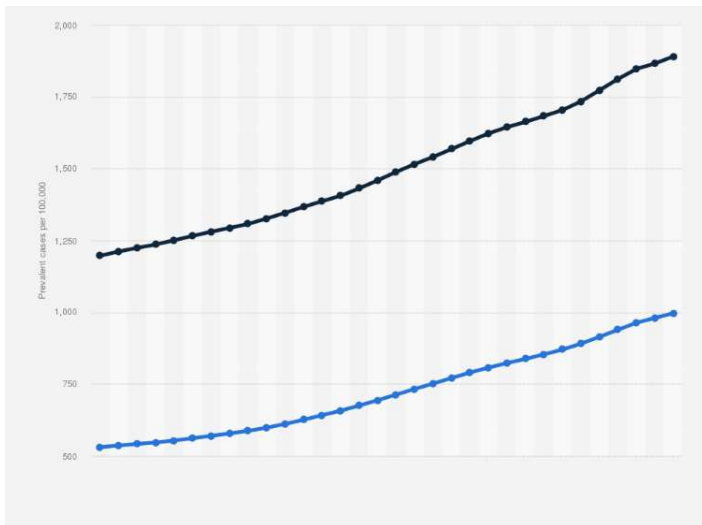# TEIDe

TAILORED EXERCISE INTERVENTIONS FOR DEMENTIA PREVENTION: BRIDGING RESEARCH EVIDENCE AND PRIMARY CARE PRACTICE

RUDOLF ERDEI PH.D. ENG.
INNOCOMP PROJECTS PANEL
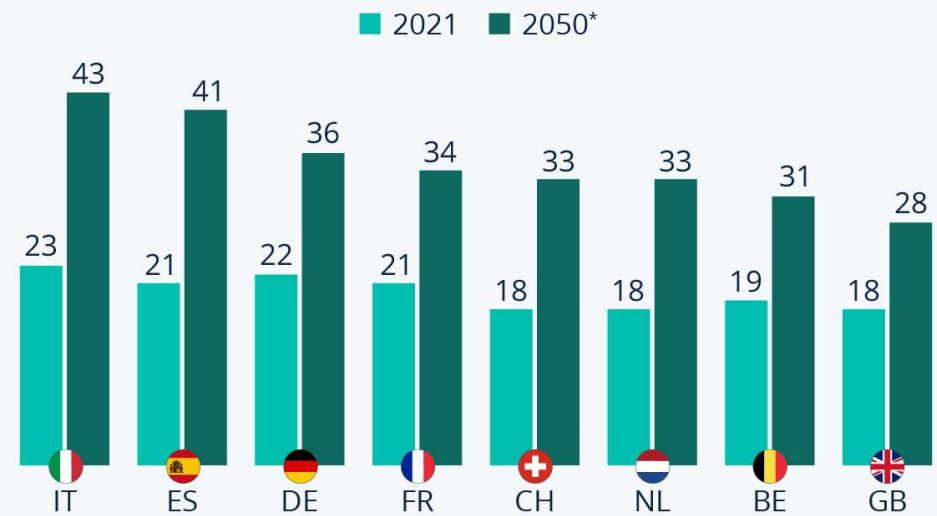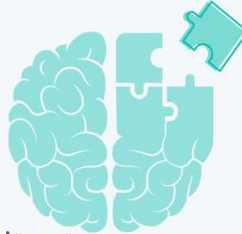24.OCT.2025

ERA4Health
Partnership

The Dementia Challenge

leading causes of disability and dependency among older adults

Europe Is Facing a Dementia Problem

Estimated population with dementia in selected European countries per 1,000 inhabitants

■ 2021 ■ 2050*

Country	2021	2050*
IT	23	43
ES	21	41
DE	22	36
FR	21	34
CH	18	33
NL	18	33
BE	19	31
GB	18	28

* Forecast for 2050
Source: OECD

statista

Comparison of Incidence rates

- Females
  - EU 13,25 > 13,22 World
- Males
  - EU 7,02 < 10,34 World

Costs

Family suffering, lost time with loved ones.

EU advanced healthcare systems and extensive long-term infrastructure => high costs.

Family burden of 50% – 90% of household costs, in at least 11 EU countries.

Overall worldwide cost projected to increase from $1.3 trillion in 2019 to $2.8 trillion by 2030.

What can be done to improve or prevent dementia?

Early Detection and **Personalised Prevention**

Exercise demonstrated to be a mitigation measure (both before and after diagnostic).

– What level/intensity?
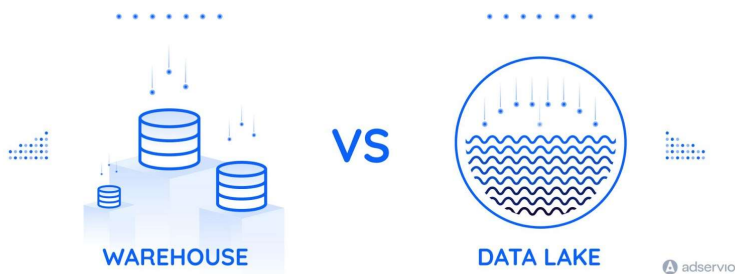– Can we tailor the exercises for each person individually?

Data is **fragmented** across *countries*, *studies* and *institutions*.

Sharing data is a huge issue, due to a very *high amount of personal data* involved.

We need
Novel Data Sharing Practices

WAREHOUSE **VS** DATA LAKE

adservio

Distributed Data Lake transition to Centralised Data Warehouse

Allows Privacy Enabled Data Sharing for Researchers:

| Study, Testing and Validation for various scenarios. | Development of Precision Medicine practices for Dementia. | **TEIDe DemAware App**: AI-based dementia risk scoring tool using population health data. | **TEIDe MoveMentor App**: Personalized exercise prescription recommender. |

Outcomes and Impact

Validated **dementia risk algorithm** + exercise manuals.
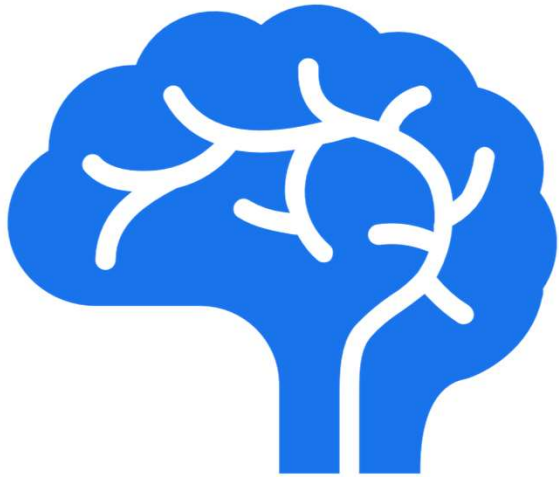
Scalable pilot across multiple EU countries.

Integrated **digital health tools** embedded in electronic health records, enabling **personalized dementia prevention** globally.

Extendible **platform** for other medical fields as well.

Conclusions

- Transforms decades of fragmented research into:
  - **Predictive Intelligence** for clinicians;
  - **Personalised interventions** for patients;
  - **Data-Driven Foundation** for global dementia prevention.

Thank you for your attention

ERA4Health Partnership

Rudolf ERDEI Ph.D. Eng.
rudolf.erdei@holisun.com

https://research.holisun.com