



BLUE STAR

**INDUSTRIAL
SOLUTIONS**

NDT Custom Solutions



Company Profile

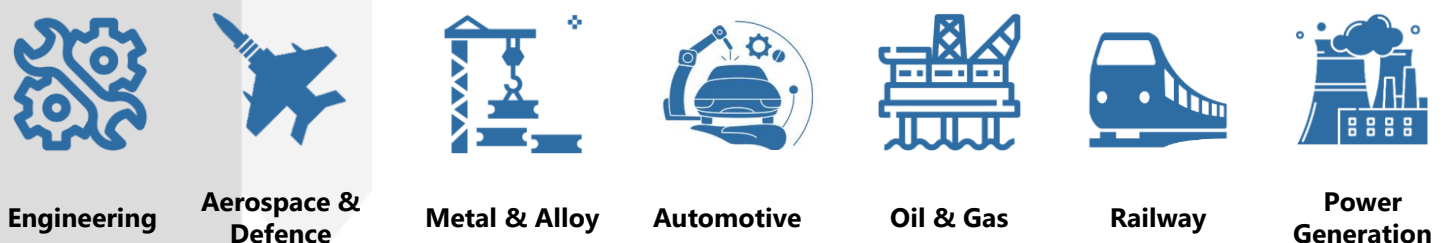
Blue Star Engineering & Electronics Limited, a wholly-owned subsidiary of Blue Star Limited, one of India's most respected engineering conglomerates has been at the forefront of technological excellence for decades. Within its diverse portfolio, the Non-Destructive Testing (NDT) business stands out as a trusted partner to Indian industries since 1980, delivering high-quality, high-performance testing instruments and systems. From advanced NDT equipment to customized automated inspection solutions, Blue Star E&E combines cutting-edge technology, intelligent interfaces, and powerful software to ensure world-class precision, reliability, and efficiency in every testing application



Technologies



Industries We Serve





InspECH ERW

UT Inspection System for ERW Pipes

The Automated Ultrasonic Inspection System is designed to meet the pipeline standards of API 5L and major oil producers. The high-performance ERW Pipe Inspection System is designed to inspect various weld defects in pipes using Conventional UT or Phased Array UT. The system achieves greater efficiency and performance while meeting the industry standard for high throughput inspection. Blue Star Industrial Solutions also offers online and offline weld and full body inspection of ERW pipes for the detection of delaminations in the pipe body.

Key Features & Specs:

- Technology - Conventional UT or Phased Array UT
- Online and offline installation for weld & offline installation for body
- Scan speed - up to 20 - 25 m/min
- Quality compliance standard - API 5L, Shell, EIL, GAIL, BP, etc.
- Automatic defect marking system



InspECH LSAW

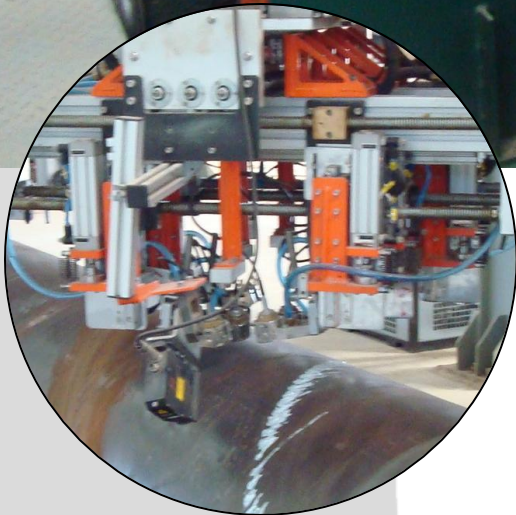
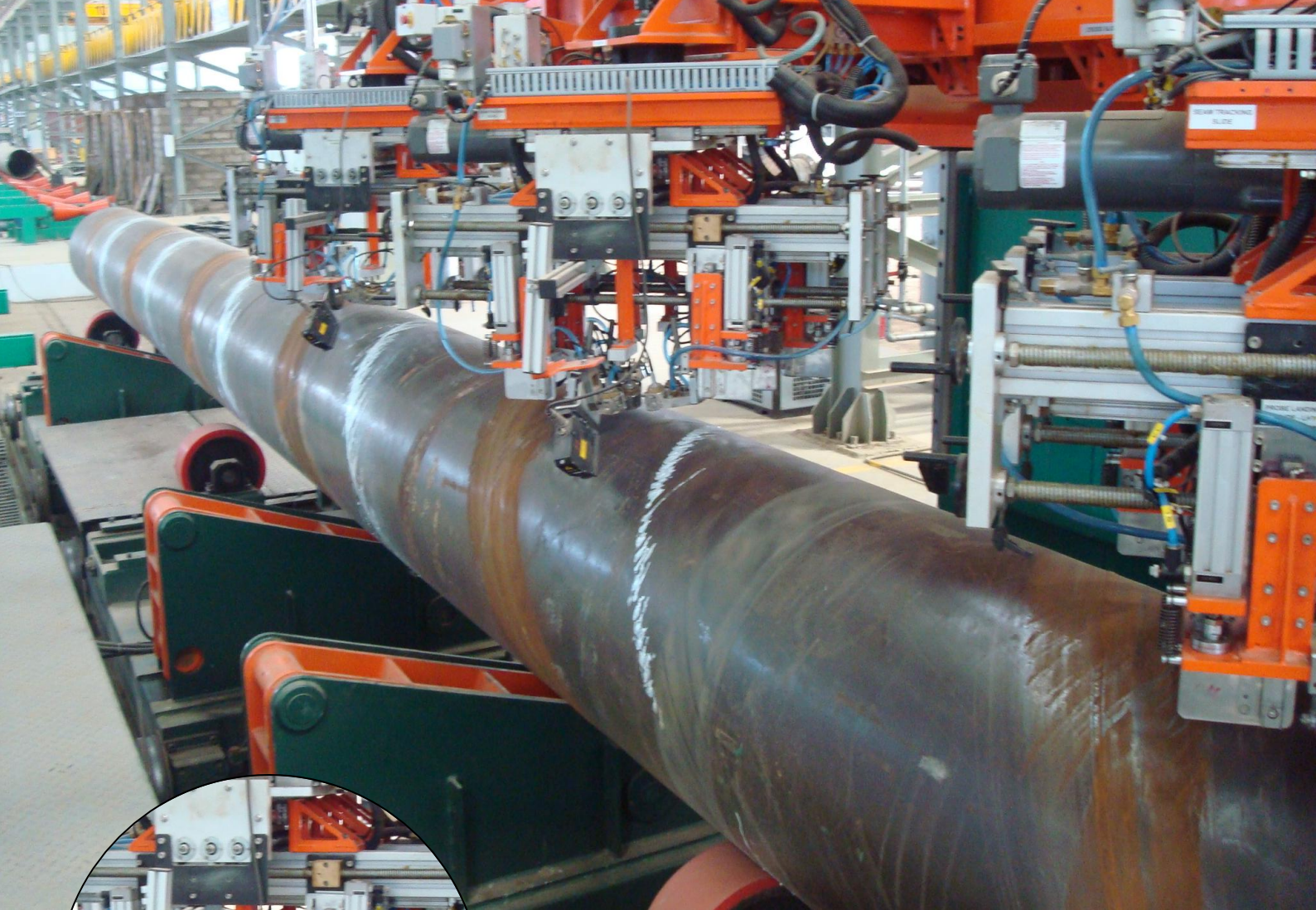
UT Inspection System for LSAW Pipes

Blue Star Industrial Solutions has developed and delivered automated ultrasonic inspection of weld for LSAW pipes, majorly used in the Oil & Gas industry. This multi-channel inspection system is based on Conventional UT and available with high test speeds to match pipe mill throughput and adheres to the highest quality standards.

With a flexible platform, the system supports fast changeover for different pipe diameters. The ultrasonic inspection system meets test requirements for API and pipeline standards of major oil producers.

Key Features & Specs:

- Pipe diameter - 18 inches to 64 inches
- Technology - Conventional UT
- Multi-channel Conventional UT (8-24 Channels)
- Scan speed - up to 20 m/min
- Quality compliance standard - API 5L, Shell, EIL, GAIL, BP, etc.
- Laser seam tracking system
- Automatic defect marking system



InspECH HSAW

UT Inspection System for HSAW Pipes

H-SAW Pipe Inspection System is developed and delivered with conventional UT for automated inspection of pipe weld seams in spiral welded pipes. Depending on the pipe diameter and coil thickness, the ultrasonic inspection system is designed with multiple channels and probes to inspect weld defects.

The automated system can support large production volumes and deliver significant performance enhancements in highly demanding applications. This system is designed to meet the pipeline standards of API and major oil producers for ultrasonic inspection.

Key Features & Specs:

- Pipe diameter - 16 inches to 120 inches or more
- Technology - Conventional UT
- Multi-channel Conventional UT (8-24 Channels)
- Scan speed - up to 15 m/min
- Quality compliance standard - API 5L, Shell, EIL, GAIL, BP, etc.
- Laser seam tracking system
- Automatic defect marking system



InspECH SEAMLESS

UT Inspection System for Seamless Pipes



The seamless Pipe Inspection System is designed for the ultrasonic inspection of pipes using Conventional UT or Phased Array UT. This high-performance system is well adapted to the stringent requirements of pipeline standards for the Oil and Gas industry. The phased array systems are easily integrated into high-throughput production lines and offered with an additional option of end-of-the-tube algorithm. The cost-effective conventional UT system helps customers inspect pipes for a variety of defects with reduced speed.

Key Features & Specs:

- Technology - Conventional UT or Phased Array UT
- Multi-channel Conventional UT (8-16 channels)/Phased Array
- High-speed testing to maximize productivity
- Quality compliance standard – API 5L, API 5CT, Shell, EIL, GAIL, BP, etc.
- Automatic defect marking system



Bar Inspection System

UT Inspection System for Bar

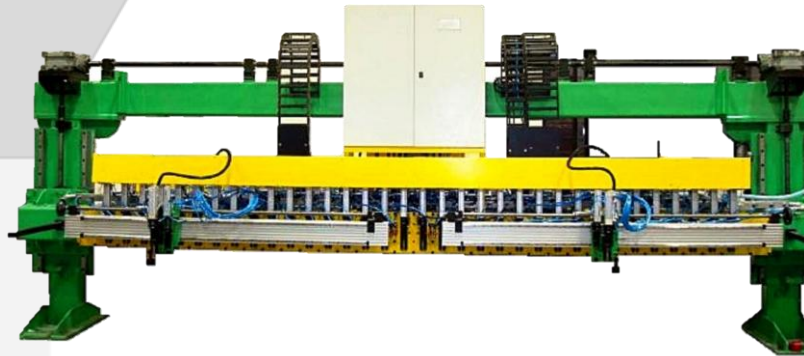
The Bar Inspection System (BIS) is a user-friendly solution specifically developed for quality control in alloy steel plants, focusing on black and bright bars. This dependable and extensively tested system employs Phased Array UT technology, enabling comprehensive volume inspection of round and square bars. Integrated into a fully automated inspection line, the system adheres to rigorous quality control standards while ensuring optimal productivity. It incorporates a distinctive "Floating Head" concept that ensures consistent probe positioning, independent of any straightness variations in the bars.

Key Features & Specs:

- Inspection system T1 - diameter from 10 mm to 65
- Inspection system T2 - section from 15 mm to 120 mm
- Inspection system T4 - diameter/section from 50 mm to 254 mm
- Floating head - high repeatability and sensitivity
- High-speed inspection – up to 2 m/sec
- Quick set-up

Plate Inspection System

Multi-channel Plate Inspection system is used for automated ultrasonic inspection of heavy and thick plates in steel/pipe industries. The system is comprised of state of art ultrasonic hardware and supports high throughput requirements. The surface coverage can be achieved up to 100% by using multiple ultrasonic probes.



Key Features & Specs:

- Plate width - from 600 mm to 5000
- Plate thickness - from 5 mm to 60 mm
- Multi-channel Conventional UT (60- 300 channels)
- Scan speed - up to 15 m/min
- Quality compliance standard - ASTM A578 and A577
- Automatic defect marking system

Coil Inspection System

The system has been developed and delivered for automated online ultrasonic inspection of coil material prior to forming Spiral/ ERW pipes. This multi-channel Coil Inspection System makes use of state-of-the-art hardware for continuous data acquisition to support large production volumes. The system comes with an edge testing mechanism and an optional wall thickness measurement feature.

Key Features & Specs:

- Coil width - from 400 mm to 2200 mm
- Coil thickness - from 4 mm to 25 mm
- Multi-channel Conventional UT(25-98 channels)
- Scan speed - up to 30 m/min
- Quality compliance standard - API 5L, ASTM A578
- Automatic defect marking system



Immersion UT System

Blue Star E&E has designed and delivered different configurations of immersion UT systems ranging from small-sized immersion tanks to fully automatic industrial scanners for different industrial and research applications. With a powerful tool for data analysis and reporting, the system achieves perfect balance in terms of performance, functionality, and overall cost.

Key Features & Specs:

- Data acquisition and representation with A, B & C Scan display
- Powerful tool for data analysis & reporting
- Customized as per requirements

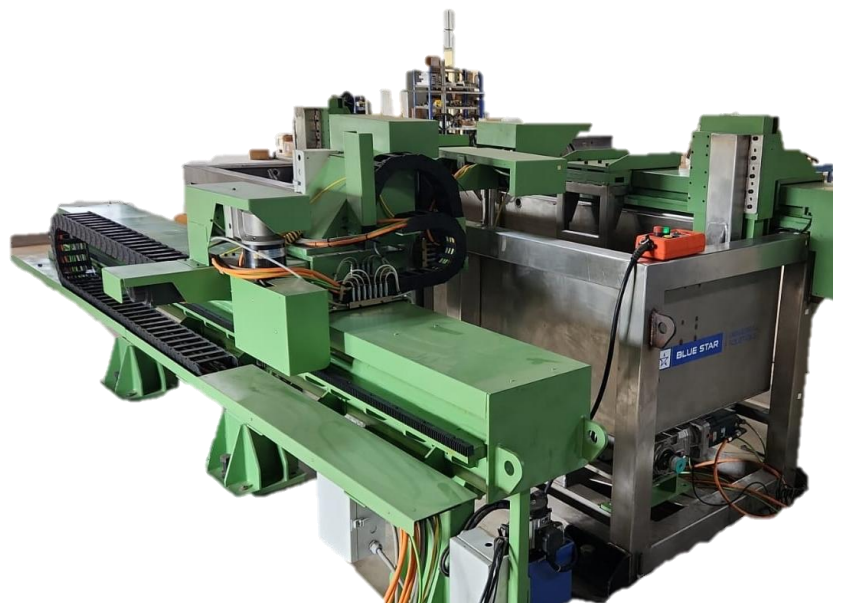


Railway Axle & Wheel System

The Ultrasonic Inspection System inspects forged axles of railway rolling stock for UT radial scanning. The fully automated system is equipped with an Immersion tank having a multi-axis scanner for radial inspection.

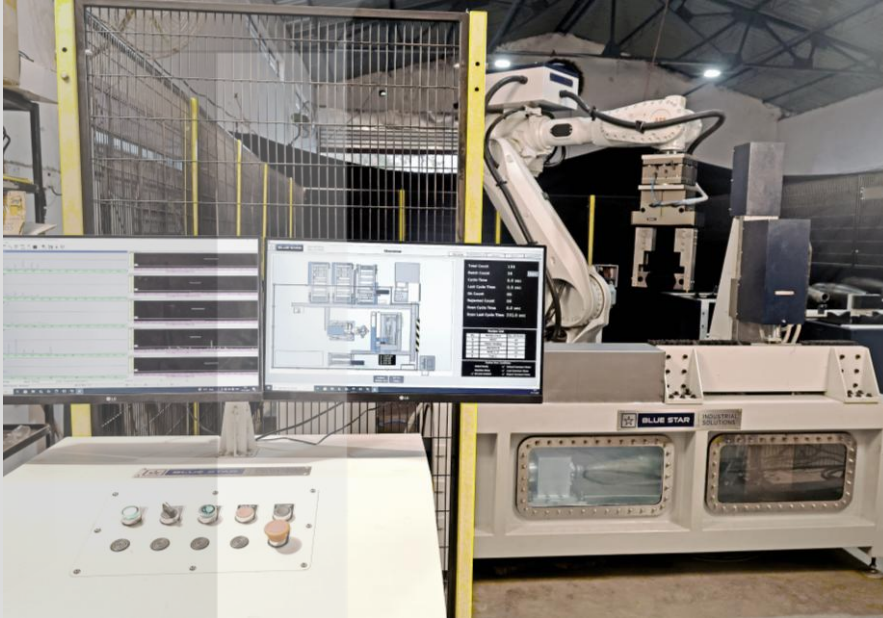
Key Features & Specs:

- Automatic positioning and inspection
- Wayside wheel inspection
- Customized as per requirements



Artillery Shell UT System

Our advanced Shell UT system delivers unmatched precision and reliability for artillery shell inspection. Fully automated and highly efficient, it ensures strict adherence to quality standards while boosting productivity. Designed for seamless integration, the system is fully customizable to meet specific operational requirements, providing optimal performance for industries where compliance and accuracy are critical.



Key Features & Specs:

- Suitable for inspecting Artillery Shells such as 155mm (M107), 120mm (M98), and others
- Multi-axis automation
- Real-time defect detection
- Designed for diverse shell geometries
- Built to meet defense standards

Aluminium Billet UT System

Our custom-engineered Ultrasonic Inspection System provides precise, reliable evaluation of aluminium billets for extrusion, forging, and aerospace applications. This advanced non-destructive testing (NDT) solution detects core defects, volumetric flaws, and internal discontinuities, ensuring billet integrity and safeguarding downstream product quality. Fully adaptable, it delivers optimal performance while seamlessly integrating into demanding production environments.

Key Features & Specs:

- 100% volumetric coverage
- Custom configurations supporting Conventional/Phased Array
- Automated scanning & data logging
- Advanced analysis software
- Industrial-grade design



Customer Experience Centre

Our Customer Experience Centre serves as a platform to present an extensive array of the company's NDT systems and solutions, along with other industrial solutions. It aims to illuminate the various applications of these tools across industries such as Automotive, Steel, Heavy Engineering, Aerospace, and Power Generation, among others. With strong engineering capabilities and strategic partnerships with the global OEMs, we provide competitive, end-to-end solutions tailored to the needs of quality-centric manufacturing and research environments.





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