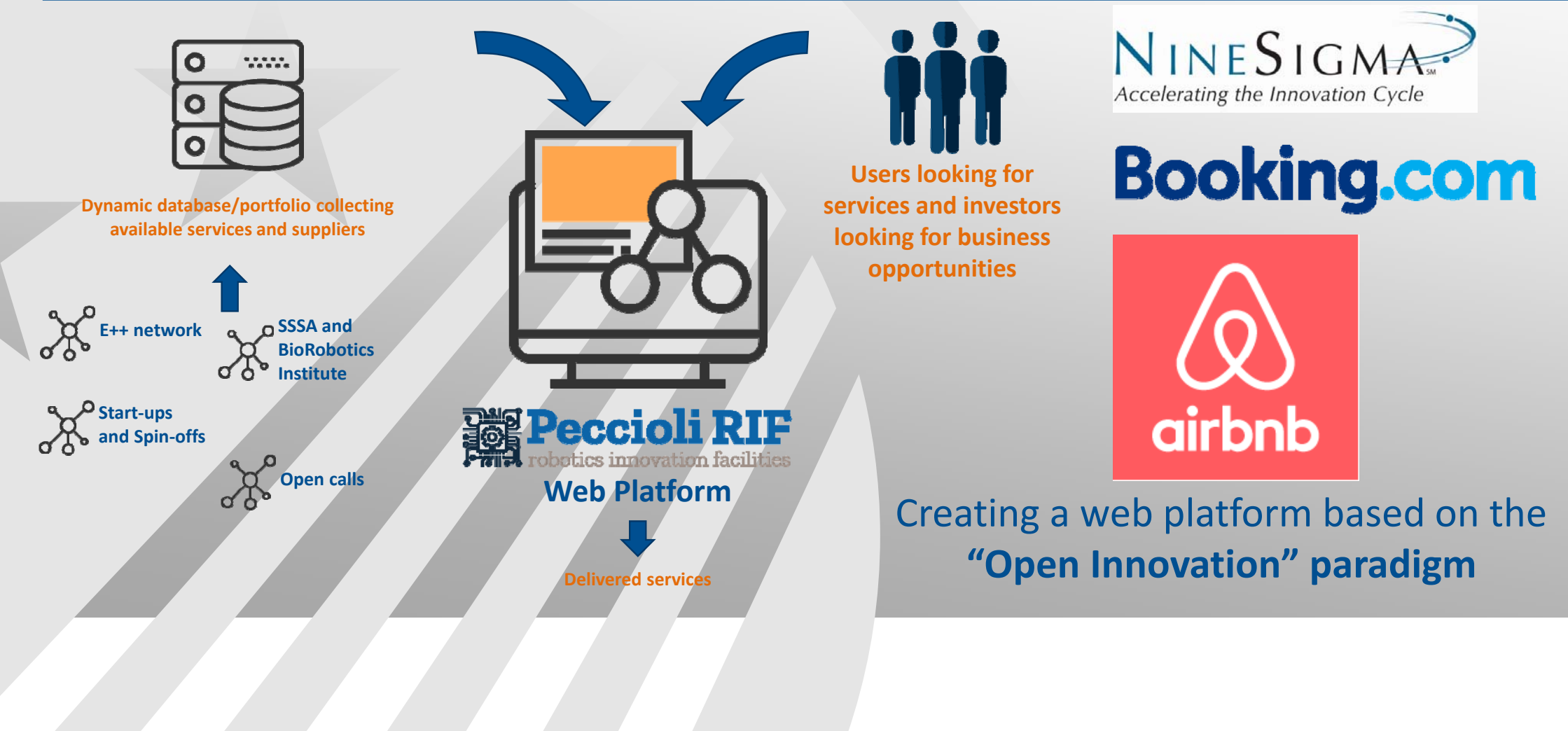
Peccioli RIF - Post-E++ Business Plan

		2019	2020	2021	2022	2023
		Year 1	Year 2	Year 3	Year 4	Year 5
Income	Skills Training	5.000,00	6.000,00	7.200,00	8.640,00	10.368,00
	Consultancy	100.000,00	130.000,00	200.000,00	250.000,00	300.000,00
	Regional or national Grant	20.000,00	10.000,00			
	<b>Total income</b>	<b>125.000,00</b>	<b>146.000,00</b>	<b>207.200,00</b>	<b>258.640,00</b>	<b>310.368,00</b>
Outcome	Personnel	90.000,00	100.000,00	130.000,00	150.000,00	150.000,00
	External consultancy	10.000,00	20.000,00	30.000,00	70.000,00	100.000,00
	Other costs	10.000,00	12.000,00	14.400,00	17.280,00	20.736,00
	<b>Total outcome</b>	<b>110.000,00</b>	<b>132.000,00</b>	<b>174.400,00</b>	<b>237.280,00</b>	<b>270.736,00</b>
	<b>Net surplus</b>	<b>15.000,00</b>	<b>14.000,00</b>	<b>32.800,00</b>	<b>21.360,00</b>	<b>39.632,00</b>



## RIF@Peccioli – Preparing for the future

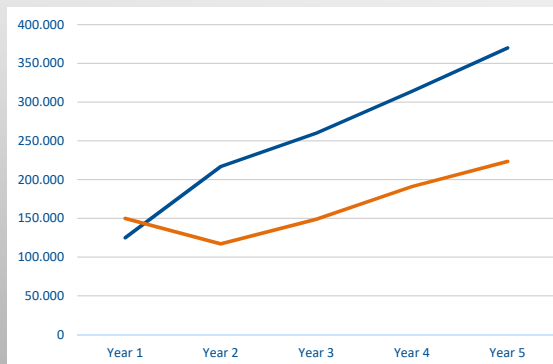
# Designing a Technology Transfer 4.0 paradigm based on a Web Platform (and exploiting the selection/evaluation/monitoring skills learned in Echord++)



### A TT 4.0 Business Model

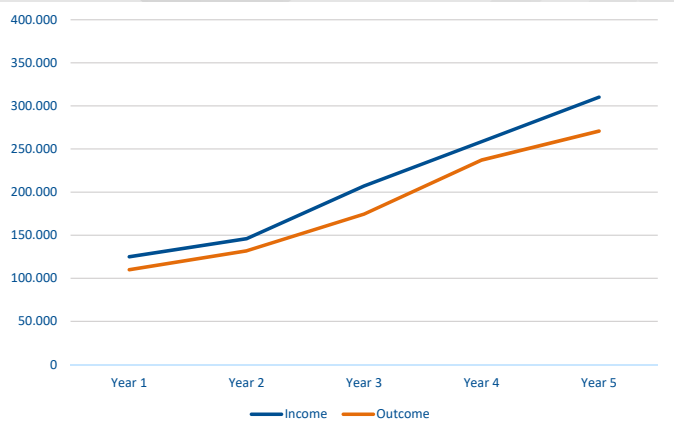
Peccioli RIF 4.0 - Post-E++ Business Plan

		2019	2020	2021	2022	2023
		Year 1	Year 2	Year 3	Year 4	Year 5
Income	Skills Training	5.000	7.000	10.000	14.000	20.000
	Consultancy	100.000,00	200.000,00	250.000,00	300.000,00	350.000,00
	Regional or national Grant	20.000,00	10.000,00			
	<b>Total income</b>	<b>125.000,00</b>	<b>217.000,00</b>	<b>260.000,00</b>	<b>314.000,00</b>	<b>370.000,00</b>
Outcome	Personnel	80.000,00	80.000,00	100.000,00	100.000,00	100.000,00
	External consultancy	10.000,00	20.000,00	30.000,00	70.000,00	100.000,00
	Web platform	50.000,00	5.000,00	4.000,00	3.000,00	2.500,00
	Other costs	10.000,00	12.000,00	15.000,00	18.000,00	21.000,00
	<b>Total outcome</b>	<b>150.000,00</b>	<b>117.000,00</b>	<b>149.000,00</b>	<b>191.000,00</b>	<b>223.500,00</b>
	<b>Net surplus</b>	<b>-25.000,00</b>	<b>100.000,00</b>	<b>111.000,00</b>	<b>123.000,00</b>	<b>146.500,00</b>

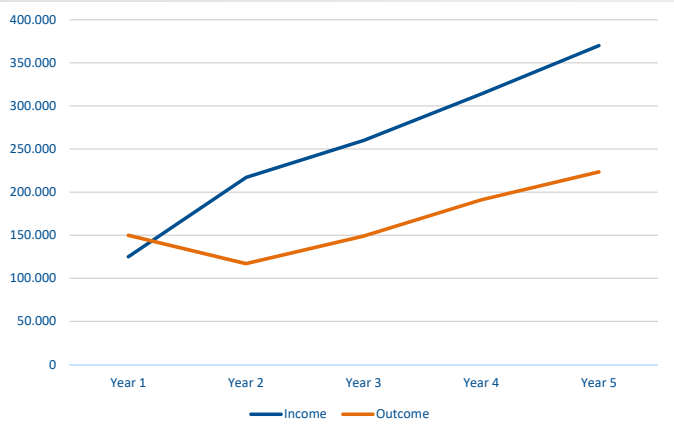


# Comparison between the two cost structures

Technology Transfer 1.1



Technology Transfer 4.0







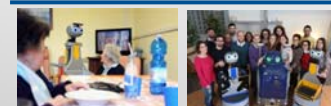
The European Coordination Hub for Open Robotics Development



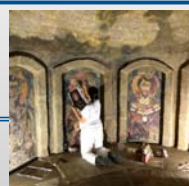
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