Turnkey Solutions for the Complete Solar PV Manufacturing Value Chain

Delivering end-to-end turnkey solutions for the production of **Ingot, Wafer, Cell, Module,** and Battery Energy Storage Systems **(BESS)**.

From Blueprint to GW – Stronger Trust. Faster Value.

Who We Are

As pioneers in intelligent robotics and mobility solutions, **Novus Hi-Tech** Robotic Systemz is now illuminating the future with our Solar division. We provide complete end-to-end turnkey solutions for **ingot, wafer, cell, module,** and Battery Energy Storage Systems **(BESS)** lines. Partnering with various world-class global innovators, we deliver cutting-edge solar technology with **robust local support, minimizing dependencies on external ecosystems** for seamless execution and unmatched reliability.

Vision

Leading the new industrial revolution
through intelligent robotics of physical operations.

Mission

Driving growth in clean energy and high-tech sectors
through smart manufacturing and robotics solutions.

Intelligence

Sustainability

Innovation

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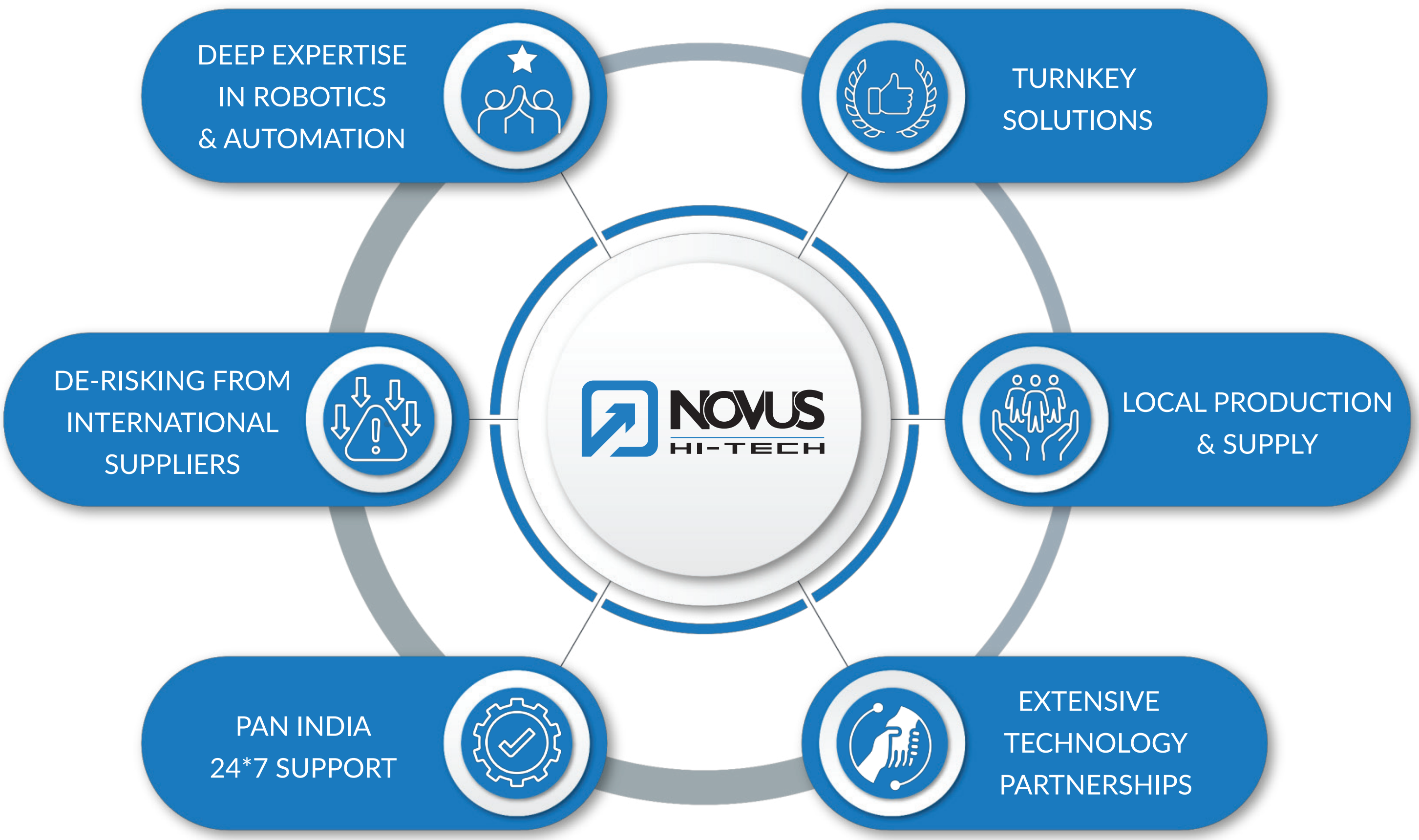
Turkey Solutions for the Complete Solar PV Manufacturing Value Chain

Novus Hi-Tech delivers end-to-end turnkey solutions for the production of **Ingot, Wafer, Cell, Module,** and Battery Energy Storage Systems **(BESS).**

Part of the **$250 Million The Hi-Tech Group**, Novus Hi-Tech has been a **pioneer in Robotics & Automation since 2005** — driving smart manufacturing excellence across industries, with **2,600+** employees and **100+ customers** worldwide.

- Global Partnerships
- AI-driven Automation
- Deep Engineering Expertise
- 24*7 Local Service Support



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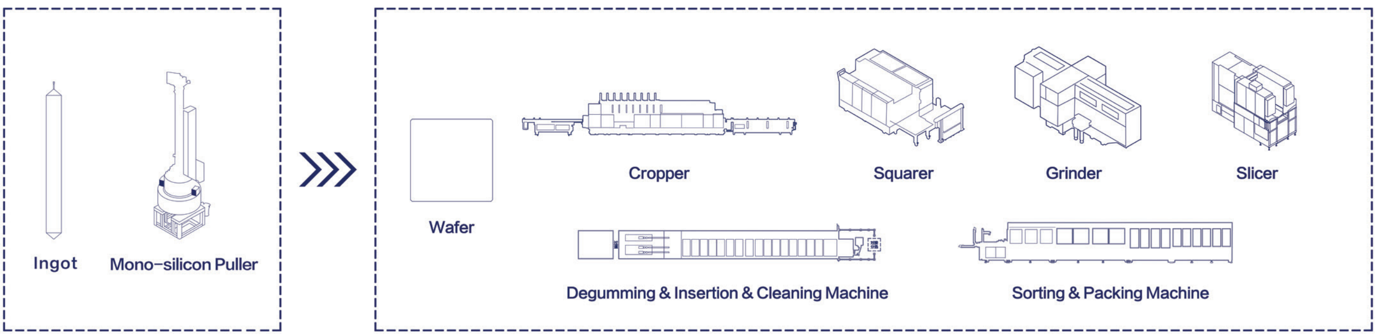
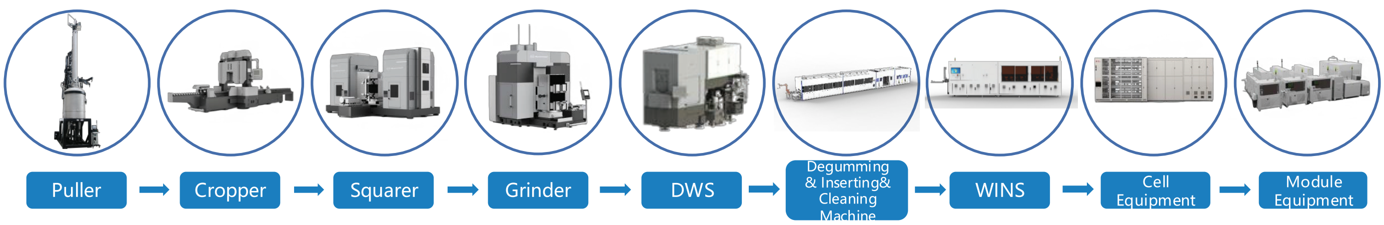
Our Turnkey Solutions

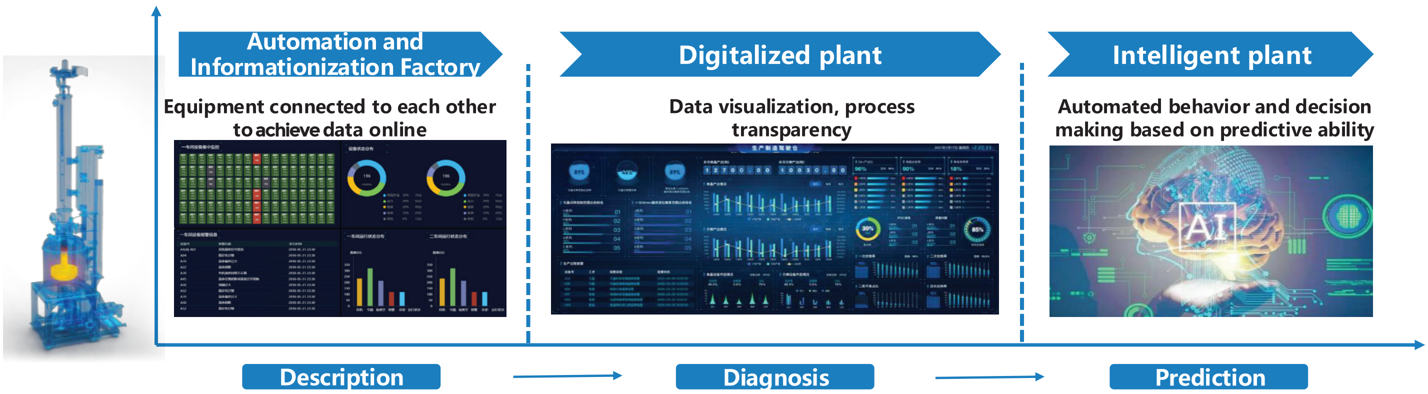
For Ingot & Wafer Production Lines

Photovoltaic Equipment - Comprehensive Photvoltaic Industry Chain Equipment & Smart Factory Solutions

Industry Position: **Global leader** in photovoltaic industry chain equipment **technology & scale**
Market Share: Nearly **40000** fully automatic Cz pullers occupying more than 60% of the market share







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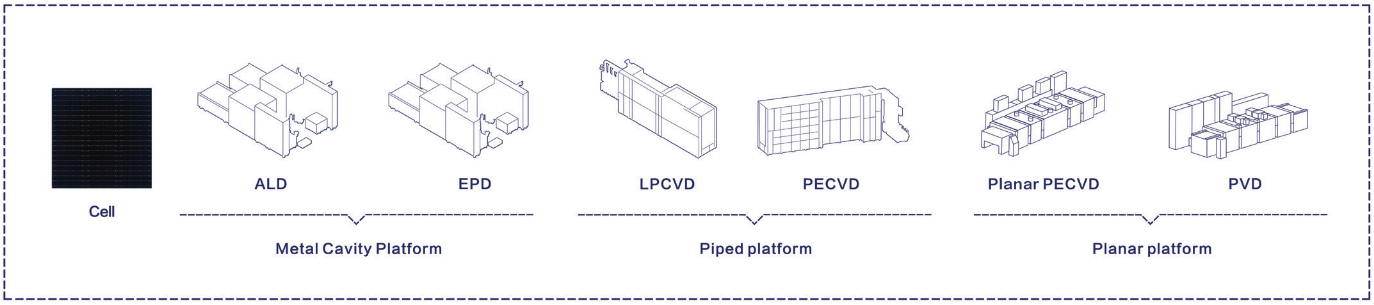
Our Turnkey Solutions

For Cell Production Lines

AI-powered PV cell production line delivering highest efficiency, lowest breakage, maximum uptime, end-to-end traceability, superior film uniformity, and consistent quality



Turnkey Solutions for TOPCon Cells

Process Flow

- Texture
- **Primary B Diff.**
- **Secondary B Diff.**
- BSG removal+Alkali polishing
- **Tunnel Oxide**
- **Poly5i Deposition**
- **Anneal/P Diff.**
- PSG removal+RCA
- **ALD**
- **Front SiNx**
- **Back SiNx**
- Printing
- Firing+Light injection
- LECO+Sorting

- **High-temperature Processing tools**
- Wet Processing tools
- Metallization & test sorting tools

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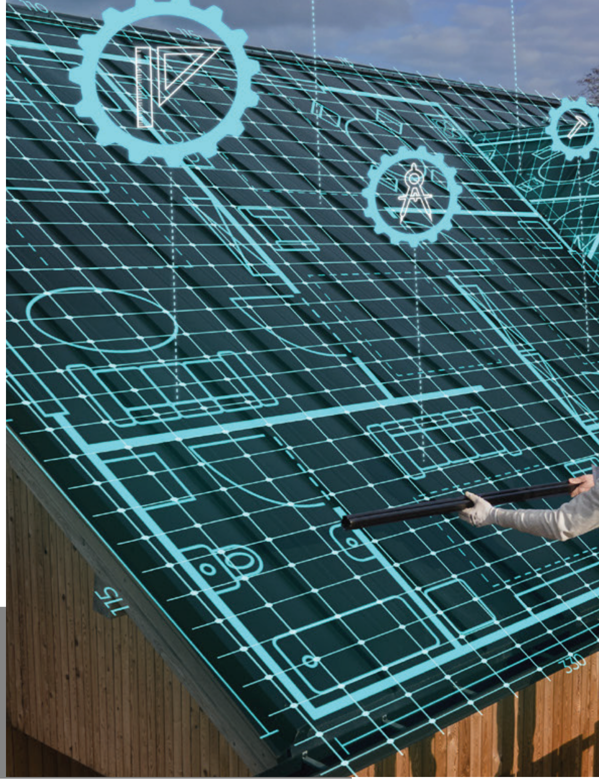
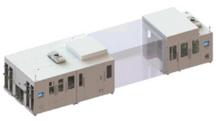
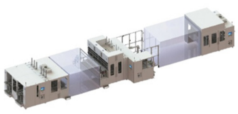
Our Turnkey Solutions



Cell Automation Equipments with AGV



Automatic Loading and Unloading Machine for Batch-Type Teturing



Automatic B/PSG Removal + Batch-Type Loading and Unloading Machine

Automatic Quartz Boat Loading and Unloading Machine

Automatic Loading and Unloading Machine for Low- Pressure Phosphorus Diffusion

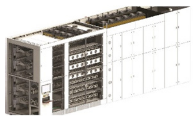
Automatic Loading and Unloading Machine for Tube ALD

Automatic Loading and Unloading Machine for In-line ALD

Automatic Graphite Boat Loading and Unloading Machine

Offline Automatic Transferring Machine

Laser-enhanced Contact Optimization (LECO) Equipment



Horizontal Boron Diffusion Equipment

Solar Cell Interstitial Reflective Film Laminating Machine

Selective Laser Thinning Equipment

Batch-Type Wet Cleaning Series

Chain-type Wet Cleaning Series

GENERAL FEATURES

MODEL	NOVUS Carry Solar Cell 500
Payload capacity	500 kg
Type	Autonomous Mobile Robot (AMR)
AMR Guidance Technology	Natural Navigation 3D LiDAR
Battery Charging	Auto Dock Charge
Lifting Height	As per Requirement
Max AMR Speed without load	2.0 m/s
Operation hours	One shift - 8 hours
Drive Mechanism	Differential Drive

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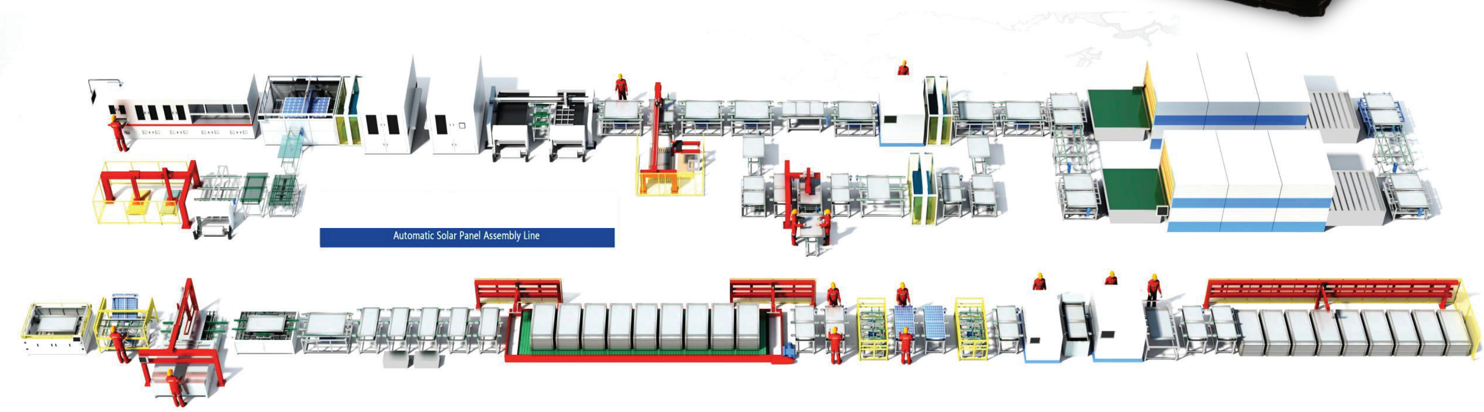
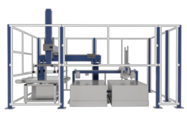
Our Turnkey Solutions

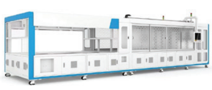
For Module Production Lines

AI-Powered Precision for Perfection — Fully Automatic & Robotic Module Lines Delivering Maximum power, Minimal Breakage, and Guaranteed high Quality panels , 24/7.

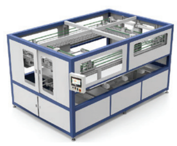


Full Automatic Solar Module Production Line


Automatic Glass Loading Machine (Four Robotic Arm)

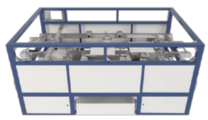

Stringer Machine


Automatic Robot Layup Machine


Automatic Taping Machine


Lead Line Bending + Put High Temperature Cloth + Labeling


Automatic Edge Taping Machine


Automatic Trimming Machine

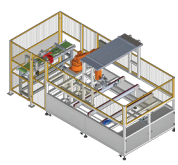

Automatic Gluing and Framing Machine


Automatic Junction-Box Soldering Machine


Automic Junction-Box Installation and Gluing Machine


Automatic Module Handler for Curing Line


Automatic Filing Corner Machine


Automatic Robot Loading Testing Tools Machine


Automatic Corner Protector Inserting Machine


Automatic Sorting System

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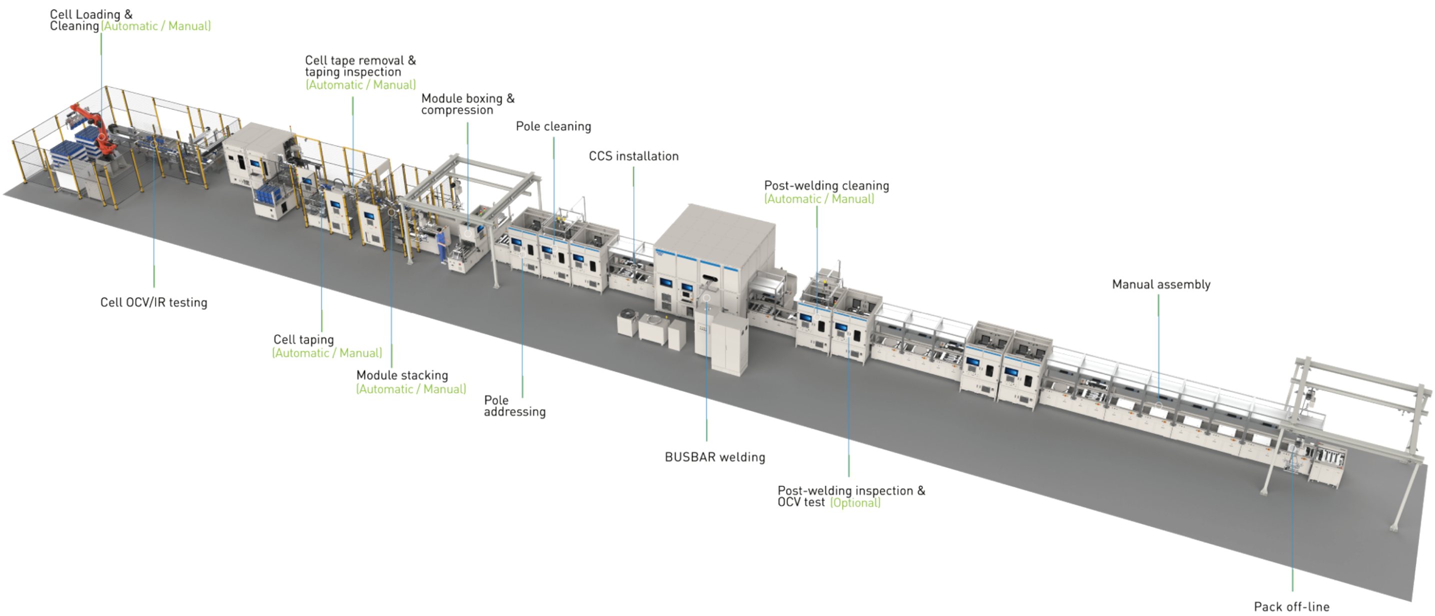
Our Turnkey Solutions

For Battery Energy Storage Systems

Battery Module/Pack Automation Assembly Line



Application Scenarios

Power Battery Pack Automated Production Line

- EV batteries for electric passenger vehicles
- EV batteries for electric commercial vehicles
- EV batteries for two-wheeled vehicles

Energy Storage Pack Automated Production Line

- Portable
- Residential energy storage
- Commercial &industrial energy storage
- Containerized energy storage

High Flexibility

Safe and Reliable

Digital Intelligent Manufacturing

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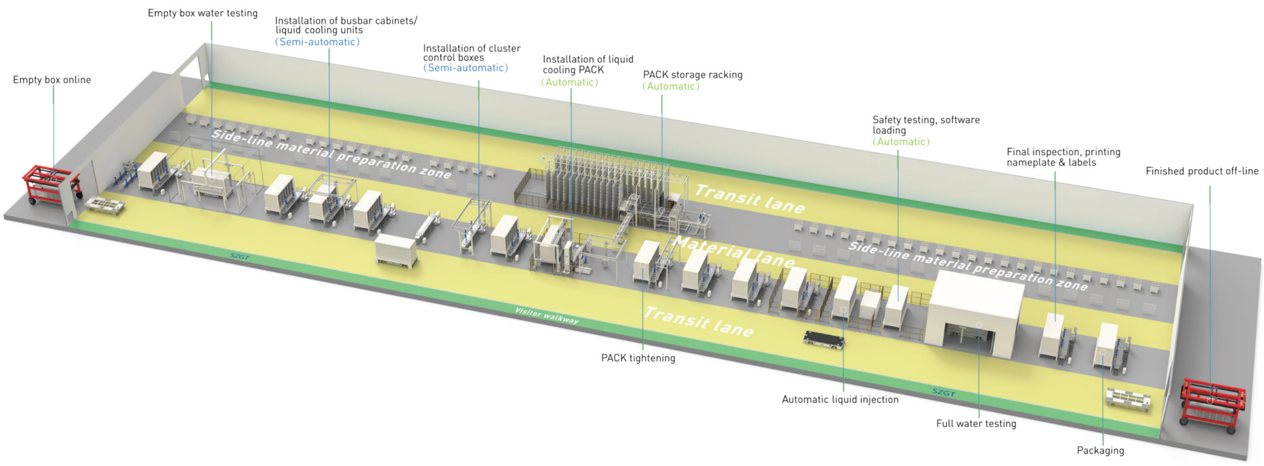
Our Turnkey Solutions

For Battery Energy Storage Systems

Energy Storage Container Assembly Line



Product Introduction | Battery Testing

Cell Testing System (GTC)

0V-6V
0A - 5000A

Laboratory high-precision battery cell testing.

Laboratory/production line battery cell testing.

Laboratory charge/discharge power supply temperature chamber integrated machine.

Module/Pack Testing System (GTB)

0V-200V
0.03A-1000A

0V-500V
0.15A-2100A

Power tools, hoverboards, and drones
Vacuum cleaners and medical devices
Electric two/three-wheeled vehicles
Residential energy storage
Low-speed electric vehicle
New energy vehicle

0V-1650V
0.075A-1200A

Flying car
Commercial & industrial energy storage
Large energy storage batteries
Battery cluster testing

Pack EOL Testing System (GTA)

Capable of testing various types of battery packs such as electric vehicle battery packs, energy storage battery packs, and small power battery packs.

Air tightness testing (optional).

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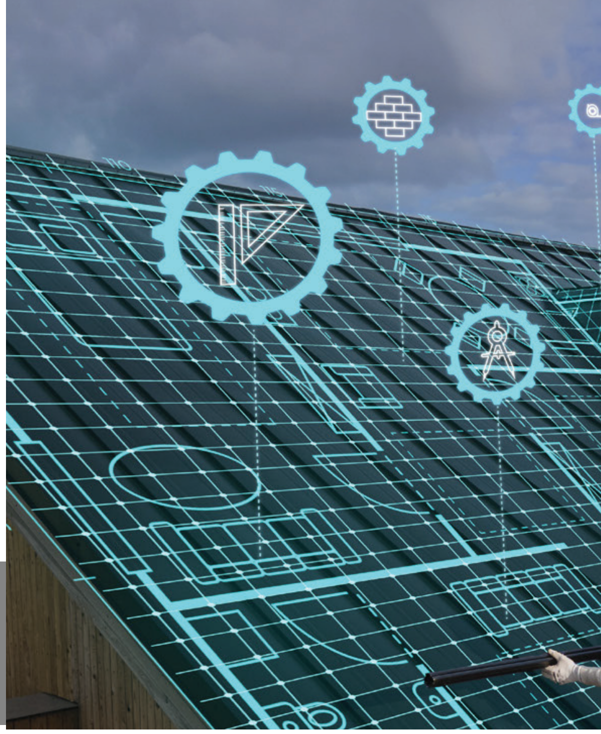
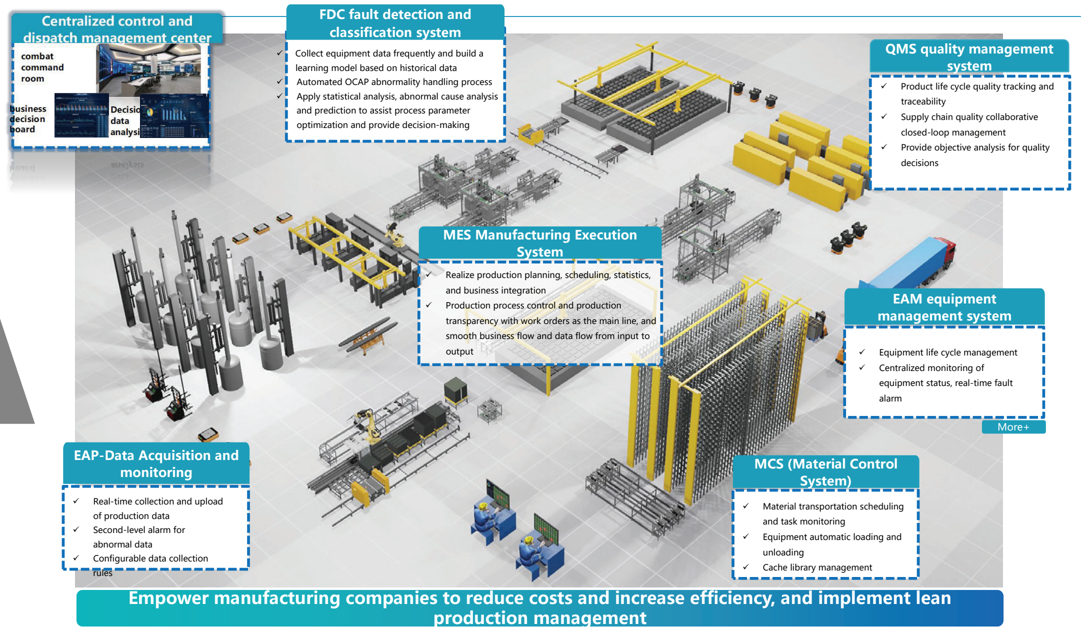
Our Turnkey Solutions

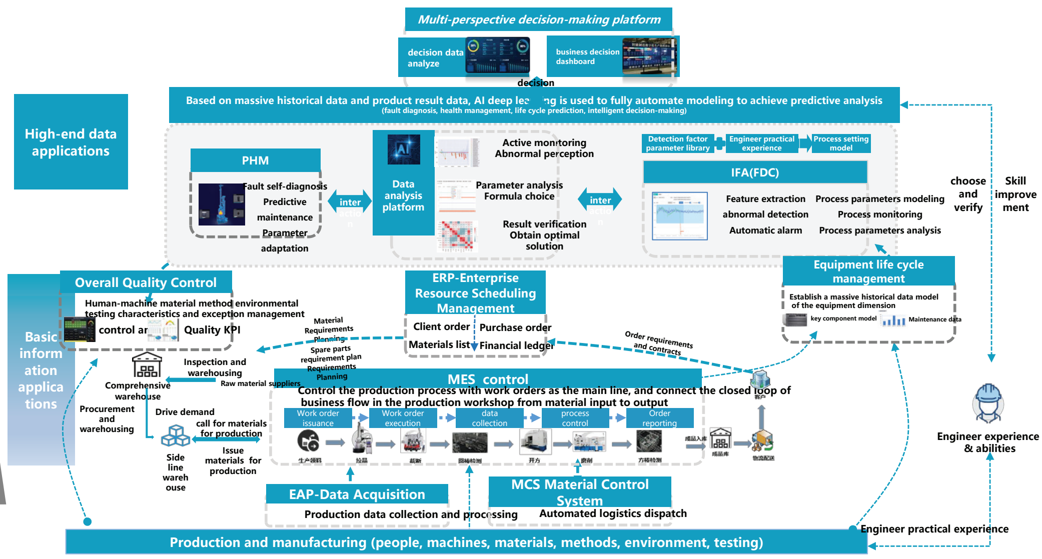


MES - Manufacturing Execution Solution

Digital Factory Model



Digital Factory Building Step-by-step implementation



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About The Hi-Tech Group

$250 Million Group | 26+ Years Of Operation

As part of The Hi-Tech Group, Novus Hi-Tech benefits from the strength of one of the leading automation and technology firms in the industry. With a global presence and deep expertise in robotics, automation, and AI, The Hi-Tech Group is committed to driving innovation in the **solar PV and energy storage sectors.**"

2600+ Employees

Across multiple divisions, including robotics, AI, and automation

Global Presence

Operations in 10+ countries with 5 state-of-the-art manufacturing plants

Manufacturing Capacity

Over 1 Lac square feet of production space dedicated to high-tech manufacturing

Innovation & R&D

150+ Patents Filed, with research centers, HiTech Group continuously invests in R&D, driving innovation in smart automation systems

Contact Us

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