



WORKER POSITIONING · SMART HELMET TRACKER

Smart Site Helmet Worker Positioning

Clip a 25 g tracker module onto an existing hard hat and it becomes a smart helmet: GPS/BeiDou, Wi-Fi, cell-tower and Bluetooth positioning indoors and out, reported over 4G straight to the New Forward SSSS smart site-safety platform — live worker locations, danger-zone entry alerts and roll call.



G618 helmet tracker module
44 × 27 × 18 mm · 25 g
Image for illustration only



Fits any hard hat

Headband clip, 3M adhesive or
brim hole



Indoor & outdoor

Satellite + Wi-Fi + cell + Bluetooth



4G to the cloud

No site gateway for standard
positioning



Geofences & roll call

On the New Forward SSSS platform

WHERE IT'S USED

Construction sites

Tunnels & infrastructure

Basements

Factories

Ports & logistics

Lone workers

HOW IT WORKS

Every hard hat, connected to the safety platform

The tracker module clips onto each worker's existing hard hat. Outdoors it positions with GPS/BeiDou satellites assisted by Wi-Fi and cell towers; in basements, tunnels and other indoor areas it scans pre-installed Bluetooth beacons. Positions go over 4G straight to the New Forward SSSS smart site-safety platform, which checks them against geofences in real time, raises alerts and takes roll call.



STEP 01



Wear

Clip the module onto the rear headband, stick it to the shell or hang it from the brim hole; it drops into low-power standby when not worn.

STEP 02



Locate

Satellite, Wi-Fi and cell-tower fusion outdoors; Bluetooth beacon scanning indoors, with AOA or UWB for higher accuracy.

STEP 03



Report

Low-power 4G Cat.1 straight to the cloud over the carrier network; standard positioning needs no receiving gateway on site.

STEP 04



Alert & roll call

The platform shows where everyone is, raises geofence entry and exit alerts, and provides roll calls and history tracks.

WHERE IT'S USED



Construction sites

Worker locations, danger-zone entry alerts



Infrastructure & tunnels

Positioning along tunnels and pipelines



Basements & indoor works

Bluetooth beacons cover indoor floors



Factories & warehouses

Plant-wide locations, restricted areas



Ports & logistics yards

Tracking across large outdoor areas



Lone workers

Night-shift and remote-location safety

The outcome

Workers wear nothing extra — the hard hat itself becomes the tracking device. Supervisors can see on the platform at any time who is on site, which area they are in and whether anyone has entered a danger zone, giving a positioning foundation for the smart monitoring of workers and frontline site personnel.



The hard hat is the tracker

G618 helmet tracker module: 25 g, fits any hard hat

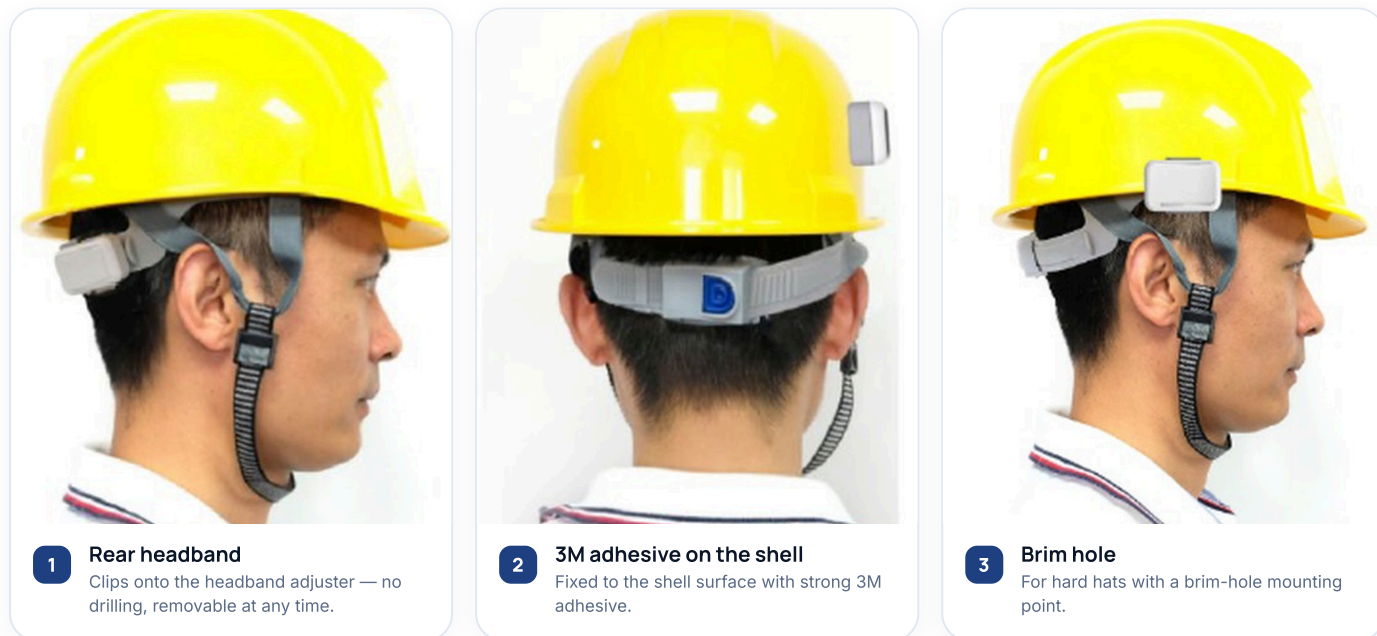
A small, light, water-resistant module that pairs low-power 4G Cat.1 IoT with an ultra-low-power main processor for longer standby. It carries an accelerometer, BLE 5.1 Bluetooth and a seven-colour LED light ring, and charges magnetically.



Key features

- 25 g, ultra-light**
44 × 27 × 18 mm, barely noticeable
- Indoor & outdoor positioning**
GPS/BeiDou + Wi-Fi + cell (LBS)
- Low-power 4G Cat.1**
Ultra-low-power MCU, longer standby
- 600 mAh, magnetic charging**
Built-in lithium battery
- Chip SIM**
5 × 6 mm chip, no card to insert
- Fits any hard hat**
Headband clip, 3M adhesive or brim hole
- BLE 5.1 Bluetooth**
Beacon scanning, broadcast and AOA
- Accelerometer**
Step count; standby when not worn
- Seven-colour LED ring**
2 seven-colour LEDs, charge & status
- IPX6 water & dust resistant**
Built for outdoor sites

MOUNTING



OPTION



Add-on button module: the standard model has no button. Where a button function is needed (for example one-press SOS), an add-on button module is available; supported functions are confirmed by New Forward per model.

Note: The hard hat itself must meet the safety standard specified for the project. Before fitting any adhesive accessory to the shell, check that it is consistent with the helmet manufacturer's guidance. Wearing photos supplied by the manufacturer, for illustration only.

Pick by network and accuracy – one SSSS platform

One form factor, several radio versions: 4G Cat.1 reports straight to the cloud for most sites; UWB adds accuracy where needed; LoRa suits sites with their own LoRa network.

Model	Network	Positioning	SIM	Best for
G618G STANDARD	4G Cat.1	GPS/BeiDou + Wi-Fi + cell LBS + BLE	Chip SIM	General sites, straight to the cloud over 4G
G618GU	4G Cat.1 + UWB	UWB + GPS/BeiDou + Wi-Fi + LBS + BLE	Chip SIM	Higher-accuracy areas (with UWB anchors)
G618M	Cat-M / LTE-M	GPS/BeiDou + Wi-Fi + cell LBS + BLE	Chip SIM	Overseas regions with LTE-M networks
G618L	LoRa	GPS + BLE	None	Private LoRa (with LoRa gateways)
G618LU	LoRa + UWB	UWB + GPS/BeiDou + BLE	None	Private LoRa plus high accuracy

POSITIONING ACCURACY (REFERENCE)

 **Satellite**
5–20 m
Open outdoor sky; GPS/BeiDou

 **Wi-Fi**
10–50 m
Depends on nearby Wi-Fi density

 **BLE beacons**
1–3 m
With beacons about 6–8 m apart

 **BLE AOA**
≈1 m
With AOA Bluetooth gateways

Note: Reference figures published by the manufacturer for this tracker family; actual accuracy depends on environment, obstructions, beacon layout and model. Indoor positioning needs beacon positions planned by floor and area.

NEW FORWARD SSSS SMART SITE-SAFETY PLATFORM

 **Live location**

- Every worker's latest map position
- Indoor floor plans for beacon areas
- Low battery & offline at a glance
- Per company & site, tiered access

 **Geofence alerts**

- Draw polygon geofences on the map
- Zone-entry & site-exit alerts
- Fires on crossings, no repeats
- Pushed to web & mobile instantly

 **Roll call & records**

- Who entered, first in & last out
- One-click Excel (.xlsx) export
- History-track playback

New Forward SSSS - Live worker map

Online only + New geofence

Basement B1 plan

Worker BLE beacon Geofence

Site boundary Danger zone A

Worker 07 Battery 68% · seen 1 min ago In Danger zone A

Offline

Alerts

IN Worker 07 entered Danger zone A 10:32

LOW Worker 12 low battery 10:05

OUT Worker 03 left Site boundary 09:41

Roll call · Danger zone A Export .xlsx

Worker	First in	Last out	Inside (min)
Worker 07	10:32	Still inside	—
Worker 05	08:47	09:58	71
Worker 11	08:15	08:52	37

Platform screen for illustration (not an actual screenshot; workers shown by code)

Integration: The tracker connects to the SSSS platform through the manufacturer's cloud push interface or a direct protocol; the method and available functions are confirmed and configured by New Forward per model, firmware version and project.

Specifications, supply & support

G618 helmet tracker module

Model	G618G (standard, 4G Cat.1); also G618GU/M/L/LU
Size / weight	44 × 27 × 18 mm; 25 g
Network	Low-power 4G Cat.1 (others: see model table)
Positioning	GPS/BeiDou + Wi-Fi + cell LBS + BLE
Bluetooth	BLE 5.1: beacon scan, broadcast, AOA
Sensor	Accelerometer: steps, motion; standby when not worn
SIM	5 × 6 mm chip SIM (not needed on LoRa models)
Battery / charging	600 mAh; magnetic charging
Indicators	2 seven-colour LEDs + status light ring
Button	None (standard); optional add-on module
Protection	IPX6 water resistant, dust resistant
Mounting	Headband / 3M adhesive / brim hole

Positioning & platform

Satellite	About 5–20 m in open conditions
Wi-Fi	About 10–50 m (depends on Wi-Fi density)
BLE beacons	About 1–3 m (beacons about 6–8 m apart)
BLE AOA	About 1 m (with AOA Bluetooth gateways)
UWB	G618GU / LU with UWB anchors, per project
Platform	New Forward SSSS (web)
Platform functions	Live map, floor plans, polygon geofences, entry/exit alerts, roll call, Excel export, history tracks, push alerts
Data SIM	Per region; set up by New Forward in Hong Kong
Options	BLE beacons, AOA gateways, UWB anchors, charger

ONE-STOP SUPPLY & SUPPORT



Survey & beacon planning

Plan positioning methods, beacon positions and geofences around the site, indoor floors and danger zones.



Installation & platform set-up

Module registration and fitting, beacon installation, geofence and alert set-up, plus training for supervisors.



Maintenance & support

Device status checks, charging-management advice, and repair or replacement under contract.

Why New Forward



Licensed security company

Hong Kong Security Company Licence No. 2327 — one-stop supply, installation and maintenance.



Our own smart-site platform

SSSS already brings together smart watches, AI cameras, digital permits-to-work and other site-safety systems.



One point of responsibility

From survey, supply and installation to platform set-up and maintenance, one team follows through.

Want to know where every worker is, at any time?

Ask for a quotation or a demonstration — we plan the positioning method and beacons around your site and handle installation, platform set-up and maintenance.

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New Forward Technology Limited is an independent systems integrator. The G618 tracker module is a third-party product; all trademarks belong to their respective owners. Specifications are for reference only and may change without notice; images are for illustration only, and the shipped model prevails. Positioning accuracy figures are reference values that depend on environment, obstructions, beacon layout and model; standby and operating time depend on reporting frequency and network conditions. SSSS connection method and functions are confirmed per model, firmware and project. This solution can support the DEVB 4S element "smart monitoring devices for workers and frontline site personnel"; whether it meets the requirements of a particular contract or the 4S Labelling Scheme is subject to the contract terms and review by the relevant authorities. The hard hat itself must meet the safety standard specified for the project. © 2026 New Forward Technology Limited.