SERVICES AND SOFTWARE SOLUTIONS
Ultrasound and Ultrasonics

Ultrasound with its numerous application facets and possibilities allows the design of versatile devices and high tech applications. The development process typically includes measurement as well as simulation tasks with the goal to reduce the time-to-market.

In order to aid this process, SIMetris offers services and software solutions for ultrasound development engineers. Our customers benefit by a single partner proficient with measurement and simulation services.

Measurements

We assist the device design process by providing measurements using hydrophones, scanning laser doppler vibrometers, as well as electrical impedance analyzers.

Virtual Product Development

Virtual product development is supported by us in many ways. On the one hand SIMetris supports the on site development process by delivering NACS Software Suites. On the other hand we also offer services from model generation or causal research tasks up to virtual prototyping projects.

Material Parameter Identification

The predictive power of numerical simulations relies on excellent material parameters. To assure this we offer a special material parameter identification service, based on a combination of measurement and simulation.

Excellent connections to university chairs and partners keep our experts up to date concerning state of the art methods and technologies.
Fields of Application

- Transducer Design
- Ultrasonic Flowmeters
- RF Filter Design
- Distance Sensors
- Non Destructive Testing
- Diagnostic Ultrasound Devices
- Therapeutical Ultrasound Devices

Technologies

- Surface Acoustic Wave (SAW) Devices
- Bulk Acoustic Wave (BAW) Devices
- Thin Film Bulk Acoustic Wave Resonator (FBAR)
- Pulsed Ultrasound Applications
- Micro-Electro-Mechanical-System (MEMS)
- Capacitive Micromachined Ultrasonic Transducer (CMUT)

Industries

- Medical
- Process Industry
- Mobile Communication

Software Solutions

- Piezoelectric-Acoustic Suite
- Magneto-mechanical-Acoustic Suite
- Vibroacoustics Suite

Tailored Features

- Static, Transient, Harmonic, and Eigenfrequency Analysis from DC to GHz range
- Fully coupled simulation from electric excitation to sound radiation
- Linear and nonlinear capabilities
Company Profile

Services

- **Simulation Services**
  - Model Generation
  - Causal Research
  - Optimization
  - Virtual Prototyping

- **Computer Aided Measurements**
  - Acoustics and Vibroacoustics
  - Modal Analysis

- **Material Parameter Identification**
  - Piezoelectric Materials
  - Mechanical Materials
  - Acoustic Materials

Software

- **Finite Element Software NACS**
  - Magneto-mechanics
  - Piezoelectricity
  - Vibroacoustics

- **ANSYS Enhanced Solution Partner**
  - NACS Acoustics for ANSYS Workbench

- **Pre- and Postprocessor GiD**
  - German Reseller

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