

Institute of Microwave and Photonic Engineering

The Institute of Microwave and Photonic Engineering at
Graz University of Technology was founded in 2010.

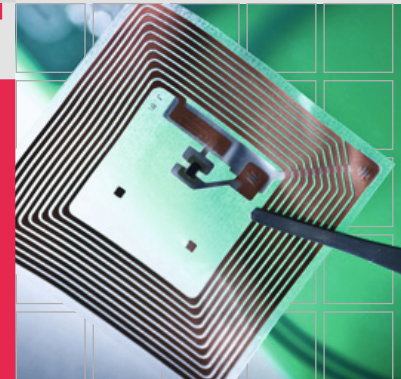
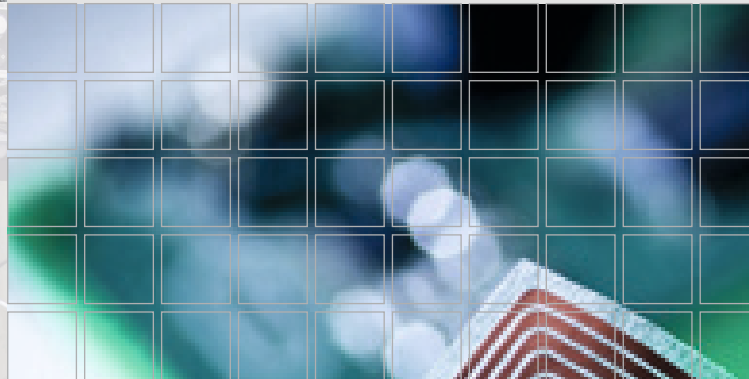
It incorporates three research groups with emphasis on
radar & wave propagation, microwave technology and
optical data transmission.

Only recently to facilitate innovation and to promote
new cooperative research activities a state of the art
microwave and mmW laboratory, spacious cleanroom
facilities and an anechoic chamber were implemented.

The Institute and its facilities are nicely located in the
middle of one of the few Electronic Clusters in Europe
formed by a number of large Electronic companies,
SMEs and start-up companies in Graz / Austria.

Overall 25 expert staff are currently employed by the
Institute.

► www.ihf.tugraz.at



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Institute of Microwave and Photonic Engineering

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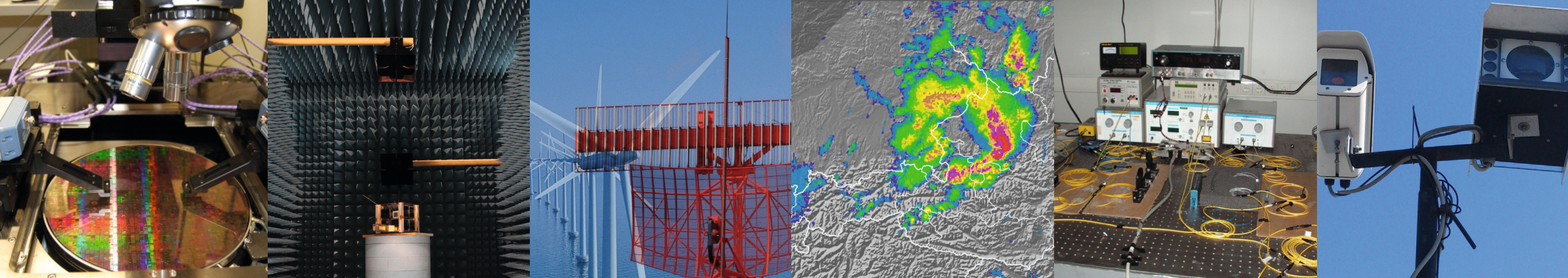
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**Institute of Microwave and
Photonic Engineering**

Research

Services

Expertise



Microwave Technologies

Services

Characterization, modelling and linearization of non-linear components and systems

Circuit and system design for integrated front ends in the microwave and millimetre wave area

Design and measurement of antennas and communication systems

Automated measurements of complete wafers

Fully automated on-wafer measurements from 10 MHz up to 110 GHz, wafer mapping, and laser trimming

Expertise

Temperature characterization of integrated circuits

Broadband, non-linear measurement equipment

Directivity, MIMO and OTA measurements in an anechoic chamber

RFID circuits, antennas and systems

Radar and Microwave Propagation

Services

Development of radar systems for measurement of snow avalanches

Software development of weather information system (WIIS)

Studies and measurements of microwave propagation and radar systems

Studies in the area of air traffic surveillance

Study of scattering properties of precipitation particles and weather radar technologies

Selected Projects

Weather radar (WIIS, OPERA, CERAD)

Pulsed-wave doppler radar (avalanche measurements, SAME, SATSIE)

Dual-polarized weather radar Hilmwarte

Consulting and expert assessments

Early detection of natural hazards

Optical Communications

Services

Design of optical free space communication systems

Evaluation of optical free space channels on their dependency on atmospheric conditions

Analysis of optical transmissions in the laboratory

Design and implementation of optical data links

Optical measurement techniques (incl. fiber optics)

Expertise

Simulation, design, measurement and modelling of optical & FSO systems

Classification of optical systems

Comparison and combination of optical and RF systems

Investigations on emission characteristics of light sources (including spectral analysis)