

INNOVATION PROJECTS OF THE VICE-MINISTRY OF VOCATIONAL TRAINING OF EUSKADI

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Tknika

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CPES SOMORROSTRO BHIP
CPES ZABALBURU BHIP
CEPS NAZARET BHIP

SST 4.0 II: artificial vision for the well-being of the person in the workplace (psychosocial risks and technostress)

Its objective is to advance the use of artificial intelligence and vision for the development and improvement of a tool that allows people to identify signs of general psychosocial discomfort and discomfort caused by cyber stress in their jobs.

CPIFP SAN VIATOR LHIPI
CPIFP SOMORROSTRO LHIPI

CYBER-CAR Cybersecurity in vehicles

Its objective is to make a first approximation to cybersecurity in the automotive field.

The aim is to identify the most relevant technical bodies for standardisation, projects and initiatives related to cybersecurity, in the field of connected and automated mobility, particularly in connected and automated vehicles and intelligent transport systems involving communication and connectivity technologies.

CIFP TARTANGA LHII
CIFP HARROBIA LHIPI
CPIFP CEINPRO LHIPI

Automated system for real-time integration of in-camera images with virtual environments

Implementation of automated systems for the integration and visualisation in real time of camera images with virtual environments generated by a computer. Applicable in immersive classrooms, digital content creation classrooms, for the teaching-learning process and projects that meet the needs of any training course in the network of vocational training centres.

CIFP USURBIL LHII
CPIFP SAN VIATOR LHIPI

THERMO-BATT: Application of digital thermographic technologies for the study of Lithium-Ion storage systems

This will involve the study of Lithium-Ion energy storage systems in microgrids powered by renewable energy systems through the application of advanced digital thermographic technologies.

All of this oriented towards three well-defined objectives: detection of temperature gradients as a method of surveillance to prevent possible fires, preventive maintenance of storage systems and co-diagnosis together with conventional communication systems with BMS for an advanced and optimal repair.

CIFP DON BOSCO LHII
CPIFO LA SALLE BERROZPE
LHIPI

Remanufacturing360 - Digital appliance maintenance

Repair and recovery to remanufacture waste electrical and electronic equipment from society 4.0 through the digitisation of equipment in immersive environments with virtual reality.

CPIFP CALASANZ LANBIDE
IKASTEGIA LHIPI
CPIFP ZABALBURU LHIPI
CPIFP HARROBIA LHIPI

Intelligent Virtual Agent for the Improvement of the Understanding of Basque in the Health Field (AVIME)

Creation of a conversational system in Basque with natural language recognition in a virtual environment for the practise and improvement of the linguistic competence of health professionals in different scenarios.

CIFP ANDRA MARI LHII
CIFP BARAKALDO LHII
CPIFP TXORIERRI S. COOP.
LTDA. LHIPI

Generation of virtual scenarios for cybersecurity practices in OT environments

The project consists of the design and implementation of different scenarios that represent the operation of a critical infrastructure at the level of operational technologies. Using these scenarios, various attack and defence challenges will be considered, taking place within a cyber range that will serve to raise awareness and train students and company workers in key aspects of cybersecurity.

CPES SALESIANOS URNIETA
BHIP
CPIFP MARISTAK DURANGO
LHIPI

No-Code: Transformation of digital skills

This involves discovering the potential for digital transformation that Nocode offers us in vocational training and in education in general. It aims to have a dramatic impact on the digital inequalities of vocational training teachers in the Basque Country. At the same time, it aims to promote and accelerate the flow that facilitates and enables innovation and entrepreneurship.

CPES ARRATIAKO ZULAIBAR
LANBIDE IKASTEGIA BHIP
CPIFP SOMORROSTRO LHIPI
CPIFP MARISTAK DURANGO
LHIPI

Mobile collaborative robotic assembly design

Design of an autonomous mobile collaborative robotic assembly to carry out cleaning and distribution of materials from the warehouse to work areas. Communication interface design and work data collection.

CPIFP IRUNGO LA SALLE
LHIPI

Edge maintenance app. Moving towards efficient maintenance

This project aims to improve predictive maintenance based on edge computing technology. It consists of the real-time acquisition of measurements of vibration generated during industrial processes, making important use of this digital data by analysing it through local processing units and facilitating decision-making regarding predictive maintenance.

CIFP ELORRIETA - ERREKA MARI
LHII
CIFP TXURDINAGA LHII

Retrofitting of manufacturing machines for composite machining

Development of a prototype for machining composites and other new materials and verifying the process.

CPIFP MONDRAGON GOI
ESK.POLITEK.,
J.M.A.,S.COOP LHIPI

From STEP242 towards the CMM digital twin (STEP-CMM)

This project aims to work with the STEP242 and QIF standards and with the digital twins of the Coordinate Measurement Machines (CMM) used in metrology. The development will be carried out with NX and MiCAT Planner, with the participation of Ekide and Sariki.

CIFP USURBIL LHII, CIFP DON
BOSCO LHII ETA CPIFP
LEA-ARTIBAI LHIPI

Internet of things: smart refrigerators

Characteristics of smart refrigerators and design of a prototype with control through Raspberry and Arduino technology.

CIFP SAN JORGE LHII

EKONOBERRI: Trust-tech and marketplace with new economic trends

It is proposed to create a marketplace on a smaller scale, based on trust-tech type technology. The objective is to create an economic-financial culture based on the new DeFI (decentralised finance) trends. Its purpose is to provide knowledge, confidence and a solid financial education for future professionals in the Basque Country.

CIFP ARMERÍA ESKOLA LHII
CIFP MIGUEL ALTUNA LHII

A Digital Twin as a resource for immersive-interactive rooms

The aim is to develop the digital twin of the centre's mechatronics equipment, synchronising the NX MCD mechatronics module and the automation programs (TIA Portal), as a training resource, integrating it into an immersive and interactive room.

Apart from the development of the project, the students of the Smart Manufacturing course will enrich their curriculum by learning to develop a digital twin, and the Mechatronics and Industrial Automation students will use this resource as additional equipment in the immersive and interactive room as a more efficient, understandable and motivating training experience.

CIFP TOLOSALDEA LHII

Assembly and application to quality control of large and complex forming assemblies based on advanced manufacturing and digitisation

Application of technological solutions that simultaneously guarantee the correctness of the manufacturing process and the dimensional measurement of large, highly complex and precisely formed parts using industry 4.0-based technologies. In other words, the development of technological solutions that make it possible to guarantee dimensional control in the manufacturing and assembly process itself based on the digitisation of

CIFP ARMERÍA ESKOLA LHII
CIFP MIGUEL ALTUNA LHII

Making a Delta (spider) robot with S1500T PLC and S210 servo motors

This involves manufacturing a Delta Picker-type robot using motion control drives and a Siemens S71517TF PLC, parts created by machining or additive manufacturing, and commercial parts. The robot design will be simulated and validated through a digital twin and will combine most Industry 4.0 technologies (RFID reader, vision system, IoT, integrated safety).

CIFP ARMERIA ESKOLA LHII
CIFP FADURA LHII

Verification of the part using laser technology, automatically compensating for errors in the part in the machine tool itself

The project is based on measuring parts using the Vici Vision laser curtain machine, carrying out automatic compensation in the machine tool itself.

CIFP CONSTRUCCIÓN LHII-
ERAIKEN
CIFP CIUDAD JARDÍN LHII

Augmented Reality applied to Sustainable Air Conditioning

The EU is promoting sustainable air conditioning by switching to refrigerants with lower global warming potential and implementing more energy efficient systems. This brings with it the challenge of adapting work procedures, focusing particularly on their safety. Augmented reality could prove to be the ideal vehicle to help in this transformation.

CPES SOMORROSTRO BHIP

VirtualBOT system to reproduce robot simulations in virtual reality

Incorporation of the assembly and real characteristics of the environment for carrying out simulations of both industrial and mobile robots, carrying out a real simulation visible with 3D glasses.

Implement a new methodology for programming robots, with accessible software and with this being the same for all robots, adapting to the existing reality both at the centre and in any other scenario.

CIFP MIGUEL ALTUNA LHII
CIFP TOLOSALDEA LHII

Integration of new communication channels between people and industrial facilities through Artificial Intelligence applied to voice recognition

Integration of new communication channels between people and machines in different types of facilities through Artificial Intelligence applied to language processing. In this way, it will be possible, by means of cognitive technologies, to provide the facilities with a more natural communication channel, more accessible to people with physical limitations.

CIFP USURBIL LHII

Generation of 3D content and digitisation in thermal installations

Monitoring and processing of data for solar thermal, water, gas and heat production installations.

Generation of 3D content in solar thermal, water, gas and heat production installations, developing models provided by DANFOSS and INNOVAE.

CIFP SAN JORGE LHII

Mind-robot communication

Humanoid robot printed in 3D and controlled by the Arduino micro-controller, capable of interacting with people through thought.

CIFP TXURDINAGA LHII
CIFP CIUDAD JARDÍN LHII

INTELLIGENT SHOP WINDOWS 4.0: Artificial Vision applied to the analysis of the performance of shop windows

Acquire and collect knowledge related to Artificial Intelligence for transmission. Design, build and implement a functional system that analyses the behaviour of pedestrians in front of a shop window and the influence of the latter in the attracting of customers.

CIFP POLITÉCNICO EASO
POLITEKNIKOA LHII

Digitisation of heritage, dissemination in a metaverse and tokenisation through blockchain

This project revolves around three main axes: digitisation of artistic and/or natural heritage (using laser scanners, photogrammetry and drones), tokenisation of fungible and non-fungible assets, and migration of 3D models to Mixed Reality (VR&AR) and metaverse

CIFP MIGUEL ALTUNA LHII

Teaching assembly, disassembly and operational processes through augmented reality

This project is based on developing teaching activities involving the assembly, disassembly and operation processes of the sub-assemblies through augmented reality. The objective of the project, in addition to its incorporation in the curriculum of the mechatronic cycle students, is to present this tool to companies, collaborate in the activities and act as a training resource for both staff and students.

CIFP MIGUEL ALTUNA LHII

Digital retrofitting II

Design a global model of transformation of an industrial process to industry 4.0 digital and connected environments, define its road map and use an injector in the school workshop as a pilot test of scalability

Transfer to the workshop from a general model designed to transform an industrial process to the digital environment 4.0.

CIFP IZARRAITZ LANBIDE
HEZIKETA LHII

Advanced Digital Twins

Construction of digital twins of mechatronic processes in collaboration with the Izarraitz Professional Training and the Xanti Rodriguez Studio through the Simumatic and Nvidia Omniverse Digital Twin platform.

CIFP DON BOSCO LHII

Augmented sheet metalworking

Through Augmented Reality, a number of shaped parts will be made using sheet metalworking (with curves and folds) and we will compare the results obtained (price, time, ease, operator training, quality control, etc.) with those of a manufacturing company in our area (with a traditional manufacturing system). The impact of this facilitating technology on the quality and competitiveness of SMEs that work in sheet metalworking

CIFP EMILIO CAMPUZANO
LHII
CIFP MENDIZABALA LHII

Blockchain technology: Non-Fungible Tokens in Graphic Arts

Creation of an ecosystem of experimentation and innovation in digital art based on Blockchain/NFT technology within the public vocational training network that can serve as a boost to small cultural and creative industries in our area. The main objectives also include the improvement of the qualifications of the teaching staff and the employability of the students, mainly in the graphic arts sector.

CIFP CONSTRUCCIÓN LHII-
ERAIKEN
CIFP TOLOSALDEA LHII

Monitoring of the production of domestic hot water from various renewable sources

Carry out a comparison, at different times of the year, with monitored data, to find the best alternative to DHW generation through various renewable energy sources. Different renewable energy technologies will be compared, measuring their behaviour in different climatic environments in the Basque Country for DHW production. The comparison will be carried out by assessing the performance and energy efficiency of the different alternatives. To do so, the energy production and consumption of the systems and their fluctuation will be monitored based on the different environmental variables collected in each climatic zone. For the monitoring and data processing, IOT and IOM applications will be used.

CIFP MIGUEL ALTUNA LHII

Acquire an in-depth understanding of the automated metrology solutions of the 4.0 workshop, adapting them to the context of a vocational training educational centre, building a system that automatically assesses and awards a mark for the parts manufactured by the students

In digitised and connected factories, it is important to know how to get the most out of and combine the different instruments and machines capable of carrying out automatic measurement. The objective of this project is to put all this into practice, focusing on the parts that the students machine in the workshop course subjects, creating a system that automatically gives the final mark to the batch of parts manufactured by the students, taking into account the grading method that teachers use to award the mark.

CIFP TXURDINAGA LHII
CIFP CIUDAD JARDÍN LHII
CIFP ELORRIETA-ERREKA MARI
LHII

Design and implementation of Knowledge Management Systems, Automation and Digitisation of Processes adapted to Integrated Vocational Training Centres

Analysis, definition and implementation of a KMS, or Knowledge Management System, for Integrated Vocational Training Centres that allows the analysis, classification, storage, recovery, sharing and distribution of the knowledge and information of each centre, with the aim of improving understanding, collaboration and alignment of all processes.

The system, designed and built with no-code tools, will allow the organisation of educational centres to leave behind communication based on email and storage in shared folders or physical resources and, following a new paradigm or model of communication and task planning, will be capable of capturing, distributing and making effective use of the organisation's knowledge, through the use of databases, policies, procedures, specialist knowledge and individual experiences, all digitised and automated in order to dispense with the classic procedures based on physical documentation, analogical signatures, etc.

CIFP IKASKUNTZA BIRTUAL
ETA DIGITALIZATUEN
LHII-BIRTLH
CIFP ZORNOTZA LHII
CIFP UNI EIBAR-ERMUA LHII

FPCloud: Cloud computing for the vocational training in the Basque Country

FPCloud will be the infrastructure that will allow the use of the resources of the Basque Country's vocational training centres from anywhere: software (applications, simulators, etc.), virtual desktops, graphic accelerators, printers, IoT, robots, etc.

CIFP USURBIL LHII

Use of Augmented Reality to help the teacher interpret Big Data based on the workshop lathe ThingsBoard and a Digital Twin approach

So that the teachers using Big Data collected in THINGSBOARD through the machining lathe by means of a sensor can visualise the student's progress in the learning process in real time by means of the HTC Hololens glasses, providing the teacher with data processing schematic and predictive tools to interpret this data. Reading and interpretation of QR codes for the different functions of the machine through Hololens. Diagnosis through the company INMERSIA for the creation of the digital twin for the lathe.

Develop actions that complement the work we are doing in the Workshop 4.0 area of specialisation.

CIFP BIDEBIETA LHII
CIFP ZORNOTZA LHII

Expansion of the work area of the Artificial Vision camera of the Universal Robot robot and the development of its Digital Twin

The objective of this project is to take advantage of the potential of collaborative robotics. To do this, first, a longitudinal axis will be incorporated into the robot to expand the work area of its artificial vision camera and, second, its digital twin will be developed to create a cyber-physical system.

CIFP USURBIL LHII

5.0 Digital Twin of the cell

It is proposed to carry out a retrofitting of our automated industrial cell, to adapt it to the concept of Industry 5.0. The knowledge acquired in the area of Internet of Machines (IoM) specialisation, THINGSBOARD local data collection, and Industrial IoT for cell maintenance will be implemented in this cell, creating a digital twin of the cell and taking into account environmental criteria.

CIFP INNOVACIÓN SOCIAL LHII

DRIVEWORKS: Design automation

Optimisation and automation in industrial design. Development of parametric or automated design in repetitive design change processes for new product versions and to be able to create, design and configure to order, generating technical sales documents and specific manufacturing data in an automated way.

CIFP REPELEGA LHII

Robotised Clinical Laboratory

Implementation of an automated clinical laboratory through the use of robots, minimising the risk of sample contamination and repetitive work. Simulation with digital twins.

CIFP BIDEBIETA LHII
CIFP ZORNOTZA LHII

H2FP Broadening horizons in knowledge about hydrogen

Study of Internal Combustion Engines (ICE) and use of hydrogen fuel cell (FC) vehicles for teaching purposes, creation of a functional model of a hydrogen vehicle with a range-extender system with the aim of improving the scientific and technological capacities of the network of vocational training centres.

CIFP DON BOSCO LHII
CIFP HARROBIA LHIPI
CPIFP CEINPRO LHIPI
CIFP SAN JORGE LHII

Virtual reality for the production of drugs for advanced therapy

To create an immersive educational environment through the creation of a virtual reality simulator for manufacturing advanced therapies. It will provide an additional opportunity for the training of students since it will allow them to practice specific work procedures that are followed in the manufacture of medicines in facilities similar to the real ones, according to proper manufacturing standards and in compliance with the strict quality systems required in these processes.

CPIFP JESUITAK
POLITEKNIKOA LHIPI

Application of Artificial Intelligence to the design of personalised therapies through the analysis of bacterial microbiomes

To support the design of more precise and personalised therapeutic treatments based on the analysis by artificial intelligence (AI) of massive data relating to the alteration of the lung microbiomes and various clinical indicators in response to the applied treatments, and thus acquire knowledge that will contribute to updating the contents of the vocational training courses. To do this, the bacterial composition of the lung microbiomes of patients with Cystic Fibrosis (CF) will be determined by metagenomic sequencing, and databases will be created that are incorporated together with various clinical health indicators and the treatments applied so that they can be used for the development of an AI-based predictive algorithm that could assist in the preparation of drug cocktails that increase the efficacy of treatments and reduce possible side effects.

CIFP POLITÉCNICO EASO
POLITEKNIKOA LHII
CPIFP CALASANZ LANBIDE
IKASTEGIA LHIPI

Hortzen ama zelulak: stem cells of dental origin aimed at facilitating wound healing and tissue regeneration

The project aims to create a collection of stem cells from the pulp of teeth extracted from healthy individuals that will allow progress to be made in tissue regeneration research. This process requires the extraction, collection, transport and preservation of the samples based on specific protocols, as well as the creation of all the associated health documentation. In a second phase, it is intended to investigate how 3D bio-printing can facilitate tissue regeneration.

CPES ARANGOYA BHIP
CPIFP CEINPRO LHIPI

ENIVIAN, Virtual Immersion Environment for the anatomy

The aim is to develop a virtual environment that simulates the performance of autopsies, so that this environment can be used by professionals in the field of pathological anatomy and cytodiagnosis as well as by students from different courses who are studying subjects related to anatomy.

CPIFP PEÑASCAL LHIPI

e-RREKUPERATU: Energy recovery by means of ventilation ducts in buildings

The project consists of developing a virtual reality environment that reproduces an autopsy room in which knowledge about human anatomy can be increased or acquired.

CPIFP TOLOSAKO
INMAKULADA LANBIDE
IKASTOLA LHIPI
CPIFP CALASANZ LANBIDE
IKASTEGIA LHIPI

Health services based on digital network architecture

This is a project that offers health services based on advanced digital network architecture, developing a pilot project for the integration of remote monitoring and tele-rehabilitation, enabling the creation of a practical classroom of databases and information systems.

CIFP POLITÉCNICO EASO
POLITEKNIKO LHIPI
CPIFP TOLOSAKO
INMAKULADA LANBIDE
IKASTOLA LHIPI
CPIFP CEINPRO LHIPI

VIRTUAL-EI

Focusing on emotional intelligence, we will work on the emotional regulation and the social skills of vocational training students necessary for the world of work through immersion experiences (VR), improving communication, collaboration, productivity, leadership and the work environment of companies and workers.

CPES ARANGOYA BHIP

DIGICITO. Creation of a digital cytological atlas

The project consists of developing a web page with a repository of cytological images obtained by the scanning of preparations, with the additional aim that it will be an interactive tool with which to learn and increase knowledge about cytology.

CPIFP CENTRO DE ESTUDIOS
A.E.G. LHIPI
CPIFP LA SALLE BERROZPE LHIPI
CPIFP NAZARET LANBIDE
HEZIKETA LHIPI

Physiotherapeutic textile

To develop a medical textile fibre that, through its microstimulation, is able to prevent and treat ulcers and wounds occurring on the skin of patients.

CPIFP TOLOSAKO
INMAKULADA LHIIPI
CIFP PLITÉCNICO EASO
POLITEKNIKOA LHII
I.E.S. PLAIAUNDI B.H.I.

Technological proposal of life histories applied in residential centres

To carry out a pilot test in residential homes and day-care centres, based on the Person-Centred Care model and a digital life story, creating a free bilingual tool for this purpose, and fully addressing the socio-emotional and cognitive needs and motor skills of the user through Virtual Reality and the Snoezelen multisensory room, providing added value to the care centre.

I.E.S. PLAIAUNDI B.H.I.
CPIFP LEA-ARTIBAI LHIIPI

Probiotic drink for the health of the 3rd age

Development of a probiotic drink based on kombucha with the aim of positively impacting the health of consumers, especially elderly people, as well as helping to prevent dehydration in this group. Several drinks will be created and a physical-chemical and organoleptic analysis of them will be carried out and an attractive drink for the consumer selected. For the analysis of its effect on health, a frequency of consumption will be established and analyses will be carried out. The use of waste within the circular economy will serve to obtain new by-products.

CIFP DON BOSCO LHII
CIFP MONTE ALBERTIA LHII

Circular economy of hair

This project would have 2 general objectives: first, to guide tools, systems and actions to publicise the challenges of the circular economy in the beauty sector; and second, to provide new uses and applications for hair waste as biofilters of chemical pollutants emitted in the beauty sector.

IES ZARAIBE BHI
ERAIKEN - CIFP CONSTRUCCIÓN
LHII

Life and permanent adaptation

Within the framework of healthy ageing and/or functional diversity, we will focus on developing a friendly space that can be used as a classroom-workshop that meets the requirements of an intelligent, automated home with robotic assistance and that is also safe and sustainable.

CIFP POLITÉCNICO EASO
POLITEKNIKOA LHII
CIFP DESARROLLO
SOSTENIBLE EDIFICIO
INTELIGENTE EAGI LHII

Technological, digital and socio-health innovation for integrated and adapted housing environments that facilitate active and healthy ageing

In this project, within the framework of healthy ageing as a transversal and trailblazing initiative, we focus on the environment of the home, with the aim of addressing the adaptation and integration of these spaces that surround the home and, in this way, collaborate to improve the autonomy and active and healthy ageing of elderly and disabled people through different groups of vocational training professionals.

I.E.S. PLAIAUNDI B.H.I.

BIO in YOU. Development of a bioanalytical device for personalised, precision medicine in the treatment of infectious diseases

To promote personalised, precision medicine in the treatment of infectious diseases. For this purpose, work will be carried out on the development of low-cost devices for the rapid quantification of antibiotics in blood. This will be done in collaboration with experts from the UPV/EHU and the company Alba Biotech SL.

CIFP MURGIA LHII
CIFP AGRARIO
ARCAUTE/ARCAUTE
NEKAZARITZA LHII
CIFP FRAISORO ESKOLA LHII
CIFP AGRARIO DERIO/DERIO
NEKAZARITZA LHII
CIFP BIDASOA LHII
CIFP CIUDAD JARDÍN LHII

Digitisation of the Basque primary sector

The project will constitute the driving force for the introduction in the primary sector of the Basque Country of digitised processes that contribute to bringing the sector up to date in both the productive and training spheres.

CIFP POLITÉCNICO EASO
POLITEKNIKOA LHII
IES PLAIAUNDI BHI

IKUZAIN Digital Health Assistant 4.0.

The project aims to design a medical device that allows Health Emergency Technicians, Auxiliary Nursing Technicians and Technicians Caring for Dependent People, present with the patient either at the scene of the emergency or in their home or institution, to contact the health professional located at the Emergency Coordination Centre (112), health centre or hospital. This contact will be made directly and securely through a specific program that allows the transmission of images and sound and that also digitises the information obtained. This will allow more complete healthcare and socio-health care to be provided by the technicians.

CIFP TXURDINAGA LHII
CIFP CIUDAD JARDÍN LHII
CIFP MEKA LHII

IoS Reminiscence - Reminiscence therapy through the Internet of the senses

IoS Reminiscence offers an immersive cognitive experience with the aim of working with reminiscence with people with reduced mobility and/or cognitive impairment, helping to reinforce identity, increase self-esteem and avoid the risk of flight of these people. To achieve this, personalised vinyl stickers will be used to cover spaces in a residence together with the Internet of the senses through augmented reality and the emission of fragrances.

CIFP HOSTELERÍA
LHII-GAMARRA
CIFP AGRARIO
ARKAUTE/ARKAUTE
NEKAZARITZA LHII

Design of the first application to unite and manage the agricultural, gastronomic and healthy eating sectors

Within the framework of digitisation to leverage educational transformation and continuous improvement and the Comprehensive Plan for a Green Transition, this project aims to design and develop an application that links different vocational training families, the agricultural and gastronomic sector, in a way that allows different levels of users (teachers and students, professionals and consumers in general) to manage their resources in an innovative way.

CIFP DON BOSCO LHII, CIFP
POLITÉCNICO EASO
POLITEKNIKOA LHII

Eki, a humanoid robot that helps in centres for elderly people

With the cooperation of the Provincial Council of Gipuzkoa and Villa Sacramento, the possible use of humanoid robotics in centres for elderly people will be investigated. The EKI humanoid robot will be programmed to guide the daily physical activities of people who live in centres for the elderly and to help them remember the actions they must carry out throughout the day to improve or maintain their physical and cognitive health, with the aim of promoting active, healthy ageing and the prevention of frailty.

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CIFP ANDRA MARI LHII
CIFP BIDEBIETA LHII
CIFP IURRETA LHII

Implementation of the hyperledger fabric system promoted by vocational training to support the circular economy in industrial areas

Creation of a circular economy model for SMEs and micro SMEs in mechanical manufacturing in the Basque Country, and the training of vocational education students with this model. The model will be developed in a digital format and the Hyperledger Fabric system will be developed for the certification of each circular economy task. A new communication channel will be created for the digital certificate of the different institutional groups.



Tknika

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