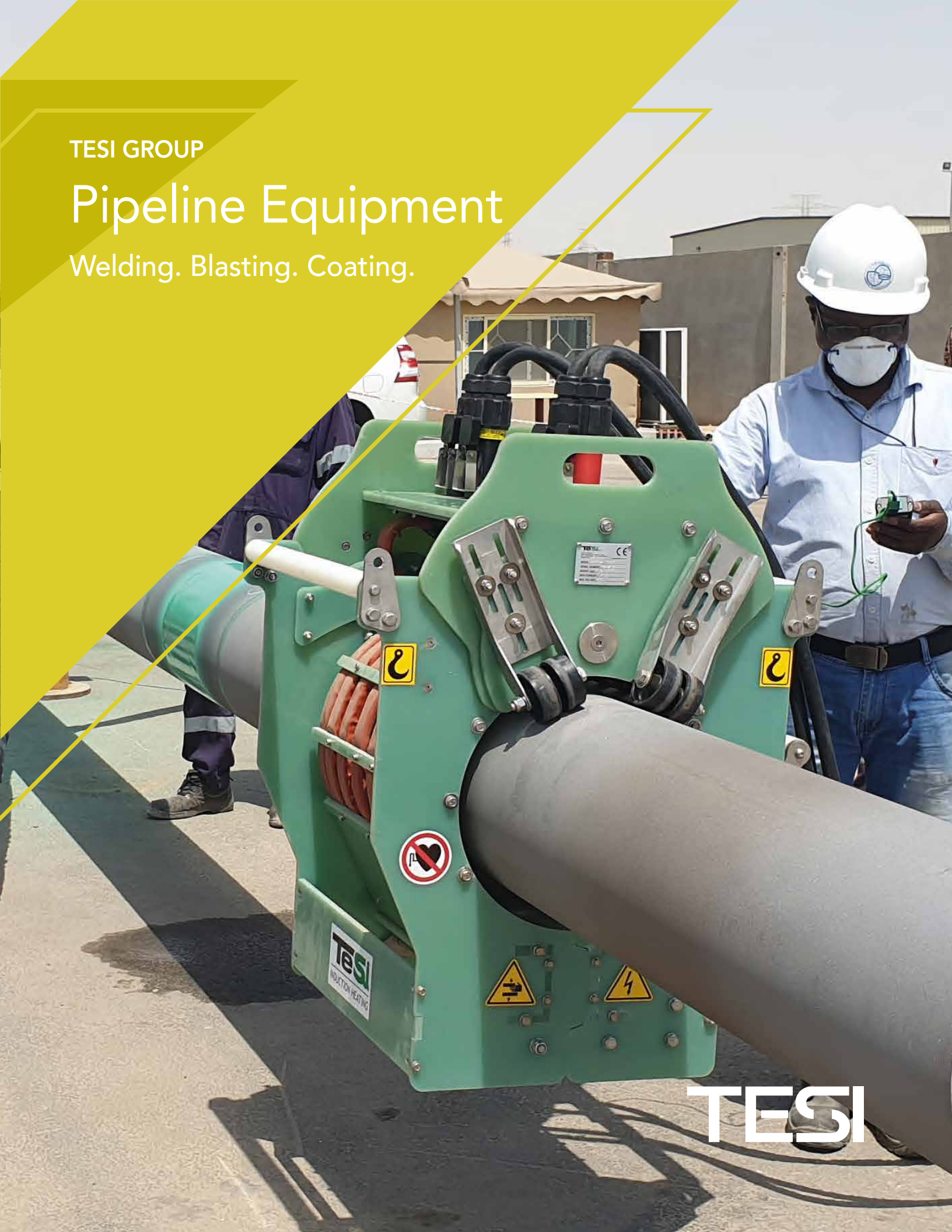


TESI GROUP

Pipeline Equipment

Welding. Blasting. Coating.



TESI

ABOUT TESI GROUP

With over 30 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.
- Equipment for pipeline induction heating and heat treatment.
- 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 three 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.

TESI PIPELINE DIVISION

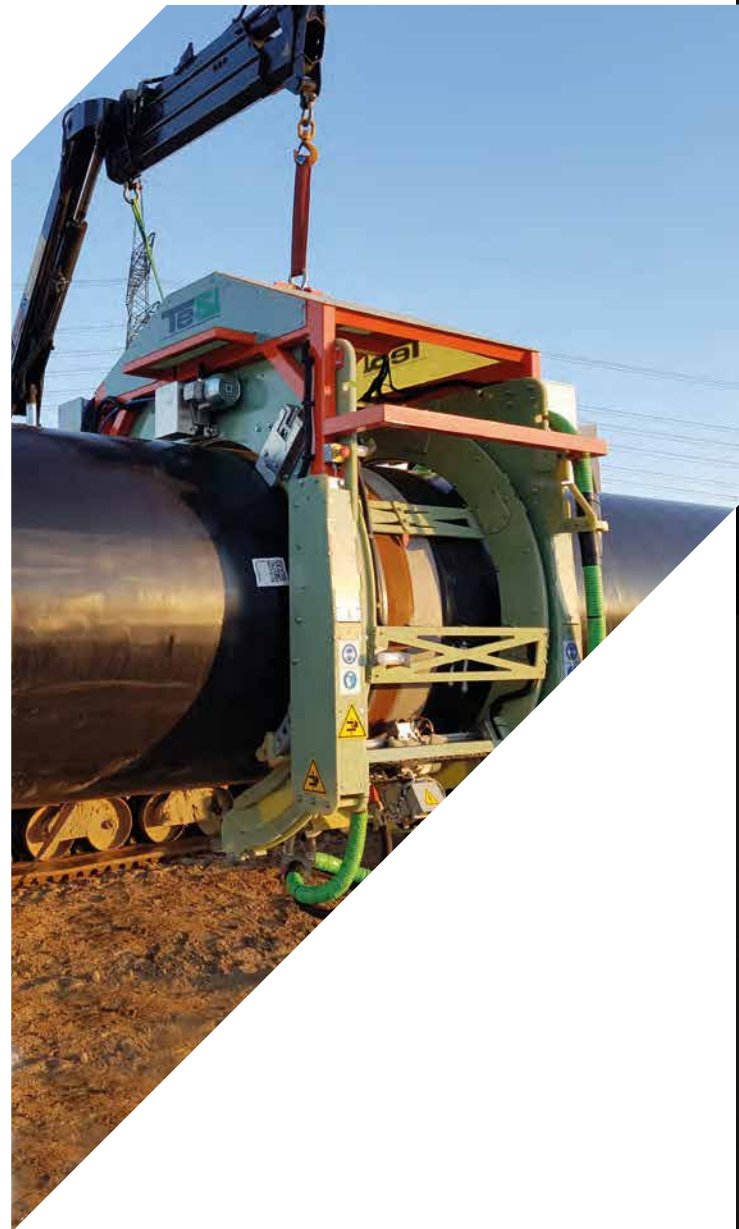
TESI Pipeline division design and provides automatic equipment for the pipeline field joint activity.

Most of our solutions are tailor-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, 350kW 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).



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 80, 120, 150, 180, 220, 350kW 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 configurations: 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.

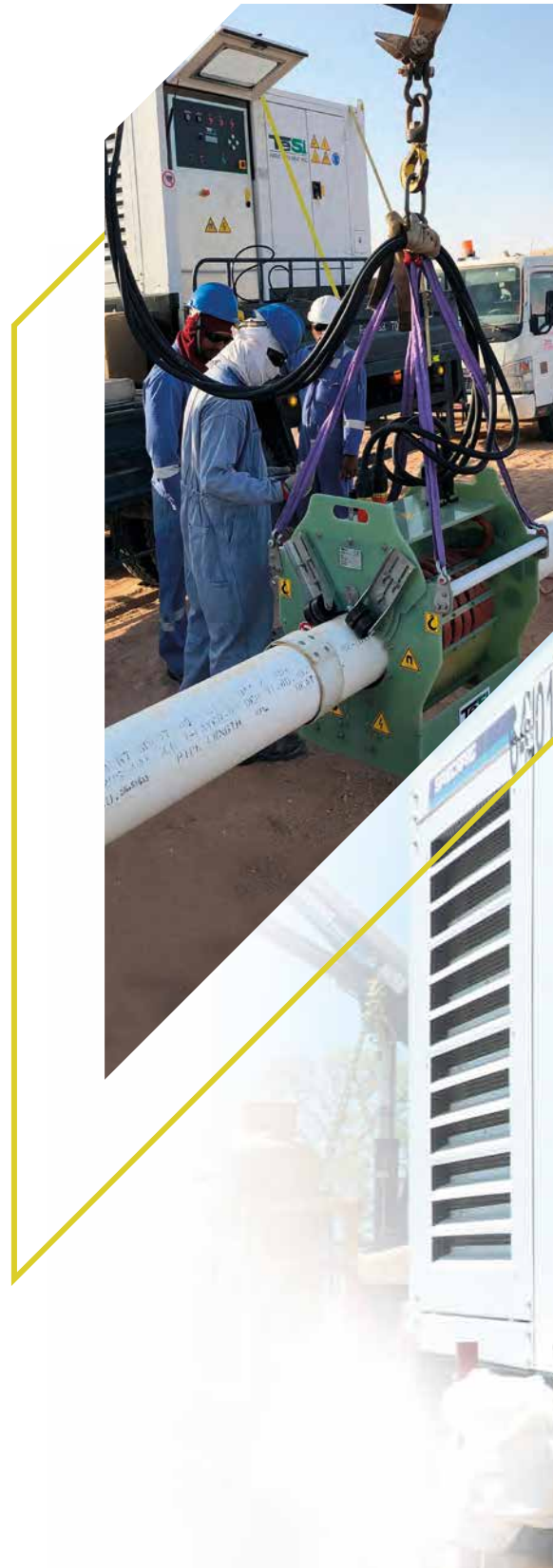
The crawler can be easily configurate in different ways:

- 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 Xionggong 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, Xionggong 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 machines 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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