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The RACC has hosted the final event of the European project PIONEERS, in which it has participated together with 15 international organisations with the aim of improving the safety of motorbikes.

Presentation in Barcelona of the European PIONEERS project to improve rider safety

- **The PIONEERS project has made a detailed analysis of more than 1,400 real, serious accidents involving riders with the aim of better understanding the factors that generate the most injuries.**
- **Three safety devices have been tested: an automatic pre-impact braking system; a jacket incorporating an airbag and a rider's leg protector.**
- **Although some of these elements are still in the pilot phase and are not yet available on the market, the research concludes that the deployment of these accessories could contribute to reducing, under certain conditions, up to 24% of rider deaths. At the same time, at the European level and in a period of 5 years, a saving of up to 140 million euros could be obtained for the administrations.**
- **The initiative was launched in 2018 and is led by a consortium of 16 partners, two of which are Catalan entities: IDIADA, a specialist in vehicle design, engineering, testing and homologation, which has coordinated the project, while the RACC, as a Mobility Services Club, has contributed the user's view and analysed the impact on society.**
- **Five universities from different European cities (Florence, Munich, Strasbourg, Gustave Eiffel and Darmstadt), two research centres (BASt and Neura), one industrial company (BOSCH), four equipment manufacturers (Dainese-AGV, Alpinestars, Rev'it and Motoairbag) and two motorbike manufacturers (Piaggio Group and Ducati) have also participated in the project.**

Barcelona, 29 September 2021 - The RACC today hosted the closing ceremony of the European PIONEERS project, in which it participated together with other international organisations with **the aim of increasing safety and reducing the number of deaths and serious injuries in motorbike accidents**. This initiative, which was launched in 2018, **has received funding from the European Union under the Horizon 2020 programme, with a total budget of 4.83 million euros**. The research concludes that if the initiatives developed in the framework of the study are implemented, **under certain conditions, the number of motorbike accident victims could be reduced by up to 19%.**

The closing ceremony of PIONEERS held this morning at the RACC headquarters was **attended by RACC President Josep Mateu; the Director General of the Directorate General of Traffic, Pere Navarro; and the Director of the Catalan Traffic Agency, Ramon Lamiel.**

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1. The objectives of the PIONEERS project

In order to reduce the number of rider fatalities, PIONEERS proposes the need to **improve user safety from an integrated perspective**, i.e. it refers to both **personal protective equipment** and **accessories that are integrated into the vehicle**. Thus, the European consortium has focused on four complementary aims: **to deepen knowledge of common rider injuries; to increase the performance of safety systems; to develop better testing and assessment methodologies; and to increase awareness and use of protective equipment.**

The project is led by a consortium made up of 16 international partners, **two of which are Catalan entities**: **IDIADA, as an industrial homologation centre, and the RACC, as a Mobility Services Club.** The other participating entities are **five universities** (Florence, Strasbourg, Munich, Darmstadt and Gustave Eiffel University in Paris), **two research centres** (BASt in Germany and Neura in Australia), **one industrial company** (Bosch), **four equipment manufacturers** (Dainese-AGV, Alpinestars, Rev'it and Motoairbag) and **two motorbike manufacturers** (Piaggio Group and Ducati).

2. Results of the initiative

PIONEERS focuses on the reduction of rider fatalities in Europe, with **the aim of significantly reducing the number of fatalities by 2025**. At the same time, however, it also includes an analysis of the **economic benefit to administrations of supporting the introduction of improvements in rider safety** as a result of the reduction in the accident rate.

For this reason, **three major passive safety devices have been evaluated** as part of the project: **an automatic pre-impact braking system; a jacket incorporating an airbag and a rider's leg protector.** These are mainly **prototypes of these elements** that are not yet on the market, but which have been tested during the development of the initiative to determine their efficiency. In this sense, the following conclusions have been reached:

- The **automatic braking system** does not prevent the accident, but it does reduce the speed at which the vehicle is travelling, which helps to limit the severity of the accident. **Sixty real accident cases** have been analysed by means of computer simulations and different parameters (slowing down, field of vision, etc.) have been combined to obtain three possible scenarios according to the degree of efficiency of the device in reducing speed. And from these assumptions it can be seen that **the use of the automatic braking system would reduce the speed of impact to 15km/h, a fact that would reduce the severity of possible injuries in the event of an accident.**

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- In the types of accidents analysed (an impact between a vehicle and a motorbike), this speed limit would generate a reduction of up to 24% in the number of victims, 17% in serious injuries and 19% in minor injuries. Thus, if these devices were installed on 15% of motorbikes, it is estimated that **around 250 lives could be saved over a period of five years across Europe**.

- With regard to the **jacket incorporating an airbag**, four databases have been analysed **to study 1,300 accidents, of which 382 riders suffered injuries to the chest area covered by this protective element**. Three possible scenarios have been defined for the reduction of the impact of injuries that would be sustained with the use of this jacket depending on the speed of impact of the rider: a first scenario foresees an impact at a speed of less than 20km/h, another of 30km/h and the final, 40km/h.
    - Thus, it is concluded that the use of this protection system, **in accidents involving impact to the chest**, could reduce the number of victims by up to 8%, the number of serious injuries by up to 12% and the number of minor injuries by up to 4%. Furthermore, if 25% of riders use these devices, it is estimated that **around 110 lives could be saved over a period of five years in Europe**.

- Finally, in the case of the **leg protection device** (integrated in the motorbike), the same methodology was followed as for the previous device. Thus, **more than 1,300 accidents were analysed, of which 81 involved injuries to the leg area**. From this study, it has been determined that this system **is efficient in two different scenarios depending on the speed at which the motorbike travels: one for low impact speeds (up to 15 km/h) and the other for medium impact speeds (between 15 km/h and 30 km/h).**
    - It is concluded that these protection systems, which still need to be further developed and tested, could reduce up to 78% of serious injuries in accidents where damage is caused to the lower legs.

At the same time, if accidents, injury severity and mortality are reduced, the research concludes that **equally significant economic benefits for European health systems could be achieved**:

- The use of the **automatic braking system would contribute, over a period of five years, to savings of up to 51 million euros at European level.** In order to make this calculation, the project has taken into account a scenario with an implementation rate of 2% for this element of protection. This scenario envisages that this level of implementation would be achieved thanks to investment in an awareness campaign and promotion of part of the purchase of the product by the administration in order to achieve a higher rate of use by riders.

- It is estimated that if a high usage rate of **the jacket incorporating an airbag** is achieved, **health systems could save up to 140 million euros** over the next five years. In order to

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make this calculation, the project has started from a scenario with an implementation rate of 6% for this protection element, which would be achieved through awareness campaigns and promotion of the purchase of the product.

- On the other hand, with the deployment of the **leg protector**, although it is still in an initial phase, it would also achieve a saving of more than **5 million euros at the European level**. This is, however, a theoretical hypothesis because these devices are not yet on the market.

3. Recommendations to the administrations

The consortium that has worked on the project considers that it is necessary to continue research into the **development of passive protection elements** for riders, because **these accessories contribute significantly to the reduction of their injuries**, as can be seen from the results of PIONEERS. In this context, **the RACC, as a member of the project, calls on the administrations to support new technologies as a key tool for the prevention of rider mortality**.

In this sense, the results generated by the PIONEERS project indicate that **not only would the number of victims and injuries among riders be reduced, but that this would also result in a saving of up to 140 million euros over a period of five years for European administrations if a good balance between awareness and promotion of these devices is achieved.** However, this is theoretical research that requires a **commitment on the part of administrations and users** to put these conclusions into practice.

For this reason, those responsible for the project **call on local and European administrations to**:

1. **Continue investing in the development and marketing of new passive protection elements for riders.**
2. **Make changes in the testing and homologation methods for these devices so that they are better adapted to the reality of accidents.**
3. **Encourage the use of these measures, promoting awareness campaigns and promoting the use of these elements.**

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About the RACC

The RACC is an institution that offers coverage and high-quality services to care for the needs of more than 10 million people worldwide. It is specialised in providing personal, family, breakdown, urgent medical and home assistance, and it has the largest driving school network in Spain. To cover their needs, it carries out more than 1,000,000 assistance services per year and manages around 500,000 insurance policies in different branches. The RACC promotes a new mobility culture, which is safer and environment-friendly, and it has a large dissemination capacity and influence in aspects related to the improvement of road safety, the reduction of accidents and infrastructures.

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