The Multilingual Virtual Simulated Patient (MVSP) is part of the "Leonardo da Vinci" subprogram of the Lifelong Learning Programme managed by the Education, Audiovisual and Culture Executive Agency (EACEA).

The MVSP is based on results obtained by the IAVANTE Foundation, the University of Granada and the Andalusian Centre of Innovation and Information and Communication Technologies (CITIC) from the "Virtual Simulated Patient" project, in which a "simulated patient" able to act and respond as a real patient would during a clinical interview was developed. Use of the MVSP will enable simulated patient methodology to be used in e-learning, and will complement staged simulation training.

The MVSP adapts the Spanish Virtual Simulated Patient to include six new EU languages (English, Italian, Portuguese, German, Hungarian and Bulgarian). In addition to being fully adapted to the mother tongue of each country, the MVSP also includes a second language, being that spoken by the majority immigrant population in each country (for example, a Turkish patient speaking German).
The MVSP simulates a clinical interview with a human patient, presenting symptoms of one or a combination of pathologies. Health Care Professionals specialising in primary care can interview these simulated patients just as a clinician would in a real consulting room, the aim being to both learn clinical interview methodologies and to develop differential diagnosis skills to detect diseases with very similar symptoms.

The patient's behaviour is based on coordinating different modules:

1. comprehension and generation of natural language
2. dialogue management
3. control of emotional state

And the MSVP is able to understand, react and respond, using natural language, to the questions posed by the professional. The MVSP can also express a variety of moods, depending both on the course taken by the interview and on the programmed pathologies.
What are the advantages of the MVSP?

The MVSP enables Healthcare professionals to receive e-learning training using simulated patients. This training usually uses human actors who portray possible pathologies; the new system both complements and extends the scope of this methodology. The main advantages of using the MVSP are: greater timetable flexibility (students do not have to coincide in time and place with the actor in order to conduct the interview); improved standardisation of patients (people with the same diseases will always respond with the same symptoms, including variations); and a greater scope for training (currently, this is restricted to the number of actors trained to enact a particular disease who are available at a given time).

The consortium respects and applies quality principles for achieving excellence, measured by the following indicators:

- Flexibility
- Effectiveness/efficiency
- Transparency
- Participation
- Innovation
- Relevance
- Documentation
- Coherence

How does this contribute to European Union policy?

The project contributes to European Union policy in the following ways:

- **It develops quality-based** lifelong learning and promotes high performance and innovation in systems and procedures used in the healthcare sector.

- **It improves the quality**, appeal and accessibility of lifelong learning courses, and caters for students with special needs and also those belonging to disadvantaged groups, irrespective of their social or economic origin.

- **It helps develop ICT-based content**, services, teaching methods and practices to stimulate innovation and creativity applied to learning methods.
What is the future of the MVSP?

The aim of the project is not only to use the Multilingual Virtual Simulated Patient in the field of healthcare, but to analyse the possibilities of applying it in other sectors using simulated interview techniques: tourism, sales, training for government officials, etc. The MVSP, therefore, can be adapted to fit specific settings, including: prison service/police training, call centre operators, customer service training, flight attendant training, and several applications in the service sector.

This substantially enlarges the scope of the project and its possible uses, enabling it to be transferred to other activities, further enhancing its functions and ensuring its future.

Who is behind the MVSP?

A consortium of eleven different organisations from eight European countries:

Spain: IAVANTE Foundation, part of the Ministry of Health of the Andalusian Regional Government

Germany: Institut für Lerninnovation (FIL NeuesLernen), Friedrich-Alexander-Universität Erlangen-Nürnberg

Italy: Dipartimento di Automatica e Informatica, Politecnico di Torino

The UK: Trueblue Consultancy with the Faculty of Health and Wellbeing, Sheffield Hallam University

Italy: Scienter Soc Cons. A.R.L.

Bulgaria: Katedra by farmakologia i Toksikologii, medicinski fakultet, Medinski universitet, Sofia

Finland: HCI Productions

Spain: University of Granada

Portugal: Faculdade de ciências da Saúde-Universidade-de da Beira Interior

Spain: CITIC

Hungary: Institute for Basic and Continuing Education of Health Workers