



The European Coordination Hub for Open Robotics Development

5th Review Meeting – WP 6 Structured Dialogue and Outreach

Prof. Alberto Sanfeliu

Barcelona, March 28, 2019



WP 6 – Structured dialogue and Outreach Centre

OBJECTIVES

Disseminate E++ instruments, procedures and results in local, national and international events.

Elaborate R&D publications

TASKS

6.2 Representation E++ at workshops, fairs and conferences.

6.3 Organization of major fairs and events: ERF,IROS,AUTOMATICA.

6.4 R&D Publications and project outcomes announcement

WP 6 – Main activities

Representation E++ at workshops, fairs and conferences and Organization of major fairs and events

EuRobotics Forum 2018 Tampere, Finland March 13 -15, 2018



Workshop:

“Encouraging cities to innovate through Robotics”

To identify the potential of robotics applications for regional and cities’ challenges. The participation of the regional public entities as end-users and procurers and the industrial and academic consortia as suppliers, give us the opportunity to develop this workshop under the structure of an Open Consultation to link real needs with technological solutions looking to rise new robotic products closer to the market.



Participants:

**ALBERTO SANFELIU - FARID DAILAMI - PAOLO DARIO
CHRISTOPHE LEROUX - FRANZISKA KIRSTEIN - ANTONIO
BANDERA - CARLOS RIZZO - PAULO ALVITO - CECILE HUET - PÄIVI
HAHO (Metropolia Helsinki) - ANDRE MARTINS (Lisbon
Innovation Cluster)**

WP 6 – Main activities

Representation E++ at workshops, fairs and conferences and Organization of major fairs and events

Automatica 2018 Munich, Germany June 19 -22, 2018



Echord++ Stand:

To show to the industrial sector the results and pre commercial robotics products developed under Echord++. The 150 square meters of the stand allowed to show 12 prototypes and most of the cases to experiment with them.

Prototypes:

**ANYmal – ANYdrive - LINarm++ - FlexSight – CATCH - CLARC
SIAR - HyQ-Real – SAGA - AAWSBE1 – WIRES – ISYBOT**

WP 6 – Main activities

Representation E++ at workshops, fairs and conferences and Organization of major fairs and events

IROS 2018 Madrid, Spain October 1-5, 2018



Workshop and stand

“ECHORD++: Advances in Robotic Science Supporting Innovation”

To disseminate the innovative results of the more than 35 robotic experiments financed under the ECHORD++ European Project and the lessons learned in the innovative procedures developed during these five years looking to boost the project slogan “From LAB to MARKET”.

Participants:

CECILE HUET - ALOIS KNOLL - CHRIS MELHUIS -ALBERTO SANFELIU - PAOLO DARIO - ELENA GARCIA - PAULO ALVITO - GEOFF PEGMAN

Prototypes:

EXOTrainer - LINarm++ - SIAR – CLARC

WP 6 – Main activities

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MEDICA 2018 Dusseldorf, Germany November



Echord++ Stand:

The main objective of the Echord++ participation in the MEDICA fair was to present the pre-commercial robotics products developed under Echord++ and to closely connect to distributors and decision-makers in hospitals. On only 36 square meters we could present four prototypes, which attracted a lot of interest. Most of them could forge a huge number of promising links.

Prototypes:

CLARC

EXOTRAINER

ASSESSTRONIC

LINARM++

WP 6 – Main activities

Representation E++ at workshops, fairs and conferences and Organization of major fairs and events

Smart City World Congress and Expo 2018 Barcelona, Spain November 13-15, 2018



Echord++ Stand:

Echord++ has participated at the Smart City World Congress and Expo during the last four years. The main objective of this participation is to disseminate the procedures developed under the PDTI instrument between the cities' representatives and to show the results of the urban robotic challenge in sewer inspection and clearance. A floor of 50 square meters were shared between Echord++ and UPC/CIT (UPC Research Transfer Center)

Prototypes:

ARSI - SIAR

Information about:

**Architectonic Heritage Inspection with Robotics - TERRINet Call
TERRINet network infrastructure Barcelona Robot Lab.**

WP 6 – RIF@Paris-Saclay activities

Outreach & dissemination in 2018

- March 2018, CEA List tech days, Paris-Saclay
- March 2018, [Smart Industrie fair, Paris](#), communication about the RIF@ParisSaclay activities with SMEs and interaction with robotics industries to improve the relay between research and industry
- March 28, [DEI stakeholder forum](#), Paris Villepinte
- June 2018, [Automatica Munich](#), RIF@Paris-Saclay success stories, presented on the Echord++ booth with iSybot team
- June 13th, [DIH days in Grenoble, MINATEC](#)
- November 7, [Big Data & DIH](#), Brussels
- November 22, [ERRIN & DIH](#), Brussels
- March 2019, [Smart Industry](#), Lyon



WP 6 – Main activities

R&D Publications and project outcomes announcement: White Papers

E++ Annual White Papers

1st Annual White Paper.	Public end-users Driven Technological Innovation – PDTI. Case Study: PDTI in Urban Scenarios Alberto Sanfeliu, Ana Puig-Pey, Francesc Solé-Parellada, Yolanda Bolea, Josep Casanovas, Antoni Grau (Universita Politècnica de Catalunya) Marie Luise Neitz (Technical University of Munich) Javier Varela, Maria José Chesa, Lina Martínez (Barcelona Cicle de l'Aigua. Barcelona City Council)
2nd Annual White paper.	Financial support of third parties: what we have learned Cristina Lobbi, (Technical University of Munich) Geoff Pegman (R.U.Robots), Marie-Luise Neitz and Adam Schmidt (Technical University of Munich)
3rd Annual White paper.	Experiments Francesca Cechhi and Paolo Dario (Scuola Superiore Sant'Anna)
4th Annual White Paper.	Robotics Innovation Facilities. RIFs Mark Haley and Farid Dailami (Bristol Robotics Laboratory), Paolo Dario (Scuola Superiore Sant'Anna), Christophe Leroux (Atomic Energy Commission)

WP 6 – Main activities

R&D Publications and project outcomes announcement: Scientific Book

ECHORD++: Innovation from LAB to MARKET

Robotic science supporting innovation

Springer Tracts in Advanced Robotics

Part I Echord++ Instruments

1 The European Coordination Hub for Open Robotics Development++: An Overview

Yannick Morel

2 The Experiment instrument in ECHORD++: cascade funding for small-scale research projects for facilitating the introduction of robotics technology into industry

Francesca Cecchi and Paolo Dario

3 Robotics Innovation Facilities

Farid Dailami, Chris Melhuish, Francesca Cecchi and Christophe Leroux

4 Public end-users Driven Technological Innovation (PDTI) in Urban Scenarios

Ana Puig-Pey, Alberto Sanfeliu, Francesc Solé-Parellada, Yolanda Bolea, Josep Casanovas and Antoni Grau

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Part II Echord++ Experiments and Contributions

5 Lessons Learned in Vineyard Monitoring and Protection from a Ground Autonomous Vehicle

Ferran Roure, Luca Bascetta, Marcel Soler, Matteo Matteucci, Davide Faconti, Jesus-Pablo Gonzalez and Daniel Serrano

6 Automatized Switchgear Wiring: An Outline of the WIRES Experiment Results

Gianluca Palli, Salvatore Pirozzi, Maurizio Indovini, Daniele De Gregorio, Riccardo Zanella and Claudio Melchiorri

7 Optimality criteria for the path planning of autonomous industrial vehicles

Marina Raineri, Fabio Ronchini, Simone Perri and Corrado Guarino Lo Bianco

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Part II Echord++ Experiments and Contributions

8 FASTKIT: A Mobile Cable-Driven Parallel Robot for Logistics

Nicolò Pedemonte, Tahir Rasheed, David Marquez-Gamez, Philip Long, Étienne Hocquard, Francois Babin, Charlotte Fouché, Guy Caverot, Alexis Girin and Stéphane Caro

9 Heuristic Planning for Rough Terrain Locomotion in Presence of External Disturbances and Variable Perception Quality

Michele Focchi, Romeo Orsolino, Marco Camurri, Victor Barasuol, Carlos Mastalli, Darwin G. Caldwell and Claudio Semini

10 EXOtrainer Project Clinical Evaluation of Gait Training with Exoskeleton in Children with Spinal Muscular Atrophy

Daniel Sanz-Merodio, Gonzalo Puyuelo, Amartya Ganguly, Elena Garces, Ane Goñi and Elena Garcia

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Part II Echord++ Experiments and Contributions

11 Technology for assisting during the Comprehensive Geriatric Assessment process: the ASSESSTRONIC project

Giuseppe Palestra, Consuelo Granata, Isabelle Hupont and Mohamed Chetouani

12 ARSI: An Aerial Robot for Sewer Inspection

François Chataigner, Pedro Cavestany, Marcel Soler, Carlos Rizzo, Jesús Pablo Gonzalez, Carles Bosch, Jaume Gibert, Antonio Torrente, Raúl Gomez and Daniel Serrano

13 SIAR: A ground robot solution for semi-autonomous inspection of visitable sewers

David Alejo, Gonzalo Mier, Carlos Marques, Fernando Caballero, Luís Merino and Paulo Alvito

14 Public Entity role in Robotic Innovation Barcelona participation in Echord++ PDTI Project for Urban Challenges

Javier Varela, Ma José Chesa, Lina Martinez, Silvia Burdons and Josep Garriga

ECHORD++		OCTOBER 2013-JANUARY 2019	80
FAIRS			
INDUSTRIAL	AUTOMATICA 16-18, INDUSTRIE 14, ROBOBUSSINESS 14-15-16, FT MANUFACTURING 16, BAUMA 16, INNOROBO 16-17, HANNOVER MESSE 16-17, GLOBAL ROBOT EXPO 17		
PUBLIC BODIES	SMART CITY WORLD CONGRESS AND EXPO 14-15-16-17-18		
CONFERENCES and WORKSHOPS			
ROBOTICS	INTROMECHATRONICS 14, ROBOBUSSINESS 14-15, ICRA 14, IROS 16-17-18, JNRR 15, EPSRC 16		
GENERAL	SCWC 14, EFTA 16, World Education Congress 16, EIPWater 14		
FORUMS	ICT 14-15-16, ERF 14-15-16-17-18, IROS 18		
CITIZENS FESTS & LIVING LABS	FESTA DE LA CIENCIA 14-15-16-17, VENTURE FEST UK 15-16, BCN Living Lab 14, EURATHLON		
EUROPEAN EVENTS	Committee of Regions 17, EURobotics Week 17, EU Parliament 19		
PRESENTATIONS	MORE THAN 100.....		

Thank you for your attention!

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