



**IM-TWIN: from Intrinsic Motivations
to Transitional Wearable INtelligent
companions for autism spectrum disorder**
a European funded project

Press kit and press releases
Deliverable 6.15



Project funded under program H2020-EU.1.2.2.,
Grant agreement ID 952095,
Topic FETPROACT-EIC-06-2019 - EIC Transition
to Innovation Activities,
EU contribution € 1 999 965.

Project duration 24 months (November2020, October 2022),
Consortium: Consiglio Nazionale delle Ricerche (ITA),
Universiteit Utrecht (NLD), Centre de Recherches
Interdisciplinaires (FRA), Università degli Studi di Roma
La Sapienza (ITA), Plux-Wireless Biosignals S.A. (PRT).

Deliverable data

Work Package:	6 Management and dissemination.
Work Package leader:	CNR
Deliverable beneficiary:	CNR
Dissemination level:	Public
Due date:	31 th January (Month 3)
Type:	Websites, patents filings, etc.
Authors:	F. Giocondo, B. Özcan, V. Sperati, M.L. Di Muzio, G. Baldassarre

Acronyms of partners

CNR-ISTC	Consiglio Nazionale delle Ricerche, Istituto di Scienze e Tecnologie della Cognizione (Italy)
UU	Universiteit Utrecht (The Netherlands)
CRI	Centre de Recherches Interdisciplinaires (France)
LA SAPIENZA	Università degli Studi di Roma La Sapienza (Italy)
PLUX	Plux - Wireless Biosignals S.A. (Portugal)

Table of contents

1. Overview of the deliverable	4
2. A brief description of the starter kit	4
3. Future development	4

1. Overview of the deliverable

This deliverable presents the promotional materials prepared for the communication activities towards a wide public and relevant media. More specifically, the consortium will use a set of documents as press releases, brochures, flyers, booklets – namely the press kit – to disclose important features of the project or relevant milestones to a general audience. Such media kit, downloadable from the website at <https://im-twin.eu/press-kit/>, will be updated and enriched throughout the project lifetime.

2. A brief description of the starter kit

- **Press release:** the first press release – dated January 31, 2021 – introduces the project describing the fundamental features of the research, such as the main goals, the composition of the consortium, the main contacts for each partner, and the legal details. The document is downloadable both in PDF and DOCX formats. Relevant updates about the project outcomes will be described in new press releases.
- **Brochure:** this document gives a general overview of the project, and is intended for a general audience; the brochure can be used as promotional material at fairs, exhibitions and workshops.

The press release and the brochure are attached at the end of the deliverable.

3. Future development

According to the progress of the project activities, new promotional materials will be produced by the partners, then expanding the press kit. All new documents will be always available on the project website.

Press release

IM-TWIN PROJECT "Innovative AI tools to support children with ASD"

IM-TWIN: from Intrinsic Motivations to Transitional Wearable INtelligent companions for autism spectrum disorder is a research project funded by Horizon H2020, the European financing programme supporting research and innovation. The project's main goal is to develop new technology to support the early therapy of children diagnosed with Autism Spectrum Disorders (ASD). The project, with a duration of 24 months (1 November 2020 - 31 October 2022) and a total budget of € 1.9 million, brings together five international partners with different expertise:



- National Research Council of Italy (ITA) – through the Institute of Cognitive Sciences and Technologies – expert in Autonomous Robotics and Machine Learning, and coordinator of the project (www.istc.cnr.it);



- Center for Research and Interdisciplinarity (FRA), expert in Developmental Psychology (cri-paris.org);



- University of Rome *Sapienza* (ITA) – through the department of Human Neuroscience, section of Child and Adolescent Neuropsychiatry – expert in diagnosis and treatment of neurodevelopmental disorders (www.uniroma1.it);



- Utrecht University (NLD) – through the department of Information and Computing Sciences – expert in the study and analysis of emotional and affective physiological states (www.uu.nl);



- Plux Wireless Biosignals S.A. (PRT), a company specialised in the development and production of wearable sensors (www.plux.info).

The ambitious goal of IM-TWIN is to develop a technological system which - through Artificial Intelligence, Machine Learning algorithms and innovative interactive devices - will help to “understand” the emotional states of young children (aged between 24 and 48 months) diagnosed with ASD or other neurodevelopmental disorders, characterised by impairments in the social, communicative and affective areas.

This important information is often unclear in such types of children. This knowledge will then help and support the work of neurodevelopmental therapists and neuropsychiatrists, during the early treatment and early diagnosis of such conditions. To achieve its goal, the project will build an “IM-TWIN system” formed by several integrated components:

- wearable sensors, embedded in sensorised garments suitable for small children (e.g. t-shirts or socks), to detect and record physiological signals, as heart rate and electrodermal activity, related to the affective states;

- the latest algorithms, based on Artificial Intelligence and Machine Learning, to decode the physiological data into clear emotional categories as stress, boredom and enjoyment;
- interactive “intelligent” toys (called Transitional Wearable Companions), to be used as support tools during the therapeutic activities, to stimulate the children curiosity and motivate them to naturally engage in social interactions.

During the implementation of the project, the most successful components will be proposed, through dedicated dissemination activities, to interested therapists, neuropsychiatrists, rehabilitation and research centres, and the wide public.

Moreover, they will be proposed to companies and other economic agents for evaluation of their potential market exploitation. This exploitation activity will be supported by Quantum Leap IP (www.quantumleap-ip.com), a company sustaining research centers and startups to transform research outputs to market products.

IM-TWIN was born as a scientific spin-off of “GOAL-Robots”, a previous European funded project (www.goal-robots.eu), investigating the importance of Intrinsic Motivations (the drives to learn new behaviours, based on curiosity) in the cognitive development of both natural and artificial agents.

CONTACTS

Dr. Gianluca Baldassarre (coordinator of the project at ISTC-CNR)
gianluca.baldassarre@istc.cnr.it

Prof. Vincenzo Guidetti, MD (University of Rome *Sapienza*)
vincenzo.guidetti@uniroma1.it

Prof. Dr. Dr. Egon L. van den Broek (Utrecht University)
vandenbroek@acm.org

Prof. Dr. Hugo Gamboa (CEO of *Plux*)
hgamboa@plux.info

Dr. Kevin O’Regan (Center for Research and Interdisciplinarity)
jkevin.oregan@gmail.com

Emilia Garito (CEO of *Quantum Leap IP*)
egarito@quantumleap-ip.com

PROJECT LEGAL DETAILS

Timeframe: 1 November 2020 - 31 October 2022

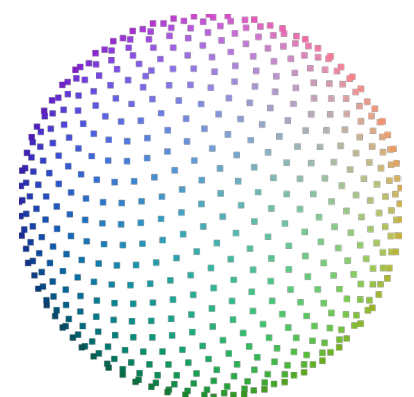
Programme: H2020-EU.1.2.2. - FET Proactive.

Topic: FETPROACT-EIC-06-2019 - EIC

Transition to Innovation Activities.

Funding scheme: RIA - Research and Innovation Action.

Cordis fact sheet: <https://cordis.europa.eu/project/id/952095>



Brochure

A European Union Horizon 2020 Project

IM-TWIN: from Intrinsic Motivations to Transitional Wearable Intelligent Companions for autism spectrum disorders



PARTNERS OF THE PROJECT

- National Research Council of Italy (ITA) – through the Institute of Cognitive Sciences and Technologies – expert in Autonomous Robotics and Machine Learning, and coordinator of the project (www.istc.cnr.it);
- Center for Research and Interdisciplinarity (FRA), expert in Developmental Psychology (cri-paris.org);
- University of Rome *Sapienza* (ITA) – through the department of Human Neuroscience, section of Child and Adolescent Neuropsychiatry – expert in diagnosis and treatment of neurodevelopmental disorders (www.uniroma1.it);
- University of Utrecht (NLD) – through the department of Information and Computing Sciences – expert in the study and analysis of emotional and affective physiological states (www.uu.nl);
- Plux Wireless Biosignals S.A. (PRT), a company specialised in the development and production of wearable sensors (www.plux.info).



This project has received funding (€ 1 999 965) from the European Union's Horizon 2020 Research and Innovation Programme, under Grant Agreement No ID 952095.

www.im-twin.eu

@im-twinproject



- Dr. Gianluca Baldassarre (coordinator of the project at ISTC-CNR) gianluca.baldassarre@istc.cnr.it
- Prof. Vincenzo Guidetti, MD (University of Rome Sapienza) vincenzo.guidetti@uniroma1.it
- Prof. Dr. Dr. Egon L. van den Broek (Utrecht University) vandenbroek@acm.org
- Prof. Dr. Hugo Gamba (CEO of Plux) hugambao@plux.info
- Dr. Kevin O'Regan (Center for Research and Interdisciplinarity) jkevin.oregan@gmail.com
- Emilia Garito (CEO of Quantum Leap IP) egarito@quantumleap-ip.com

CONTACTS

PROJECT OVERVIEW

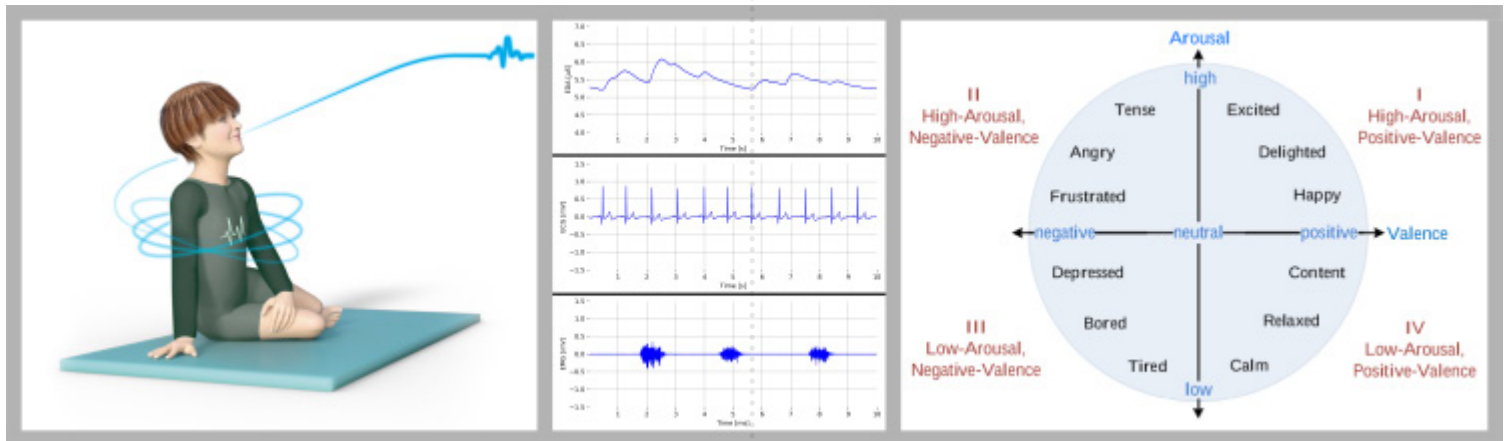
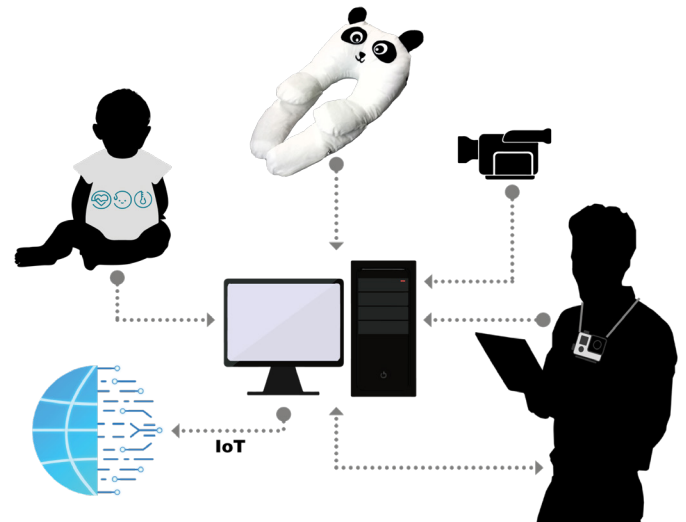
IM-TWIN: from Intrinsic Motivations to Transitional Wearable INtelligent companions for autism spectrum disorder is a research project funded by Horizon H2020, the European financing programme supporting research and innovation. The project's main goal is to develop new technology to support the early therapy of children diagnosed with Autism Spectrum Disorders (ASD). The project, with a duration of 24 months (1 November 2020 - 31 October 2022) and a total budget of € 1.9 million, brings together five international partners with different expertise.

The ambitious goal of IM-TWIN is to develop a technological system which - through Artificial Intelligence, Machine Learning algorithms and innovative interactive devices - will help to “understand” the emotional states of young children (aged between 24 and 48 months) diagnosed with ASD or other neurodevelopmental disorders, characterised by impairments in the social, communicative and affective areas.

MAIN TOPICS

To achieve its goal, the project will build an “IM-TWIN system” formed by several integrated components:

- wearable sensors to detect and record physiological signals;
- Artificial Intelligence and Machine Learning algorithms to decode the physiological data into clear emotional categories;
- Transitional Wearable Companion, PlusMe interactive toy.



OBJECTIVES

During the implementation of the project, the most successful components will be proposed, through dedicated dissemination activities, to interested therapists, neuropsychiatrists, rehabilitation and research centres, and the wide public. Moreover, they will be proposed to companies and other economic agents for evaluation of their potential market exploitation.

Brochure folding instructions

