Breaking New Ground in Hail Impact Analysis: Conversations with Edgar Wetzel

KISTERS Group

"The result of years of research, KISTERS HailSens is a field-proven device that maintains continuity with hailpad records while providing unparalleled real-time insights.

It is the first choice for both insurance claims and scientific research."

Edgar Wetzel
Global Head of R&D
at KISTERS HydroMet

Interviewer: Edgar, it's great to have you here. Can you tell us about HailSens IoT and what makes it so special?

Edgar Wetzel: Thank you very much! HailSens IoT is really a game changer in hail monitoring. It's a robust system that uses a 19.7 inch (0.5 meter) sensing plate to detect all hailstones larger than 5 mm. What sets it apart is its ability to provide real-time data on hail size, intensity and distribution that traditional methods simply can't match.

Interviewer: That sounds impressive. Can you tell us a little bit more about how it works?

Edgar Wetzel: Sure. HailSens IoT uses piezo microphones to capture the kinetic energy of the hailstone impacts as they hit the sensing plate. This data is then processed in real time by an integrated microcontroller that determines the kinetic energy of each hailstone.

The data is transmitted instantly to a local system or cloud server for immediate analysis and early warning alerts.

Interviewer: Who can benefit the most from using HailSens IoT?

Edgar Wetzel: HailSens IoT is incredibly versatile. Meteorologists can use it to improve weather predictions and study hailstorms in detail. Operators of sensitive infrastructure, such as utility-scale solar farms and large commercial buildings, will find it invaluable for damage assessment. Insurance companies can use the data to streamline claims, making the process faster and more accurate. Even emergency preparedness teams can coordinate better with the real-time information it provides.

Interviewer: Why is hail monitoring so important?

Edgar Wetzel: Hailstorms cause significant damage every year. From 2008 to 2019, hailstorms caused approximately $14 billion in insured losses in the U.S. alone.
For industries such as renewable energy, building management, and agriculture, understanding and mitigating hail damage is critical. HailSens IoT provides the precise data needed to make informed decisions and protect valuable assets.

Interviewer: What are some of the key benefits of using HailSens IoT?

Edgar Wetzel: One key benefit is the real-time alerts. As soon as hail is detected, users are notified immediately, and can take protective measures such as tilting solar panels or closing shutters. This can significantly reduce damage and costs. HailSens also provides detailed and objective assessments of hail events, capturing data on hailstone size, kinetic energy and individual time stamp. This helps in processing insurance claims more effectively and allocating resources efficiently during recovery.

Interviewer: How was HailSens IoT developed?

Edgar Wetzel: HailSens IoT is the result of extensive research and development. In the preliminary R & D phase we partnered with the HTW University of Applied Sciences and conducted both laboratory and field tests. This initial collaboration helped us create a sensor that provides accurate and reliable hail monitoring. Even without a global standard for hail measurement, HailSens IoT maintains continuity in data collection and long-term evaluation, making it invaluable for scientific research.

Interviewer: How does HailSens IoT specifically benefit utility-scale solar installations?

Edgar Wetzel: For utility-scale power plants, HailSens IoT is a unique asset. It provides real-time monitoring and an actual record of the hail event, detailing hailstone size, intensity and distribution across the solar array. This comprehensive data supports rapid damage assessment and facilitates productive, data-driven conversations with insurers. This proactive approach helps protect valuable assets and supports the broader goal of maintaining a reliable and sustainable energy supply.

Interviewer: In conclusion, what makes HailSens IoT a must-have for hail monitoring?

Edgar Wetzel: HailSens IoT is more than just a hail detection system. It's an essential tool for understanding hailstorms and mitigating their impact. With advanced technology and comprehensive data capabilities, it sets a new standard in hail monitoring. As we face increasing challenges from severe weather, solutions like HailSens IoT will be critical to protecting assets and ensuring a resilient future.

Edgar Wetzel: "HailSens represents the culmination of years of dedicated research. As the only hail sensor that seamlessly integrates with hailpad data - the gold standard for scientists worldwide - HailSens delivers continuity and accuracy in hail impact data collection. Proven in the field, HailSens provides unparalleled real-time insights, making it the first choice for both insurance claims and scientific research."

For more information on how HailSens IoT can improve your hail mitigation strategy, visit us at KISTERS **HailSens IoT** or schedule a consultation with our experts today.

KISTERS is a global leader in environmental data management solutions, providing cutting-edge technology to address the challenges of climate change and extreme weather. With decades of experience and a commitment to innovation, **KISTERS** empowers industries to make data-driven decisions for a sustainable future.