New BSC start-up to minimize the impact of volcanic eruptions in the aviation sector

Mitiga has been selected by Barcelona Activa to represent the Catalan entrepreneur ecosystem in Japan.

Start-up Mitiga Solutions by the Barcelona Supercomputing Center (BSC) has developed a technology that is able to evaluate the impacts of volcanic eruptions in the aviation sector. It deals with a software which allows airlines to know the risks that these natural disasters may cause to the activity of their flights.

Mitiga Solutions won the award for the best start-up of the Pre-acceleration Program of Barcelona Activa 2018, and it has just been selected for Barcelona Activa to represent the Catalan entrepreneur ecosystem in Japan.

Through algorithms, information from different specialized sources and satellite images, Mitiga can know when a volcano has started erupting, forecast its impact and provide information to airlines for them to manage air traffic (for example, by defining alternative routes). In this way, the technology of Mitiga Solutions, called SORT-ATM, offers to airlines a quicker response time to evaluate and manage the impact that a volcanic eruption might bring about. Thus, the software informs the airline via an automatic notification 24-48 hours in advance about the section of the flight route that will be affected, how high is the eruption impact to reach, the contamination to which the turbines will be exposed, and which of their scheduled flights may proceed without taking any risks.

"Nowadays, airlines do not have a tool which allows them to know the impact that natural disasters, such as volcanic eruptions, may have on their activities"
. explains Àlex Martí, CEO of the company. “Given this uncertainty, airlines normally decide not to take any risks and they just cancel flights” – he further explains. “The closure of airspace and the cancellation or change of flights entail an important financial loss at many levels, as it happened in 2010 when the Eyjafjallajökull volcano erupted in Iceland, or this summer in Bali, with the eruption of Mt. Agung. That is why the technology of Mitiga Solutions offers a solution which helps customers to take decisions before natural disasters, minimizing risks and taking the minimum economic impact”.

Apart from commercial and military airlines, the technology created by Mitiga can also be applied to sectors such as insurance companies, airports and motor suppliers. “Airlines rent motors to these companies and usually the impact of these natural disasters has a negative impact on suppliers”, explains Àlex Martí. In this sense, the tool by Mitiga Solutions allows suppliers to know if the airplane has flown through an area affected by the volcanic eruption, and also to which ash dose the motor has been exposed. “In this way, these companies can adapt their motor maintenance service and they can adjust it to the use by the airline, maximising their benefits”. As regards airports, the technology developed by Mitiga Solutions is able to detect which effects the ash from the volcanic eruption may bring about. “Airports do not anticipate that maintenance works of both the runways and the airplanes are delayed because of the falling ash”, explains Mitiga Solution’s Director. “These delays may cause an airplane to be inoperative during 2 or 3 days, which causes an important economic problem”. Finally, insurance companies are also interested in accessing to Mitiga Solutions data in order to offer premium coverage for volcanic risks through parametric products. Mitiga Solutions is working on a program of Early Adopters with airlines, motor manufacturers and the most important insurance companies of the whole world, and it will finish its first investment round on October 2018.

About Mitiga

Mitiga Solutions won the award to the best start-up of the Pre-accelerator Program of Barcelona Activa 2018, it has taken part in IESE’s technology transfer program, it has also been selected as one of the seven best TIC companies to be invested on in the Fórum d’Inversió of ACC1Ó of 2018, and it is one of the ten most disruptive start-ups in Spain, participating in the accelerator program Empenta, by ACC1Ó (an agency of the Generalitat of Catalonia for the competitiveness of companies, which depends on the Department of Business and Knowledge, together with ESADE and ESADECREAPOLIS, with the objective of accelerating the growth of start-up companies in their initial stages for their products and services to reach the market, so that they may find investors. Mitiga Solutions has been selected by Barcelona Activa to represent the Catalan entrepreneur system in Japan in a pilot programme that will facilitate the business landing and the start-up interchange between Barcelona and Fukuoka, in Japan.

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