INSENSION

Personalized intelligent platform enabling interaction with digital services to individuals with profound and multiple learning disabilities

In the INSENSION project we are working to design and develop an ICT platform that enables persons with profound and multiple learning disabilities (PMLD) to use digital applications and services that can:

- ➤ improve the quality of their life,
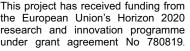- ➤ increase their ability to self-determination,
- ➤ enrich their life

The platform to be developed will be the user interface for persons with PMLD to process the information collected from the world around them and to communicate their needs to others with the use of advanced technologies previously not available to them.

For this purpose we are planning to use and advance the following technologies:

- ➤ gesture recognition,
- ➤ facial expression recognition,
- ➤ vocalization recognition,
- ➤ unobtrusive physiological parameters monitoring,
- ➤ Internet of Things,
- ➤ behaviour pattern recognition

PARTNERS:

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Specific objectives of the INSENSION project are

- to design, develop and validate the ecological method for the sampling of non-symbolic behaviour signals of people with PMLD

- to develop the technology to recognize the relevant nonsym-bolic behaviour signals of people with PMLD

- to develop methods to recognize and act upon the user's 'intent' based on the behaviour signals

- to build an ICT-based interaction platform capable of perso- nalized detection of the behaviour signals to provide servi-ces to people with PMLD

- to develop a number of services as examples of the developed solution's application use cases

- to validate the developed platform in real-life scenarios

- to develop business models for practical exploitation of the platform

What is PMLD?

PMLD stands for profound and multiple learning disabilities and is characterized by a profound intellectual disability in combination with other impairments like physical or sensory impairments. People with PMLD often communicate on a pre-symbolic level and use unconventional behavioural signals like specific body movements or vocalizations to express their needs. The number of those interaction partners who are able of accurately perceiving and interpreting the specific and highly individual behaviour signals is limited in the most cases.

How can INSENSION help?

The INSENSION system will empower people with PMLD to do things previously unavailable to them through controlling their living environment.

We want to shift the point of decision from any caregiver supporting the person with PMLD to this very person. This will be done through advancing known technologies from several areas of computing such as affective computing, artificial intelligent and internet of things, which appropriately used and integrated create an opportunity for an assistive technology of a new kind.