
Leading Innovation
For a better future
YUDO

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World wide network

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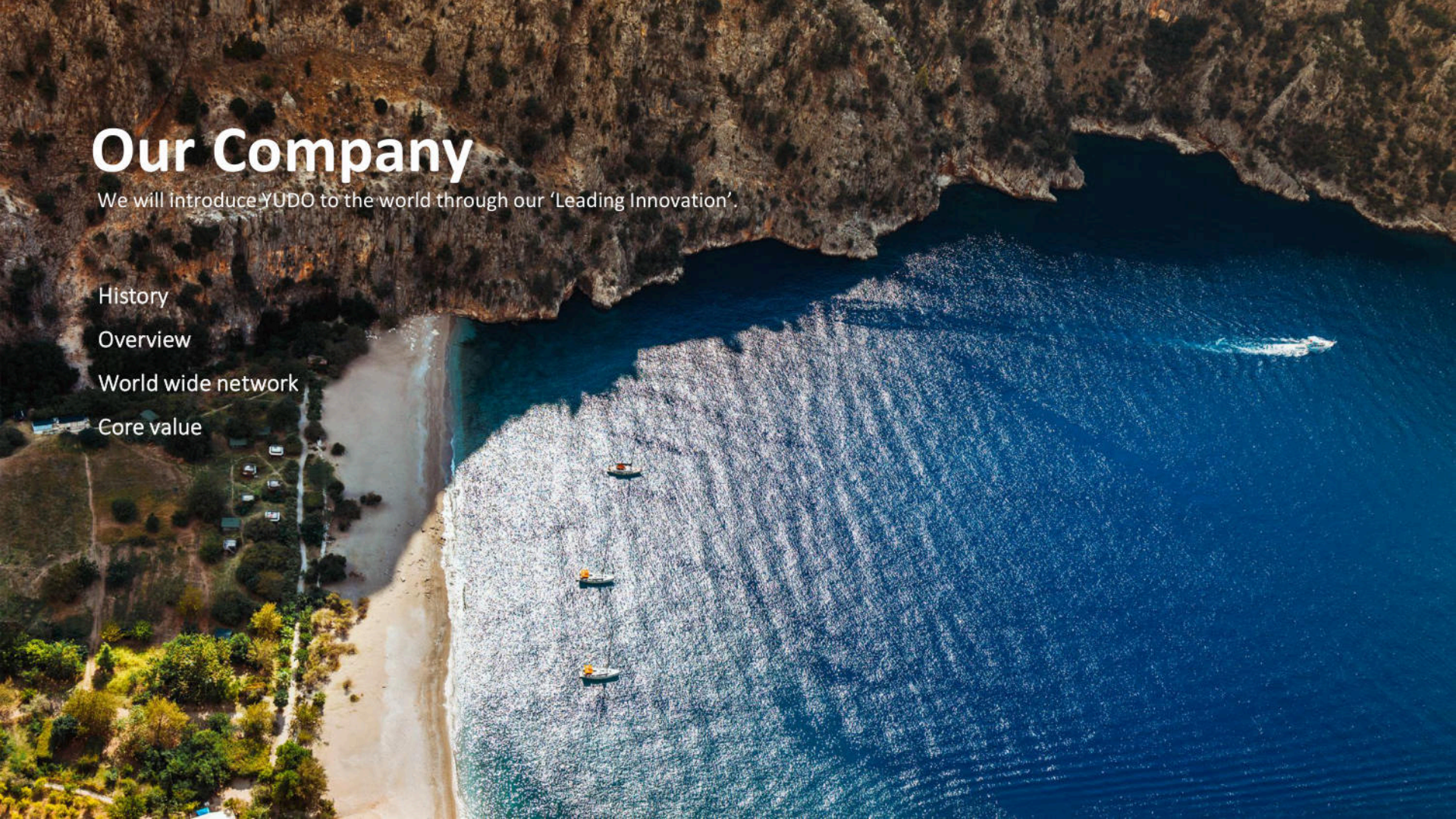
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Our Company

We will introduce YUDO to the world through our ‘Leading Innovation’.

History

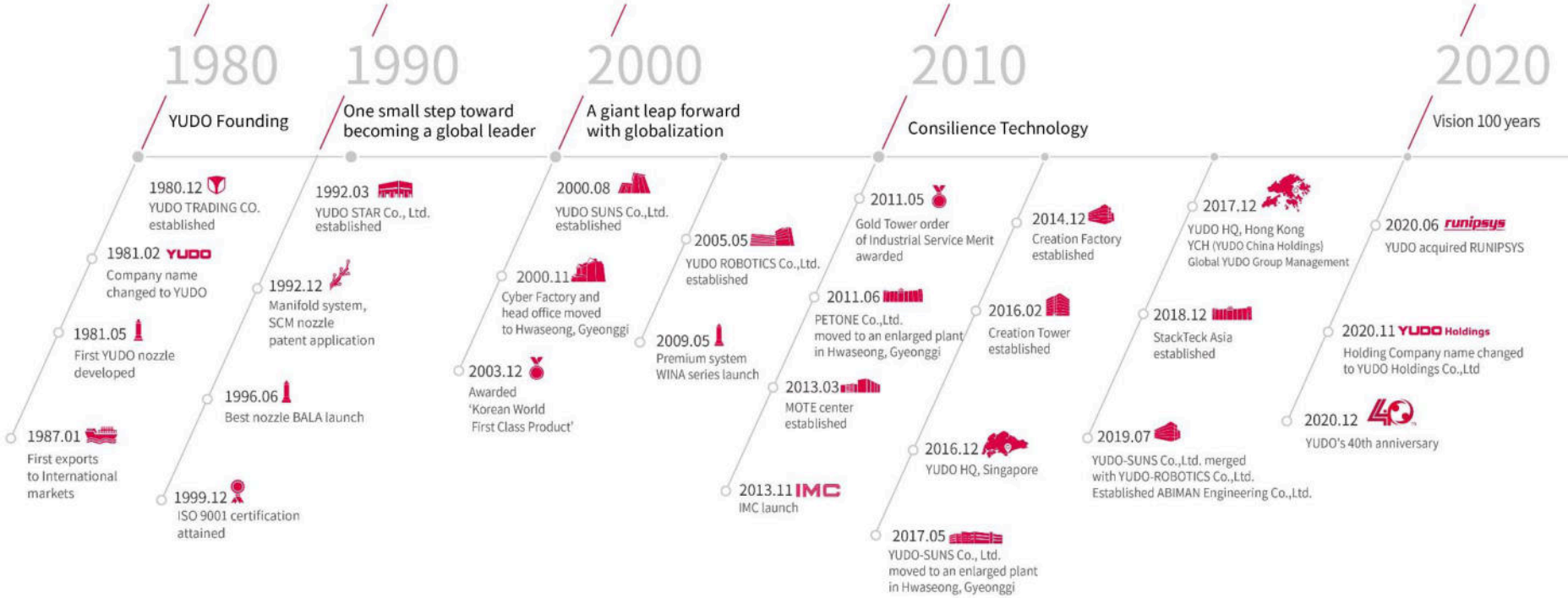
Overview

World wide network

Core value

HISTORY

Aiming for the **next 100 years**



Choose the most suitable solution for your business

Tina system line-up

AM

The best choice
for Automotive products



GP

Presenting a new standard
with a wide range of application



UP

Realize the best performance that you have never experienced before with a Direct tip heater



SV

The integral structure of the nozzle and cylinder makes the mold slimmer



EP

Optimized system for engineering plastic that challenges the limits of delicacy



DC

Backward injection system
for a smooth appearance



MT

Excellent product balance
with Multi-gate system



MC

Small but Durable, Multi-Cavity system
for small Engineering products



SG

Side Gate system
for production of uniform quality



YUDO PACK

Geometric and thermally balanced packaging solution



PETA II

Through strict inspection,
achieve both design and safety



ML

Greater possibilities through
the combination of materials



CR

A dedicate nozzle for LSR injection,
which is capable of any difficult shape



Precise and Smart, Hot Runner Controller

Multi-Controller



TMC//

Multi-controller that controls temperature and time at once using IoT and cloud technology

Temperature Controller



CW663



CW662

Hot runner temperature controller with User-Friendly design

Sequence Timer



TCT//

Pendant type time controller optimized for color change

TW600

Precise time controller to control even 0.01 sec.

Electric Valve Pin Control

YUDRIVE

Electric Valve Pin control

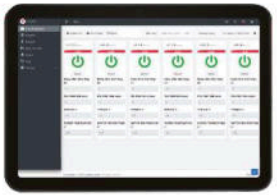


Electric cylinder system that controls the height of the valve pin precisely

YUDRIVE //

With controller





Full control of torque to protect the cavities.

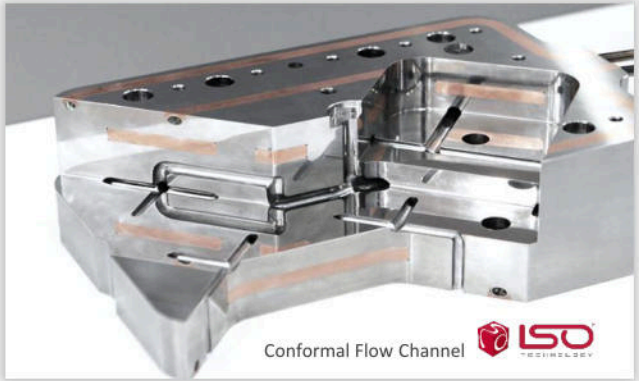
YUDRIVE eco

Using signals of injection machine



ISO Technology for Optimal Flow Path and Cooling Channel Design

ISO technology creates Flow & Cooling channels based on the Conformal Design that reflects the shape of parts.
Diffusion Bonding Technology and Insert Core Technology provides optimized plastic part production by producing free curved lines that are not possible with conventional gun drill manufacturing methods.





Channel Design & Processing Optimization

_ Geometric and Thermal balance
_ Edge-less melt channels
_ Variable surface roughness options
_ Reduced manifold thickness due to level changes

Effective Mold Cooling

_ Cooling channel design freedom
_ Uniform cooling efficiency
_ Reduce cooling time, faster cycle times

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Overview

Employee & Organization at a Glance

Total Employees

2,618

In 2021

Total Sales

USD 411.5M

In 2021

By Gender



Professionals

Manufacturing
1,101
42% of total

Sales
668
26% of total

Design
389
15% of total

Admin
356
14% of total

Executive
58
2% of total

R&D
52
2% of total

Training

Total Training Hours

9,724

By Position



* Established YUDO Co.,Ltd., the predecessor of YUDO holdings.

Global Network of YUDO

We establish powerful networks that connect business bases in 40 countries around the world.



Core value

Our growth engines

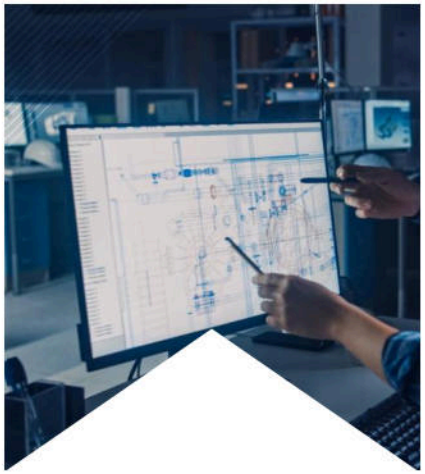
Being the number one hot runner system company in the global markets, YUDO owes its appreciation to the support from our customers and employees.
Honoring this support and dedication, YUDO upholds its 3 core values:



Transparent

We will always be a fair and ethical company that values the trust of customers and society through upright management and pursues development.

- Transparent organizational culture
- Social responsibility
- Win-win management



Detail

With solid technology and meticulous care, We will always listen to the voice of our customers.

- Constant innovation
- Value creation
- Client satisfaction



Communication

Communicating with the company, customers and society with an open mind, We create a creative and flexible corporate culture.

- Communication between employees
- Communication with customers
- Communication with society

Business Area

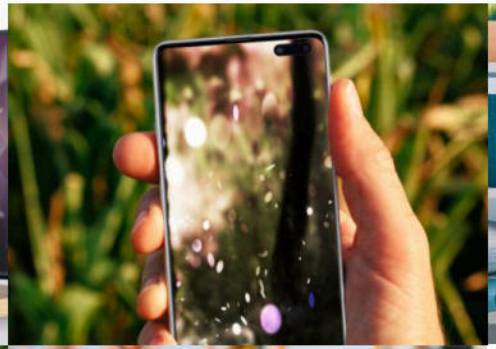
Beyond hardware to software through in-house developed systems,
YUDO provide total solution to establish and manage manufacturing environment
optimized to customer's business.



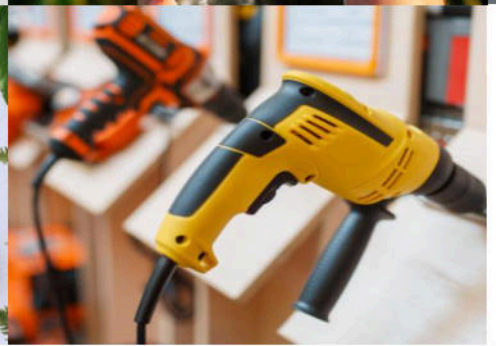
Optimized Systems

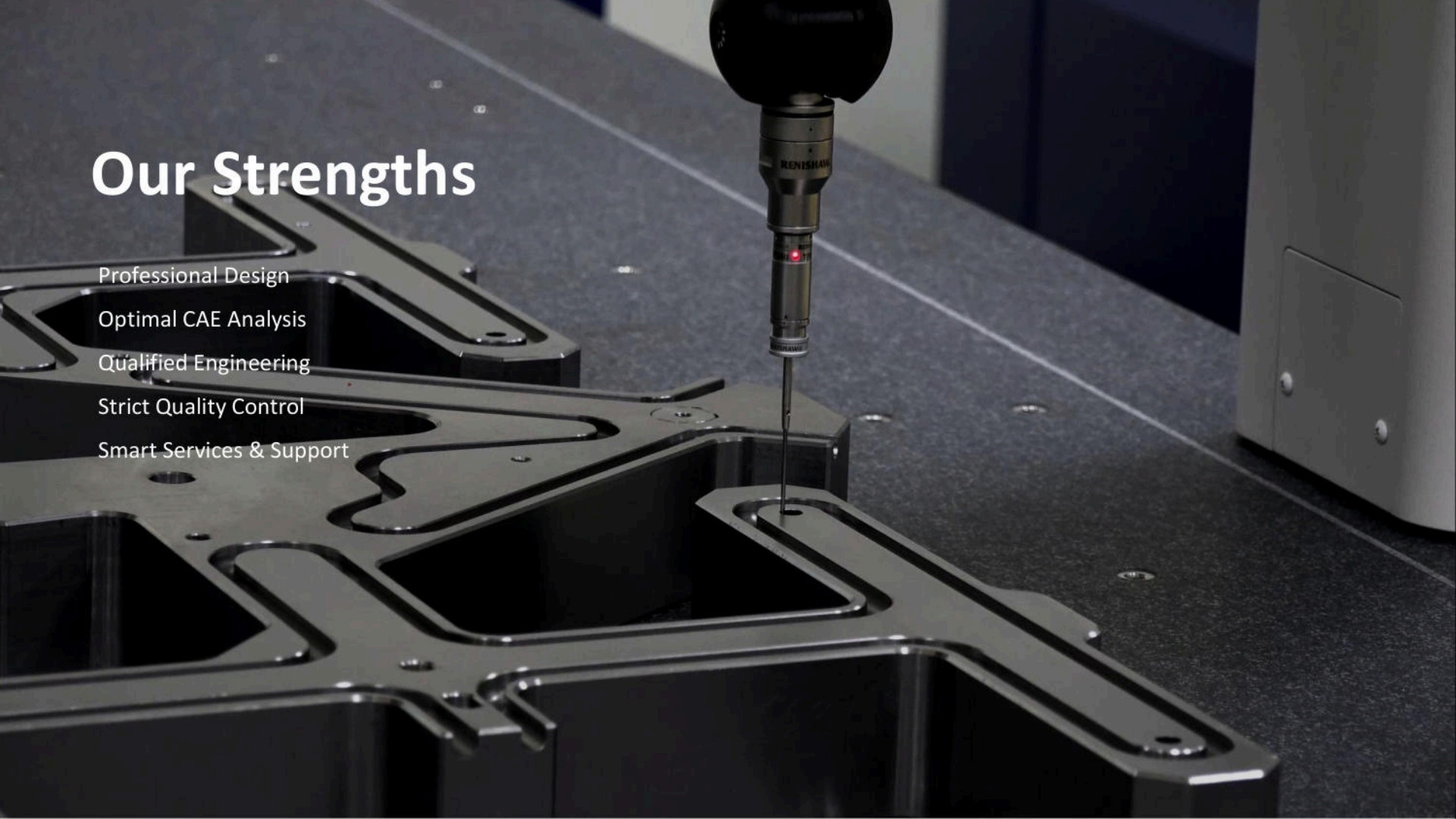
YUDO has hot runner systems that are optimized for each different product in various industries such as automobile, electronics, mobile, accurate and detailed engineering, packaging & PET preform etc.







Our Strengths

Professional Design

Optimal CAE Analysis

Qualified Engineering

Strict Quality Control

Smart Services & Support


Professional
Design

Optimal System Selection

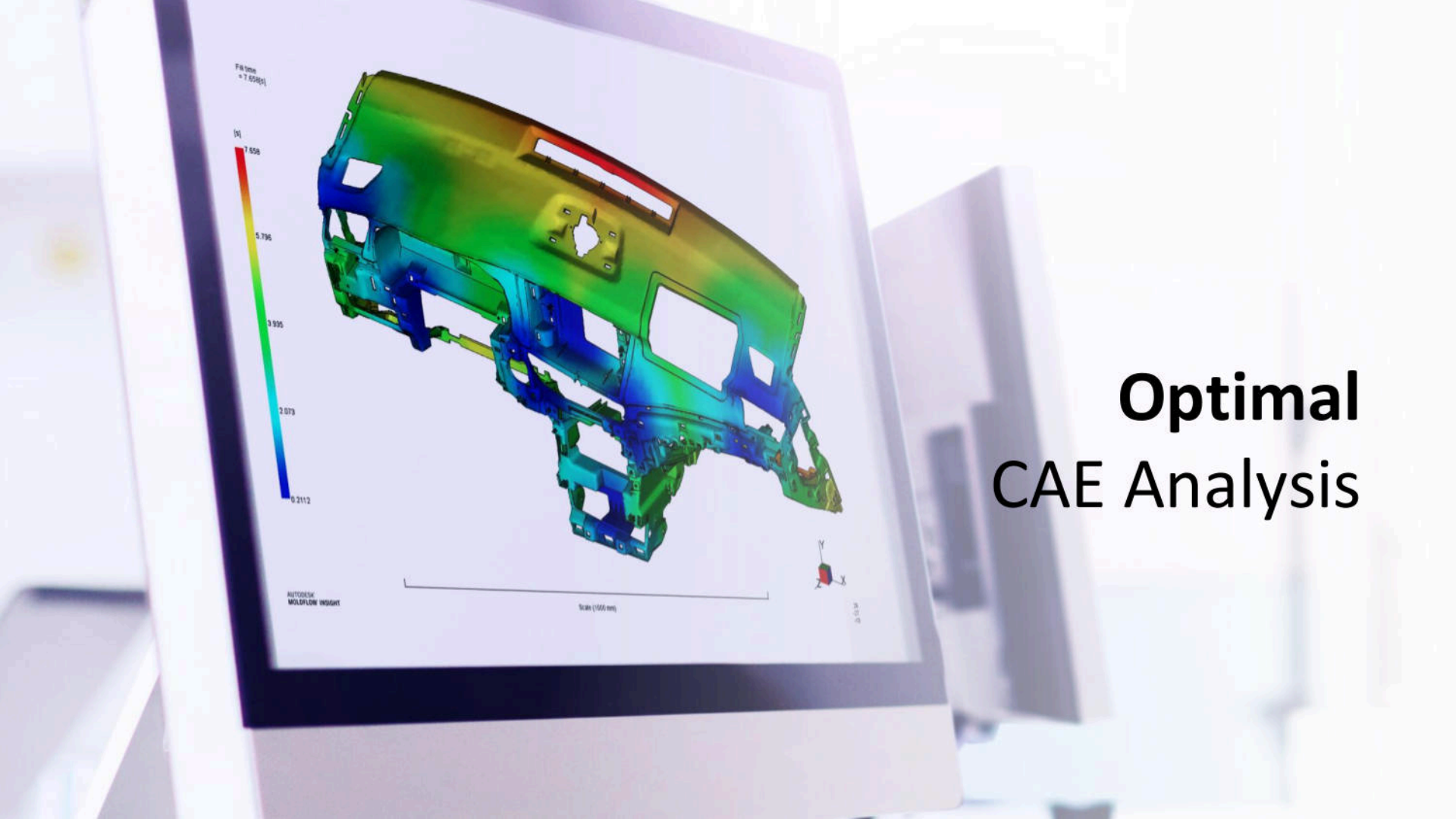


YUDO has 40 years of know-how and has a high understanding of mold structure and processing materials and raw materials (resin). We accurately understand the characteristics of mass-produced products and design the system which can optimize the heat balance according to the position and structure of the Gate.
In addition, our successful experience in various industries has resulted in a library of product-specific systems. We propose the ideal solution for quality improvement through collaboration of professional team in design / system development / analysis area.

Leading Design & Programming

YUDO's unique automation program has been introduced
for the first time in the world more than 20 years ago, and continues to expand
into the CAD> CAM> Machining> Inspection area.

Determine system options	Draw up CAD drawings	Modify & Review drawings	CAM Programming	Precision machining
Options for machining details and suitable parts for each system	Draw up CAD drawings in accordance with customers' injection environment	Final review and approval for programming	Automation programming for system manufacturing process	Production through rapid delivery and organized production management

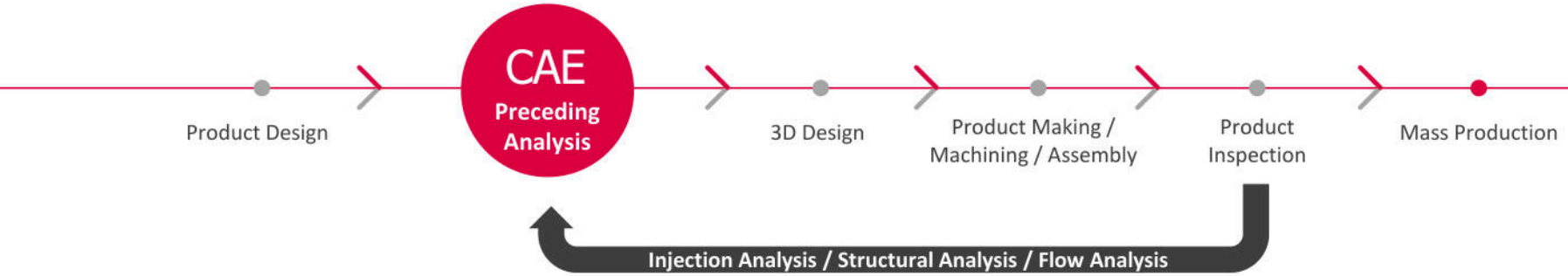


Optimal

CAE Analysis

Optimal CAE Analysis

'In-depth Simulation Preceding Analysis'
which Optimizes Product Design and Manufacturability



YUDO can help you proactively identify potential problems and proactively prevent product and manufacturing defects, helping you to ship products faster and reduce costs for unpredictable defects. YUDO offers prompt and accurate analysis service including Injection Analysis, Structural Analysis, and Flow Analysis by converging with the expertise of partner companies such as Moldex3D, Moldflow, SolidWorks, and ANSYS.
We always help customers to produce reliable product.

Optimal CAE Analysis

Moldex3D SOLIDWORKS AUTODESK SIMULATION MOLDFLOW ANSYS

Improving Quality

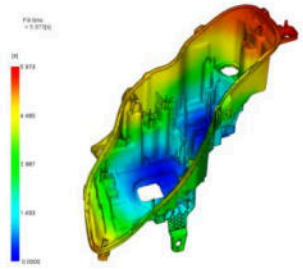
- Minimize expected molding defects in injection molding process
- Reduce proportion of product & scrap

Saving Costs

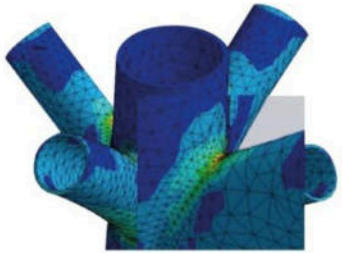
- Shorten product making & development time
- Reduce product making costs & unit price

Advancing Technology

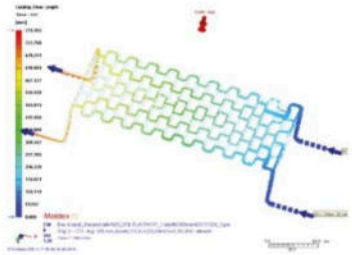
- Improve technology of product & mold design by approaching theoretically and understanding injection molding process



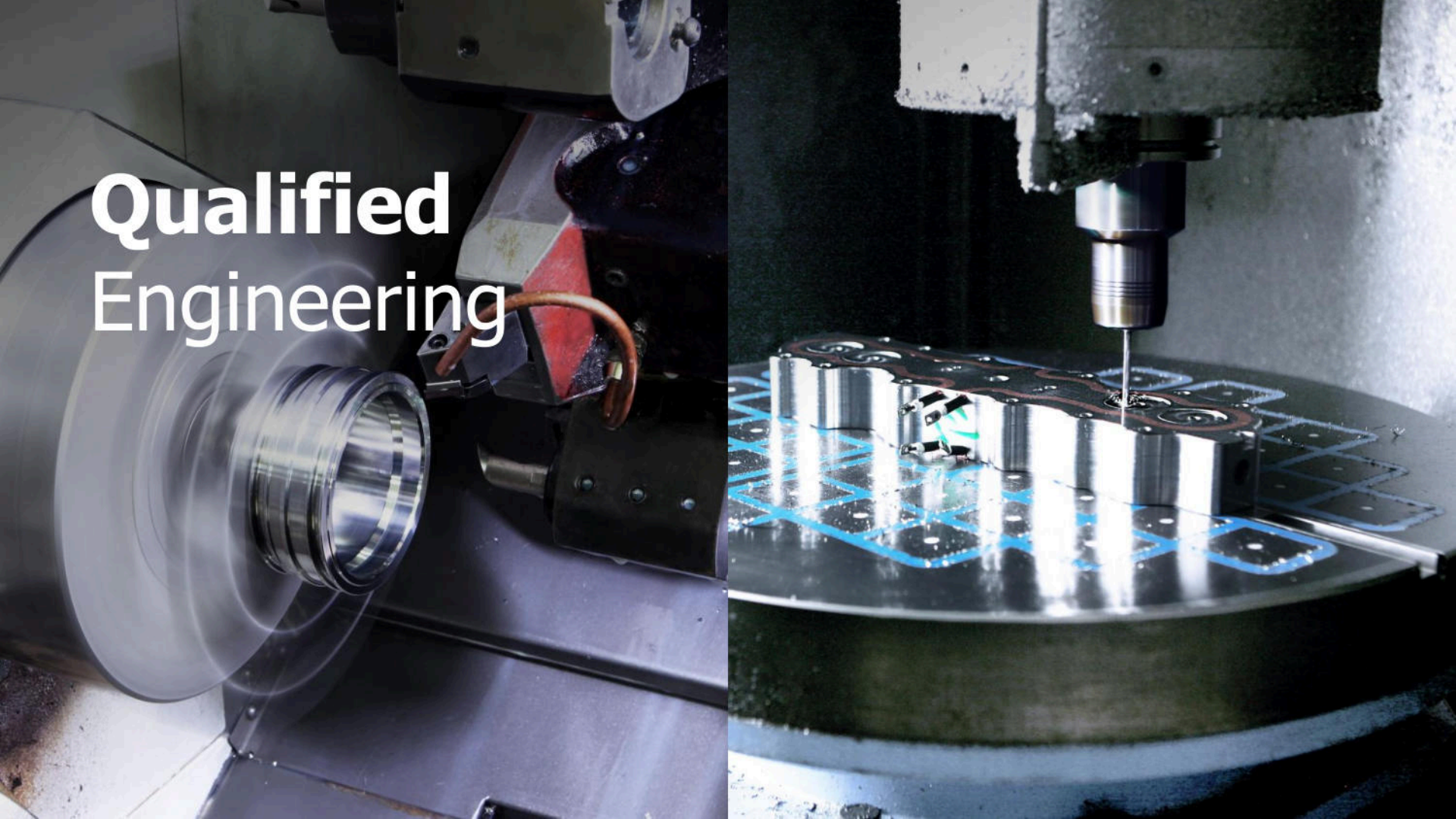
Injection Molding Analysis



Maximum Stress Analysis

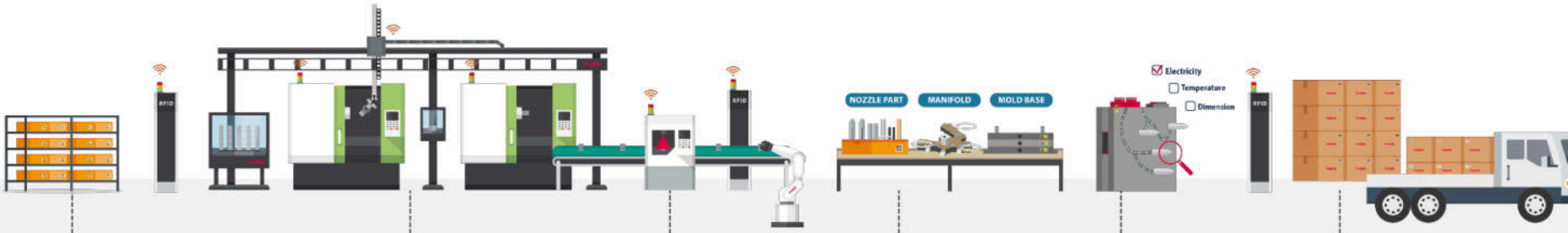


Cooling Flow Length Analysis


Qualified
Engineering

In-house Manufacturing

We have machining process lines for each part of the system: (Nozzle / Manifold / Mold base)
to meet our customers' various needs, and are able to produce hot runner system
overall in-house manufacturing with the best machining process equipment in this industry.



Material In → 1st, 2nd, 3rd, 4th... Machining → Quality Inspection → Assembly → Quality Inspection → Packing / Shipping

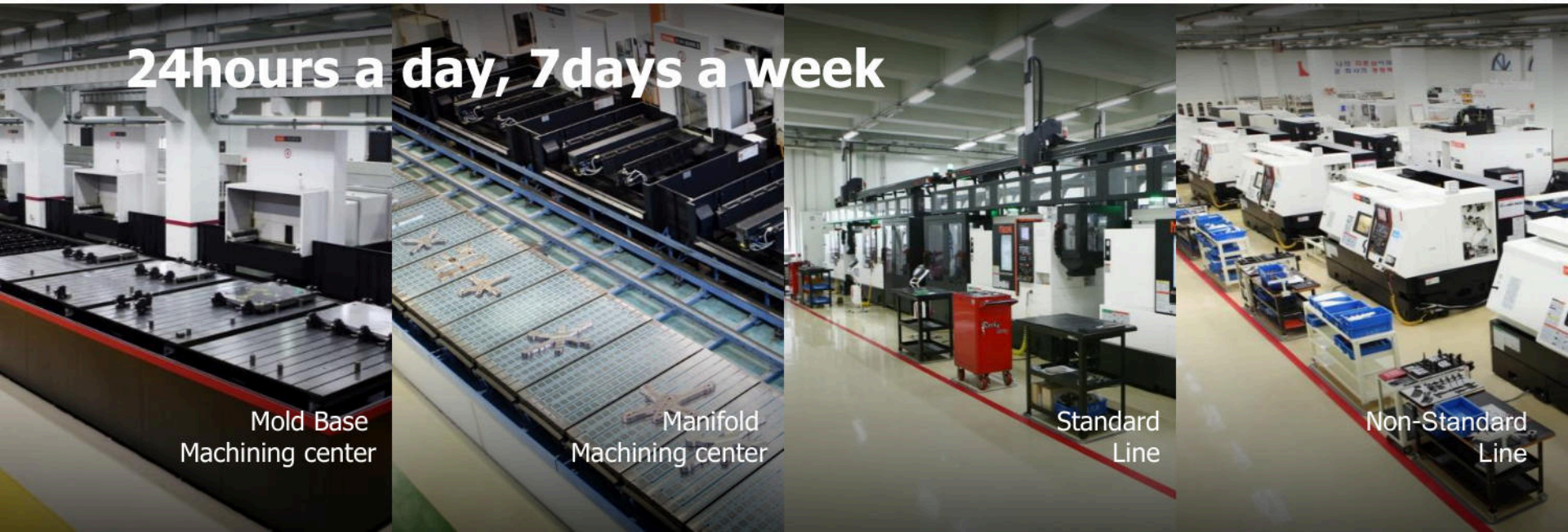
Smart Manufacturing

YUDO has established the system that can provide products of perfect quality continuously
with our skillful experts in machining, tools and facility management who are complied with a computerized process.
Products put into the production line are monitored for easy tracking and progress management.
Through history analysis, we continuously find improvements and reflect them in the process.



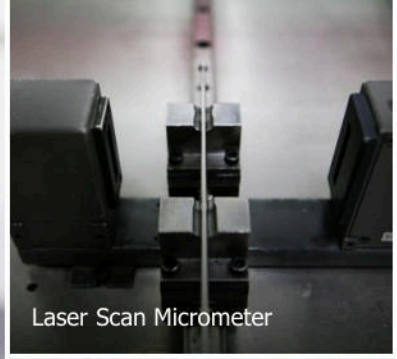
Flexible Manufacturing System

On the basis of FMS (Flexible Manufacturing System), YUDO has a production line that enables mass production while minimizing failure costs. Based on flexible production, a diverse and consistent process ensures stable and uniform production.




Strict Quality
Control


CNC
Coordinate Measuring Machine


Laser Scan Micrometer


PQM
Process Quality Monitoring


Constant Temperature
and Humidity Management

Tolerance of **0.1µm**

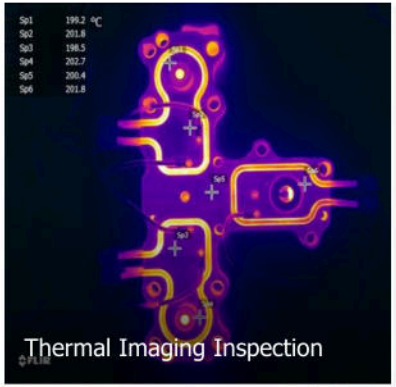
YUDO is conducting strict quality control according to the check sheet for each part by process. It is also handled in an optimal environment with thorough constant temperature / humidity management within the manufacturing process.

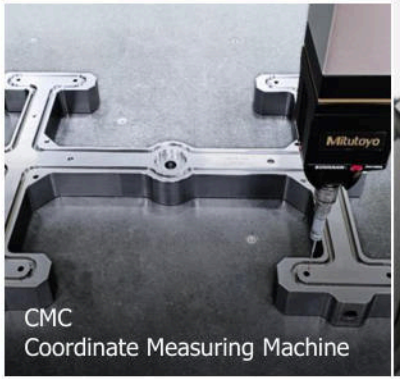
For Nozzles part such as Gate bush, cylinder, etc., precisely measure the value of the roundness / concentricity / sureness / angle with a three-dimensional measuring instrument and use the roundness measuring instrument together to manage precise tolerance of internal and external diameters of products. The measurement error of external diameter by laser scan micrometer and the internal diameter by air zet is controlled to 0.1µm.

Systematic Management

For Manifold, we pursue a strict quality control management by measuring channel roughness, thermal imaging, and also machining status of inner holes that are unable to be seen without a special equipment 'electronic endoscope‘.

In this way, YUDO has a thorough quality assurance of the parts it produces to implement a complete quality management system that can be moved and shipped to the next process.







Teck Center

We are trying our best to provide more qualified and verified system by going through an injection test and improvements at our own advanced laboratory 'Teck Center'.







Smart
Services & Support

Service and Training

YUDO operates a dedicated customer support team to ensure continuous performance and technical support even after the product ships. We always do our best to stay close and respond quickly to customers in order to enable stable continuous production in the event of customer problems.

_ Training and Maintenance
_ Technical Support
_ Field Service and Repair

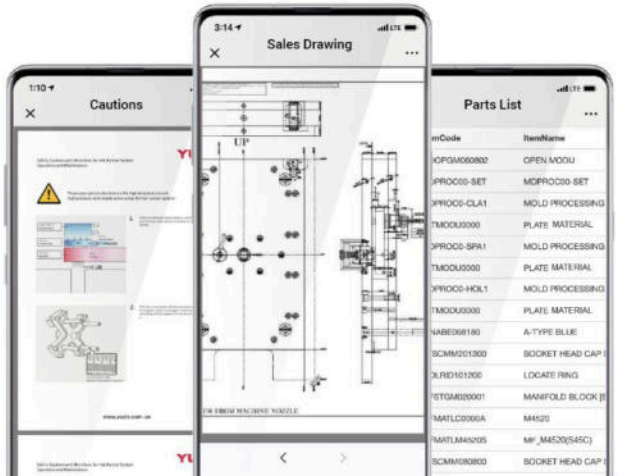






Mobile App Service

By scanning the ID card QR code of the hot runner system provided in YUDO, we can easily check various information from sales check to A/S application and technical support. We also provide Successful Cases and the latest news through Social Media.






Actions For
A Better Future

Environmental protection

Environmental management system

The Group is committed to maintaining environmental sustainability in our business operations and sustainability strategy implementation. As a leading hot runner system company, it is both our responsibility and the expectation of our stakeholders to reduce our environmental footprint by enhancing operational efficiency and adopting sustainable product design.

We have introduced a robust environmental management system to guide our operations and identify improvement opportunities.

This environmental management system is carefully crafted based on the international standard, ISO14001. To demonstrate our commitment, we have obtained ISO14001 certification for our main product, the hot runner system ("HRS") including the systems located in Suzhou, Guangdong, Dong Guan.



Highlight - Eco-friendly system

Hot runner system

The Hot Runner System (HRS) is a critical component for the injection molding system, which is the most common method for mass production of plastic parts. It also reduces our production time compared to existing systems and helps us minimize negative impact on the environment through efficient utilization of raw materials, less use of electricity, and minimizing waste scraps.

Compared to the use of the Cold Runner System, YUDO's HRS has played a significant role in reducing the usage of plastic resin, the production of plastic waste, as well as carbon footprint generated during the plastic manufacturing process. This is due to the absence of extra plastic residue produced during the manufacturing process, which reduces the defect rate of plastic products when using the HRS.



According to the results of the study, using YUDO hot runner instead of cold runner makes zero waste scraps and reduces defect rates by 9.6%, saving about 33% of plastic raw materials. This is possible not only because of the technical features of hot runner, but also because of YUDO technology that eliminates wasted plastic by optimizing the fluidity of resins.

Highlight - Eco-friendly system

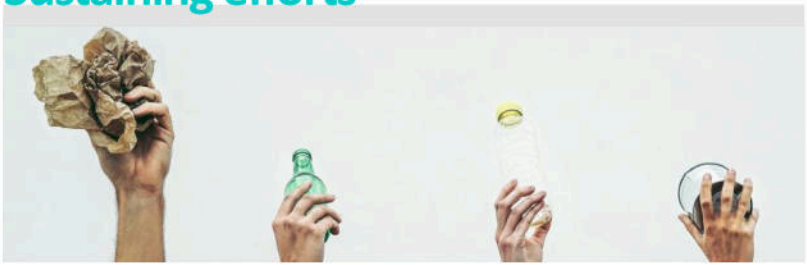


A specific technology example is that of color change. With the specialized color changing system under the HRS, the significant decrease in color change time (for example, from a dark color to a bright color) leads to a decrease in resin loss and defect rate.

The Group's HRS facilitates the use of recycled resin, such as bio-plastic, which has seen an increase in usage by customers, especially in China. We aim for zero discarded resin in our manufacturing process. To meet this aim, we use recycled resin as the core layer of some products. This is done through our co-injection technology, which injects different types of resins into cavities at the same time. With recycled resin used to fill in the core layer, both production cost and waste is decreased, giving us a multi-layer advantage.

Moreover, customers utilizing the plastic manufactured out of the Group's HRS could further optimize the positive impact on the environment. For instance, car manufacturers can reduce carbon dioxide emissions resulting from the lighter weight of cars by utilizing plastic rather than conventional steel.
Through advantages of the HRS, including the reduction on production time and environmental waste, YUDO has seen increased growth in revenue from 2019 to 2020, as well as 2020 to 2021.

Sustaining efforts







Waste handling

Given the nature of our business activities, we endeavor to minimize the negative impacts on the environment by actively managing waste generated from our operations in a responsible manner.

Waste oil is the major waste generated from our business activities due to the manufacturing process of the HRS. The waste oil is kept in specific containers stored above and below ground. There is potential environmental contamination due to a risk of damage to waste oil storage, which could lead to underground leakages. The Group is aware of the danger of a waste oil leakage, and therefore, we have established dedicated processes for waste sorting, storage, and treatment that strictly comply with relevant laws and regulations.

The subsidiary located in South Korea strives to properly manage waste oil produced by storing the waste appropriately and outsourcing waste management to a certified third party. Waste management including the amount of waste and measurements of waste treatment will be reported annually to the Korean government for performance evaluation. When waste is discharged, all data regarding the waste generated will be uploaded to 'All Baro System', a waste management system managed by the Ministry of Environment.

Additionally, YUDO (Suzhou) Hot Runner Systems Co., Ltd, one of our main manufacturing plants, has set out a Hazardous Waste Management Policy to closely monitor the collection and storage process of waste oil produced to help our manufacturing plants operate in the most effective and safe manner.

Materials use and management

YUDO seeks to reduce its environmental footprint and increase circularity in its products, through effective management on material use. For example, our procurement team is encouraged to explore eco-friendly materials and equipment, including but not limited to Light Emitting Diode (LED) lights and solar panels.

We strive to make our packaging easier to recycle by continually increasing recycled content and materials. Recyclable materials such as cartons and wooden cases were used to package our products.

To support our circularity efforts, the recyclable items returned by customers will be reused by our technical department and applied to new orders in our manufacturing operations in Qingdao, China.

Energy management & Emission reduction

We recognize that air and greenhouse gas ("GHG") emissions, such as carbon dioxide, have a significant influence on the environment and climate change, hence, we make ongoing efforts to manage and minimize emissions from our own operations.

The Group enacted an energy-saving policy in order to reduce unnecessary energy costs.

Highlight - Renewable energy projects in our subsidiaries

Our subsidiaries are using renewable and alternative energy, where needed, at a local level. For instance, our subsidiary in South Korea sells electricity produced out of solar energy panels implemented on the rooftop of some of its facilities.

Korea's mass power generation companies are required to produce a proportion of eco-friendly energy, and YUDO Korea is making a small contribution through its supply of renewable energy as well as Renewable Energy Certificates. As of the end of 2021, 221,863 kW energy has been generated.

Another example is Portugal – our subsidiary in Portugal installed 620 solar panels with a capacity of 198.4 kWp in 2021. It has produced more than 202 MWh of clean electricity, which entailed a reduction of 132.55 tons of CO_2e. In addition, the company installed one electric car charger with capacity of 11 kW, which customers and staff are free to use.

We recognize the importance of renewable energy and have an additional solar energy project in planning stages at our Suzhou subsidiary.



Sustaining efforts



Water conservation management

Water efficiency is a crucial environmental topic to the Group as it recognizes the challenges imposed by water scarcity and is committed to taking action to help conserve limited water resources. We mainly consume water in our offices and production plants.

In order to efficiently manage our water consumption, we encourage our employees to be more aware of their water use habits and to use water more effectively. For our production operations where higher water usage occurs, we aim to set goals to limit water consumption for our factories.

We manage wastewater generated from our premises in strict accordance with the local laws and regulations in areas where we operate. For instance, in mainland China, the filtered drinking water will be tested once a year and the quality of sewage water is tested for heavy metals once every quarter. Moreover, wastewater evaluation has been conducted by an external auditor in 2021.

Regulatory compliance

During the year, the Group does not have any cases of violations with laws or litigations. No serious breaches have been identified in terms of raw materials sourcing and usage, generation of hazardous and non-hazardous waste, air and GHG emissions, and waste discharge into water and land.

Our Customers

No.1 In Global
Hot Runner Market



Customers

YUDO works with global companies in various industries.

WE SUPPORT
YOU EVERYWHERE!

Automobile



Customers

YUDO works with global companies in various industries.

WE SUPPORT YOU EVERYWHERE!

Electronics / Industry



Home Appliance



Packaging / Medical



Thank You
for Your Attention.

YUDO