

# Use Cases: Internal



QU-PILOT

Task	Company	RTO	Use-Case
T6.11	Diatope	TNO,IMEC, FhG-IAF	MW structures for NV spin characterization

## What & Why

- Microwave structures for efficient/homogeneous nitrogen vacancy (NV) spin driving
- For quantum sensing applications (single-molecule NMR or electronics inspection)

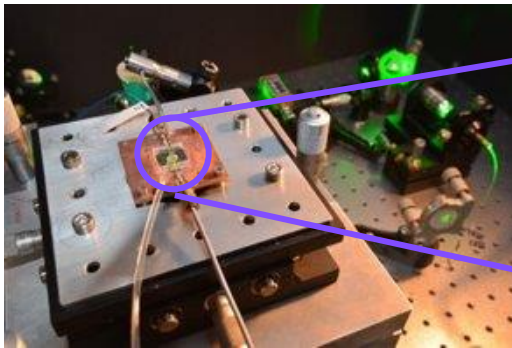
## Task

- Design of MW antenna structures
- Microfabricated antennas on diamond
- Testing and benchmarking of structure with NV centers for quantum sensing

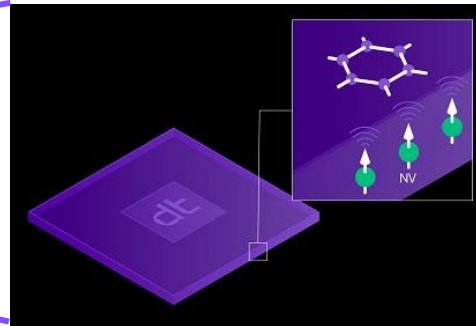
Diamond platform

Sensing  
Communication

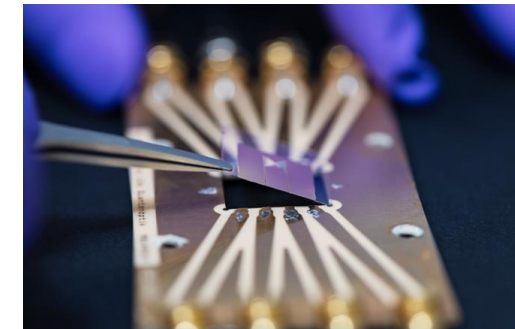
TNO imec  
FONDAZIONE BRUNO KESSLER  
Fraunhofer



Sample holder mounted on system



NV diamond for nanoscale sensing



Sample holder with MW structure on diamond

