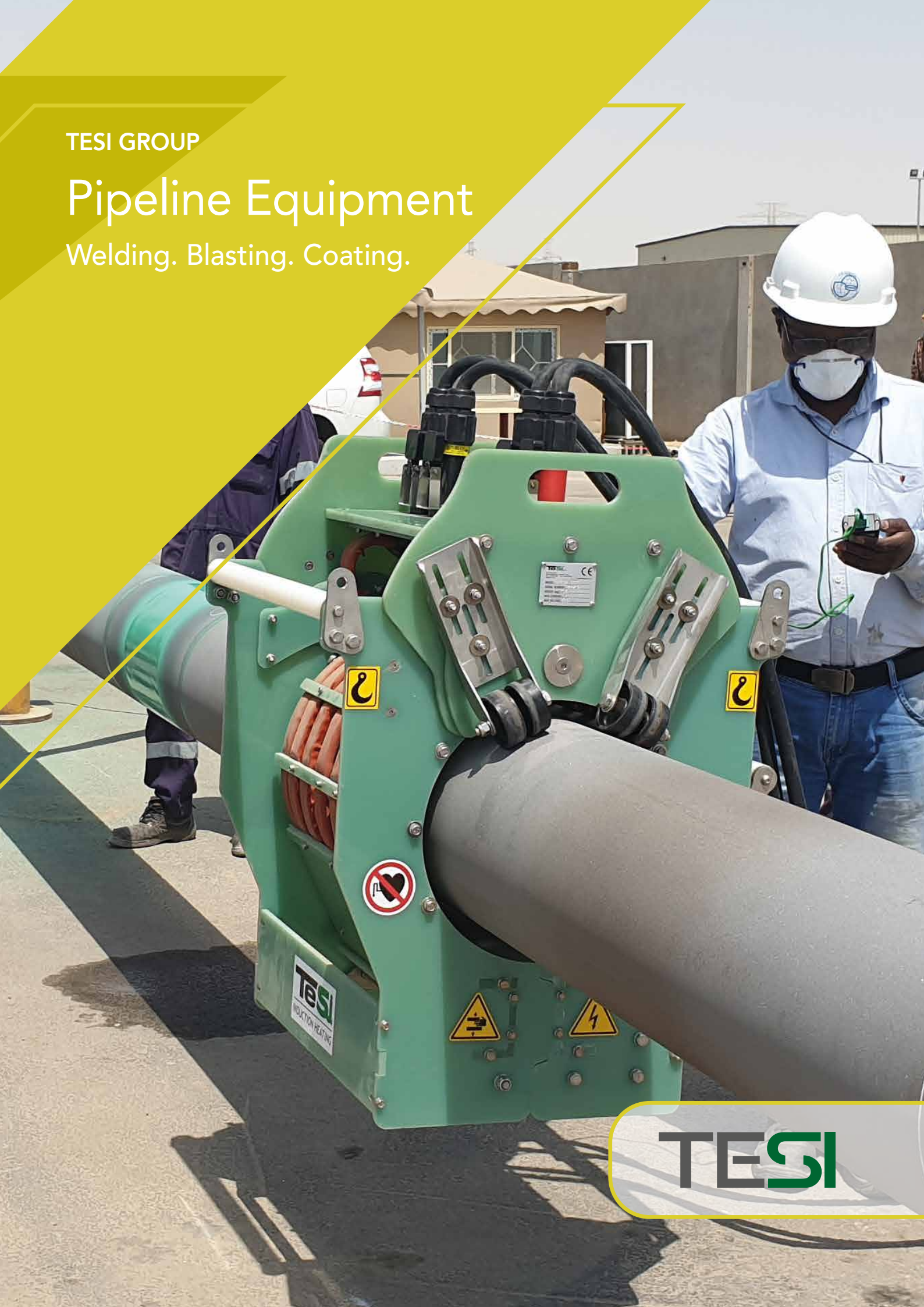
TESI GROUP

Pipeline Equipment

Welding. Blasting. Coating.



TESI

ABOUT TESI GROUP

With over 40 years of expertise, TESI designs, manufactures and distributes products and accessories for the **energy, oil & gas, petrochemical** and **chemical** industries.

Our production is divided into three main business areas:

- **Heat Shrinkable Products**
  for corrosion protection of pipes.
- **Pipeline Equipment**
  for pipelines' construction projects.
- **Ignition systems** for industrial burners.

Continuous **research and development** of new solutions, **full cooperation** with customers, **efficiency** and **precision** in execution are the strengths that have enabled the company to succeed in these four decades.

The great flexibility of the structure and the **ability to deeply understand customers needs** make TESI a reliable partner providing superior solutions all over the world.

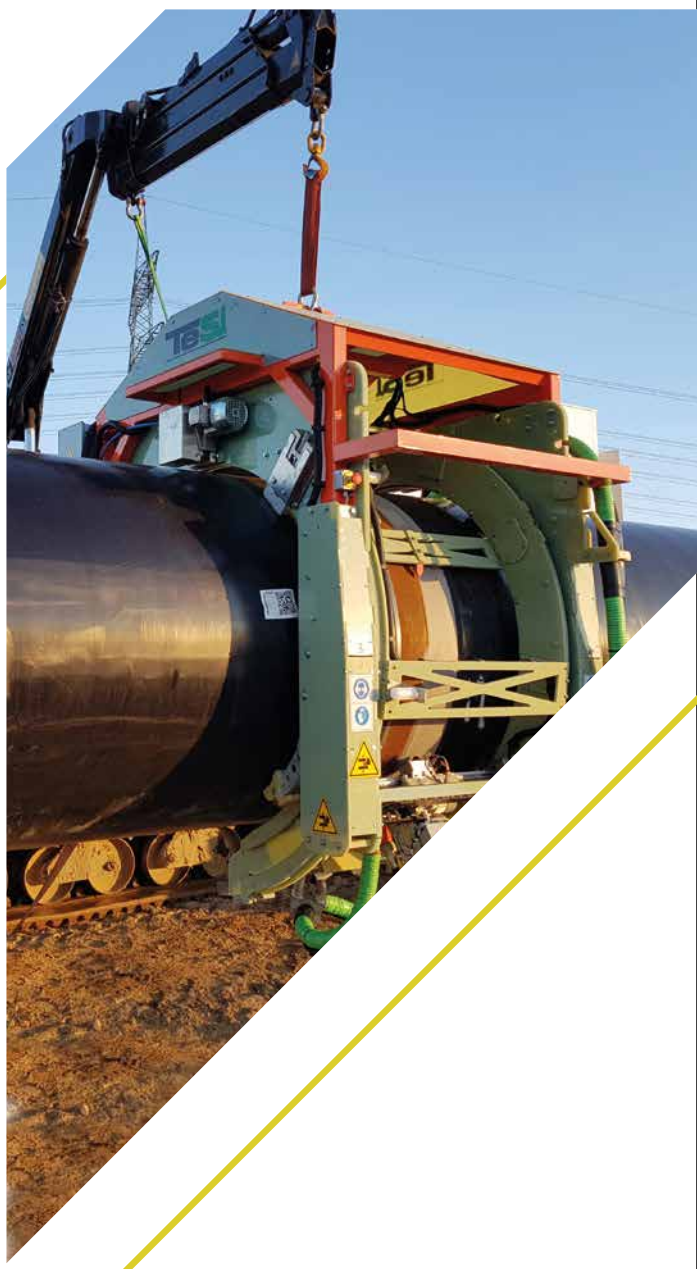
PIPELINE DIVISION

TESI Pipeline division design and provides **automatic equipment** for the **pipeline field joint** activity.

Most of our solutions are **taylor-made** and meet the customer's request in term of performances, safety and reliability.

Our automatic equipment for welding/coating pre-heating, blasting and coating **increase daily production, minimise on-site personnel** and improve significantly **quality** and **repetability**.

TESI have been developing equipment solutions for pipeline construction busines for **over 30 years** with multiple international patents. We are present in Europe, United States, Canada, South America, Asia and Middle East.



Innovation technology
in pipeline construction.

AUTOMATIC BLASTING SYSTEM

TESI design and manufacture **automated field joint pipe blasting equipment** for ONSHORE and OFFSHORE pipeline projects.

- High efficiency High productivity.
- Ensure repeatability of blasting processes.
- Easy to use do not require skilled personnel.
- Easy to calibrate.
- PLC controlled.
- Easy Maintenance.
- 100% Safety during operation.
- Motorized frame with vacuum/blast heads.
- Blasting recovery unit/s.
- Umbilical (High pressure vacuum hoses electrical cables).
- Control Panel with PLC.
- Remote control.

The fundamentals on which we based the design are **"Reliability and Repeatability".** When main parameters are settled and the machine calibrated, the final result is **guaranteed**, regardless of ambient conditions or operator skill.

With the Girth Weld area **perfectly blast cleaned**, the joint can be heated and the **field joint coating** equipment applies either **liquid epoxy** or **FBE** (fusion bonded epoxy) to the blasted area to connect with the factory applied pipe coating also known as parent coating.

The Automated FJ blasting equipment is available for **horizontal S-Lay** or **vertical J-Lay** barge types. It is designed to match the most common handling equipment (overhead cranes) but it can also be customised for **handling by manipulators**.

Supplied only on demand, handling equipment for moving/positioning the blast frame with precision onto the pipe.

AUTOMATIC COATING SYSTEM (FBE)

TESI design and manufacture a range of solutions for the **efficient application of powder applied coatings** to the welded field joint area.

This equipment is the result of many years of field experience applied to equipment automation. **Fusion Bonded Epoxy (FBE)** is applied to the girth welded joint area either as a **standalone coating system** or as a **primer layer** as part of multi layer polyolefin field joint coating systems.

- High efficiency High productivity.
- Ensure repeatability of coating processes.
- Controlled thickness.
- Minimise waste and hazards to the environment.
- Friendly use Easy Maintenance.
- PLC controlled.
- 100% Safety during operation.
- Automated Powder ring (also available for CWC).
- PLC controlled Fluid bed.
- Remote control.
- Umbilical cable
  (powder hoses power/control electrical cables)
- Induction heating system.

With **AutoCOAT FBE** system TESI aims to achieve the highest levels of **quality** of the coating applied but also the highest levels of **productivity** in onshore and offshore projects. Application of FBE powder coatings involves **pre heating** the substrate to the required temperature (typically 240°C) by use of **induction heating coils**, followed by application of the powder coating.

TESI has a wide range of **Induction Heating systems** specifically designed for Field Joint Coating that **combined with AutoCoat** machinery **guarantee** a perfect thickness control of the applied FBE. AutoCOAT FBE system by TESI is the response to the pipeline industry, for optimum cycle times, high repeatability, and high productivity demand.

INDUCTION HEATING SYSTEM FOR WELDING PRE HEATING

TESI has a wide range of solutions for **Welding Pre Heating process.** The system consist of:

- **Induction generator** (Diesel/Motor driven or static).
- **Induction heating cables**.
- **Welding pre heating coils**.

Induction generators are available in multiple outputs **80, 120, 150, 180, 220, 350 kW** so that customer can select the more suitable power in compliance with the desire productivity.

Generators are **fully automatic** and **self adjust** the parameters to find the perfect setting and guarantee a perfect load match with the pipe, regardless the coil used.

We supply generator in compliance with the most stringent standards in term of **emission compliance** (TIER 4 FINAL for USA and Canada). Welding pre heating coils are available in different configurations: **internal/external ring coils, openable clamp coils, flexible coils** (induction blankets).

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INDUCTION HEATING SYSTEM FOR FIELD JOINT COATING

Pre heating the steel substrate before **Field Joint Coating** is extremely important no matter which type of anti corrosion system will be applied. From Heat Shrinkable Sleeves to Fusion Bonded Epoxy, all are influenced by the quality and stability of the heat.

The system consist of:

- **Induction generator** (Diesel/Motor driven or static).
- **Induction heating cables**.
- **Welding pre heating coils.**
- **Containerized Induction heating system.**

Induction generators are available in multiple outputs 8**0, 120, 150, 180, 220, 350 kW** so that customer can select the more suitable power in compliance with the desire productivity. Generators are **fully automatic** and **self adjust** the parameters to find the perfect setting and guarantee a perfect load match with the pipe, regardless the coil used.

We supply generator in compliance with the most stringent standards in term of **emission compliance** (TIER 4 FINAL for USA and Canada).

Coils for coating preheating are available in different configu-rations: **air cooled** or **water cooled, manual** or **automatic, for S-Lay** or **J-Lay installation.**

MULTIPURPOSE CRAWLER

TESI design and manufacture **multipurpose crawlers** with rubber or steel undercarriages to manage different terrains.

Rubber undercarriage are used in soft/sandy and muddy soil while **steel undercarriage** are used in rocky and frozen terrain.

The crawler can be easily configurate in different ways:

- **Standard Flatbed.**
- **Standard welding crawler.**
- **Automatic welding crawler.**
- **Blasting crawler.**
- **Induction heating Coating crawler.**
- **Dumper crawler.**
- **Personnel carrier.**

Multipurpose crawlers increase the **efficiency** of any process which is configured for, improving **productivity, safety** and **confort** on site.

AUTOMATIC WELDING EQUIPMENT

TESI is **official distributor** of automatic welding equipment by **Xionggu Electrical**, a professional high tech enterprise that design and manufacture **Intelligent welding systems**, IGBT inverter and engine driven welding machines for cross country pipeline welding processes. After **more than 20 years'** development, Xionggu welding machines has been used in **oil gas construction project** in China, Russia, India, Iraq, Saudi Arabia, Turkmenistan, Kazakhstan, South Africa, A lgeria, Cuba, Europe, USA and Canada.

Your best partner in Automated Pipeline Equipment.

PIPE FACING MACHINES AND LINE UP CLAMPS (INTERNAL & EXTERNAL)

These equipment are used in cross country pipeline but also in Double Joint preparation plant, in offshore conventional vessel but also in automated welding station of innovative fully automated pipeline vessel.

PFM are available **from 6" to 84"** and bevels **up to 2 1/2 degrees** including angles on pipelines where bending machi-nes cannot be used. PFM are available for **standard bevel** but also with **counterbore option**.

PFM can be connected to the **hydraulic system** of excavators, pipelayers or we can supply **Hydraulic power units**.

LUC are available from **6" to 56"** in **automatic** or **manual** configuration.

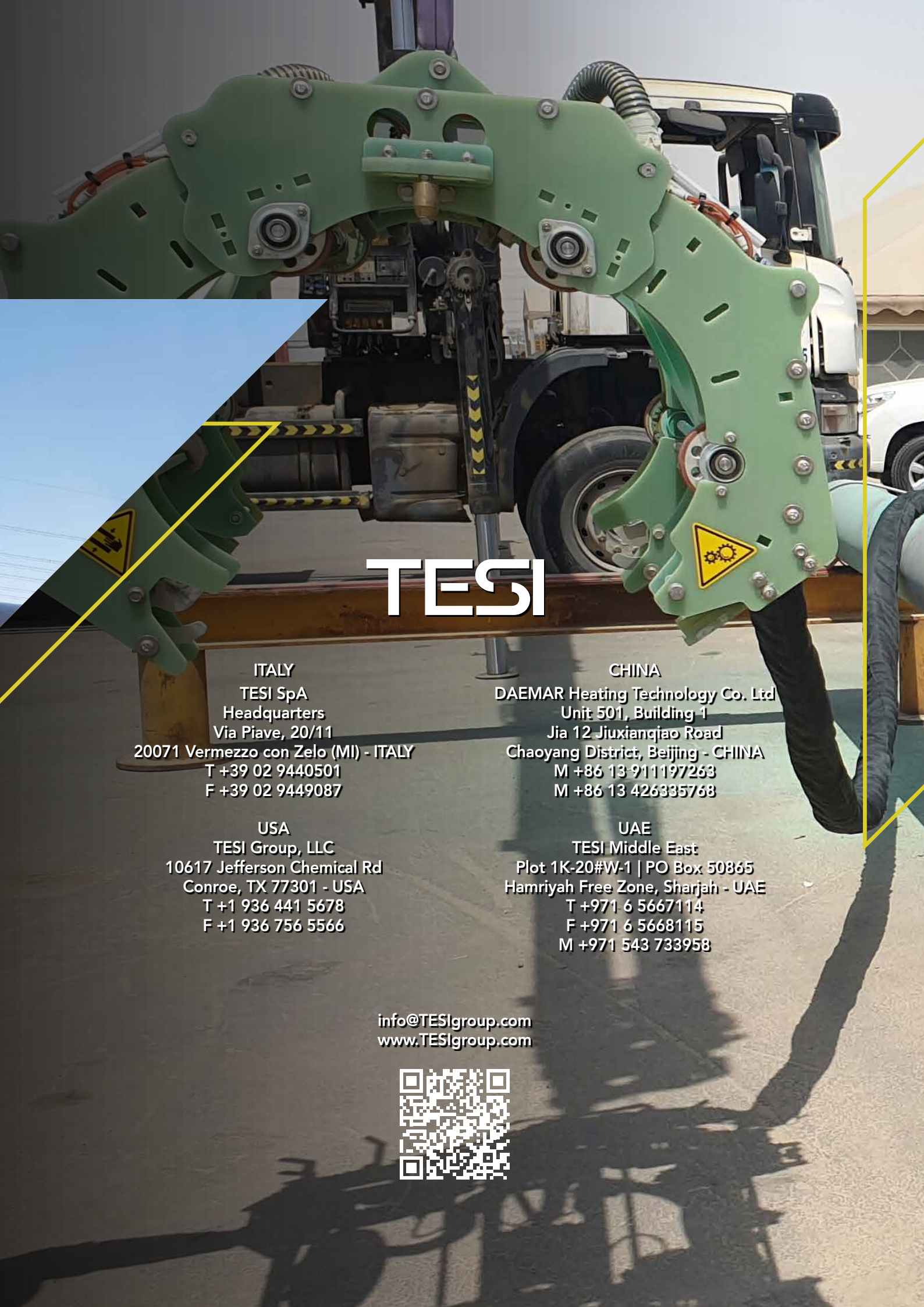
SERVICES

TESI is **customer oriented** and has built up relations with customers because of the **total support** that is provided during different stages of activity.

ENGINEERING
Service consultancy, Cost/Benefit analysis
3D modelling & Software simulation.

RENTAL
Fleet of equipment on stock ready for shipping to customer project site.

FIELD
Field Service Team always support customers for installation and commissioning.



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