hailsens
real-time hail measurement sensor

The next generation of hail detection

HailSens – the first automatic real-time hail measurement sensor

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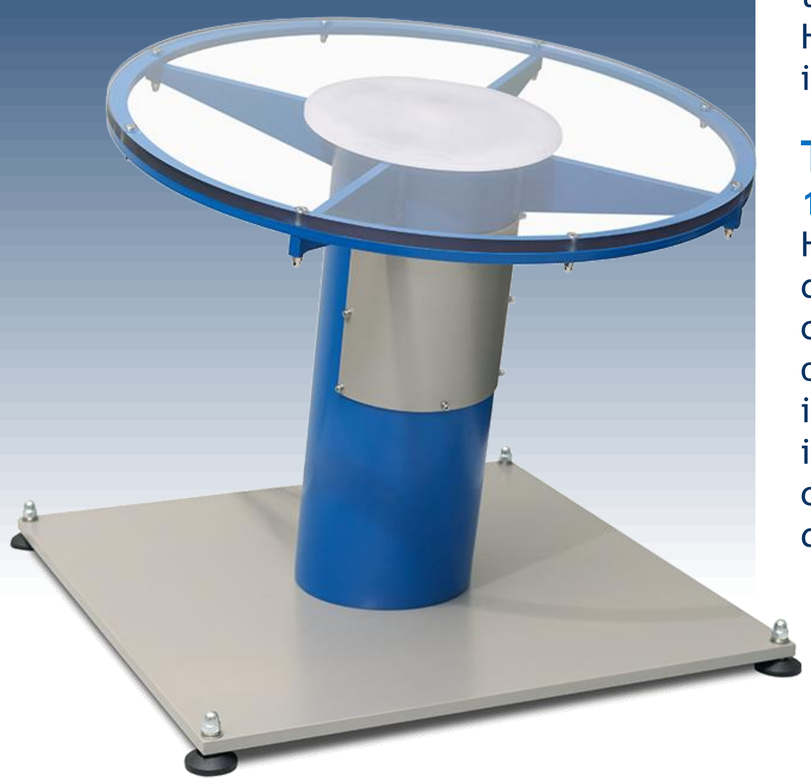

Figure 1: Location of 10 roof installed HailSens sensors around the Central Switzerland Hail Hotspot Region

Figure 2: MeteoSwiss Radar Data of Aadorf, CH Hailstorm on 27.05.16

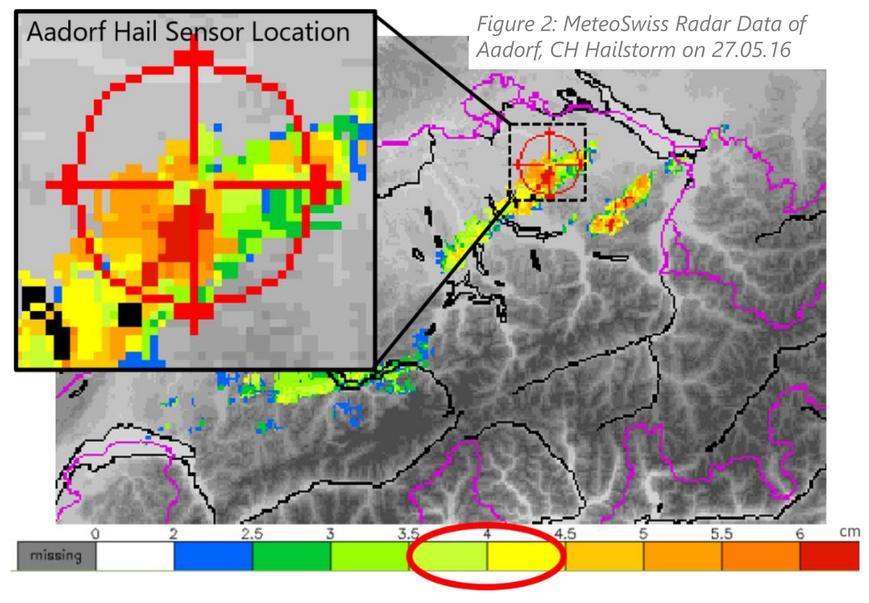

Figure 3: HailSens estimated Hailstone Size from Aadorf Storm based on Impact Momentum

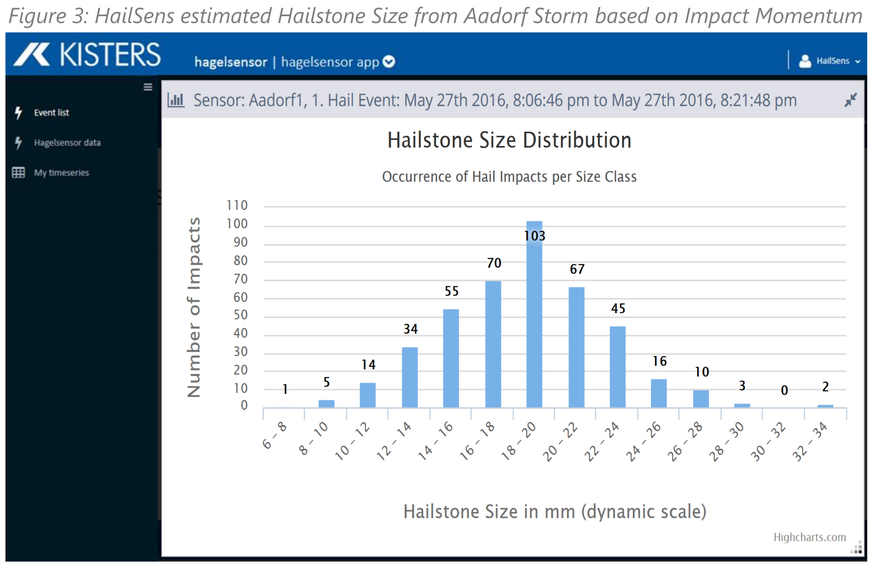

Figure 4: HailSens software suite collecting real-time Hailstorm dynamics data

HailSens - Enabling automatic on-the-ground validation of hail events

The new HailSens sensor enables wireless real-time measurement of hail events including hail stone size, event duration, intensity, and even the impact energy of each individual hail stone.

The HailSens' large measurement surface (0.2m^2) and unique piezo-based measurement technique enables the never-before possible ability to investigate high-resolution, real-time details of hail storm dynamics. The HailSens enables numerous applications such as on-the-ground validation of hail detection for the further improvement of weather radar nowcasting capabilities and early warning systems to reduce property damage.

Two Models Available - R&D/INS and SYNOP

1. R&D/INS Model - *End-to-End Big Data Solution*

HailSens R&D/INS units operate autonomously sending data over UMTS/3G/4G with every single impact to the cloud-based hailsens.online application. This is the optimal tool for network operators with a strong interest in mass data on individual hail events and pellet impacts. HailSens forwards the data via remote wireless communication. HailSens data classified into hail damage classes by hailsens.online cloud application.

2. SYNOP Model - *WMO Monitoring Solution*

HailSens SYNOP systems send serial data telegrams (statistical summary of the past minute) over RS-485 connections to a local data acquisition system. This device is ideally suited for Met Office's monitoring network stations reporting to the WMO. HailSens provides output via RS-485 and data telegram providing both hail YES/NO and quantity information for external generation of SYNOP/METAR codes (i.e. icepellets > 5 mm according to WMO).

Interested in measuring Hail?

Let's collaborate!

For further inquires please email - edgar.wetzel@kisters.de or mario.betschart@innetag.ch

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