H2020 ICT SPRING

Socially Pertinent Robots in Gerontological Healthcare

Presentation at MIAI Inauguration Day – October 10th, 2019

by Xavier Alameda-Pineda, Perception Team – Coordinator

The H2020 Call

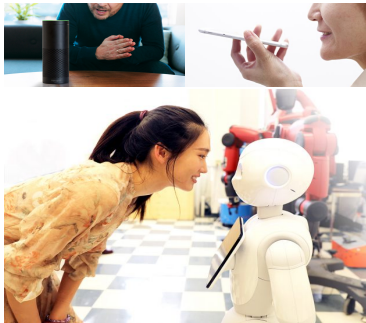We replied to call ID: ICT-10-2019-2020 "Robotics Core Technology."
[Deadline: March 28th, 2019. Call budget: 42 M EUR.]

91 submitted proposals, 7 accepted $\Rightarrow \sim 7.7\%$ acceptance rate.

ICT-10-2019: Robotics Core Technology18					
Main list	1	SPRING	Socially Pertinent Robots in Gerontological Healthcare	INSTITUT NATIONAL DE RECHERCHE ENINFORMATIQUE ET AUTOMATIQUE	FR
Main list	2	BACCHUS	MoBile Robotic PlAtforms for ACtive InspeCtion and Harvesting in AgricUltural AreaS	ARISTOTELIO PANEPISTIMIO THESSALONIKIS	EL
Main list	3	OpenDR	Open Deep Learning Toolkit for Robotics	ARISTOTELIO PANEPISTIMIO THESSALONIKIS	EL
Main list	4	RoBUTCHER	A Robust, Flexible and Scalable Cognitive Robotics Platform	NORGES MILJO-OG BIOVITENSKAPLIGE UNIVERSITET	NO
Main list	5	ReHyb	Rehabilitation based on Hybrid neuroprosthesis	TECHNISCHE UNIVERSITAET MUENCHEN	DE
Main list	6	SOPHIA	Socio-physical Interaction Skills for Cooperative Human-Robot Systems in Agile Production	FONDAZIONE ISTITUTO ITALIANO DI TECNOLOGIA	IT
Main list	7	AERIAL-CORE	AERIAL COgnitive integrated multi-task Robotic system with Extended operation range and safety	UNIVERSIDAD DE SEVILLA	ES

From: http://cache.media.education.gouv.fr/file/2019/36/7/H2020-ICT-2019-2_
H2020-DT-2019-1_results_1179367.pdf

SPRING's *raison d'être*

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The overall objective of the SPRING project is to develop *Socially Assistive Robots* with the capacity of performing **multi-person interactions and open-domain dialogue**.

SPRING's Objectives

The Scientific Objective

To conceive **new statistical/deep machine learning-based methods** and algorithms for computer vision, audio processing, sensor-based control, and spoken dialog systems to ground the required robot skills.

The Technological Objective

To launch a brand **new generation of robots flexible enough to adapt** to the needs of the users, and not the other way around.

The Experimental Objective

To validate the technology based on HRI experiments in a gerontology hospital, and to **assess the acceptability by patients and medical staff**.

SPRING's consortium

Key figures
- Duration: 48 months.
- Starting date: January 1st, 2020.
- Budget: $\sim$ 8.3 MEUR.
- Effort: 930 PM $\sim$ 20 people full time.

Five academic partners:
- Inria (FR) – Coordinator
- Heriot-Watt University (UK)
- Czech Technical University (CZ)
- University of Trento (IT)
- Bar-Ilan University (IS)

Two industrial partners:
- PAL Robotics (ES)
- ERM Automatismes (FR)

One medico-experimental partner:
- Assistance Publique - Hôpitaux Paris (FR)

SPRING's Personnel's Expertise

	Inria	Xavier Alameda-Pineda & Radu Horaud	Multi-sensory fusion, computer vision and audio processing for robotic platforms.
	HWU	Oliver Lemon & Christian Dondrup	Multi-person dialogue moldeling, language processing.
	CVUT	Tomas Pajdla	Computer vision, visual-based localization.
	UNITN	Nicu Sebe & Elisa Ricci	Human behavior understanding, multi-modal fusion, computer vision.
	BIU	Sharon Gannot	Multi-channel and on-line audio processing.
	PAL	Francesco Ferro & Sarah Terreri	Robot manufacturing, software integration.
	ERM	Pascal Torsiello	Software integration, robotics for healthcare.
	AH-HP	Anne-Sophie Rigaud	Gerontological healthcare.

SPRING & MIAI

SPRING is strongly linked to the MIAI Chair:

"Audio-visual machine perception and interaction for companion robots."

And also to other Chairs of the "Perception and Interaction" Axis, e.g.:

"Collaborative Intelligent Systems,"
"AI and dynamical systems: new paradigms for control and robots,"
"Artificial Intelligence & Language,"
"Bayesian Cognition and Machine Learning for Speech Communication."

This is NOT a restrictive list. If you are interested on SPRING's topics, let us know. We are very happy to collaborate!!!

Thanks to *Inria* to help us shaping up the proposal and to you all for listening.