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Gobierno de Navarra
Departamento de Educación
Fondo Social Europeo

Multilateral Project of Transfer of Innovation "Remote Workshop of Communications" (Reworcom)

Innovative results to be adapted, developed and transferred

With the current Project, a new strategy for an education of technological nature is presented. This strategy is based in the use, in a broad and collaborative way, of a technical platform, developed by the Polytechnic Integrated Centre "ETI" from Tudela (Spain). This platform, in addition to some industrial equipment, constitutes the Remote Workshop of Communications.

The idea to develop and build this platform emerged some years ago, as a consequence of the requirement from the students of electricity and electronics to perform practical activities out of the regular classes' timetable. The demanded practical activities were basic electricity, analogue and digital electronics.

The first step was the STUDENT'S PERSONAL ELECTRONIC BOARD, to allow the students to develop a part of the practical activities of their training at home. This possibility hadn't been posed until that moment, neither in our educative institution but nor at a national scale. This electronic board allows the student to be in charge of a minilaboratory in his/her own house as an extension of the workshop of practical training in the educative institution.

We performed an Innovation Project subsidized and supported by the Department of Education of the Government of Navarre. As a result, the "EPA" was achieved: ENTRENADOR PERSONAL del ALUMNO or STUDENT'S PERSONAL ELECTRONIC BOARD.

The use of the EPA was such a success in the learning process of the students that afterwards a continuation of the Project was requested. This new step consisted of the expansion of the electronic board towards new possibilities in the analysis and training in the new communication technologies: USB, BLUETOOTH , I2C, TCP/IP , WI-FI, GPS y GSM.

An extension of the Project was achieved and new expansion circuits for the electronic board were developed to train the students in the mentioned communication systems. Those added circuits were unavailable in the nacional market in an educative format. Complementary circuits were developed for communications Technologies like USB, BLUETOOTH , I2C, TCP/IP , WI-FI, GPS y GSM, including the technology CAN bus because of its importance in the automotive industry.

Again, the success of this extension of the project boosted a new step forward.

To achieve a maximum efficiency from the important investment into the training equipment of our educative institution, and with the purpose of permitting its use 24h a day, the idea of a Remote Workshop emerged. This workshop could be used by the students out of the regular classes' timetable. This Remote Workshop could also be operated by workers, who due to their work schedule couldn't develop practical training on site. On the other hand, the collective of unemployed people could also profit from this innovation, being able to participate in the process of technological update, using the new Technologies of information and communication.

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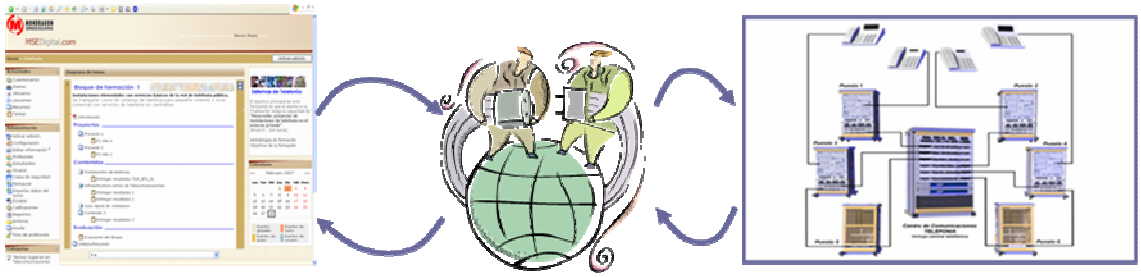
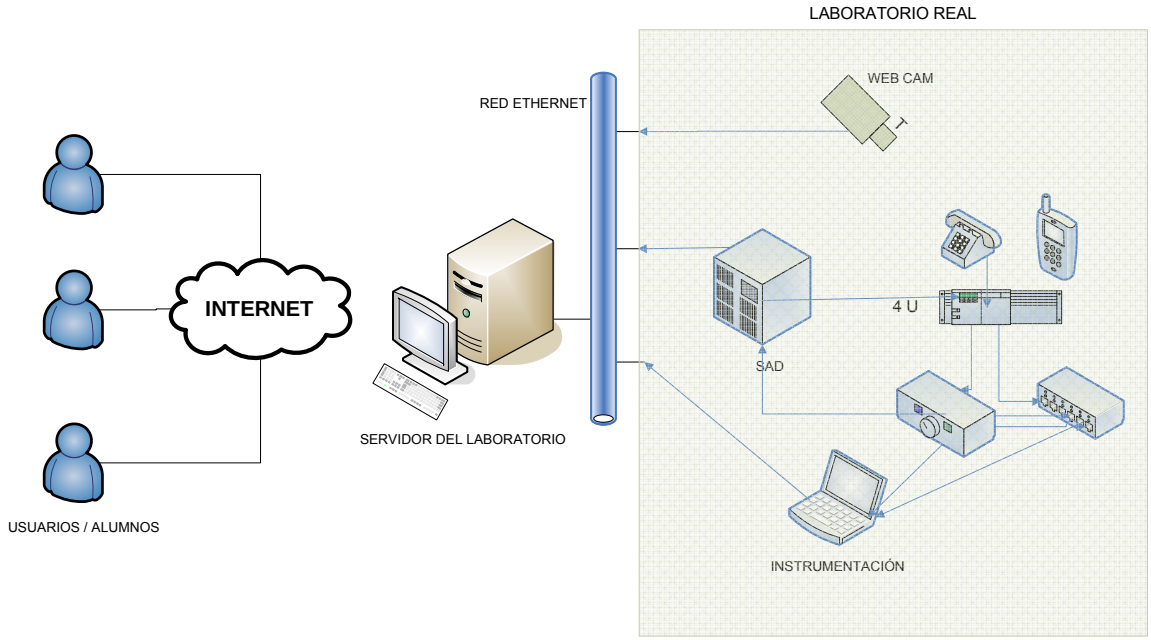
This was the origin of the Remote Workshop of practical training, able to provide with a service so far unthinkable, and to increase the profitability of the equipment, thanks to its 24h a day use. This concept is presented in the following picture:





This system of practical and remote training offers a range of possibilities that cross the national borders. We want to transfer our knowledge and achievements to the other countries of the European Union and even to the rest of the world.