



Best Snow Load Measurement System - Europe

envitron systems GmbH develops and sells systems for monitoring snow loads and meltwater on flat roofs at facilities like schools, warehouses, or sports and production halls.

More than 30 years ago, Reiner Reisch established his first engineering company for embedded systems. He has many years of experience in product development and project planning in the automotive sector, medical engineering, and industry development, resulting in numerous patent applications.

Snow loads on roofs are still not given enough attention. Unfortunately, there are no warnings from the weather service either. In the past years, numerous buildings have collapsed and people have died due to so much snow load. The actual snow load does not only depend on the snow depth and it is therefore very difficult to calculate. The decisive factor for this is the type of individual snow layers. The weight can vary greatly due to the different consistencies such as ice, wet, or powder snow, as well as rain or melting snow. Extreme weather conditions are occurring more often and with this comes the risk of massive roof loads. Buildings with older structures or additional loads, e.g. from photovoltaic systems, are particularly at risk.

For a long time, it was necessary during acute weather conditions to climb onto the roof and weigh the snow manually several times a day in order to calculate the snow load reasonably and realistically. With the snowcontrol snow scales from envitron, the actual weight of snow and ice on flat roofs can be recorded 24/7. Via the data portal, the data can be conveniently monitored from any internet-enabled device and serve as a useful decision-making aid for those who are responsible.

In the case of an alarm, SMS and email messages can be sent to any number of recipients. The limit values can be freely set and the system works completely independently. The new satellite system for snow load measurement is now the ultimate further development and solution for determining snow load on large roof areas. On large flat roofs, the snow cover differs a lot



because of roof structures or fire protection walls. These variations in the snow load or backwater can only be recorded by a large number of measuring points like the envitron snow measurement system. So, in case of an emergency, the roof clearance can be initiated and people can be evacuated in time and lives be saved.

The danger posed by backwater is also repeatedly underestimated. Due to deficiencies in the drainage or a clogged drain, the water often does not flow off flat roofs properly after heavy rainfall or snow melting and it accumulates over a large area. An accumulation height of only 7cm of water corresponds to a weight of approx. 70kg/m² and represents an acute danger to the safety of the building. If snow is added in winter, the roof's maximum load-bearing capacity is quickly reached. The lakes on flat roofs often remain undiscovered until the building is damaged or even collapsed, as the roof surfaces are only checked sporadically. envitron's backwater sensor monitors 24/7 and an alarm will be automatically triggered if there is a risk of overload.

Reiner Reisch has received well-deserved recognition for his envitron products, including in 2013, when he was awarded the IENA gold medal for the best product innovation of the year for the snowcontrol system. Also, his latest design, the patented satellite-based snow load measuring system designed to monitor large roof areas is an outstanding development which was nominated for the Innovation Leben Award by Bayern Innovativ.

Indeed, it's easy to see how envitron has achieved such recognition, alongside its award success in EU Business News' German Business Awards 2021. The company will no doubt see more of this recognition in the not too distant future as it continues to innovate. With the risk of roof collapses continuing to increase in the future due to the rise in extreme weather conditions, envitron will keep working on new products and therefore saving lives.

Company: envitron systems GmbH
Contact: Reiner Reisch
Email: info@envitron-systems.com
Website: www.envitron-systems.com