

# GLOBAL SERVICE SOLUTIONS

FIELD SERVICES  
ENGINEERING AND CONSULTING  
ETS-U™ EDUCATION



**COMMITTED TO A SMARTER,  
MORE CONNECTED FUTURE**

 **ETS·LINDGREN**<sup>®</sup>  
An ESCO Technologies Company

# ETS-LINDGREN IS AN EXPERIENCED PARTNER YOU CAN TRUST

THE LEADER IN THE TEST AND MEASUREMENT AND SHIELDING INDUSTRY IS ALSO THE EXPERT IN TEST AND MEASUREMENT AND SHIELDING SERVICES

From education to consulting and product testing to calibration, ETS-Lindgren has dedicated experts committed to the success of our customers. ETS-Lindgren understands how downtime can impact our customers' development, production, and testing schedules. Let ETS-Lindgren assist in maintaining your chambers and training your employees to ensure optimal utilization of your assets.

ETS-Lindgren employs more than 750 professionals at locations in the Americas, Europe, the Middle East, and Asia. Our global network of independent representatives and distributors provide local service and support backed by the global resources of ETS-Lindgren.

Whether your chambers and shielding products are from ETS-Lindgren or another manufacturer, our Service Experts can address your service needs. ETS-Lindgren is committed to meeting your service needs to minimize downtime and maximize your output.





## FIELD SERVICES

ETS-Lindgren's Field Services provide a wide range of services related to electromagnetic compatibility (EMC), wireless, automotive, radio frequency (RF) microwave, and acoustic testing, as well as overall chamber and shielding maintenance. These services help businesses optimize the performance of their test and measurement equipment and shielding products, thereby improving testing accuracy, reducing the risk of costly errors, and maximizing operational throughput.

Within the EMC testing field, ETS-Lindgren offers services such as:

- NSA (Normalized Site Attenuation) Testing – measures the ability of a chamber to attenuate radio signals and evaluates the reflection level of the chamber quiet-zone for less than 1 GHz
- NSIL (Normalized Site Insertion Loss) – evaluates the chamber performance in the 9 kHz to 30 MHz range
- SVSWR (Site Voltage Standing Wave Ratio) including ANSI C63.25 Time Domain Testing – evaluates the reflection level of a chamber quiet-zone for greater than 1 GHz measurement
- Field Uniformity Testing – measures the uniformity of the electric field in a measurement plane in a chamber
- Reverb Testing – evaluates the performance of mode-stirred chambers that will be used for EMC immunity, emission, and shielding effectiveness measurements, as well as those used for wireless device performance evaluation

Wireless Testing Services offered by ETS-Lindgren include testing for a variety of different wireless technologies, such as cellular handsets and base stations, Wi-Fi, Bluetooth, and many more. These services help businesses to ensure that their products meet regulatory requirements and perform optimally in a wireless environment.

In addition to testing services, ETS-Lindgren also provides Maintenance and Repair Services, including component repairs and replacements, turntable repairs, door repairs, and installation, as well as overall chamber maintenance. These services help extend the life of testing equipment while reducing the risk of costly downtime due to equipment failure. ETS-Lindgren's Technical Services Team is comprised of highly trained technicians with extensive experience in the field of EMC and RF testing. They have access to the latest test and measurement equipment and are committed to helping businesses optimize their testing processes and outcomes.

ETS-Lindgren also provides Shielding Services including shielding and door repairs, relocations, modifications, general maintenance, and shielding effectiveness testing. ETS-Lindgren can service and repair most shielding systems.

By providing a wide range of options, ETS-Lindgren's Field Services can help businesses save time and money while ensuring accuracy and reliability of chamber and shielding solutions.



## CALIBRATION AND REPAIR SERVICES

At ETS-Lindgren, we take pride in providing Calibration and Repair Services of testing equipment for precise and consistent measurements every time. The company's calibration lab operates in accordance with ISO 17025 standards, assuring customers that their testing equipment is calibrated to a high degree of accuracy. Furthermore, our Calibration Services support a wide range of EMC and EMI testing equipment, from antennas and probes to field probes and receivers. Customers can choose from on-site or lab calibration services, with an electronic format signed certificate and correction factors (where applicable) provided for each calibrated item.

Calibration Service Plus!™ takes the uncertainty out of calibration and repair. With this program,

ETS-Lindgren coordinates the scheduling and logistics involved with calibrating your antennas, probes, LISNs, current clamps, couplers, and attenuators.

An added bonus... discounted and locked pricing for those with a multi-year program!

ETS-Lindgren has an A2LA-accredited calibration laboratory (Lab Cert #1207.01) equipped with calibrated instrumentation traceable to global National Metrology Institutes (NMI). This calibration laboratory also houses several anechoic chambers, test cells, and an OATS with large 80 m x 50 m (262.47 ft x 164.04 ft) welded steel ground plane for antenna calibration. With this setup, ETS-Lindgren can calibrate all brands of EMC antennas and often make basic, pre-approved repairs. The services offered by the lab include repair of components including antennas, probes, and current clamps. ETS-Lindgren also offers the Calibration Service Plus! program to assist our customers in their planning and budgeting needs.

### On-Site Calibration Services

- Normalized Site Attenuation (NSA)
- Normalized Site Insertion Loss (NSIL)
- Site Voltage Standing Wave Ratio (SVSWR)
- Time Domain SVSWR
- Field Uniformity
- Quiet Zone Accuracy Testing
- Ripple Testing (CTIA)
- Shielding Effectiveness

### Lab Calibration Services (including Repair Services)

- Amplifiers (Repair)
- Antennas
- Field Probes
- LISNs
- Current Clamps

Don't see a calibration service you require? Contact your local ETS-Lindgren Representative for a customized services package.





## ENGINEERING AND CONSULTING SERVICES

At ETS-Lindgren, we understand that each customer's needs are unique, and we strive to provide tailored Solutions to meet those needs. Our range of Engineering and Consulting Services exemplifies this commitment to individualized service. We understand that time and money are critical considerations, so we work hard to deliver our services quickly and within budget.

We have in-house experts who specialize in designing integrated systems for EMC, wireless, acoustic, healthcare, security, general shielding, and audiometric applications. Our team can also design and manufacture custom components, ensuring that the customer receives the most intelligent and effective Solutions for their needs. In addition, we offer a variety of site surveys, including electromagnetic interference (EMI), vibration, and acoustic assessments, to provide information for planning purposes, pinpoint noise issues, and offer intelligently designed Solutions.

At ETS-Lindgren, we supply an assortment of design and site planning services. We have extensive experience in magnetic and shielding design, and collaborate with owners, architects, and contractors, assuring our Solutions seamlessly integrate into any construction project. Our design team understands the importance of controlling electromagnetic interference (EMI), radio frequency interference (RFI), sound, and vibrations in sensitive settings, which is why we offer customized Solutions for each application. Finally, our Building Information Modeling (BIM) capabilities allow for precise planning of complex construction projects, reducing errors and rework.

Whether you need assistance designing a new wireless, EMC, or acoustic lab; state-of-the-art research facility; government installation; or healthcare imaging center, ETS-Lindgren is your trusted partner to achieve your design requirements and ensure you realize your objective.

## ETS-U EDUCATION

One of ETS-Lindgren's most popular offerings is the ETS-U Education Service. ETS-U equips professionals with the technical knowledge and skills necessary to excel in various categories including EMC, RF, antennas, and acoustics.

ETS-U offers courses ranging from fundamental to advanced level and covering topics that include EMC, MIL-STD, wireless OTA testing, and EMP protection. Such variety makes ETS-U suitable for professionals at all degrees of expertise. Each course provides practical, hands-on demonstrations using ETS-Lindgren's state-of-the-art equipment and software tools. Participants have access to experienced trainers who guide them in the application of theoretical knowledge in practical design/measurement scenarios. Through this program, ETS-Lindgren actively contributes to the development of skilled and knowledgeable professionals, advancing the development of critical technologies.

ETS-Lindgren is committed to your success. Whether your employees need a refresher or a deep dive into an emerging technology, ETS-U can play an integral part in educating your staff, driving your asset effectiveness, and increasing productivity.







## YOUR SERVICE PARTNERS

Whether you need assistance designing your next project, educating staff, or ensuring that your lab or equipment remains operational and productive, ETS-Lindgren Services are integral to our customer's success. Our Design Services assist customers in developing facilities that are effective well into the future, while our Field Services and Calibration Services assist customers with maintaining an efficient and productive facility limiting expensive downtime. ETS-U provides training and education to refresh staff, bringing them up to speed quickly for increased productivity and output.

Our accredited Acoustic Lab Services quantify product performance, confirm products meet industry standards, and test developing products, giving insight on potential product improvement as well as determining whether or not the product satisfies design requirements. Our knowledgeable staff will be there to assist you throughout the process to ensure products are properly tested.

Contact your local Sales Representative about any of our Services. Our team can assist with your technical staff development, maintain the effectiveness of your assets, and bring the next generation of products to market.

At ETS-Lindgren, we remain *Committed to a Smarter, More Connected Future.*

# Sales and Support Offices

## **UNITED STATES – TEXAS**

Cedar Park, TX

+1.512.531.6400 Phone

+1.512.531.6500 Fax

info@ets-lindgren.com

## **UNITED STATES – ILLINOIS**

Wood Dale, IL

+1.630.307.7200 Phone

+1.630.307.7571 Fax

info@ets-lindgren.com

## **UNITED STATES – WISCONSIN**

Minocqua, WI

+1.715.356.2022 Phone

+1.715.356.2023 Fax

info@ets-lindgren.com

## **FINLAND**

Eura

+358.2.8383.300 Phone

+358.2.8651.233 Fax

euinfo@ets-lindgren.com

## **CHINA**

Beijing

+86(10)8273.0877 Phone

+86(10)8273.0880 Fax

china@ets-lindgren.com

## **JAPAN**

Tokyo

+81.3.3813.7100 Phone

+81.3.3813.8068 Fax

japan@ets-lindgren.com

## **INDIA**

Bangalore

+91.80.4341.8600 Phone

+91.80.4341.8611 Fax

indiainfo@ets-lindgren.com

## **SINGAPORE**

Singapore

+65.6391.0026 Phone

+65.6291.7311 Fax

singapore@ets-lindgren.com

## **TAIWAN**

Taipei

+886.2.27023389 Phone

+886.2.27023055 Fax

taiwan@ets-lindgren.com

**COMMITTED TO A SMARTER,  
MORE CONNECTED FUTURE**

