



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



## OBJECTIVES

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

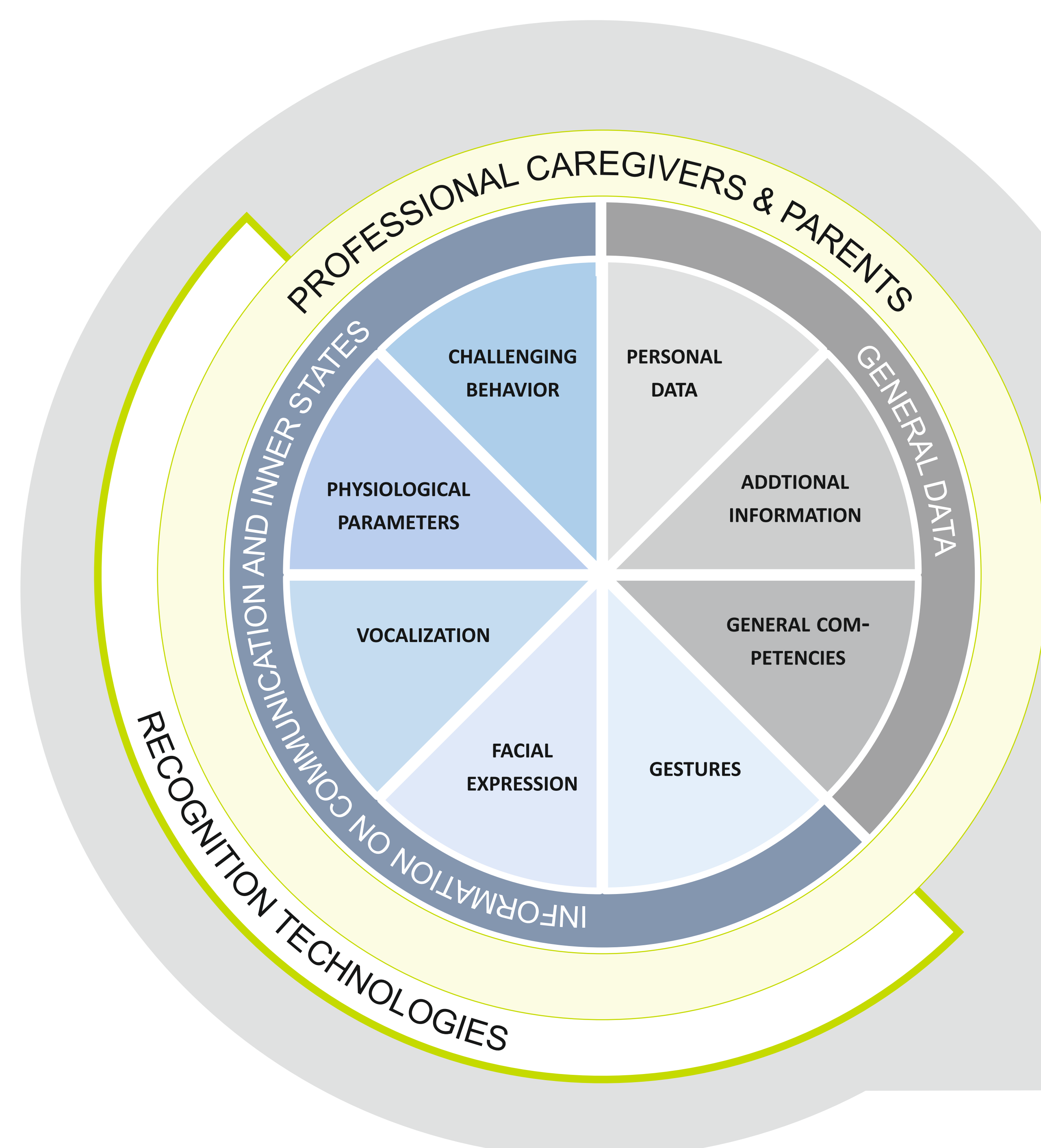
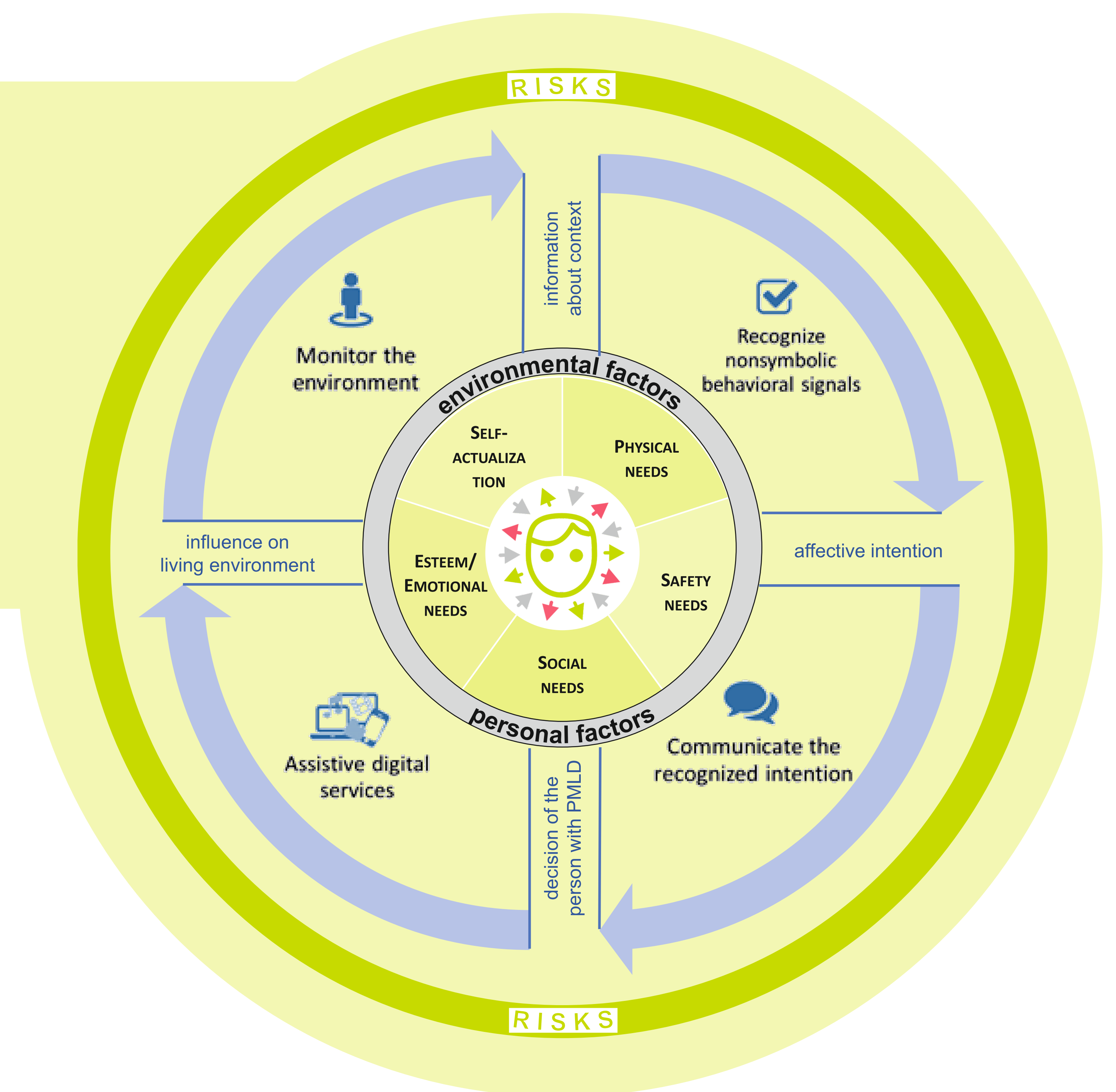
## CHARACTERISTICS OF THE TARGET GROUP

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 perceive and interpret 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 from different life stages 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 intelligence and Internet of Things, which appropriately used and integrated create an opportunity for an assistive technology of a new kind.



## THE INSENSION PLATFORM

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 monitoring and recognition technologies enabling to identify meaningful gestures, facial expressions, vocalizations and physiological parameters. In addition to these technologies, a paper-based assessment gathers data concerning the following areas:

- challenging behaviour
- preverbal communication
- mood
- pain
- pleasure
- displeasure/distress

Project duration: January 2018 – December 2020

## PARTNERS:



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