Busta A

Domanda 1

Ipotizzi il candidato di lavorare in una università tecnologica che nel proprio Piano strategico prevede la disseminazione delle nuove conoscenze ad elevato contenuto scientifico e tecnologico, in un contesto che promuove la qualità della ricerca e le potenzialità dei ricercatori. Sono pertanto necessarie azioni di medio e lungo periodo volte a far conoscere e promuovere le attività di ricerca e le eccellenze dell'ambiente di ricerca.

Strutturi il candidato una proposta per gli organi di governo, finalizzata ad illustrare servizi e strumenti dedicati a valorizzare la ricerca e l'ambiente di ricerca a livello locale, nazionale e internazionale al fine di attrarre finanziamenti e risorse umane per la ricerca. **(max. 5.000 battute, spazi inclusi, utilizzando il programma Word – carattere Times New Roman – Dimensione 11).**

La proposta dovrà inoltre essere sintetizzata dal candidato in una presentazione Power Point indirizzata agli organi di governo**. (massimo 6 slides, utilizzando il carattere Times New Roman)**

DOMANDA 2)

Nell'ambito della call "Personalised Medicine - Active ageing and self-management of health" del pilastro *Societal Challenges - Health, demographic change and well-being* del programma Horizon 2020, è stato finanziato il progetto intitolato "EMPATHIC-Empathic, Expressive, Advanced Virtual Coach to Improve Independent Healthy-Life-Years of the Elderly", del quale si forniscono le seguenti informazioni:

Objective:

The EMPATHIC Research & Innovation project will research, innovate, explore and validate new paradigms and platforms, laying the foundation for future generations of Personalised Virtual Coaches to assist elderly people living independently at and around their home.

Innovative multimodal face analytics, adaptive spoken dialogue systems and natural language interfaces are part of what the project will research and innovate, in order to help dependent aging persons and their carers.

The project will use remote non-intrusive technologies to extract physiological markers of emotional states in real-time for online adaptive responses of the coach, and advance holistic modelling of behavioural, computational, physical and social aspects of a personalised expressive virtual coach. It will develop causal models of coach-user interactional exchanges that engage elders in emotionally believable interactions keeping off loneliness, sustaining health status, enhancing quality of life and simplifying access to future telecare services.

The project will include a demonstration and validation phase with clearly-defined realistic use cases. It will focus on evidence-based, user-validated research and integration of intelligent user and context sensing methods through voice, eye and facial analysis, intelligent heuristics (complex

interaction, user intention detection, distraction estimation, system decision), visual and spoken dialogue system, and system reaction capabilities.
Through measurable end-user validation, to be performed in 3 different countries (Spain, Norway and France) with 3 distinct languages and cultures (plus English for R&D), the proposed methods and solutions will ensure usefulness, reliability, flexibility and robustness.
The project partners include health-maintenance end-user organisations, technology developers, academic / research institutes and system integrators.

Coordinator: UNIVERSIDAD DEL PAIS VASCO/ EUSKAL HERRIKO UNIBERTSITATEA (Spain)

Participants: OSATEK SA (Spain); OSLO UNIVERSITETSSYKEHUS HF (Norway); E-SENIORS: INITIATION DES SENIORS AUX NTIC ASSOCIATION (France); TUNSTALL HEALTHCARE (UK) LIMITED (United Kingdom); TECHNION - ISRAEL INSTITUTE OF TECHNOLOGY (Israel); INTELLIGENT VOICE LIMITED (United Kingdom); ACAPELA GROUP BABEL TECHNOLOGIES SA (Belgium); INSTITUT MINES-TELECOM (France); UNIVERSITA DEGLI STUDI DELLA CAMPANIA LUIGI VANVITELLI (Italy)

Funding scheme: RIA - Research and Innovation action

Durata: 36 mesi

Contributo UE: 4 milioni di euro

Il candidato rediga in inglese:

The plan for the dissemination of the project's results and proposed communication measures for promoting the project and its findings during the period of the grant

(max 4000 battute, spazi inclusi, utilizzando il programma Word – carattere Times New Roman – Dimensione 11)

Torino, 16/07/2018

Busta B

Domanda 1)

Rediga il candidato una proposta di azioni e strumenti di comunicazione per la Commissione Ricerca di un Ateneo tecnologico che possa contribuire al raggiungimento di alcuni degli obiettivi dell'Università ed in particolare la promozione della ricerca collaborativa (ad esempio tramite lo sviluppo di relazioni con università di prestigio, centri di ricerca, aziende, enti finanziatori) e l'attrazione di ricercatori stranieri. **(max. 5.000 battute, spazi inclusi, utilizzando il programma Word – carattere Times New Roman – Dimensione 11).**
La proposta dovrà inoltre essere sintetizzata dal candidato in una presentazione Power Point indirizzata alla Commissione **(massimo 6 slides, utilizzando il carattere Times New Roman).**

DOMANDA 2)

Nell'ambito della call "For competitive low-carbon energy- Developing the next generation technologies of renewable electricity and heating/cooling" del pilastro *Societal Challenges - Secure, clean and efficient energy* del programma Horizon 2020, è stato finanziato il progetto intitolato "CHEOPS-Production technology to achieve low Cost and Highly Efficient phOtovoltaic Perovskite Solar cells", del quale si forniscono le seguenti informazioni:

Objective:

The aim of CHEOPS is to develop very low-cost but highly performing photovoltaic (PV) devices based on the emerging perovskite (PK) technology. At lab scale (<0.5cm2), PK energy conversion was rapidly advanced to efficiencies >20%. But only few attempts at upscaling have been made, yielding significantly reduced efficiencies <9% on aperture area. In addition, the very question about material stability and reliable measurement procedures are still debated.
CHEOPS will now scale up the lab results to single junction modules manufactured in a pre-production environment while maintaining high efficiencies (>14% stable for aperture area in modules >15x15cm2). This will demonstrate the potential of PK as a very low-cost technology (target <0.3€/Wp) well suited for building-integrated PV.
In parallel, CHEOPS will develop materials and processes to achieve very high efficiency (>29% on 2x2cm2 cells) at low cost (target <0.4€/Wp) using a tandem configuration with a crystalline silicon heterojunction cell.
CHEOPS will also perform a sustainability assessment from a life-cycle perspective to anticipate potential risks for the technology (including business, technological, environmental, social &

political risks). CHEOPS will establish a quantified future development roadmap as well as protocols for stability testing and for reliable measurements.
CHEOPS partners cover the whole value added chain: key PK researchers, groups with track records of scaling up high efficiency and tandem cell developments, specialised technology and service providers as well as SMEs and industry partners with already strong IP portfolios, ready to exploit the CHEOPS results. Transferring the results to other growing industry sectors such as lighting or organic large area electronics will additionally benefit European industry.
In summary, CHEOPS will decisively advance the potentially game-changing PK technology towards the market and will thus help to face the energy challenge in Europe and beyond.

Coordinator: CSEM CENTRE SUISSE D'ELECTRONIQUE ET DE MICROTECHNIQUE SA - RECHERCHE ET DEVELOPPEMENT (Switzerland)

Participants: UNIVERSITY COLLEGE CORK - NATIONAL UNIVERSITY OF IRELAND, CORK (Ireland); THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF OXFORD (United Kingdom); UNIVERSITA DEGLI STUDI DI ROMA TORVERGATA (Italy); INSTITUT NATIONAL DE L ENVIRONNEMENT ET DES RISQUES INERIS (France); FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V. (Germany); ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE (Switzerland); THE UNIVERSITY OF SALFORD (United Kingdom); DE WILD-SCHOLTEN MARISKA (Netherlands); OXFORD PHOTOVOLTAICS LIMITED (United Kingdom); Merck KGaA (Germany); ACCELOPMENT AG (Switzerland)

Funding scheme: RIA - Research and Innovation action

Durata: 36 mesi

Total cost: 5.042.913 euro

EU contribution: 3.299.095 euro

Il candidato rediga in inglese:

The plan for the dissemination of the project's results and proposed communication measures for promoting the project and its findings during the period of the grant

(max 4000 battute, spazi inclusi, utilizzando il programma Word – carattere Times New Roman – Dimensione 11)

Torino, 16/07/2018

Busta C

DOMANDA 1)

Il candidato proponga agli organi di governo di un'Università tecnica un piano d'azioni volto ad attuare i principi della Responsible Research and innovation (RRI) proposti dalla Commissione Europea **(max. 5.000 battute, spazi inclusi, utilizzando il programma Word – carattere Times New Roman – Dimensione 11).**
Il piano dovrà inoltre essere sintetizzato dal candidato in una presentazione Power Point indirizzata agli organi di governo **(massimo 6 slides, utilizzando il carattere Times New Roman).**

DOMANDA 2)

Nell'ambito della call "Mobility for growth- Protection of all road users in crashes" del pilastro *Societal Challenges - Smart, Green And Integrated Transport* del programma Horizon 2020, è stato finanziato il progetto intitolato "OSCCAR- Future Occupant Safety for Crashes in Cars", del quale si forniscono le seguenti informazioni:

Objective:

OOSCCAR uses a comprehensive integrated approach for the development of future advanced occupant protection systems. It will provide a unique human body model (HBM)-based development and assessment framework, covering main challenges of future road safety due to the introduction of highly automated vehicles as well as changes in demographics: relevant accident scenarios (mixed traffic), future vehicle interior designs, new occupant sitting positions, ageing population etc. This demands for targeted changes and adaptions of scenarios, procedures and tools for occupant safety development, assessment and homologation, not addressed by e.g. regulations or consumer crash tests today. The resulting complexity requires an emphasis on virtual methods.
Based on the analysis of future relevant accident scenarios and considering new, highly automated vehicles (HAVs) enabled sitting positions, OSCCAR will develop and demonstrate advanced occupant protection principles. These require assessment with improved HBMs (omni-directionally biofidelic, active and robust), considering gender and demographic factors as well as improved soft tissues material properties. Furthermore, OSCCAR will develop fully integrated assessment methods for complex test scenarios of the complete crash phase providing the required level of confidence as current physical test procedures do. OSCCAR will also contribute to the harmonization of HBMs, a harmonized validation of injury criteria as well as the improvement of virtual testing standards.

Eventually OSCCAR will develop a clear roadmap towards large scale implementation of virtual testing methods for advanced safety solutions, not only relevant in the automotive domain but also for two-wheelers, VRUs, or in sports. Due to its excellent partner consortium with key players from industry and research from Europe, North America and Asia, OSCCAR is in the position to ensure global future deployment and application of its results and achievements.

Coordinator: CSEM CENTRE SUISSE D'ELECTRONIQUE ET DE MICROTECHNIQUE SA - RECHERCHE ET DEVELOPPEMENT (Switzerland)

Participants: AUTOLIV DEVELOPMENT AB (Sweden); BUNDESANSTALT FUER STRASSENWESEN (Germany); ROBERT BOSCH GMBH (Germany); CHALMERS TEKNISKA HOEGSKOLA AB (Sweden); DAIMLER AG (Germany); ESI GROUP (France); IDIADA AUTOMOTIVE TECHNOLOGY SA (Spain); LUDWIG-MAXIMILIANS-UNIVERSITAET MUENCHEN (Germany); RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN (Germany); SIEMENS INDUSTRY SOFTWARE NV (Belgium); SIEMENS INDUSTRY SOFTWARE AND SERVICES BV (Netherlands); TOYOTA MOTOR EUROPE (Belgium); TU Graz (Austria); UNIVERSITE DE STRASBOURG (France); UNIVERSITAET STUTTGART (Germany); VOLVO PERSONVAGNAR AB (Sweden); VOLKSWAGEN AG (Germany); TRW AUTOMOTIVE GMBH (Germany); TSINGHUA UNIVERSITY (China); CHINA AUTOMOTIVE TECHNOLOGY AND RESEARCH CENTER (China)

Funding scheme: RIA - Research and Innovation action

Duration: 36 mesi

Total cost: 7.688.334 euro

EU contribution: 6.989.395 euro

Il candidato rediga in inglese:

The plan for the dissemination of the project's results and proposed communication measures for promoting the project and its findings during the period of the grant

(max 4000 battute, spazi inclusi, utilizzando il programma Word – carattere Times New Roman – Dimensione 11)

Torino, 16/07/2018