



UNIVERSITY OF LLEIDA STARTS DEVELOPMENT OF ROBOTIC PERSONAL ASSISTANT FOR THE DISABLED

- The aim of this R&D project is to enable professionals who work from home to have a virtual and mobile presence in the office and thereby participate in meetings and informal gatherings
- Indra, the Adecco Foundation and the UdL have renewed the collaboration agreement to further the activities of the Chair of Accessible Technologies Research, under which this project is being developed
- The Chair also contemplates progress in the HeadMouse and VirtualKeyboard projects, which together have been downloaded 400,000 times worldwide, and REM, which is a hardware device similar to glasses that enables the mouse to be controlled by eye movements

The University of Lleida (UdL) has started a new R&D project to develop a Robotic Personal Assistant (RPA) with the aim of enabling disabled people who mainly carry out their work remotely to be virtually present in companies and, moreover, by means of the robot be able to move around the office environment.

Thanks to this mobile robot equipped with a videoconferencing system, workers can use their home internet connection to immediately move about the company, listen and be heard by means of an audio system, see by means of a camera and be seen by colleagues on the screen. Accordingly, the RPA aims to facilitate teamwork for disabled employees who cannot be physically present at their office, as it enables them to participate not only in meetings but also in informal gatherings and downtime with their colleagues.

Technologically, the challenges to be met in the project are the design of the motive power system of the RPA to enable the mobile robot to move agilely and dynamically in an office environment, the mechanical design of the system, the definition and implementation of the movement control system, and the proposal and implementation of the basic version of the RPA remote control system.

This project is under the auspices of the Indra-Adecco Foundation Chair of Accessible Technologies of the UdL, which has the aim of developing innovative solutions and services to facilitate the integration of the disabled into work and social environments. This commitment to corporate responsibility has been strengthened this month through the renewal of the collaboration agreement, which was initially signed in 2008, between Indra, the Adecco Foundation and the UdL.

New versions of HeadMouse and VirtualKeyboard

Within the framework of this Chair numerous technological solutions have been successfully developed, including HeadMouse (virtual mouse) and VirtualKeyboard, which have been downloaded almost 400,000 times in 95 countries around the world, mainly Spain, Brazil, Chile, Mexico, Colombia and Argentina.



Moreover, work is continuing to further enhance this software. In fact, the new versions, *HeadMouse 4.2* and *VirtualKeyboard 3.2*, are now available for download on the Indra website www.tecnologiasaccesibles.com and the UdL site <http://robotica.udl.cat>.

The Indra-Adecco Foundation Chair of the UdL is also developing the REM project, a hardware device similar to glasses, which connects directly to a computer via USB and enables the user to control the movement of the cursor with his eyes. A functional prototype is being evaluated and work is under way to enable the device to write text by means of the VirtualKeyboard solution with the least effort possible.

Indra in Catalonia

Indra employs nearly 3,000 professionals in Catalonia at its eight work centres in the provinces of Barcelona and Lleida. Its regional office is located in Barcelona's 22@ technological district, where it was one of the first companies to establish a presence.

It has a Software Lab at the Scientific and Technological Park in Lleida that, as part of Indra's Software Lab global network, supports the company's operations throughout the world. It also has a Help Desk Service in Lleida that provides 24/7 support for companies located both in Spain and abroad.

4.1% of the total population of working age (16 to 64) are disabled.
(INE data, 2011)

Additional information

Indra is one of the world's largest consultancy and technology multinationals, a leader in Europe and Latin America and is expanding in other emerging economies. Innovation is the cornerstone of its business, which is highly focussed on the customer and on sustainability. The multinational is one of the leaders in its sector in Europe in terms of investment in R&D and innovation, having invested more than €550M in the last three years. With sales approaching €3,000 million, it employs 42,000 professional and has customers in 128 countries.

The University of Lleida is a public institution with an approximate number of 9,932 students and a teaching staff of 1,114 professionals. It is made up of seven internal centres and two affiliated centres. The University of Lleida is ranked seventh in Spain in terms of the impact of its scientific production, according to the latest report of the Knowledge and Development (CYD) Foundation (issued in 2012).

The Adecco Foundation was constituted in July 1999 to implement the social responsibility that Adecco assumes as the world leader in the management of human resources. Its main objective is the inclusion in the job market of people who find it harder to gain employment.

The Adecco Foundation has work placement programmes for:

- The disabled
- The long-term unemployed over the age of 45
- Single mothers and victims of gender violence
- Other groups at risk of social exclusion



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