



شركة الإلكترونيات المتقدمة
Advanced Electronics Company

رؤية
2030
المملكة العربية السعودية
KINGDOM OF SAUDI ARABIA

Energy Business Unit



aerospace
sector
certification
scheme



CMMDEV / 3SM
Exp. 2021-11-25 / Appraisal # 1665



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WHAT WE DO WITH **ENERGY** TODAY IS WHAT WILL DECIDE OUR TOMORROW

It's a responsibility of great importance to be dealing in aspects of Oil, Gas and Water – the most valuable assets to mankind today.

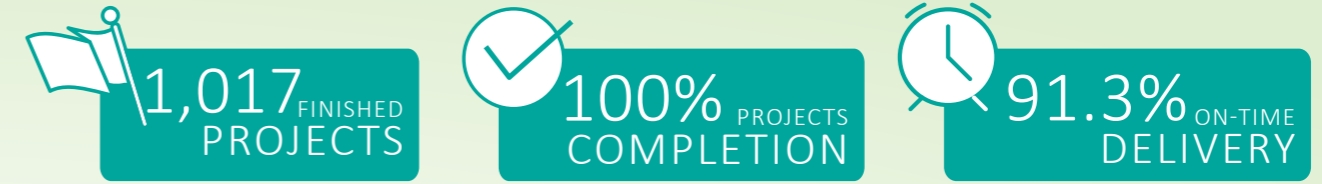


» About AEC

Advanced electronics company (AEC) was established in 1988 and has grown to become a regional leader in the electronics industry; organized into Defense and Aerospace (D&A), Information and Communication Technology (ICT), Energy and Security Business unit.

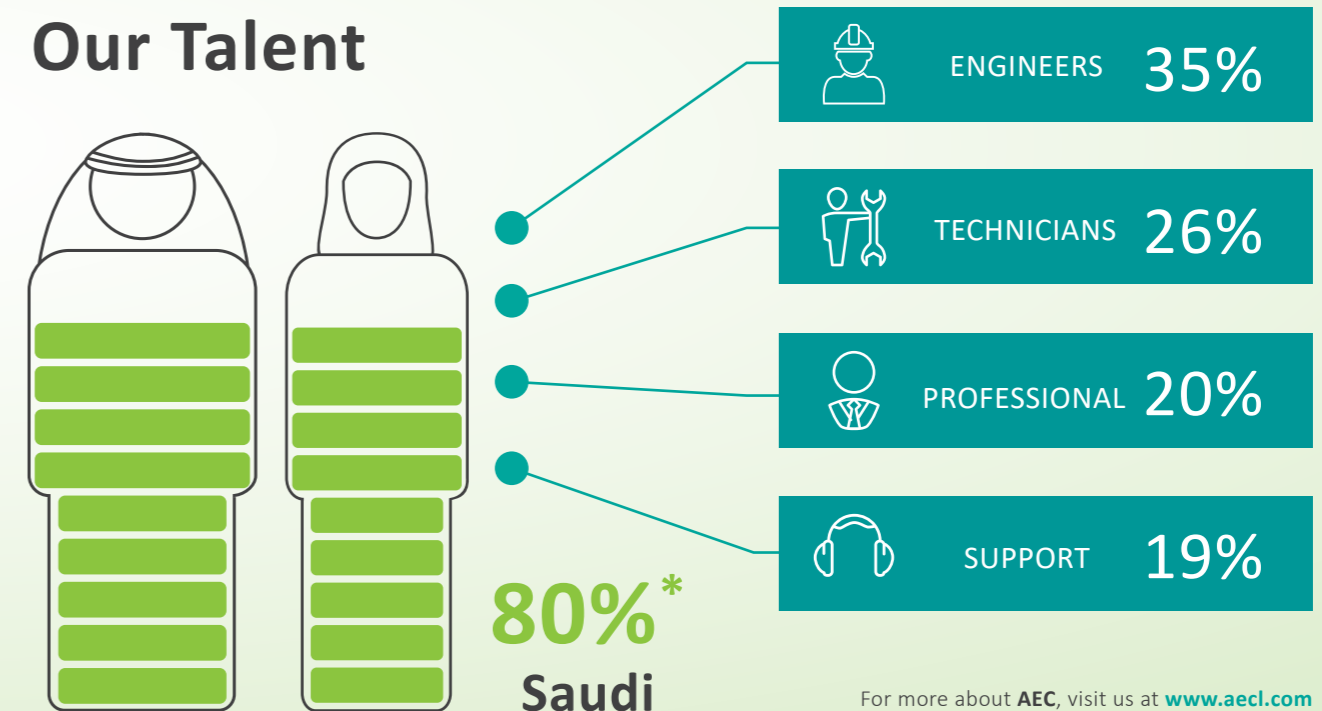
AEC has demonstrated leadership in localization, technology transfer and the development of Saudi talents; with more than 77% Saudization. It has embraced innovation through creation of its own R&D with the range of propriety products, system and solutions.

AEC has been able to acquire significant technical knowledge through its emphasis on the development of comprehensive Engineering & Development (E&D) capabilities and the establishment of partnerships with international companies. So far, AEC has developed substantial design and manufacturing, systems engineering and integration, systems development and IT services capabilities. AEC continues to invest in expanding its capabilities in E&D, manufacturing, test processes and manpower development.



AEC's Engineering & Development (E&D) efforts are supported by a dedicated team of well over 200 qualified engineers. Over the years, **AEC** has developed a number of proprietary solutions, some of which are briefed in the following sections.

Our Talent



For more about **AEC**, visit us at www.aecl.com

* More than 80%

» Energy *Business Unit*

The **Energy** Business Unit focuses on the **Smart Meter & Smart Grids, Industrial Automation & IoT, Repair and Maintenance** and **Renewable Energy**. With the support of strong **E&D** capabilities and life cycle management concept, **Energy** is well positioned to serve requirements through innovative products and systems. Through the emphasis on custom-built and integrated solution, **Energy** offers solutions from complete turnkey projects to pure retrofit projects, designed for local requirement with the desire to improve customer efficiency, strength their position and maximize their profit margin.





Energy

Lines of Business

1.

Smart Meter & Smart Grids

Advanced metering infrastructure (AMI) refers to systems that measure, collect and analyze energy usage and interact with advanced devices such as electricity meters, gas meters and water meters, through various communication media either on request (on-demand) or on pre-defined schedules. This infrastructure includes hardware, software, communications, consumer energy displays and controllers, customer associated systems, meter data management (MDM) software, supplier and network distribution business systems.

Why Smart Meter & Smart Grids?



AMI gives the means to supervise and control utility meters & communication networks



AMI provides two-way communication between the control room and the smart meters



Electricity, water and energy consumption is measured and analyzed by smart meters



Utility/End users can access and view their consumption reports and billing data through consumer portal

Services



Advanced Meter Infrastructures (AMI)

Products



eADDAD -
Energy Smart
Meters



wADDAD -
Smart Water
Meters



Gateway



Data
Concentration
Unit (DCU)

Value Proposition



Designed to fit local needs
and conditions



Accredited & Compliant to
international standards



Rich features



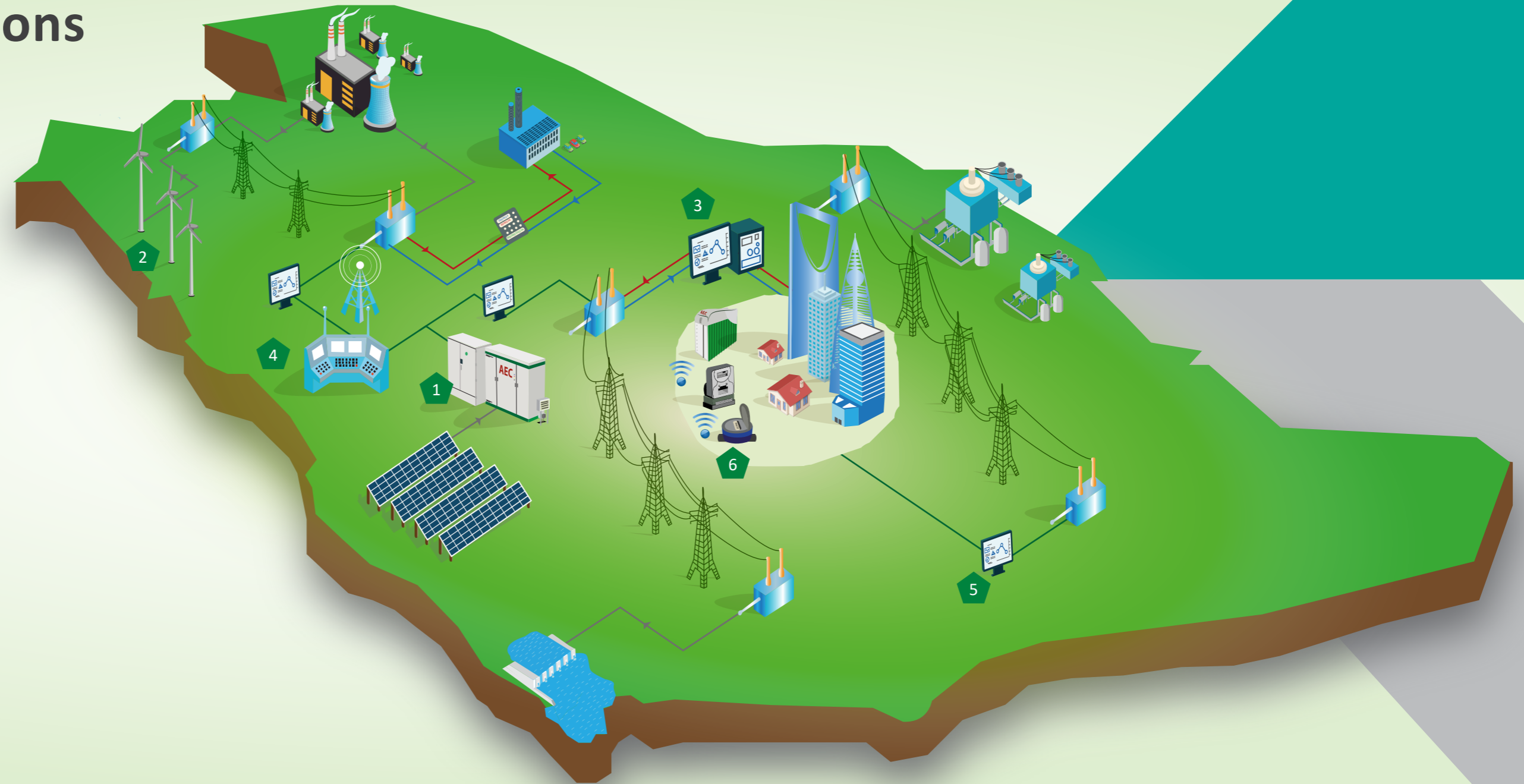
High quality and MTBF



Local product and local
support

Smart Grid Solutions

A smart grid is an electrical grid which includes a variety of operational and energy measures including smart meters, smart appliances, renewable energy resources, and energy efficient resources.



- 1  Solar Energy Solution
- 2  Wind Power Plant
- 3  AMI / MDM Solutions
(Advanced Metering Infrastructure)
(Meter Data Management)
- 4  Industrial Internet of Things (IoT)
- 5  Remote Asset Management
- 6  Smart Metering Solutions

2.

Industrial Automation & IIoT



Advance **SCADA** Solutions Automation



Industrial Systems Integration



Industrial Internet of Things



Services & Solutions



Remote Monitoring System



M2M & IIoT



MADAR Intelligent Transportation



Asset Management and Tracking System

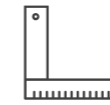


Meteorology & Environment Solutions



Meter Data Management System

Value Proposition



Fit-for-purpose



Ease of Customization to fit customer needs



Open architecture & open protocols



Rich features



Easily Integratable with other systems



Available as SaaS

3.

Repair and Maintenance

Our well-resourced repair center combined with extensive experience in repair is at your service to carry out all your repair needs. Our services include carrying out repair of electronics as well as on site pre-ventative maintenance as per OEM's instructions. This service includes all scheduled maintenance and calibration, software/hardware updating, repair and maintenance resulting in maximum production. We offer annual contracts to keep equipment running smoothly and assure priority response to your most urgent service needs.



Electronics Repair Services



Electronics Preventive Maintenance Services

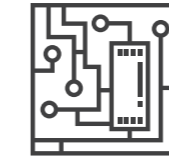


Reengineering and Inspection for Obsolete cards

Services



Repair and maintenance



Repair and maintenance of electronics boards on site or within AEC premises

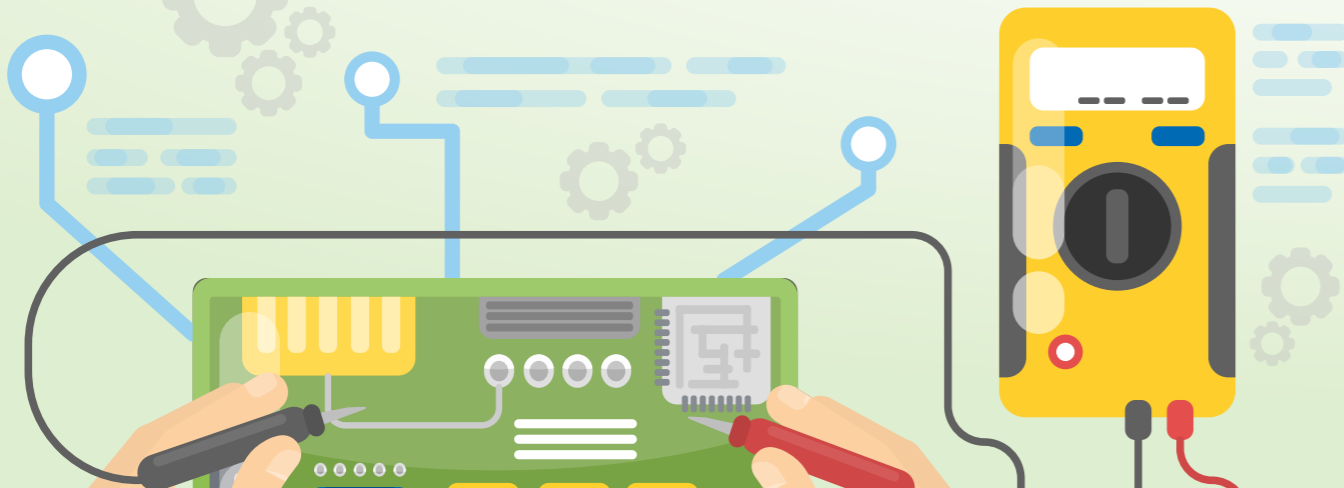
Value Proposition



Rich features



Easily Integratable with other systems



4.

Renewable Energy

As of today, AEC has developed a local manufacturing setup for production line of PV inverter “Shams” with a view to strengthen the added value of AEC’s solar capabilities and has more control over the solar energy value chain. Shams PV inverter qualified by SEC and currently under prequalification process by ARAMCO.

AEC offering for Solar-Energy also PV Inverters (Up to 3.3 MW), Solar Energy Container, Solar Energy Off-Grid Solution and Solar Energy Power Block Solution “one stop shop” Saudi Market represent a big potential opportunity for AEC, as the National Renewable Energy Program, will add 9.5GW by 2023.

Export Market is challenging for AEC, as the price computation is very fierce and AEC can have an advantage to sell through Saudi Development Fund (SDF).

Energy Business Unit is currently extending their offering to include wind energy components as the National Renewable Energy Program is dividing the 9.5GW between Solar and Wind.

Products



Shams XP550-HV TL outdoor central PV inverters



Solar Energy Container (Shams Plus)



The Integrated Power Station



Solar Energy Off-Grid Solution (Shams Station)

Value Proposition



The only PV Inverter manufacturer in Saudi



Local after sales support



Competitive price



From partial sub-solutions to fully Plug and Play solutions



Solar Energy Solutions



Manufacturing of PV Inverter



Manufacturing of PV Container



Off Grid Container

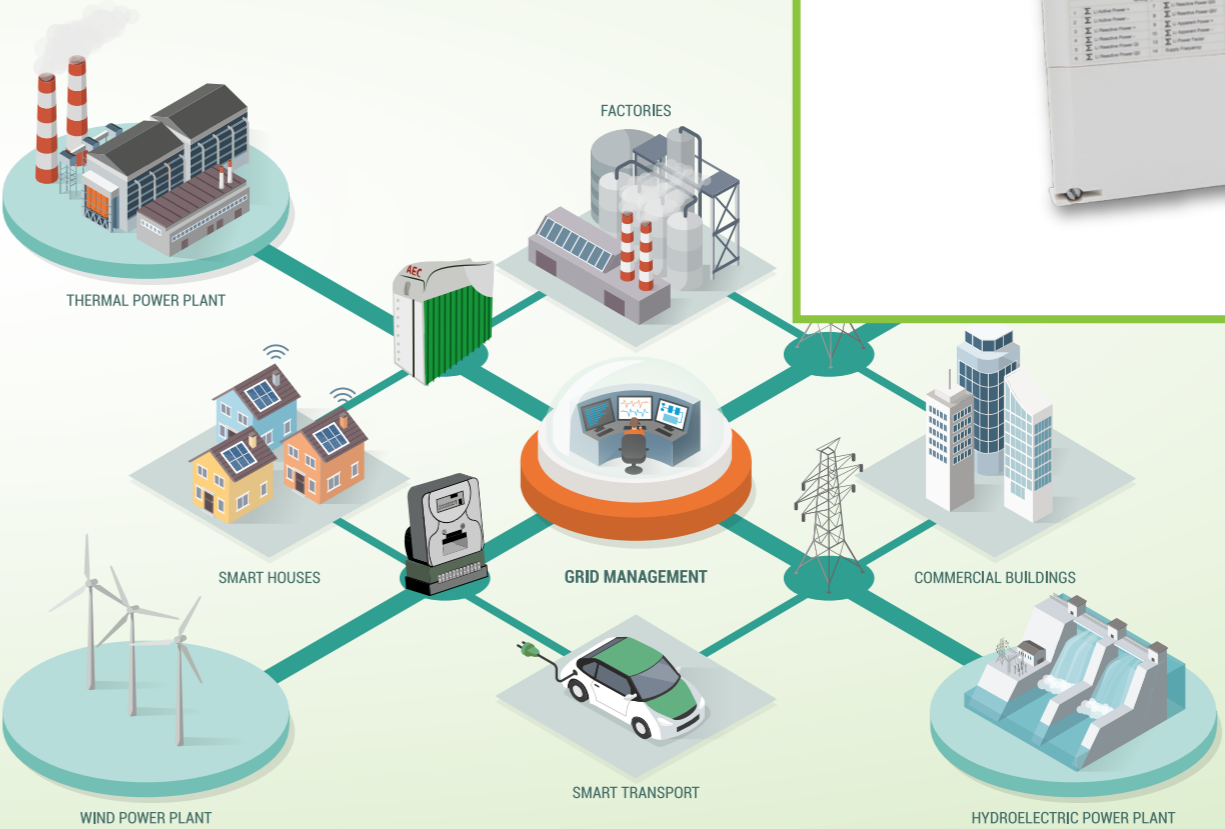


Products Evolution



eADDAD

A smart meter is an electronic device that records consumption of electric energy and communicates the information to the electricity provider for monitoring and billing system. Smart meters enable two-way communication between the meter and the central system. Such as Advanced Metering Infrastructure (AMI) to enables two-way communication between the meter and the electricity provider. AEC ADDAD can support all required communications from the meter to the network such as power line carrier (PLC) and cellular communications (AEC Gateway) etc..

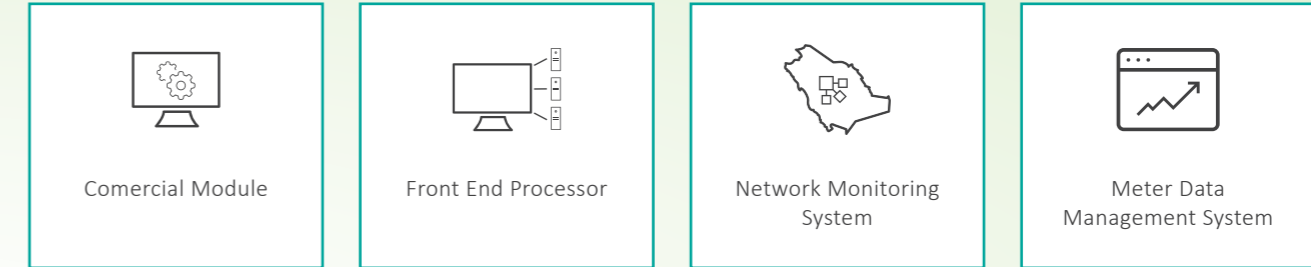


MADAR READER

When making an **AMI** decision, utilities want reliability, ease of use, support as well as flexibility. Industry consultants finding a flexible **AMR/AMI** solution because of the over-changing advancements in the world of communication technology, our customers can rest assured that the **MADAR READER** choice they make today with **AEC** is not only the best choice in **AM** technology. but is also the right decision for future migration into a variety of hybrid network choices.

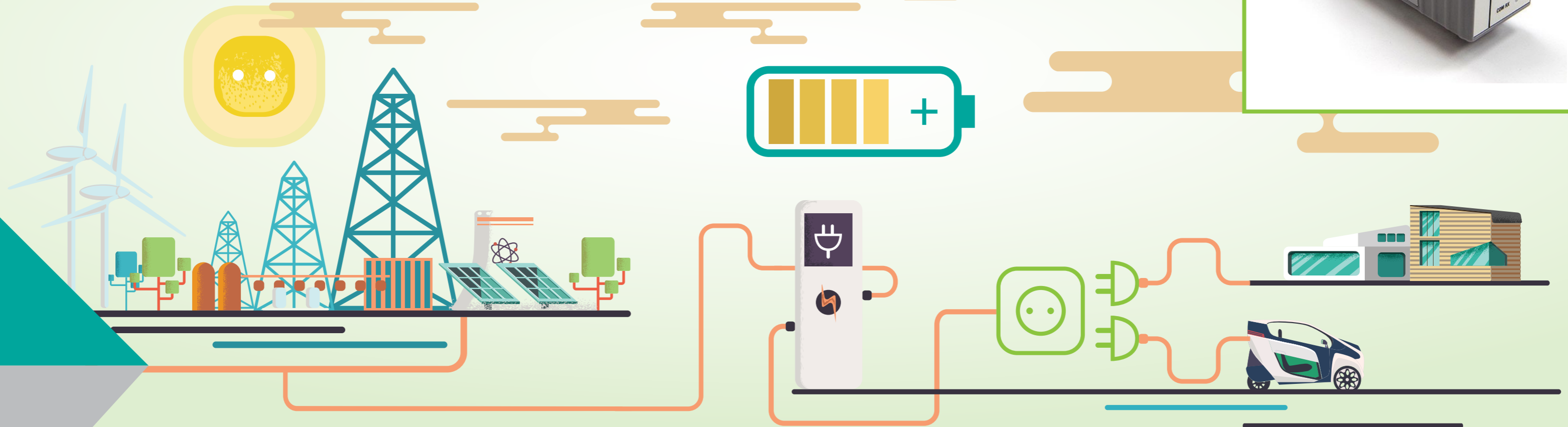
The power of any **AMI** network lies in the features of its software, its ability to enable the utility to effectively gather metering system data, interfacing with other enterprise systems, enhance and streamline customer service activities, and to improve making within the utility. **MADAR READER** does all this and more, providing you with the tools needed to better serve your customers.

AMI



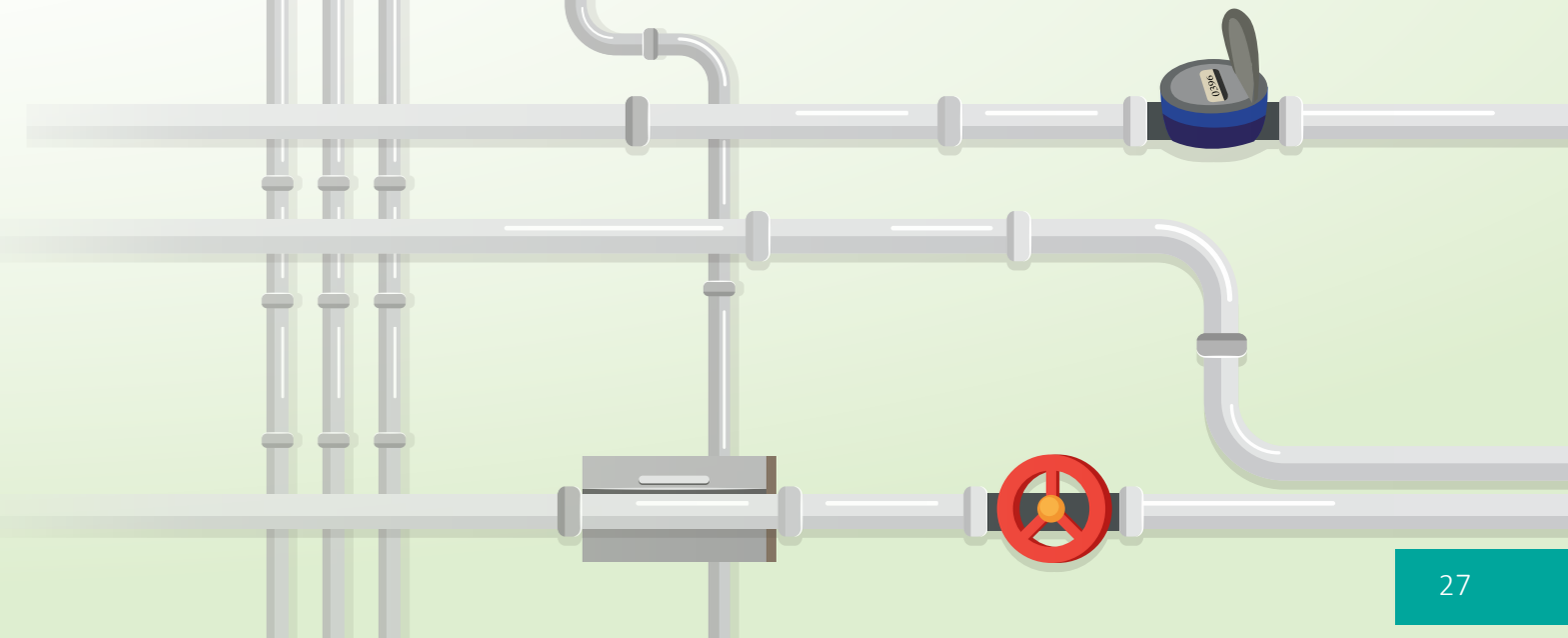
GATEWAY

The Gateway is easy to install/deploy. Gateway closes the communication gap in the network with the different type of meters. The Gateway collects important interval metering data, store, handles and transfer information between the meter and the utility over RS485, PLC, and GSM/GPRS network where the data can be used to better manage the utility's operation and improved customers service. For each of these network, AEC offers an appropriate Gateway product.



wADDAD

AEC water meter (wADDAD) is an ultrasonic water meter that uses technology based on the ultrasonic transit time principle. The water meter does not contain moving parts; therefore, there is almost no maintenance with the addition of the meter maintaining accuracy over time. wADDAD is suitable for both commercial and industrial applications. The meter features a remote read-out (pulse, M-Bus, RS485 output, BACnet or Wireless). When equipped with an M-Bus module, the water meter can be networked through a two-wire bus to a central location for integrated resource management. An optional concentrator and data acquisition software make the whole system installation and integration easy. AEC provides a complete Automatic Meter Reading (AMR) solution as well to go with the meter.



COMMERCIAL MANUFACTURING

AEC offers a full spectrum of capabilities ranging from complete manufacturing assembly lines to full system integration and test services, with Real-time Work in Progress (**WIP**) tracking and quality reporting systems performed through a robust **ERP** management system. Some of our expertise is in the following fields:



circuit card assembly



sub and final assemblies



cable and wire harness



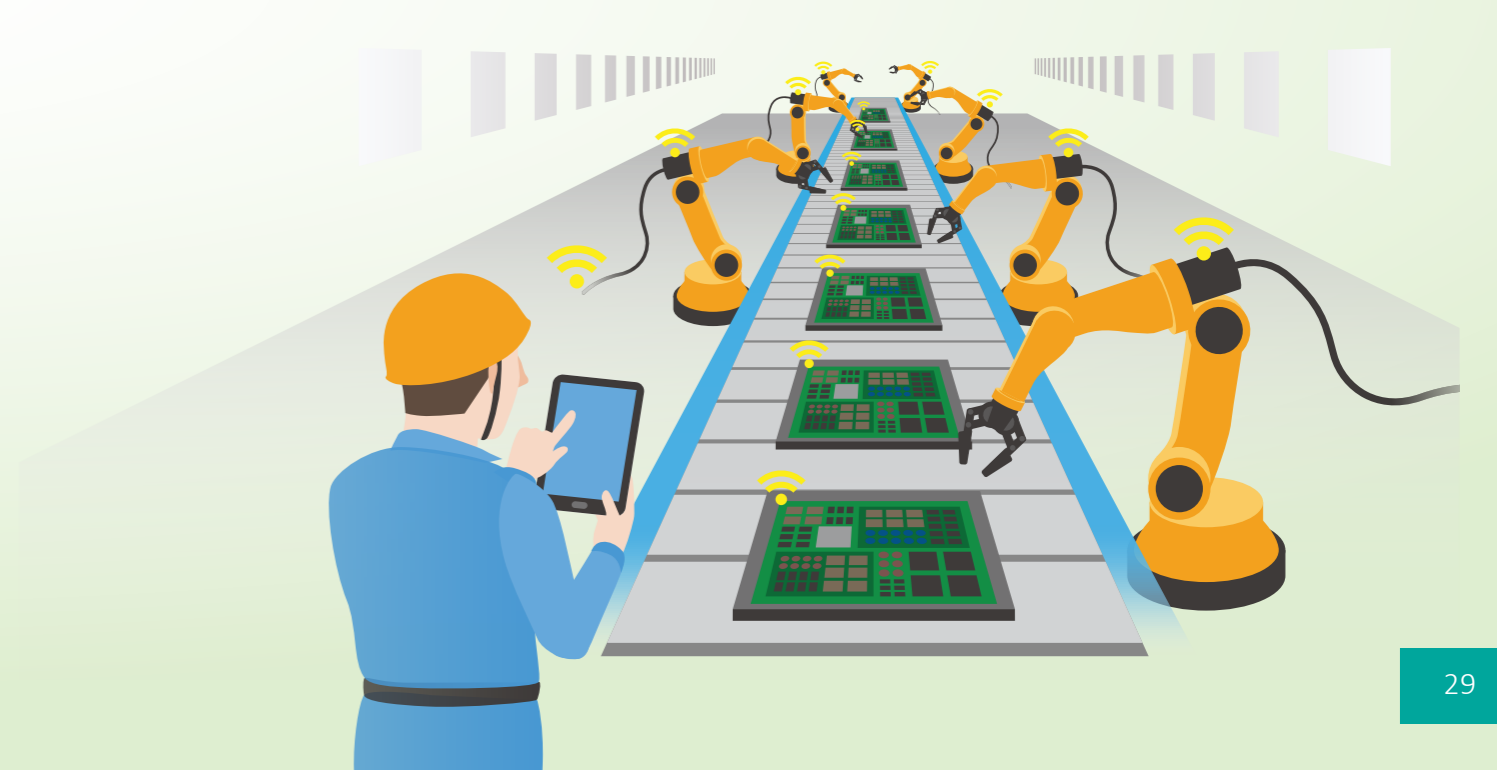
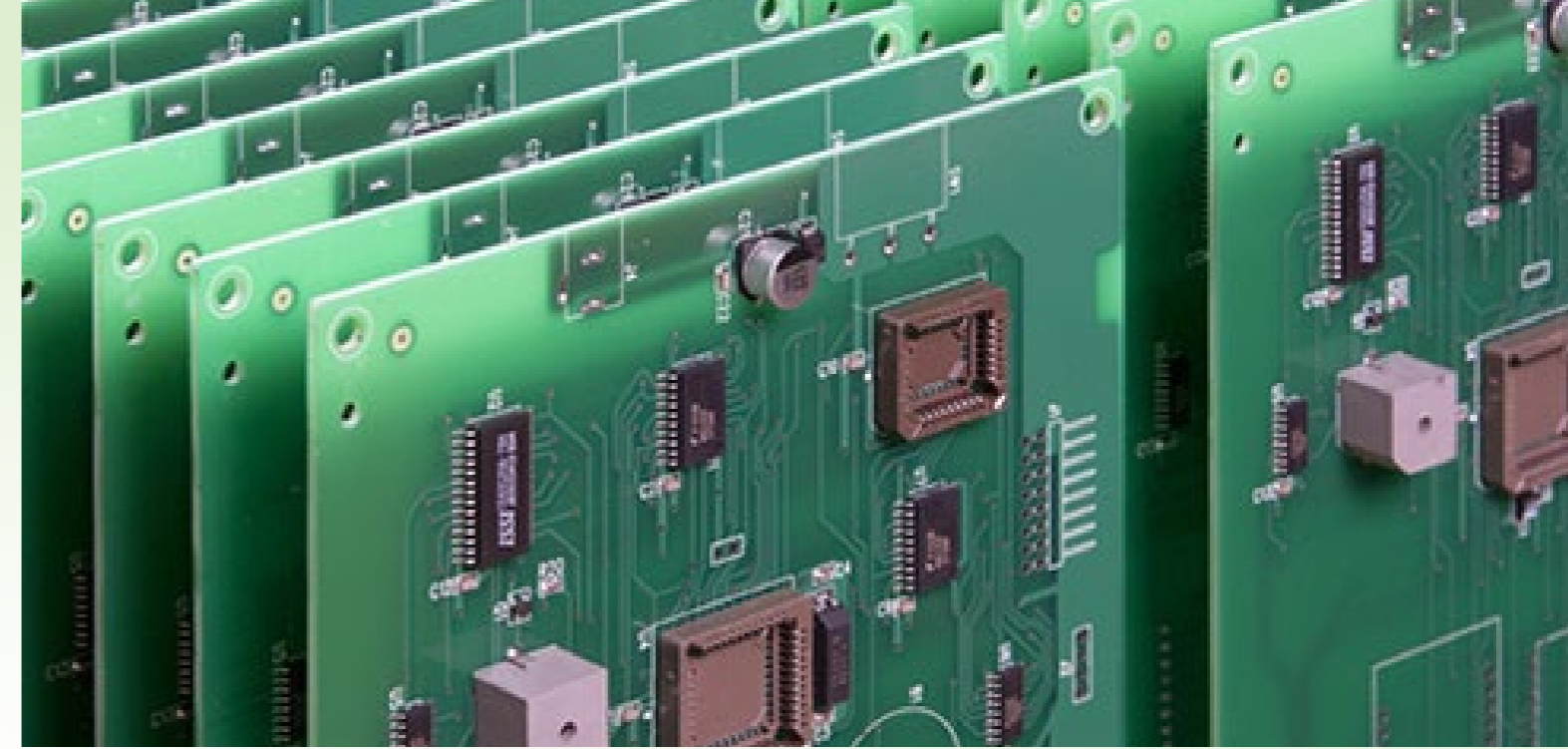
conformal coating



factory control system

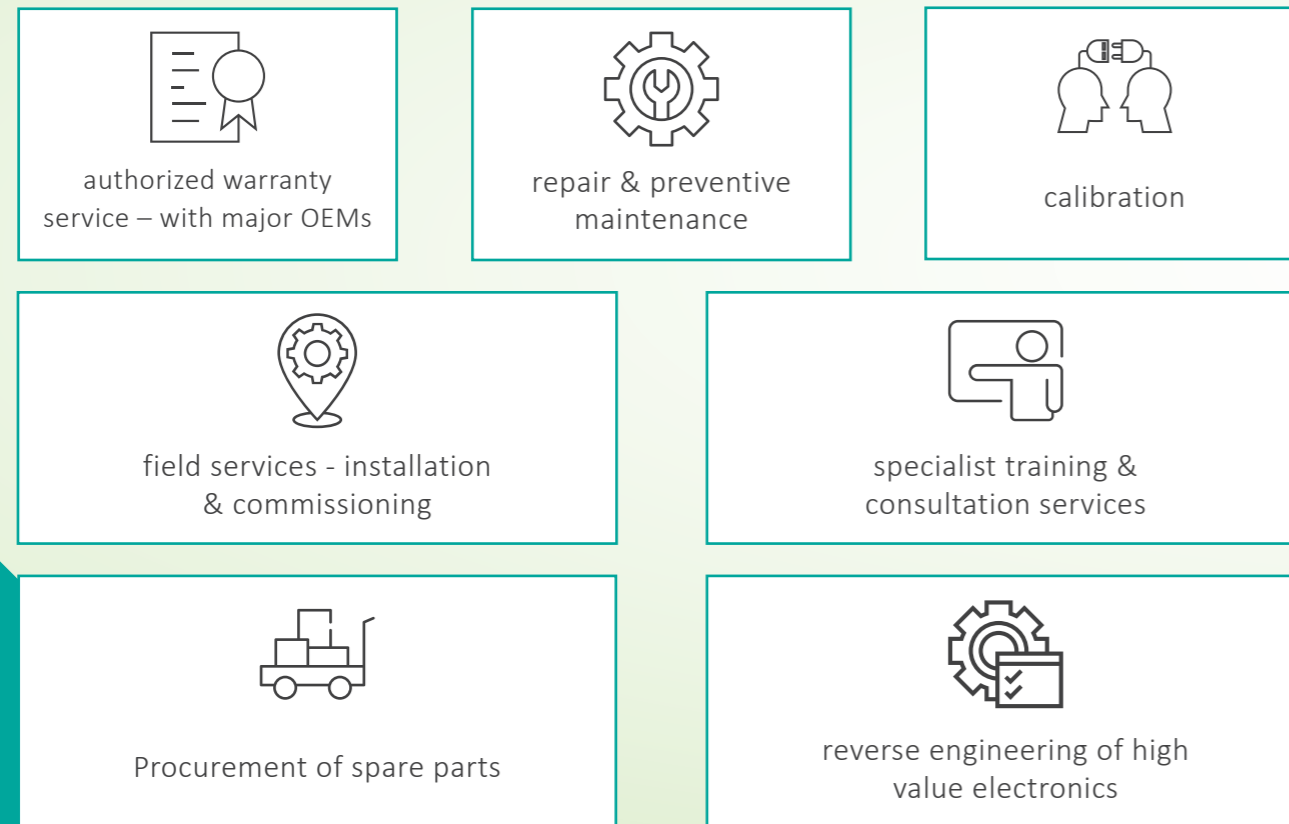


model shop



ELECTRONIC REPAIR & MAINTENANCE SERVICE

The scope of service included are:



CONSULTANCY SERVICES

we offer tailored services at all stages of engineering projects, from defining engineering technical requirement to implementation.

MANPOWER

we provide qualified, highly skilled engineering support personal to suite individual project requirement.



» Why AEC

We have a skilled and certified local team

200+ qualified, certified and well-trained **Saudi engineers** operating in different engineering fields such as electrical, mechanical, software, communications and IT



Certifications and Quality Recognitions

King Abdulaziz Quality Award (KAQA) - Industrial Sector

Certified to ISO 9001:2015
Certified to ISO 27001:2013

As 9100 Rev D: Aerospace Quality Management System

As 9110 Rev C: 2016 Aerospace Quality Assurance requirements for maintenance organizations

CMMI level 3 certified, for product & system development

KEMA certified for industrial products

ITAR compliant programs delivery

Council member of European Aerospace Quality Group, International Aerospace Quality Group

1st Grade: Electronics Work - Saudi Government Classification



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