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CHEN HSONG

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CHEN HSONG

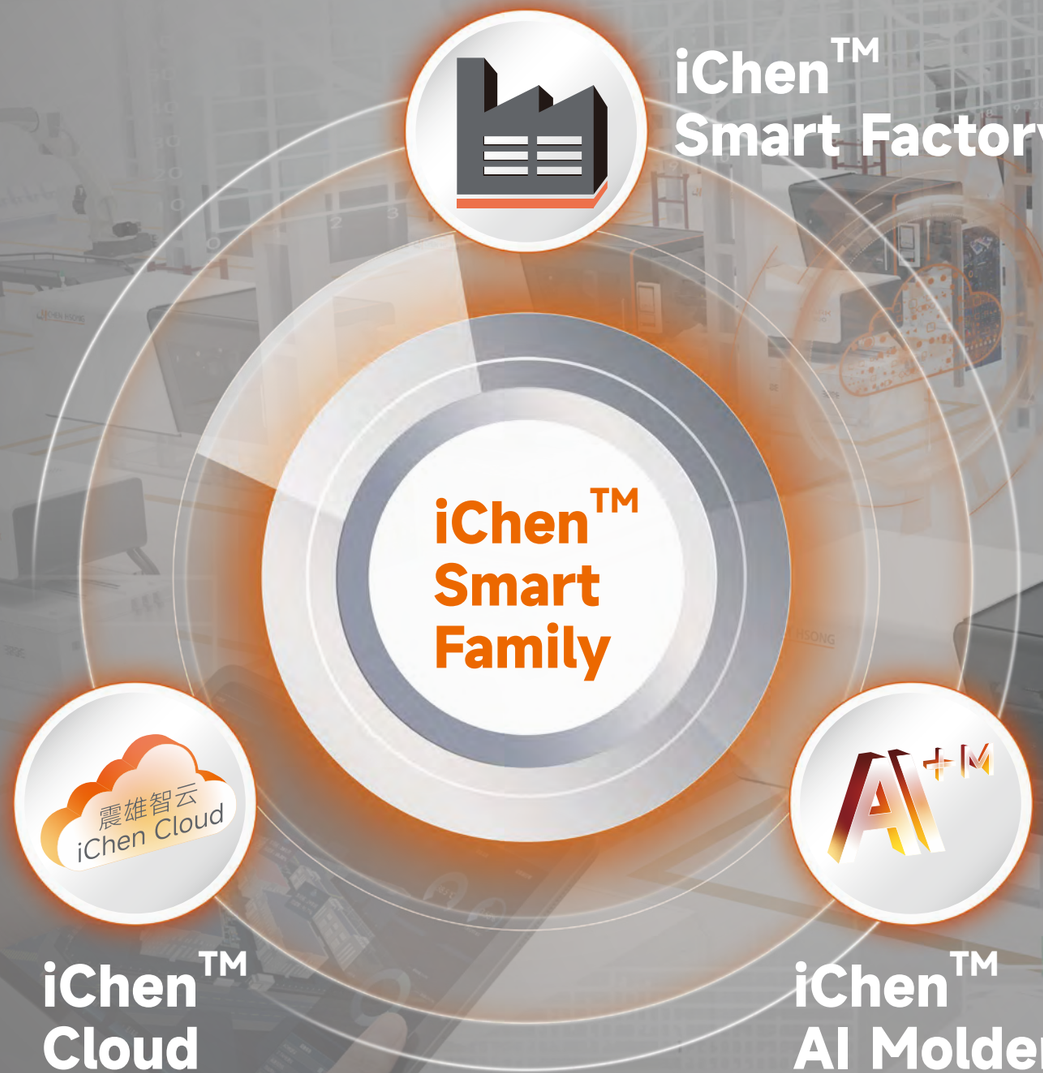
iChen™ Smart Family

Intelligent Solutions

– Empower Customers to Achieve More –

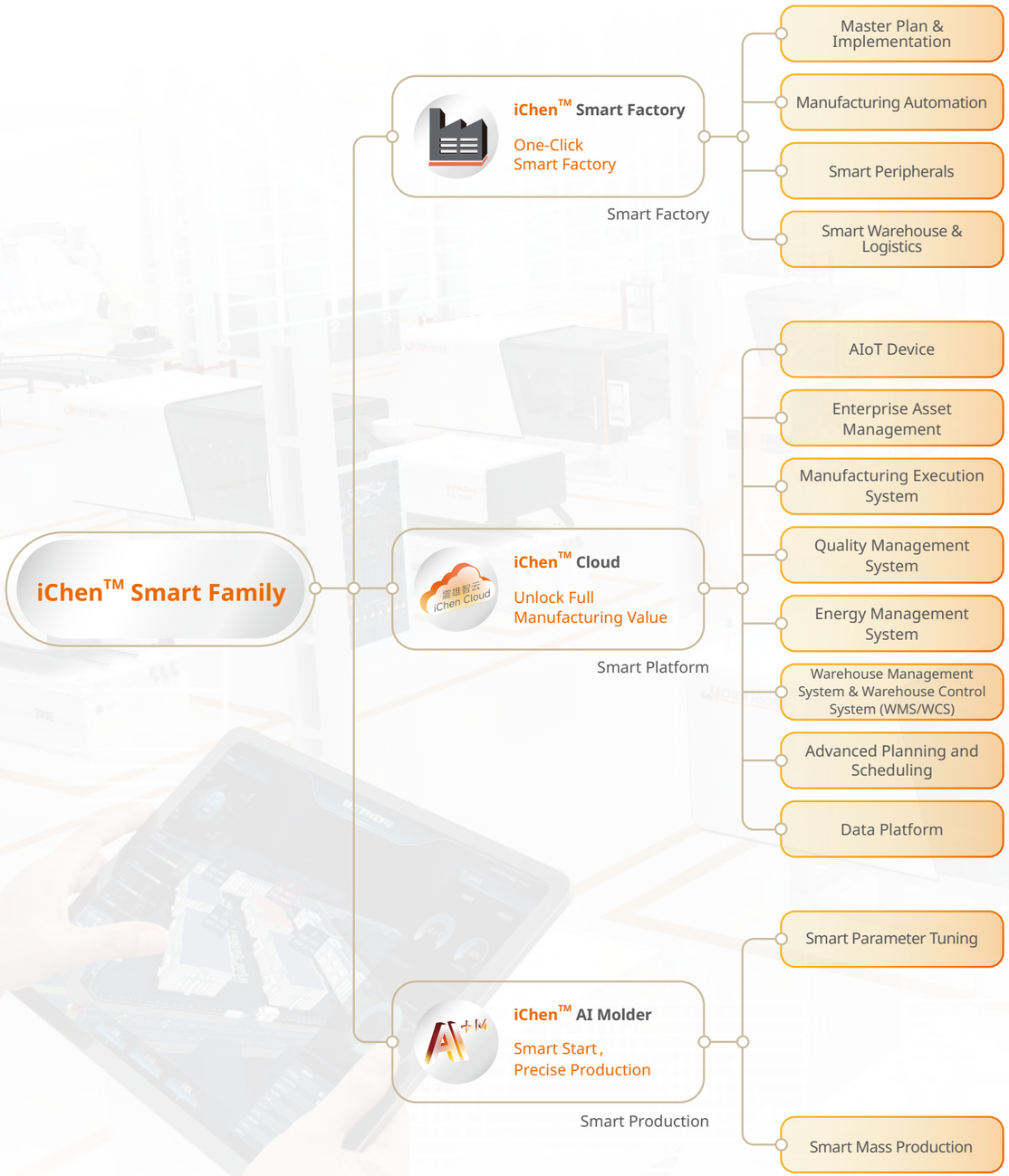
iChen™ Smart Family

With nearly 70 years of manufacturing expertise, we empower global customers to accelerate their transformation.



Leveraging over 20 years of intelligent platform development expertise, Chen Hsong has established the iChen™ Smart Family portfolio. This includes our self-developed iChen™ Cloud Manufacturing Operations Platform, the iChen™ Smart Factory intelligent production line implementation solution, and the AI Molder intelligent injection molding assistant. Together, our solutions provide a comprehensive, repeatable, and cost-effective path to smart-manufacturing transformation.

iChen™ Smart Family



iChen™ Smart Family

iChen™ Smart Factory

One-Click Smart Factory

iChen™ Smart Factory delivers plant-wide, end-to-end line engineering and integration. Covering planning and design, auxiliary-system configuration, automation, smart peripherals, and warehouse and logistics setup, we integrate the entire production chain and deliver complete turnkey factory projects.

iChen™ Cloud

Unlock Full Manufacturing Value

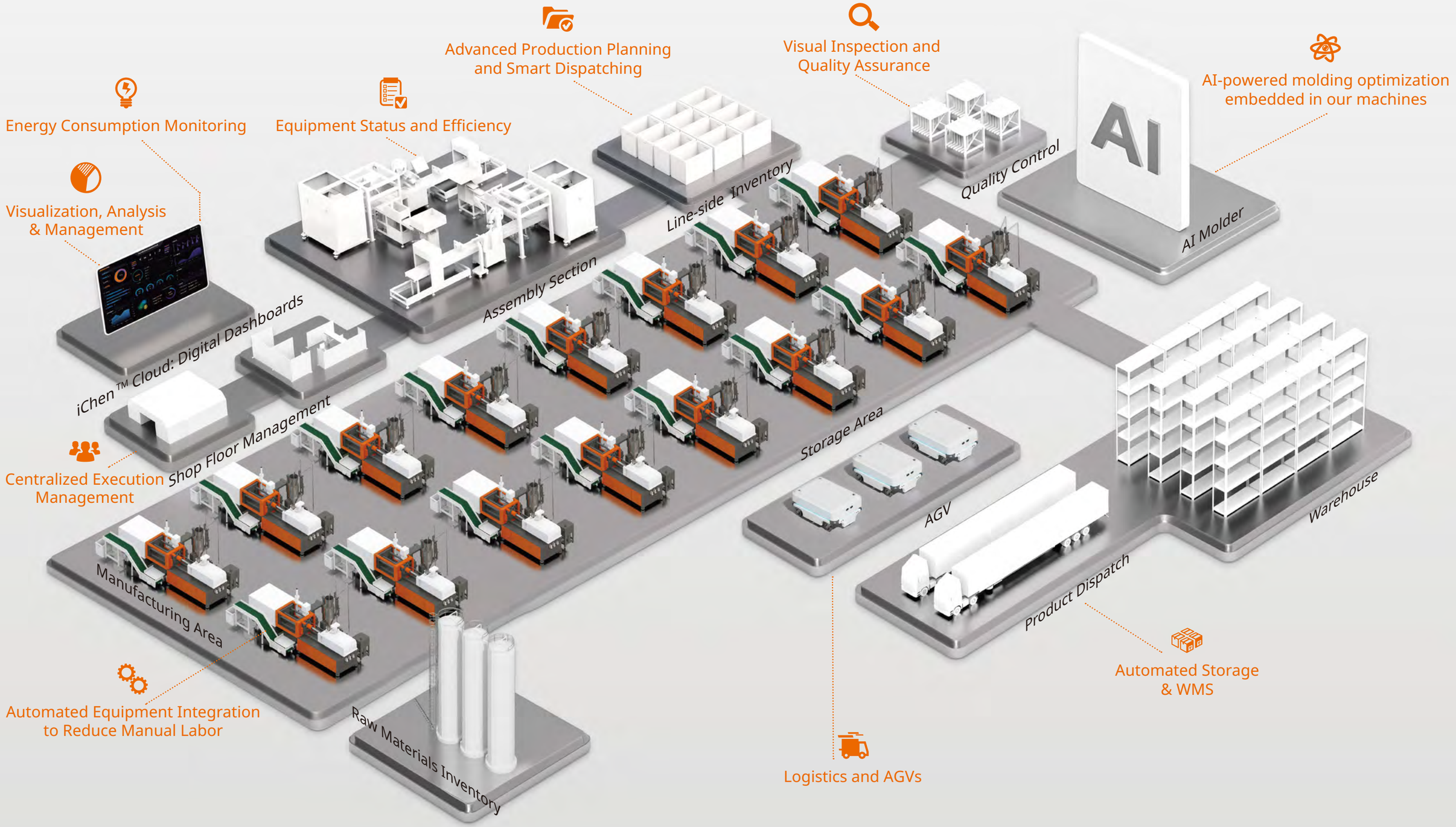
iChen™ Cloud is a Smart Manufacturing Operations Management Platform covering Artificial Intelligence Internet of Things (AIoT), Enterprise Asset Management (EAM), Manufacturing Execution System (MES), Quality Management System (QMS), Energy Management System (EMS), Warehouse Management System & Warehouse Control System (WMS/WCS), Advanced Planning and Scheduling (APS) , and the Data Platform. Together, these enable end-to-end digital control with real-time visibility and executive dashboards for faster, data-driven decisions.

iChen™ AI Molder

Smart Start, Precise Production

iChen™ AI Molder is an AI-driven injection-molding solution developed by Chen Hsong Group in collaboration with industry–academia research teams. It integrates AI with injection-molding process expertise to recommend and optimize parameters, stabilize mass production, reduce defects, and increase yield.

iChen™ Smart Family



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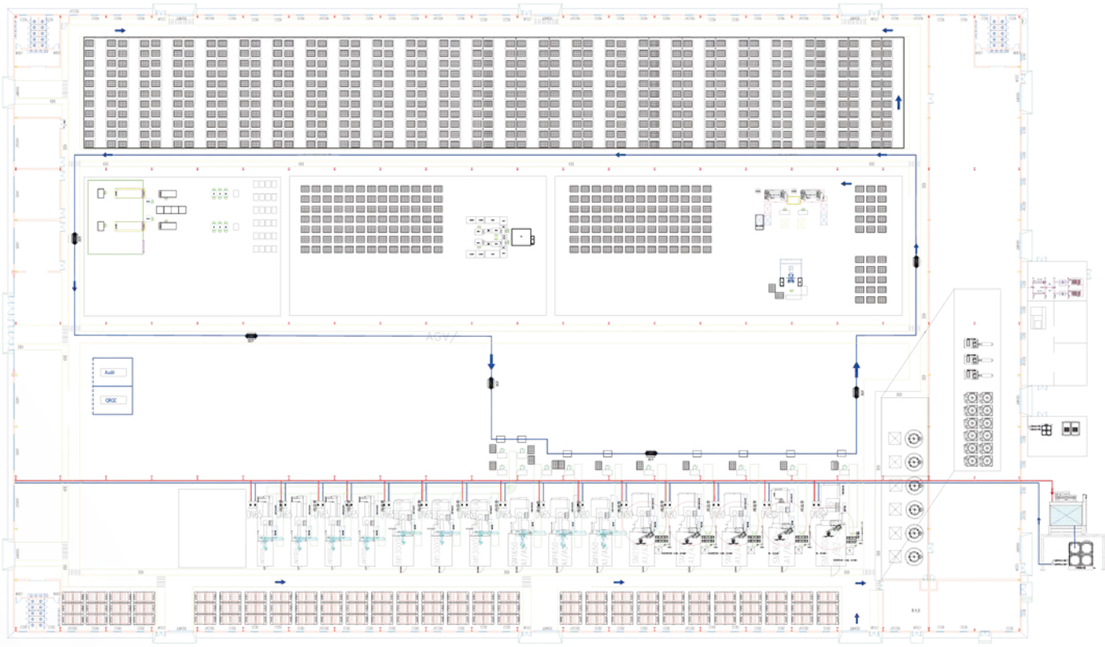
Pictures are for reference only, subject to the actual interface.



The above illustrates a 2023 project in the new energy automotive parts industry, for which CHEN HSONG deployed a total of 15 two-platen injection molding machines (ranging from 1000T to 3000T).

1 End-to-End Quality Traceability, built into the system from day one.

2 Higher Overall Efficiency, driven by lean line design.

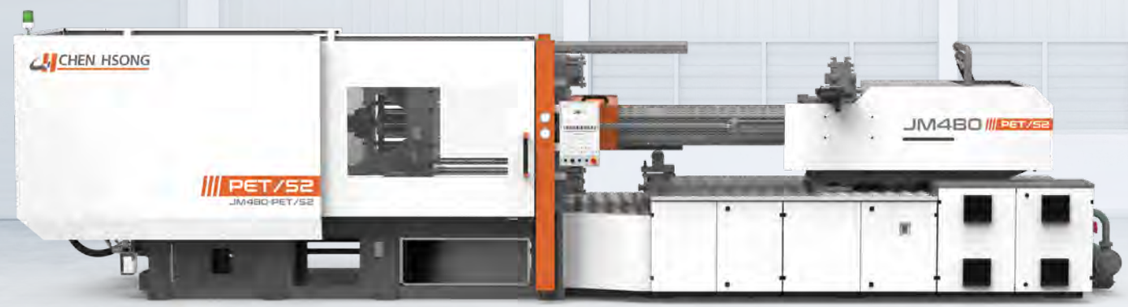
3 Tighter Control of Operating Costs, through system-level optimization.

4 Data-Driven Decision-Making, built on a unified data platform.

iChen™ Smart Factory

One-Click Smart Factory

Automated PET Preform Injection Molding Solution



Injection Molding Machine: JM480-PET/S2

Cavities: 96

Material: PET

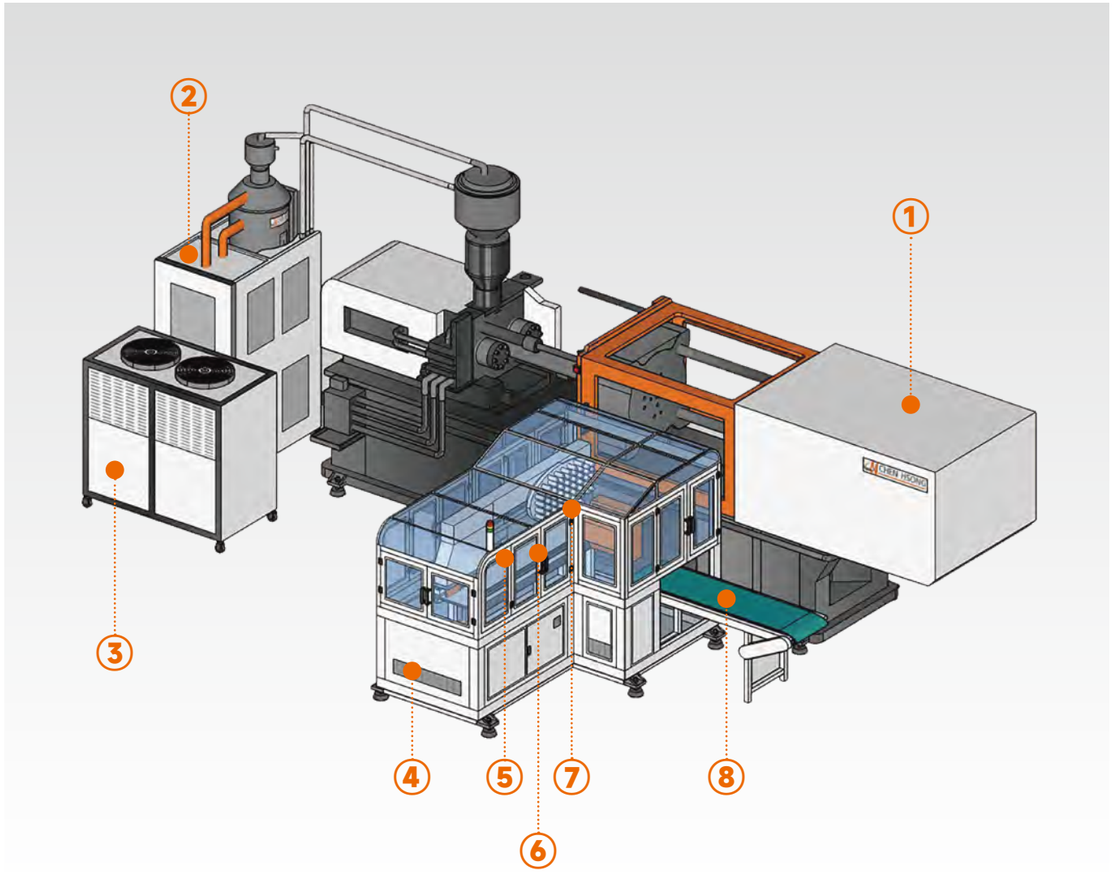
Cycle Time: 10 seconds

Weight: 16.5g

Automated Handling Process for Side-Gated Preforms: The process begins with the first injection molding cycle. A horizontal 2-axis robot then extracts the preforms and cools them within its clamp. After cooling, the robot places the finished preforms onto an output conveyor for transport.

Workstations: 2 to 3

Products:



Automation System Configuration

Project	No.	Item	Model
Integrated Automated Solution: Dual-Station PET Production with Side-Robot Unloading	①	Injection Molding Machine	JM480-PET/S2
	②	("ALL-in-one") compact dryer	CHD-300L/200H
	③	Chiller	CH-LF40A
	④	Electric System	Non-Std
	⑤	Cooling	Out Mold Cooling
	⑥	Robot	2-Axis Robot/Integrated Water Cooling
	⑦	Mold	96
	⑧	Conveyor System	Non-Std

iChen™ Smart Factory

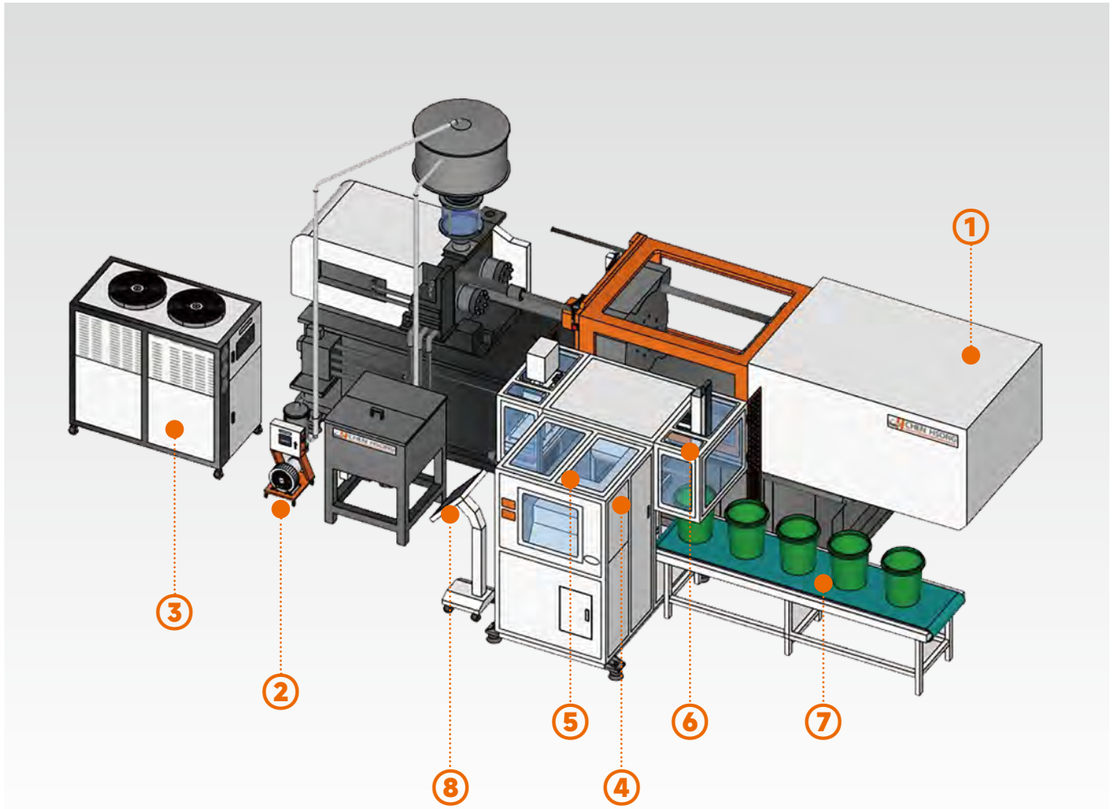
One-Click Smart Factory

Turnkey Solution

10L Pail with IML (In-Mold Labeling)

Injection Molding Machine: SPEED 568
Cavities: 1
Cycle Time: 15 seconds (full IML automation included)
Weight: 400g
Material: PP
Capacity: 10L
Side-Entry IML Process Flow:
1.Injection Molding
2.Part Extraction & Label Placement via Horizontal 2-Axis/3-Axis Robot
3.Finished Product Stacking
4.Discharge via Conveyor

Products:



Automation System Configuration

Project	No.	Item	Model
10L Pail with IML (In-Mold Labeling)	①	Injection Molding Machine	SPEED568
	②	Hopper Loader	CHAL-3HP
	③	Chiller	CH-LF15A
	④	Twin-Robot System	2-Axis Robot
	⑤	Label Magazine	Store with Label (Non-Std)
	⑥	Custom Fixture	Pick & Label
	⑦	Conveyor System	Non-Std
	⑧	Screen	10"

iChen™ Smart Factory

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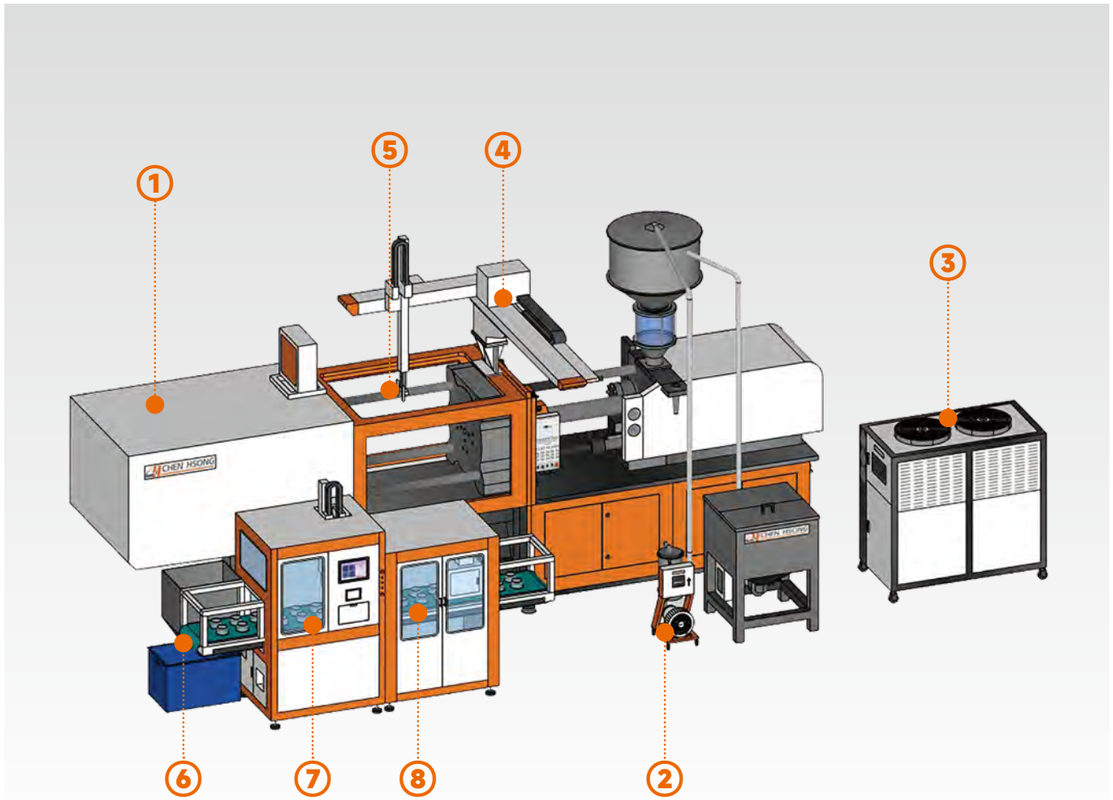
Automated Packaging Solution for Food Containers

Injection Molding Machine: SUPER PACK430
Cavities: 6
Material: PP
Capacity: 1000mL
Cycle Time: 5 seconds
Packaging Process Flow:
1.Injection Molding
2.Part Extraction
3.Product Stacking
4.Repositioning & Transfer
5.Bagging & Sealing
6.Cartoning

Products:



Automation System Configuration

Project	No.	Item	Model
Automated Packaging Solution for Food Containers	①	Injection Molding Machine	SUPER PACK430
	②	Hopper Loader	CHAL-3HP
	③	Chiller	CH-LF20A
	④	Robot	3-Axis Robot
	⑤	Mold	Non-Std
	⑥	Conveyor System	Non-Std
	⑦	Control System	Non-Std
	⑧	Packaging System	Non-Std

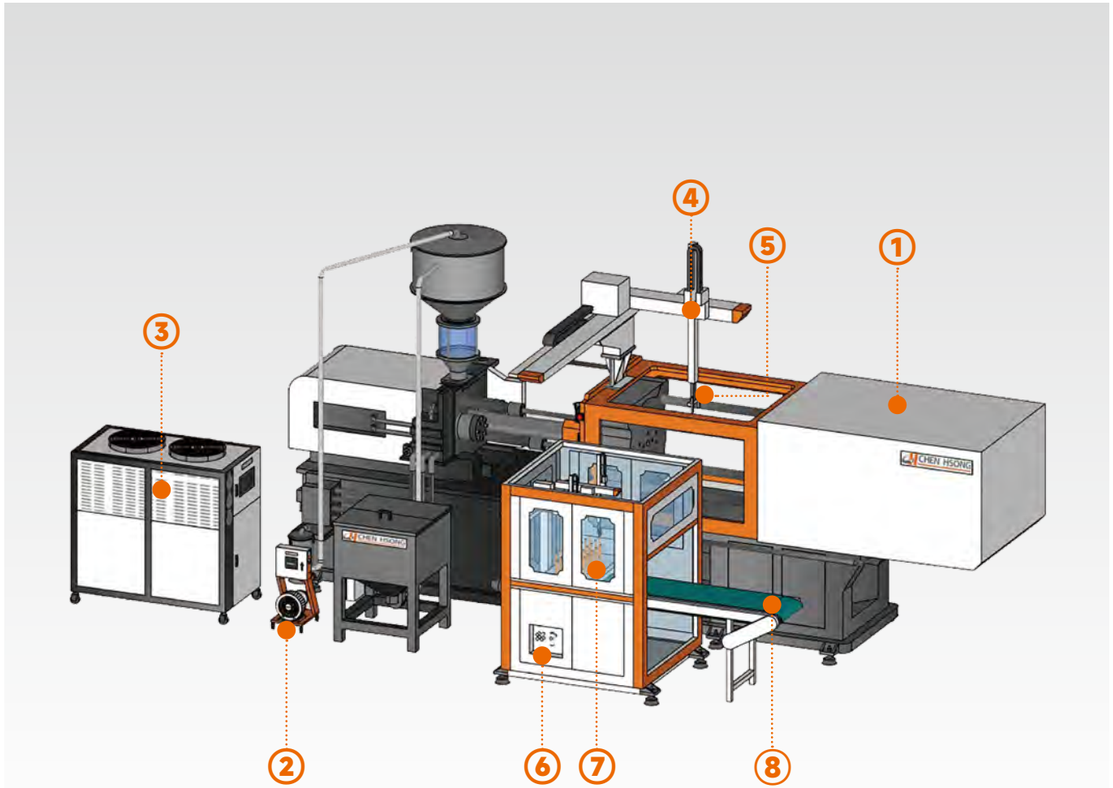
iChen™ Smart Factory

One-Click Smart Factory

Integrated Automation with Top-Entry Unloading for Produce Crates

Injection Molding Machine: JM488-MK6.6/A
Cavities: 1
Material: PP
Weight: 2000g
Size: 489x348x278mm
Cycle Time: 20 seconds
Process Flow (Top-Entry):
1.Injection Molding
2.Part Extraction by 3-Axis Robot
3.Label Placement/Marking by Horizontal 2-Axis Robot
4.Conveyor Transfer

Products:



Automation System Configuration

Project	No.	Item	Model
Integrated Automation with Top-Entry Unloading for Produce Crates	①	Injection Molding Machine	JM488-MK6.6/A
	②	Hopper Loader	CHAL-3HP
	③	Chiller	CH-LF20A
	④	Robot	3-Axis Robot/Pick
	⑤	Mold	Non-Std
	⑥	Control System	Non-Std
	⑦	Label Magazine	3-Axis Robot/Issue Label
	⑧	Conveyor System	Non-Std

iChen™ Smart Factory

One-Click Smart Factory

Seamless Integration of Intelligent Peripheral Equipment

Beyond the Machine, Empowering Your Entire Plant
Champion One-Stop Injection Molding Ecosystem Solution

At CHEN HSONG, we understand that true efficiency stems from the seamless collaboration of your entire production system. That's why we offer far more than just a high-performance injection molding machine — we deliver a **complete plant-wide solution, from core to auxiliary, from individual units to integrated workflow.**

With CHEN HSONG injection molding machines as the **powerful heart** of your operation, we precision-match a full range of **elite support equipment** — including material loaders, dryers, mold temperature controllers, chillers, robots, and central conveying systems. Each auxiliary unit is not merely an add-on, but a carefully selected component based on your specific product and process requirements, ensuring that your entire production line operates like finely meshed gears — **seamlessly interlocked and highly synchronized**.

Choosing CHEN HSONG means you gain a **perfectly matched, stable, and maximized-efficiency** injection molding production system. We free you from the complexities of equipment selection and coordination, allowing you to focus on products and markets — truly delivering a **"One-Stop Turnkey Solution: Efficient from Day One."**

1 Industrial Chiller Series

2 Mold-Temperature Controller Series

3 Granulator & Recycling Series

4 Drying & Dehumidifying Series

5 Mixing Series

6 Feeding & Conveying Series

7 Part-Removal Robot Series

8 Hydraulic Mold-Change Clamps

9 Auxiliary Accessories Series

Other Accessories

iChen™ Cloud

Unlock Full Manufacturing Value

AIoT-Enabled Equipment Monitoring

Key Features

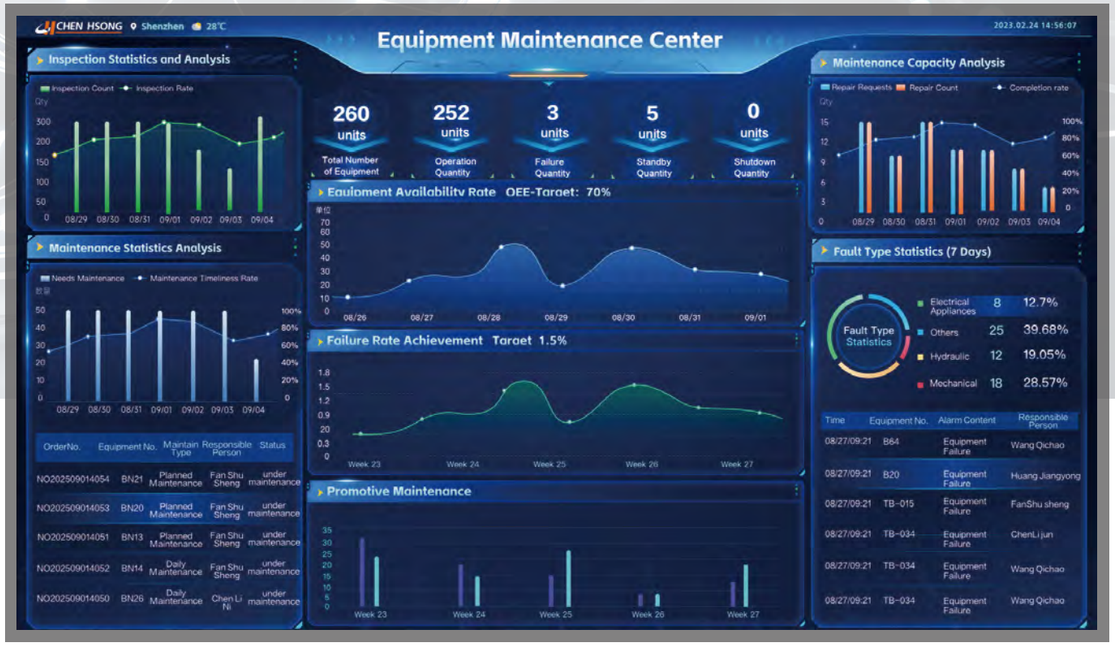
1 Equip every machine with a unique digital identity, seamlessly integrate it into the network, and build a transparent shop floor.

2 Data is automatically reported to the cloud, ensuring the office dashboard and production floor are in perfect sync for zero-delay decision-making.

3 Capture vast amounts of equipment data at millisecond speed to power the engine of continuous optimization.

4 Transcend geographical barriers. Our experts can diagnose and resolve issues remotely, dramatically improving operational efficiency.

Enterprise Asset Management



Key Features

1 We digitize the entire workflow from repair request, dispatch, and execution to acceptance and analysis. With mobile solutions, technicians receive tasks and log updates in real-time via handheld terminals, significantly boosting collaborative efficiency.

2 Leveraging real-time AIoT data, we help you evolve from reactive maintenance to predictive maintenance. The system automatically alerts you to potential failures and generates work orders, reducing unplanned downtime.

3 We provide core analytical reports on asset reliability (MTTR/MTBF), equipment OEE, and maintenance costs, delivering a solid data foundation for decisions regarding equipment upgrades, replacements, and investments.

4 Accurately track the maintenance history, spare parts consumption, and labor costs for each machine to calculate its total lifecycle cost. Optimize your spare parts inventory to reduce tied-up capital, achieving cost reduction and efficiency improvement.

iChen™ Cloud

Unlock Full Manufacturing Value

Manufacturing Execution System

Quality Management System

Key Features

1. Seamlessly bridging planning and execution, our system intelligently dispatches resources (Man, Machine, Material, Method, Environment) to ensure production orders are completed efficiently and on time.

2. Establish a complete digital thread from raw materials to finished products. Enable second-level traceability of the product genealogy to pinpoint the root cause of issues and enhance quality standards.

3. Gain unprecedented insight into your operations. Our system provides real time tracking of production, machine status, and quality, eliminating the "black box" and enabling truly data-driven decisions.

4. Automatically collect and analyze key data such as OEE, capacity, and labor hours to expose waste and bottlenecks, providing a precise basis for continuous improvement.

Key Features

1. Digitize inspection standards and SOPs, making them directly accessible at every workstation to ensure standardized and consistent operations.

2. Manage the full quality loop, from incoming inspection (IQC) and in-process production (IPQC/SPC) to final product inspection (FQC) and customer feedback (CSR).

3. Initiate Nonconformity Report (NCR) processes online, which automatically notify responsible departments and track improvement actions (such as 8D and CAPA) through to problem closure.

4. Accurately quantify internal and external failure costs (e.g., scrap, rework, complaints), making quality losses visible to drive data-driven improvement decisions.

iChen™ Cloud

Unlock Full Manufacturing Value

Energy Management System

Key Features

1 Automatically calculate carbon emission data and generate compliance reports, providing the essential data cornerstone for your company's green and sustainable development.

2 Monitor the energy consumption (electricity, water, gas, heat) of your entire plant, individual workshops, and down to key equipment in real-time, leaving no detail hidden.

3 Automatically start up or shut down equipment based on real-time load. Identify and alert against energy waste such as idling and standby modes to uncover savings potential, directly lowering operational costs.

4 Achieve granular accounting of energy use at the product, team, and process level. This turns energy costing from an ambiguity into a clear tool for data-driven performance management.

Warehouse Management System & Warehouse Control System

Key Features

Task Management vs Real-Time Dispatch

WMS (Warehouse Management System)：Generates advanced task orders (e.g., receiving, shipping, counting) and optimizes the overall operational path.

WCS (Warehouse Control System)：Receives tasks, breaks them down, prioritizes them, and assigns them in real-time to the most suitable equipment for execution.

Inventory Visibility vs Asset Visibility

WMS (Warehouse Management System)：Manages with precision which SKU is in which storage location, and the exact quantity. (Information Dimension)

WCS (Warehouse Control System)：Monitors in real-time which equipment is at which location, and its status (e.g., busy, idle, fault). (Physical Dimension)

Process Optimization vs Motion Optimization

WMS (Warehouse Management System)：Optimizes warehouse layout and storage strategies by analyzing historical data.

WCS (Warehouse Control System)：Maximizes equipment utilization by optimizing the sequence and paths of equipment movements, reducing waiting times and empty travel.

iChen™ Cloud

Unlock Full Manufacturing Value

Advanced Planning and Scheduling

Key Features

1 It replaces tedious and error-prone manual scheduling with automated algorithmic calculation, liberating planners from a heavy burden of repetitive tasks.

2 Utilize a visual scheduling Gantt chart to foresee capacity or material bottlenecks in advance, providing proactive alerts for managerial decision-making.

3 Upon receiving a new order, instantly run a CTP (Capable to Promise) simulation to provide your sales team with a scientific and reliable response.

4 It supports What-If scenario analysis, allowing you to effortlessly evaluate the potential outcomes of different decision options and facilitate scientific decision-making.

Data Platform

Key Features

1 Converge multidimensional data from equipment, systems, and personnel to break down information silos and build a unified factory data lake.

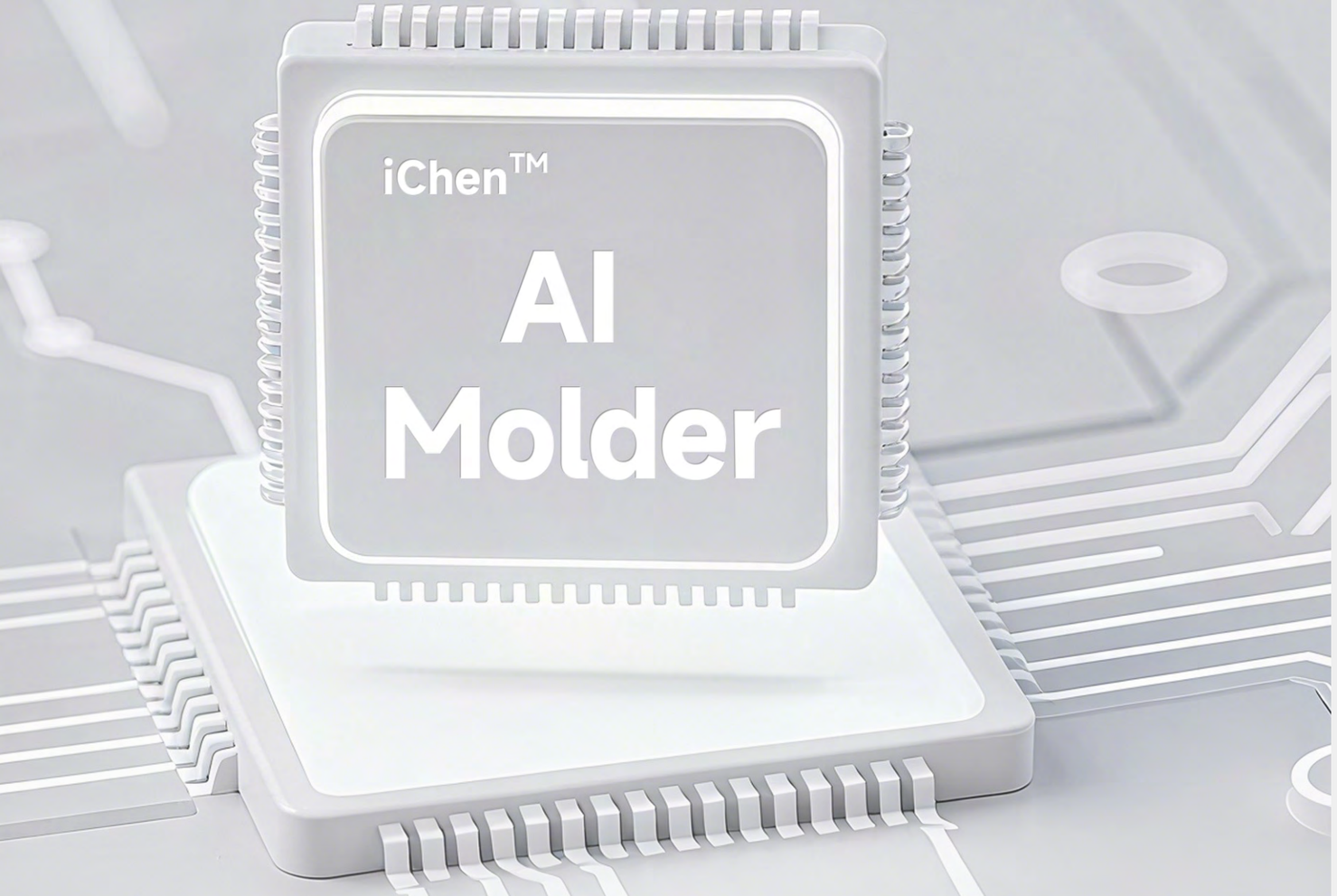
2 We cleanse, integrate, and model massive volumes of raw data, transforming disorganized information into clean, usable, and actionable data assets.

3 It provides unified, high-performance data services and computing power to support all your upper-layer applications (e.g., reporting, visualization, AI analytics).

4 Leveraging big data analytics and machine learning, we unlock the hidden value in your data to empower advanced applications such as predictive maintenance and intelligent scheduling.

iChen™ AI Molder

Smart Start, Precise ProductionBoost Efficiency. Accelerate Growth.Powered by AI.



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“ I want my factory to achieve manufacturing consistency. ”

With real-time data and AI-assisted calibration of every molding cycle, we ensure consistent, stable product quality.

“ We aim to capture our master craftsmen’s 20+ years of expertise, digitizing this invaluable legacy for future generations. ”

The system continuously collects diverse process data; AI then organizes and analyzes it using deep learning.

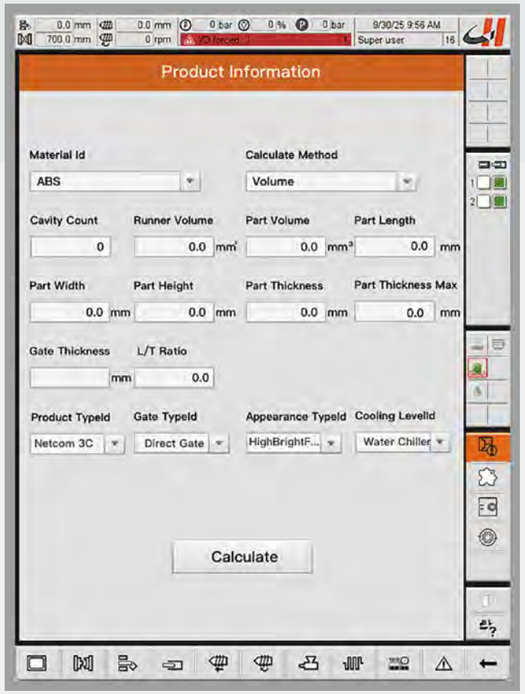
“ We are focused on boosting operational efficiency by optimizing labor utilization and cost. ”

AI Molder delivers capabilities comparable to a setup technician with eight years’ experience.

iChen™ AI Molder

Smart Start, Precise ProductionBoost Efficiency. Accelerate Growth.Powered by AI.

AI Molder Smart Parameter Tuning



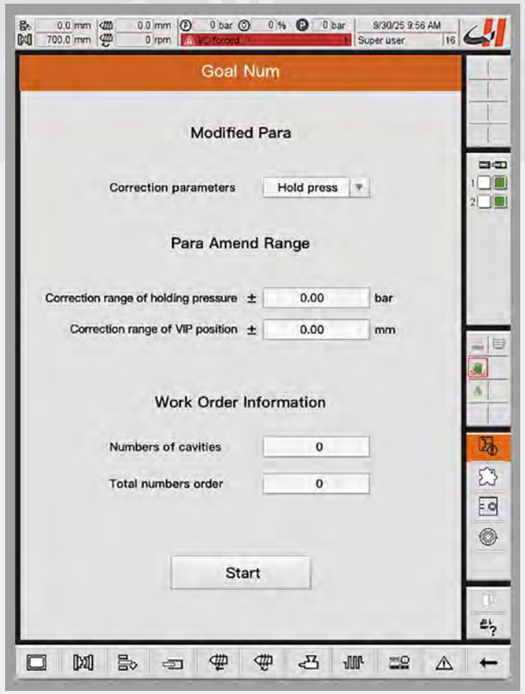
Step 1

Configure the base product parameters and launch an AI-guided trial cycle.

Step 2

Finalize the setup by diagnosing the defect, selecting its type, and confirming the optimized parameters.

AI Molder Smart Mass Production



Intelligent Perception, Adaptive Optimization

AI Molder acts as a tireless **intelligent molding brain** for every machine. By monitoring real-time machine data, it **treats every mold cycle as an independent opportunity for optimization**.

Within milliseconds, the AI model compares and analyzes theoretical versus actual process parameters, executing **precise, automatic micro-adjustments** to critical phases like injection and holding pressure. This system proactively compensates for variations caused by environmental or material fluctuations, ensuring **consistency and precision in every shot**. This shifts quality control from a passive "post-production inspection" to an active **"in-process guarantee."**

A

When a deviation between the real-time injection pressure curve and the standard curve is detected, the system adjusts the holding pressure to compensate for the discrepancy.

B

Intelligently adjusts the V-P switch position to correct deviations in shot volume.

iChen™ AI Molder

Smart Start, Precise ProductionBoost Efficiency. Accelerate Growth.Powered by AI.

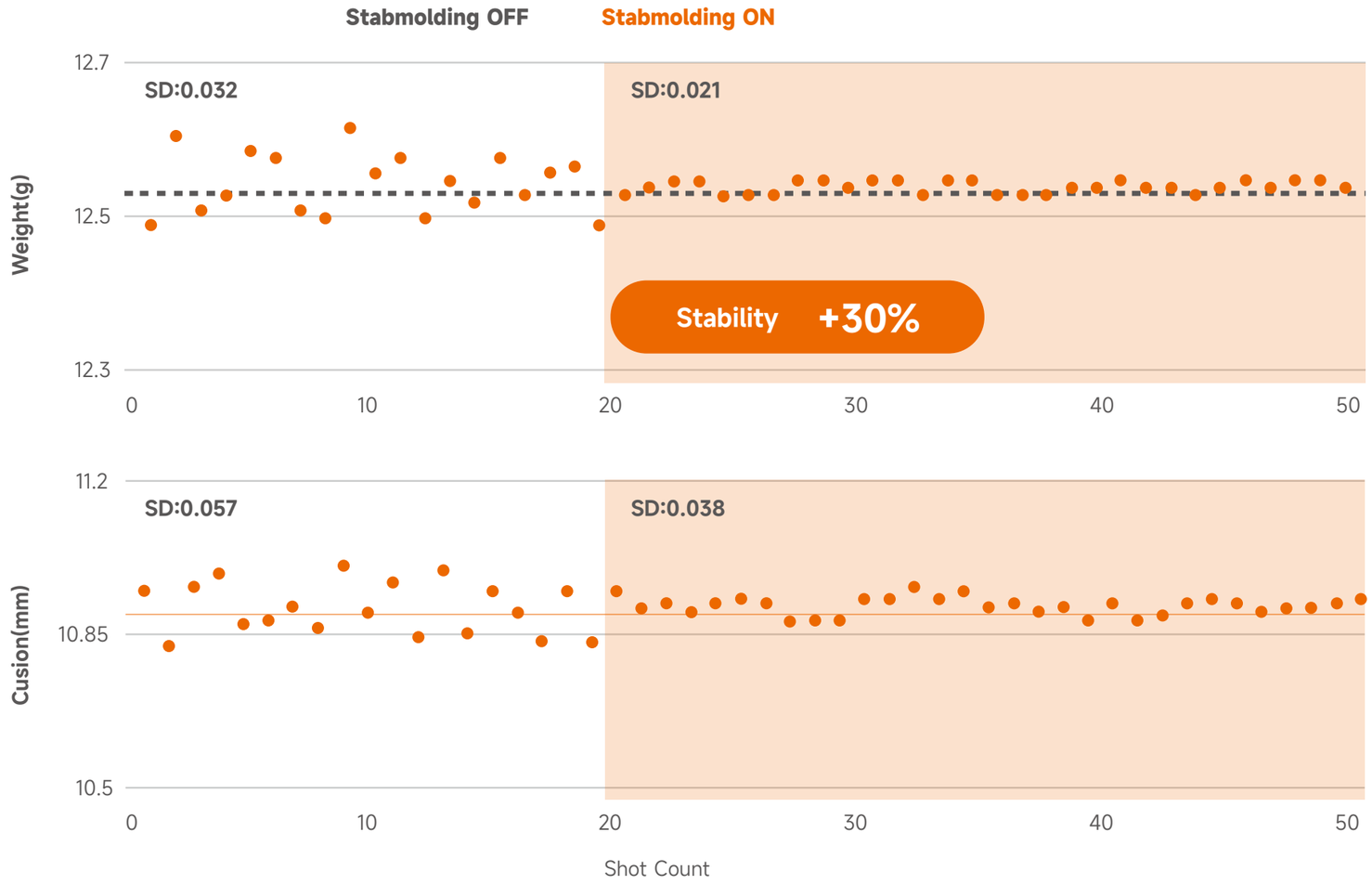
AI Molder in Action: Achieving Production Stability

Sanitary Ware Components

Series: SM150-EH

Material: PP

Cycle Time: 19.6 SEC



Precision Control, Rock-Solid Stability

By embedding AI algorithms directly into the production cycle, the Chen Hsong Intelligent Setup Assistant slashes variation in key process parameters (SD) by more than 30%. Experience a dramatic boost in yield and a steep drop in waste. We've moved beyond human-dependent consistency to machine-guaranteed stability, providing unmatched reliability and profitability for your operations.

“Your Vision is Our Mission”