

STEELTM INSIGHTS

STEEL BUYER'S GUIDE

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INTERVIEWS



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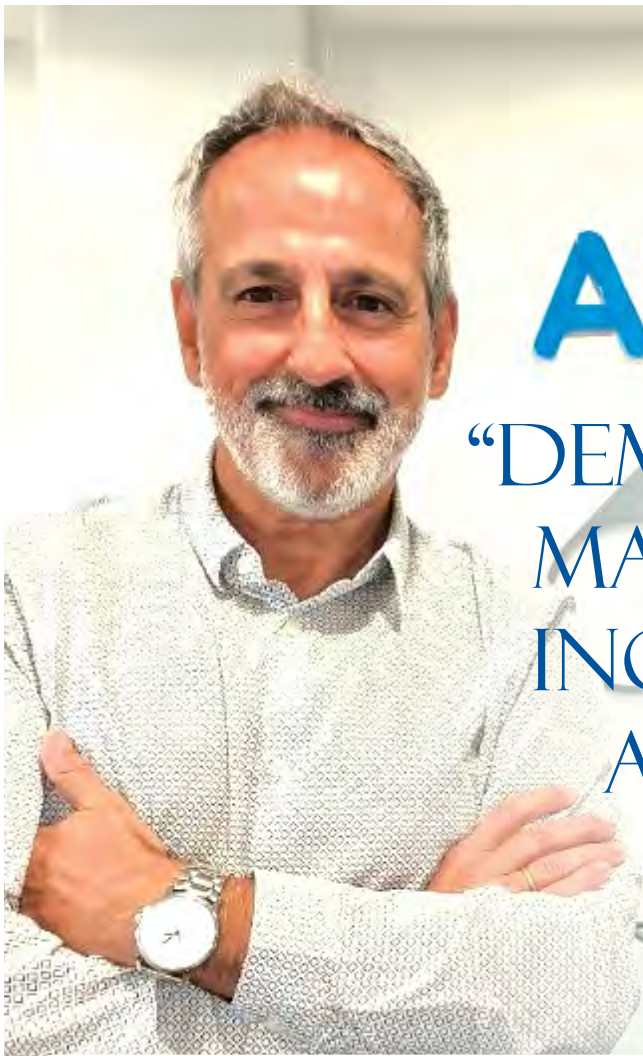
Indian steel in times
of conflict

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ATHADER

“DEMAND FOR HIGHER MATERIAL STRENGTH, INCREASING PROCESS AUTOMATION LEVEL SHAPING SERVICE CENTRES.”

Iñaki Vazquez Ochotorena is the **Technology Director R&D at Athader Coil Processing Lines**. His innovative designs have been around the world for more than 38 years in the Coil Processing Lines industry. He is responding to the last market demands with a very specialist team in Athader Coil Processing Lines, a company belonging to Bradbury Group, a privately owned and independent group of companies around the world founded in '60s.

Athader Coil Processing Lines is a world-class technologist, with extended experience in the design, construction and turn-key installation of Coil Processing Lines for the complete range of steel coils produced at present by industry. This range includes the biggest coils produced till now, considering thickness, weight and width. The company's experience and world-class quality of its lines are awarded by international projects supplied to the main players of steel Industry all over the globe.

Being a Spain-based firm with headquarters in the Basque Country, the company takes advance of global presence with facilities in industry-leading countries.

The strategic policy of Athader is oriented towards continuous improvement, search of innovation and solutions for customer's needs. Athader's commitment has materialized in high-quality equipment, service and customer care. Hence, Athader has established itself as a most reliable partner in a long-term business relationship.

Athader has over 33 years of experience in coil processing technologies. From your perspective, what are the major trends shaping downstream coil processing lines globally, especially for service centers using European technology?

Obviously, service centers around the world present a wide variety of profiles, depending on their markets, product mix, and customer requirements. However, over the last decade, virtually all service centers have been compelled to adapt to a common shift in market direction. This shift can be summarized around 2 major drivers: the evolution of steel grades toward higher strength materials and the increasing level of process automation.

High Tensile Strength Materials

One of the most significant changes has been the rapid increase in the tensile strength of processed materials. Traditionally, service centers were mainly processing steels with ultimate tensile strengths (UTS) around 400–500 MPa. Today, it is increasingly common to process advanced steels with UTS values of up to 1,200–1,600 MPa, particularly driven by the automotive, energy, and structural sectors.

These new material grades introduce several critical challenges that service centers must address:

- ◆ Existing equipment limitations: Machinery designed for conventional steels is often not robust enough to process materials with more than double the mechanical resistance. Components such as levellers, shears, slitters, drives, and strip handling systems are subjected to significantly higher loads, wear, and fatigue.
- ◆ Need for specialized and upgraded machinery: Processing high-strength steels often requires different machine configurations or additional equipment within the same line – such as heavier-duty levellers, reinforced shear systems, advanced tension control, and optimized strip guiding – to maintain productivity, safety, and product quality.
- ◆ Preparation for next-generation materials: Beyond today's high-strength steels, the market is moving toward Advanced High-Strength Steels (AHSS) that combine very high tensile strength with high elongation. These materials demand not only mechanical robustness but also precise control of flatness, residual stresses, and surface quality, forcing service centers to think long-term when investing in new processing lines.

Process automation

The second major trend shaping modern service centers is the progressive implementation of automation across different sub-processes within coil processing lines. Automation is no longer focused solely on productivity, but on creating safer, more stable, and more competitive operations.

Increased automation delivers several key benefits:

- ◆ Reduction in manual operators: Automated coil handling, threading, tooling changes, stacking, strapping, and inspection drastically reduce the number of operators required on the line, minimizing human exposure to high-risk areas.
- ◆ Higher and more consistent production: Automated systems enable repeatable processes, faster changeovers, and continuous operation, resulting in higher throughput and more predictable production performance.
- ◆ Improved operator safety: By limiting manual intervention and integrating safety systems, automation significantly reduces the risk of accidents, especially when processing heavy coils and high-strength materials.
- ◆ Enhanced final product quality: Automated control of critical parameters – such as tension, flatness, dimensional accuracy, and stacking – leads to tighter tolerances, improved surface protection, and overall higher quality of the finished product delivered to the customer.

How has the integration with the Bradbury Group strengthened Athader's technological direction and global reach?

The integration with the Bradbury Group has been a key factor



in strengthening both Athader's technological direction and its international reach. Through this integration, Athader has been able to combine its deep European expertise in coil processing lines – particularly in slitting, cut-to-length, and special solutions – with the Bradbury Group's advanced technologies, such as e-Drive levelling systems and its strong background in automation and industrial productivity.

From a technological standpoint, this partnership has enabled Athader to expand its portfolio, integrate complementary solutions, and access patented developments, resulting in more complete, efficient lines tailored to the demanding requirements of global service centers processing carbon steel, stainless steel, and aluminium.

Can you give us an overview of Athader's manufacturing capabilities and how the plant supports innovation in coil processing lines?

Athader's manufacturing capabilities are centered around its role as a specialized designer, engineer, and manufacturer of coil processing lines.

The plant supports the complete lifecycle of a coil processing line, covering engineering, manufacturing coordination, assembly, commissioning, training, and after-sales service. Rather than focusing on mass production of standardized machines, Athader operates with a project-driven manufacturing model, where each line is engineered to meet specific customer requirements in terms of material type, thickness range, tensile strength, surface sensitivity, productivity, and degree of automation.

From an innovation perspective, Athader's facilities play a key role by enabling close integration between engineering, manufacturing, and customer feedback. The company designs its own machines using proprietary know-how that is continuously developed and refined in cooperation with end users, allowing new technical solutions to be validated directly through real industrial projects.

What differentiates Athader's design philosophy from other global coil processing technology providers?

Athader's design philosophy is differentiated by its project driven, customer specific approach combined with strong European engineering know how and global technology integration. Rather than offering standardized solutions, Athader designs each coil processing line around the customer's material mix, mechanical properties, productivity targets, and future requirements.

A key differentiator is Athader's focus on robust, long term solutions for high strength and advanced steels, ensuring that equipment is not only capable of meeting today's demands but also prepared for future material evolution. This is complemented

by a strong emphasis on process stability, safety, and automation, integrating advanced mechanical design with intelligent control and handling systems.

How do you see future steel production evolving in India over the next 5–10 years?

Over the next 5–10 years, steel production in India is expected to continue its strong growth, driven by large scale investments in infrastructure, automotive manufacturing, renewable energy, and urban development. India is moving not only toward higher production volumes, but also toward more diversified and higher quality steel grades.

We see a clear trend toward modern, high capacity steel plants and a growing need for downstream processing capabilities that can handle high strength and advanced steels with higher levels of efficiency and automation. As domestic consumption increases and export ambitions grow, Indian producers and service centers will increasingly invest in advanced coil processing technologies to improve productivity, quality, and cost competitiveness.

With India's growing emphasis on high-strength steels, what opportunities do you foresee for third-generation AHSS within the Indian market?

As India increases its focus on high strength steels, third generation AHSS represents a significant opportunity, particularly in sectors where weight reduction, energy efficiency, and structural performance are critical. Automotive manufacturing will be the main driver, as OEMs seek materials that combine very high strength with improved formability, enabling safer and lighter vehicle designs without compromising production efficiency.

Beyond automotive, we also see growing potential in infrastructure, rail, and energy applications, where durability and performance are becoming increasingly important. As Indian steelmakers and processors continue to upgrade their capabilities, third generation AHSS will support the transition toward higher value steel grades, encouraging downstream investments in advanced processing lines capable of handling these demanding materials.

Over time, this will accelerate the need for robust, flexible, and highly automated coil processing technologies, positioning AHSS as a key material class in India's next phase of industrial growth.

The market often debates “production vs. high quality.” Do you believe India needs to prioritise higher production volumes, higher steel quality, or a balanced combination of both?

India does not need to choose between higher production volumes and higher steel quality – it needs a balanced combination of

both. On one hand, the country's rapid infrastructure expansion and industrial growth require large production volumes to meet domestic demand. On the other hand, the growing use of advanced applications in automotive, energy, and infrastructure makes higher quality and higher strength steel grades increasingly essential.

Prioritising volume without quality would limit India's competitiveness in higher value markets, while focusing only on premium steels would restrict scale and affordability. The future lies in scalable production supported by modern technology, enabling Indian producers and service centres to deliver both high output and consistent quality. This balanced approach will allow India to strengthen its position as a global steel leader while supporting long term industrial and economic development.

What type of investments or technology upgrades are essential for Indian service centers to handle next-generation materials?

To handle next generation materials such as AHSS and third generation high strength steels, Indian service centers will need to focus on targeted investments in robust equipment, automation, and digitalization.

- ◆ First, upgrading core processing machinery is essential. This includes heavier duty levellers, slitters, shears, drives, and strip handling systems designed specifically for higher tensile strengths and tighter tolerances.
- ◆ Second, automation across the line will be critical – particularly in coil handling, threading, tooling changeovers, stacking, and packaging.
- ◆ Finally, investments in digital tools and process control, such as advanced PLCs, monitoring systems, and quality tracking, will help service centers maintain consistent quality, reduce scrap, and operate more efficiently. Together, these upgrades will allow Indian service centers to process next generation materials competitively, safely, and at industrial scale.

You emphasize automation as the key to scaling capacity. What specific automation technologies or systems should service centers adopt to achieve such a jump in output?

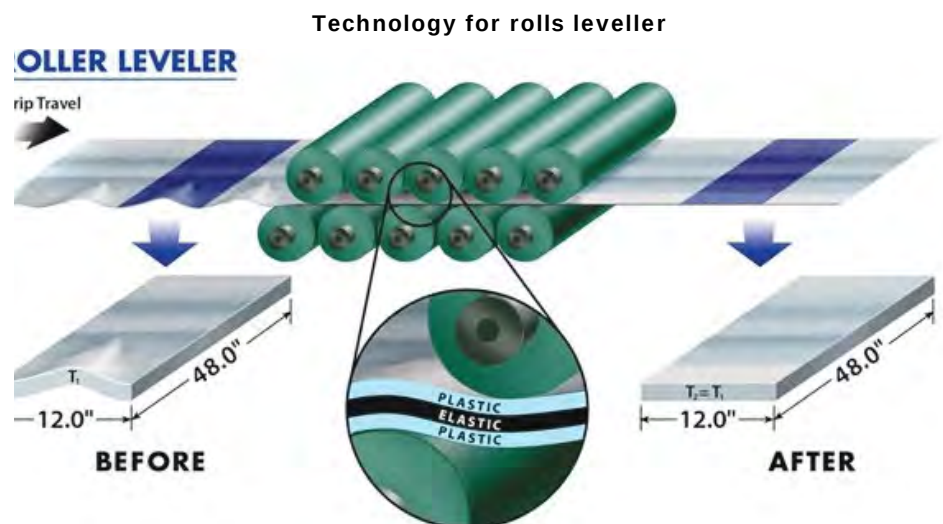
When we talk about scaling capacity in coil processing lines, automation has to be applied across the entire process, not just in isolated machines. The biggest jumps

in output typically come from automating bottlenecks and reducing non productive time.

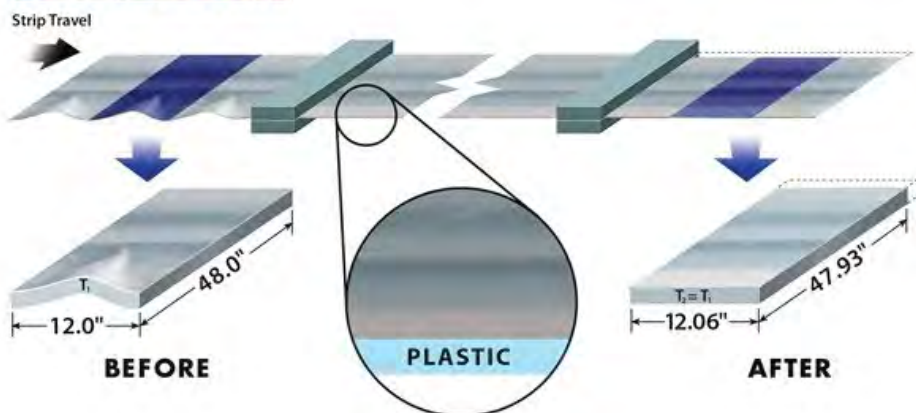
- ◆ First, coil handling and logistics automation is essential. Automated coil cars, coil storage systems, up enders, and transfer tables eliminate manual handling, speed up coil changes, and allow the line to run continuously with minimal operator intervention.
- ◆ Second, automated threading and setup functions make a major difference. Systems such as automatic strip threading, automated slitter tooling change, separator setup, and quick-change cassette concepts dramatically reduce downtime between coils or product changes – especially important for service centers processing smaller batches.
- ◆ Third, process automation within the line – including automatic tension control, loop control, and adaptive levelling parameters – ensures stable operation at higher speeds, even with high strength or advanced steels. This allows service centers to increase line speed without sacrificing quality.
- ◆ Finally, automated stacking, packaging, and strapping systems are critical to avoid creating a downstream bottleneck. Fully integrated finishing automation allows the line to maintain high availability.

Returns due to quality defects and internal residual stresses can significantly impact productivity. What technological solutions are available today to minimize such returns?

Quality issues and returns caused by internal residual stresses can be effectively minimized using stretch levelling technology, which is one of the most powerful solutions available today for demanding applications.



Technology for stretching leveller

STRETCHER LEVELLER

Stretch levelling works by applying a controlled and uniform elongation to the material beyond its yield point, allowing residual stresses generated during rolling and coiling to be evenly redistributed and neutralized across the strip. This process eliminates the material's "memory," resulting in exceptional flatness, dimensional stability, and predictable behaviour in downstream operations.

Within Athader's coil processing solutions, stretch levelling is particularly valuable for high strength steels, AHSS, and surface critical materials, where residual stresses often lead to distortion after cutting, forming, or welding. By integrating stretch levelling into cut to length or coil to coil lines, service centers can significantly reduce flatness related claims, internal stress induced defects, and costly rework.

You've mentioned that eliminating shape defects requires bringing the sheet to the point of plastic deformation. Could you explain how this principle is applied in modern coil processing equipment?

It means that, with the roll's leveller, we can reach the 80 percent of the section of the processed strip, while with the Stretch Levelling we reach the plasticization in the 100 percent of the section of the strip processed.

What specific advancements is Athader making in cut-to-length lines to meet current and future market demands?

In our R&D Department we are developing the last evolutions of:

- Rotary Shears for Heavy gauge.
- Scrap Choppers.
- Mechanical Levellers with e-Drive.

- Fully Automatic Cut To Length.

Looking ahead, what will define the next generation of coil processing lines?

Looking ahead, the next generation of coil processing lines will be clearly defined by the fully automatic coil processing line, designed to maximize productivity, consistency, and operational safety.

Automation will no longer be limited to individual machines but will extend across the entire line – from coil handling and threading to processing, stacking, and packaging – allowing service centers to scale capacity while reducing manual intervention and process variability.

At the same time, cybersecurity will become a critical design factor, not an optional add on. As coil processing lines become increasingly connected – both internally and with external company systems – the way machines communicate is fundamentally changing. This requires the implementation of new PLC architectures, secure communication protocols, and protected network structures to ensure data integrity, system availability, and safe remote access.

In this context, the next generation of coil processing lines will combine high level automation with a 'secure by design' control philosophy, ensuring that productivity gains go hand in hand with operational reliability and long term digital security.

Finally, what message would you like to convey to Indian steel processors preparing for their next phase of expansion?

India is entering a decisive phase in its steel industry development, and the next stage of expansion will be defined not just by scale, but by capability. The message to Indian steel processors is to invest with a long term vision – building capacity that is flexible, robust, and ready for next generation materials.

As production volumes grow, success will increasingly depend on the ability to process high strength and advanced steel grades with consistency, efficiency, and safety. This requires modern coil processing lines that combine mechanical strength, advanced levelling technologies, and a high degree of automation.

Those who focus on balanced growth – scaling output while upgrading technology, quality, and process stability – will be best positioned to compete globally. India has a unique opportunity to leapfrog to world class processing standards, and the right technology investments made today will define market leadership tomorrow. ■