

Smart manufacturing's winning code: Breakthrough

Driven by the dual engines of favorable policies and market demand in 2026, the fastener industry is entering a critical window for transformation. Smart manufacturing, green upgrading, and non-standard customization have become the key strategies for breaking through. Enterprises must seize new tracks through technological innovation, escape the dilemma of low profit margins, and stride toward high-quality development.

Since the beginning of 2026, the fastener industry has witnessed historic development opportunities. Known as the "rice of industry," fasteners are indispensable basic components of manufacturing. Driven by industrial upgrading and global market recovery, the industry landscape is undergoing profound reshaping. This is both the "best of times" full of hope and the "most competitive era" with fierce competition. Policy dividends are accelerating the industry, and new energy demands are opening up new tracks. Ultimately, who can stand out in this fierce competition depends on technological strength, equipment level, green transformation capabilities, and resilience against international market competition.

01 Policy Tailwind: A Powerful Engine for Industry Transformation

In 2026, national policies have injected strong momentum into the fastener industry. The new round of "national subsidies" has landed, with ultra-long-term special government bond funds precisely targeting equipment renewal and the trade-in of consumer goods. The advancement of projects such as urban renewal, old residential area renovation, and smart construction has directly stimulated the demand for high-end fasteners. The Ministry of Housing and Urban-Rural Development's "Opinions on Improving Housing Quality" explicitly promotes smart construction, green construction, and prefabricated decoration, posing higher requirements for the reliability, corrosion resistance, and modular connection technologies of fasteners. Projects like urban pipeline renewal and urban village renovation have opened up a new battlefield of "stock renewal" for fastener enterprises. The policy dividends lie not only in order growth but also in forcing enterprises to accelerate technological upgrades and product iterations to meet high-standard and strict market demands.

02 Market Demand: Multi-Dimensional Explosions Spawn New Opportunities

The opportunities for the fastener industry stem not only from policy drivers but also from the explosive growth of market demands:

New Energy Tracks: Wind power, photovoltaics, and new energy vehicles (NEVs) are witnessing a surge in demand for high-strength, corrosion-resistant,

and lightweight fasteners. For example, wind turbine tower connection bolts must withstand extreme climates, photovoltaic bracket fasteners need to balance durability and installation efficiency, and NEVs are driving material innovation and process breakthroughs for lightweight fasteners.

Smart Construction and Prefabricated Buildings: The prefabricated decoration technology vigorously promoted by the Ministry of Housing and Urban-Rural Development makes modular connections the core. As "structural links," the standardization, high precision, and traceability of fasteners are crucial for project success. Enterprises need to develop specialized fasteners for integrated kitchens and bathrooms, raised floors, and other systems to seize the new blue ocean.

Rail Transit and Infrastructure Expansion: Super projects like high-speed rail network extensions and cross-sea bridge constructions continue to drive up the demand for ultra-high-strength bolts (e.g., Grade 12.9). For instance, the recently commissioned smart production line in Xinjin, Chengdu, has its products applied in key projects like the Zhangjingtiao Yangtze River Bridge, verifying the market potential of high-end fasteners.

In an era where opportunities and challenges coexist, fastener enterprises must focus on three core areas to break through:

Technological Breakthrough: From "Standard Parts" to "Non-Standard Customization" – The market demand for non-standard screws is becoming increasingly refined, especially in medical devices, aerospace, and semiconductor equipment. Enterprises must possess Design for Manufacturing (DFM) collaborative design capabilities and master the processing and precision forming technologies of special materials (e.g., titanium alloys, high-temperature alloys). For example, a Shenzhen enterprise specializing in CNC machining of micro-connectors has successfully entered the high-end medical equipment market.

Green Transformation: A Mandatory Choice for Environmental Protection and Sustainability – Stricter environmental policies and upgraded market demands are forcing enterprises to adopt eco-friendly coatings, recycled materials, and energy-saving processes. The promotion of green building materials requires fasteners to feature long-life design and traceable quality systems. Enterprises with RoHS certification and ISO 14001 environmental management systems will gain a competitive edge.

Smart Manufacturing: The Ultimate Answer for Cost Reduction and Efficiency Improvement – The success of the Xinjin, Chengdu smart production line reveals the future direction of the industry: achieving a 50% efficiency increase and an 80% labor cost reduction through hot forging line technology, automated

production lines, and digital management. Smart manufacturing not only optimizes costs but also meets small-batch, multi-variety order demands through quality traceability systems and flexible production, enhancing enterprise competitiveness.

04 Bidding Farewell to "Hard Times" and Embracing "Good Days"

The traditional dilemma of the fastener industry is the low-profit model of "earning hundreds per ton," rooted in low added value and homogeneous competition. The "good days" after breaking through will be a high-value era of "selling for several dollars per piece." This requires enterprises to:

Shift from a "price war" to a "value war": Enhance product performance through technological upgrades to gain premiums with differentiated products.

Shift from "OEM" to "brand building": Establish quality certification systems, participate in international standard-setting, and build high-end equipment supporting brands.

Shift from "involution" to "going global": Leverage domestic supply chain advantages to actively expand into "Belt and Road" and European/American markets to hedge against domestic competitive pressures.

05 Successful Case: The Demonstration Effect of Smart Production Lines

The smart production line of CRCHI Xinjin in Chengdu has set a benchmark for the industry. Its breakthroughs include:

Technological First: China's first large-diameter high-strength bolt hot forging line, increasing efficiency by 50% with a 100% qualification rate.

Capacity Leap: Annual capacity of 24,000 tons, covering Grade 8.8 to 12.9 products, meeting super project demands.

Model Innovation: Smart manufacturing + flexible production for rapid response to customized demands.

This successful case proves that technological innovation and smart transformation are the "golden keys" to solving industry dilemmas.

Looking ahead, competition in the fastener industry will be fiercer, but opportunities are equally immense. Enterprises must use "smart manufacturing" as the core to build technological moats and "resilience" as the foundation to cope with market fluctuations and trade barriers. Policies will continue to favor high-end manufacturing, while new energy and smart construction will release trillion-level demands. Non-standard customization and green products will

become new growth poles. Only enterprises that seize opportunities and dare to change can cross the finish line first in this "marathon."

Conclusion: The Era of the Breakers Has Arrived