



### Abstract

The Project aims at developing Movement Assisting Devices, which are innovative, “passive”, and highly customized kineto-dynamic equipment built to provide natural compensation of human movements (both upper and lower limbs).

Your research, education or innovation snapshot

Implications for Products, Provision, Personnel or Policy?

Implications for other aspects of the Global Research Agenda



The multidisciplinary **MovAiD Consortium** works towards the development of the following aspects for the **MAD Design**:

- **Automated design** process using biomechanics and scanning
- **Integration platform** for factories of the future
- **Additive Manufacturing and new materials**
- **Structural parts**
- **Body contacting parts**
- **Electronics** for sensing and diagnosis

### What is the impact for AT users and other stakeholders?

**1. Elderly:** The elderly are defined as those, who are >65 years old and suffer from physiological changes associated with ageing.

**Desired outcome for utilization of MAD:** Reduction in number of falls, performing activities of daily living

**2. Workers:** Analysis of typical workers’ activities.

**Desired outcome for utilization of MAD:** Reduction of ergonomic risk, improved productivity performance

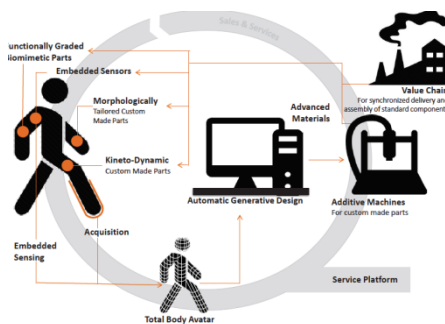
**3. Children:** Primary focus on children suffering from Cerebral Palsy in spastic form (paraplegic and quadriplegic).

**Desired outcome for utilization of MAD:** Reduction in number of falls, performing activities of daily living.

**4. Health professionals:** Automated design approach can ease the time required to manufacture a movement assistive device and therefore the professional can focus more on clinical work/outcome

### Products

- Automated design process of movement assistive devices using additive manufacturing allows for customisation
- Development of smarter devices using feedback from their use ‘in the field’.
- Remote diagnostics, remote maintenance, remote operations.
- New business models including product as a service.



Overall description of MovAiD Project



Total body avatar

### Provision

- Integration of product and service provision
- Automated design process and integration platform can ease the manufacturing of a movement assistive device and reduce time/effort/clinic visits

### Personnel

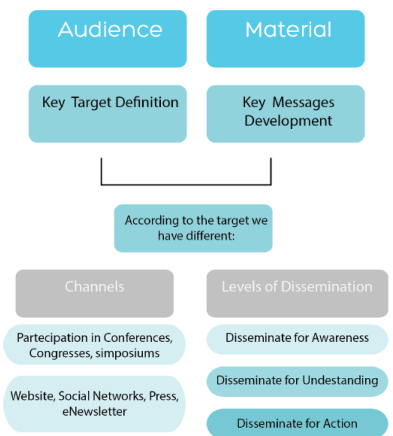
- Automated design approach can ease the time required to manufacture
- Integration platform can provide guidance and information

### Policy

- This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 680754.
- It is part of the H2020 research into factories of the future.

- This project investigates how to use technology (additive manufacturing, scanning, integration platform, automated design etc.) to create customised movement assistive devices.
- It evaluates potential new business models – integration of product and service provision.
- This knowledge can then get transferred to other AT areas

### Strategies to share and build global capacity based on this work



**MovAiD will focus on the following Target Groups:**

- **Research and Scientific Community** (Academic, Teachers, PhD Students)
- **Professional Community** (clinicians, Orthopedics, Physicians)
- **Users** (children with Cerebral Palsy, Workers and Elderly)
- **Decision Makers/Governmental Bodies/Health Services**
- **Journalists/Media**

### Contact details for global liaison

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