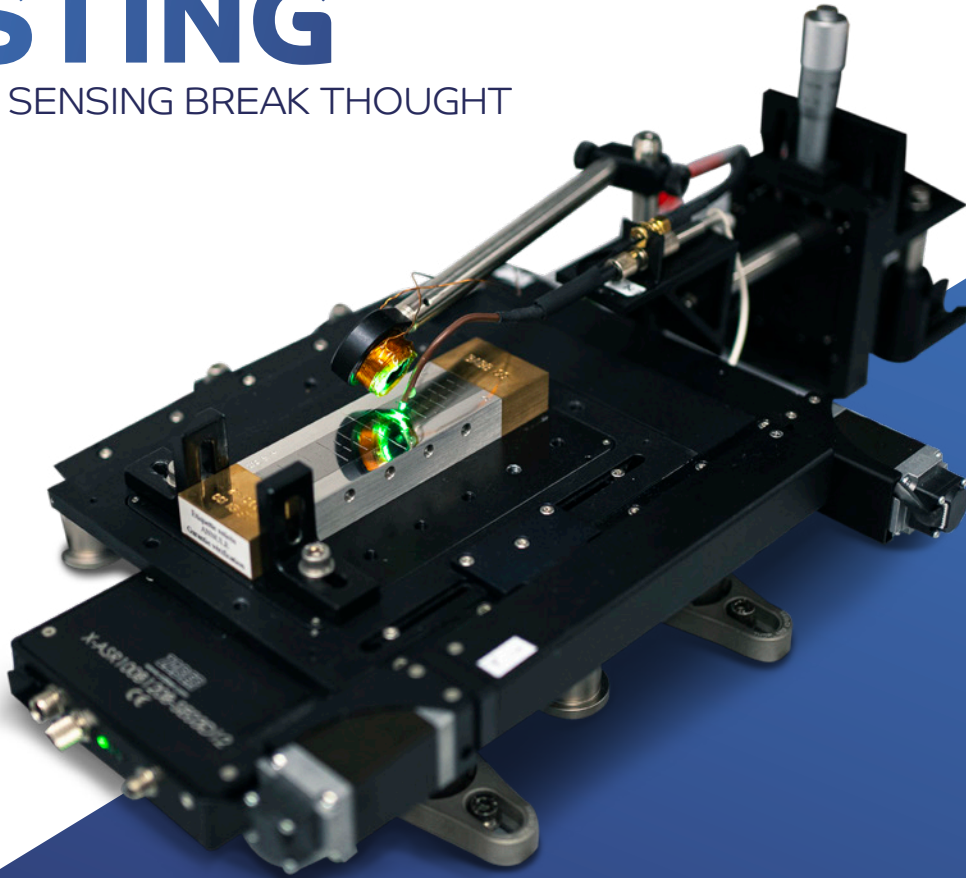


# NON DESTRUCTIVE TESTING

QUANTUM SENSING BREAK THOUGHT



## Revolutionary quantum metrology solution for non-destructive testing

### NV Center Diamond Sensor:

- **Absolute sensor** with high spatial resolution
- Remote electronics and small sensor head to reach **hardly accessible locations**
- Resist to **harsh environments** (high temperatures and radiation levels)

To know more



 **kwan-tek**

# Detecting grinding burns in steel

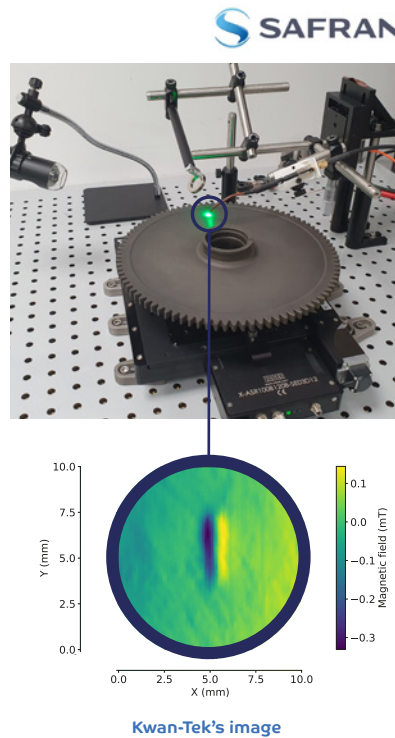
## Customer problem

Grinding burns may occur during steel manufacturing. Undetected, they cause **serious damage**. Such burns are difficult to detect with non-destructive testing.

The prevalent inspection is based on visual inspection after nital etching, which poses environmental, health and traceability issues. Detection at the end of the production line leads to a ineffective manufacturing.

## Our solution

Our unique solution based on a quantum magnetometer allows the detection of grinding burns. It is fully **digital**, non-polluting and delivers unprecedented spatial **resolution** and detection **sensitivity**.



## Benefits

Our small sensors can be used to inspect **complex geometries**, such as the flanks and fillets of gear teeth. The detection occurs without any **part preparation**. Defects can be characterized right after fabrication and through coatings to **increase** the efficiency of your processes. Due to the quantum nature of our solutions, there is high stability without any **drift**, which makes the technology ideal for seamless **integration** within a robust industrial process.

# How KWAN-TEK meets your needs?



## Preventing hydrogen embrittlement

Our high-resolution quantum magnetometers can **identify small ferritic regions in stainless steel**, enhancing hydrogen installation safety.

Hydrogen embrittlement, caused by hydrogen diffusion in metals, leads to increased fatigue and crack formation. This leads to serious issues for hydrogen storage. While austenitic steels are more resistant than ferritic steels, detecting ferritic phases is essential to prevent damage.



## Better operation of nuclear facilities

Nuclear power plants are complex systems where small failures can cause major incidents, making early problem detection critical. Inspections require reliable non-destructive testing methods that work in **harsh environments**. KWAN-TEK's robust diamond sensors, integrated into compact fibered endoscopes, excel in high-temperature, high-radiation conditions, enabling **effective deployment in confined spaces**.

Contact us



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