



**PlusMe: Transitional Wearable Companions
for the therapy with children with
Autism Spectrum Disorders**
a European funded project

Deliverable 3.3
Dissemination of research activities, stage one

Work Package 3 *Dissemination*
due at month 10 (30th Jun 2021).

Lead beneficiary: CNR
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1. Overview of the deliverable

This deliverable reports the dissemination activities – to the date of July 2021 – concerning the *PlusMe* device and the related project activities. In more detail the document describes:

- a workshop on *PlusMe* device, organised in collaboration with the University of Rome *Sapienza* (sec. 2);
- a brief published article on a new experimental interactive toy, called *X-8* (sec. 3).

2. The workshop on PlusMe

The CNR-ISTC, in collaboration with the Department of Human Neuroscience of the University of Rome *Sapienza*, organised a workshop about the *PlusMe* device and the related experimental activities. The workshop was held in Rome on July 16 2021, at the Department of Human Neuroscience, Section of Child and Adolescent Neuropsychiatry².

The organisers were dr. Flora Giocondo (for CNR-ISTC), and dr. Noemi Faedda, dr. Gioia Cavalli, dr. Carla Sogos, Prof. Vincenzo Leuzzi and Prof. Vincenzo Guidetti (for *Sapienza*). The audience was composed of about 20 people between neurodevelopmental therapists and trainees (see fig. 1).



Figure 1. Dr. Carla Sogos introduces the *PlusMe* device to the workshop audience, at the Department of Human Neuroscience, University of Rome *Sapienza*.

The workshop, publicised through a flyer (see fig. 2), was so organised:

- 9:30 - 9:45: introduction to the *PlusMe* device and the related European project (dr. Flora Giocondo, CNR-ISTC, and dr. Carla Sogos, *Sapienza*);

² Via dei Sabelli 108, 00185 Roma.

- 9:50 - 10:20: use of *PlusMe* device as a potential supporting tool to improve social skills in children with Autism Spectrum Disorders, ASD³ (dr. Gioia Cavalli, *Sapienza*);
- 10:25 - 10:55: use of *PlusMe* device as a potential tool for the early diagnosis of ASD and communicative, relational deficits in typically developed children (dr. Noemi Faedda, *Sapienza*);
- 11:00 - 11:15: final discussion, questions from audience and short introduction to the European funded project IM-TWIN⁴, a complementary research project where *PlusMe* device is used within a broader technological system (dr. Flora Giocondo, CNR-ISTC).



Figure 2. The flyer used to promote the workshop at the University of Rome *Sapienza*.

The presentations and additional material are available at the project dedicated page:
www.plusme-h2020.eu/workshops-presentations/

³ The results of the pilot study on ASD children are discussed in the deliverable *D2.1 Experimental phase, stage one*, available on the project website.

⁴ www.im-twin.eu

3. X-8: a new experimental device based on *PlusMe*

The CNR-ISTC, relying on the technical experience gained with *PlusMe*, developed a new experimental device based on the design concept of *Transitional Wearable Companion*. The new interactive toy, called *X-8*, was designed to facilitate *turn-taking* games between child and therapist; it features an interesting technical improvement over *PlusMe*, specifically the ability to autonomously discern the therapist's touch from the child's touch (see fig. 3 and 4). An overview about the new prototype is described in the brief article *X-8: an experimental interactive toy to support turn-taking games in children with Autism Spectrum Disorders*, published as an extended abstract in the proceedings of the *23rd International Conference on Human Computer Interaction*, (HCI International 2021 - Posters; HCII 2021, Communications in Computer and Information Science, pp. 233-239, vol. 1419, Springer, Cham, DOI: [10.1007/978-3-030-78635-9_32](https://doi.org/10.1007/978-3-030-78635-9_32)).



Figure 3. Design concept of X-8 interactive toy.



Figure 4. Functional test of X-8 early prototype: the toy is able to respond to user A (1th and 2nd pic from left) emitting a magenta light, and to user B (3rd and 4th pic), with a green light.

3. Conclusions

Updates on the dissemination activities will be provided in the next public deliverable *D3.4 Dissemination of research activities stage two*, due at month 17 (31th January 2022).