

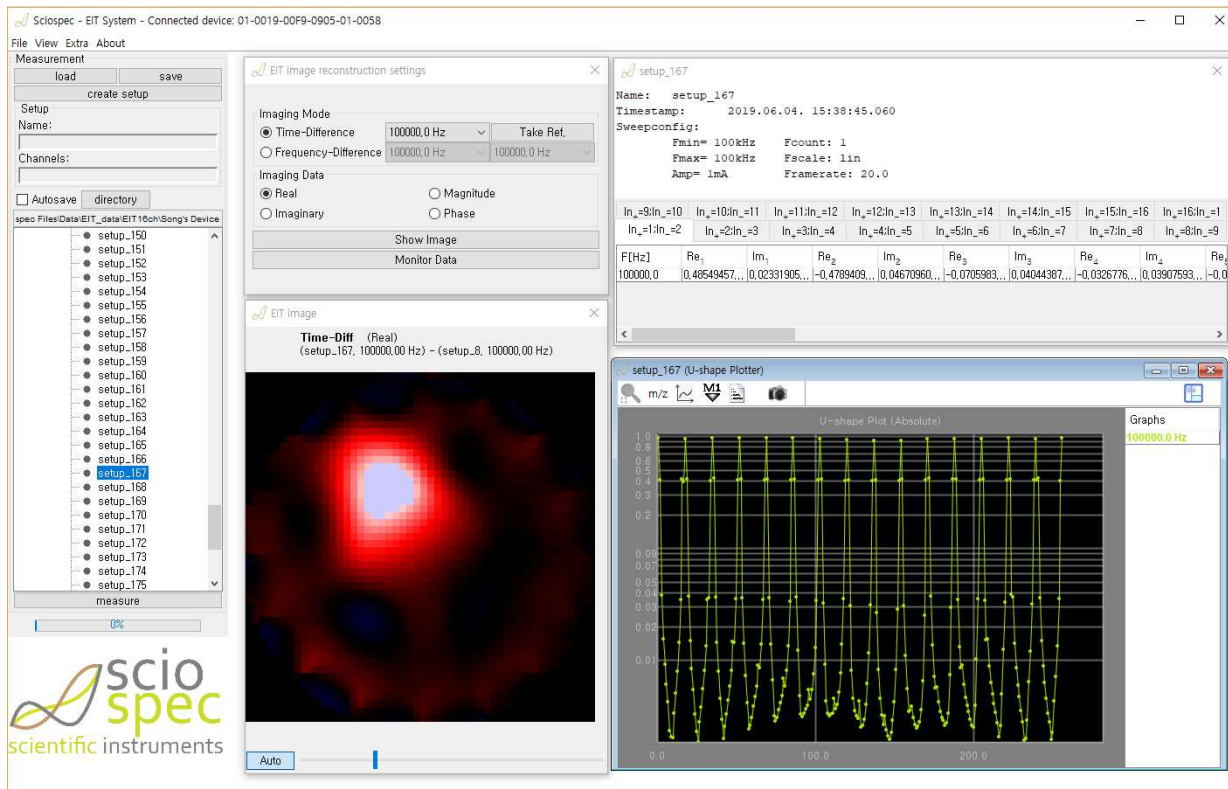
the perfect match

Sciospec Solutions for **Electrical Impedance Tomography**

Electrical Impedance Tomography (EIT) is an imaging technique that visualizes conductivity or impedance distributions both in 2D and in 3D. Sciospec is partnering with world leading scientists in the field to deliver solutions that enable using EIT both in research and in practical applications.

Apart from our standard instruments for easy entry into the world of EIT we also offer fully customized EIT products as well as application specific OEM solutions. Over the years we have realized applications ranging from the classical medical (lung ventilation monitoring and electrode positioning problems) over industrial applications (pipe system monitoring and contamination tracking) to state of the art chip based EIT for biosensing applications.





easy entry with our standard instruments

These system are designed for measurements for electrical impedance tomography or general multi-port impedance measurement applications. True parallel measurements and tightly synchronized switching allows for fast frame rates.

- 8 or 16 dual role electrode connections serving both as voltage measurement and current injection ports
- pseudo differential current source for excitation signals up to 10 mA
- tightly synchronized data acquisition block for **truly simultaneous sampling** of all sixteen channels
- fast switching ultra-low leakage reed relay cross point switch matrix for selection of **any combination of 2 out of 16 channels for positive and negative injection** ports
- Sciospec **SineFit** algorithm for fast and precise signal extraction
- frequency range from 100 Hz ... 1 MHz
- spectral measurements with **frequency sweeps** with up to 256 frequencies
- current excitation from 100 nA ... 10 mA peak amplitude
- frame rates up to 100 fps
- software with ready to go imaging algorithms
- **fully customizable - just ask us**

For easy entry a software provides EIT image reconstruction functionalities for time- and frequency-difference imaging.



You want **EIT on chip** based sensors? We've got you covered!

We have a lot of experience with chip based sensors for biosensing using electrochemical and impedance analysis. EIT offers some very promising possibilities in that application domain as well, so we went ahead and created a simple way to work on chip based sensors with our EIT instruments - the EIT slide chip adapters. Whether you want to design your own sensor from scratch or want to use something off the shelf, it is easy to make it fit with our slide chip system through simple and affordable carrier boards. We are happy to help you with your sensor application development - just contact us.

Check out what our friends at the Leibniz Institute for Solid State and Materials Research Dresden did with it:

Electrical impedance tomography in on-chip integrated microtubular fluidic channels.

SM Weiz, M Medina-Sánchez, K Lee, OG Schmidt, Proceedings of the 18th International Conference on Electrical impedance tomography, p 23.

