INDUSTRY INSIGHTS. LEADERSHIP STORIES. BUSINESS EXCELLENCE.

INDIA 2026 EDITION
AUGUST | ISSUE 09

Industrial review

www.theindustrialreview.com

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"Strong roots in manufacturing. Diverse capabilities. Sustainable future."

Anil Kumar	Vijay Shethiya	SK Singh	Kapil Aggarwal
CTO	CFO	Head Foundry Operations	CMO

STRONG ROOTS. DIVERSE EXPERTISE. SUSTAINABLE FUTURE.

COVER STORY

Beyond Extrusion

Banco Aluminium plans a 7,500-tonne capacity expansion as it moves deeper into engineered aluminium components

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Excellence in Aluminium Extrusion & Engineered Aluminium Solutions, India 2026



Anil Kumar	Vijay Shethiya	SK Singh	Kapil Aggarwal
CTO	CFO	Head Foundry Operations	CMO

From Extrusion to Engineering: How Banco Aluminium Is Moving Up the Value Chain

Look closely at a modern electric vehicle, a railway coach, a solar installation, an electrical system or a high-performance industrial machine and aluminium is essential. A section may have to carry load while removing weight; another must conduct current or dissipate heat; a third needs a machined bore, a tight flatness window or a surface that can survive years of exposure. Increasingly, the real question is not simply "can this shape be extruded?" but "can the complete component be engineered reliably, repeatedly and at scale?"

"A new extrusion press line planned for 2027 will lift annual capacity from 36,000 to approximately 43,500 tonnes — while Banco moves closer to the finished component through hard-alloy metallurgy, complex extrusion, drawing and machining."

That is the space Banco Aluminium Private Limited has spent nearly six decades building towards. Established in 1967 in Gujarat, Banco has evolved from a conventional extruder into an integrated aluminium engineering company spanning billet casting and alloy control, in-house die design and manufacture, five extrusion presses from 11 MN to 33 MN, solution heat treatment for selected hard alloys, cold drawing, precision machining, fabrication and value-added finishing.

The next step is already taking shape. In 2027, Banco plans to add a new extrusion press line with approximately 7,500 tonnes of annual capacity, taking total extrusion capacity from 36,000 tonnes to about 43,500 tonnes per annum — an increase of more than 20%. The investment is not being framed as a race for tonnes alone. Banco intends the new capacity to support a richer mix of technically demanding work and to complement its growing downstream capability in drawn and machined components.

Engineering around the end use

The demands change dramatically by application. Automotive and Tier-1 customers may need thin-wall, multi-feature profiles that reduce vehicle mass without sacrificing stiffness, followed by precision machining at mounting or joining locations. EV and electronics applications increasingly use aluminium where structural integration and thermal management meet. Rail profiles demand repeatable long lengths, straightness and dimensional stability. Electrical parts can place conductivity and alloy purity ahead of strength, while defence, marine and industrial components may call for stronger alloys, corrosion resistance, close tolerances or extensive downstream machining.

Banco's response is to start with the function and work backwards. Alloy choice, section geometry, extrusion ratio, die design, quench strategy, ageing, drawing and machining are treated as one manufacturing route. That matters because changing a wall thickness to help extrusion can alter stiffness; changing an alloy to gain strength can affect extrudability and machinability; tightening an unnecessary tolerance can add cost without adding performance.

From Tier-1 programme to repeat production

For Tier-1 and OEM programmes, the difficult part is often not producing the first acceptable sample—it is making hundred-thousands part behave like it. Banco's IATF-led quality systems, in-house tooling and cross-functional development are designed around that repeatability. Commercial, die, extrusion, metallurgy, quality and machining teams can work on the same problem rather than handing it between unrelated suppliers.

Banco at a glance

Established 1967 | 5 Extrusion Presses 11 – 33 MN | 1,100+ OEMs & Stockist's

2028 Plan: +7,500 TPA new press line to ~43,500 TPA



33 MN Press Line

Where Metallurgy Meets Microns

The most interesting extrusion work often begins where the process becomes uncomfortable: harder alloys, asymmetric shapes, thin tongues, hollow chambers, strict straightness, demanding surface finish or a tolerance that must survive heat treatment and machining. These are not independent challenges. Metal flow through the die affects dimensional stability; quenching affects properties and distortion; ageing changes strength; drawing can recover precision; machining exposes whether the extrusion has truly been controlled.

Beyond 6xxx: 2xxx and 7xxx capability



40 Ton Melting Furnace

Most industrial extrusion volume sits in versatile 6xxx alloys, but Banco also produces specialised 2xxx and 7xxx grades for higher-strength and machining-intensive applications. S. K. Singh, Head – Foundry Operations, says their performance begins in the foundry: "The extrusion press can only work with the quality built into the billet. For demanding alloys, chemistry, melt cleanliness, grain refinement, casting discipline and homogenisation must be tightly controlled." Supported by a 40-tonne melting furnace, Banco engineers billet quality together with extrusion temperature, speed, quench, solution heat treatment and ageing. This enables selected 2xxx and 7xxx products to be solutionised around the final mechanical-property requirement.

The portfolio also spans high-purity 1xxx grades for conductive applications; 3xxx and 5xxx families for formability and corrosion performance; mainstream and specialised 6xxx grades; and customer-specific lead-free or free-machining solutions. The aim is to select the alloy-and-process combination that best balances strength, weight, corrosion resistance, conductivity, machinability and cost.

Complex profiles are a die-design problem first

A complex hollow, an unequal wall section or a profile with delicate features can fail long before it reaches inspection if metal flow is not balanced inside the die. Banco's in-house die shop gives engineers direct control over port layout, weld chambers, bearings, tongue support, flow correction and dimensional compensation through simulation. Trials become fast learning loops: measure the profile, understand where the metal moved, correct the die and standardise the process.

Extrude, draw, machining — one dimensional chain

Extrusion gets the material close to net shape; drawing and machining can take it much further. Banco's drawn-product capability is particularly relevant for tubes, bars and precision sections where tighter outside/inside dimensions, straightness, surface condition or mechanical consistency are required than extrusion alone economically delivers. CNC machining can then add bores, pockets, slots, threads, interfaces and controlled datum features, turning a long-length extrusion into an assembly-ready engineered component.

Quality and market access

Banco's systems and approvals include IATF 16949:2016, ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018; IQ NET, BIS requirements covering IS 733, IS 5082 and IS 1285; CE requirements; IR class approved works; and CBAM reporting/compliance capability for relevant European exports. For Tier-1 programmes, the practical value is traceability and process discipline from billet and die through final inspection.

> An extrusion tolerance is useful only if the finished, heat-treated and machined component still meets the customer's functional requirement.

What Banco does particularly well

- Hard and specialised alloys, including selected 2xxx and 7xxx solutionised products.
- Complex solid and hollow profiles developed with an in-house die shop.
- High precision cold-drawn tubes, bars and sections where dimensional control goes beyond as-extruded capability.
- CNC-machined, fabricated and assembly-ready components for Tier-1/OEM programmes.

Aluminium at Work: From EVs to Rail and Industry

The value of an extrusion is easiest to understand in the product around it. In a vehicle, a multi-cavity section can place material exactly where stiffness is needed and remove it where it is not. In electrical equipment, the same manufacturing process can create a long, consistent conductive path with integrated mounting features. In rail, a large or long profile can replace several fabricated parts. In machinery, a precision extrusion can become a near-net-shape blank that removes hours

of machining and kilograms of swarf.

Automotive & EV — lightweighting with repeatability

For automotive and Tier-1 suppliers, aluminium is increasingly an engineering tool for lightweighting, structural integration and thermal management. The opportunity is not just to substitute aluminium for steel, but to redesign the cross-section: ribs can add stiffness, channels can manage cables or cooling, and mounting features can be built into the extrusion. The challenge is holding dimensions through extrusion, stretch, heat treatment and machining while maintaining mechanical properties and production-rate consistency.

Rail, electrical & renewable energy — performance over length

Rail components reward low weight, corrosion resistance and the ability to create long, repeatable sections. Electrical applications can demand controlled chemistry and conductivity in busbar, connector or heat-management profiles. Solar and renewable-energy systems value corrosion resistance, repeatable interfaces and efficient high-volume production. Each market looks like "aluminium extrusion" from a distance, yet the engineering priorities are entirely different.

Industrial, hydraulics, marine & defence — when the profile is a component

Industrial customers increasingly use extrusion as a near-net-shape manufacturing route for manifolds, machine elements, pneumatic/hydraulic parts, precision tubes and structural components. Here, machining allowance, straightness, concentricity, bore condition and alloy response can determine whether the extrusion creates savings or simply transfers cost downstream. Marine and defence work can add corrosion, strength, documentation and traceability requirements—areas where harder alloys and controlled heat treatment become strategically important.

Lower-carbon aluminium manufacturing

Banco is applying the same process discipline to energy and carbon. Its fuel-fired manufacturing operations use natural gas, avoiding more carbon-intensive fuels such as coal and furnace oil. The company has approximately 1 MW of captive solar capacity and a further approximately 1 MW of hybrid solar and wind capacity. Secondary aluminium presently accounts for around 30% of the metal mix, subject to the chemistry and quality requirements of each product.

Energy is also measured where it is consumed. An online Energy Management System monitors major production equipment, while energy consumption is benchmarked on a per-tonne basis across operations. This gives teams visibility into abnormal consumption, idle running and process losses — turning energy efficiency into an operating KPI rather than only a monthly utility bill.

For European business, that discipline is becoming commercially relevant as CBAM places greater focus on embedded carbon and reliable emissions data. Banco's ISO 14001 environmental-management framework, renewable-energy deployment, secondary-metal usage and CBAM reporting capability are therefore increasingly part of the customer proposition as well as the environmental programme.

> **"Lower energy per tonne is both an environmental measure and a manufacturing-efficiency measure."**

Beyond the factory gates

Banco's responsibility extends beyond the factory gates. Across FY2021–22 to FY2025–26, it invested approximately ₹3.15 crore—in education, healthcare, skills, women's welfare and village development. Initiatives supported 21 student scholarships, treatment for 30+ underprivileged patients, 100+ village-development beneficiaries, 20+ farmers and 100+ skill-development beneficiaries.

Programmes include Shikhar Science Scholarships, Project Saksham, Savera, TREE, PRERNA and NAVYA; education for Deaf students; Umeed and Udaan for vulnerable women and girls; and the Jahaaj and Luna village-development programmes. Banco supports and works with United Way of Baroda, Akshar Trust, Shram Mandir Trust, Charutar Arogya Mandal and Baroda Citizen Council.



Three Perspectives on Banco's Next Chapter

Commercially, technically and financially, Banco's leadership describes the same transition: moving closer to the customer's finished component and competing on engineering content rather than conversion alone.

The customer conversation has changed

When asked how the customer conversation has changed over the past five or ten years, Kapil Aggarwal, Chief Marketing Officer, points to a fundamental shift in what sophisticated buyers expect from an extrusion partner. "Earlier, many enquiries began with a drawing and a price per kilogram. Today—particularly with Tier-1 and technically demanding customers—the discussion starts much closer to the end application. Can we reduce weight? Can two or three parts become one profile? Can critical interfaces be machined before delivery? Can the supplier control development from alloy and die through to the finished component?"

That change is also reshaping where Banco sees opportunity. Agarwal highlights electric mobility, automotive Tier-1 programmes, rail, renewable energy, electrical systems, defence and specialised industrial applications—markets where aluminium is being selected because it solves a specific engineering problem. He sees a similar shift among international buyers: "Global customers are increasingly looking beyond a source of extrusion. They want a partner that can develop the alloy and profile, control the process and supply a higher-value component with dependable quality."

Harder alloys, tighter control

For Anil Kumar, Chief Technology Officer, moving up the value chain changes the technical challenge considerably. He singles out Banco's work with 2xxx and 7xxx alloys as an example. "These alloys take us into a different level of metallurgy. They can deliver much higher strength or specialised performance, but they are less forgiving than mainstream 6xxx. Extrusion temperature, speed, quench, solution heat treatment and ageing all become critical." Banco's ability to solutionise selected 2xxx and 7xxx products, he explains, allows the metallurgical route to be designed around the required final properties rather than ending at the extrusion press.

Kumar makes a similar point about drawing and machining. "The customer ultimately uses the finished dimension, not the as-extruded dimension. Drawing can give a tube, bar or precision section tighter dimensional control, straightness and consistency; CNC machining then creates the precise bores, faces, slots, threads and datums that make the extrusion a functional component." The objective, he says, is to plan those stages as one dimensional chain so that tolerance is engineered into the process rather than inspected into the part at the end.

Growth measured in value, not tonnes alone

The same philosophy carries into Banco's financial priorities. Vijay Shethiya, Chief Financial Officer, describes the objective as "better-quality growth rather than simply higher tonnage." Banco's turnover grew by 8.5% in FY2025–26, and the company is targeting approximately ₹900+ crore in FY2026–27, representing about 39% growth, subject to final approval of the published figures. But Shethiya argues that the mix behind the number is just as important: a larger contribution from technically demanding, value-added and export programmes where Banco's engineering capability is rewarded.

The upcoming 2027 enlargement of the new press line system makes that philosophy tangible. Banco expects the new line to add approximately 7,500 tonnes of annual extrusion capacity, taking the company from 36,000 tonnes to around 43,500 tonnes per annum. "We are adding capacity, but the investment case is not based on tonnage alone," Shethiya says. "We want the new capacity to support a richer product mix — more technically demanding alloys, more Tier-1 and export programmes, and more products where Banco adds value beyond the extrusion itself."

Nearly sixty years after its founding, Banco's next growth curve is being built not in tonnes alone, but in tolerance, metallurgy, machining and engineering content.