



FOEX is a knowledge-based service company specialized in explosion proof.

For Explosion Proof!!



H₂

Company Introduction



Thank you for visiting FOEx, which aims to be a specialized E&I(Engineering and Inspection) company.

"FOEx" is abbreviation of "For Explosion Proof". As international society is entering the era of eco-friendly energy, the usage of carbon-neutral gas is growing as well as wind and solar energy.

We are expecting hydrogen-based society will come eventually, and predicting the necessity of advanced explosion proof technologies for hydrogen gas and other carbon-neutral gas going to increase internationally.

FOEx will serve as a professional engineering company that focus on technologies for diagnosis on ships and plants, engineering of Ex-equipment, research on explosion problems that inevitably accompanying with carbon-neutral hydrogen-based society.

As safety starts with trust, FOEx, a company seeking for trust in technology, products, and people, promises that we'll grow into a company that fulfills social responsibilities.



Training



Consulting



Technical Service



Engineering



Research & Development



Summary

Company Name	FOEx Co., Ltd.
CEO	Kang Gyuhong
Established	2021.06.28
Location(H.Q)	602, Ulsan Green Car Technology Center, 362-11 Jongga-ro, Jung-gu, Ulsan (44428), Republic of Korea
R&D Center	9F 902, 44, Charyong-ro 48beon-gil, Uichang-gu, Changwon-si, Gyeongsangnam-do (51391), Republic of Korea
Certificate	<ul style="list-style-type: none">✓ IECEx Certified Service Facility✓ IECEx CoPC (Certificate of Personnel Competence)✓ IECEx RTP (Recognized Training Provider)

Business Area

Engineering

- ✓ Hazardous area classification
- ✓ Explosion proof solution
- ✓ Safety assessment and solution
- ✓ Hydrogen Safety
- ✓ ESG Safety
- ✓ Electrical Machine

Education and Consulting

- ✓ IECEx CoPC training
- ✓ Technical training
- ✓ **Motor, Electrical engineering
- ✓ Safety, Hydrogen
- ✓ Certification Consulting
- ✓ **IECEX, ATEX, UL, KCs

IECEX Service Facility (Hazardous area services) field engineering

- ✓ Ex Inspection and maintenance
- ✓ Ex Design and selection
- ✓ Ex Installation

SaaS platform Business

- ✓ Ex ICT
- ✓ Ex SaaS platform

| Consulting | Consulting on the development and certification of IECEx explosion-proof equipment, LNG-hydrogen fuel cell risk assessment, safety standard development, and more, for public institutions, companies, and associations.

| Engineering Services | Safety and diagnostics for explosion-proof zones on ships and plants, development of explosion-proof solutions, and other safety and diagnostic projects for companies and public institutions.

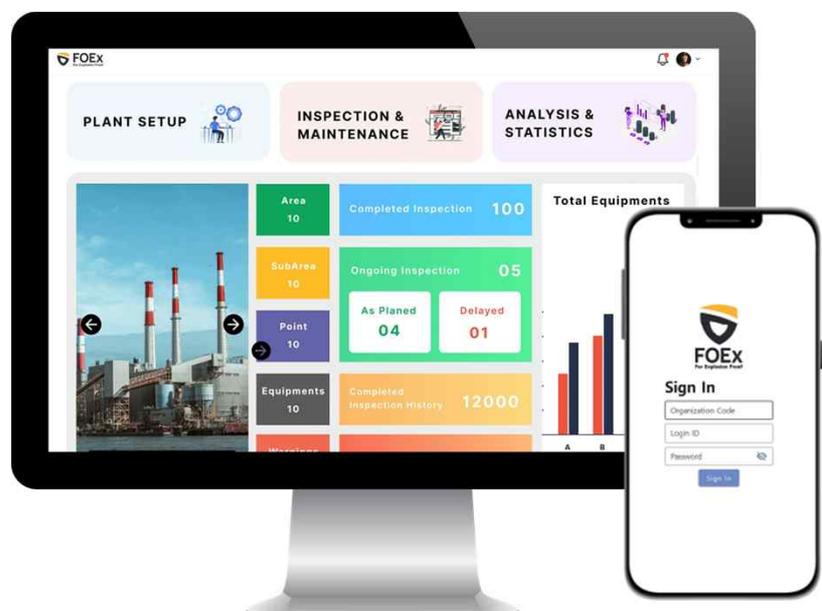
| Training | Education and testing on international explosion-proof (IECEX) personal qualifications for those in the chemical engineering and gas-fuel energy fields.

| SaaS Platform | SaaS platform business, development and provision of explosion-proof ICT and explosion-proof SaaS platforms.

FOEx Suite Concept

The FOEx Suite platform provides web-based safety diagnosis, management and real-time status diagnosis solutions for a number of information to manage operational safety, facility diagnosis and compliance with domestic and international standards and regulations in explosion-prone areas such as LNG, hydrogen and ammonia ships.

Particularly, it is a SaaS (software-as-a-service) based smart platform that meets the inspection standards required by IECEx, an international explosion-proof standard, and KCs explosion-proof certification, and has a user's plant database and asset management system.



CLOUD

Customization Reflecting Customer Requirements



External Server

Use the cloud server integrated with the FOEx Suite by default.



Internal Server

Excludes the cloud server, allowing users to operate their own servers independently.



Hybrid Server

Applies both external and internal servers simultaneously within the FOEx Suite.

Introduction of FOEx Suite Technology

Smart maintenance for hazardous area industries

- Digitalization of explosion proof zone safety diagnosis is slower than in other fields.
- Predictive maintenance approach possible through condition monitoring.
- High barrier to entry.
 - Business owners think it is expensive.
 - There is insufficient data. Therefore, they are unaware of the problem.
- Unexpected downtime is a major challenge for companies operating in hazardous industries → recognized as a serious problem industries.)
- In fact, 82 per cent of the oil and gas businesses surveyed have identified predictive maintenance as a strategic priority to combat this.

Explosion safety management Web App. and Mobile App.



Digitalization in the explosion proof industry



24 Maintenance

Better, connected
One solution? The implementation of digital technologies. In particular, condition monitoring. Manufacturers that are ahead of the digital adoption curve have focused heavily on investing in plant connectivity and successful maintenance regimes to safeguard critical assets. In fact, it's often argued that, to minimize downtime effectively, maintenance technologies should be the most important aspect of digitalization.

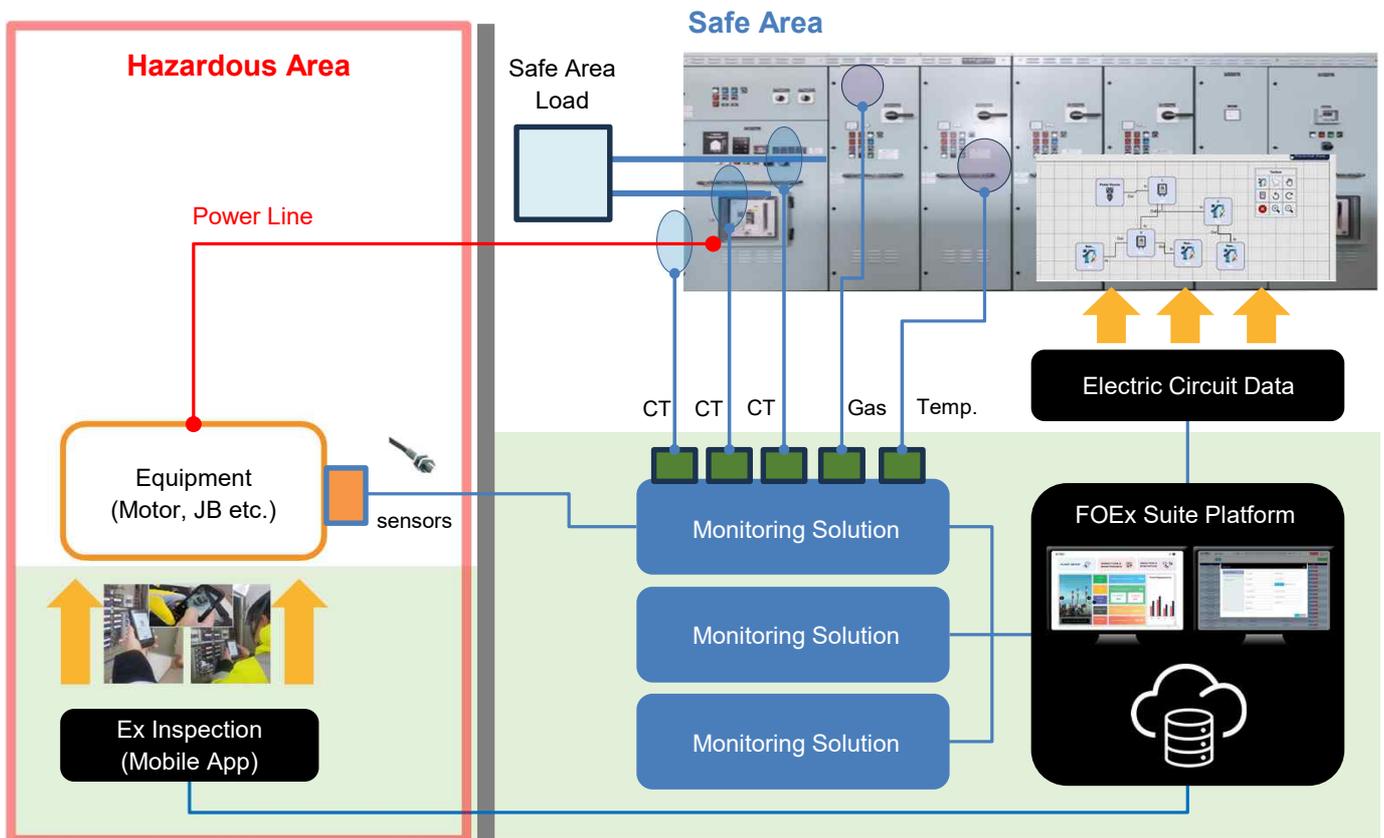
Maintenance 4.0 is the phrase used to describe the digitalization of maintenance and includes a basic view of sources of data, analysis and recommended actions to ensure asset function and management are digitally assisted. Crucially, these technologies must be able to diagnose problems faster than a human engineer, often using artificial intelligence and machine learning techniques to do so.

Many of the issues that result in unplanned downtime in hazardous area facilities won't be able to be picked up in a visual inspection. For example, common causes of motor failure include bearing wear, shaft misalignment and winding insulation, which can all only be identified by vibration and temperature analysis.

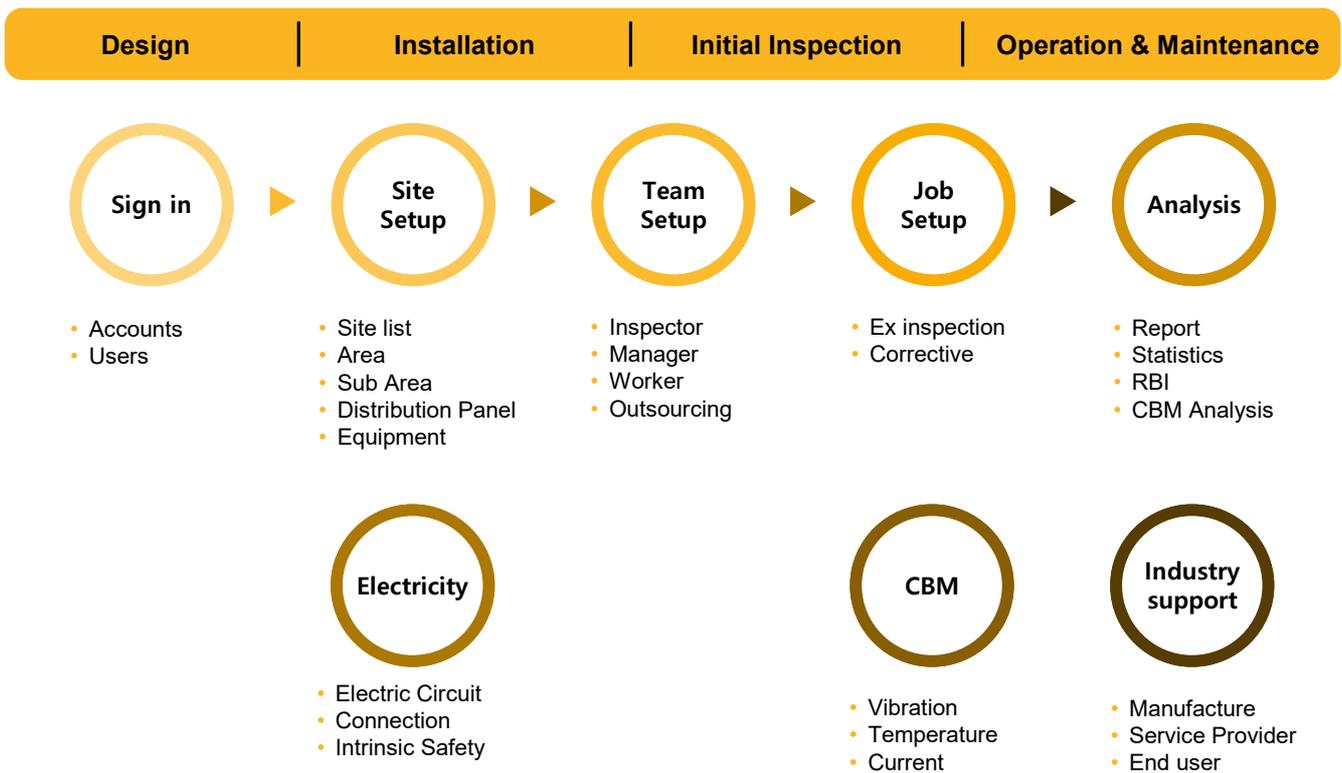
Condition monitoring sees smart sensors connected to industrial equipment that makes, when the sensors capture data

Smart maintenance for hazardous area industries

Overview of FOEx Suite



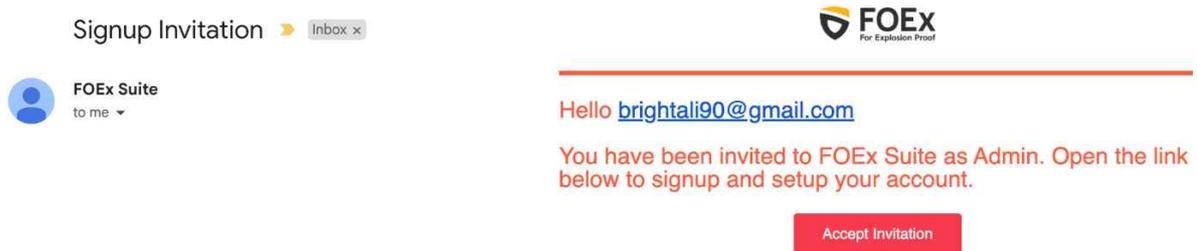
FOEx Suite Structure



Introduction of FOEx Suite Technology

Sign in

When invitation send user will receive an email with a link to accept the invitation.



On clicking the Accept Invitation button signup form will appear.

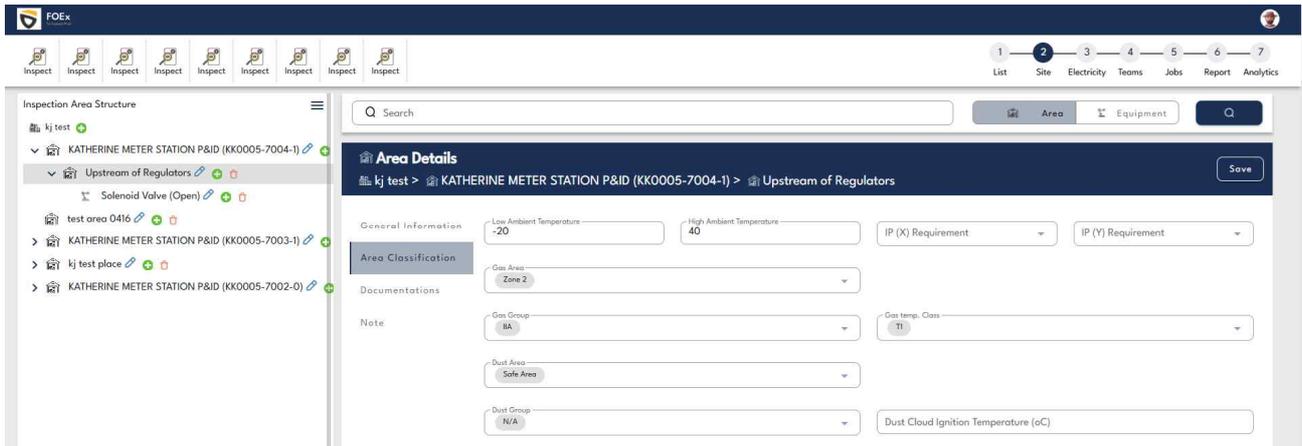


Site List

#	Site ID	Site Name	Orgn ID	Orgn Name	Actions
1	3b9bdcc-88a8-40cc-82e4-a2d6b6269f4e	0			Edit Site Team Jobs Delete
2	8890ef18-775f-4f38-ae23-daf9d55bdadf	000			Edit Site Team Jobs Delete
3	5584fe1b-0fe3-4a0d-be6b-a4b0db152e93	01			Edit Site Team Jobs Delete
4	ec3a2964-d989-467c-8ae7-fa4cblc52c03	1			Edit Site Team Jobs Delete
5	e2cb183f-fbec-4fc8-9a68-3bc4515324e8	11 Test			Edit Site Team Jobs Delete
6	1e611fb3-b6f9-4303-b102-d09d03c71bc	11			Edit Site Team Jobs Delete
7	c3908e17-9069-4ad1-b796-439769124665	111			Edit Site Team Jobs Delete
8	ae91ce4c-8a47-4a47-91ac-4997b6add8b5	111			Edit Site Team Jobs Delete
9	3eff9225-248e-4009-ab5f-27e60f0e8771	11111			Edit Site Team Jobs Delete
10	ca5e1c80-c2c9-4f1d-8b41-b3974c6d252c	112233			Edit Site Team Jobs Delete

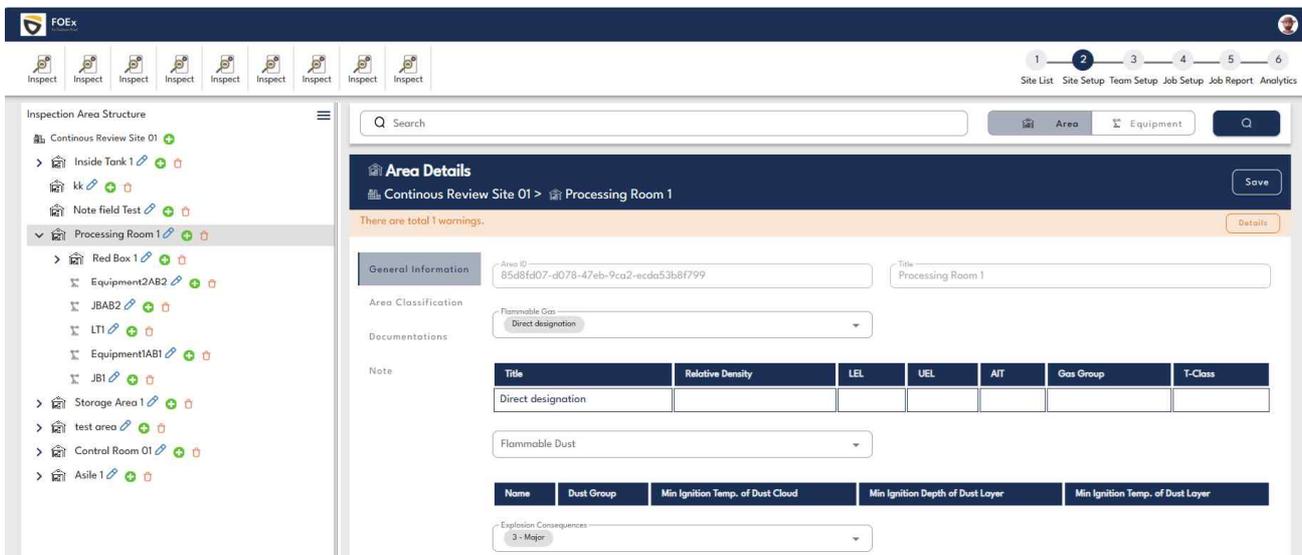
Introduction of FOEx Suite Technology

Sign Setup



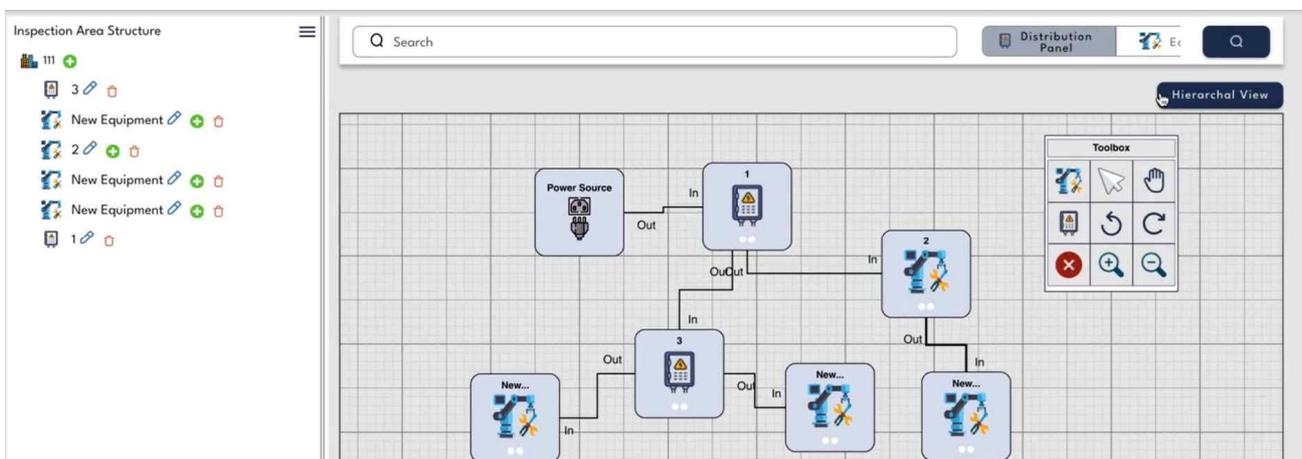
The screenshot shows the 'Area Details' page for 'Upstream of Regulators' at 'KATHERINE METER STATION P&ID (KK0005-7004-1)'. The interface includes a search bar, navigation tabs for 'Area' and 'Equipment', and a 'Save' button. The 'General Information' section contains fields for 'Low Ambient Temperature' (-20), 'High Ambient Temperature' (40), 'IP (X) Requirement', and 'IP (Y) Requirement'. The 'Area Classification' section has a 'Gas Area' dropdown set to 'Zone 2'. The 'Documentations' section includes 'Gas Group' (IA), 'Gas temp. Class' (T1), 'Dust Area' (Safe Area), and 'Dust Group' (N/A). A 'Note' field is also present.

Database Input and Management



The screenshot displays the 'Area Details' page for 'Processing Room 1' at 'Continous Review Site 01'. A warning banner at the top indicates 'There are total 1 warnings'. The 'General Information' section shows 'Area ID' (85d8fd07-d078-47eb-9ca2-ecda53b8f799) and 'Title' (Processing Room 1). The 'Area Classification' section has 'Flammable Gas' and 'Direct designation' dropdowns. The 'Documentations' section includes a table with columns: Title, Relative Density, LEL, UEL, AIT, Gas Group, and T-Class. Below this is another table with columns: Name, Dust Group, Min Ignition Temp. of Dust Cloud, Min Ignition Depth of Dust Layer, and Min Ignition Temp. of Dust Layer. The 'Explosion Consequences' dropdown is set to '3 - Major'.

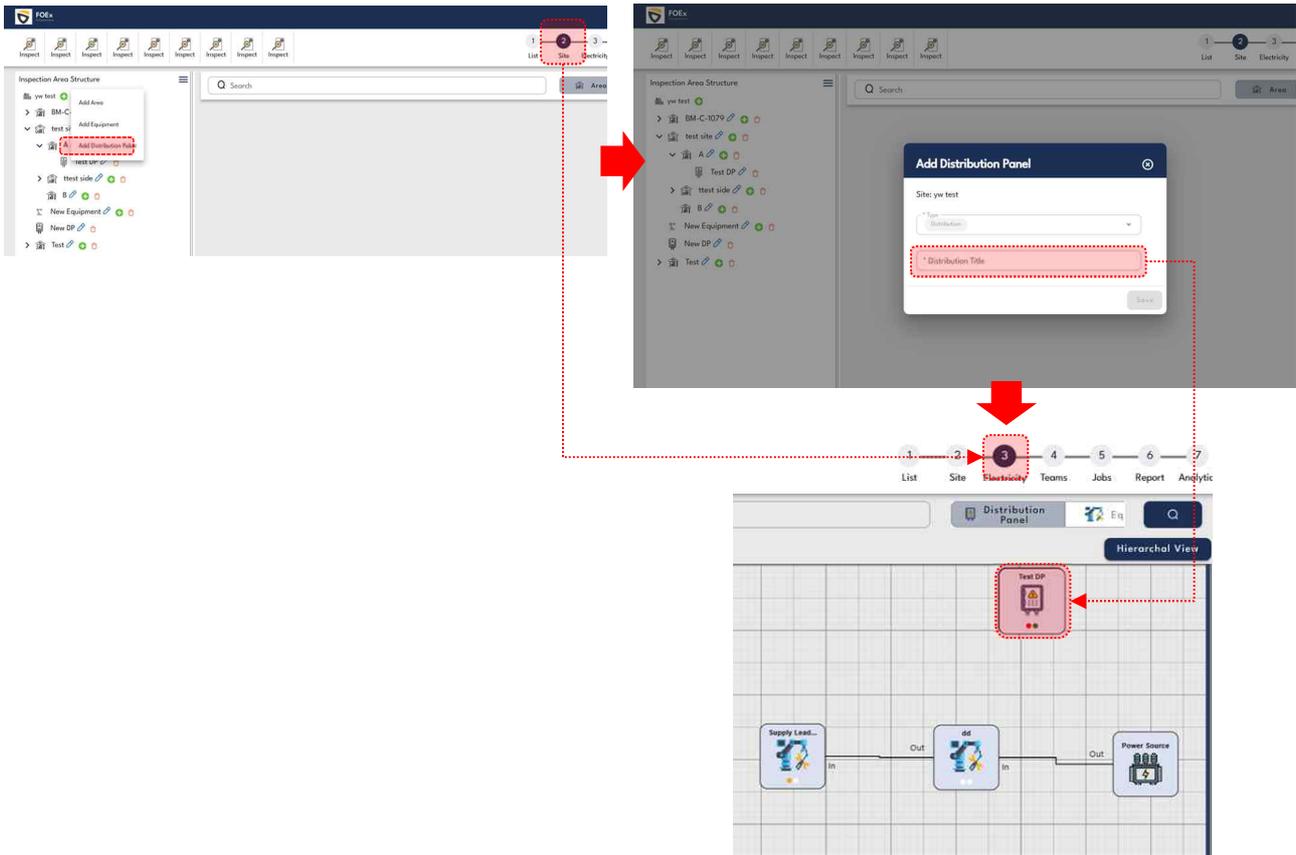
Electric Circuit Solution



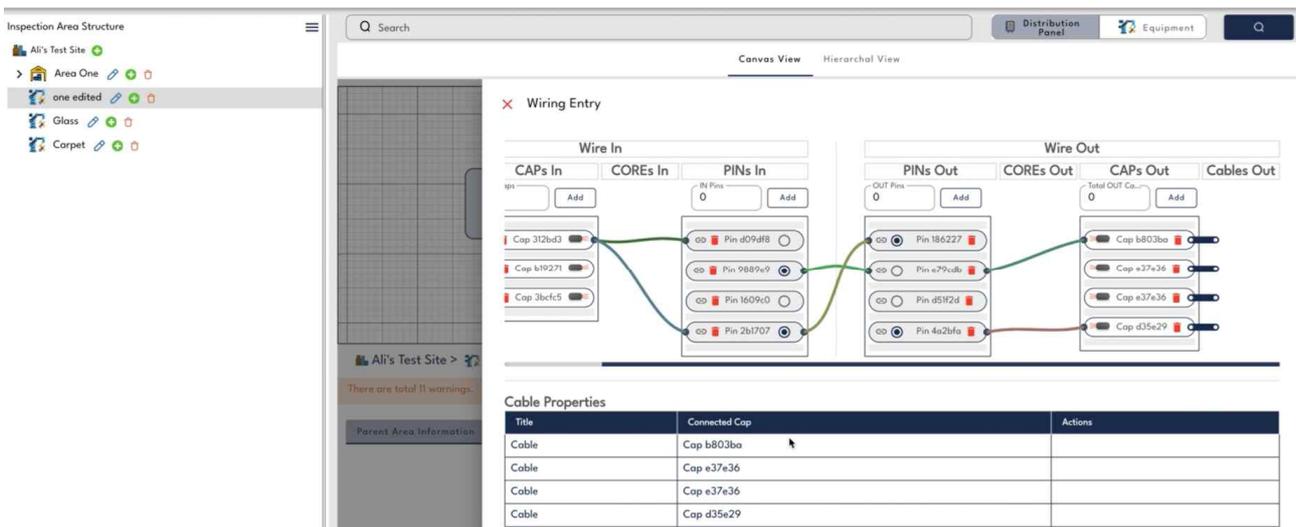
The screenshot shows the 'Electric Circuit Solution' interface. It features a 'Distribution Panel' and 'Ec' tabs, a search bar, and a 'Hierarchical View' button. The main area displays a circuit diagram with a 'Power Source' connected to three equipment units (1, 2, and 3). Each unit has 'In' and 'Out' ports. A 'Toolbox' is visible on the right side of the diagram.

Introduction of FOEx Suite Technology

Object Setup Process

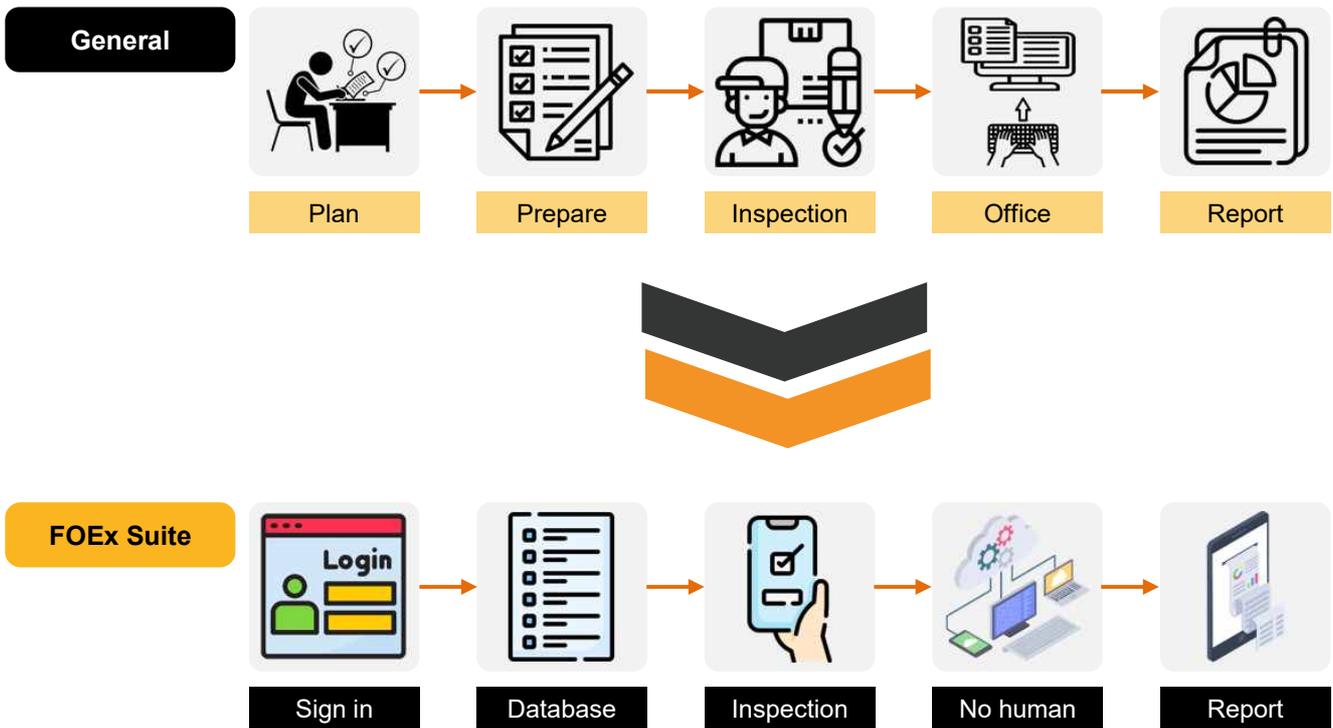


Object Setup Process



Introduction of FOEx Suite Technology

JOB Suite Web & Mobile App → Inspection FLOW



Mobile App for field inspector

Assigned Site

Assigned Jobs

Inspection Items

Inspection Result

Assigned Site

Assigned Jobs

Inspection Items

Inspection Result

Introduction of FOEx Suite Technology

Tagging Device → Mobile App

kj test **kj test**

Ready to scan **Scan Complete**

Hold your phone near the object to scan.

Tag ID: bcf6dca5500104e0

[Go to area/equip detail](#)

Scan → **Identification** → **Information & Perform**

FOEx NFC

Equipment Detail
Tag ID: 57536b1f

GENERAL INFORMATION **AREA** **EXPLOSION**

Client
client

Project Name/Number
000000 Storage area

Equipment Name
T86-035

Tag Information
T86-035
01-12-2022

Electrical Circuit Connection
04-12-2022

Manufacturer
Supplier

Model No.
A 31

Serial No.
12345

IP (X)
01-12-2022

IP (Y)
04-12-2022

Auto Report Generation

FOEx

Inspect Inspect Inspect Inspect Inspect Inspect Inspect Inspect Inspect Inspect

1 2 3 4 5 6 7 8

List Dashboard Site Electricity Teams Jobs Analytics Report

Load Reports:

Date

Yesterday

Monthly

Quarterly

Yearly

Year

Load Report

Generate Area Report **Generate Equipment Report** **Generate Inspection Report (Ex d)** **Generate Inspection Report (Ex i)** **Generate Inspection Report (Ex p)**

Content

Report Listing

#	Date Generated	Report Type	Generated By	File Name	Actions
1	2024-08-20	AREA_REPORT		area-report-1724140474245.docx	📄 🗑️
2	2024-08-20	INSPECTION_REPORT		report-generation-test-site-01-1724122336727/inspection-report_exd_1724124101013.docx	📄 🗑️
3	2024-08-20	EQUIPMENT_REPORT		report-generation-test-site-01-1724122336727/equipment-report_1724123576074.docx	📄 🗑️
4	2024-08-20	AREA_REPORT		area-report-172412350559.docx	📄 🗑️
5	2024-08-20	AREA_REPORT		area-report-1724122733918.docx	📄 🗑️

Calendar

September 2024

Generated Report

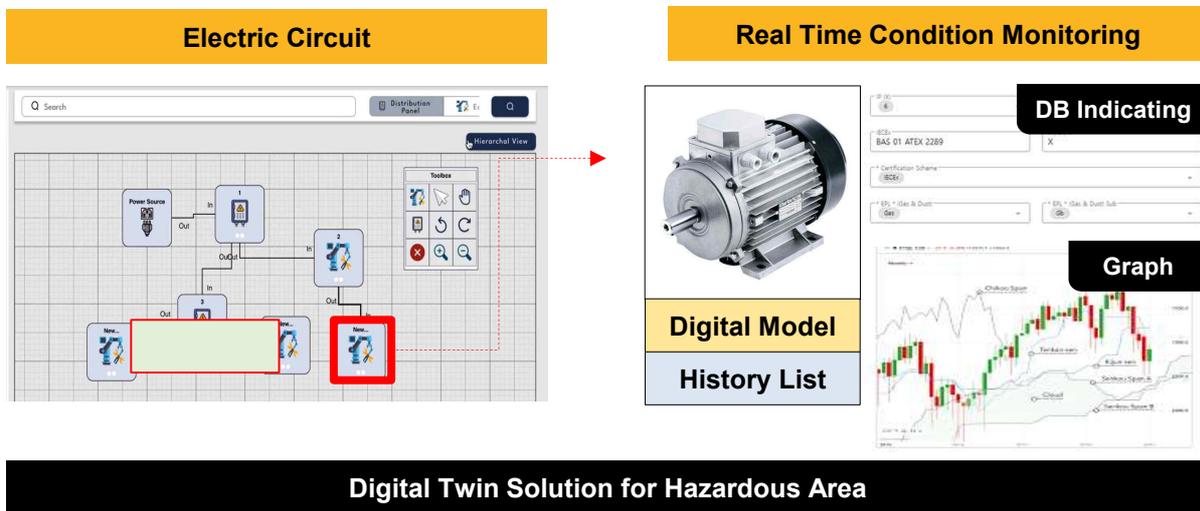
Introduction of FOEx Suite Technology

Statistical Analysis



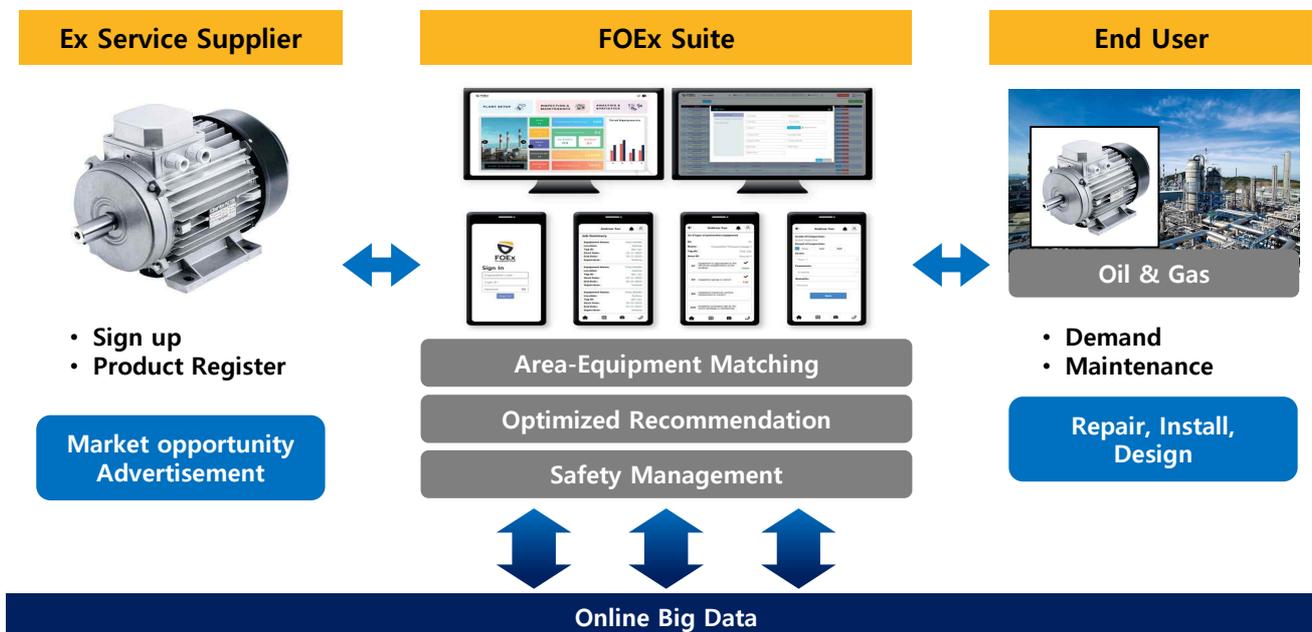
Condition Monitoring Solution

On-Line Condition Monitoring with Electric Circuit Solution



Industry Support

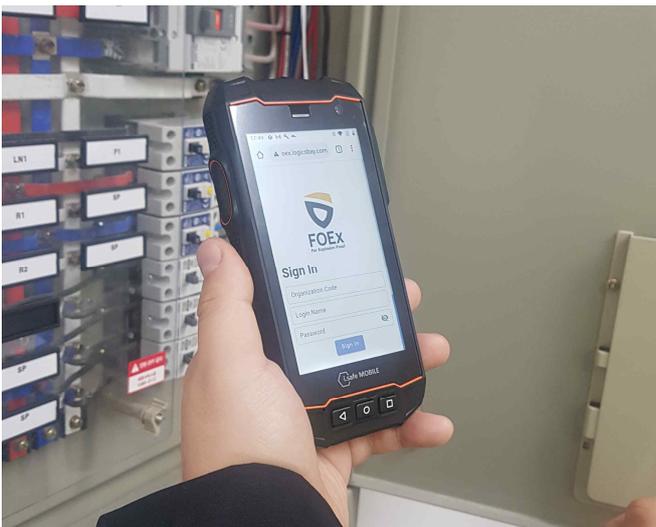
Explosion Proof Industry Support Platform



FOEx Suite Product Map

Division	Demo	Basic	B+M1	B+M2	B+M3	CBM	IS
Function							
- Site Setup	○	○	○	○	○		○
- Electric Circuit	○			○	○		○
- Team Setup	○	○	○	○	○		○
- Job Setup	○	○	○	○	○		○
- Report	○	○	○	○	○		○
- Analysis		○	○	○	○		○
- Risk Based Management					○		○
- Condition Based Monitoring						○	○
- Industry Support			○	○	○		○

FOEx Suite Field Solution



(44428) 602, Ulsan Green Car Technology Center, 362-11 Jongga-ro, Jung-gu, Ulsan, Republic of Korea

TEL +82-52-277-8922

FAX +82-55-293-0255

E-mail ghkang@foex.kr

Website <http://www.foex.kr>