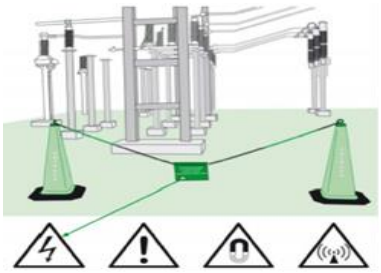
R&D PROJECT



PARTICIPANTS

BUSINESS AREA
Área Infraestructuras
COMSA, S.A.U

TIMELINE
2016-2019

BUDGET
837.865,57 Euros

KEY WORDS
Equipo de protección individual, seguridad laboral, riesgos eléctricos

RESPONSIBLE
Coordinador del proyecto: Joan Peset (COMSA)
Contacto: Sergio Valentino (COMSA)

FUNDING

GOBIERNO DE ESPAÑA
MINISTERIO DE ECONOMÍA, INDUSTRIA Y COMPETITIVIDAD

AGENCIA ESTATAL DE INVESTIGACIÓN
UNIÓN EUROPEA
FONDO EUROPEO DE DESARROLLO REGIONAL
"Una manera de hacer Europa"

Title of the project

Personal protective equipment for the control of electrical hazards

Acronym

CARE

The project

Proyecto con número de expediente RTC-2016-4764-7, aprobado en la Convocatoria 2016 del Programa Estatal de I+D+i, orientada a los Retos de la Sociedad. Reto 7: Economía y Sociedad Digital. Prioridad temática VI: Salud y Bienestar Social. Financiado por el Ministerio de Economía y Competitividad y cofinanciado a través de fondos FEDER. El objetivo temático del programa operativo de los proyectos es promover el desarrollo tecnológico, la innovación y una investigación de calidad

General objectives

.The main objective of the CARE project is the development of a new personal protective equipment (PPE) based mainly on the detection of the electric field generated by high-voltage cables, catenaries, transformers, etc. This new PPE will provide its users with a much higher level of protection against electrical risks, as well as providing information on the possible falls that the user could suffer, either due to an electrical accident or during the normal course of their activity, and on their state of health when the accident occurs, allowing the necessary emergency action to be taken without the need for interaction by the user.

Results and conclusions

. The CARE project consists of the development of a new personal protective equipment (PPE) based mainly on the detection of the electric field generated by high-voltage cables, catenary wires, transformers, etc. This new PPE provides its users with a much higher level of protection against electrical risks, as well as providing information on possible falls that the user could suffer, either due to an electrical accident or during the normal course of their activity, and on their state of health when the accident occurs, allowing the necessary emergency action to be taken without the need for interaction by the user.
The CARE project has been evaluated both in the laboratory and in field tests. In the laboratory, the response of the electric field detector to different voltages and different distances in alternating and direct current was studied. It was observed that as the voltage generating the current increased, so did the minimum radius at which the CARE device detected the electromagnetic field.
The field tests were carried out in the FGC workshops in Martorell and three important parameters were evaluated. The detection of electric fields, the detection of falls and the ergonomics of the product. The results were optimal:
The device emitted both acoustic and visual signals when brought close to an electrical installation (catenary, electric pole, transformer...).
The device emitted both acoustic and visual signals when dropped from a height of approximately two metres.
The device is intuitive and easy to learn. It has no sharp edges and attaches well to the holster that is strapped to the arm.
The design of the CARE device involves a change in the working procedure that is adapted to the new technology of this system. The device will bring a new safety measure to be used when verifying the absence of voltage at the power failure of the installation and during de-energised work.