

CASE STUDY

Thailand's Electrical and Electronics Institute: EEI

Thailand
Consumer electronics noise certification
PULSE sound power, sound level meters, transducers

EEI advises companies on how to fulfil government standards for consumer electronics, helping companies selling into the Thai market and helping Thai businesses exporting to Europe and around the world. They do this through consulting, training and seminars, and performing testing services that include sound power and electromagnetic compatibility.

Photos courtesy of EEI



The institute

EI provides test services for companies, in order to help them adhere to the test standards for electrical equipment and electronics. As a result it handles a wide range of products.

EI is autonomous, but owned by Thailand's government under the supervision of the Ministry of Industry. It is a non-profit making organisation, and receives an investment grant from the government each year.

Context and mission

EI has a total testing area of 9000 square metres, where 70 people work under Vice President Dr Thanasak Chaiyavech

Thailand's electronic exports play an important role in generating national income and although electrical exports have been growing, they are facing fierce competition at both regional and national levels, and changeable trade rules that can hinder exporters.

EI was established in 1998 with the goal of ensuring that the international competitiveness of Thailand's electronics industry would be sustainable into the future. It does this by helping domestic manufacturers to fulfil international standards as a centre of information for the study, research, and development of electrical and electronic equipment manufacturing, marketing and international trading. EI also serves to promote and support the development of local electrical and electronic product standards in accordance with international standards.



Operations

Vice President Dr Thanasak Chaiyavech has worked for eight years at EI. He has a PhD from Bangkok University in Quality Management

The key role for EI is working for Thai companies that want to export, as Vice President Thanasak Chaiyavech says, "We want to support export companies that want to develop overseas markets." Although there is currently no noise legislation in Thailand, for the many companies seeking to export to places where standards are mandatory, such as the US and Europe, this is a vital service.

The Group Manager Pongpat Phanpean says, "We are very busy because the demand for testing is growing. This is because more and more companies import their goods into Thailand, and Thai companies want to increase their exports. For example, we test air-conditioners for companies like Toshiba and Sharp, and hairdryers and clothes irons for major global companies, including Electrolux, Bosch, and Siemens."

All electrical products in Thailand have to be tested for consumer safety, so EI helps Thai companies operating domestically by providing testing services to companies and recommending improvements to help them comply. Equally, they also help international companies that want to import electrical equipment into Thailand.

An important role is providing an information service to members on legislation and export/import opportunities, including providing training and seminars on subjects like safety standards, current legislation and future legislation.



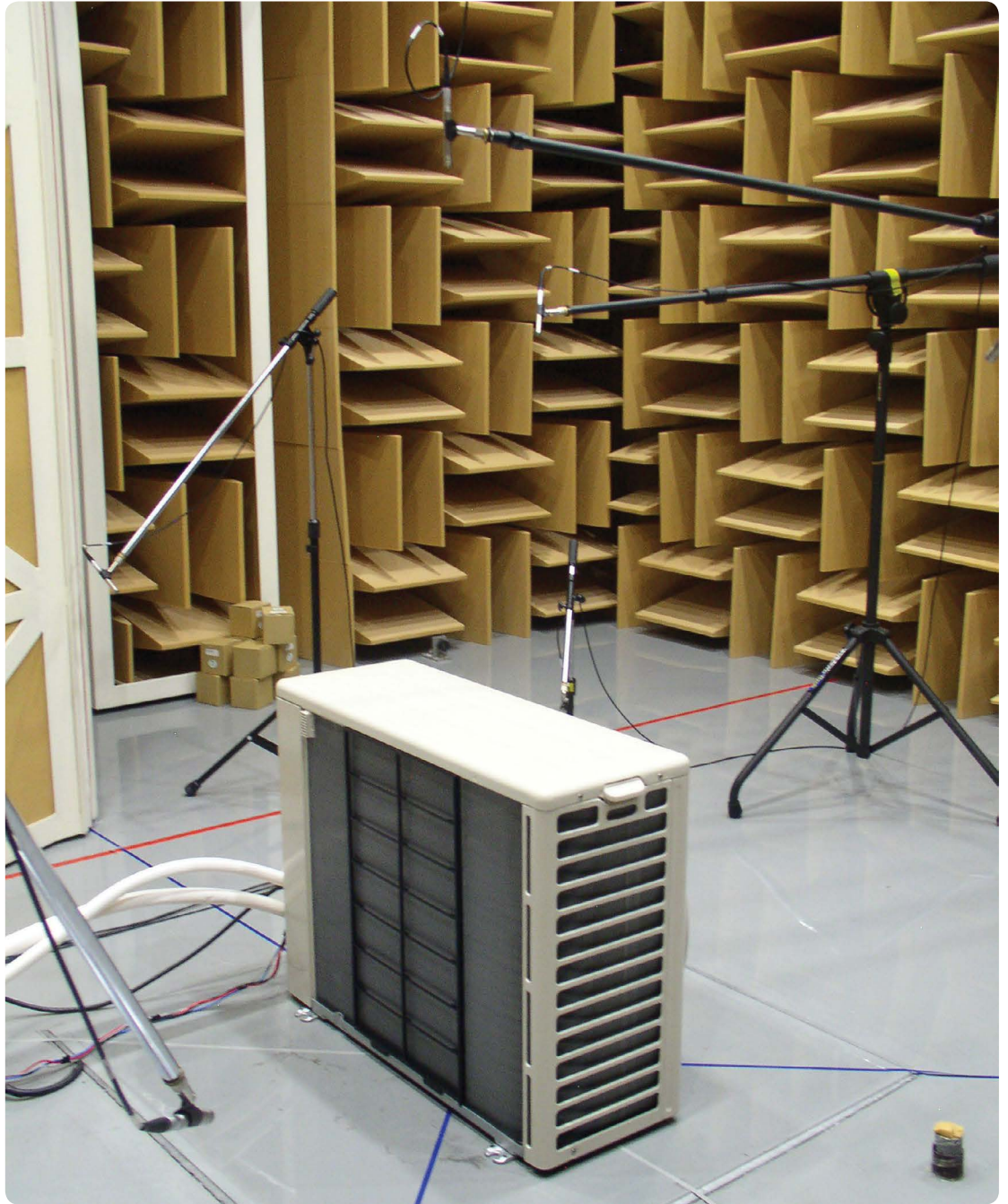
"We decided to buy Brüel & Kjaer due to its quality, reputation and both global and local support, and it was the right decision"

Vice President Dr Thanasak Chaiyavech

Testing

Sound power testing is a major focus, and EEI has two people working on this full-time. This is performed in a hemi-anechoic chamber, in addition to which they have a fully anechoic chamber that is mainly used for sound level meter calibration. According to Pongpat Phanpean, "These labs are only two years old and are state-of-the-art."

An airconditioning unit undergoing sound power testing in EEI's hemi-anechoic chamber, as can be seen in the monitors on page 1



EEI also performs a lot of Electro-Magnetic Compatibility (EMC) testing, which is important for exporting products to the EU, where the CE mark on electrical products requires them to pass EMC tests. EEI's test chamber for EMC testing is 10 x 10 metres, and they hope to increase the scope of their EMC testing capability. As Thanasak Chaiyavech says, "At present, we do a lot of testing on automotive components and systems. But in the near future we will be able to do EMC testing on complete vehicles."

Another area of electronics testing performed by EEI is luminous flux testing of light bulbs.

Lightbulbs undergoing testing



A lightbulb is prepared for luminous flux testing in a spherical chamber that completely closes to eliminate ambient light



Brüel & Kjær equipment

A Brüel & Kjær microphone with windscreen attached

EEl's Brüel & Kjær systems were purchased in 2010, and are mainly used for sound power testing and sound level meter calibration.

These include:

- A material testing tube
- A 10-channel PULSE sound power system
- Type 4955 low-noise microphones, which are essential for testing down to very low sound power levels.

"We decided to buy Brüel & Kjær due to its quality, reputation and both global and local support, and it was the right decision!" says Dr Thanasak Chaiyavech. "We also have other Brüel & Kjær equipment, and I'm totally pleased – there have been no problems."

In future, EEl plans to invest in more Brüel & Kjær solutions to assist them in expanding the test services that they can supply to industry.

