isla

instituto politécnico de gestão e tecnologia

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polytechnic
university

RESEARCH AND DEVELOPMENT – PROFILE AREAS

- ➢ **INFORMATION SYSTEMS**

- ➢ **BUSINESS, ENTREPRENEURSHIP AND MANAGEMENT**

- ➢ **SAFETY, QUALITY AND ENVIRONMENTAL ENGINEERING**

- ➢ **STATISTICS AND COMPUTATION**

- ➢ **INNOVATION IN THE SOCIAL SCIENCES**

- ➢ **SUSTAINABILITY**

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RESEARCH AND DEVELOPMENT – INVOLVING STUDENTS

➢ **OPERATIONAL PROGRAMME FOR HUMAN CAPITAL (POCH)**

      1. COOPERATION NETWORK AND GOOD PRACTICES IN HEIS

      2. INTERNSHIP AND JOB OFFER MANAGEMENT SYSTEM

      3. ALUMNI SOCIAL NETWORK - CAREER MANAGEMENT

      4. SUPPORT SYSTEM FOR THE DEFINITION OF TRAINING PATHS (UC AND MICROCREDIT)

      5. WEB APPLICATION TO SUPPORT THE TUTORING SYSTEM

      6. BLOCKCHAIN AND DIGITAL SIGNATURE SUPPORTING REMOTE ASSESSMENT SYSTEMS IN THE SCOPE OF HEIS

      7. SCIENTIFIC PRODUCTION COLLECTION SYSTEM

      8. CREATION OF HYBRID AND ACTIVE TRAINING ENVIRONMENTS

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RESEARCH AND DEVELOPMENT – INVOLVING STUDENTS

➢ APP FOR CARBOHYDRATE CONSUMPTION MANAGEMENT

➢ PLATFORM TO SUPPORT A NETWORK FOR COOPERATION AND PROMOTION OF TRAINING

➢ TRAINING AND EMPLOYMENT OFFER MANAGEMENT SYSTEM

➢ PROCESS GENERATION TOOL FOR DOCUMENT MANAGEMENT.

➢ INTEGRATED SCIENTIFIC REPOSITORY

➢ BLOCKCHAIN AS A STRATEGY TO MITIGATE THE SHADOW ECONOMY

➢ SMART TEMPLATE EDITOR AND GENERATOR FOR WEBSITES

➢ BLOCKCHAIN AND DIGITAL SIGNATURE SUPPORTING REMOTE ASSESSMENT SYSTEMS IN HEIS (PAPER APPROVED AT AN INTERNATIONAL CONFERENCE WITH SCOPUS INDEXING)

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RESEARCH AND DEVELOPMENT – INVOLVING STUDENTS

➢ HUMAN-AI INTERACTION DESIGN (PAPER APPROVED IN INTERNATIONAL CONFERENCE WITH SCOPUS INDEXATION)

➢ DEVELOPMENT OF A GEO-REFERENCING MODULE (PAPER APPROVED AT AN INTERNATIONAL CONFERENCE WITH SCOPUS INDEXING)

➢ DEVELOPMENT OF A FRAMEWORK FOR INCIDENT RESPONSE IN A CYBERSECURITY OPERATIONS CENTER (3 PAPERS IN PREPARATION)

➢ DEVELOPMENT OF INTELLIGENT AND INTERACTIVE WEBSITES

➢ FOCUS ON THE RESEARCH CENTER'S AND THE INTERNATIONALIZATION'S WEBSITES

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RESEARCH AND DEVELOPMENT – PROJECTS

➢ WE ARE PART OF A CONSORTIUM OF 9 HEIS, LED BY ULHT, ON A HEAD-L **"HIGHER EDUCATION ALLIANCE FOR THE DEVELOPMENT OF EDUCATION, TRAINING AND RESEARCH IN THE LUSOPHONE AREA"** *(ONGOING)*, WHOSE APPLICATION WAS APPROVED BY THE EUROPEAN RECOVERY AND RESILIENCE PLAN.

➢ **ERASMUS+ KA2 PROJECT "E_GENERATION"** *(NEAR COMPLETION)* - ENTREPRENEURSHIP GENERATION IS A PROJECT BASED ON THE DEVELOPMENT OF A WEB-BASED INFORMATION SYSTEM TO SUPPORT THE TEACHING AND PROMOTION OF ENTREPRENEURSHIP WITH AND AMONG STUDENTS OF VET SCHOOLS AND POST-SECONDARY EDUCATION.

➢ **COST PROJECT "DIGITAL4OSH"** *(SUBMITTED)* - DIGITAL TECHNOLOGIES FOR OCCUPATIONAL SAFETY AND HEALTH IN CONSTRUCTION: BAROMETER OF BIM OSH IMPLEMENTATION TO OBSERVE AND MONITOR TRENDS, DYNAMICS AND STRATEGIES AT EUROPEAN AND NATIONAL LEVELS.

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➢ **ERASMUS+ KA2 PROJECT "FINANCES4YOUTH [F4Y]"** *(ONGOING)* - THE PROJECT MAIN GOAL IS TO CREATE A PROMOTION AND TRAINING SYSTEM FOR DAILY ADULT BASES FINANCIAL LITERACY. ONE OF THE INNOVATIONS OF THE SYSTEM WILL BE TO GIVE EACH TEACHER/TRAINER THE POSSIBILITY OF CREATING HIS/HER CLASS, SELECTING THE RESOURCES TO BE USED, THE INSTRUMENTS, AND THE RESULTS HE/SHE INTENDS TO ACHIEVE. THE SYSTEM WILL ALLOW THE CREATION OF TEACHING AND LEARNING ENVIRONMENTS OF THEIR OWN, ADJUSTED TO THE STUDENTS' PROFILE, ALIGNING OBJECTIVES WITH INSTRUMENTS AND METHODOLOGIES.

➢ **ERASMUS+KA2 PROJET "HAPPINESS AND WELL-BEING AT SCHOOL [HWBS2ALL]"** *(ONGOING)* - DEVELOPMENT OF RESOURCES THAT PROMOTE LEVELS OF HAPPINESS AND WELL-BEING THROUGH A DIGITAL PLATFORM, VALIDATING AND DEVELOPING INSTRUMENTS THAT ALLOW CREATING A PICTURE OF THE SITUATION OF TEACHERS AND STUDENTS AND THEIR LEVELS OF WELL-BEING, MOTIVATION AND SATISFACTION, ENABLING THE CREATION OF SOLUTIONS FOR PROMOTING HAPPINESS AND WELL-BEING IN THE SCHOOL CONTEXT.

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➤ **ERASMUS+KA2 PROJET "PERSONALIZED EDUCATIONAL PATHWAYS ACCORDING TO THE STUDENT'S PROFILE AND MARKET NEEDS [PERSONALEDUPATHWAY] "** *(SUBMITTED)* – DEVELOPMENT OF AN INTELLIGENT SYSTEM FOR PROPOSING PERSONALIZED EDUCATIONAL PATHWAYS TAILORED TO THE STUDENT'S PROFILE AND MARKET NEEDS. INCLUDES *BLOCKCHAIN TECHNOLOGY* TO PROVIDE SECURITY, CREDIBILITY, AND AUTHENTICITY + *ARTIFICIAL INTELLIGENCE + MICRO-CREDENTIALS.*

➤ **ERASMUS+ COOPERATION PARTNERSHIPS PROJECT "SUSTAINABILITY TO SMALL AND MEDIUM ENTERPRISES [SUSTAINABLE4SME]"** *(APPLICATION)* - ESTABLISH A CENTRE ALIGNED TO SUSTAINABILITY PRINCIPLES TO SUPPORT BUSINESS AND MANAGEMENT TOWARD SMES IN ALL UNIVERSITIES AND TRAINING PARTNERS INVOLVED.

➤ **ERASMUS+ KA2 PROJECT "EDUCATION FOR LABOUR TO ALL [EDUCATION4LABOUR2ALL]"** *(APPLICATION)* – DEVELOPMENT A PWEB PLATFORM TO SUPPORT AN EDUCATION COOPERATION AND PROMOTION NETWORK FOCUSED ON DISAVANTAGES REGIONAL LABOUR MARKET NEEDS.

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➢ **ERASMUS+ KA2 PROJECT "ALUMNI SUPPORT PLATFORM SOCIAL NETWORK - CAREER MANAGEMENT [IESALUMNISYSTEM]"** (*APPLICATION*) - DEVELOPMENT OF A COLLABORATIVE PLATFORM TO PROMOTE AND GUIDE THE NETWORKING AND CAREERS OF GRADUATE STUDENTS, OFFERING CONTINUOUS TRAINING AIMED AT PROFILES OF GRADUATE STUDENTS.

➢ **ERASMUS+ KA2 PROJECT "TOOL FOR A TRUSTABLE CANDIDATE APPLICATION EVALUATION [TRUSTCHAIN4EDU]"** *(APPLICATION)* - EFFICIENTLY MANAGING CANDIDATE APPLICATIONS FOR POLYTECHNIC AND HEI IS CRUCIAL FOR FOSTERING DIVERSE AND CAPABLE ACADEMIC COMMUNITIES. HOWEVER, THIS TASK, OFTEN INVOLVING APPLICANTS FROM DIVERSE BACKGROUNDS, PRESENTS A COMPLEX CHALLENGE. PRIORITISING FAIRNESS, TRANSPARENCY, AND EFFICIENCY IN ASSESSMENT METHODS AND PROCESSES HAVE BECOME VITAL. WHILE TRADITIONAL METHODS, SUCH AS REVIEWING RESUMES AND LETTERS, ARE COMMON, THEY POSSESS LIMITATIONS THAT IMPACT THE SELECTION PROCESS'S INTEGRITY. UNCONSCIOUS **BIAS**, A CONSTANT CONCERN IN THE APPLICATION SELECTION PROCESS, IS AMONG THESE LIMITATIONS. HUMAN EVALUATORS MAY INADVERTENTLY FAVOUR CERTAIN CANDIDATE PROFILES BASED ON FACTORS SUCH AS GENDER, ETHNIC ORIGIN, OR PREVIOUS INSTITUTION.

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» **ERASMUS+ KA2 PROJECT "TOOL FOR VALIDATING MICRO-CREDENTIALS [WISECHAIN]"** *(APPLICATION)* - THE RAPIDLY CHANGING JOB MARKET AND SOCIETAL DEMANDS REQUIRE A MORE ADAPTABLE EDUCATIONAL SYSTEM. TRADITIONAL CURRICULA OFTEN LEAVE GAPS BETWEEN FORMAL EDUCATION AND JOB MARKET NEEDS. ACADEMIC MICRO-CREDENTIALS ADDRESS THIS BY FOCUSING ON SPECIFIC SKILLS. INTEGRATING MICRO-CREDENTIALS INTO EDUCATION OFFERS A FLEXIBLE, PERSONALIZED APPROACH, ALLOWING STUDENTS TO ACQUIRE AND DEMONSTRATE COMPETENCIES ALIGNED WITH THEIR GOALS. HOWEVER, CHALLENGES ARISE IN VALIDATING MICRO-CREDENTIALS. BLOCKCHAIN TECHNOLOGY OFFERS A SOLUTION BY SECURELY RECORDING AND SHARING INFORMATION IN AN IMMUTABLE, DECENTRALIZED WAY. EACH MICRO-CREDENTIAL COULD BE A BLOCKCHAIN TRANSACTION, CREATING AN UNALTERABLE RECORD OF ACHIEVEMENTS. THIS VERIFICATION METHOD IS EFFICIENT AND REDUCES COSTS.

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» **ERASMUS+ ALLIANCES FOR INNOVATION PROJECT [ENTREPRENEURSHIP (TECH STARTUP)]** (*APPLICATION*) – THIS PROJECT AIMS TO STRENGTHEN ENTREPRENEURSHIP AND INNOVATION ECOSSYSTEMS IN EUROPEAN HIGHER EDUCATION INSTITUTIONS. IT INCLUDES: 1) A STATE OF THE ART REPORT ON ENTREPRENEURIAL ECOSSYSTEMS IN THE PARTICIPANTS COUNTRIES; 2) FORMULATING AND IMPLEMENTING PLANS FOR ACADEMIC SKILL DEVELOPMENT ON DIGITAL, CIRCULAR, GREEN AND ENTREPRENEURIAL ATTITUDE (COURSES, CURRICULA,...); 3) CREATING CAPABILITIES IN ACADEMIA FOR DIGITAL, CIRCULAR AND GREEN ACTIVITIES FOR STAFF AND PROFESSIONALS; 4) CREATING CAPABILITIES IN ACADEMIA FOR ENTREPRENEURSHIP LEARNERS WITH HIGH TECH TOOLS (SETTING UP INCUBATORS, NEW COURSES AND CURRICULA, MICRO-CREDENTIALS).

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➢ **SHINE Scaling Higher Education Innovation for Europe EIT-HEI INITIATIVE (**_ONGOING_**)** - SHINE IS AN INTERNATIONAL COMMUNITY OF HIGHER EDUCATION PROFESSIONALS AND INDUSTRY EXPERTS WHO ARE COLLABORATING TO CREATE PRACTICAL KNOW-HOW ABOUT SCALING INNOVATION CAPACITY IN HIGHER EDUCATION AND UNIVERSITY-INDUSTRY COLLABORATION. THERE ARE FOUR AREAS OF INVESTIGATION, OR CONVERSATIONS, RELATED TO STUDENTS, STARTUPS, SOCIETY AND STAFF:

  ➢ STUDENTS - HOW TO SCALE UP THE NUMBER OF STUDENTS WHO ARE EDUCATED ABOUT THE ENTREPRENEURIAL MINDSET, INNOVATION AND ENTREPRENEURSHIP

  ➢ STARTUPS - HOW TO SCALE UP THE NUMBER OF STARTUPS THAT ARE SUPPORTED FROM PLANNING, THROUGH LAUNCH AND ON TO LONG-TERM SUSTAINABILITY

  ➢ SOCIETY - HOW TO SCALE UP THE NUMBER OF PARTNERSHIPS THAT GENERATE SOCIETAL BENEFITS (CULTURAL, ECONOMIC, ENVIRONMENTAL AND SOCIAL)

  ➢ STAFF - HOW TO SCALE UP THE NUMBER OF STAFF IN HE THAT ARE ENGAGED IN THE ORGANISATIONAL TRANSFORMATION THAT WILL CREATE AND SUSTAIN A MORE ENTREPRENEURIAL HE CULTURE

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- ❑ **E-HEALTH SERIOUS GAMES** (AIMED AT MITIGATING DEMENTIA-RELATED ILLNESSES SUPPORTED BY INTELLIGENT INTERFACES THAT ADAPT TO THE USER'S PROFILE)

- ❑ **ARTIFICIAL INTELLIGENCE + DATA SCIENCE** (APPLIED TO SMART CITIES)

- ❑ **ENTREPRENEURSHIP AND BUSINESS INNOVATION** (SERIOUS GAMES AS A FACILITATOR FOR FINANCE FOR YOUTH)

- ❑ **DIGITAL4OSH** - BUILDING INFORMATION MODELLING (BIM), PART OF A WIDER TREND OF APPLYING DIGITAL TECHNOLOGY IN THE ARCHITECTURE, ENGINEERING, CONSTRUCTION AND OPERATION (AECO) SECTOR, HAS THE POTENTIAL TO OPTIMIZE THE MANAGEMENT OF RISKS AND COSTS OF ACCIDENTS AT WORK AND OCCUPATIONAL DISEASES. UNDERSTANDING THE WAY OSH MANAGEMENT CAN BE IMPROVED USING BIM IS IMPORTANT AS NEW PROCESSES AND STANDARDS NEED TO BE CREATED AND EXISTING PROCEDURES ADAPTED. CURRENTLY, THERE IS NO CENTRALIZED SHARING MECHANISM WHERE COUNTRIES, COMPANIES OR PROJECTS CAN SHARE LESSONS LEARNED TO HELP THEIR IMPLEMENTATION

- ❑ **BLOCKCHAIN APPLIED TO BUSINESS** (IMPACT ON ENTERPRISE BUSINESSES)

- ❑ …

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BUSINET IS COMPOSED OF 145 HIGHER EDUCATION INSTITUTIONS FROM 34 COUNTRIES INTERESTED IN DEVELOPING INTERNATIONAL SCIENTIFIC PROGRAMMES, SHARING KNOWLEDGE AND PROMOTING COMMON OPPORTUNITIES AND INTERESTS.

GUNi IS THE GLOBAL UNIVERSITY NETWORK FOR INNOVATION, AN INTERNATIONAL NETWORK THAT CURRENTLY BRINGS TOGETHER 339 MEMBERS FROM 89 COUNTRIES, INCLUDING HEIS AND RESEARCH CENTERS. IT IS A REFERENCE INSTITUTION IN THE IMPLEMENTATION OF THE 2030 AGENDA AND THE SUSTAINABLE DEVELOPMENT GOALS (SDGS) IN HIGHER EDUCATION, SCIENTIFIC RESEARCH AND UNIVERSITY MANAGEMENT.

METARED IS A COLLABORATIVE PROJECT THAT FORMS A NETWORK OF NETWORKS RESPONSIBLE FOR INFORMATION AND COMMUNICATION TECHNOLOGIES (ICT) AT IBERO-AMERICAN HEIS, BOTH PUBLIC AND PRIVATE, TO SHARE BEST PRACTICES, SUCCESS STORIES AND COLLABORATIVE TECHNOLOGICAL DEVELOPMENTS.

SHINE IS AN INTERNATIONAL COMMUNITY OF HIGHER EDUCATION PROFESSIONALS AND EXPERTS FROM THE BUSINESS WORLD WHO ARE COLLABORATING TO CREATE PRACTICAL KNOWLEDGE ABOUT THE CAPACITY FOR INNOVATION IN HIGHER EDUCATION AND UNIVERSITY-BUSINESS COLLABORATION. (EUROPEAN INSTITUTE OF INNOVATION AND TECHNOLOGY)

DIGITAL4OSH IS A DIGITAL TECHNOLOGY FOR OCCUPATIONAL SAFETY AND HEALTH NETWORK IN CONSTRUCTION, ORIGINATED FROM AN ISLA PROJECT. IT IS COMPOSED OF 18 MEMBERS: 16 COST "FULL MEMBERS COUNTRIES" - GERMANY, CYPRUS, CROATIA, SPAIN, FRANCE, GREECE, NETHERLANDS, HUNGARY, IRELAND, LATVIA, MALTA, POLAND, PORTUGAL, UNITED KINGDOM, SWEDEN, TURKEY - AND 2 COST "NEAR NEIGHBOR COUNTRIES (NNC)": EGYPT AND KOSOVO.

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