

## AIM OF THE CONTEST

The CAUPROTECT project calls for an International Design contest that seeks new ideas to design a non-invasive reusable skull protection device that protects against falls caused by instability or epileptic seizures, as well as the risk of suffering traumatic brain injury (TBI). The key requirements to guide the idea are:

- (i) It must detect users suffering sudden fainting
- (ii) It must protect users from falling from a vertical position
- (iii) It must be reusable and/or economically feasible as falls are constant over time
- (iv) It must be easy to use; that is, easily reassembled
- (v) It must be comfortable to wear, with a minimal visual impact, and must not interfere with personal autonomy.

## ORGANISERS

This contest is organised by the Universitat Jaume I of Castellón, the Sergio García Foundation and the Association El CAU.

## WHY IT IS NECESSARY?

This contest forms part of a project promoted by the Association El CAU of Castellón de la Plana, Spain, which cares for people with autism spectrum disorder (ASD). Some of these people have to permanently wear a protective helmet to avoid skull injuries as falls are frequent despite the technical aids they use daily. Thus in 70% of cases, it is impossible to stop or anticipate a fall due to instability when wandering, sudden loss of strength or unpredictable epileptic seizures that cause serious injuries to the skull, nasal septum and chin.

The Association El CAU has tested different helmet models, which are secured by different methods to avoid it being removed by users, they are lighter, of a rugby kind, medicinal, etc. These helmets constantly cause users discomfort and have a very negative social impact, which is why users so often reject them. Although they do not improve users' quality of life, they are used because they can at least avoid injuries caused by falls to a certain degree.

Therefore, this contest seeks ideas for a device that addresses these main problems:

- (i) personal safety against traumatic brain injuries
- (ii) comfort of permanent use
- (iii) to facilitate social-labour market integration and the right to a decent lifestyle.

## WHAT IS THE MOST SIMILAR PROTECTOR THAT EXISTS TO WHAT IS NEEDED?

There are protection products for other user types (cyclists, athletes, etc.) that work with a similar mechanism to AirBags. They have a gas generator that usually consists of sodium azide tablets which immediately release about 30 litres of nitrogen to inflate the airbag. The main drawback of this device type is it is a single-use product that is also quite expensive.

## PARTICIPANTS

The contest is open to participants from any country worldwide. It addresses creative young people aged between 18 and 35 years. Entries can be individual or from groups with a maximum of four people.

Members of the judging panel are unable to take part, and the same applies to their relatives and to anyone who hold

stable professional relationships with them.

### REQUIREMENTS OF THE SUBMITTED PROPOSALS

Proposals must have been neither previously published nor have been entered in any other contest elsewhere.

### REGISTRATION

Registration for the contest is free of charge. Participants must register on the contest website at [www.cauprotect.uji.es](http://www.cauprotect.uji.es). Registration is available in June 2019. An email confirming registration will be sent.

By registering for the contest, participants confirm that they accept these rules.

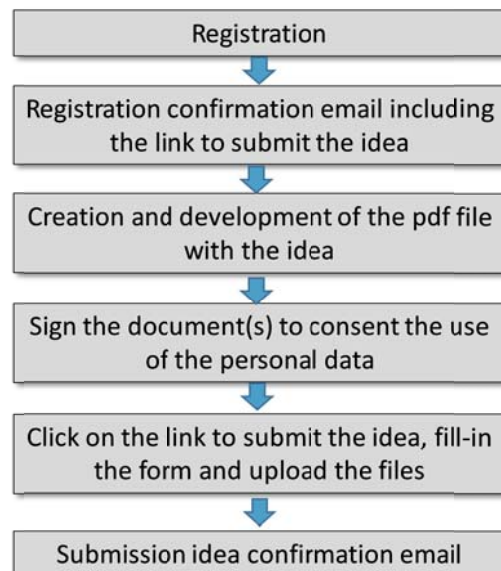
### SUBMITTING AN IDEA

The presented ideas must be anonymous and, therefore, must not contain names or data of the author(s) as this information will have already been provided in the registration.

On the contest website, [www.cauprotect.uji.es](http://www.cauprotect.uji.es), participants will access a form to submit ideas and must include:

- The title of the idea
- An abstract with up to 100 words
- One pdf file, A2 size page, of a maximum size of 4 MB containing:
  - The title of the idea
  - A description of the idea, using as many drawings, schemes and texts considered necessary to explain the following aspects:
    - How would it detect an epileptic seizure and fainting?
    - How would the device be activated to protect the user's head?
    - How would the device return to its standby position to be used again?

### PARTICIPATION PROCESS



## SUBMISSION DATE

Ideas must be submitted to the contest website by **20:00h (GMT) on 30 September 2019–31 October 2019.**

## AWARD AND MENTIONS

The following awards are established:

- Award for the best idea: €2.500
- Two special mentions, €200 each

The contest result will be announced in November 2019.

The award and mentions can be declared void if the majority of the jury considers it necessary. The current legal retention will apply.

The author(s) of the winning idea and those who receive a special mention will receive a certificate. The authorship of ideas will be disseminated on the contest website and the social networks used to disseminate it.

## SELECTION PROCESS

The jury will meet in October to decide on the first selection of ideas. The pre-selected ideas will be presented to professionals who attend patients with ASD and dependence, and to the end users themselves to collect opinions.

In a new evaluation round, the jury will decide the winning idea and the special mentions.

## JURY

To evaluate the submitted proposals, a jury will be constituted, made up of researchers from the Universitat Jaume I, educators from Association El Cau and

professionals related to the project's theme.

### President

- José V. García Ortiz. Technical coordinator of the CAUPROTECT Project and an academic at the Universitat Jaume I.

### Members

- The research team of the Universitat Jaume I that participates in the CAUPROTEC Project.

- Alba Rodríguez and Juan Rodríguez. Psychologists who specialise in patients with ASD. Educators of the Association El Cau

- Sergio García and Víctor García, from the Sergio García Foundation

- Ana del Villar. Neurologist at the Hospital General de Castellón.

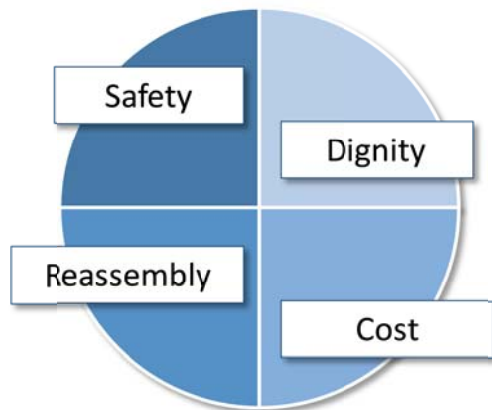
The judging panel is authorised to make decisions on aspects not covered by these rules, and also on issues that may arise as a result of this competition.

The date of the jury's meeting and the Awards Ceremony will be announced to all contestants on the CAUPROTECT website: [www.cauprotect.uji.es](http://www.cauprotect.uji.es)

The jury's decision will be unappealable. The Universitat Jaume I will not be held responsible for the plagiarism claims that may be imposed by any external person.

## SELECTION CRITERIA

The jury will consider the following criteria when evaluating the presented ideas:

**SAFETY:**

The ability of the presented idea to detect sudden falls or fainting from a vertical position will be considered, as will its ability to avoid traumas and injuries in the cranio-encephalic area, including the chin area. To do so, the techniques for detecting fainting or crises by activating the mechanism described in the idea will be evaluated.

**DIGNITY:**

The jury will study the ability of the idea to guarantee user comfort and to minimise its visual impact to avoid users rejecting the device. To do so, what the device would look like in the resting position will be assessed to confer it the least possible visual interference.

**REASSEMBLY:**

One consideration will be that the idea allows the device to be reused as many times as possible so that after being activated, caregivers or relatives can reassemble it to be used again. For this purpose, the jury will analyse the technique involved to reassemble the protector.

**COST:**

The potential of the idea being economically feasible for as many users as possible will be assessed.

**INTELLECTUAL AND INDUSTRIAL PROPERTY RIGHTS**

In the event of winning the present contest or receiving a special mention, the WINNER agrees to give the Universitat Jaume I the worldwide exclusiveness of all the industrial and intellectual property rights (exploitation) of the idea and for a global territorial scope. The WINNER will maintain the moral rights of the idea, and may include it in his/her portfolio, and can always mentioning CAUPROTECT in the way agreed on.

The granting of both the Award and the mentions means that the respective authors of the awarded works exclusively assign to the Universitat Jaume I all the exploitation rights of these works, including, among others, those of its reproduction by any graphic, mechanical, electronic reprographic, digital means, or of any other nature; distribution in any format or support and channel, and by sale, rental, loan or any other form; public communication through audiovisual projection, scenic representation, broadcasting, cable transmission, fibre optics, wired or wireless, telematic, digital or online systems, inclusion in databases, or via any other system; transformation, including the translation and adaptation to audiovisual or dramatic work, or other derivative works and, in general, for all forms of exploitation and dissemination means known at the time of the Award, in all countries and languages of the world, and throughout the period when the intellectual property rights are valid.

**DOUBTS AND INQUIRIES**

Participants can make any inquiries they consider are necessary to the email [cauprotect@uji.es](mailto:cauprotect@uji.es) and in the FAQ section on the contest website (FAQs).

## KEY DATES

