INTRODUCTION
SESSION SPEAKERS

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ACTIVAGE Project Deputy Project Coordinator
ACTIVAGE.ORG Board of Directors Chair
AIOTI WG Health Chair

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ACTIVAGE Project Users Manager
ACTIVAGE.ORG Board of Director member
Breaking barriers for a sustainable Active and Healthy Ageing through IoT technologies
EXPLAINING THE CONTEXT
ACTIVAGE PROJECT NUMBERS

- **Total recruited**: 7,746
  - **4,017 Older persons**
  - **3,729 Formal/Informal**

- **23,845 IoT devices**
- **9 Countries**
- **12 pilots**
- **LSP TARGET**: 7,200 users

**Devices and Features**:
- **Gateways**: 2,499
- **Environment Sensors**: 12,668
- **Wearables**: 730
- **Health/Alarms**: 1,432
- **Communic.**: 186
- **UI**: 2,255
  + 4075 non-categorized
ACTIVAGE.ORG ASSOCIATION

ACTIVAGE.ORG Association was created by decision of members of the European Project ACTIVAGE to be the instrument that will assume the ownership of the results produced by ACTIVAGE Project, to promote and drive the scale up the Active and Healthy Ageing services and technologies deployment in Europe and Worldwide, continuing and enlarging the evolution of all these results in all ambits of activity, and allowing project members to maximise the return of the investment for their contribution to ACTIVAGE Project and ACTIVAGE.ORG values, in the coming years.
ACTIVAGE.ORG ASSOCIATION
The Founder members

Dr. Professora Maria Teresa Arredondo
Dr. Maria Fernanda Cabrera
Dr. Giuseppe Fico
REPLICABILITY OPPORTUNITY IN DIH CONTEXT
### AHA-IOT Use Cases for Replication

<table>
<thead>
<tr>
<th>Use Case</th>
<th>Description</th>
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<tbody>
<tr>
<td>Living with freedom</td>
<td>Monitoring outside home</td>
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<tr>
<td></td>
<td>Support for transportation and mobility</td>
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<tr>
<td>Living safe at home</td>
<td>Daily activity monitoring at home</td>
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<td></td>
<td>Safety, comfort and Security at home</td>
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<tr>
<td>Preventing mental decline</td>
<td>Cognitive stimulation</td>
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<td></td>
<td>Exercise promotion</td>
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<tr>
<td>Taking care of diseases</td>
<td>Integrated care for chronic conditions</td>
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<tr>
<td></td>
<td>Emergency trigger</td>
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<tr>
<td>Promoting Social connections</td>
<td>Prevention of social isolation</td>
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IoT enabling technology: AIOTES

- Interoperability between IoT platforms
- Data Model for AHA-IoT
- Security and privacy
- Visual and Data analytics
- Development Support
- Deployment Management
- Monitoring
- Marketplace

Future of interoperable solutions: combining hardware, data and software freely to produce new services and solutions
Use case for replication - Valencia Deployment Site

**Daily living monitoring at home**

**Extended Architecture**

**Services & Apps in use**

**IoT Data collection**

- **Locations registered**: 120,370,545
- **Alerts configured in the system**: 8,200
- **App access events**: 221,425
- **Temperature/humidity readings**: 144,000,483
- **Notifications**: 721,502
- **Average app access per week**: 4,360
- **Data sent per person/day**: 3.3 MB
- **Dataset**: 136Gb

**+450 millions events**

**LOCs Indoor kit**

- **Senior citizens**: 11

**LOCs Family App**

**LOCs Dashboard**

**Service provider**
Use case for replication - Madrid Deployment Site

Preventing mental decline

Extended Architecture

<table>
<thead>
<tr>
<th>SERVICES, APPS &amp; INTERVENTION</th>
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<tbody>
<tr>
<td>Data collection</td>
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<tr>
<td>Geolocation &amp; public transport OD</td>
</tr>
<tr>
<td>1,316,147 events detected</td>
</tr>
<tr>
<td>+746 Mbytes of information</td>
</tr>
<tr>
<td>138 interactions detected with Transport OD</td>
</tr>
<tr>
<td>¿Cómo estás?</td>
</tr>
<tr>
<td>3,736 self-assessment surveys</td>
</tr>
<tr>
<td>Mindfullness</td>
</tr>
<tr>
<td>952 sessions displayed</td>
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<tr>
<td>Diviértete</td>
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<tr>
<td>+1,000 events offered to the users</td>
</tr>
<tr>
<td>Exercise</td>
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<tr>
<td>553 sessions detected</td>
</tr>
<tr>
<td>6,845 detected steps/day in average</td>
</tr>
<tr>
<td>1,854 calories burned in average</td>
</tr>
<tr>
<td>Coordination Physical Activity</td>
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<tr>
<td>2,586 sessions detected</td>
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<tr>
<td>MAHA App</td>
</tr>
<tr>
<td>87,601 User Actions performed</td>
</tr>
<tr>
<td>MAHA Dashboard</td>
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<tr>
<td>205 Dashboard sessions registered</td>
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<tr>
<td>Safety and secure areas</td>
</tr>
<tr>
<td>50 users with automated comfort areas created</td>
</tr>
<tr>
<td>17,874 events of risk automated detected: 629 High / 205 Moderate</td>
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</tbody>
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Personalized intervention plan

Example for a user

MOBILITY

PAIN DISCOMFORT

SOCIAL ISOLATION DEPRESSION

COGNITIVE IMPAIRMENT

LEVEL 2 SOME PROBLEMS

LEVEL 3 MANY PROBLEMS

LEVEL 1 MILD PROBLEMS

LEVEL 0 NO PROBLEMS

MAHA Dashboard

Formal carers

MAHA App

Senior citizens

Indoor Monitoring system

Balance Games
Use case for replication - Emilia Romagna Deployment

Extended Architecture

Site

Taking care of disease

Services & Apps in use

- Monitoring (regional eHR)
- Dashboard
- Detection of anomalies
- Videovisit

Equipment deployed

- 27 routers
- 101 Environment sensors
- 15 Health / Alarm devices
- Nr.1 software for remote exercise promotion

Total: 143 devices

IoT Data collection

Overall sensor events collected

18k Pill reminders

Elaborated measurement collected

1.5 M total
70 k user visible
186 h MTBF

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**SUMMARY OF REPLICABILITY POTENTIAL**

### MAIN FOCUS OF IMPACT ON REPLICABILITY

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>O1. AIOTES: IoT framework</td>
<td>100%</td>
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<tr>
<td>O2. Pilots: Best practices &amp; Know How</td>
<td>100%</td>
</tr>
<tr>
<td>O3. Evidence Building: continuous evaluation and KPIs</td>
<td>100%</td>
</tr>
<tr>
<td>O5. Ignite Market Grow and Future Sustainability Development of actual deployment projects</td>
<td>100%</td>
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Thank you for your attention