



NEW ENERGY BATTERY INDUSTRY PRODUCT BROCHURES

—
BATTERY CELL COMPONENT INTELLIGENT
MANUFACTURING PRODUCTS

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Visit Our Global Website

INTELLIGENT MANUFACTURING IS HERE



COMPANY OVERVIEW

YIFI LASER, established in Wuhan' s China Optics Valley, is a government-certified high-tech enterprise specializing in the R&D, production, and sales of precision laser processing intelligent equipment.. It is recognized as a national "Little Giant" enterprise and is publicly listed on the STAR Market (SH 688646).

Focused on laser processing intelligent equipment solutions, YIFI LASER has pioneered the integration of laser technology with intelligent manufacturing, building a comprehensive technology and product system. Its core offerings include precision laser systems, cylindrical tableless battery assembly lines, prismatic battery assembly lines, flexible module/PACK lines, and smart logistics solutions. These technologies have been recognized among the "National Manufacturing Single Champion Products" and the "Leading Technology" list by Science and Technology China, and are widely applied in sectors such as new energy batteries, semiconductors, home appliances, prefabricated buildings, and automotive components.

YIFI LASER has built an integrated innovation system that combines "R&D Innovation - Engineering Transformation - Analytical Testing." This system accelerates technological breakthroughs and the industrial application of emerging technologies, driving innovation and intelligent upgrades in advanced industries like new energy batteries, and steadily moving toward its vision of becoming a world-class provider of intelligent manufacturing equipment.



National Manufacturing Industry Single Champion Product

National Key Supported Little-Giant Enterprise of Professionalization, Refinement, Specialization and Innovation

Listed in the Pioneer Technology List of "Sci-Tech Innovation China" by the China Association for Science and Technology

National Industrial Design Center

National Intellectual Property Advantage Enterprise



Headquarters Base
Optics valley·Wuhan



YIFI Intelligence
Ezhou·Hubei



Jiangsu YIFI
Zhenjiang·Jiangsu



Dongguan YIFI
Dongguan·Guangdong



New Cohesion
Wuxi·Jiangsu



Ecotion
Zhuhai·Guangdong

**Laser Innovation&Equipment
Intelligentization**

MISSION

Aspire to Become a World-Class Provider of Intelligent Laser Equipment and Innovative Process Solutions

VISION

Pragmatism, Progress, Innovation, Collaboration

VALUE

Customer-centric,Quality-assured
Innovation-driven, Service-packed

PHILOSOPHY

AWARDS & QUALIFICATIONS



Major Honors

- National Key Supported Little-Giant Enterprise of Professionalization, Refinement, Specialization and Innovation
- National High-Tech Enterprise
- National Manufacturing Industry Single Champion Product
- National Intellectual Property Advantage Enterprise
- Listed in the Pioneer Technology List of "Sci-Tech Innovation China" by the China Association for Science and Technology
- Gold Prize of Hubei Province High-Value Patent Competition
- Hubei Province Science and Technology Progress Award
- Hubei Province Technological Innovation Demonstration Enterprise
- Hubei Province Service-Oriented Manufacturing Demonstration Enterprise
- Hubei Province Intellectual Property Application Demonstration Unit
- Hubei Province Demonstration Enterprise for Hidden Champion in the Pillar Industry Segments
- Top 100 High-Tech Enterprises in Hubei Province

Major Industry Awards

- Top 50 in China's Lithium Battery Industry
- Golden Globe Award (Innovation Technology) by GGII (Gaogong Industry Institute)
- Golden Globe Award (Product) by GGII (Gaogong Industry Institute)
- Golden Globe Award (Brand) by GGII (Gaogong Industry Institute)
- Lithium Vision Award · Technological Innovation Enterprise
- Lithium Vision Award · Influential Enterprise
- Lithium Vision Award · Product Reliability Award
- China Laser Golden Glitter Award
- China Laser Star Award
- Influential Enterprise in China's Laser Industry
- Qidian Sodium-Ion Battery Golden Tripod Award
- Sodium-Ion Battery Industry Chain Quality Enterprise Award by GGII (Gaogong Industry Institute)

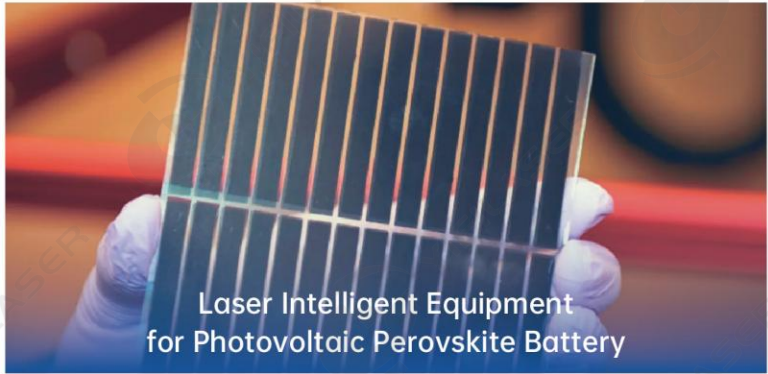
APPLICATION INDUSTRIES



Intelligent Equipment for New Energy Battery Cell Assembly



Intelligent Equipment for Battery System Assembly



Laser Intelligent Equipment for Photovoltaic Perovskite Battery



Intelligent Logistics and Warehousing System for Semiconductor Wafer Plants



Intelligent Welding Assembly Line for Smart Home Appliances



Intelligent Welding Assembly Line for Green Building Materials



Laser Intelligent Equipment for Automotive Parts Manufacturing



Intelligent Logistics and Warehousing System for Food and Pharmaceuticals

03

Our Products

Battery Cell Component Intelligent Manufacturing Products

YIFI LASER's Intelligent Assembly Equipment for Battery Cell Components is designed to support the assembly, welding, and inspection of various structural components for cylindrical and prismatic batteries. The equipment accommodates processes such as explosion-proof valve welding, terminal welding, terminal riveting, plastic bracket welding, helium leak detection, and multifunctional testing. With a modular, intelligent, and highly flexible design, and through deep integration of automation control, inspection technologies, and digital systems, the solution ensures compatibility with diverse cover plate structures, consistent assembly quality, and full process traceability. Characterized by high production efficiency, optimal equipment footprint utilization, and strong adaptability, it empowers customers to achieve high-quality, cost-effective, and fast-delivery intelligent manufacturing of battery cover plates.

YIFI LASER leverages high-precision, high-reliability laser technology as its core capability to overcome key challenges in laser processing and continuously expand its applications in lithium battery manufacturing. We specialize in innovative laser solutions for advanced materials, such as battery casings and protective films, and provide industry-leading laser intelligent equipment for surface texturing of battery casings and blue film laser cleaning—driving greener, smarter, and more advanced battery production.

CL-ZG-G150S

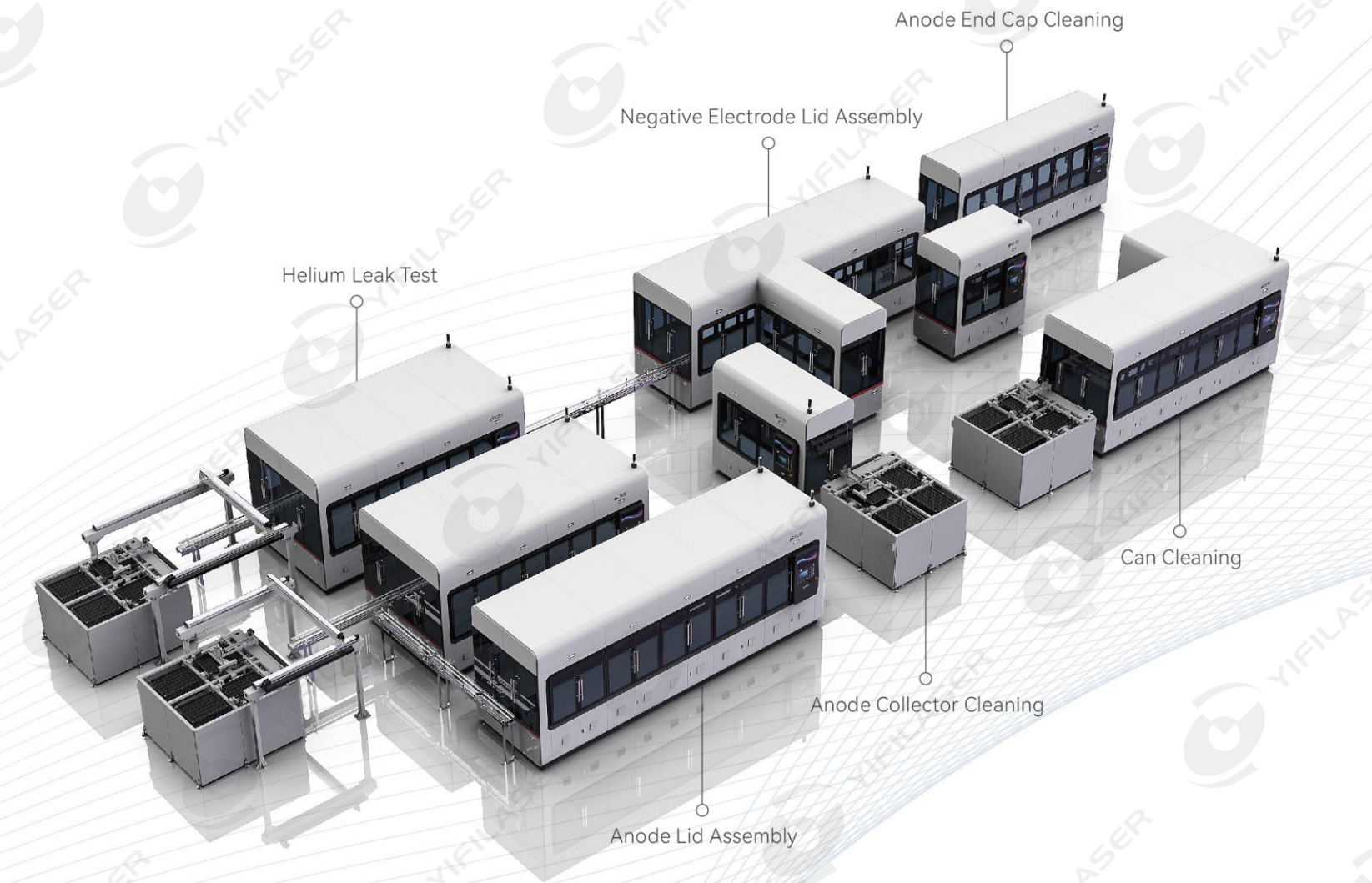
Cylindrical Battery Cell Cover Plate Assembly Line

Centered on high-precision laser processing, high-speed vision inspection, and intelligent material handling, this line integrates intelligent feeding, precision machining, online inspection, and efficient unloading into a fully automated production workflow. It ensures non-destructive transfer, high-consistency assembly, and closed-loop quality control, providing a comprehensive cover plate assembly solution, including explosion-proof valve welding, helium leak detection, and current collector and terminal welding.

Φ18~80mm
Compatible Cover Plate Specifications (MAX)

150ppm
Single Line Capacity

≤27*9.5*2.6m
Overall Dimensions (L×W×H)



Non-Damaging Feeding

Supports multiple automatic feeding modes, including vibratory bowls, cartridges, and robotic loading. The feeding process prevents material deformation and surface damage, ensuring no scratches or dents. Equipped with front-and-back side detection for error-proofing, it achieves a 100% misfeed interception rate.

Precision Coding

Laser marking supports micro QR codes as small as 2×2 mm, with a repeat positioning accuracy of 0.05 mm. Scanned data is instantly linked to process parameters and inspection results, and synchronized with the MES system.

Precision Welding

Vibrating mirror Laser Welding, integrates press clamping mechanism and nitrogen shielding to suppress deformation, with dust extraction airflow rate >15 m/s for optimal fume control.

CL-XG-G30S

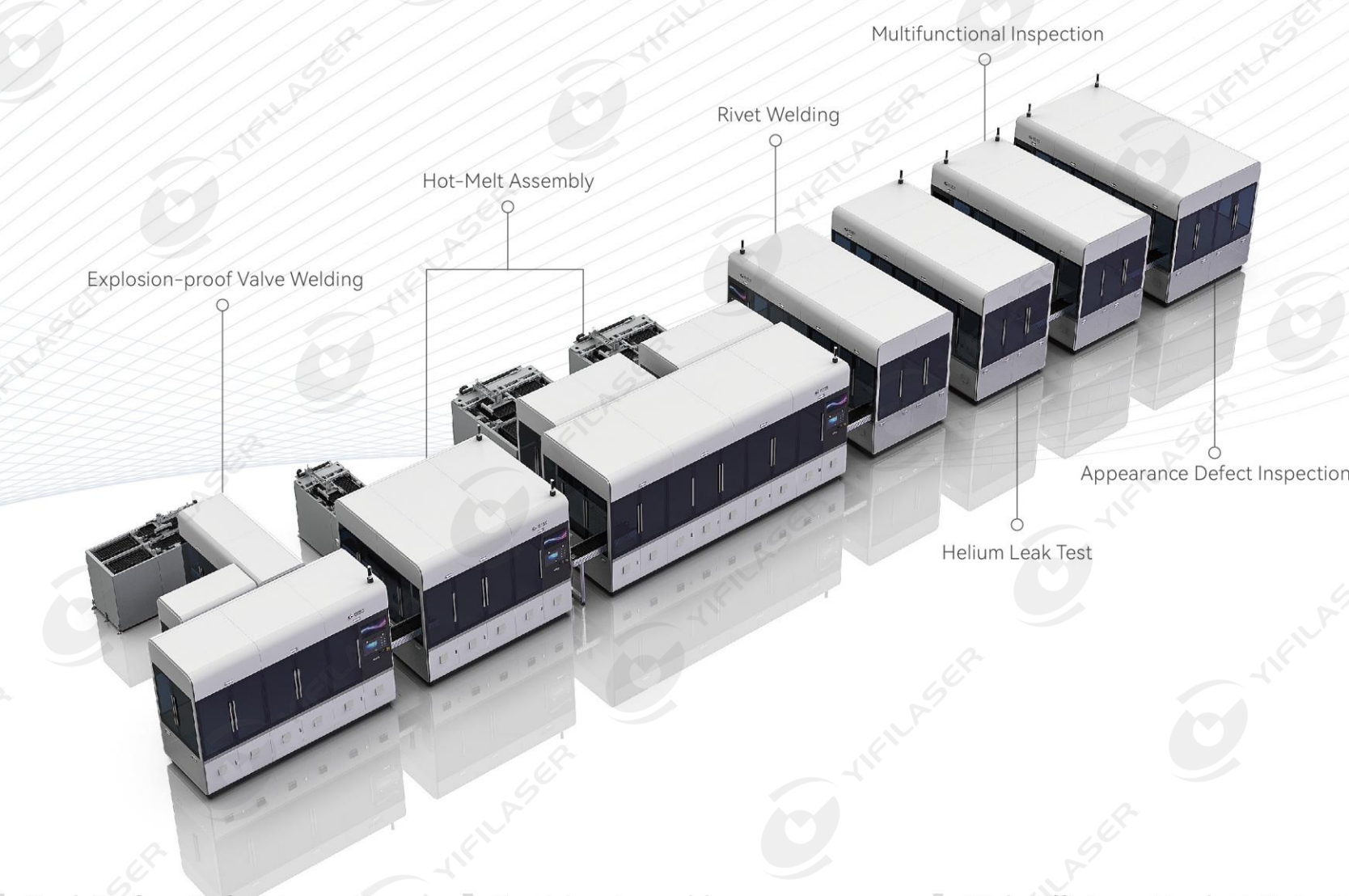
Prismatic Battery Cell Cover Plate Assembly Line

The entire line is centered on high-precision laser processing, high-speed visual inspection, and intelligent material management. It establishes a fully automated production workflow that integrates smart loading, precision machining, in-line inspection, and efficient unloading. The system ensures non-destructive transmission, highly consistent assembly, and a closed-loop quality control throughout the manufacturing process. It offers a comprehensive cover plate assembly solution including explosion-proof valve welding and helium leak detection.

85*300mm
Compatible Cover Plate Specifications (MAX)

30ppm
Single Line Capacity

≤26*4.5*2.6m
Overall Dimensions (L×W×H)



Dual-Surface Defect Inspection

CCD Dual-Surface Defect Inspection for solder joints detects defects including splashing, cold solder joints, voids, interrupted welds, misalignment, missing welds, excessive weld height, double soldering, and pinholes.

Precision Assembly

Sealing Ring Assembly & Inspection System features contoured suction head cleaning (dual blowing/suction dust removal), assembly deformation <10%, and real-time defect detection for over-installation, omission, misalignment, overlapping rings, and other sealing ring assembly errors.

High-Efficiency Product Output

Automatic Blister Tray Loading System features 100% direction error-proofing during tray placement and supports 15-layer high-density stacking for optimized space utilization.

CW-UG-BF150S

Laser Cleaning Machine for Battery Cell Blue Film

Specially developed for battery cell blue film rework scenarios, this machine utilizes advanced laser modification technology and multi-axis coordinated automation control systems to automatically adjust battery cell orientation and perform blue film cleaning. Replacing manual decoating processes, it delivers high-efficiency, precision, and non-damaging cleaning for battery cell blue films.



60*200mm
Compatible Cylindrical Cell Specifications (MAX)



**Cylindrical Cell: 75-150ppm
/Prismatic Cell: 15-30ppm**
Single Machine Capacity



80*320*220mm
Compatible Prismatic Cell Specifications (MAX)



Zero-Damage Cleaning

Aluminum shell surfaces: no ablation, no yellowing; Blue film: no adhesive residue or leftover material; Roughness variation: <1μm (no tactile sensation difference)

Temperature Control Safety

Throughout the cleaning process, battery cell temperature rise <10 ° C, with no ignition risk for the blue film. Combined with an intelligent program to avoid sensitive areas (e.g., terminal posts, burst valves), it eliminates thermal damage risks.

High Compatibility

Residue after top patch removal is easily removable (surface remains free from ablation), supports multi-part cleaning (aluminum shells, top covers, etc.), with programmable adaptive configuration to meet diverse battery cell model requirements.

Precision Film Cutting

Laser Film Cutting ensures no adhesive residue at cut edges post-laser film trimming, with well-defined blue film window boundaries to prevent contamination in downstream processes, guaranteeing cell sealing integrity and operational safety.

Stable Process

Post-cleaning peel force ≤10N (single-layer film), strict compliance with process parameters ensures controlled separation between blue film and casing, achieving batch production yield rate ≥99.5%.

Data Visualization

Deeply Integrated MES System, enables real-time statistical analysis and visualization of production data, enhances management decision-making responsiveness, and drives continuous iteration of lean production.

CW-UG-TS150S

Laser Texturing Machine for Battery Cell Casings

This laser texturing machine for battery cell casings is designed with high efficiency, minimal damage, and strong compatibility. By leveraging precise parameter control and multi-process integration, it resolves challenges related to adhesion, consistency, and reliability in battery casing processing. It provides a cost-effective industrial solution for high-performance power battery manufacturing.



60*200mm
Compatible Cylindrical Cell Specifications (MAX)



**Cylindrical Cell: 75-150ppm
/Prismatic Cell: 15-30ppm**
Single Machine Capacity



80*320*220mm
Compatible Prismatic Cell Specifications (MAX)



High-Efficiency Processing

Texturing Speed ≥6000mm²/s, meeting mass production demands for battery cell casings while significantly reducing processing cycles and enhancing production line efficiency.

High-Strength Adhesion

Processed surface energy ≥50 mN/m, enhancing adhesion strength between cell casings and coatings/adhesives, compatible with subsequent processes such as inkjet printing and plasma cleaning, reducing the risk of delamination.

Yield Rate Enhancement

Plasma Cleaning Integration supports rapid processing of large-sized casings (50 dynes/cm pen test compliance). Combined with inkjet printing technology, achieves single-pass print thickness up to 120μm, UV ink thickness precision ±10μm, ISO ≥I-grade adhesion, and >10MPa shear strength resistance, with end-to-end yield improvement.

Uniform Coverage

Supports multi-frequency adjustment, ensuring clear laser spot contours, uniform distribution, and precisely adjustable overlap rates to prevent under-processing or over-processing, guaranteeing consistent surface texturing quality.

Real-time temperature control

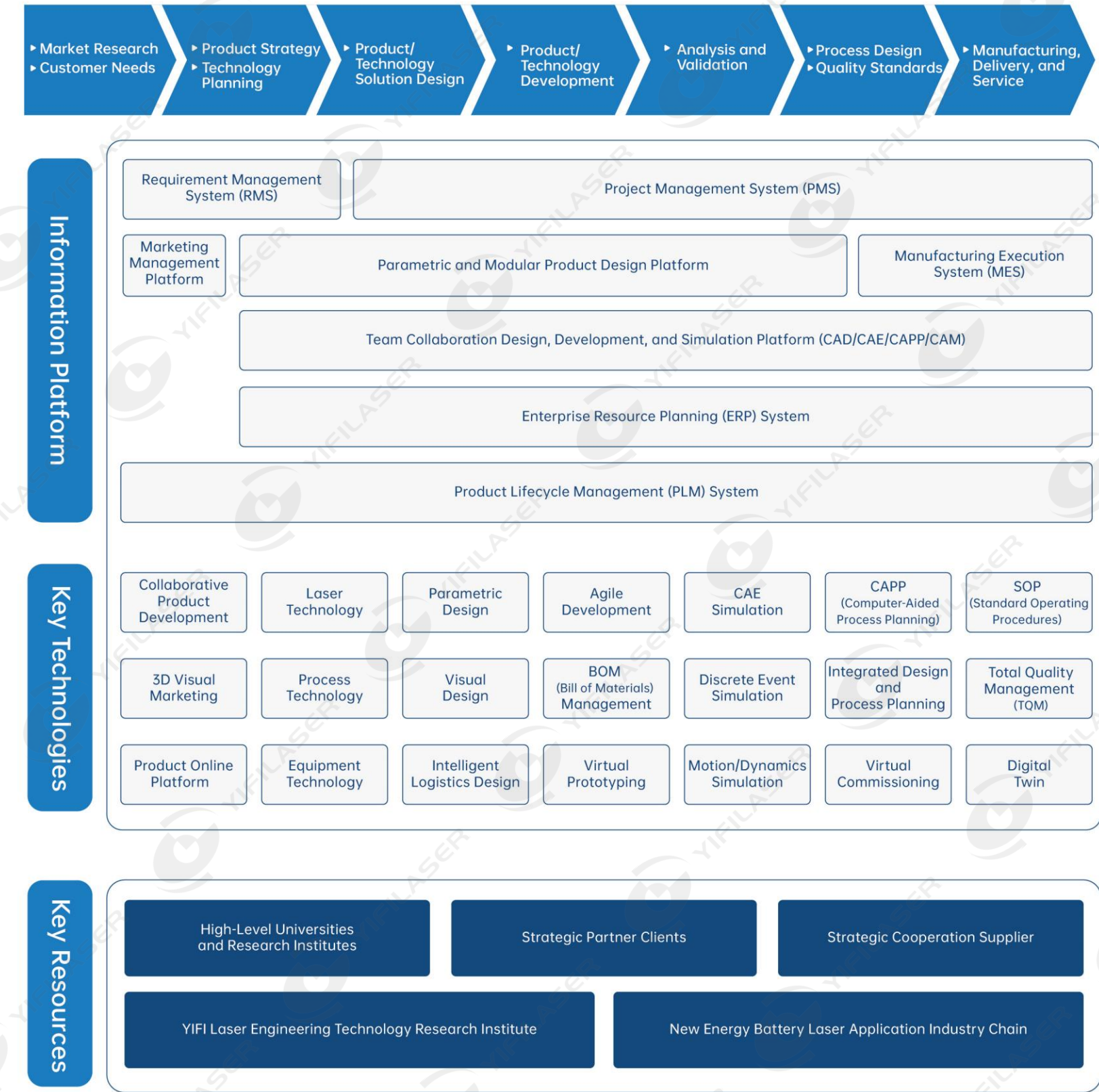
Employs short-pulse lasers and real-time temperature control technology, achieving thermal damage depth ≤2μm in textured areas to prevent material deformation or performance degradation, ensuring casing structural integrity.

Robust Durability

Post-textured casing surfaces deliver excellent resistance to hard-object puncture, withstand long-term vibrations and impacts in power battery applications, and extend service life under harsh operating conditions.

COMPREHENSIVE

DIGITAL MANAGEMENT SYSTEMS



FULL LIFECYCLE

SERVICES AND QUALITY CONTROL

