

**WELCOME TO MPLEX**

Year 2024

**Mplex**

*Your satisfaction always our pride*



# We Are...



- **Today 22 years** since established in 2002
- Started as general supplies trader, to designing, fabricating & commissioning **Specialised Mixing- Automation System**
- Supplied to the Semicon, Pharmaceutical, Chemical, Energy, E&E and Media industries
- Awarded **patent** for Chemical Mixing System (2017)
- Obtained **Pioneer Status** since 2021
- ISO 9001 certified
- A LMW licensed company



# Vision, Mission, and Values

Your satisfaction always our pride

**Vision:** To be the globally trusted leader in cutting-edge automation for our customers

**Mission:** Empowering customers with innovative, reliable, and cost-effective automation solutions that enhance efficiency, unleash creativity, and accelerate growth

**Values: BOLEH!**

- **Breakthrough** – Believe in the power of innovation and the courage to challenge the status quo
- **Operational Excellence** – Continuously drive improvement, deliver exceptional quality, and set high standards in everything we do
- **Leadership** – Foster an environment where optimism, collaboration, and a constructive mindset are the driving forces behind our leadership
- **Enchanting customers** – Build lasting relationships, earn trust, and be the brand that consistently delights the customers we serve
- **Have fun** - Cultivate a dynamic and engaging workplace that encourages a healthy work-life balance

# The Leadership Team

Effective and interdisciplinary teamwork



**Dr. Vincent Ang**  
Managing Director

Founder of the company  
Doctorate Degree in Business Administration  
More than 20 years of experience in chemical engineering industry

**Loh Lin Lin**  
Finance Manager

More than 20 years of experience with extensive knowledge of auditing, accounting and payroll processes.  
She holds a degree in Business IT and is well-equipped to handle all aspects of financial management.

**Alan Lim**  
Sr. General Manager

More than 25 years of global experience.  
He holds a Master's degree in Electrical Engineering and has authored 11 technical publications in control engineering, automation solutions, and factory continuous improvement & optimization.

**Andrew Ang**  
Ops General Manager

More than 15 years of experience in the business world.  
He has a Master of Business Administration and is knowledgeable in business applications, sales development, documentation as well as operation management.

**MK Ung**  
Eng. & R&D Director

More than 20 years of experience in the engineering design and manufacturing field.  
He is knowledgeable in variety of instrumental, control system, programming, circuit design and simulation.

**KB Ong**  
Engineering Manager

More than 20 years of experience in the Automation field.  
Expert in mechanical design and production processes.  
He has been a driving force in developing new and innovative ways to streamline manufacturing.

**Mohd. Azwani**  
Asst. Eng. Manager

Excels in mechatronics with specializations in PLC programming and circuit design. His proficiency in automation processes, robotics, and system integration amplifies his capacity to effectively lead a team of engineers under his guidance.

**Norliza**  
Branch Manager

With over 10 years of professional experience in engineering design, production processes, and the manufacturing field, she holds a degree in mechanical design.

# Strategic Partners



*Channel Partner*



*Authorised Partner*



*Asia Pacific Authorized Dealer*



*System Integrator & Certified Excellence*



*AI Partner*



*Software Partner*



*Cloud Computing Partner*



# Members of Alliances



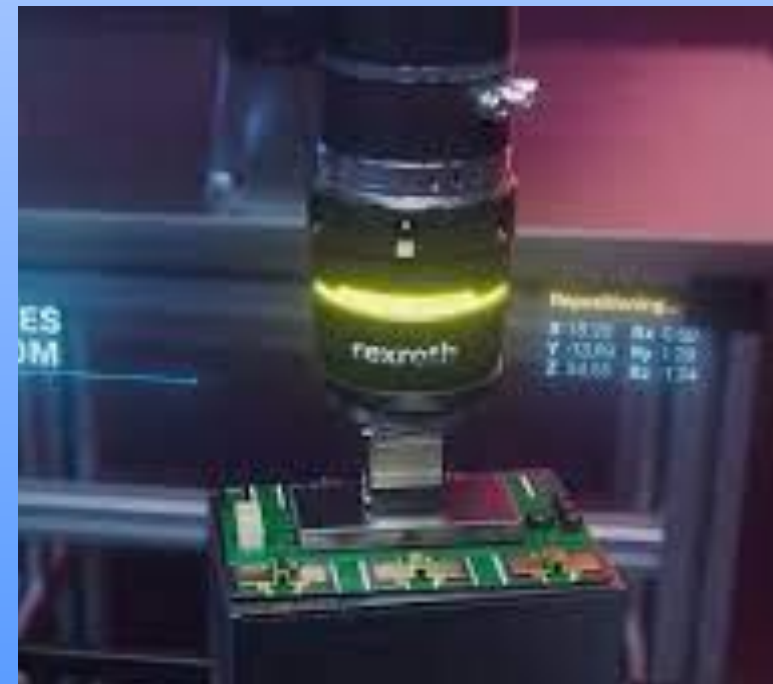
*Value Industry Partner*



# Our Core Products & Services



Chemical Automation



Smart Manufacturing Line



Industry 4.0



Services

# MPLEX Roles in Chemical Automation

Your one stop shop for chemical automation solutions

- 1 FLUID & CHEMICAL HANDLING EXPERT**  
Niche problem solver, we're here to help you succeed
- 2 WE UNDERSTAND CONTAMINATION**  
Clean room application and high purity
- 3 TAILOR-MADE SOLUTIONS**  
Ultimately serving specific needs
- 4 HOLISTIC SOLUTIONS**  
Complete systems that address all aspects of your needs





# Niche Application Provider

We specialize in designing, manufacturing, and installing industrial fluid control systems

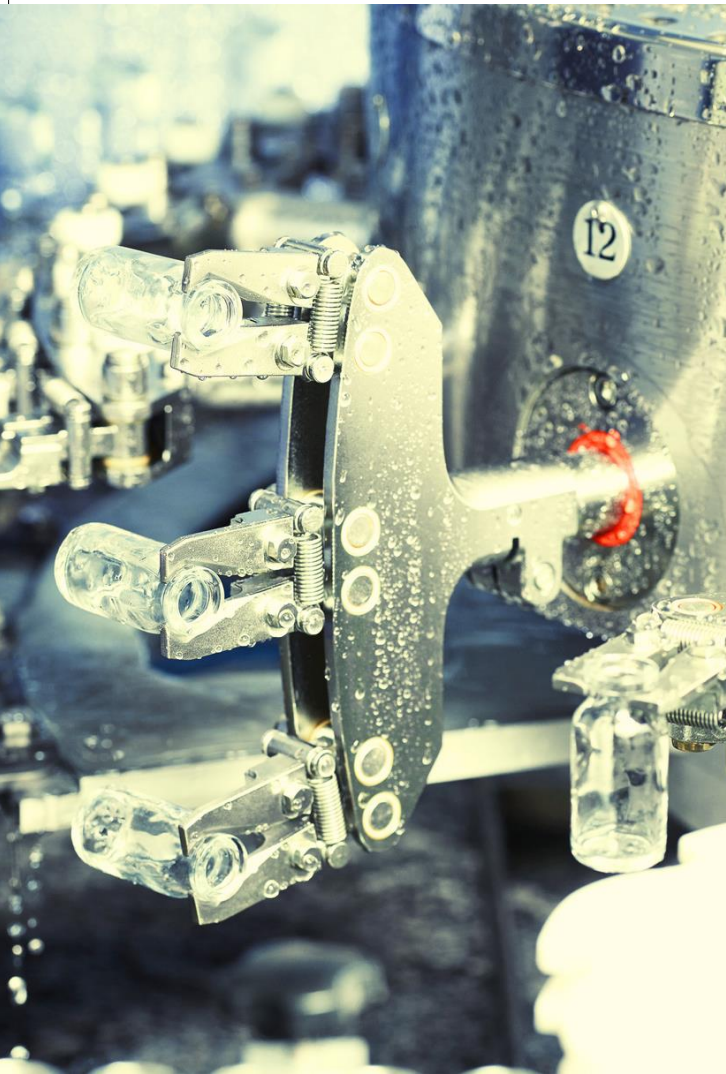
1

MIXING



2

CLEANING



3

SPRAYING



4

DISPENSING



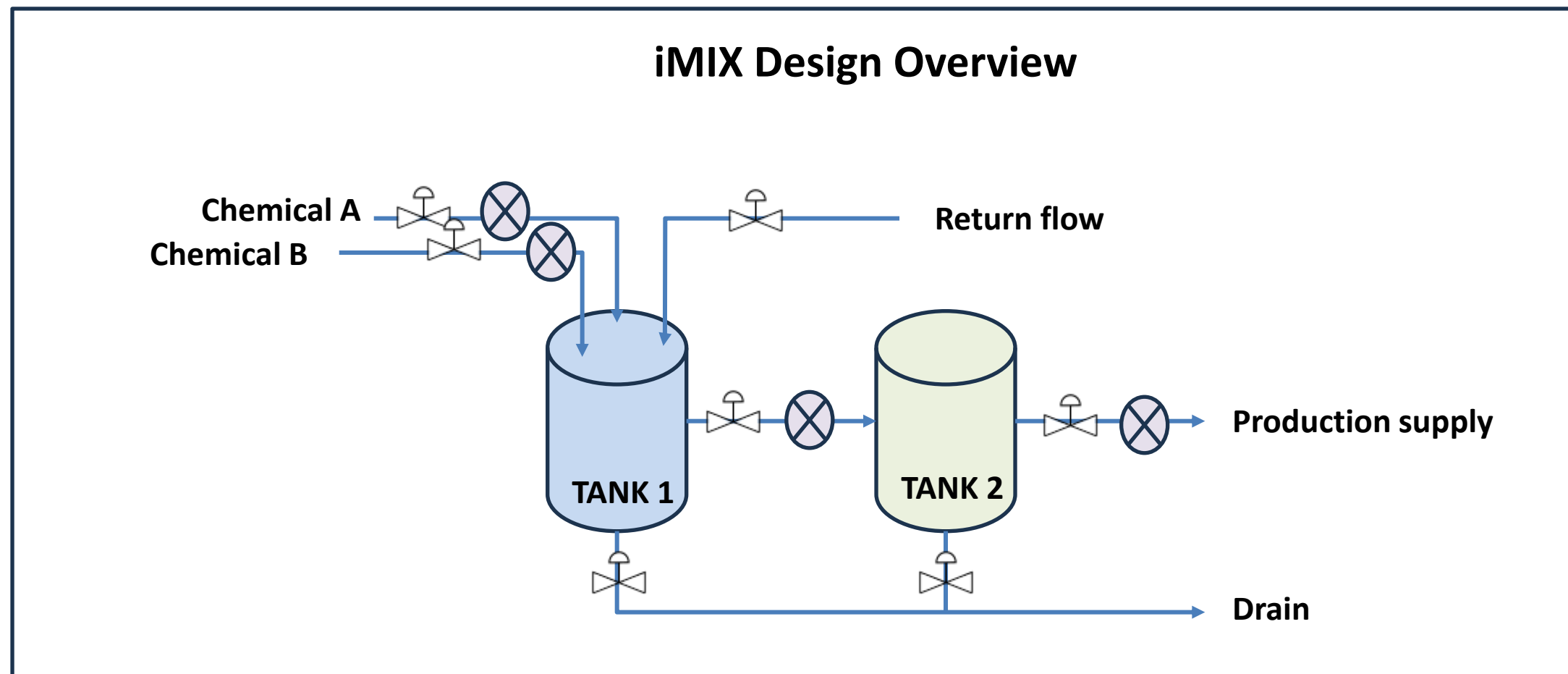
5

DISTRIBUTION



# Chemical Mixing Design & Use Cases (iMIX Series)

Patented chemical mixing system with un-paralleled performance



	MIXING PERFORMANCE	MPLEX DESIGN	CONVENTIONAL DESIGN
1	Power consumption	0.06 kwh/day	25 kwh/day
2	Homogeneity	Excellent (CV 1-5%)	Good (CV 5-10%)
3	Proportioning Accuracy	> 99%	Continuous mixer: 90-95%

## Used Chemical

### Examples:

- Hydrofluoric Acid (HF)
- Potassium Hydroxide (KOH)
- Sodium Hydroxide (NaOH)
- Cadmium Chloride (CdCl<sub>2</sub>)
- Isopropyl Alcohol (IPA)
- HPMC Gel
- HNO<sub>3</sub>
- Trichloroethylene (TCE)
- Liquinox
- Mint Paste
- Regime
- Coloring
- DI Water

# Products – iMIX Series (2007 – 2024)

Proven solutions for chemical processes



E&E Industry – Media Mfg



E&E Industry – Solar Mfg



Medical Industry



E&E Industry – Memory Mfg



E&E Industry – Wafer Mfg



E&E Industry – Memory Mfg

# iMIX Series – Pioneering Solutions for a Global Market



 **United States**

 **China**

 **Germany**

 **South Korea**

 **India**

 **Japan**

 **Philippines**

 **Malaysia**

 **Thailand**

 **Singapore**

 **Australia**

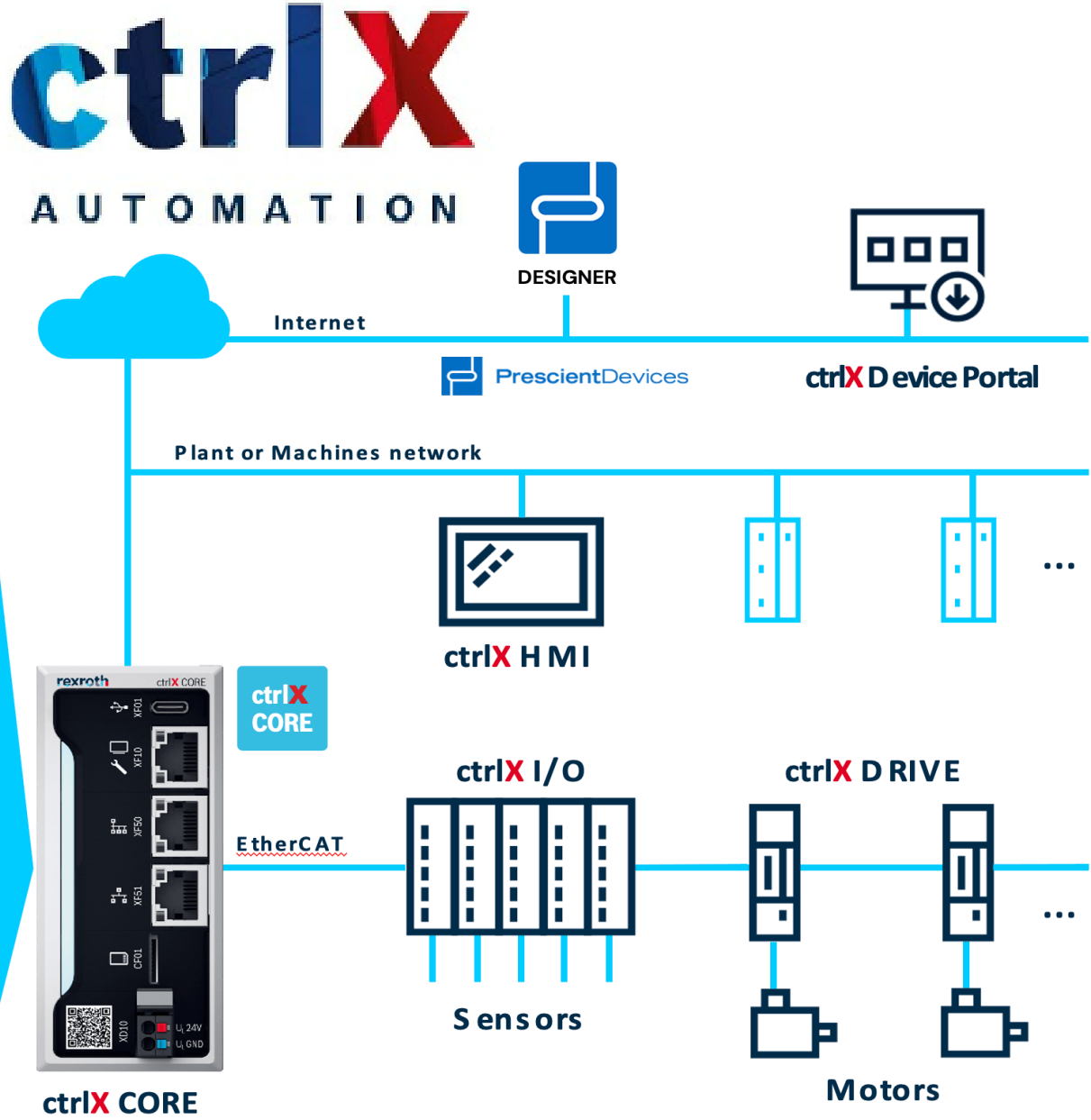
# SMART MANUFACTURING LINE (SML)



# SML Automation Design Framework

Unlock limitless possibilities with open architecture

- ctrlX CORE Apps**
- ctrlX PLC & COM**
  - PLC
  - Ether CAT
  - OPC UA
- ctrlX HMI**
  - Web HMI
- User APP**
  - Data Layer
  - EDGE
- ctrlX IOT**
  - IoT Gateway
  - VPN
  - Firewall



# SML Automation Design Framework

Unlock limitless possibilities with open architecture



**Kassow Robots**

**Cobots with 7 axes**

Example: SFK-H with Smart Flex Effector (SFE)  
by Rexroth and gripper (Schunk)



**Smart Function Kit**



**Dual End Effector**



**WELDING**



**PACKAGING & PALLETIZING**



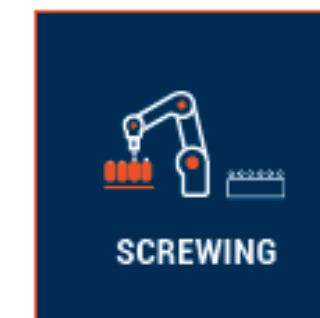
**CNC & MACHINE TENDING**



**PICK & PLACE**



**QUALITY INSPECTION**



**SCREWING**



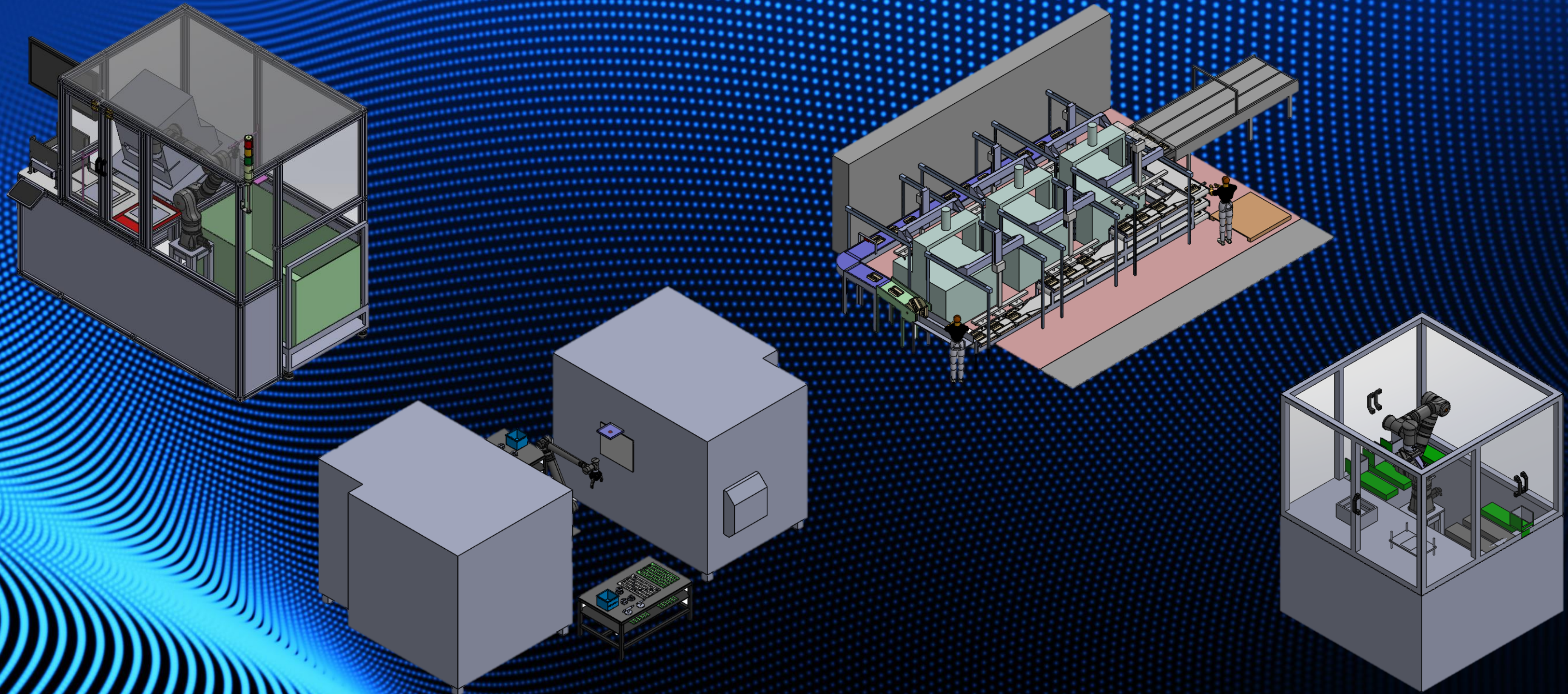
**LABELLING**



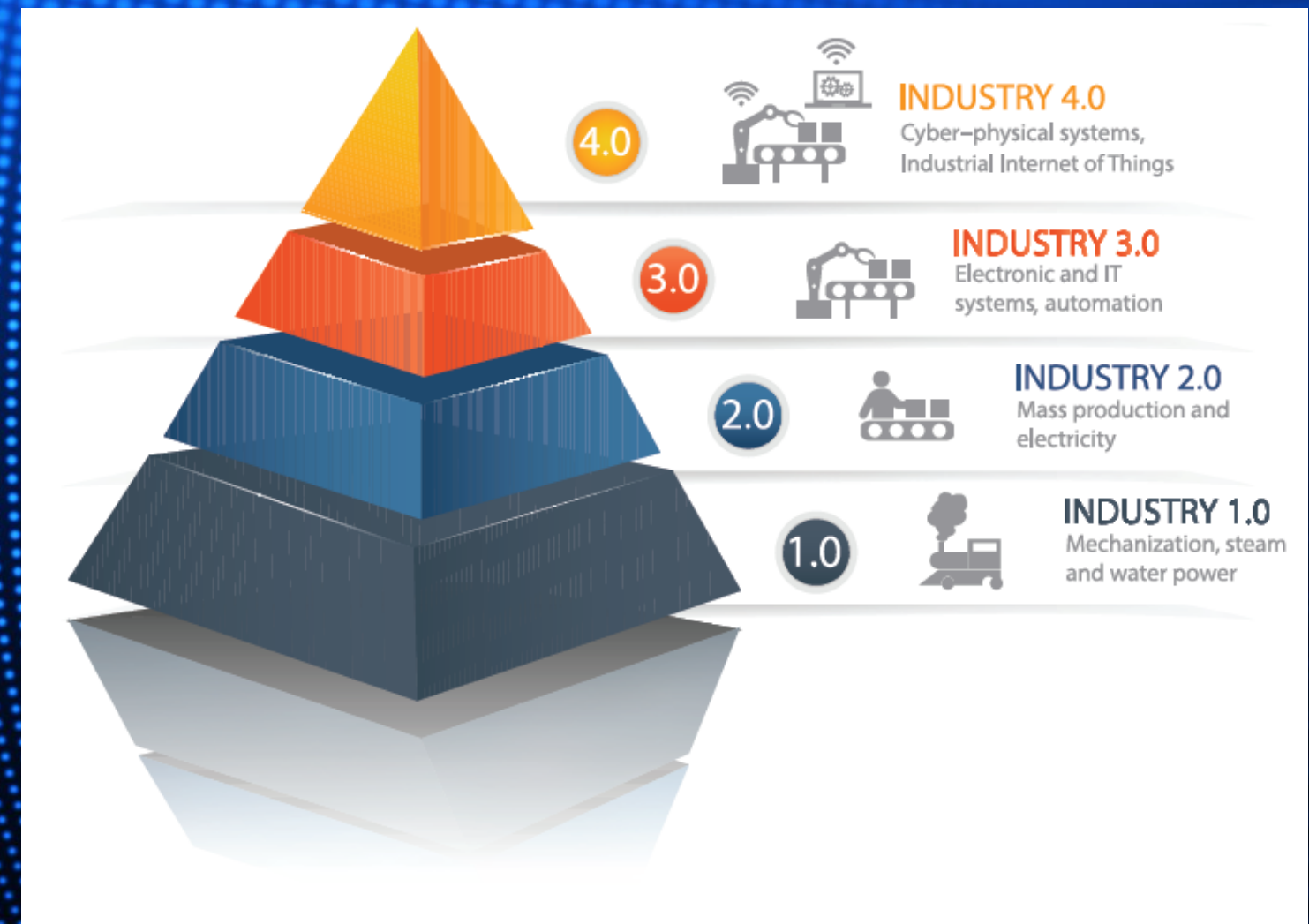
**DISPENSING**

# SML Customer Enquiries

Boost your line efficiency, not your workload







# INDUSTRY 4.0/ INTERNET OF THINGS (IoT)

# Industry 4.0/ IoT (Internet of Things)

Power workplace of the future: a hub of efficiency, productivity, and innovation



## Current Focus Areas:



Object Location & Movement Tracking/ Monitoring



Workplace Safety/Security/ Environment/ Emergency & Health Monitoring

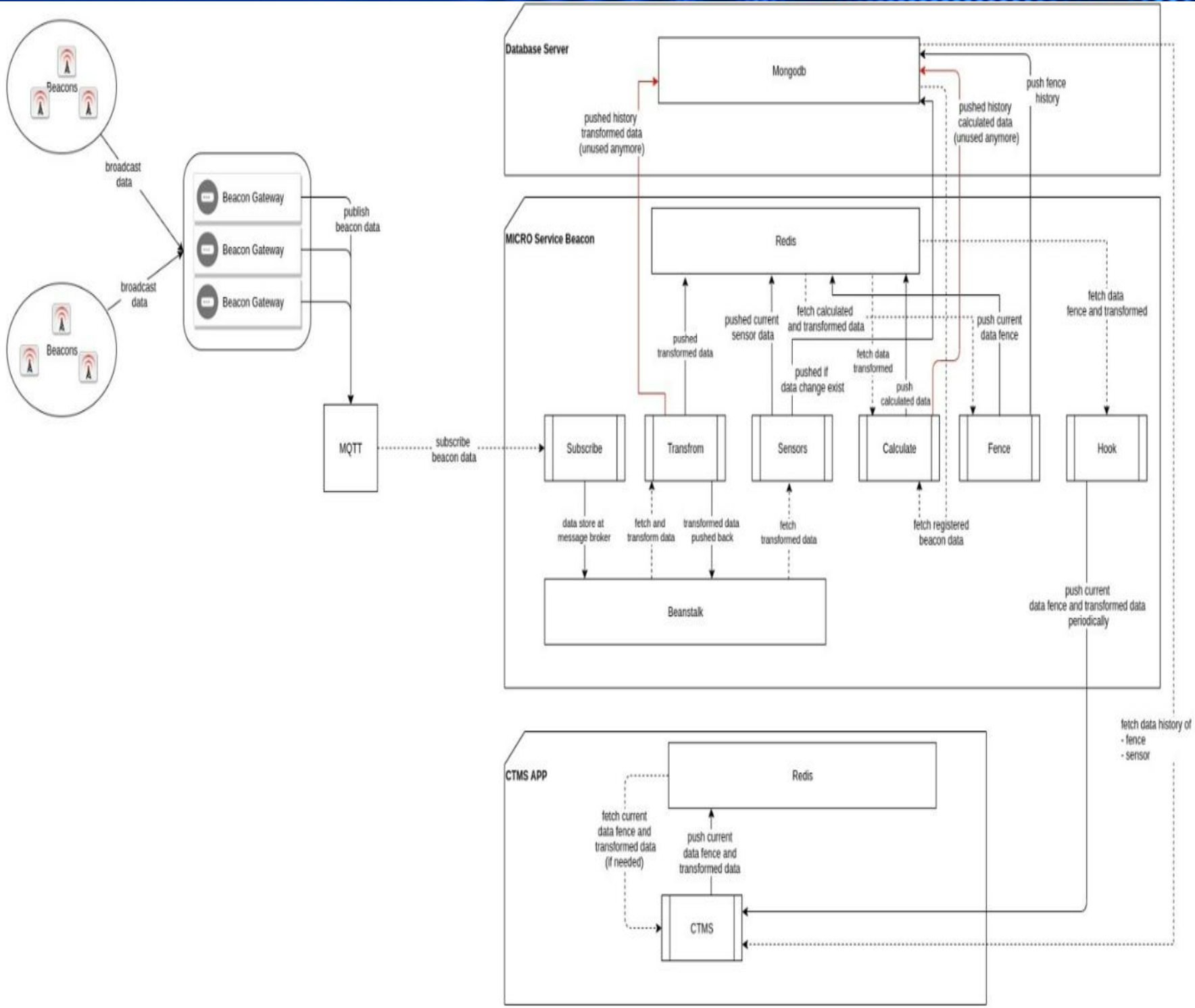


Intelligent Controls (Data & Video Analytics/ Automated actions)

*\* Bluetooth Low Energy (BLE), a wireless Personal Area Network designed for Low Energy Consumption and short-range communication (up to 100 meters)*

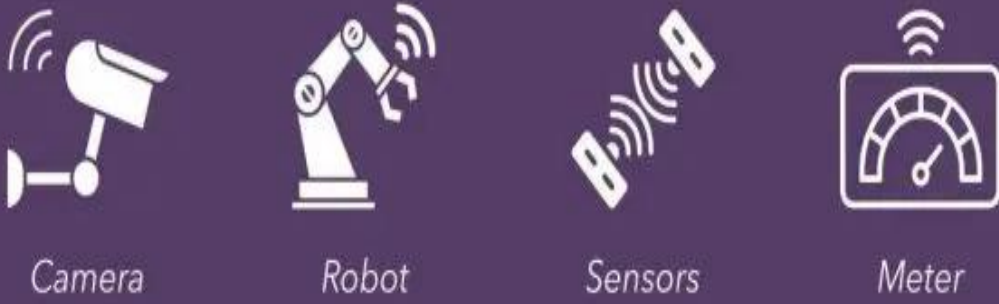
# IoT (Internet of Things) Automation Framework

From edge to cloud, architect the connected IoT



## Perception Layer

*"Devices" layer*



## Transport Layer

*"Data Comm" layer*



## Processing Layer

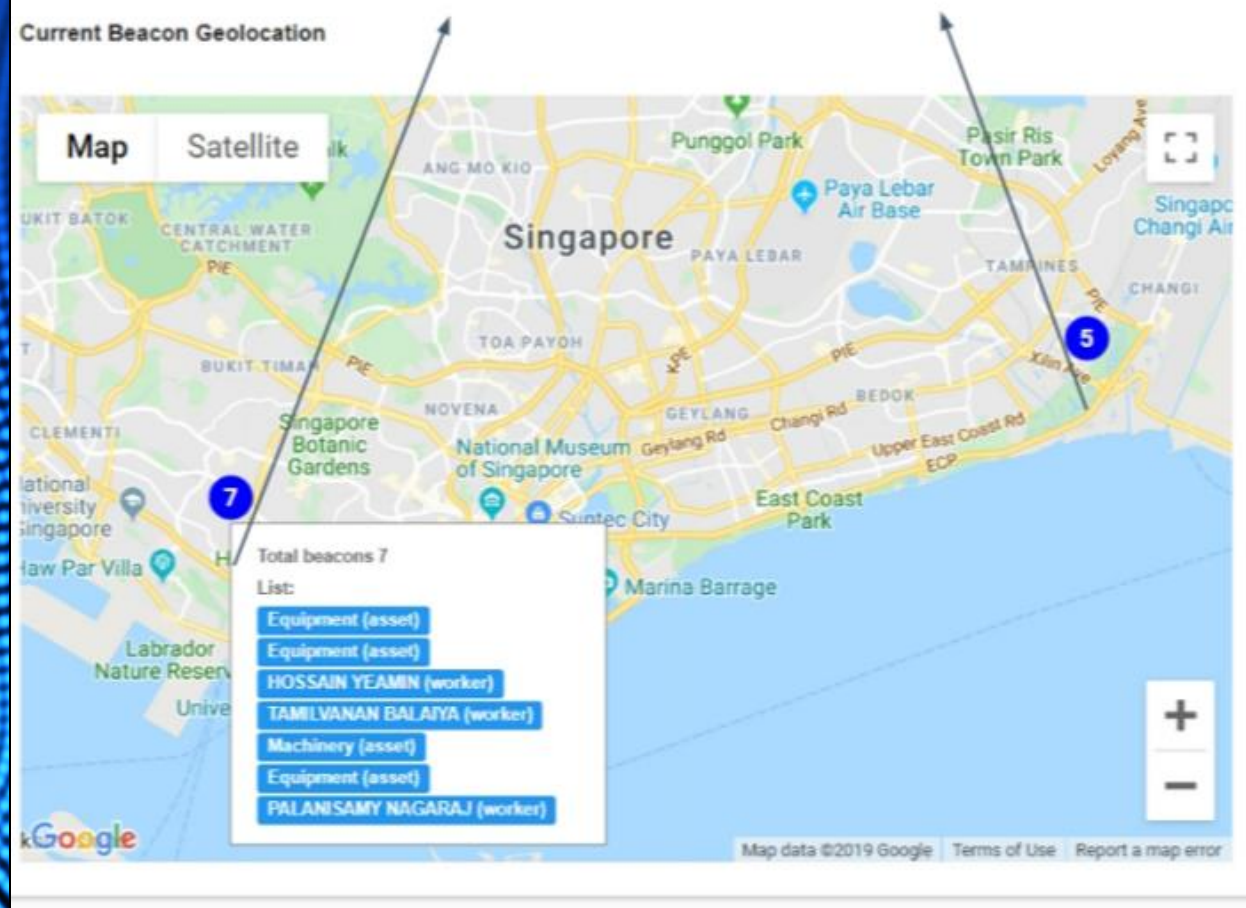


## Application Layer



# IoT Possible Application – Object Tracking & Monitoring

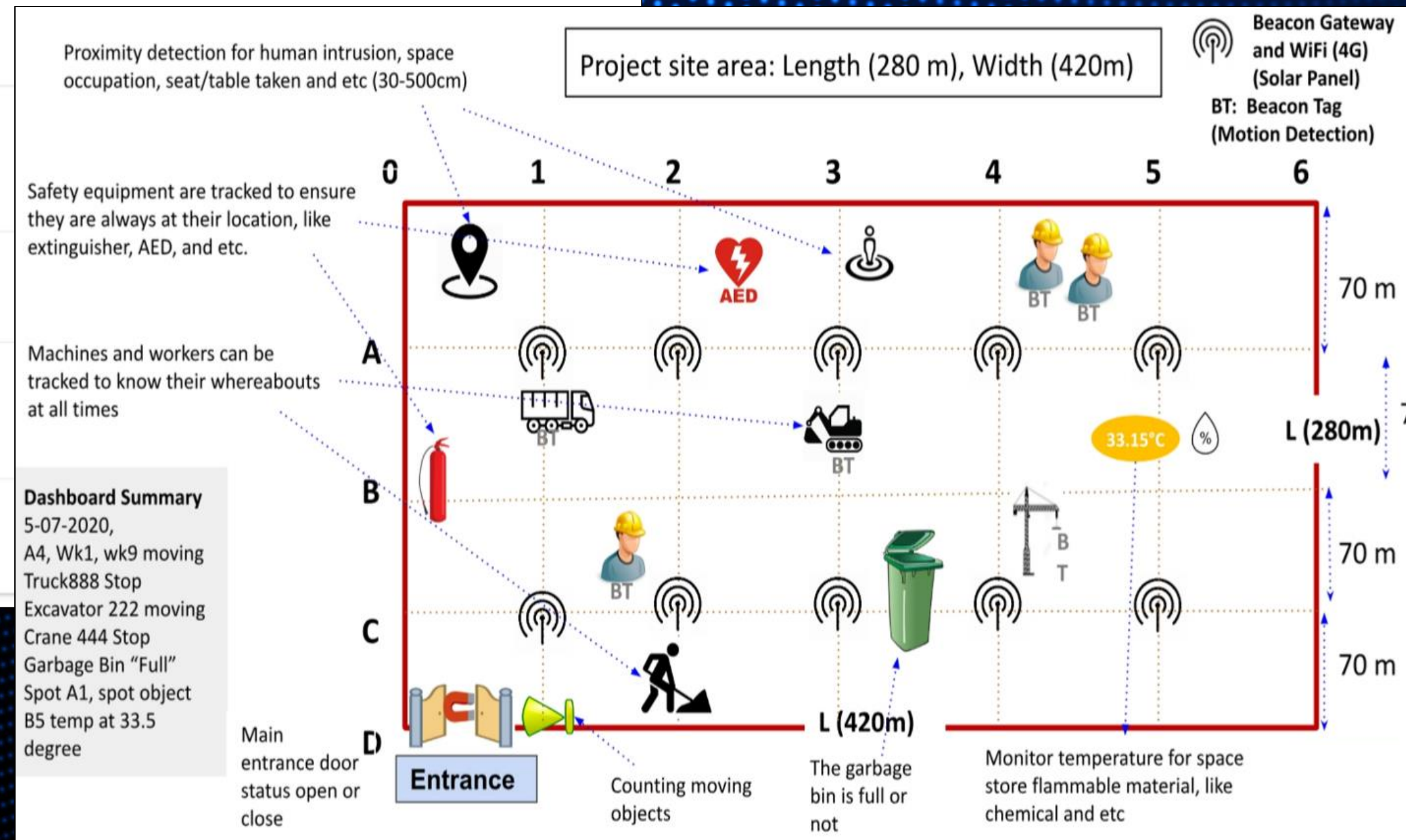
Beacon gateway detect presence of workers and assets at 2 project locations with real time information.



**Beacon History**

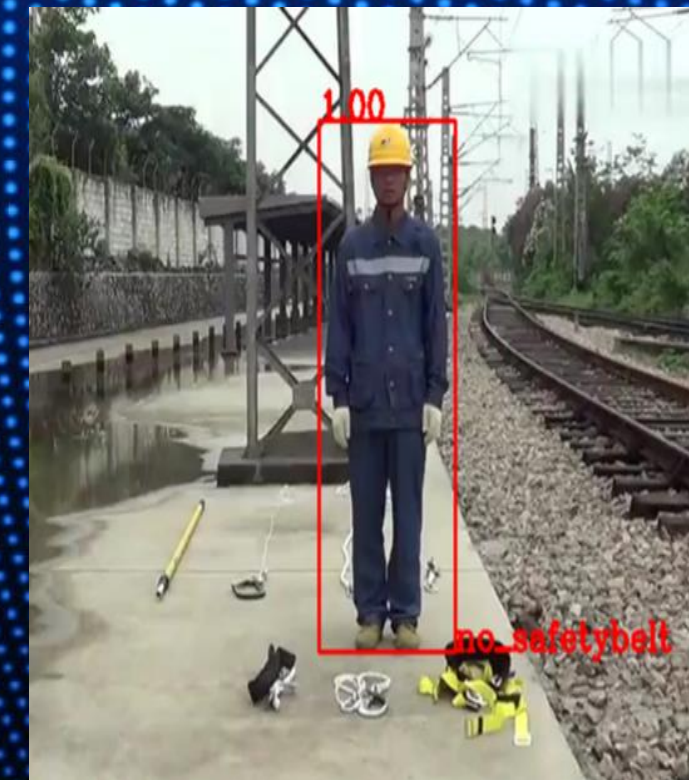
Search Subject ...

Beacon ID	0C61CFC14732
Timestamp	11/13/2019 08:37:38
Beacon ID	0C61CFC14BB8
Timestamp	11/13/2019 08:37:33
Beacon ID	0C61CFC14A04
Timestamp	11/13/2019 08:37:33
Beacon ID	0081F9862701
Timestamp	



# IoT Possible Application – Data & Video Analytics for Pattern Recognition & Automated Actions

The screenshot displays a CCTV management interface. On the left is a sidebar menu with categories like 'Resources', 'nx-server', 'admin', 'MSA CCTV Server', and a list of camera channels including 'ThermEye 3-T', 'DH-SD22404T-GN', 'IPC-HDW4231EM-ASE', and various 'SB-CCTV' and 'TPS-CCTV' cameras. The main area shows a grid of camera feeds. Several feeds show timestamps from September 15, 2019, such as '2019-09-15 05:34:59' and '2019-09-15 05:35:00'. One feed in the bottom right of the grid shows 'NO DATA'. At the bottom, there is a timeline navigation bar for 'September 2019' and 'October'.



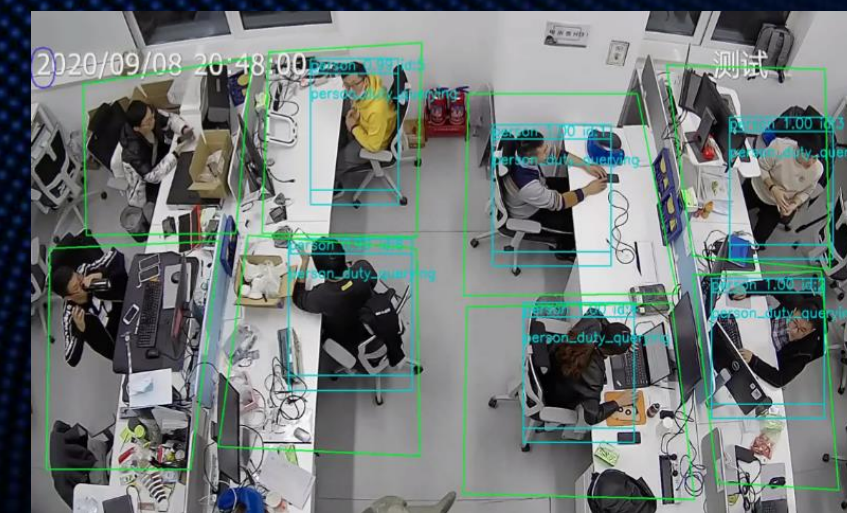
No vest



Smoking



Fire



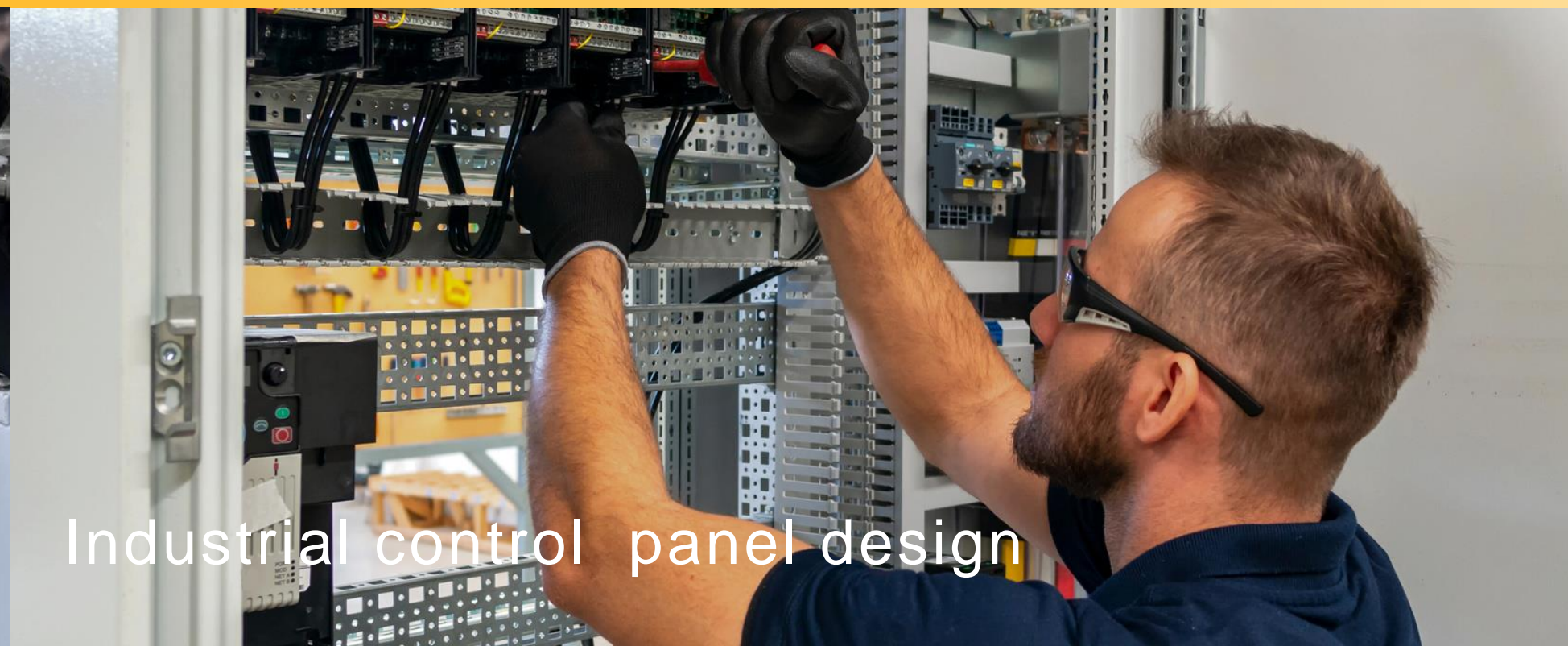
On-duty personnels

# Services

We only do what we are best at



High purity process piping system



Industrial control panel design



Sustainable plastics & metal fabrication



Fluid process instrument calibration

# In-house Capability – Cutting, Bending & Twisting

Setting us apart from competition

## CNC PRECISION CUTTING



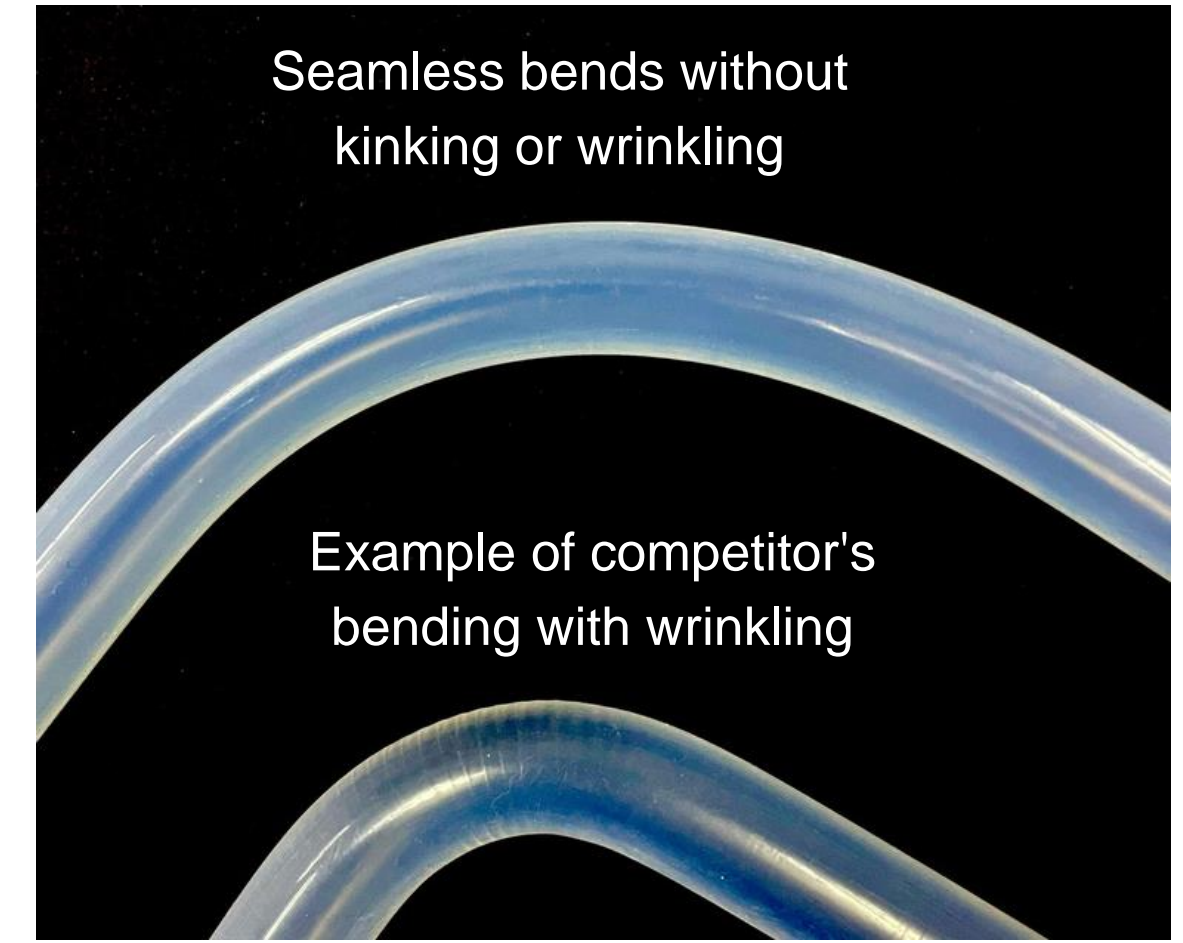
Rest assured, our use of advanced CNC precision cutting tools in the fabrication process allows us to create complex designs with utmost quality, delivering superior products that bring real value and reliability to our customers.

## MANNUAL CUTTING



Our proficient team employs handheld cutters to pre-cut plastic pipes with precision, ensuring a custom fit for each installation. This detailed method ensures high-quality results that are durable over time.

## PIPE BENDING / TWISTING



Seamless bends without kinking or wrinkling

Example of competitor's bending with wrinkling

Expertise in plastic pipe bending is at the core of our service offering, ensuring seamless bends without kinking or wrinkling, thus preventing any risk of contamination within the pipe system.

# In-house Capability - Cleaning

Setting us apart from competition

## RINSE & CLEAN WITH DI WATER



Equipped with an in-house DI water facility, we ensure every product undergoes a thorough rinse, clean, and testing regimen with deionized water before delivery, guaranteeing supreme purity and performance.

## PRECISION CLEANING



Employing a precision cleaning process is a critical step before assembly, utilizing ultrasonic technology to ensure part cleanliness and integrity for superior product performance.



# In-house Capability - Welding

Setting us apart from competition

## IR FUSION WELDING



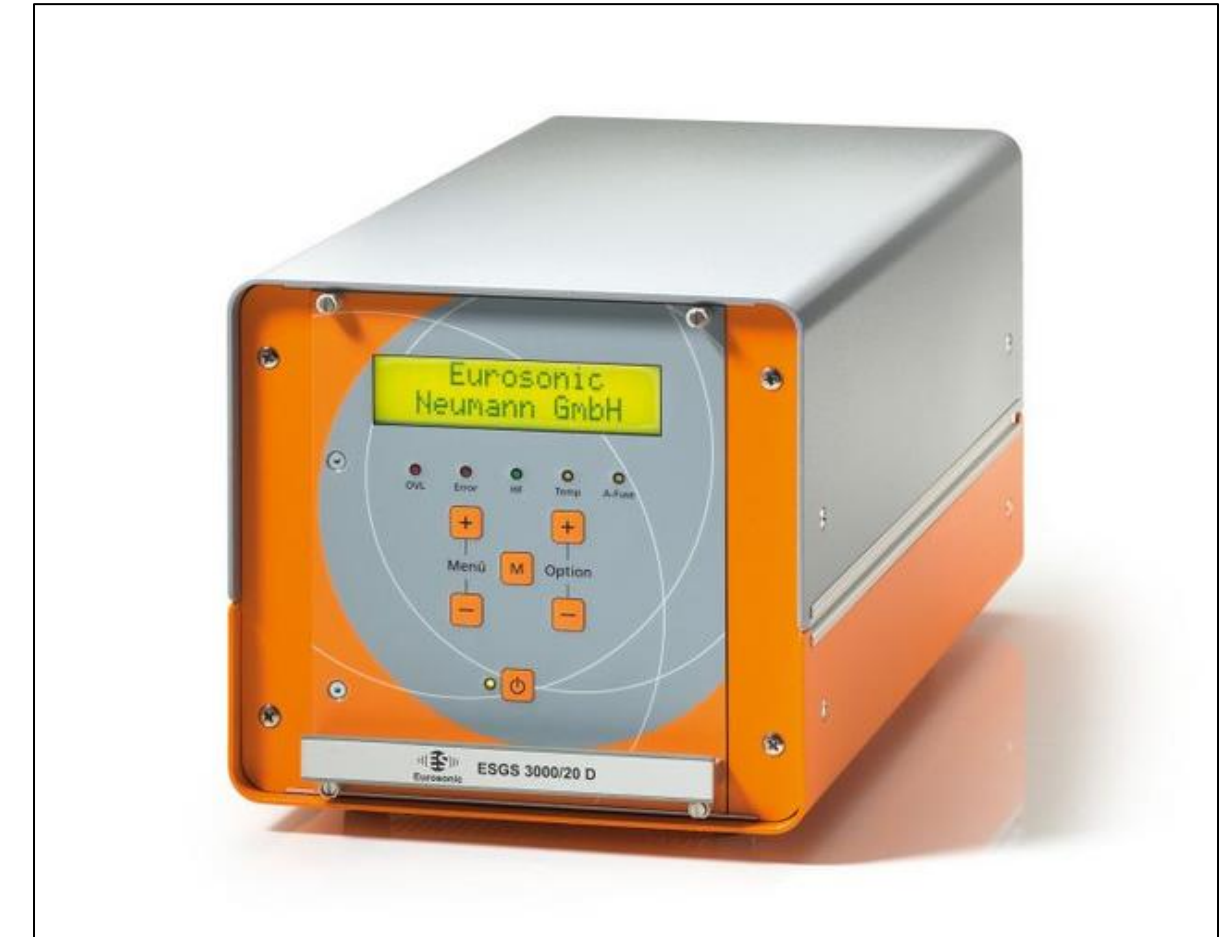
Using George Fischer IR fusion welding machines, operated by our GF-certified welders, guarantees high-standard and flawless plastic pipe joints. This advanced technology delivers durable and precise joints, ensuring a reliable piping system that lasts.

## PLASTIC WELDING



We provide specialized plastic welding services tailored for apparatus and tank construction. Our expertise lies in crafting durable welds that withstand the test of time and usage, ensuring that every joint contributes to the structural integrity of your project.

## ULTRASONIC WELDING **(NEW)**

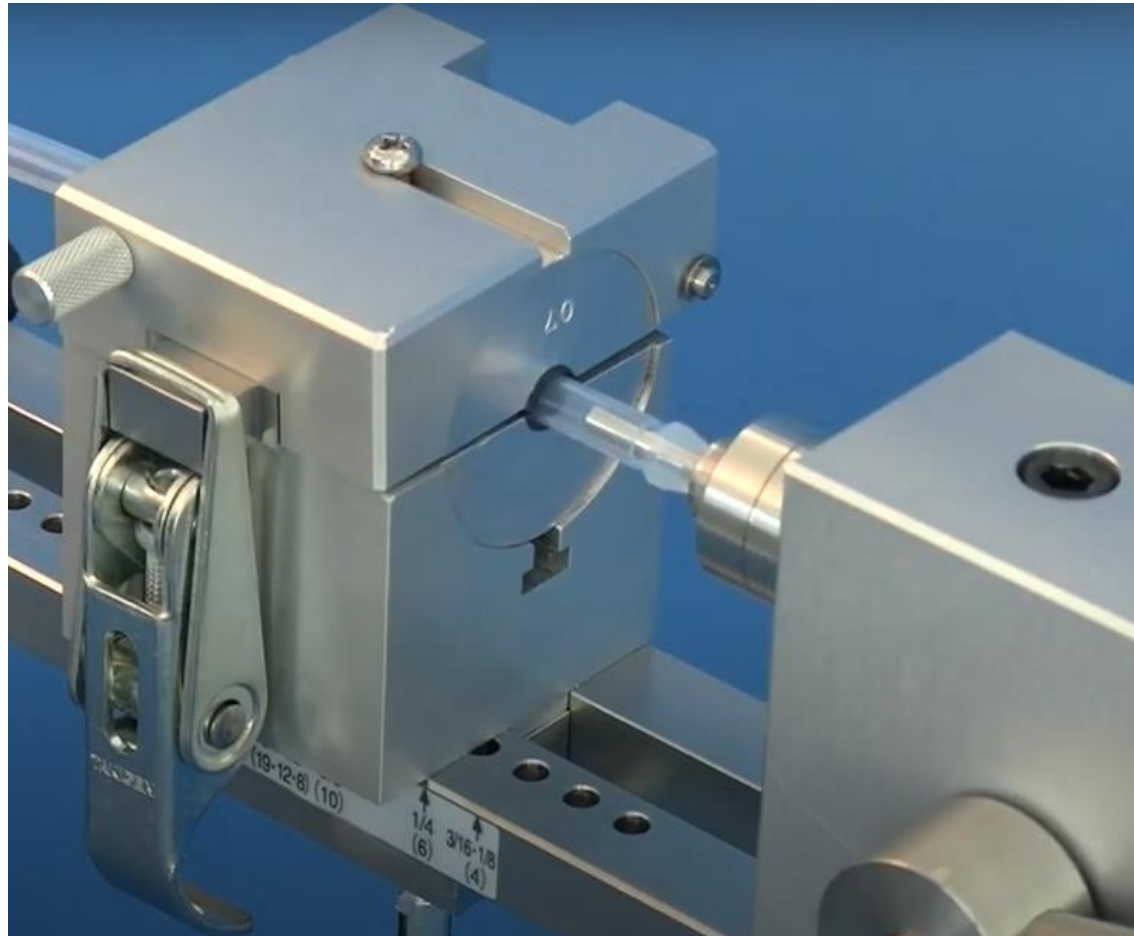


Maximize the resilience of your product assemblies with our specialized ultrasonic welding solutions for plastics. Our technology is engineered for perfection, ensuring a permanent bond that stands the test of time.

# In-house Capability – Fitting Joint, FQA & Packing

Setting us apart from competition

## FITTING JOINT



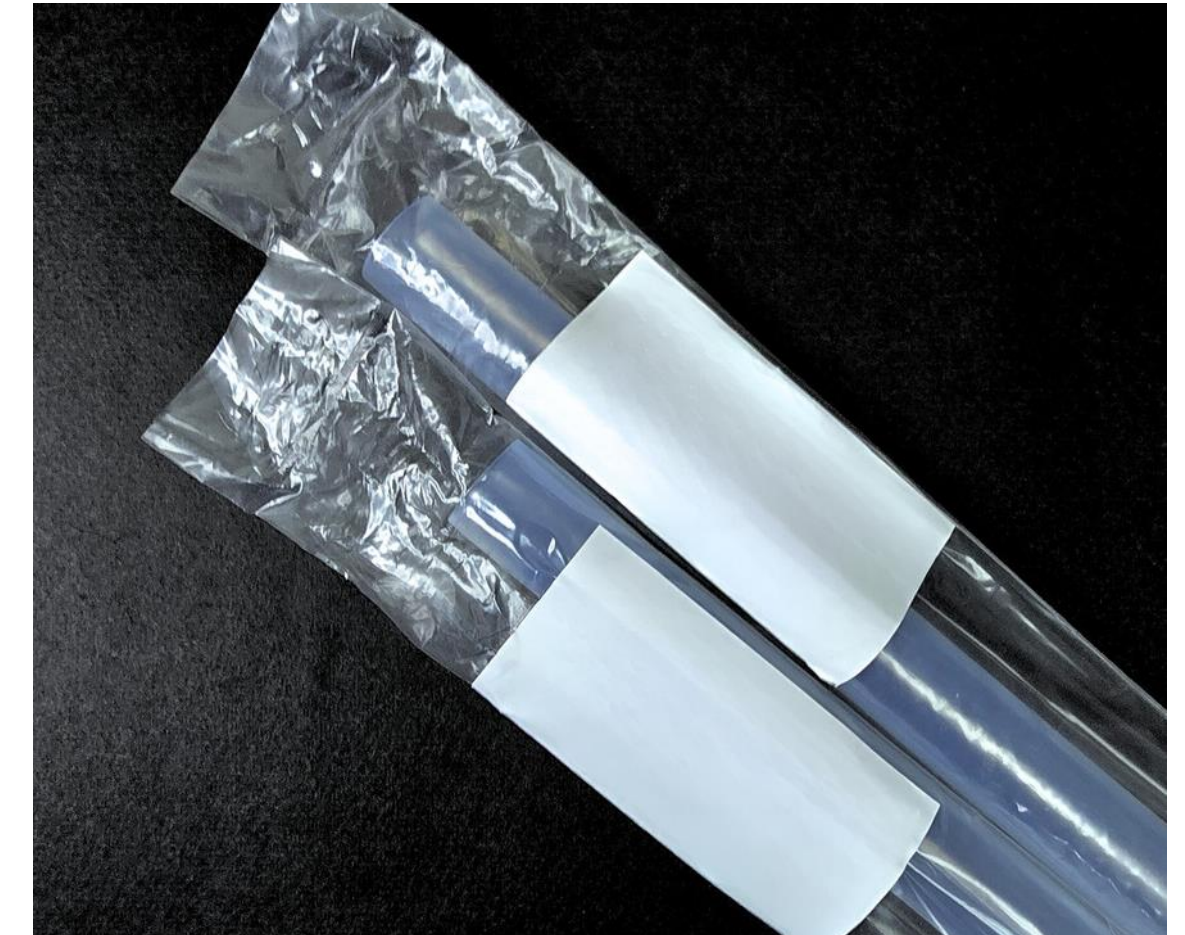
The integration of SMC fitting systems for pipe joining ensures high-quality connections that are both durable and reliable. This method allows for precise and efficient assembly, paving the way for robust piping solutions across varied applications.

## FINAL QA



The meticulous final quality assurance process for plastic pipe products is critical, ensuring that each item meets stringent standards for safety and performance before assembly.

## PACKAGING



Components are packaged in a controlled cleanroom environment, ensuring the highest level of cleanliness and protection against contaminants during the packaging process.

# Finished Plastic Products

Never make compromises on quality

**PVDF/PP IR FUSION WELDING**



**PFA WITH FITTING SYSTEM**



**PP TANK FABRICATION**



# Expansion Plan



**Acquire larger work space  
2 acres**



**Talent acquisition  
>50 head counts**



**Purchase machinery  
and equipment's**

Q4 2023 : Acquired land in Batu Kawan

Q2 2024 : Submission of construction

Q4 2024 : Earthworks have been initiated

Q4 2025 : Building is officially operational

# Expansion Plan – Y2025 onward

We're excited to announce the acquisition of a 2-acre plot at Penang Science Park North, marking a new chapter in our expansion journey.

This development will pave the way for a state-of-the-art factory, enhancing our production capabilities.

Phase 1 totaling 30,000 sqft.

Production : 13,000 sqft

Warehouse : 5000 sqft

Clean Room : 2000 sqft

Office Area : 10,000 sqft





# Questions?

Feel free to reach out to us



# Thank You!

**ANDREW ANG**

General Manager

+6012-932-8299

[andrewang@mplexgroup.com](mailto:andrewang@mplexgroup.com)

**ALAN LIM**

Sr General Manager

+6012-217-6592

[alanlim@mplexgroup.com](mailto:alanlim@mplexgroup.com)

**MPLEX TECHNOLOGY SDN BHD (596160-A)**

No. 18, Jalan Sungai Tiram 7, Mutiara Light Industrial Park,  
11920 Bayan Lepas, Penang, Malaysia.

[www.mplexgroup.com](http://www.mplexgroup.com)

