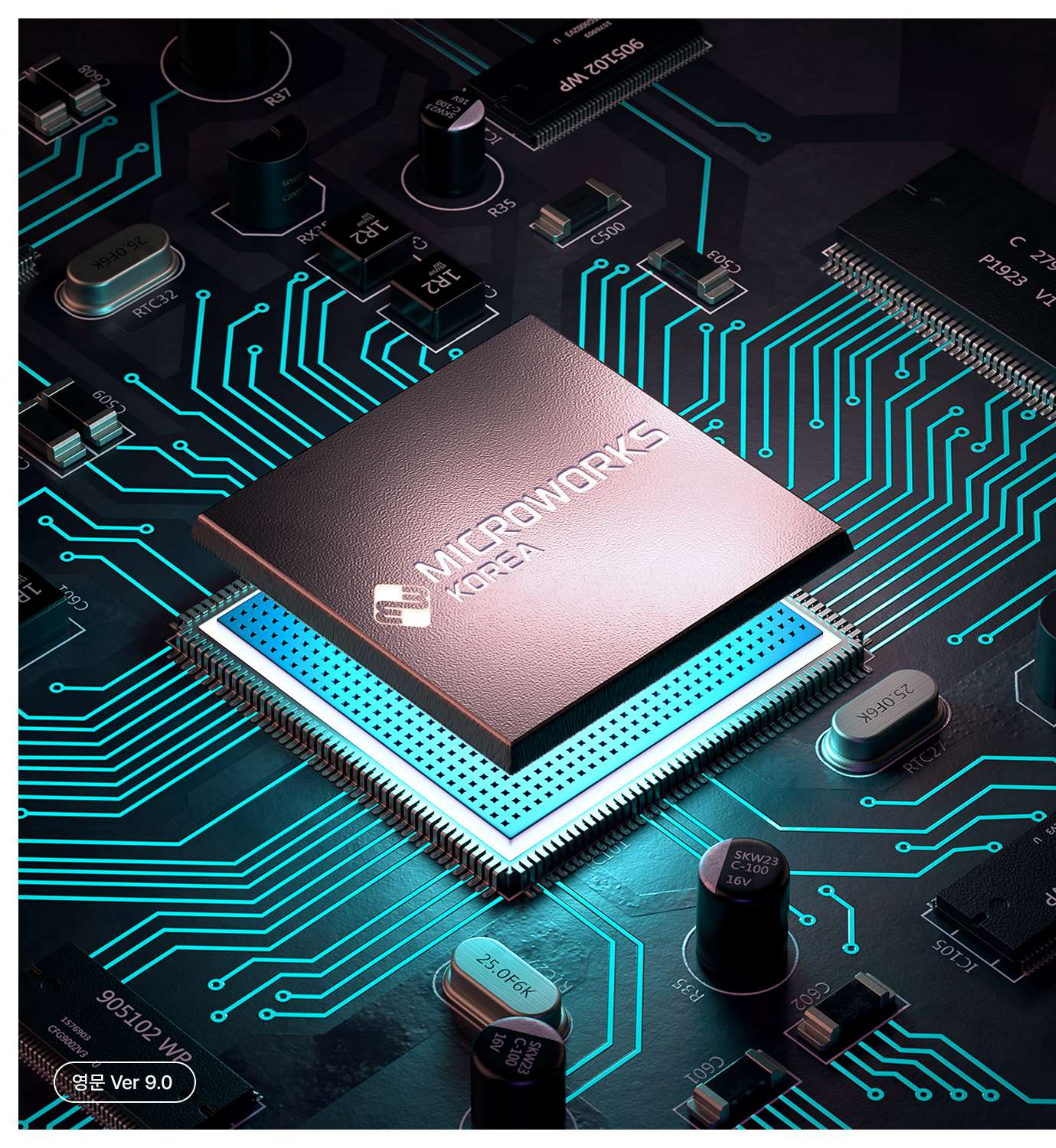




마이크로웍스 코리아(주)
SEMICONDUCTOR TOTAL SOLUTION

#614, Ace Gwang-myeong Tower, Haan-ro 108,
Gwangmyeong-si, Gyeonggi-do, 14319, Korea

Tel: 82-2-6112-7320(Rep) Fax: 82-2-6112-7321

www.microworks.co.kr

SEMICONDUCTOR TOTAL SOLUTION

Microworks Korea is a strong and reliable distributor of electronic components in South Korea, founded in 2007

Corporate Name

I MICROWORKS KOREA CO.,LTD. SINCE 2007

TEL

I 82-2-6112-7320 (Rep.)

FAX

I 82-2-6112-7321

Web

I www.microworks.co.kr

Head Office

I #614,#615, Ace Gwang-myeong Tower 108 Haan-ro,
Gwangmyeong-si Gyeonggi-do 14319, Korea
#616, Ace Gwang-myeong Tower 108 Haan-ro,
Gwangmyeong-si Gyeonggi-do 14319, Korea

Export Team

I 313, Central-ro, Yeonsu-gu, Incheon, Republic of Korea

Employees

I 29
Global Sourcing Team : 8

Slogan

I Trade To Upgrade  "Trade To Upgrade"
보다 나은 내일

Branch

I Microworks Hong Kong (Warehouse)
Microworks China (Warehouse)
Microworks Taiwan (Warehouse)
Microworks USA (Warehouse)
Microworks JAPAN (Warehouse)

Total Sales

I \$ 54 million
\$ 19 million in exports

Certified



Executives



Stanley Ahn

■ CEO

- E-Rae Electronics Industry Co., Ltd. R&D Center : Senior Researcher
 - Hankook Semiconductor Communications Co., Ltd.
: Samsung Semiconductor franchise FAE
 - ENC KOREA : Winbond, Zilog Franchise FAE, Manager
 - Classic Components Korea Co., Ltd. : Sales Team Director
-

- Inha University Graduate School : Completed the course of MBA
- Yeonsung university : Electronic communication engineering
- Hanyang Cyber University : Telecommunication engineering
- Dale Carnegie Advanced Management Program Course Graduated
- Seoul National University FIP(Future Integrated-technology Program) completion
- Seoul National University AI CEO(Artificial Intelligence CEO) completion
- UNIST Advanced Semiconductor Executive Program [SLP]

Milestone

2007

- **MICROWORKS KOREA COMPANY ESTABLISHED**

| 2008 – 2012

- ERAI MEMBER (USA)
- **ZEMIITZ / Franchise Distributor**
- **Microworks Korea Limited Company Established / D.U.N.S Certified**
- ISO9001:2008 Certified

| 2013 – 2017

- **GOODRAM (Memory Cards) / Franchise Distributor**
- **NEXCOPY (Memory Writing) / Franchise Distributor**
- RUNCORE (SSD) / Franchise Distributor & Representative
- CILICOILS (Inductors for Automotive) / Franchise Distributor
- VOLEX (Cables and Connectors) / Franchise Distributor
- ISO9001:2015 Certificated
- Launched Microworks Korea Customized ERP System (SPARTAN 1.0)
- DUKE (Peek Tube) / Franchise Distributor
- **TRANCEND Focus Channel Partner**
- **ADVANTECH Focus Channel Partner**

| 2018 – 2022

- I&C Technology (Wifi Module) / Franchise Distributor
- Korea Main-Biz, Inno-Biz Authorized
- Win Gyeonggido Business & Science Accelerator Prize
- The Best Value SMEs (Certified By Gyeonggi Province)
- Strong Venture Company Cerfication (Ministry of Employment and Labor)
- **Won the Tower of Export for 10 Million Dollars exporters on Trading Day**
- **50 billion won in sales**
- Awarded by the Commissioner of the Gyeonggi Provincial Government
- ISO14001 Certificated
- Microworks Korea Customized ERP System (SPARTAN 2.0)
- **Establishment of Semiconductor Defect Analysis Center (X-RAY, Decap)**
- Won a commendation from the Minister of SMES

| 2023 – 2024

- GPTW(Great Place to Work) certified
- Awarded Good Taxpayer Prize from Minister of Strategy and Finance
- Launched Excess Stock Cloud (MICROWORKS ESC)
- **AS9120B Quality Management System Certification**
- **INNODISK / Franchise Distributor**
- **APEX / Franchise Distributor**

Business 6 Model

Franchise Distributor

- 15 Franchise Distributor Lines.
- Various Application Supply.
- Technical Support & Information Provision.
- Cross Reference Guide Provided

Global Sourcing Distributor

- Professional Global Purchasing Agents
- Sourcing from HQ/Rep./Franchise
- Over 25K Partners
- Competitive Price and Delivery
- Turn-Key, Samples, EOL Parts

Export

- USA, UK, China, Japan, Singapore, Taiwan, HK, Etc.
- Memory, LSI products
- OEM Excess Clearing
- Overstock Clearing from Franchise

Research & Development

- H/W PCB Artwork Design.
- S/W 16 Bit, 32 Bit MICOM.
- Module, Sub Board Development.
- EOL, Recommend a Replacement.
- Various Technical Support.

Writing Service & Semiconductor Analysis Service

- X-Ray analysis, Decapsulation
- Defect analysis, Visual Inspection
- Memory Cards, USB, SSD, HDD Writing Service
- MCU, ROM Writing
- Nexcopy Writing Equipments

Platform Service

- Stock searching by Applications
- OEM Overstock Sharing
- Franchise Overstock Sharing
- Stock, Samples, EOL Parts Sharing

Organization

MICROWORKS KOREA

BRANCH : HK, CHINA, TAIWAN, USA, JAPAN



COVID-19 non-face-to-face operations

Field Sales Team

- Local Field Sales
- Technical Support
- OEM Sales
- Solution for Lead Time Problem

Inside Sales Team

- Sales for OEM/Trading Company
- Technical Support
- Long Tail Business
- Hard to Find Stock Support

Global Sourcing Team

- Sourcing from HQ/Rep./Franchise
- Weekly Memory Price Trend Offer
- Lead Time Check
- Hard to Find Stock Support

Accounting

- Sales Documents
- Payments
- Management Support
- Accounting Management

R&D

- S/W, H/W Development
- Technical Support
- Memory Writing Support
- MCU Technical Support

Export Team

- Export to All Over The World
- Memory / LSI Sales
- Competitive Price and Lead Time
- Technical Support

B2B Marketing Team

- Website Management
- B2B Site Management
- SNS Marketing
- Trend Research

Strategy Purchasing

- Special Price Estimate
- Verify New Supplier
- Find New Items
- Undistributed Parts Support

T.O.Q.C

- Stock Incoming and Outgoing
- IQC, OQC
- Quality Inspection
- X-Ray Analysis
- Decapsulation

Manage Material

- Stock Counting
- LOT Management
- Long-Term Inventory Management
- Domestic/Overseas Packaging

Target Market

MAJOR MARKET

Automotive | Medical Device | Health Care | Industrial PC | Defense Industry | Network

Robot | IOT | LCD | Semiconductor Equipment | POS | PDA | Communication

SUB MARKET

AVN | LCD Module | Blackbox | IP-Camera | Set-Top-Box | WI-FI | Gateway | GPS

OTHER MARKET

Broker | Export (American / European) | EMS | Program writing service | S/W , H/W Development

Promotion 4 steps

STEP 1

BOM Receiving
Urgent Delivery

STEP 2

1st Quote for Main Part
Weekly Memory Offer

STEP 3

Detailed Quotation
For more parts

STEP 4

Schedule Order
Stock Sourcing

Partners

Major Partners



SIEMENS

HYUNDAI
MOBIS

Continental
The Future in Motion

KG MOBILITY

SAMSUNG

LG

ALPION

FOVIS
Total Visual & Interface Solution

CAMMSYS

DIGEN
DIGITAL GENERATION

KOH
YOUNG
TECHNOLOGY
INTELLIGENT
INSPECTION

KAI

한화시스템

SAM4S

SAMJI

SECOM

WooriByul

POSBANK

LS 산전

Education and Institution

KGU 경기대학교

KOREA
고려대학교
KOREA UNIVERSITY

KMU 국민대학교
KOOKMIN UNIVERSITY

서울대학교
SEOUL NATIONAL UNIVERSITY

YONSEI UNIVERSITY
연세대학교

KONKUK
UNIVERSITY
GLOCAL CAMPUS

SSU 송실대학교
Soongsil University

KITECH
한국생산기술연구원

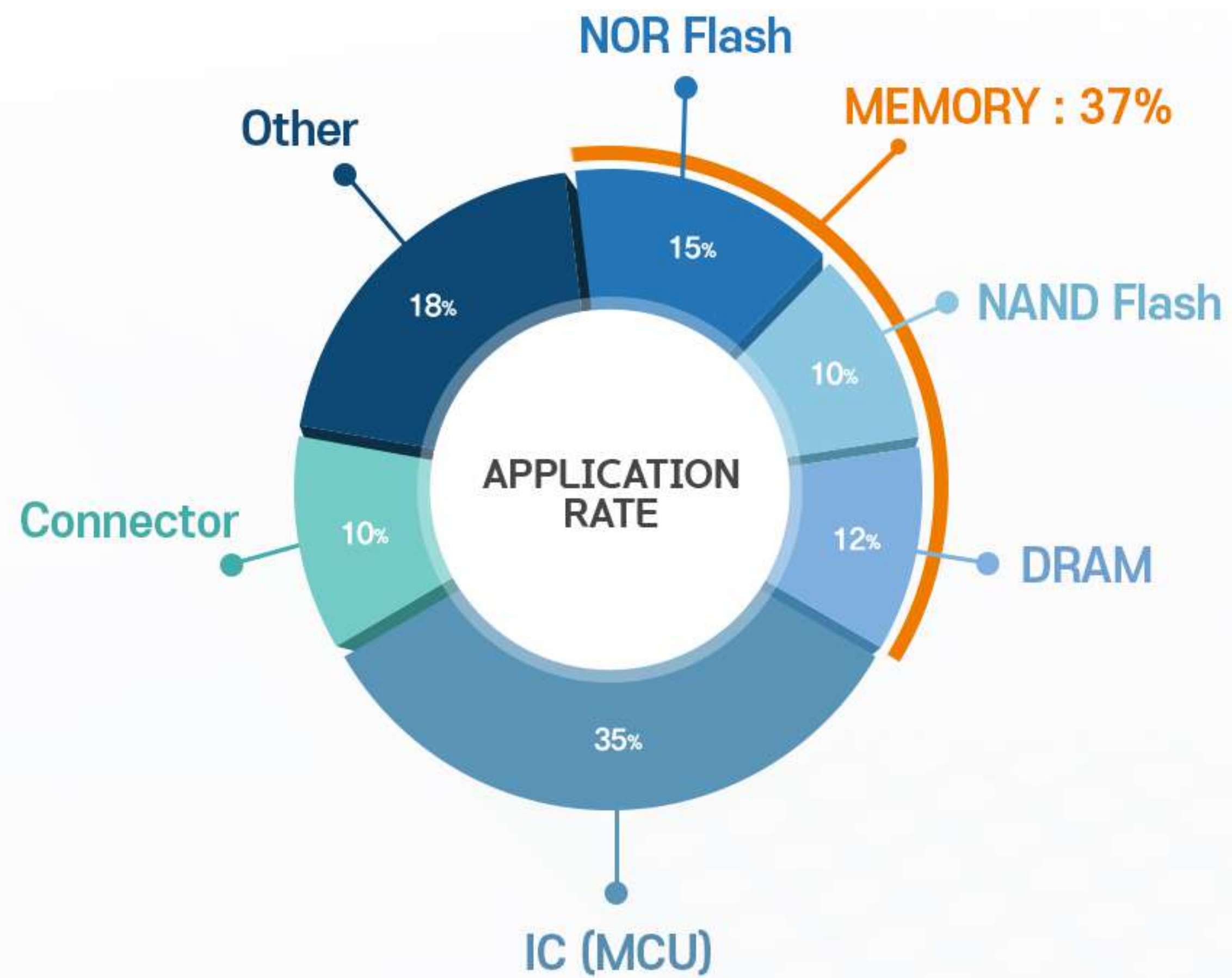
KRI 한국철도기술연구원
Korea Railroad Research Institute

국방과학연구소
Agency for Defense Development

Market Rate

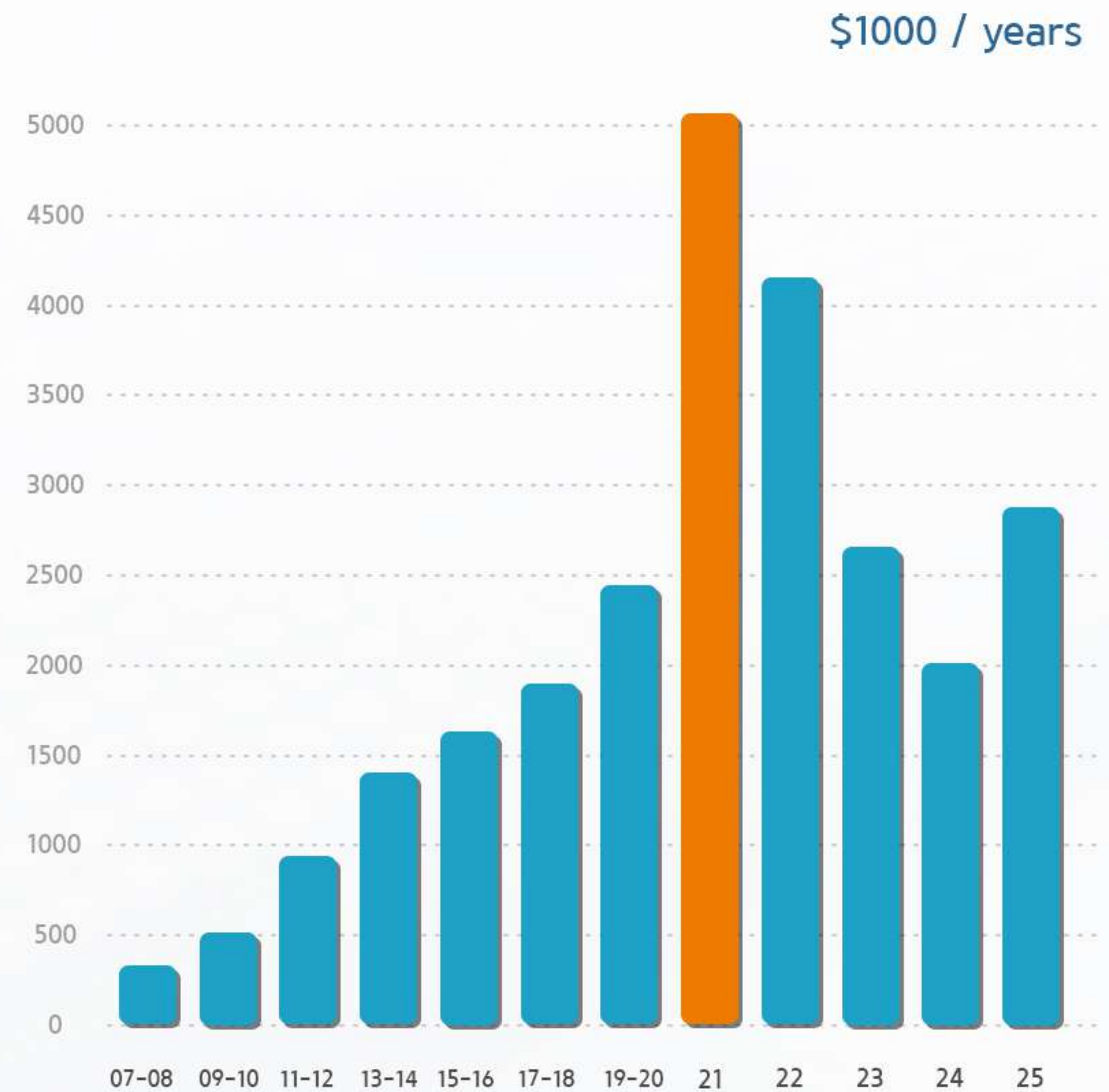


Market Annual



- Memory : 37%
- IC (MCU) : 35%
- Other : 28%

Annual Sales



Line Card

Franchise Distributor Line



NEXCOPY

API Delevan



Transcend

ADVANTECH



Zemitt



DUKE EXTRUSION



Memory

SAMSUNG

hynix

Micron

Transcend

Kingston

MXIC

SanDisk

Zentel 力積電子

CYPRESS PERFORM



winbond

ISSI

JSC

Mixed Signal, Analog



SHARP

intersil



gennum

MAXIM



NXP founded by Philips

RENESAS

TOIREX

ROHM SEMICONDUCTOR



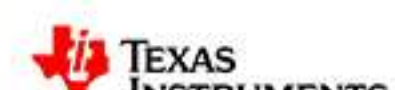
DIODES INCORPORATED

MCU & CPU



MICROCHIP

nuvoTon



Telec'hips

RENESAS



CAVIUM



ISSI

ESMT

NXP founded by Philips

FPGA

XILINX



LATTICE SEMICONDUCTOR

Microsemi

MICROCHIP

ALTERA

Relay

OMRON Industrial Automation

Panasonic ideas for life

tyco

Weidmüller

HONGFA EPC

TOSHIBA

Connector

3M

JST

molex

muRata INNOVATOR IN ELECTRONICS

TE connectivity

HRS

WÜRTH

Weidmüller

Rosenberger

witmag 磁艺电子

MUP

HYE

Franchise Lines



Global Sourcing & Sales

Sourcing

- Source from wide distributors
- Authorized Distributors | D/C within 2 Years
- 25,000 Suppliers

Sales

- Schedule Orders [NCNR] : 6 month ~ 1 Year
- Stock Sourcing [Urgent Delivery]
- Weekly Memory Offer [Global Market Price Flow]
- Customized Quotation
- Turn-Key Service

Goal

- Deduct 10% of M/C

Good Handle

- GOOD PRICE, GOOD DELIVERY, GOOD QUALITY



Vendor Verification Program 4 Step

Manage more than 25,000 suppliers divided into 4 categories by using big data of over 20 years.

As an ERAI member, bad parts or supplier's information updated in real time.

Stock Trading

- Purchasing from 100% verified suppliers
- Vendor audit by Vendor Verification Program
- Co-work with Local Franchise Distributors
- Co-work with Global Franchise Distributors
- Stock Sharing with Global EMS companies

Warranty

- Strict quality management by using big data of over 20 years
- 100% Quality assurance
- Same warranty condition with franchise distributor for lead time orders
- Limited warranty for stock orders based on the D/C
- D/C within 2 years - 1 year warranty
- Free RMA support (X-Ray, Decapsulation, Electrical Test)

Vendor Verification Program

Preferred

High performance,
Full traceability,
Favorable terms

Approved

Proven vendor with
Limited terms

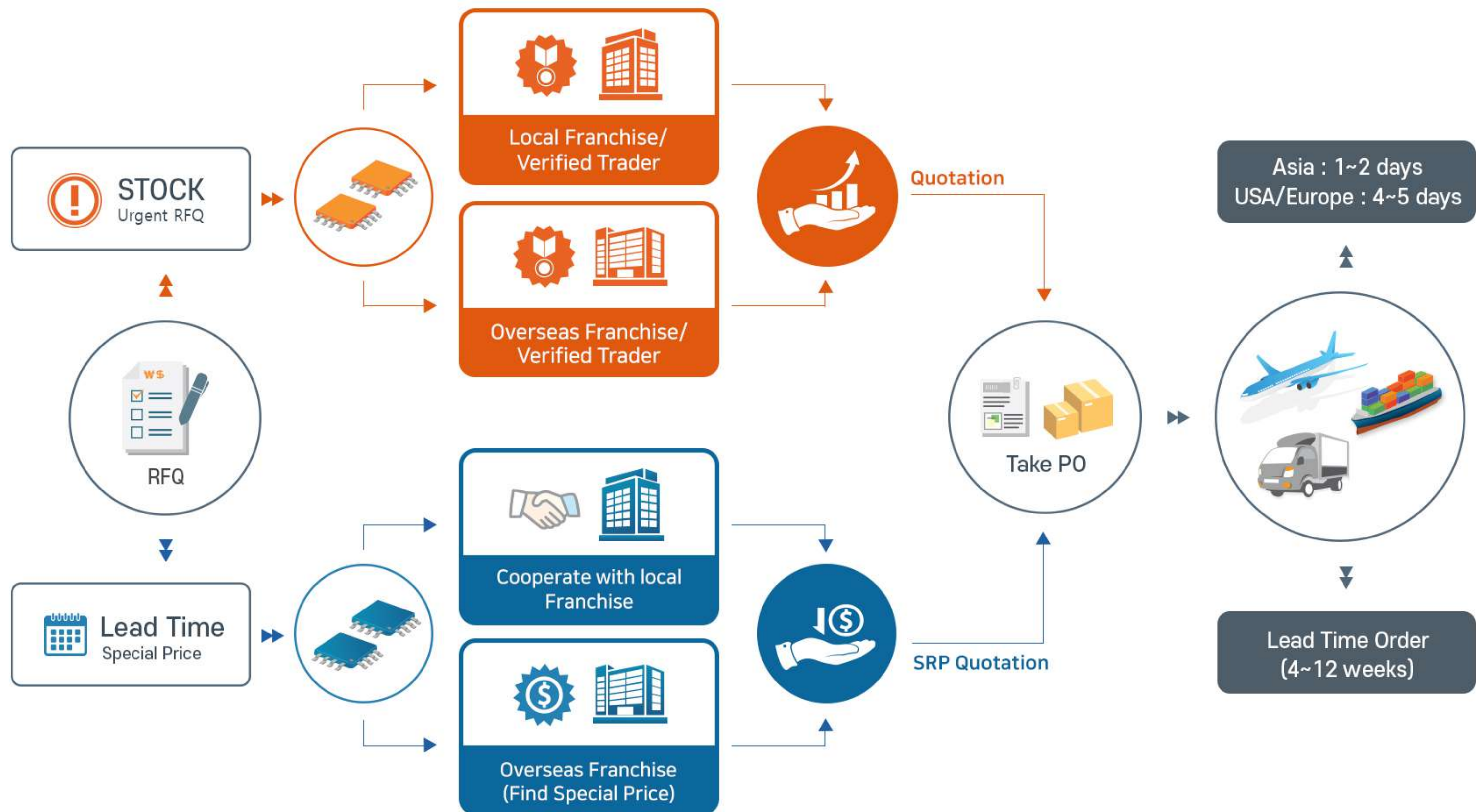
Conditional

Unproven or promising
Vendor with limited
Transaction history or
Limited Traceability

UVL

Unreliable Vendor List
Trading prohibited
Inferior quality
Poor performance

Flow Diagram

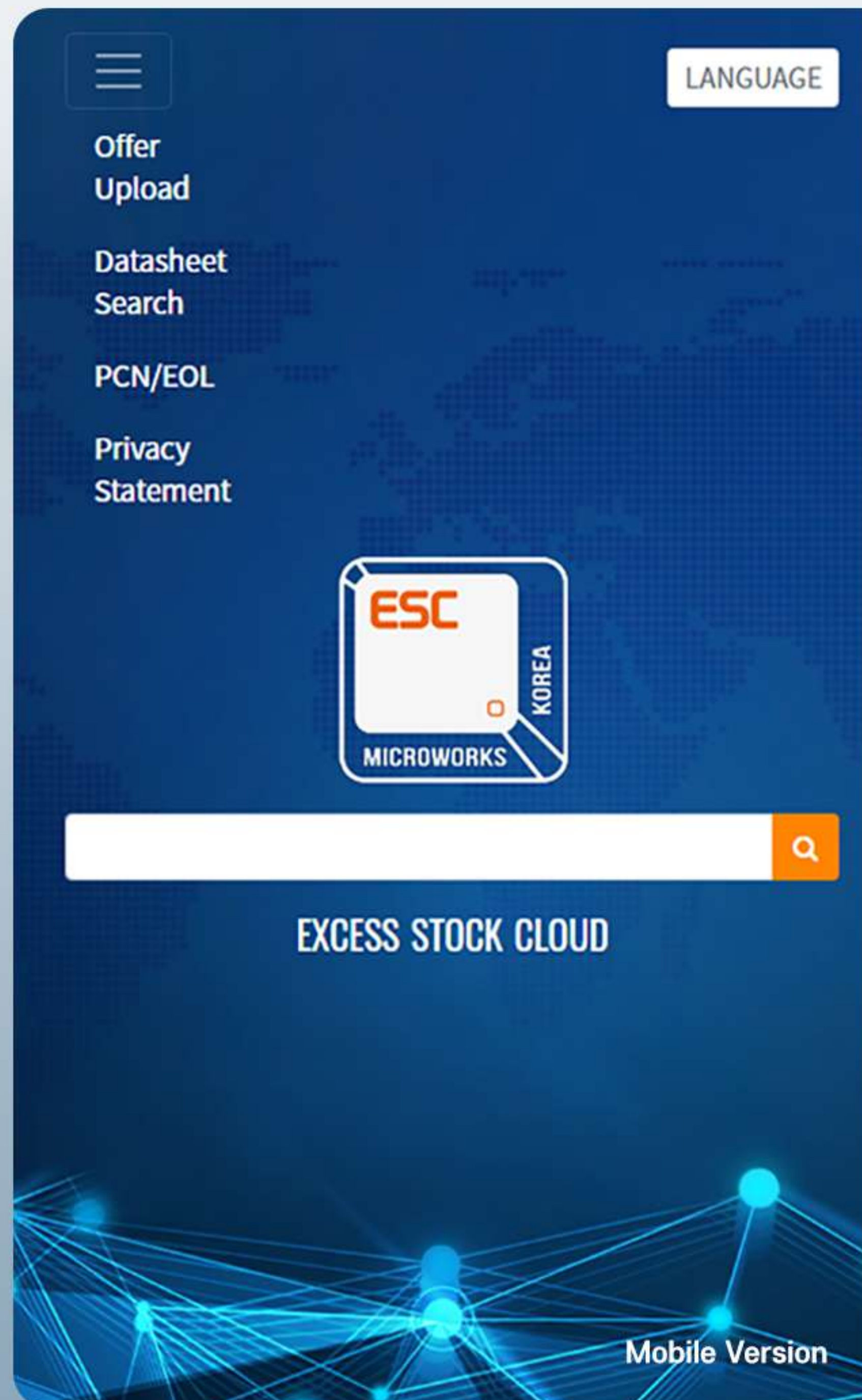


Stock Trading



Please send your stock list to get high chance to clear disuse, surplus and long-term stock.

Stock Cloud System



Escape from disuse, surplus and stock, **ESC**

Microworks ESC **Excess Stock Cloud** is a platform to sell disuse, surplus and long-term stock from OEM Factories and Franchise Distributors.

- Search Category Inventory by Application
- 100% Original Inventory of dealerships

Franchise
Manufacturer
OEM Company
EMS Company

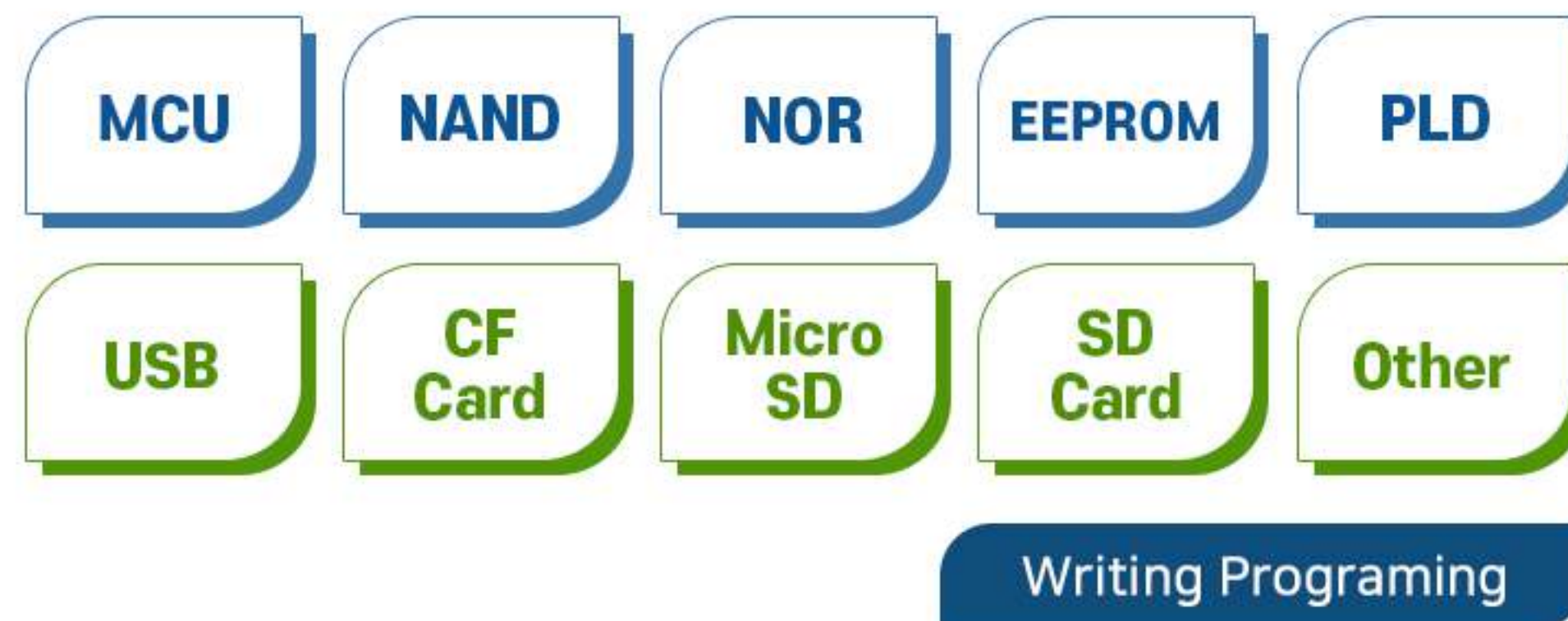


Application Search
Manufacturer Search
Part# Search
Brand Search

www.microworks-esc.com

Support Service

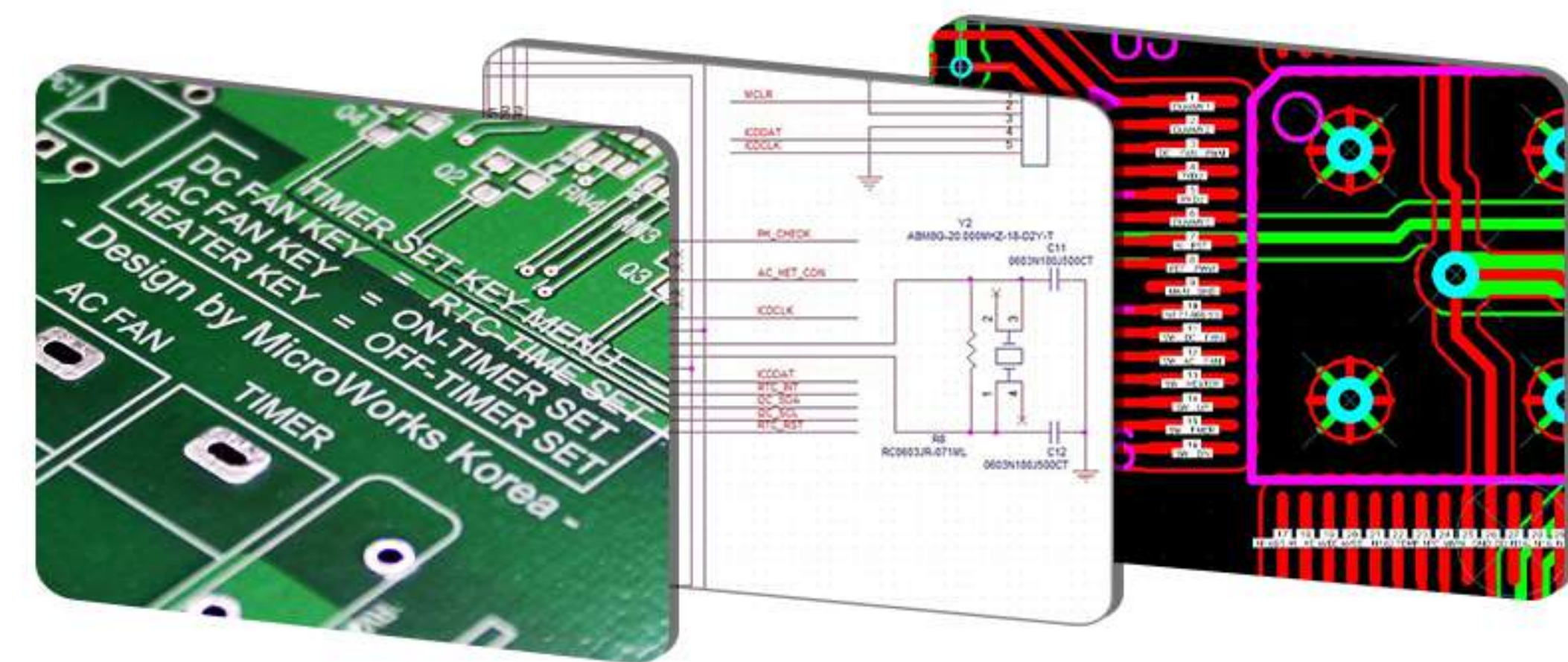
■ MEMORY / MCU WRITING



■ WRITING SERVICE FLOW DIAGRAM



■ R & D SERVICE



Technical Support

- Cross Reference for EOL parts
- Datasheet and reference data support
- Recommend smooth supply and demand parts
- Material Cost Reduction

R&D Support

- H/W Circuit Design (PCB Artwork)
- S/W Development (16bit, 32bit MICOM) PIC series support
- Sub Board development support
- Module, Sensor, Board development support

Semiconductor Analysis Center

Equipments



X-RAY



High Magnification
Electronic Microscope



Vacuum Sealing Machine



V-I Curve Trac

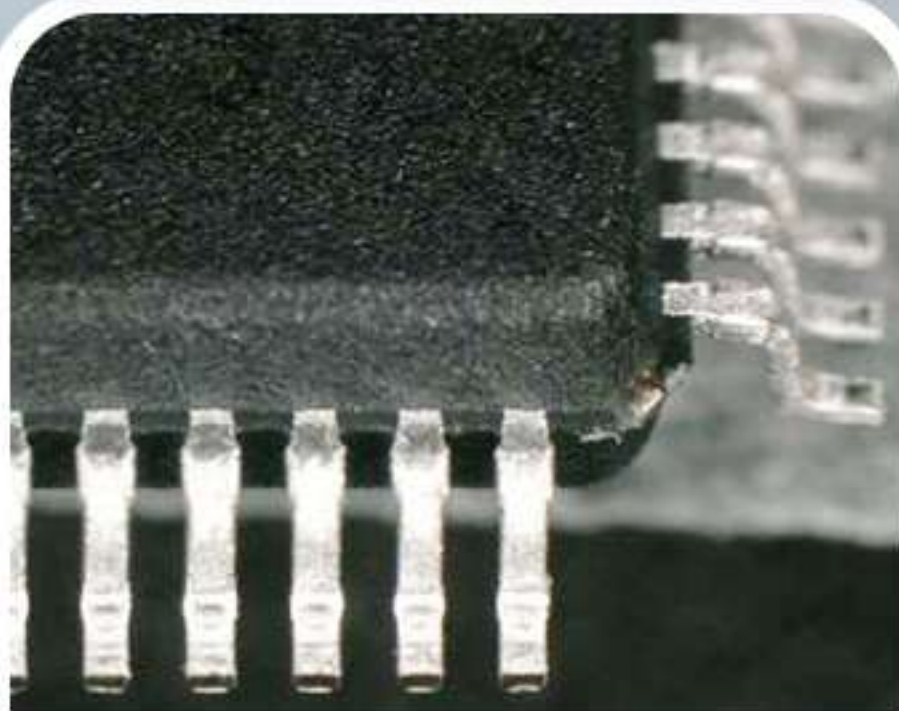


3D electron microscope

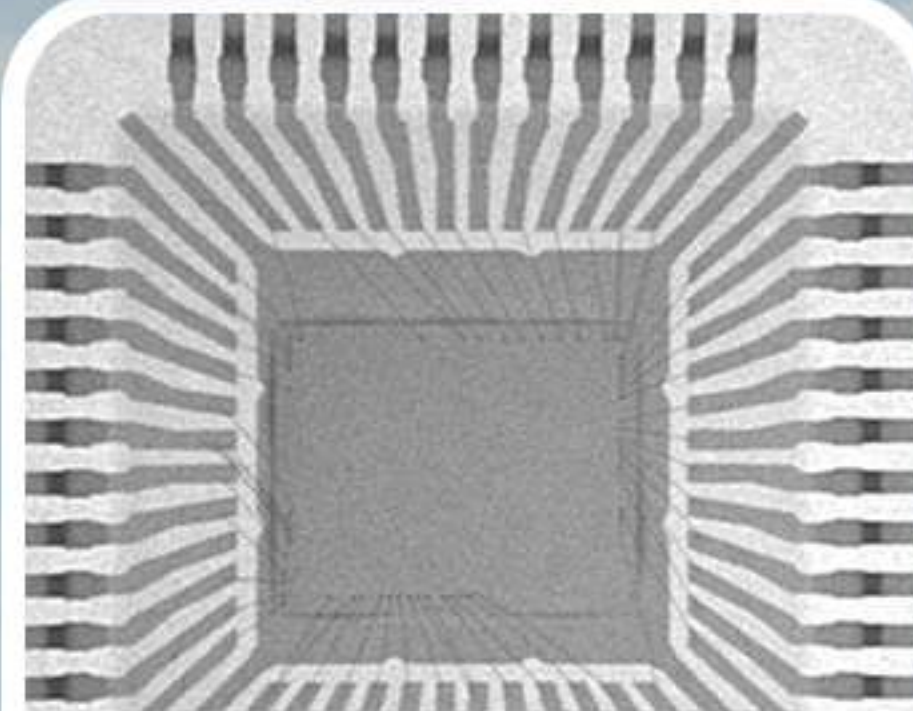


X-RAY CHIP COUNTER

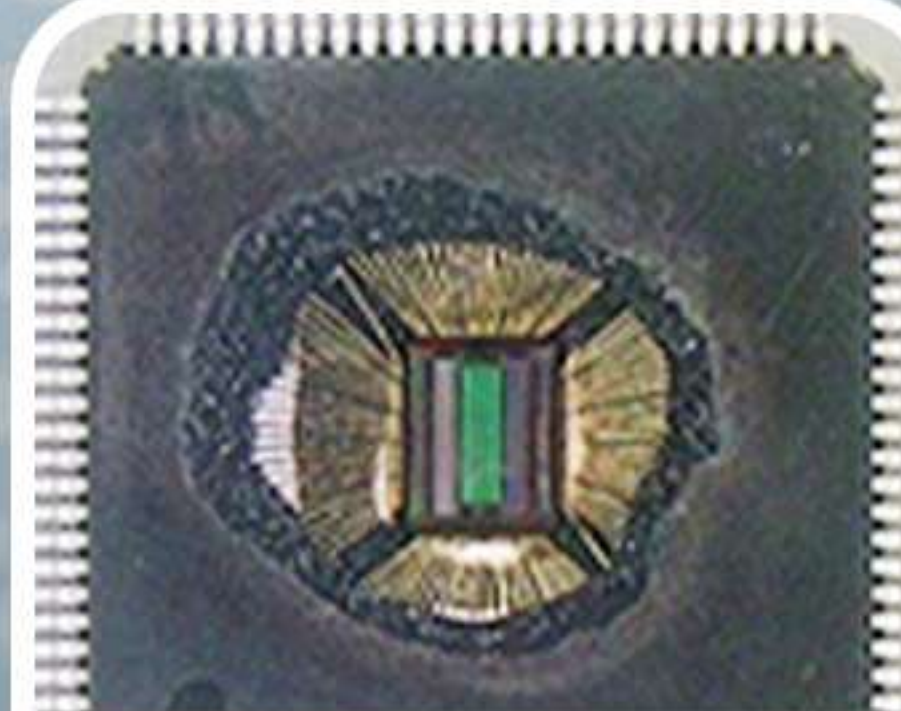
Analysis



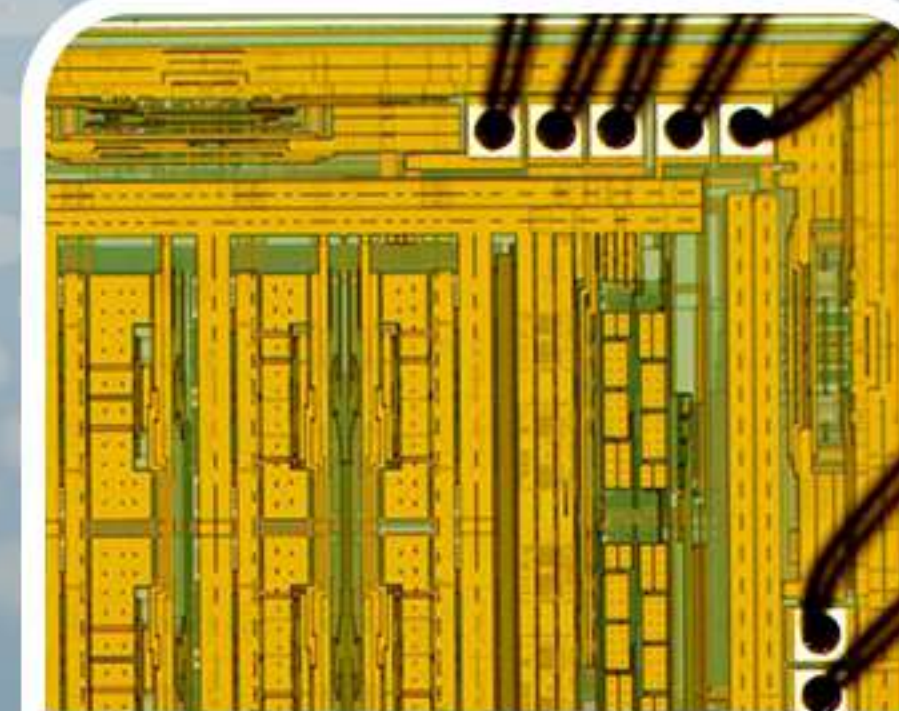
Visual Inspection



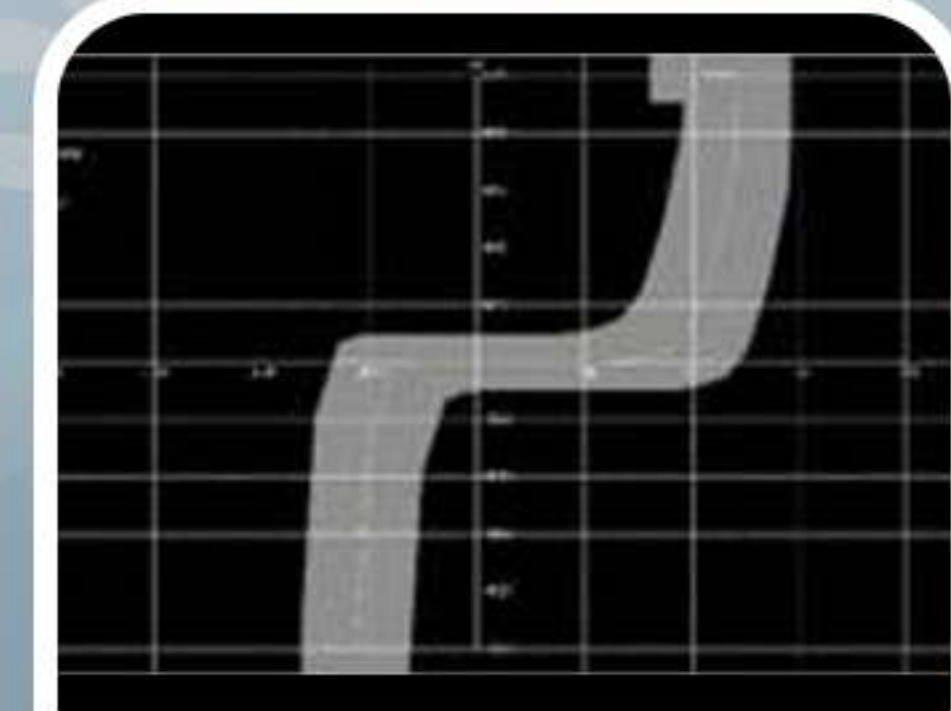
X-ray



Decapsulation



Optical Inspection



Electrical bench test

- All of incoming parts are managed by taking pictures of detailed product condition and labels.
- Decapsulation is operated by a trusted external organization.
- Visual Inspection, X-Ray, Optical Inspection and Electrical Bench Test are operated by Microworks Korea.

Semiconductor Analysis Center Report Sample

The image displays a collage of semiconductor analysis reports from Microworks Korea. The reports are presented in a grid-like fashion, showing various sections of the analysis process. Key elements include:

- Title Page:** '반도체 분석(비교) 보고서' (Semiconductor Analysis Report) and 'Semiconductor Analysis Report'.
- Table of Contents:** A list of sections including 1. 의뢰자(Customer) : MWK, 2. 시료명(Product name) : TMS320F, 3. 의뢰일자(Date of Request) : 2024-03-04, 4. 시험방법(Analysis method) : 외관 검사, (비)파괴 검사, 화학적 검사, 5. 시험장비(Test Equipment) : Optical Microscope, X-ray, De-capsulation, F/A Static, 6. FAR No. : MWKA2024, 7. 시험결과(Test Results) : 시험결과 참조.
- Summary Table:** A table with columns '시험 방법' (Test Method) and '분석 의뢰품' (Analysis Requested Item). It lists various test methods like 외관 (Appearance), 샌딩 (Sanding) 흔적 (Trace), 블랙탑 (Blacktop) 흔적 (Chemical/Physical) (Trace), 재도금 (Replating) 흔적 (Trace), 엑스레이 (Lead frame design) (X-ray), 엑스레이 (Wire bonding) (X-ray), 웨이퍼 사이즈 (Wafer size), and 시험결과 (Test Results).
- Microscopic Images:** Several images showing semiconductor components, including a chip with a yellow arrow pointing to a specific feature, and a chip with a yellow arrow pointing to a specific feature.
- Test Results:** A section titled '시험결과(Test Results) : 반도체 분석(비교)' (Semiconductor Analysis (Comparison)) showing a table of test results for different samples.
- Failed Part Analysis:** A section titled '반도체 분석(비교)결과 #2(Sample) : Failed Part(Decapsulation)' (Semiconductor Analysis (Comparison) Result #2(Sample) : Failed Part(Decapsulation)) showing microscopic images of a failed part.

The background of the collage is a blurred image of a person working on a circuit board.

When requesting from the semiconductor analysis center, we will send you a report in the form above.

License & Certifications



- AS9120B
- ISO 9001
- ISO14001
- Inno-Biz
- Main-Biz
- Certified Promising Export SME
- Venture Company Certification
- Certification of In-House R&D Department
- 1 Semiconductor Analysis Patent
- 2 Semiconductor Inventory Sharing Patents
- ERAI
- Minister of SMEs and Startups Commendation
- Minister of Economy and Finance Commendation
- Prime Minister's Commendation



Location

MICROWORKS KOREA CO., LTD.

- **TEL** : 02-6112-7320 (Rep.)
- **TEL** : 070-7568-2607 (VoIP)
- **FAX** : 02-6112-7321
- **WEB** : www.microworks.co.kr

Export Team | 82-2-6112-7327

Global Sourcing Team | 82-2-6112-7335

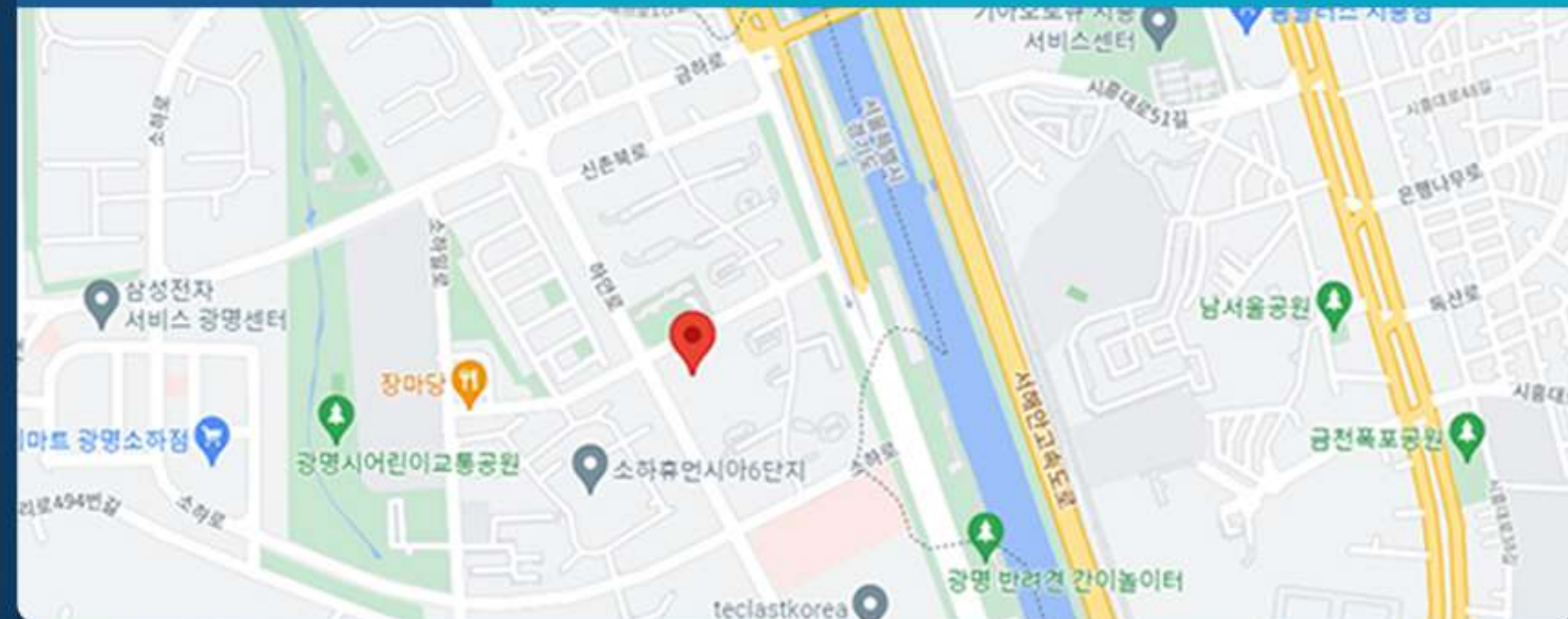
Inside Sales Team | 82-2-6112-7328

Field Sales Team | 82-2-6112-7327

Accounting | 82-2-6112-7320

HAED OFFICE

#614, #615, #616 Ace Gwangmyeong-Tower, Haan-ro108
Gwangmyeong-si, Gyeonggi-Do, Korea 14319



BRANCH (Export Team)

#512, 1700, Dongil-ro, Nowon-gu, Seoul, Republic of Korea

