

RESONATE SYSTEMS partner with clients to design and build measurement and control systems tailored to their project and application needs.

When project demands are not met by off-the-shelf systems, customers are often left to compromise on project outcomes.

Our integrated turn-key systems aim to bridge that gap and deliver exactly what the client requires.

Supported by a team of mechanical, electrical, and computer systems engineers, we guide our clients from initial requirements gathering, concept designs and prototypes, through to deployment and testing.

With an ever-growing list of deployed systems, our development team are able to leverage hardware and software designs from past projects to rapidly deliver systems built on tried and tested architectures.

Thanks to our philosophy and approach, every project we take on board results in a highly flexible, tailored and cost-effective system.



Case Study Card

Hensoldt

Qualification of Antenna Dynamics

RESONATE SYSTEMS were engaged by Hensoldt GmbH to develop two custom data acquisition systems to assist with the qualification of radar antenna performance against specifications. With a tight schedule, the systems needed to be specified, designed, built and commissioned within 3 months.

RESONATE SYSTEMS applied agile project management techniques and test-driven development to identify and address key technical risk areas and rapidly iterate towards a solution that satisfied Hensoldt's critical requirements within the required timeframe.

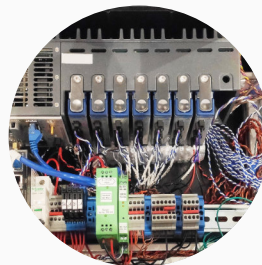
Each deployed system consisted of two 20-channel data acquisition system: One attached to rotating components and transmitting data via WiFi; and the other mounted on the radar tower. The systems were to be simultaneously deployed at two sites running continuously for a period of 4 months. The systems measured a range of signal types from devices including wind sensors, tachometers, AC and DC accelerometers, laser distance sensors, rotary encoders, and tilt sensors.

All data was time synchronous and stored in a common format with meaningful meta-data tailored towards Hensoldt's requirements.

Using open-source tools such as Python and MongoDB, RESONATE SYSTEMS developed a data management process that allowed for effective searching of the data sets during the analysis stage.

Training in the effective use of these software tools was provided to Hensoldt allowing their engineering team to complete their assessment and support the equipment in future installations.

By completion of the monitoring period the systems had characterised over 1.5 million antenna rotations and allowed Hensoldt to develop a deep understanding of the mechanical dynamics of the radar in a range of environmental conditions.



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