



LIDAR SCANNER WINDCUBE 400S IN THE PORT OF VOLTRI, GENOVA



SITTING FROM THE LEFT: MARIA PIA REPETTO, GIOVANNI SOLARI, MASSIMILIANO BURLANDO. STANDING FROM THE LEFT: PATRIZIA DE GAETANO, MARCO TIZZI, MARINA PIZZO

The dangers caused by the wind



Thunderstorms are one of the most common causes of natural devastation. How can this be taken into account at construction level?

Out of all natural disasters, the most common cause of death and destruction is not earthquakes (as one might intuitively think), but the wind, especially in those countries affected by tropical cyclones, so much so that the Un has recognised the wind as the strategic element for world safety. Though much is known about cyclones, the other phenomenon connected to wind devastation is less studied, namely, thunderstorms. Launched about a year ago, the Horizon 2020 “Thunderr” project is an ERC Advanced Grant that intends to study thunderstorms and their effect on buildings: staff of the Department of Civil, Chemical and Environmental Engineering at the University of

Genova is studying this topic, coordinated by professor Giovanni Solari, who has been a luminary in this field for many years and already has several projects to his name, which the present one runs from. “I have never seen a high-rise building fall because of the wind - the professor begins - whereas, every day, medium-low constructions collapse such as cranes, roofing structures, warehouses, and pedestrian walkways: and in 95% of cases this happens during a thunderstorm. Starting from here, we would like to refocus on the safety and economy of constructions, developing new methods of engineering calculation and shifting costs where they are needed. Perhaps the idea is ambitious, but let’s see how far we can

get.” To begin with, staff from the Dicca have bought a very rare instrument - a sensor that measures wind with a radius of 12 kilometres and have installed it in the port of Genova. A group of young postgraduates will have the task, over the next four years, to study the data, while the cooperation with other universities specialised in storms, wind or meteorology (Western University in Canada, the University of Eindhoven and the University of Berlin) will also be instrumental to understand if thunderstorms are increasing in number and growing in intensity, in the context of climate change. The project website is already online, www.thunderr.eu, where the current progress can be viewed. ■