盈锋志诚嘉
YINGFENGZHICHENGJIA

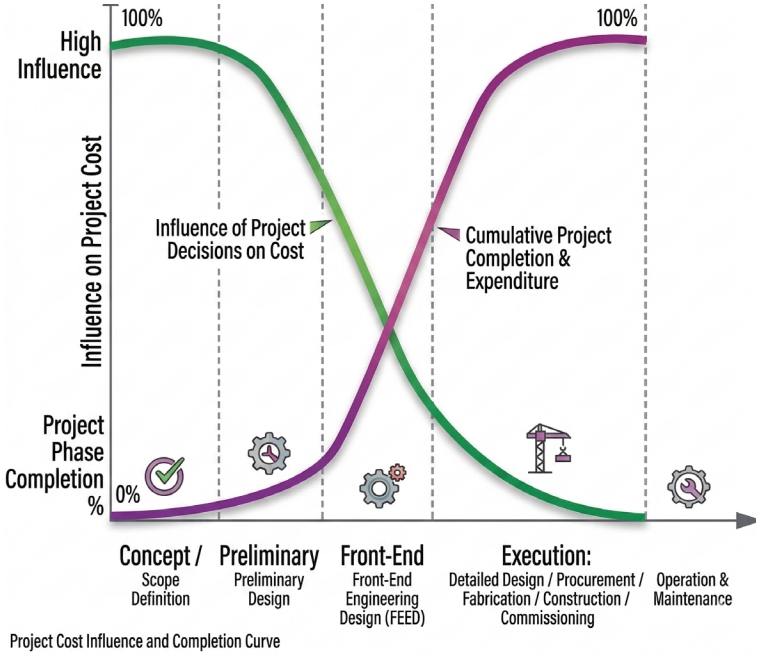
Embodied Intelligence

One-Stop Fastening & Connection Solutions

Industry Challenges

Project Cycle Cost Impact Model

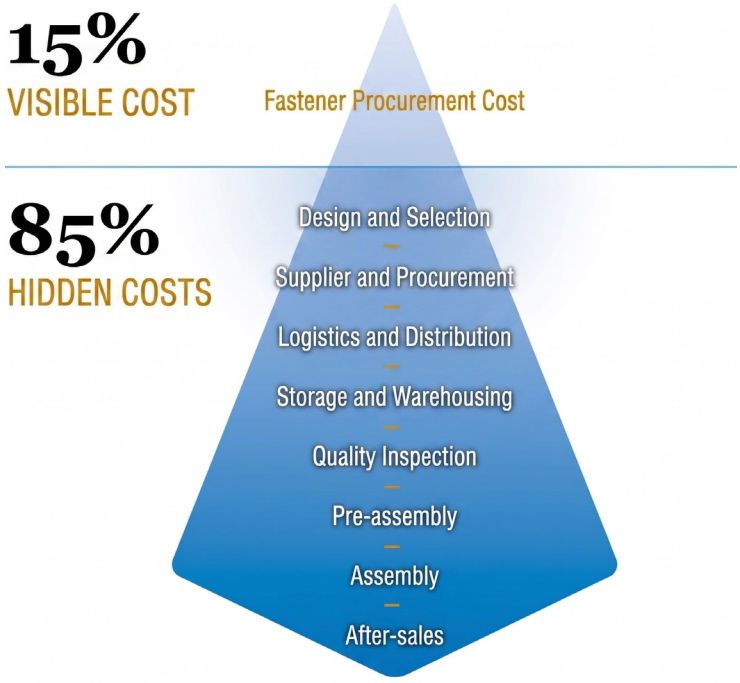
In today's rapidly evolving society, the core challenge facing enterprise R&D lies in this paradox: the early-stage decision-making window is extremely narrow, yet it locks in the majority of costs; while substantial investments are made in the later stages, the cost of correcting mistakes becomes prohibitively high—resulting in a serious mismatch between risks and returns. This requires enterprises to make accurate judgments at the very early stage to address market uncertainty.



Project Cost Influence and Completion Curve

The 15-85 Law

Another challenge facing enterprises today is this: excessive focus on explicit procurement costs, while ignoring the implicit costs that account for 85% of the total. Enterprises often lack systematic coordination across design, supply chain, after-sales and other links, leading to high manufacturing costs, rework, quality and after-sales issues caused by early-stage decision-making errors—ultimately driving up the total cost of ownership (TCO) significantly.



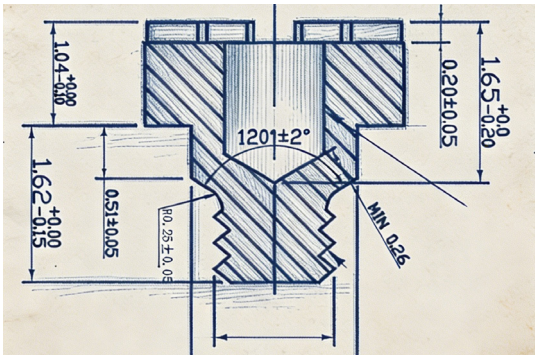
Services Offered by ZCJ

Total Cost Optimization Expert from Prototype Design to After-Sales

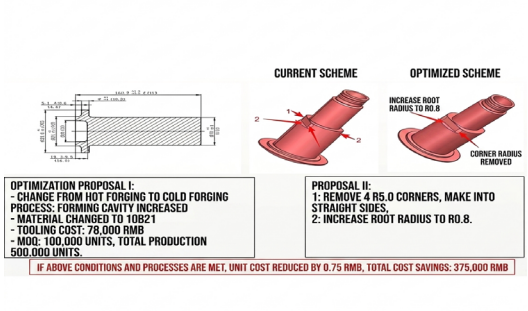
Rapid Prototypes

Professional Training

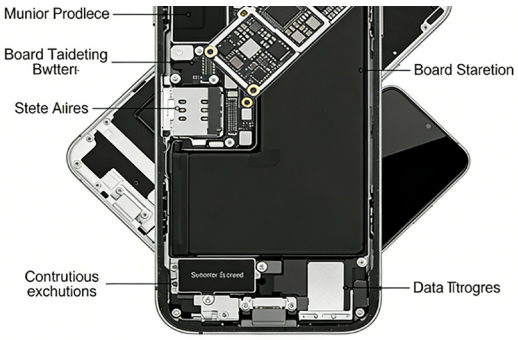
Professional Testing Services



Professional Design Consulting



Continuous Process Improvement



Professional Teardown & Analysis

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High-Strength Anti-Loosing Screws (Aluminum Alloy, Titanium Alloy)

Shoulder Screws & Rod End Bearing

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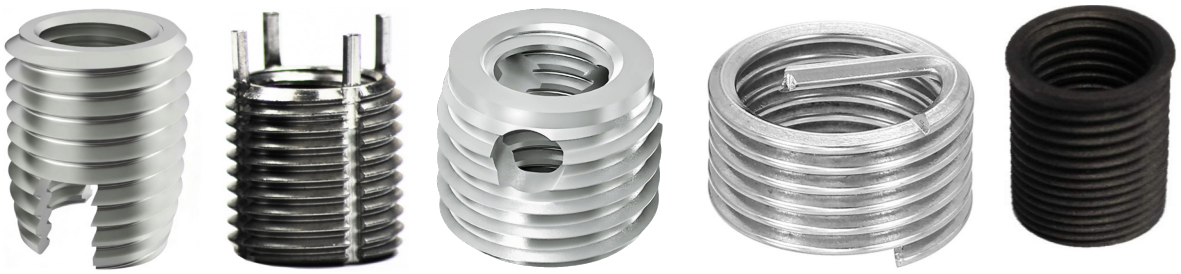
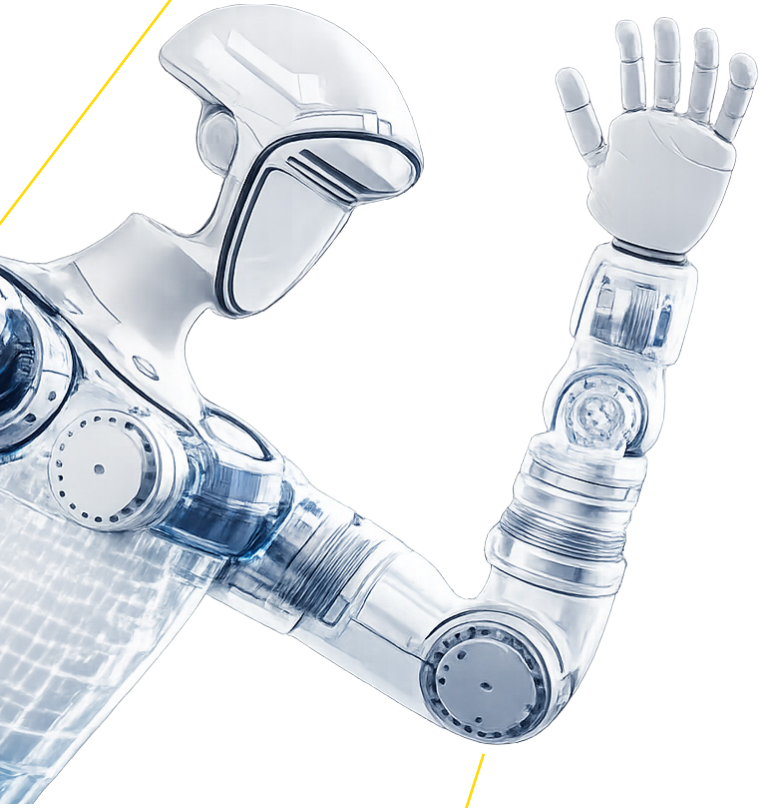
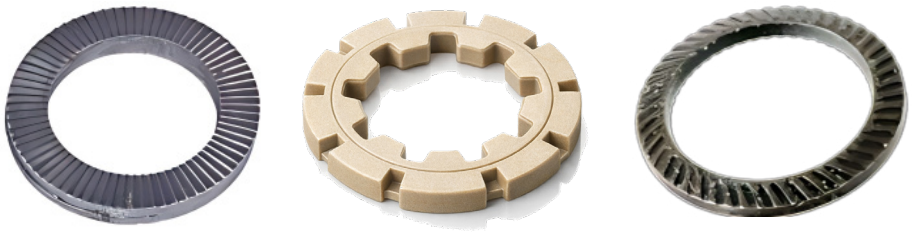


Thread Reinforcing Inserts for Light Alloys (Mg, Al)





Lock Washer

High-Strength Anti-Loosing Screws

Grade 12.9 alloy steel and Grade 14.9 high-strength anti-loosening & anti-corrosion screws feature special thread treatment and special surface finishing, which save space while enhancing reliability and corrosion resistance.

Grade 10.9 / 12.9 titanium alloy and Grade 6.8 high-strength aluminum alloy screws achieve lightweight and high-strength connections, and solve the galvanic corrosion issue in magnesium alloy assemblies (for aluminum alloy applications).

Shoulder Screws & Rod End Bearing

Shoulder screws are key basic components in the joints and motion structures of humanoid robots, undertaking the triple functions of connection, positioning and rotational support, making them one of the core mechanical elements for achieving high-precision, multi-degree-of-freedom motion.

Rod end bearings are core articulated components for linear actuators (ball screw push rods) and linkage structures. Used for flexible articulation, they permit controlled multi-directional oscillation, serving as core structural parts for the bionic motion of robots.

Thread Insert

Thread inserts are mainly used in humanoid robots to enhance the threaded connection performance of lightweight structural parts.

Although they do not directly form the "apparent musculature" of robots, they play a vital role in ensuring high-precision, long-life and lightweight internal structural connections.

They are mainly applied to the torso frame, arm frame and main load-bearing structures of the legs in robots.

Lock Washer

Lock washers are among the core anti-loosening fasteners for joints and transmission systems of humanoid robots.

They are mainly made of carbon steel and stainless steel; for high-end applications, there is a gradual shift toward high-strength alloy steel and lightweight composite materials to meet requirements of high-frequency vibration, high precision and long service life.

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