COMPANY INTRODUCTION

SMEC

2020

ICT Division

SMEC

Solutions

- **Wireless Communication**
  - **Power ICT**
- **Network Security**
  - **Digital Forensic**
- **Telecom Gateway**

Wireless Communication

Nation-wide Area

Mission Critical Wireless Solution based on TETRA
 - for Public Safety, Transportation and Industry

- Licensed Band Only
- Ultra Wide Coverage : ~ xx Km
- Data & Voice (PTT) Service

TETRA

Terrestrial Trunked Radio

▲

Metro Area

Private LTE / 5G Wireless Solution based on Multefire / U-LTE

- 5 GHz Unlicensed band Only
  (w/o assist of LTE/5G licensed band)
- Inherits many LTE benefits such as mobility / security / QoS
- Wide Coverage : ~ x km
- Voice & Data Service
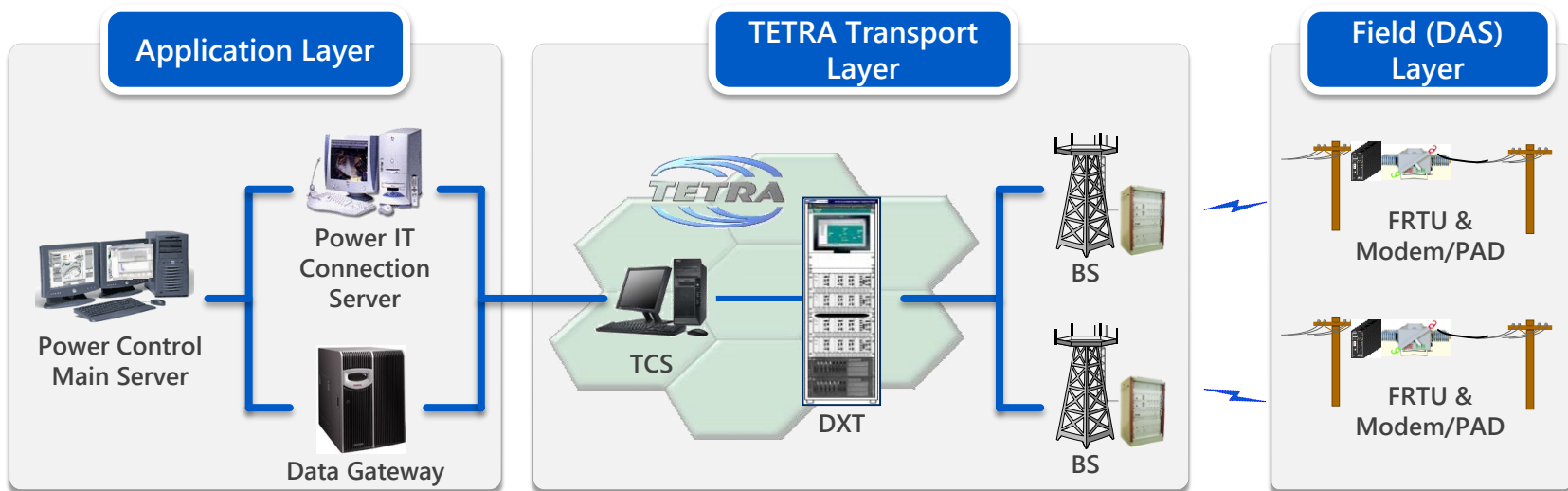 (Standalone / Interworks with carrier's LTE/5G)

P_{RIVATE} LTE

MULTEFIRE

▲

IoT Area

Wireless IoT Solution based on Lora / Wi-SUN

- Sub-GHz Unlicensed band
- Wide Coverage : ~ x km
- Purpose-Built Gateway & Edge Solution

LoRa

Wi SUN

Power ICT

DAS (Distributed Automation System) Overall Network using TETRA

Application Layer

Power IT Connection Server

Power Control Main Server

Data Gateway

TETRA Transport Layer

TCS

DXT

BS

BS

Field (DAS) Layer
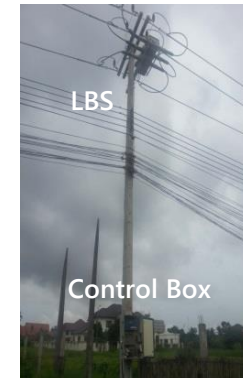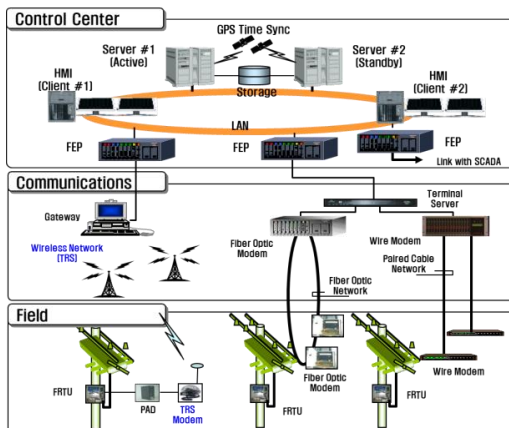
FRTU & Modem/PAD

FRTU & Modem/PAD

* TCS : TETRA Connectivity Server   * DXT : Digital Exchange for TETRA   * FRTU : Feeder Remote Terminal Unit   * PAD : Packet Assembly/Disassembly
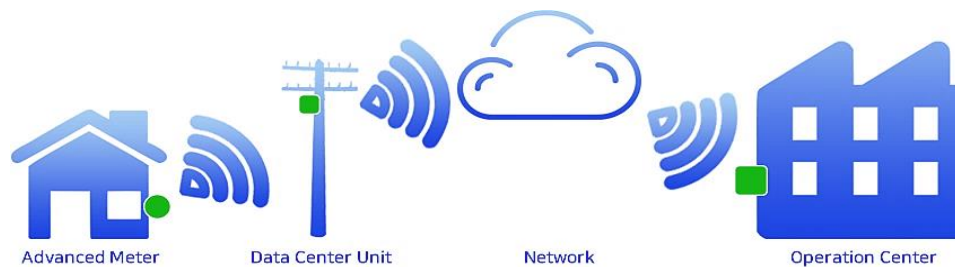

LBS

Control Box

* LBS : Load Breaking Switch

Power ICT

Advanced Metering Infrastructure / Electricity Solutions

Binary CDMA Module

PLC Modem & RF Modem
(GSM / 3G / LTE / ZIGBEE)

Digital Electricity Meters

Wireless Modem for Rx/Tx
of Image & Data

AMR Application

Sensor / Monitoring
Application

Data Concentration Unit

AMR Application

Building / Apartment

AMI Application

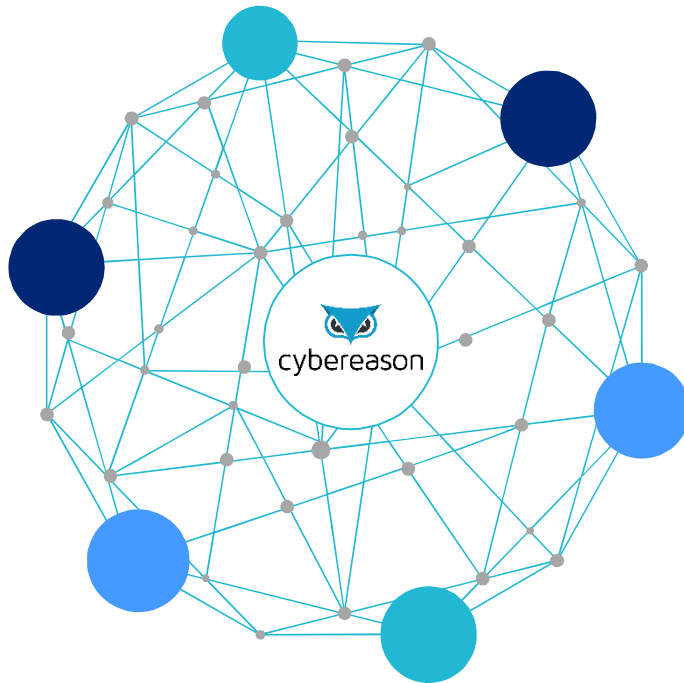Advanced Meter   Data Center Unit   Network   Operation Center

Network Security

Cybereason EDR & NGAV Solution

Endpoint Security Analytics

Threat Hunting / Infinity

Endpoint Detection & Response

EDR / Mobile / Containers / Threat Finder / Forensics / Live Response

Endpoint Prevention

NGAV / Ransomware / Fileless Malware / Endpoint Controls

Managed Security Services

Incident Response / MDR / Assessments

- **EDR & NGAV COMBINATION** provides complete protection against advanced threats
- **IMMEDIATE RESPONSE** through threat visibility and alarm function by real-time correlation analysis
- **MANAGEMENT CONVENIENCE** with Real-time blocking, Custom rules and Integration
- **HIGH STABILITY** through providing agent without crash (Window/Mac OS/Linux)

Network Security

Tenable.ot Industrial Cyber Security Solution
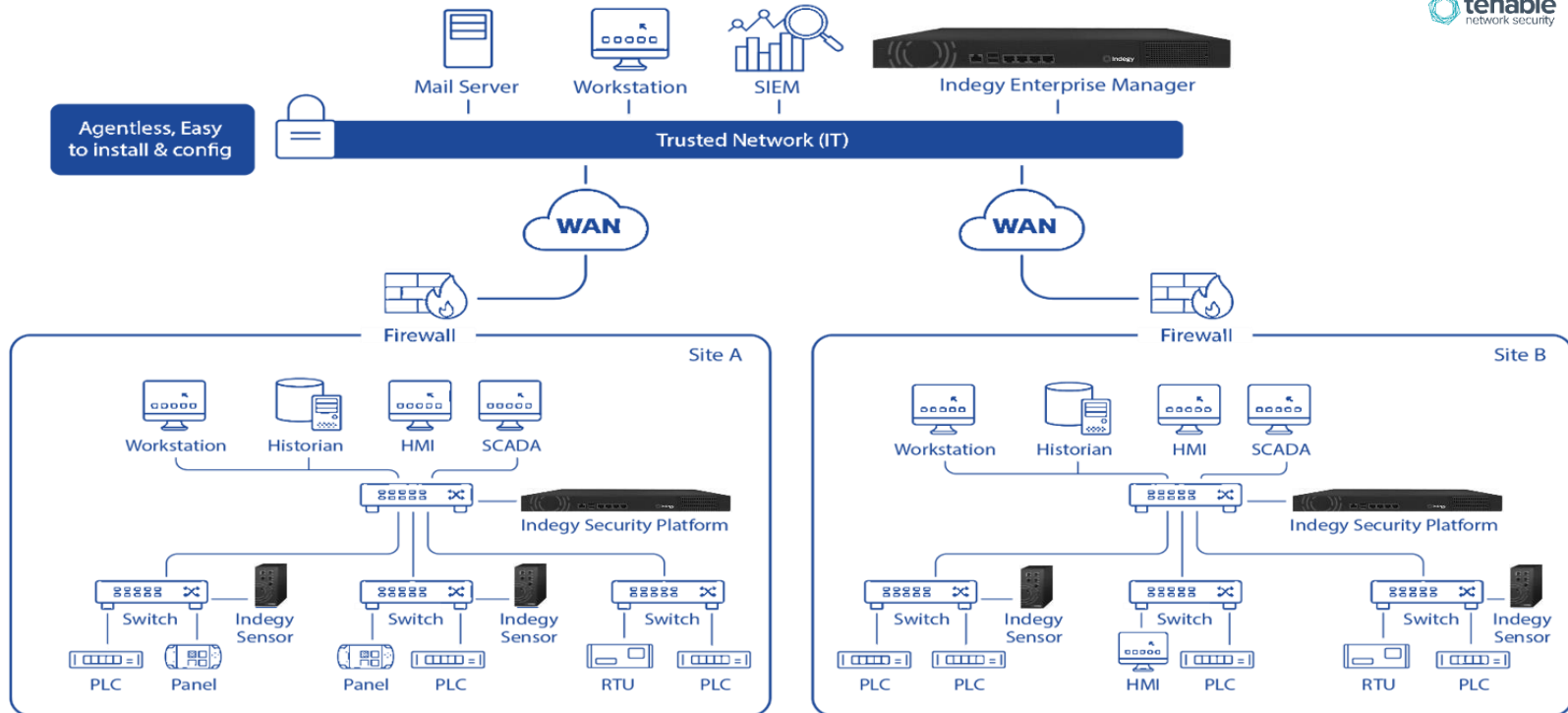
Asset Tracking- provide you with a comprehensive up-to-date inventory of all assets in your network including dormant devices.

Threat Detection & Mitigation- monitors for both cyber threats and operational mistakes. It generates alerts based on detection of behavioral anomalies as well as predefined policy conditions.
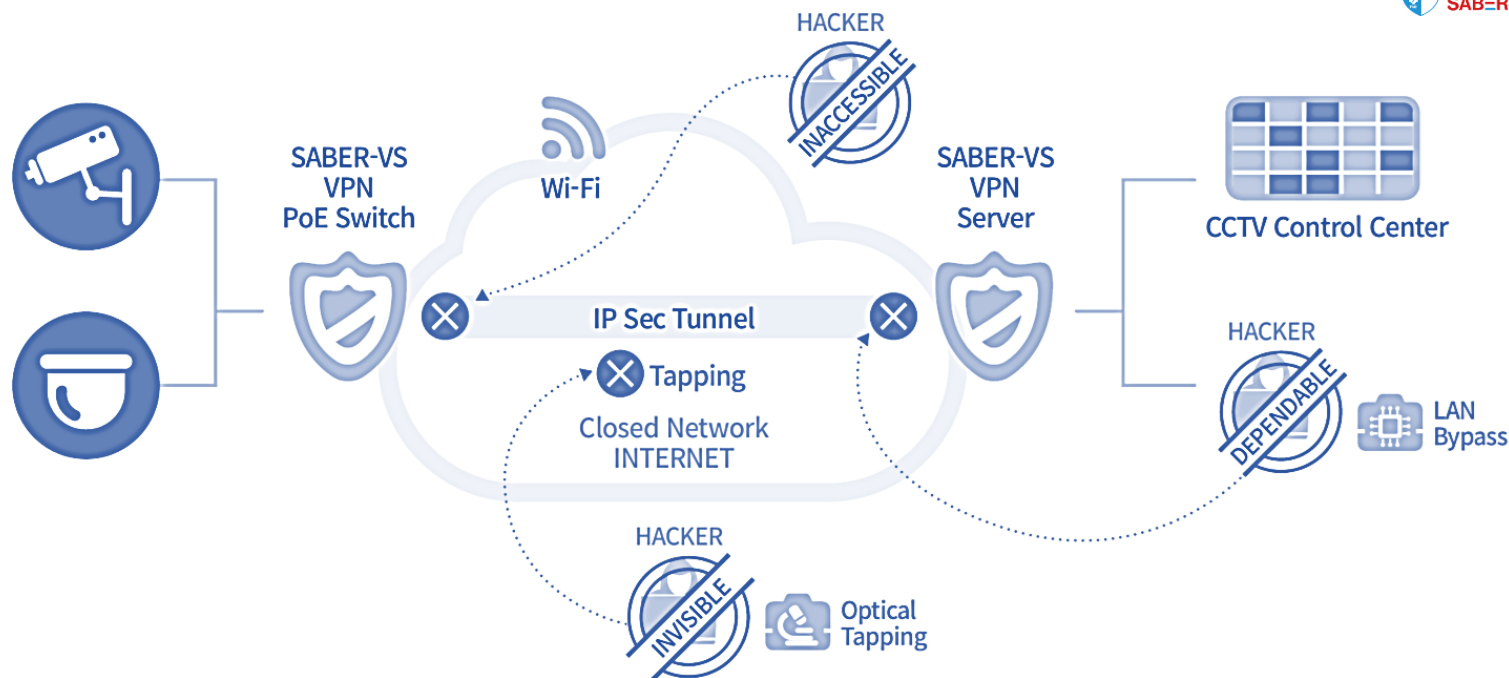
Vulnerability Management- receive periodic reports of risk levels for each of the assets in your ICS network. The reports enable you to dive deeply into the risk factors in the network and prioritize mitigation steps.

Configuration Control- tracks and logs all configuration changes, whether executed by a human user or by malware, over the network or physically on the device.

Network Security

SABER-VS Intelligent VPN System for CCTV security

SmartVPN SABER-VS

HACKER — INACCESSIBLE

SABER-VS VPN PoE Switch

Wi-Fi

SABER-VS VPN Server

CCTV Control Center

IP Sec Tunnel

Tapping

Closed Network INTERNET

HACKER — DEPENDABLE

LAN Bypass

HACKER — INVISIBLE

Optical Tapping

CCTV Control Center
Integration of outdoor/indoor devices difficult to countermeasure immediately due to broad installation in distributed area

24 hours Unmanned Service Device
Integration of unmanned service devices need to connect on the network such as ATM and KIOSK

Restricted Area
Integrated security management of remote unmanned devices installed strict restricted area (ex. Military unit)

Real-time Streaming Service
Guarantee constant transmission of image data

Lossless Streaming Service
Original blocking of data loss during the transmission

Remote Power Management
Minimize the fault by providing remote reset function when there is fault

Digital Forensic

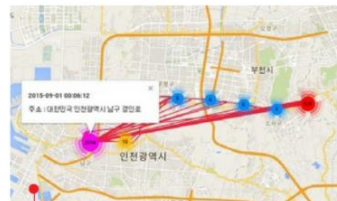## DSM Professional Mobile Forensics Solution

DSM
D.S.M FORENSIC

Automatic login screen is shown when you select web data

Track suspect's movement path

Identifying the suspect's main radius of activities through clustering

Incomparable Speed	**Completeness of Data**	**Convenient Interface**
Extract / analyze at an Average speed of 40 minutes	Evidence collected always Has the same hash value	Faster and more convenient With intuitive interface

Broad recovery range	**Optimized for various SNS**
Support call log / multimedia Information recovery	Compatible with the highest number of SNS in the market

Telecom Gateway

Voice & Video / Signaling Solutions

Trunk Gateway / IMS Media Gateway

provides media conversion functionality enabling voice traffic to utilize

many different types of circuits and be transported across IP networks

Signaling Gateway / SS7 STP

relaying and routing signal messages between different networks

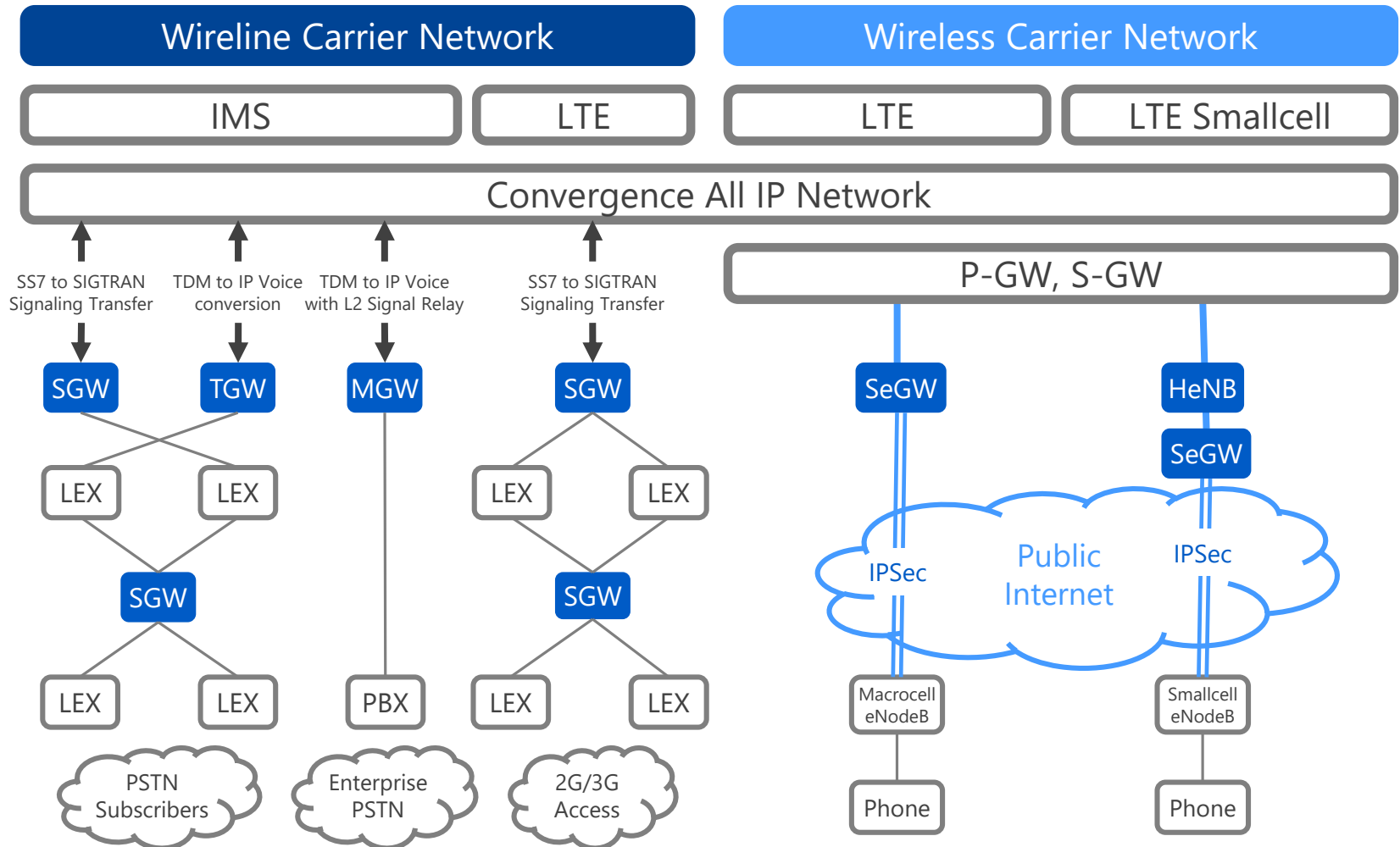(ex. PSTN, IP, 2G/3G mobile and IMS networks)

Packet Gateway Solution

IPSec Gateway / LTE Smallcell Gateway

provides integrated IPSec security function and designed to handle

the voice & message traffic from large scale small-cell deployments

with purpose-built hardware and software

Telecom Gateway

Position in Telecom Network

Wireline Carrier Network	Wireless Carrier Network

IMS	LTE	LTE	LTE Smallcell

Convergence All IP Network

P-GW, S-GW

SS7 to SIGTRAN Signaling Transfer
TDM to IP Voice conversion
TDM to IP Voice with L2 Signal Relay
SS7 to SIGTRAN Signaling Transfer

SGW   TGW   MGW   SGW   SeGW   HeNB

SeGW

LEX LEX   LEX LEX

SGW   SGW

Public Internet

IPSec   IPSec

LEX LEX   PBX   LEX LEX   Macrocell eNodeB   Smallcell eNodeB

PSTN Subscribers   Enterprise PSTN   2G/3G Access   Phone   Phone

COMPANY OVERVIEW

Profile

Company Name	SMEC Co., Ltd.
CEO	Young Sup Choi
Capital	11.6M US$
KOSDAQ Listed	2009
Established	March 1996
Main Business	ICT Business Machinery Business
Employees	200+ (2020)

Address	HQ Machinery	157-10, Goldenroot-ro, Juchon-myeon, Gimhae-si, Gyeongsangnam-do, South Korea
	ICT	23-12, Dongtansandan 9-gil, Hwaseong-si, Gyeongi-do, South Korea

Website	www.esmec.com

Facilities

Gimhae HQ & Machinery

Daegu Factory

Overseas Branches
U.S. EUR VTN
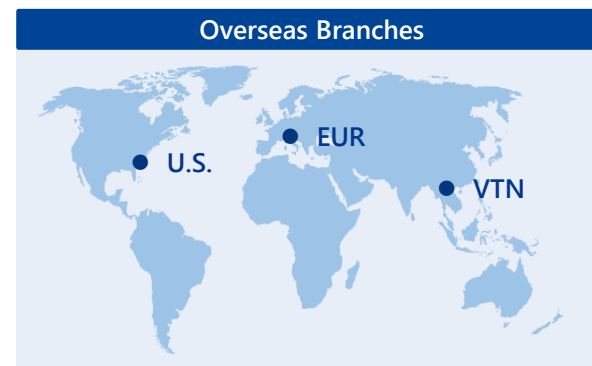
History

1989 ~ 2000

1989	• Commencement of Samsung Heavy Industry machine tool business
1996	• Newgrid established
1997	• Development of R2-No7. Interworking Gateway

2001 ~ 2009

2001	• 2G IWF Supply (KTF)
2004	• SG Supply (SKT, LGU+)
2005	• SG Supply (KT, KTF)
2006	• TG Supply (KT)
	• IMS MG Supply (NEC, JP)
2008	• 3G VG Supply (KT)
2009	• Listed in KOSDAQ
	• IMS SBC Supply (KT)

2011 ~

2011	• SMEC Merged
	• Qualified ISO 9001:2008
2012	• LTE Femto GW Supply (LGU+)
2014	• LTE Femto GW Supply(CHT, TW)
2015	• D-TRS solution Supply (KEPCO)
2016	• T1 Wi-fi Controller Supply (KT)
2018	• Cybereason & Indegy Contract for B2X Security Business
	• Qualified World Class 300 (R&D)
2019	• CC Certification Qualified for Smart VPN Switch
	• Launched specialty solutions for Mobile Forensic

❚ Awards

- World Class 300 Qualified
- Digital Innovation Grand Prize (Minister, Ministry of Science and ICT)
- TL9000 Quality Management System Qualified (No. T05-026)
- INNO-BIZ nominated (No. 5051-0342)
- CC security certification Qualified (2019)

Business Area

ICT

- Telecommunication
- Power ICT
- Network Security
- Digital Forensic

SMART & GLOBAL
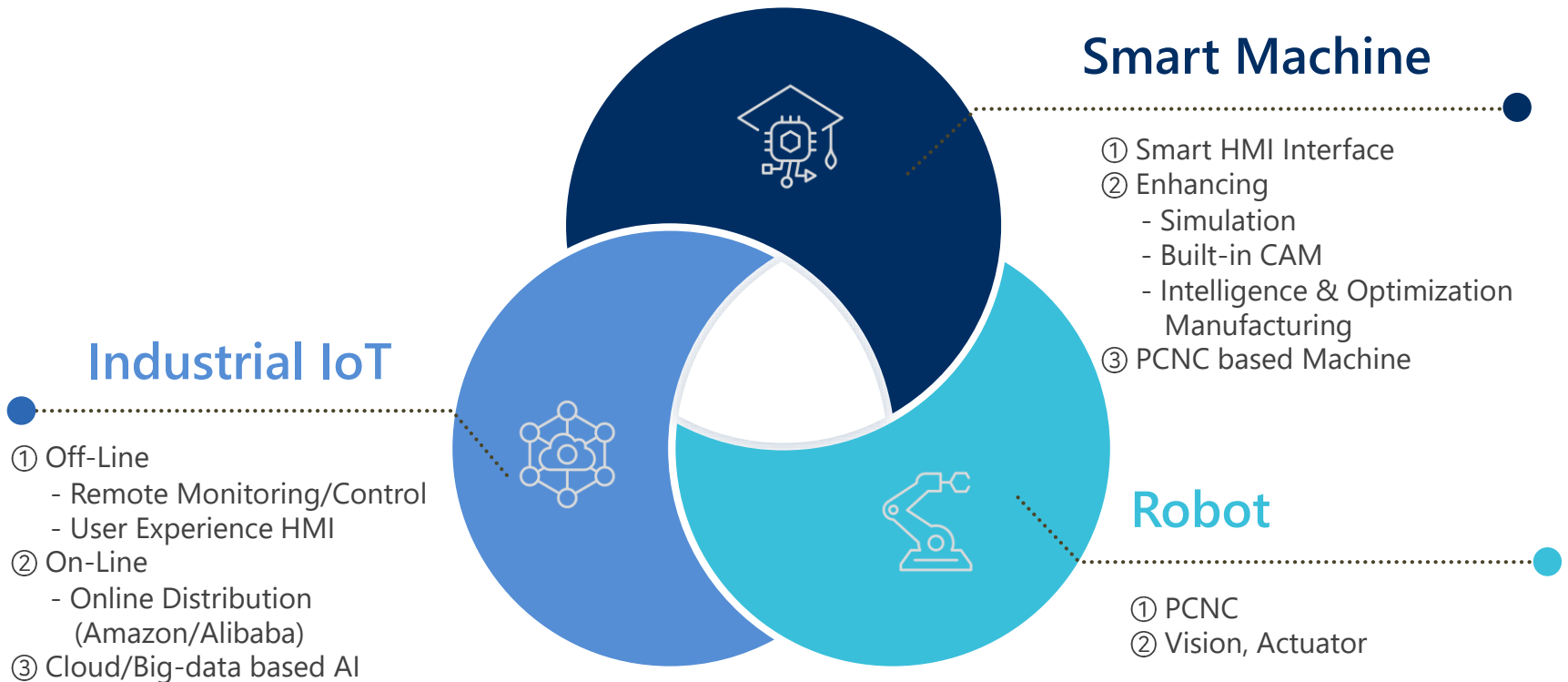
Machinery

- Machining Center / CNC
- Robots
- Factory Automation

Machinery Business

Main Product	Number of Employees
• Machining Center / CNC • Factory Automation	200 R&D Center: 40
Factory in Korea	**2018 Productivity**
• Gimhae Factory (Machine Tools Business) • Daegu Factory (FA Business)	2,000 units / year
Production Capability	**2018 Network**
300 units / month	Overseas sales network In 48 countries

Organically connected machine tools based robot and automation systems

CNC Lathes

High Speed and High Rigidity LM Type Lathe

Heavy Duty Box Way Type Lathe

Mill Turn Lathes

Y-axis Lathes

Special Purpose Lathes

Machining Centers

High Speed, High Precision MCT for Parts

Heavy Duty, High Precision Box Way MCT

High Speed Die/Mold MCT

Specialized Long Axis MCT for LCD

High Speed, High Precision H-MCT

Total Automation System

GANTRY/ROBOT

CNC & MCT Automation

Assembly Line / Inspection Automation

VISION SYSTEM

JIG FIXTURE

Super Finishing / Special Purpose Machines

Individual Module System

Flexible Customer Service

Various Industrial Robot Development

Block Building System(BBS)

Excellent Technology

Robot / Factory Automation

Smart Machine

① Smart HMI Interface
② Enhancing
   - Simulation
   - Built-in CAM
   - Intelligence & Optimization
    Manufacturing
③ PCNC based Machine

Industrial IoT

① Off-Line
   - Remote Monitoring/Control
   - User Experience HMI
② On-Line
   - Online Distribution
    (Amazon/Alibaba)
③ Cloud/Big-data based AI

Robot

① PCNC
② Vision, Actuator

Customers & Experiences

Customers & Partners

Customers

Partners

Experiences

Gateway Solution

DOMESTIC

Customer	Project Title
kt	NGN(BcN) Truck G/W, Signaling G/W
	VoIP Commercial Project Media G/W
	WCDMA Core Network Signaling G/W
	Session Border Controller (SBC)
	WCDMA Data Network WTCP (NI)
SAMSUNG ELECTRONICS	Signaling G/W, Trunk/Media G/W Partner
	Security Packet G/W, SBC Partner
SAMSUNG SDS	VoIP Backbone Network Signaling G/W
LG U+	CDMA Core Network Signaling G/W
	CDMA Core Network IGS-TG
	C4/C5 Media G/W
	LTE Femto GW
SK telecom	WCDMA Core Network Signaling G/W
SK broadband	C4/C5 Media G/W, NGN Signaling G/W
kct	Cable VoIP Project Media G/W
	MVNO Signaling G/W

OVERSEAS

Customer	Project Title
中華電信 ChunghwaTelecom	LTE Femtocell Gateway
UQ WiMAX KDDI	LTE Smallcell Security Gateway
YTL COMMUNICATIONS	WiMAX Signaling Gateway
FUSION QTNet	VoIP Project Media G/W
NTT	VoIP Project Trunk G/W
S·Fone	CMDA Project Signaling G/W
TELE2	Triple Play Service (TPS) Truck G/W
	Triple Play Service (TPS) Signaling G/W
etisalat	WiBro Signaling Gateway
STC	Triple Play Service (TPS) Signaling G/W

Experiences

Radio Communication Systems : TETRA & AMI / Electricity

DOMESTIC

Customer	Project Title
KEPCO	Digital TRS system Maintenance
	TETRA Connection Server
	TETRA Modem for DAS
	TETRA Base Station
	PLC Modem, 460,000 EAs (2016 ~2019) (KEPCO, nationwide)
KCTC	B-CDMA Modem for DCU, 60,000 EAs (KEPCO, nationwide)

OVERSEAS

Customer	Project Title
MONGOLIA	TETRA network for EIN system
MOZAMBIQUE	TETRA network for EMIS Phase I
INDONESIA	Basic design & Site survey for Digital TRS system for National Police in East and West Kalimantan
RWANDA	The Project of Tax Tariff system Improvement
QATAR	EMIRI Navy Base Radio Communication System
LAOS	Digital Electricity Meter Procurement

Experiences

Cyber Security Solution

Customer	Project Title
KNPA KOREAN NATIONAL POLICE AGENCY	Next-generation security control analysis system construction (Cybereason EDR)
KOMIPO KOREA MIDLAND POWER CO.,LTD.	Purchase of Endpoint security system (Cybereason EDR)
KOEN	Establishment of Endpoint cyber security platform (Cybereason EDR)
신한금융지주회사 SHINHAN FINANCIAL GROUP	Group terminal malicious code anomaly detection and response solution (Cybereason EDR)

Smart VPN Solution

Customer	Project Title
kt	KT Communication Branch Surveillance system Video Encryption
바다의땅,통영 Tongyeong	Tongyeong City Marine disaster prevention system
kepco	Encrypted Network Switch for TETRA Base Station
KONEPS Korea ON-Line E-Procurement System	Surveillance System Video Encryption for - Daegu Metropolitan Office of Education - Hanbom High School

MAKE SMART WORLD