

INNOVALUES PRECISION (THAILAND) Ltd.

PRECISION • QUALITY • TRUST

One Partner. End-to-End Capabilities.

From Tooling Design to Intelligent Quality Assurance –
Delivering Value, Every Time.



IN-HOUSE CAPABILITIES

Tooling, Automation,
Machining, Surface &
Heat Treatment



QUALITY ASSURANCE EXCELLENCE

12 AOI Systems, Advanced
Metrology & LPC Cleanliness
Validation



PRECISION & RELIABILITY

Consistent Quality,
Zero Defect, Zero Escape



SMART AUTOMATION & INNOVATION

Design Automation & Fabrication
for Higher Productivity



CUSTOMER FOCUSED

Tailored Solutions.
Long-Term Value.



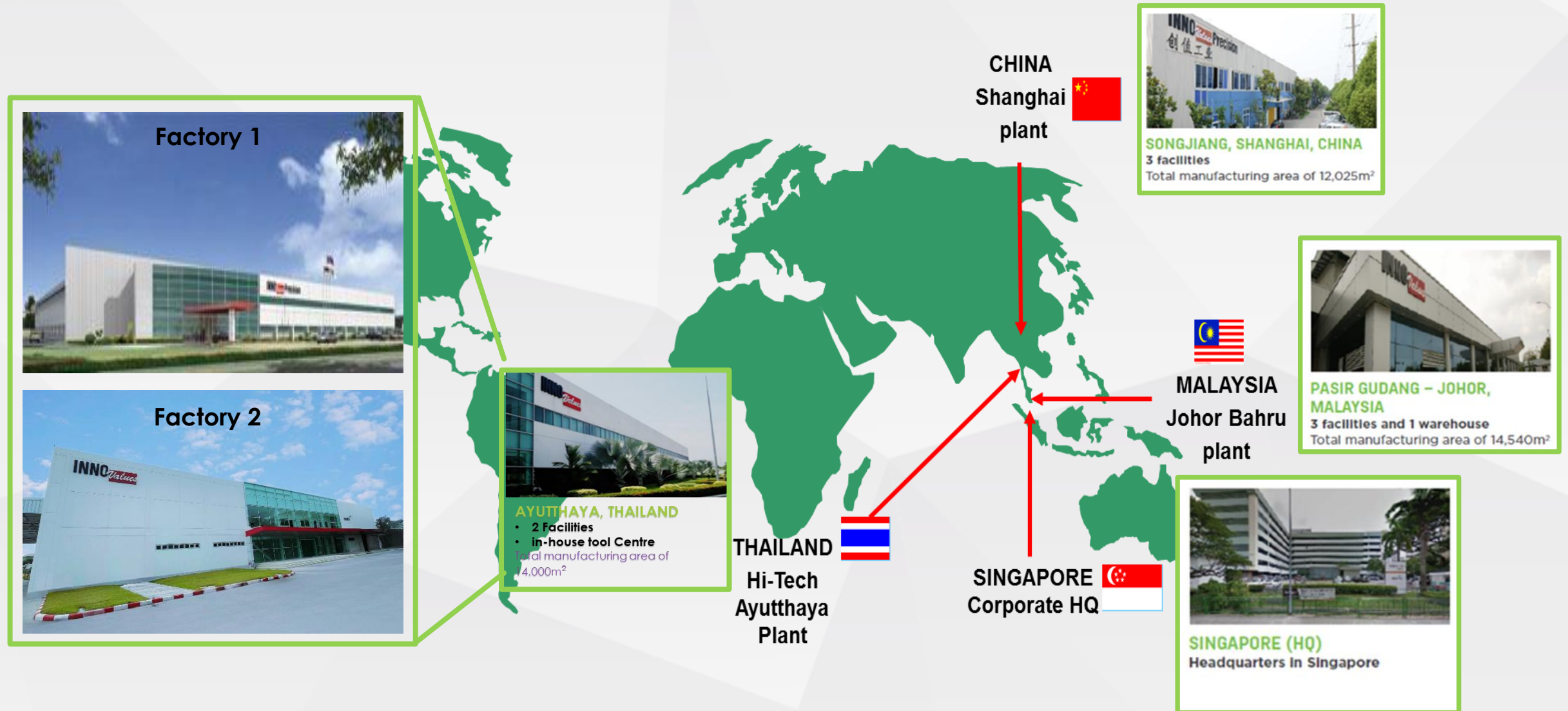
GLOBAL STANDARDS & COMMITMENT

IATF 16949 Certified
Continuous Improvement



GROUP OF COMPANY OVERVIEW

INNO *Values*



Note: Total land area in Thailand is 36,800m².



COMPANY BACKGROUND

Building Trust. Delivering Quality. Driving Excellence Since 1997.

INNO *Values*

Precision • Quality • Trust



1997

Established
Innovalues Precision
Limited



2000

Established
Thailand Plant



2015

Achieved
ISO 14001:2015



2016

Achieved
ISO IATF 16949:2016



2025

Achieved
ISO 9001:2001

ISO 9001:2015

Certificate

Standard **ISO 9001:2015**

Certificate Registry No. 01 100 1820092

Certificate Holder: **INNOVALUES PRECISION (THAILAND) LTD.**
88 Moo 1, T. Bangna-Trad Road,
T. Bangnae, A. Bangkok,
Chachoengsao 24130 Thailand

Scope: Manufacturing of Precision Machined
Components for Safety Applications

Validity: Proof has been furnished by means of an audit
that the requirements of ISO 9001:2015
are met.
The certificate is valid from 2024-11-01
until 2027-10-20.

2024-10-21

TÜV Rheinland Cert GmbH
Am Grauen Stein - 51109 Köln



IATF 16949:2016

Certificate

Standard **IATF 16949:2016**
(1st edition, 2016-10-01)

Certificate Registry No. 01 111 1820092

Certificate Holder: **INNOVALUES PRECISION (THAILAND) LTD.**
88 Moo 1, T. Bangna-Trad Road,
T. Bangnae, A. Bangkok,
Chachoengsao 24130 Thailand

IATF USI: YSN6CK

Scope: Manufacturing of Machined Components
for Safety Applications
Excluding Product Design

Validity: Proof has been furnished by means of an audit
that the requirements of IATF 16949:2016
are met.
The certificate is valid from 2024-11-01
until 2027-10-20.

Release date: 2024-11-01



TÜV Rheinland Cert GmbH
Am Grauen Stein - 51109 Köln



ISO 14001:2015

TÜVNORD

Certificate

Management system as per
ISO 14001 : 2015

The Certification Body TÜV NORD CERT GmbH hereby confirms as a result of the audit,
assessment and certification decision according to ISO 14001:2015, that the organization

INNOVALUES PRECISION (THAILAND) LTD.
88 Moo 1, T. Bangna-Trad Road, T. Bangnae,
A. Bangkok, Chachoengsao 24130, Thailand



with the locations according to the annex

operates a management system in accordance with the requirements of ISO 14001 : 2015 and will be assessed
for conformity within the 3 year term of validity of the certificate.

Scope
Manufacture of Precision Machined Components

Certificate Registration No. 44 101 1820092
Audit Report No. 16/ATN/213/0024

Valid from 2024-11-29
Valid until 2027-11-28
Initial certification 2004

Certification Body
at TÜV NORD

Frank
Bereich Thüringen

Essen, 2024-11-29

TÜV NORD CERT GmbH TÜV NORD CERT GmbH Am TÜV 1, 43307 Essen www.tuv-nord-cert.com



OUR STRENGTH

- ✓ Internationally
Recognized Standards
- ✓ Robust Quality
Management System
- ✓ Commitment to
Continuous Improvement

ACCREDITED BY



IATF 16949
QUALITY MANAGEMENT SYSTEM



**MANPOWER
STRENGTH**

Total Manpower
806 persons

Direct Manpower
655 persons

Indirect Manpower
151 persons



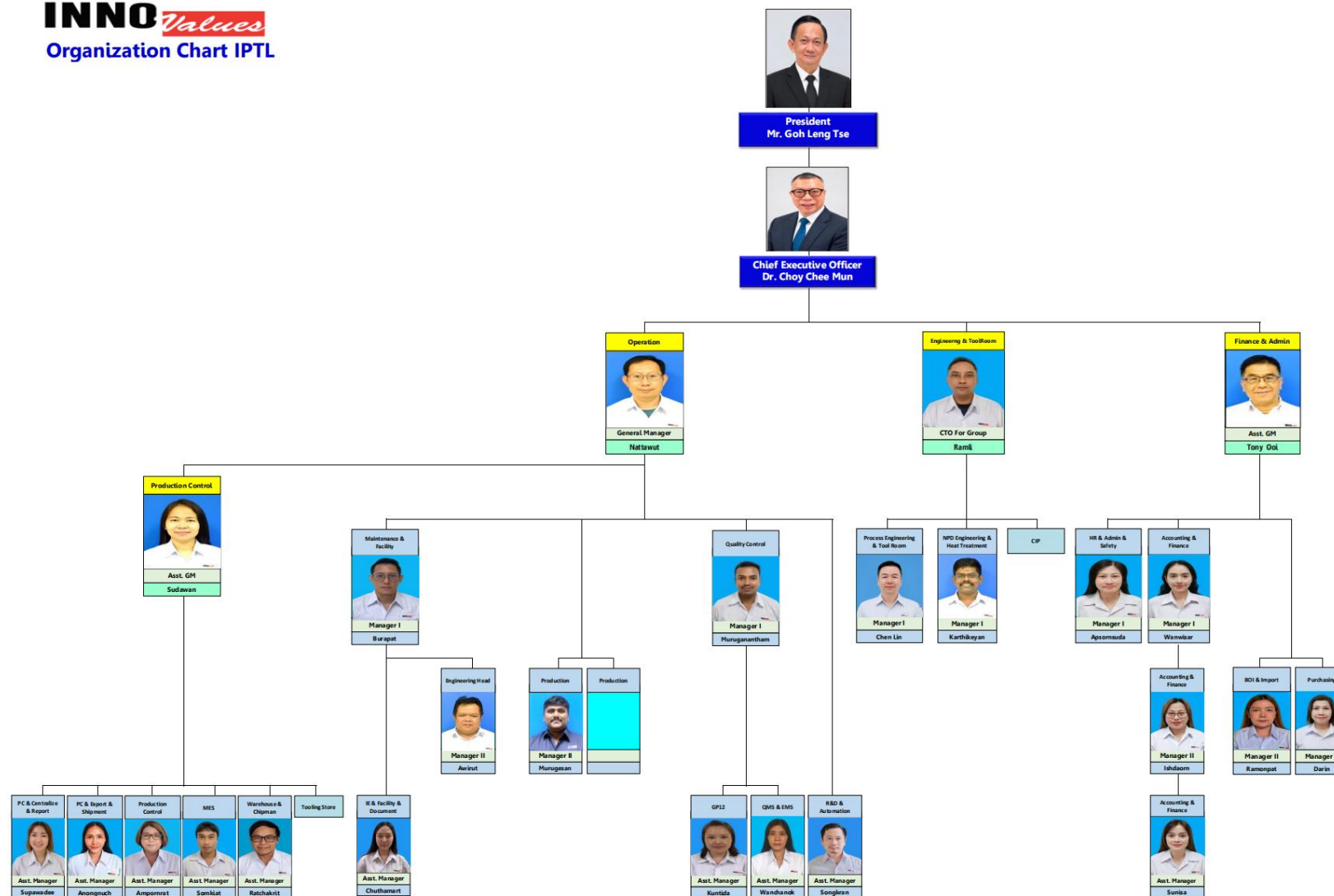
IPTL ORGANIZATION CHART

Strong Leadership. Cross-Functional Expertise. Operational Excellence.

INNO *Values*

Precision • Quality • Trust

INNO *Values*
Organization Chart IPTL





STRONG FOUNDATION IN PRECISION MANUFACTURING



PRECISION MANUFACTURING EXPERTISE

High precision CNC machining with multi-axis & Swiss type machines



TIGHT TOLERANCE CAPABILITY

Up to 5 µm



QUALITY & ENVIRONMENT SYSTEM

IATF 16949, ISO 9001:2015
Quality & Environmental management



SKILLED WORKFORCE

Skilled workforce & strong engineering support



ADVANCED FACILITIES

State-of-the-art facilities in Ayutthaya, Thailand

AI TRANSFORMATION FOR QUALITY & PRODUCTIVITY EXCELLENCE

AI FOR QUALITY EXCELLENCE



AI VISION INSPECTION

100% inspection with AI defect detection



DIMENSION AUTOMATION

Full auto measurement & data capture



AI REAL-TIME FEEDBACK

Instant feedback & trend analysis for continuous quality improvement



AI FOR PRODUCTIVITY IMPROVEMENT



MACHINE MONITORING

Real-time OEE & performance tracking



PREDICTIVE MAINTENANCE

AI predicts failures before they occur



SMART PRODUCTION

AI scheduling & resource optimization



DATA ANALYTICS

Data-driven decision making for higher efficiency



PRECISION COMPONENTS WE MANUFACTURE



HIGH PRECISION • COMPLEX GEOMETRY • SUPERIOR QUALITY • RELIABLE PERFORMANCE

EXPANDING INTO FUTURE GROWTH AREAS



HUMANOID & ROBOTICS

Precision components for next-generation humanoid and robotic systems



DATA CENTER

High precision components for data center infrastructure, cooling systems and connectivity solutions



2ND GENERATION OFFICE AUTOMATION

Advanced components for next-generation office automation equipment



SERVING KEY INDUSTRIES



AUTOMOTIVE & MOBILITY SOLUTIONS



ELECTRONICS & CONNECTIVITY



INDUSTRIAL & MANUFACTURING



AUTOMATION & BEYOND

OUR COMMITMENT FOR TOMORROW



LEVERAGE AI
for Smarter Manufacturing



DELIVER SUPERIOR QUALITY
with Zero Defects



IMPROVE PRODUCTIVITY
for Stronger Competitiveness



GROW TOGETHER
with Our Customers and Partners

“ Transforming precision manufacturing with AI to create value, drive innovation, and build a better future together. ”

KEY CUSTOMERS

Trusted by leading global companies across diverse industries

INNO *Values*

Precision • Quality • Trust



AUTOMOTIVE & MOBILITY SOLUTIONS



ELECTRONICS & CONNECTIVITY



INDUSTRIAL & MANUFACTURING TECHNOLOGIES



SSI Technologies, Inc.
— DOMTECS TECHNOLOGIES DIVISION —



STRONG PARTNERSHIPS

Building long-term relationships based on trust and performance



PROVEN QUALITY

Consistent quality that meets and exceeds customer expectations



CUSTOMER FOCUSED

Tailored solutions to meet specific customer needs



GLOBAL REACH

Serving customers across multiple industries worldwide

PLANT LAYOUT

AYUTTHAYA, THAILAND

INNO *Values*

Precision • Quality • Trust



Established in 2000, IPTL is Inspire's only facility in Thailand. IPTL is also the Group's specialized tooling centre with **94% of tools** used by the Group designed and fabricated in this facility.



Located in
Ayutthaya,
Thailand



806
Manufacturing
Employees¹



14,000
sqm
GFA²



IATF 16949:2016
ISO 9001:2015
ISO 14001:2015
Certified

FACTORY - 1

Area : 10,400 m²



FACTORY - 2

Area : 3,600 m²



Strategic Location
Close to key customers
and suppliers



Advanced Facility
Well-planned layout for
efficient operations



In-House Tooling
94% of tools designed &
manufactured in-house



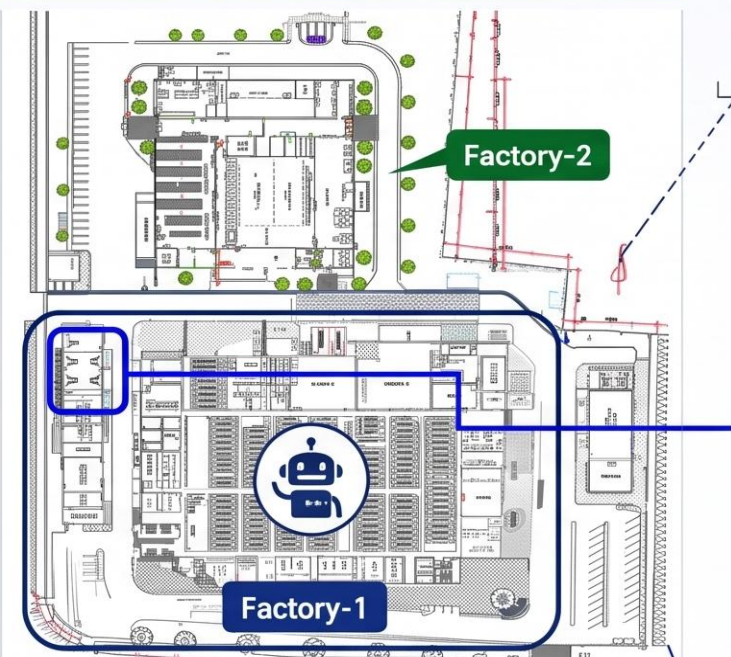
Skilled Workforce
806 dedicated manufacturing
employees



Certified Excellence
IATF 16949, ISO 9001,
ISO 14001 Certified

PLANT LAYOUT – AYUTTHAYA, THAILAND

SITE OVERVIEW



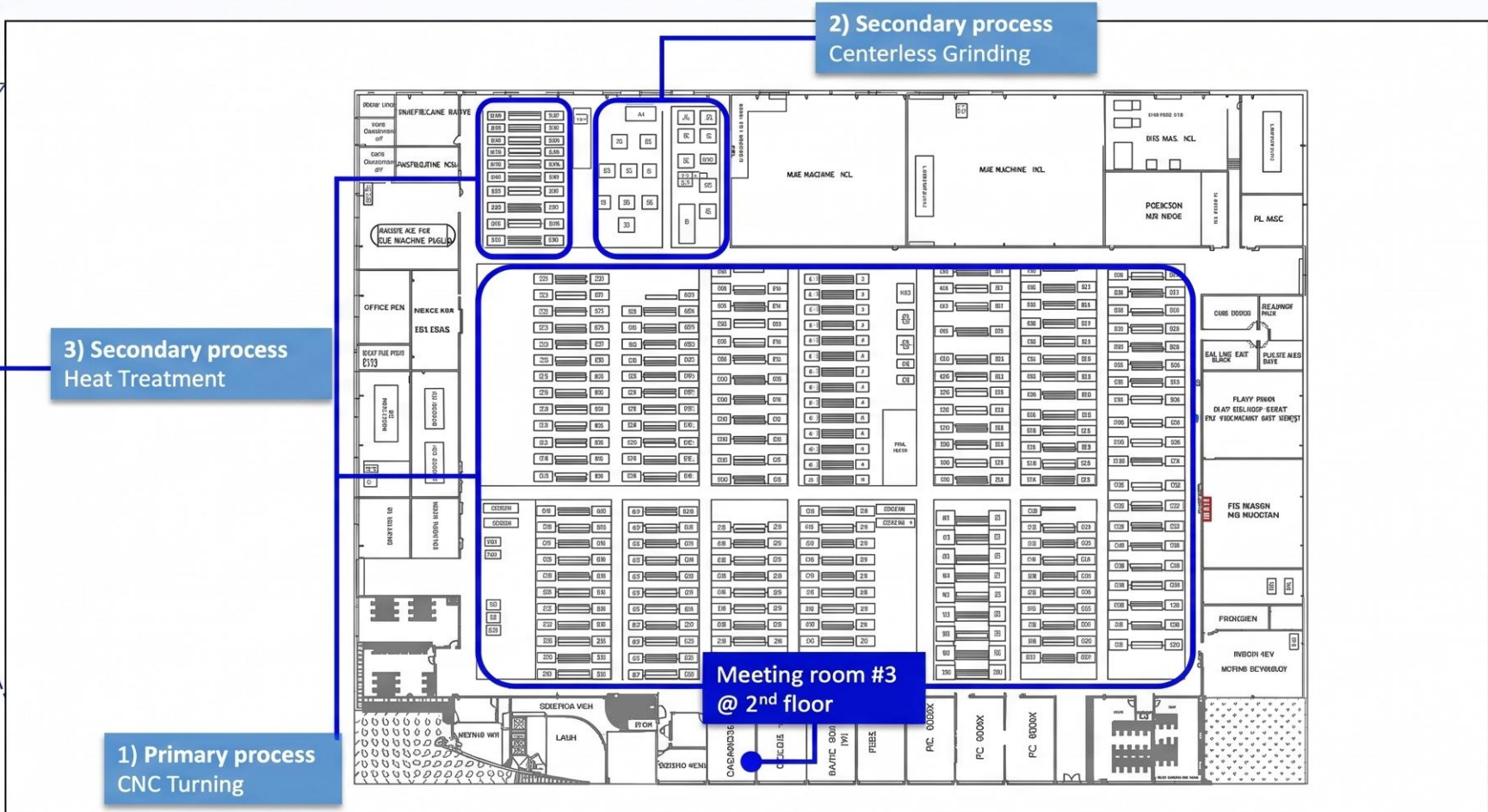


Factory-1
Area : 10,400 m²
Primary process : CNC Turning
Secondary process : Heat Treatment



Factory-2
Area : 3,600 m²
Secondary process : Centerless Grinding

OPERATION LAYOUT – FACTORY 1 (MAIN BUILDING)





WELL-PLANNED LAYOUT
Designed for smooth workflow, material flow and safety.



INTEGRATED PROCESSES
Primary and secondary processes located for optimal efficiency.



QUALITY FOCUS
Dedicated quality control, inspection and process-controlled areas.



EFFICIENT OPERATIONS
Optimized space utilization for higher productivity and shorter lead time.

PLANT LAYOUT – AYUTTHAYA, THAILAND

Well-planned layout for efficient flow, quality control and superior productivity

INNO *Values*

Precision • Quality • Trust

SITE OVERVIEW



FACTORY-2 – DETAILED LAYOUT



- 1. TOOL FABRICATION UNIT**
In-house tool design & manufacturing for precision and quick turnaround.
- 2. 100% INSPECTION PROCESS**
All components are inspected 100% using advanced inspection equipment.
- 3. STORE FOR FINISHED GOODS**
Secure and organized storage for finished goods with FIFO management.
- 4. WASHING PROCESS**
Dedicated area for component cleaning ensuring quality at next process.



STRATEGIC LOCATION
Ayutthaya, Thailand



OPTIMIZED FLOW
Designed for smooth material & information flow



QUALITY ASSURANCE
100% inspection and process-controlled areas



SPACE UTILIZATION
Efficient use of space for operations & storage



OPERATIONAL EXCELLENCE
Well-planned layout for safety, productivity & efficiency

MANUFACTURING FACILITIES – AYUTTHAYA, THAILAND

Advanced machining capabilities with high accuracy and wide diameter range

INNO *Values*

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MACHINE CAPABILITIES

PRIMARY CAPABILITIES				
Machine Type	Units	Process	Machine Accuracy	Diameter Range
 CNC Auto Lathe	5	Turning	$\leq 5 \mu\text{m}$	$\varnothing 3$ to 12 mm
 CNC Auto Lathe	20	Turning	$\leq 5 \mu\text{m}$	$\varnothing 2$ to 12 mm
 CNC Auto Lathe	29	Turning	$\leq 5 \mu\text{m}$	$\varnothing 3$ to 20 mm
 CNC Auto Lathe	27	Turning	$\leq 5 \mu\text{m}$	$\varnothing 3$ to 25 mm
 CNC Auto Lathe	230	Turning	$\leq 5 \mu\text{m}$	$\varnothing 3$ to 27 mm
 CNC Auto Lathe	7	Turning	$\leq 5 \mu\text{m}$	$\varnothing 3$ to 35 mm
 CNC Auto Lathe	14	Turning	$\leq 5 \mu\text{m}$	$\varnothing 3$ to 37 mm
 CNC Auto Chucker Lathe	5	Turning	$\leq 5 \mu\text{m}$	$\varnothing 5$ to 42 mm

SECONDARY CAPABILITIES

OTHER CAPABILITIES – AU	
	Centerless grinding machine (16 units)
	Durr-Eco Clean (3 units)
	HC washing (1 unit)
	LPC Test

OTHER CAPABILITIES – TOOLING FABRICATION	
	Walter CNC grinding machines (4 units)
	EWAG universal machines (2 units)
	JAGURA cylindrical grinding machine (1 unit)
	Optical Profile Grinder (1 unit)

MACHINE TYPES

CNC CHUCKER LATHE	CNC VERTICAL MILLING CENTRE	CNC AUTO LATHE
 • Miyano BNC-42	 • brother Brother Machine	 • Cincom A26 • Cincom A35 • Cincom A25 • Tsugami BO205 / BO203 • Tsugami L32 / L38 • Tsugami BO12 • Cincom A20 • Cincom L12 • Tsugami BO125

OUR STRENGTH

- ✓ High precision machining up to $\leq 5 \mu\text{m}$
- ✓ Wide diameter range from $\varnothing 2$ to 42 mm
- ✓ Diverse machine types for flexible production
- ✓ Integrated in-house tooling fabrication
- ✓ Advanced quality control & cleaning systems



HIGH PRECISION
Machine accuracy
up to $\leq 5 \mu\text{m}$



WIDE DIAMETER RANGE
From $\varnothing 2$ mm
to $\varnothing 42$ mm



ADVANCED EQUIPMENT
Modern CNC machines
for superior quality



INTEGRATED CAPABILITIES
From machining to tooling
fabrication & quality control

MACHINING EQUIPMENT INCLUDING SECONDARY OPERATIONS

INNO *Values*

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MACHINING EQUIPMENT LIST

NO.	MACHINE TYPE	UNITS	SPECIFICATION / CAPABILITY
1	Cincom A20-3F7C	157	Machining range : 3 mm ~ 26 mm
2	Cincom A20-3F7	27	Machining range : 3 mm ~ 26 mm
3	Cincom A20 VIIICL	77	Machining range : 3 mm ~ 26 mm
4	Tsugami BO203-II	6	Machining range : 3 mm ~ 20 mm
5	Tsugami BO205-II	8	Machining range : 3 mm ~ 20 mm
6	Tsugami BO205-III	10	Machining range : 3 mm ~ 20 mm
7	Cincom L12	10	Machining range : 3 mm ~ 12 mm
8	Tsugami BO125	10	Machining range : 3 mm ~ 12 mm
9	Cincom L32-1M8	20	Machining range : 3 mm ~ 38 mm
10	Cincom L32-2M7C	3	Machining range : 3 mm ~ 32 mm
11	Tsugami BO12C-V	5	Machining range : 3 mm ~ 12 mm
12	Miyano BNC42C5	5	Machining range : 5 mm ~ 42 mm
13	Tsugami BO205	5	Machining range : 3 mm ~ 20 mm
14	Palmary PC-12S	2	Machining range : 3 mm ~ 25 mm
15	Palmary PC-18S	1	Machining range : 3 mm ~ 25 mm
16	Paragon RC-12	3	Machining range : 3 mm ~ 25 mm
17	S-Type	9	Machining range : 3 mm ~ 25 mm
18	Ecoclean Machine	2	Washing line
19	Washing ICS-J231-E	2	Washing line
20	PASSIVATION	1	Passivation (Nitric & SurTec)
21	Brother (VMC)	1	Milling center
TOTAL		359	MACHINES

KEY MACHINES & SECONDARY EQUIPMENT

TSUGAMI

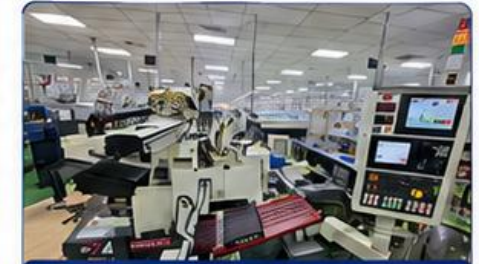


Tsugami

TSUGAMI



Tsugami



Centerless Grinding

Cincom



Cincom

Miyano



Miyano



ECO-CLEAN

Cincom



Cincom

HYDRO CARBON



HYDRO-CARBON



WIDE MACHINING RANGE

From Ø 3 mm
to Ø 42 mm



HIGH PRECISION

Tight machining tolerance
up to ± 0.005 mm



COMPREHENSIVE CAPABILITIES

Machining, grinding, washing,
passivation & milling



QUALITY ASSURANCE

Advanced equipment for
consistent quality



TOTAL MACHINES

359
(Including secondary
operations)

INSPECTION & MEASURING EQUIPMENT

Advanced inspection & testing equipment to ensure accuracy, consistency & quality

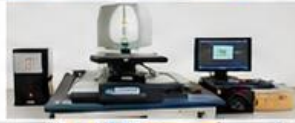
INNO *Values*

Precision • Quality • Trust

DIMENSIONAL INSPECTION EQUIPMENT

Equipment Name	Units	Equipment / Model	Photo
 2D KEYENCE MICROSCOPE	13	• 2D Micrometer : TM-040 • 2D Micrometer : TM-065 • 2D Micrometer : TM-X5065 / X5000 • 2D Micrometer : TM-X5040 / X5000	
 3D KEYENCE MICROSCOPE	3	• IM-6225 Image Dimension System • IM-6225T Image Dimension System • IM-7020 Image Dimension System	
 ROUNDNESS TESTER	1	Roundness Tester Extreme RA-2200 CNC Brand : Mitutoyo	
 ROUGHNESS TESTER	2	• Surface Texture Measuring Instrument (Roughness Tester) Brand : Accretech • Roughness Tester SJ-411 / 178-561-11E (Surface Roughness Tester) Brand : Mitutoyo	

SPECIAL PURPOSE & SURFACE INSPECTION EQUIPMENT

Equipment Name	Units	Equipment / Model	Photo
 CMM	3	• Coordinate Measuring Machine (CMM 1) (Brown&Sharpe) • Coordinate Measuring Machine (CMM 2) Xoptuk 55 (WENZEL) • Coordinate Measuring Machine (CMM 3) XO55-700 CNC Premium (WENZEL)	
 PROFILE PROJECTOR (Spectra 14B Micro-VU)	3	Profile Projector Spectra 14B Micro-VU	
 SMART SCOPE	1	Micro-VU Optical Comparator Vertex 251UT Brand : Micro-VU	
 SURFCOM	2	Surface Texture and Contour Analysis Integrated Measuring Instrument (Surfcom 1800G) Brand : Accretech	
 HARDNESS TESTER	2	• Vickers Hardness Tester VH-1223-110V • Rockwell Hardness Tester Range 0-90 HRC	
 ROUNDCOM TESTER	1	Roundcom 41C Brand : Accretech	

TOTAL 31 UNITS



HIGH ACCURACY
Ensuring precision at every stage



ADVANCED TECHNOLOGY
Modern inspection systems for reliable measurement



COMPLETE COVERAGE
Dimensional, surface & hardness inspection



TRACEABILITY
100% traceable & well documented



QUALITY ASSURANCE
Zero defect delivery is our commitment



EXPERIENCED TEAM
Skilled inspectors & continuous training



Precision • Quality • Trust

INNOValues Precision (Thailand) Ltd.

QUALITY EXCELLENCE THROUGH DIGITAL TRANSFORMATION

From Precision Manufacturing to **AI-Powered**
Smart Quality Assurance



**MANUAL
INSPECTION**
Human Dependent



**DIGITAL
INSPECTION**
Data Driven • Real-Time



**AI-POWERED
SMART QUALITY**
Predictive • Intelligent • Autonomous

OUR JOURNEY



12
Advanced AOI
Inspection Systems



100%
Dimension & Visual
Inspection Coverage



In-House Automation
& Smart Manufacturing
Solutions



Real-Time Quality
Monitoring &
Traceability



AI-Driven Inspection &
Predictive Quality
Analytics



Award-Winning Quality
Performance Recognized
by Global Customers

ZERO DEFECT • ZERO ESCAPE • ZERO COMPROMISE



Driving the Future of Manufacturing Through **Automation, Digitalization & Intelligent Quality Assurance**



Precision
in Every Detail



Quality
in Every Process



Trust
in Every Partnership



Innovation
for a Better Tomorrow

ADVANCED AOI INSPECTION EQUIPMENT

12 AOI Systems | 6 for Automotive Components • 6 for Sensor Components

INNOValues

Precision • Quality • Trust



12
AOI SYSTEMS



100%
DIMENSION
INSPECTION



100%
VISUAL
INSPECTION



LPC
QUALIFIED
BY HILITE



**IN-HOUSE
AUTOMATION**

1 DIMENSIONAL & VISUAL INSPECTION

12 AOI SYSTEMS

(6 Units Automotive | 6 Units Sensor)

HIGH PRECISION
MEASUREMENT

MICRON LEVEL
ACCURACY

DEFECT
DETECTION

EDGE & SURFACE
INSPECTION

MULTI DIMENSION INSPECTION KEYENCE 2D/3D SYSTEMS



100% VISUAL
INSPECTION



MULTI DIMENSION
MEASUREMENT



REAL TIME
OK/NG



REDUCED HUMAN
DEPENDENCY

2 QUALITY LABORATORY

LABORATORY CAPABILITIES

Metallurgical
Analysis
Coercivity, pH Curve



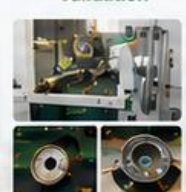
Microscope
Inspection



Hardness
Verification



Surface Treatment
Validation



ADVANCED METROLOGY CAPABILITIES

CMM
Coordinate Measuring Machine



Roundcom
Roundness Tester

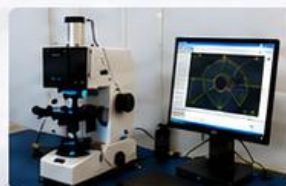


Gear Measuring Tester
Gear & Spline Analysis



3 CLEANLINESS VALIDATION

CLEANLINESS LPC TEST (FILTREX SYSTEM)



- 1 Flush the 2 samples, outside and inside of the parts
- 2 Remove the membrane filter
- 3 Dry and transfer the filter, membrane onto glass slide
- 4 Select the cleanliness test file and place the filter under the Filtrex Microscope. The equipment automatically reads the grid area under the filter and transfer the data into the database
- 5 Test disposition & report generated

TRAINED & QUALIFIED TEAM



SKILLED
EXPERTS



STANDARDIZED
PROCESSES



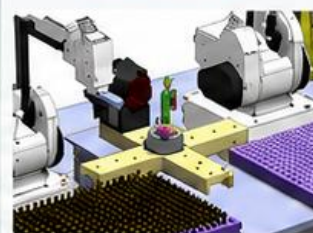
ONGOING
TRAINING

01

IN-HOUSE DESIGN & FABRICATION

CUSTOM SOLUTIONS
BUILT FOR QUALITY

ROTARY JIG 360°



- ✓ Custom Automation Design
- ✓ In-House Fabrication
- ✓ Fast Deployment
- ✓ Cost Effective Solutions



02

AUTOMATED PRODUCTION IMPLEMENTATION

ENHANCED EFFICIENCY
CONSISTENT QUALITY

AUTO LOADING – UNLOADING FOR GRINDING OPERATING

In-Feed Grinding Machine



- ✓ Thru Feed Grinding Machine
- ✓ In-Feed Grinding Machine
- ✓ Reduced Operator Handling
- ✓ Improved Consistency
- ✓ Enhanced Productivity

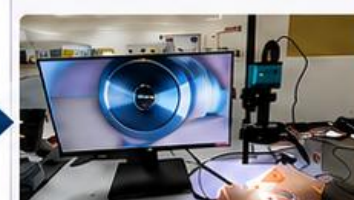


03

DIGITAL QUALITY & FUTURE READY

INTELLIGENT MONITORING
AI-POWERED QUALITY

SMART INSPECTION & DIGITAL MONITORING



- ✓ 100% Dimensional Inspection
- ✓ 100% Visual Inspection
- ✓ Real-Time Data Monitoring
- ✓ AI Vision Inspection
- ✓ Predictive Quality Analytics



OUR SMART MANUFACTURING BENEFITS



HIGHER
QUALITY

Consistent & Reliable
Process



FASTER
RESPONSE

Quick Changeover
& Delivery



LOWER
COST

Cost Reduction
& Efficiency



REDUCED
RISK

Zero Escape
Zero Recall



BETTER
TRACEABILITY

Full Data Tracking
& Transparency



STRONGER
PARTNERSHIP

Growing Together
for the Future



12
AOI SYSTEMS

6 Automotive + 6 Sensor



100%
INSPECTION COVERAGE

Dimension + Visual



LPC CLEANLINESS TEST
QUALIFIED BY FILTREX

Reliable & Traceable



REAL-TIME QUALITY
VERIFICATION

Data Driven • Zero Escape

DELIVERING PRECISION THROUGH AUTOMATION, DIGITALIZATION & INTELLIGENT QUALITY ASSURANCE



INNOVATE
CONTINUOUSLY



AUTOMATE
INTELLIGENTLY



INSPECT
ACCURATELY



IMPROVE
RELENTLESSLY



DELIVER
EXCELLENCE

ZERO DEFECT • ZERO ESCAPE • ZERO COMPROMISE • QUALITY YOU CAN TRUST

Quality Excellence Roadmap | Continuous Improvement Journey

From Manual Inspection to AI-Powered Smart Quality Management



100%
Inspection Coverage



Real-Time
Quality Monitoring



Reduced
Human Dependency



Zero DPPM
Our Ultimate Target

01

Y 2022
BASELINE

DIMENSIONAL INSPECTION



Manual Inspection

- Multiple measuring instruments
- Time-consuming process
- High manpower utilization
- One dimension at a time
- Risk of human error & fatigue
- Low inspection frequency

Challenge: High error risk • Slow throughput • Labor intensive

VISUAL INSPECTION



Offline Visual Check

120 min / 45 mc

Fully manual • High risk of missed defects

OFFLINE VISUAL INSPECTION



Quality Checking
120 Min / 45 mc

02

Y 2023–2025
TRANSFORMATION

DIMENSIONAL INSPECTION



2D Keyence Systems

- Installed at every machine zone
- Multi-dimension in seconds
- Higher inspection frequency
- Improved productivity
- Reduced manpower dependency
- Real-time data capture

✓ 2D Factor Measurement • Real-time OK/NG • Zero missed dimensions

VISUAL INSPECTION UPGRADE



Online Inline Check

- ✓ 60 min / 45 mc
- ✓ 100% Predictivity
- ✓ Go / No Go

ONLINE VISUAL INSPECTION



Quality Checking
60 Min / 45 mc

Faster • Smarter • More Accurate

03

Y 2026–2027
AI-DRIVEN FUTURE

ALGORITHM SMART QUALITY MANAGEMENT

HIGH-RESOLUTION DIGITAL MICROSCOPIC INSPECTION

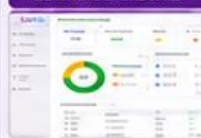


2026–2027 Future Vision

- 2D Keyence + CMM data integrated with MES
- AI-powered analytics, quality analysis & predictive alerts
- AI-assisted inspection with final judgement by qualified personnel
- Zero DPPM target through intelligent automation

DIGITAL EVOLUTION – AI INSPECTION PLATFORM

REAL-TIME DASHBOARD



MOBILE MONITORING



AI INSIGHT REPORT



ALERT & NOTIFICATION



Real-time Data



Smart Analytics



Predictive Quality



Traceability



Paperless System



Secure & Scalable



SUSTAINABLE QUALITY

- ✓ Zero DPPM Target
- ✓ Data-Driven Decisions
- ✓ Customer Confidence



OUR COMMITMENT

We don't just inspect.
We elevate quality for a better tomorrow.



Higher Quality
Defect Prevention



Faster Delivery
Shorter Lead Time



Cost Efficiency
Lower COPQ



Greater Confidence
Stronger Partnership

DELIVERING VALUE THAT MATTERS

FROM FOUNDATION TO INTELLIGENCE

Y 2022

Foundation

Y 2023–2025

Transformation

Y 2026–2027

Intelligence





44%

CARB Incidents Reduced
2023 vs 2024



ZERO

Gets Better / Quality Spill
Y2024



<14

Days D8 Cycle Time
(Best Response)



SQIP

Successfully Met the Target
in SQIP Program



0

DPPM Target
2026–2027 Goal



**HILITE INTERNATIONAL –
BEST IMPROVED SUPPLIER AWARD**



**最佳进步供应商
BEST IMPROVED SUPPLIER • Y2023**



SENSATA – VOICE OF CUSTOMER • SCORECARD 2024



INNOValues Precision (Thailand) Ltd.
demonstrates strong commitment to quality and continuous improvement.
Your performance contributes to our success, and we look forward to growing together.



44% reduction in CARB Incidents (vs 2023)
Good achievements & on right track to ZERO!



Zero gets better & quality spill
Zero COD impact – Holds quality issue



D8 cycle time < 14 days
IPT team improved problem solving & fast response



No quality issue in Q4
System improvement actions proven effective



Entered SQIP Program
Thanks to all management & employee hard work!



EXCELLENT SUPPLIER RECOGNITION & CONFIDENCE

Excellent Supplier

Innovalues Holding Pte Ltd.

From Hilite 优秀供应商 Excellent Supplier
Y2025



**Awarded by Hilite International Asia –
Supplier Excellence Conference Y2025**



OUR COMMITMENT:



Zero Defect



Zero Escape



Zero Compromise



Growing Together with Our Customers for a Better Future



COMPLETE SOLUTIONS. IN-HOUSE STRENGTH.

One Partner. End-to-End Capabilities.

INNOValues Thailand delivers full in-house capabilities from tooling design and fabrication to advanced surface treatment and heat treatment, supported by automation and precision manufacturing.

Your Complete Solution Partner.



TOOLING DESIGN & FABRICATION

In-house design and fabrication of high precision cutting tools tailored to your applications.



SURFACE TREATMENT

Advanced surface treatment enhances performance, durability and tool life.



HEAT TREATMENT

Precise heat treatment ensures optimal hardness, strength and reliability.



DESIGN AUTOMATION & FABRICATE

Smart automation and fabrication for higher accuracy, productivity and consistency.



COMPLETE SOLUTION

End-to-end in-house capabilities that deliver quality, efficiency and long-term value.



COMPLETE IN-HOUSE CAPABILITIES

All key processes under one roof



HIGH PRECISION & QUALITY

Consistent results you can trust



FASTER LEAD TIME

From design to delivery



CUSTOMER FOCUSED

Tailored solutions for your success

CUTTING TOOL FABRICATION FACILITIES

Advanced Grinding Solutions for High Precision & Superior Tool Performance

INNO *Values*
Precision • Quality • Trust



ROTATIONALLY SYMMETRICAL TOOLS GRINDING MACHINE



APPLICATION

- Grinding of rotationally symmetrical tools with diameters ranging from 0.1 to 12.7 mm (reductions) and 3 to 12.7 mm (regrinding)
- Fully automated, complete machining with only a single clamping cycle
- Materials include HSS, carbide, cermet, ceramic



HIGH PRECISION

Ensures consistent diameter and profile accuracy



FULLY AUTOMATED

Single clamping for complete machining



WIDE APPLICATION

Supports multiple materials and tool geometries



OPTICAL PROFILE GRINDER MACHINE



KEY INNOVATIONS

- Linear motor hoist
- Front relief and side relief motor drive specifications
- Smart loupe (PAT.P), Built-in camera (PAT.P)
- Seamless grinding function
- On-machine CAM
- Pneumatic static pressure spindle



PRECISE PROFILE CONTROL

Achieves accurate and consistent tool profiles



SMART TECHNOLOGY

Advanced features for higher productivity



SUPERIOR SURFACE FINISH

Better edge quality and extended tool life



HIGH ACCURACY

Micron-level precision



ADVANCED AUTOMATION

High productivity with minimal manual intervention



VERSATILE SOLUTIONS

Wide range of tool types and materials



CONSISTENT QUALITY

Reliable performance in every tool



ENHANCED TOOL LIFE

Superior edge quality for longer tool life

IN-HOUSE DEVELOPMENT

Custom Tooling for Superior Precision, Consistency & Performance

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IN-HOUSE TOOLING FABRICATION



Able to customize the cutting tool as per product / process requirement, more suitable than standard tool

ROTATIONALLY SYMMETRICAL TOOLS GRINDING MACHINE



High Precision
Consistent tool accuracy



Wide Range
From small to complex tools



High Quality
Better tool life & performance



Cost Efficient
Faster development & lower cost

OPTICAL PROFILE GRINDER MACHINE



Precise Profile
Accurate and consistent profiles



Advanced Features
Smart technology for higher productivity



Superior Finish
Better edge quality & tool life



Reliable Performance
Stable, repeatable & efficient

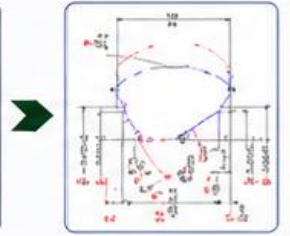


CAPABILITIES



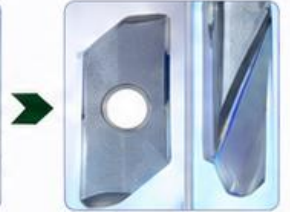
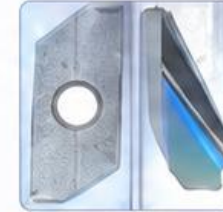
FORMING INSERT DESIGNING

In-house design to meet specific part geometry and performance requirements.



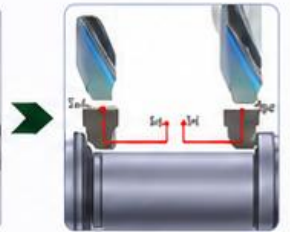
FABRICATE FORMING INSERT

Precision fabrication of custom forming inserts for accurate profile control.



USING FORMING INSERTS AS TURNING PROCESS

Custom inserts used in turning process to achieve the required part profile with high consistency.



CUSTOMIZED SOLUTIONS

Tools built for your specific part and process



HIGHER PRECISION

Improved accuracy for better part quality



BETTER PERFORMANCE

Enhanced tool life and process stability



FASTER DEVELOPMENT

Reduced lead time with in-house expertise



COST ADVANTAGE

Lower tooling cost with optimized efficiency

SURFACE TREATMENT FACILITIES

Advanced in-house surface treatment solutions for superior quality and reliability

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PASSIVATION



CAPACITY
800K
pcs / Month



PROCESS

Passivation for the stainless steel according to the standard ASTM-A967-05 and as per the section 1.4



ENSURING CORROSION RESISTANCE

Enhances durability and extends product life



HIGH QUALITY

Consistent and reliable surface treatment



PRECISE CONTROL

Process parameters monitored for accuracy



HIGH CAPACITY

Designed for high volume production



STANDARD COMPLIANCE

Meets international industry standards



CUSTOMER TRUST

Quality you can rely on, every time



OVAN BAKING



CAPACITY
2,080
K / Month



PROCESS

H900 & H1150 H/T



CONSISTENT HEAT TREATMENT

Delivers uniform results and reliable performance

SURFACE TREATMENT & HEAT TREATMENT CAPABILITIES

Advanced in-house solutions for superior strength, durability & reliability of precision components

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GAS NITRIDING & NITROCARBURIZING FACILITY



CAPACITY

4 FURNACES

27,000 – 60,000 pcs/day

PROCESSES



Gas Soft Nitriding (GSN)



Gas Nitrocarburizing (GNC)



Stress Relieving

COMPONENTS PROCESSED IN-HOUSE



VACUUM HEAT TREATMENT FACILITY



CAPACITY

1 VACUUM FURNACE

- Large Parts : 380 pcs/day
- Small Parts : 10,000 pcs/day

PROCESSES



Vacuum Heat Treatment



Vacuum Quenching



Tempering

HEAT TREATMENT EXCELLENCE DELIVERING HIGHER PERFORMANCE



5

HEAT TREATMENT
FURNACES

Robust in-house capacity



GSN / GNC /
VACUUM HT

Multiple proven
process technologies



UP TO

60,000

PCS/DAY CAPACITY

High volume, on-time delivery



CONTROLLED
HARDNESS &
METALLURGY

Consistent & repeatable quality



AUTOMOTIVE
GRADE PROCESS
CONTROL

Reliable. Durable. Proven.

SURFACE TREATMENT INSPECTION EQUIPMENT

Advanced Inspection Equipment for Precise Quality Assurance

EQUIPMENT DETAILS

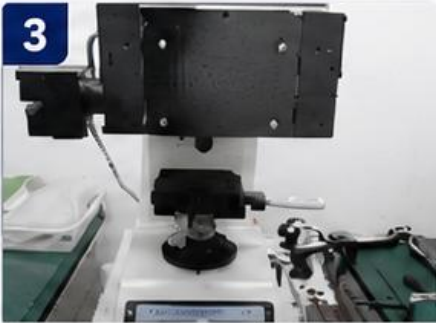
S No.	INSTRUMENT	BRAND	Q'TY
1	Cutting M/C	Trojan	1
2	Molding Machine	Trojan	1
3	Vickers Hardness Tester	McVision VH-1	1
4	Microscope	Metrology	1
5	Polishing M/C	Trojan	1
6	Belt Grinding M/C	Trojan	1



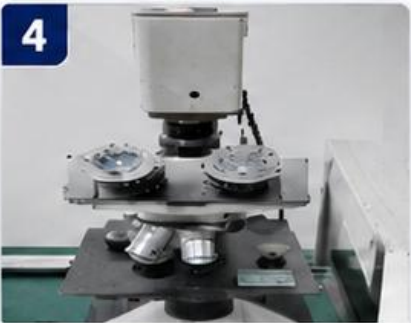
Cutting Machine
Precision cutting for sample preparation



Molding Machine
Consistent molding for accurate inspection



Vickers Hardness Tester
Accurate hardness measurement for material verification



Microscope
High magnification inspection for microstructure analysis



Polishing Machine
Mirror-like surface preparation for precise analysis



Belt Grinding Machine
Reliable grinding for sample surface finishing



HIGH ACCURACY INSPECTION
Precise & repeatable measurement



RELIABLE PERFORMANCE
Advanced equipment for consistent results



COMPLETE ANALYSIS
From sample preparation to final verification



QUALITY ASSURANCE
Ensuring material integrity & process reliability



CUSTOMER CONFIDENCE
Delivering zero defect quality consistently

IN-HOUSE DEVELOPMENT

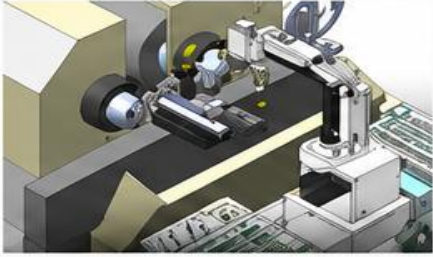
Complete In-House Capability from Automation to Design & Fabrication

INNO *Values*

Precision • Quality • Trust

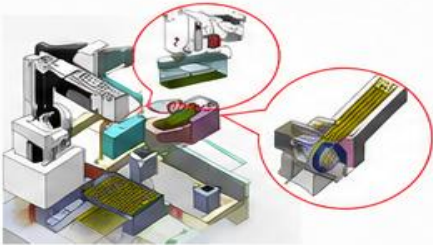


IN-HOUSE AUTOMATION



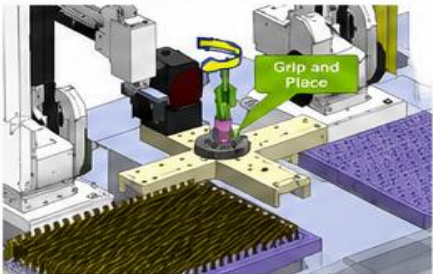
Handling magnesium insert handling

Dedicated system for accurate picking and placement



Rotary table system

High precision indexing for multi-station operations with zero misalignment



Vision guided component handling

Vision-based alignment and gripper handling for reliable part transfer

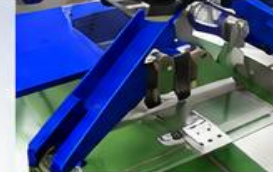


DESIGN AND FABRICATION



Housing magnet robot loading Grinding DG 8100

Orienting bowl & EOAT



Slide part box Mini auto buffing

Smooth part flow & zero sticking



Gripper new project Unload DG 8100

Precision straightening & unloading



Gripper robot loading Flux tube 8506

Robotic handling for nut neck transfer



Stopper slide part Mini auto buffing

Accurate sleeve transfer with air actuation



Jig support robot loading Flux tube 8506

High-speed magazine loading system



Gripper robot unloading DQ 8100

Automated chip removal for clean operation



Gripper Auto buffing2 DQ 8100

Consistent and uniform surface finishing



Housing magnet AOI pole plug

Magnet handling for chip separation

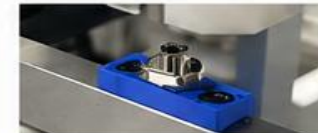
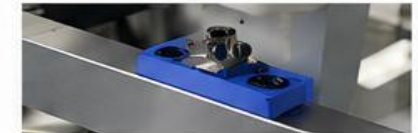


Plate housing AOI Mando, Mobis

Reliable housing handling with precise positioning



Probe handling AOI Handle Alpha

Automated probe handling for high accuracy



100% IN-HOUSE DEVELOPMENT
End-to-end capability from concept to implementation



CUSTOM DESIGN EXPERTISE
Solutions built for your specific requirements



HIGH PRECISION AUTOMATION
Ensures accuracy, repeatability & productivity



RELIABLE & ROBUST SOLUTIONS
Built for continuous performance



REDUCED CYCLE TIME & HIGHER EFFICIENCY
Optimized systems for better throughput

IN-HOUSE DEVELOPMENT

End-to-end in-house capability from Automation to Implementation

INNO *Values*
Precision • Quality • Trust



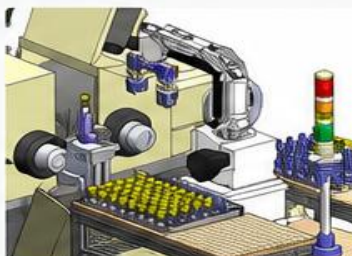
IN-HOUSE AUTOMATION

AUTO LOADING - UNLOADING FOR GRINDING OPERATION

IN-FEED GRINDING MACHINE



In-feed system design

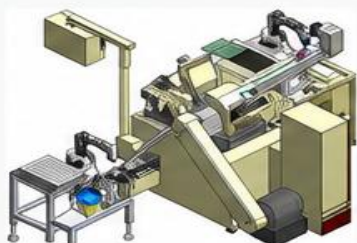


Robot pick & place to grinding machine



In-feed implementation with auto loading

THRU FEED GRINDING MACHINE



Thru-feed system design



Workpiece transfer with high accuracy



Thru-feed implementation with auto unloading



HIGH ACCURACY
Consistent loading / unloading precision



HIGH PRODUCTIVITY
Reduced cycle time & increased throughput



RELIABLE OPERATION
Stable automation with minimum downtime

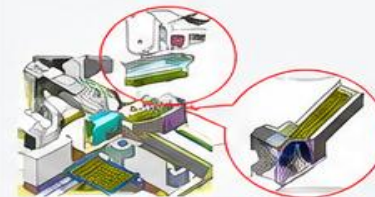


FLEXIBLE SOLUTION
Custom designed for various part types

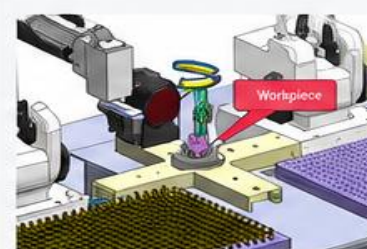


IMPLEMENTATION

ROTARY TABLE INDEXING SYSTEM



SYSTEM INTEGRATION & CONTROL



COMPLETE IN-HOUSE CAPABILITY
Design, build, integrate & implement



CUSTOM AUTOMATION SOLUTIONS
Tailored to your processes & parts



FAST IMPLEMENTATION
Short lead time & smooth integration



DELIVERING REAL VALUE
Higher efficiency, lower cost & sustainable results



From Precision
to **Perfection**



PROCESS **FLOW**

A seamless journey of **precision, quality** and **care** at every step.



PRECISION
Engineered
with Accuracy



QUALITY
Built on
Excellence



RELIABILITY
You Can
Count On



COMMITMENT
Driven by
Customer Success

GENERAL PROCESS FLOW

End-to-end surface treatment & precision grinding – From incoming inspection to final shipment

INNO *Values*

Precision • Quality • Trust



OUR COMMITMENT TO YOU

CONSISTENT QUALITY

100% inspection ensures zero compromise on quality.

PRECISION ENGINEERING

Advanced machines and skilled experts deliver high precision.

RELIABILITY YOU CAN TRUST

A proven process that ensures on-time delivery every time.

SURFACE PROTECTION

Anti-rust treatment ensures long-lasting performance.

CUSTOMER SATISFACTION

Your success is our priority at every step.



THANK YOU