



SMART SITE SAFETY · CONFINED SPACE

Confined Space Smart Monitoring

Smart gas monitoring × AI worker access — real-time sensing of the atmosphere inside the confined space, with AI facial recognition guarding the entrance. Instant sound-and-light alarms on exceedance; records and reports on one cloud platform. Built for civil, tunnelling, drainage and utility works.



Real-time gas monitoring

O₂, CO, CO₂, H₂S, CH₄,
temp/humidity & PM2.5,
measured continuously



AI facial recognition

Verifies each worker before entry;
records upload live



Instant alarms

Shaft-top LED readout + beacon,
triggered on exceedance



Cloud CMP platform

Multi-project management;
searchable, exportable records

BUILT FOR

Civil works (bridges · piers)

Tunnelling works

Drainage & watermain

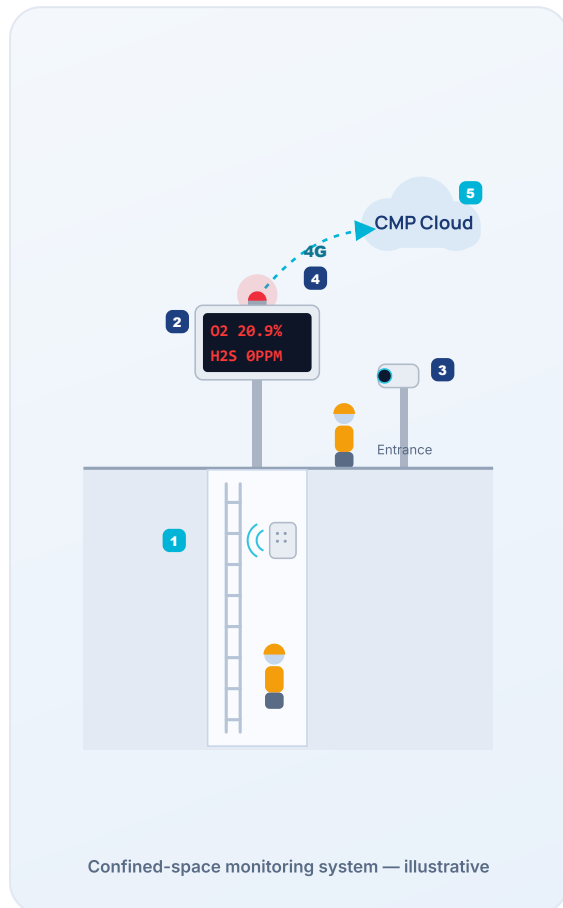
Utility works

Smart Site Safety System (SSSS)

— HOW IT WORKS

Monitor inside the shaft. Guard the entrance.

Gas sensors continuously measure the atmosphere inside the confined space, mirrored instantly on the shaft-top LED display and warning beacon, while an AI recognition camera verifies every worker at the entrance. All data travels over 4G to the cloud Central Management Platform (CMP) — visible from the office or a phone at any time.



1 In-shaft gas sensors

Continuously measure oxygen, carbon monoxide, carbon dioxide, hydrogen sulphide, methane, temperature/humidity and PM2.5 — the key atmospheric risks of confined spaces.

2 Shaft-top LED display + beacon

Live readings visible to the whole crew; a sound-and-light alarm triggers the moment a safety threshold is exceeded.

3 Entrance AI camera

Facial recognition verifies each worker, logging identity, department, card number and entry/exit time.

4 4G data uplink

Sensor readings and access records upload in real time — no site cabling required.

5 Cloud Central Management Platform (CMP)

Projects, devices, personnel, alarms and reports managed centrally — accessible from office and mobile.

STEP 01



Enrol

Workers register face photo, department, card number and certificate details via web or mobile app.

STEP 02



Verify at entrance

The AI camera identifies each worker automatically; pre-entry records upload instantly.

STEP 03



Monitor

Seven atmospheric parameters measured continuously, shown live on the shaft-top LED display.

STEP 04



Alarm & report

Exceedances trigger on-site alarms and platform records; monthly reports are generated automatically.

— WHERE IT'S USED

Civil works



Bridges, piers & structures

Tunnelling



Excavation & maintenance

Drainage & water



Culverts, manholes & mains

Utilities



Cable tunnels, ducts & plants

SSSS



Fits into a Smart Site Safety System (SSSS) deployment — this solution can serve as the confined-space module of your site safety system, planned alongside CCTV, access control and other site measures, with supply, installation and maintenance handled end-to-end by New Forward.

Monitor the environment – and the people entering it.



Smart Gas Monitoring · 智能氣體監測

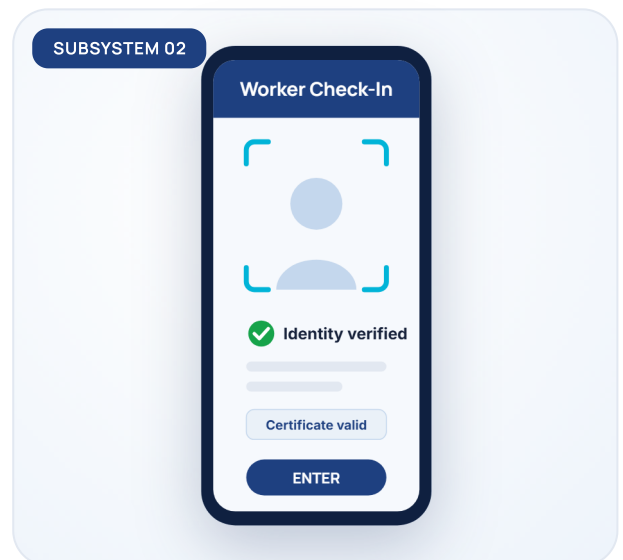
Sensors continuously measure the confined-space atmosphere; readings show live on the shaft-top LED display, and every alarm is managed centrally on the CMP.

- Seven parameters, live**
O₂, CO, CO₂, H₂S, CH₄,
temp/humidity, PM2.5
- Sound & light alarm**
Instant on-site warning, logged on
the platform
- Searchable records**
Readings support search, filter &
export
- On-site LED readout**
Big shaft-top display — visible at a
glance
- Custom thresholds**
Pass/fail values set per project
requirement
- Multi-project**
One platform for devices across
sites

Smart Worker Access · AI 人員進出監測

An AI facial-recognition camera at the entrance, paired with web and mobile-app enrolment — every entrant's identity and certificate status at a glance.

- AI facial recognition**
Identifies each entrant; records
upload live
- Web + app enrolment**
Face photo, department & card no.
registered once
- Live access records**
Pre-entry identity log — search &
export
- Certificate management**
Tracks certified-worker status and
validity
- Alarms**
All alarm events displayed and
followed up
- Monthly reports**
Access & alarm statistics by dept /
position / device



FIELD DEPLOYMENTS



COMPLIANCE



Supports safety management under the Factories and Industrial Undertakings (Confined Spaces) Regulation — helps contractors implement entry control, certified-worker records and continuous atmosphere monitoring. The system is a management aid; it does not replace the statutory risk assessment by a competent person, pre-entry gas testing or related safety procedures.

Devices, people, reports – one platform.

System composition and platform functions at a glance; final configuration is tailored to each site and contract.

On-site equipment & monitoring

Parameters	O ₂ , CO, CO ₂ , H ₂ S, CH ₄ , temperature/humidity, PM2.5
On-site display	Shaft-top LED live readout
On-site alarm	Warning beacon + audible alarm on exceedance
Worker ID	AI facial-recognition camera at the entrance
Enrolment	Web platform & mobile app (face-photo enrolment)
Records	Identity, department, card no., entry/exit time, certificate status
Installation	Shaft top / entrance, deployed per site conditions
Data & power	4G data uplink; power per site configuration

Cloud Central Management Platform (CMP)

Projects	Multi-project, multi-site management
Dashboard	Operational status, access & alarm statistics
Live records	Device readings & entry logs — search, filter, print, export
Alarms	Centralised alarm view with follow-up work orders
Thresholds	Custom pass/fail values per parameter
Reports	Monthly statistics & alarm analysis by department, position, type or device
Permissions	Function & project rights by user / user group
Data admin	Departments, positions, personnel, employers, certificates & devices

ONE-STOP SERVICE



Design & installation

Site-specific design, on-site installation, commissioning & handover.



Platform setup & training

CMP account setup, threshold configuration and operator training.



Maintenance & support

Periodic inspection and repair support, scoped per contract.

DELIVERY

STEP 01



Site survey

Shaft locations, entrances and network reviewed.

STEP 02



Design

Devices and platform mapped to your monitoring points.

STEP 03



Install & commission

On-site installation, threshold setup and joint testing.

STEP 04



Training & handover

Platform training and account handover.

Why New Forward Technology



Licensed security company

HK Security Company Licence No. 2327 — trusted for government works.



Site solution experience

Smart Site Safety System (SSSS), CCTV and site ELV delivery track record.



One-stop service

Supply, installation, platform setup and maintenance under one contractor.

Add smart confined-space monitoring to your project

Request a quotation or a site assessment — from design to maintenance, handled end-to-end.



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