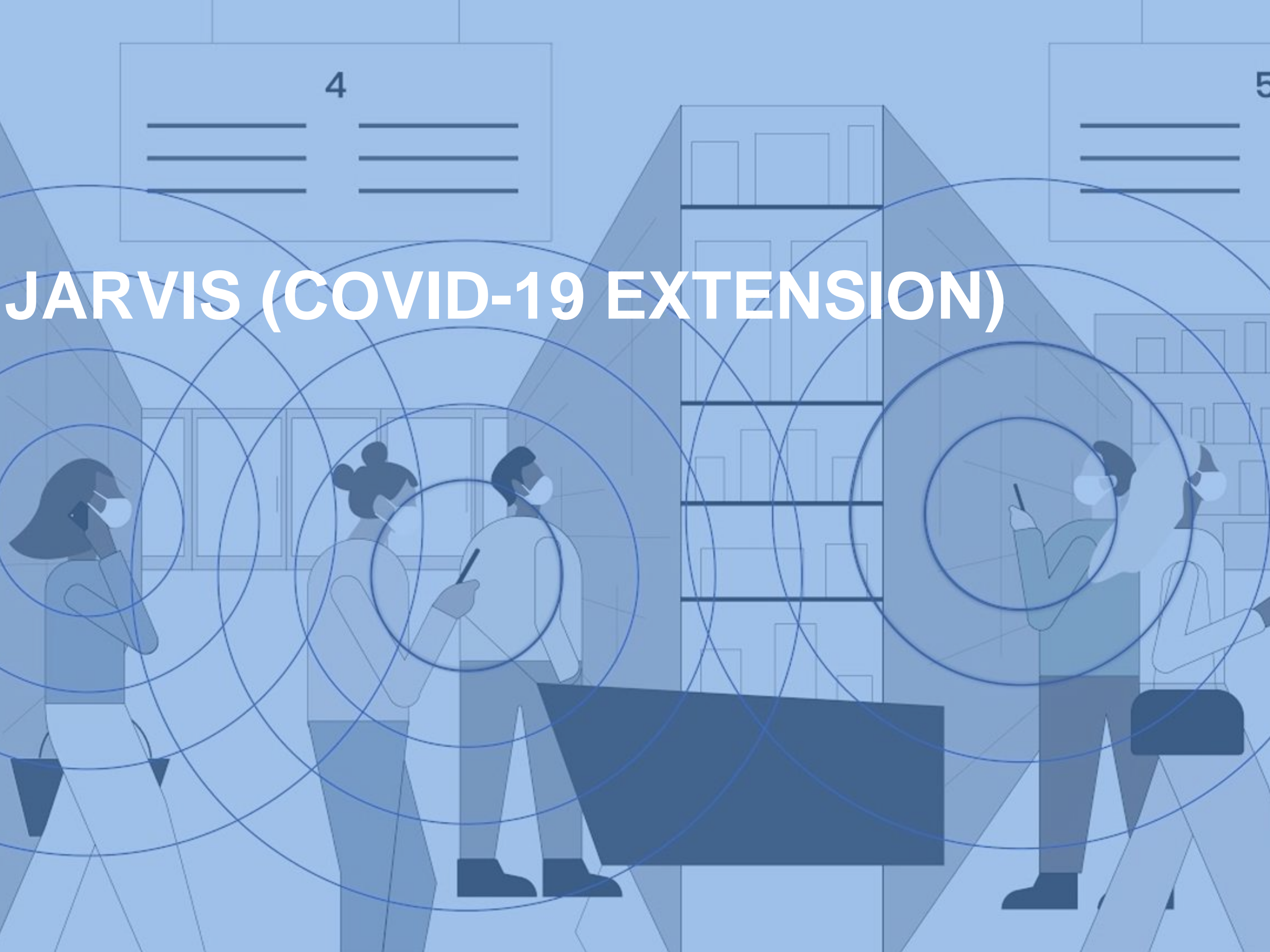


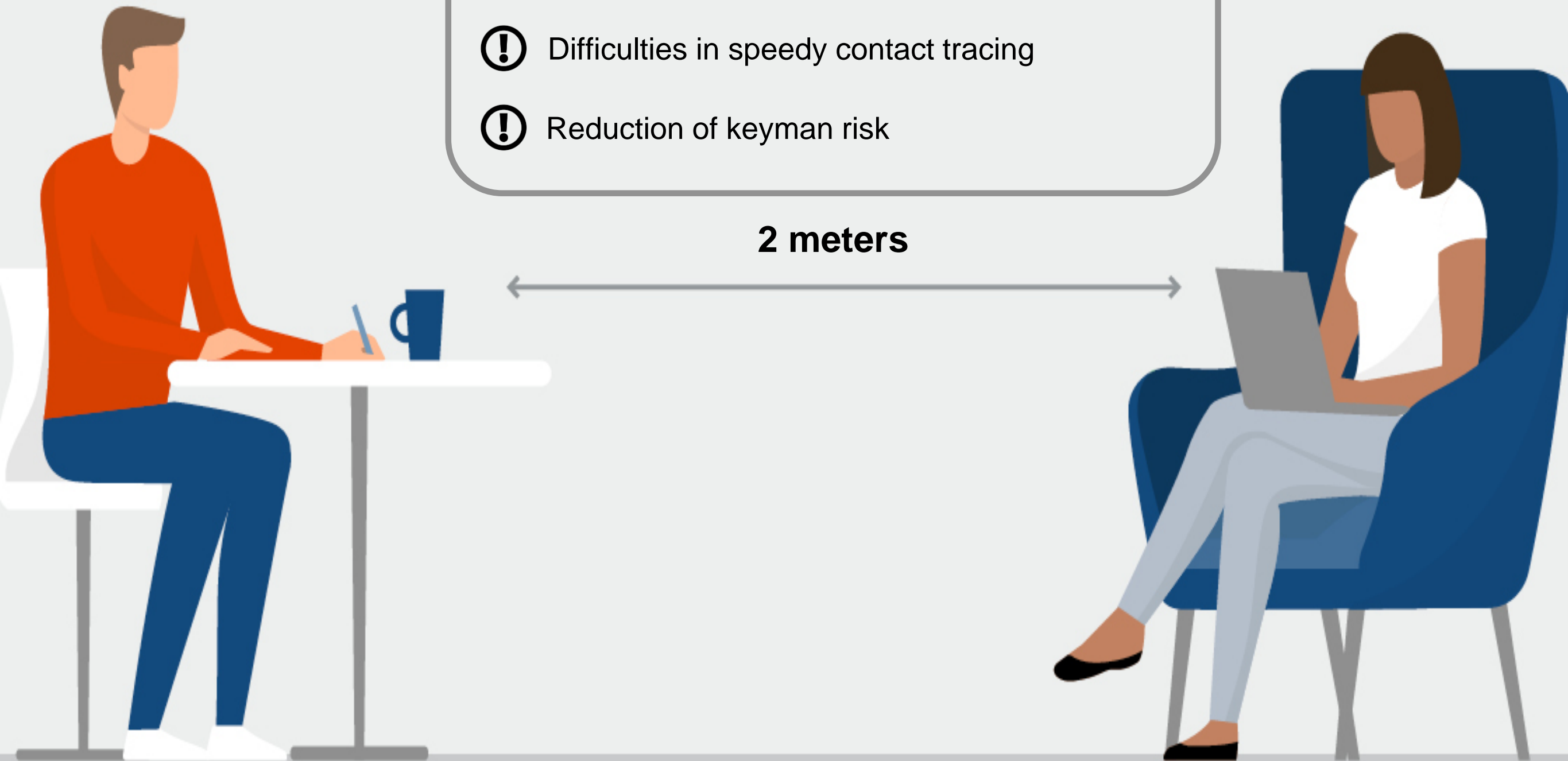
JARVIS (COVID-19 EXTENSION)



JARVIS (COVID-19 EXTENSION)

- ❗ Compliance requirement for social distancing
- ❗ Employee movement for compliance tracking
- ❗ Difficulties in speedy contact tracing
- ❗ Reduction of keyman risk

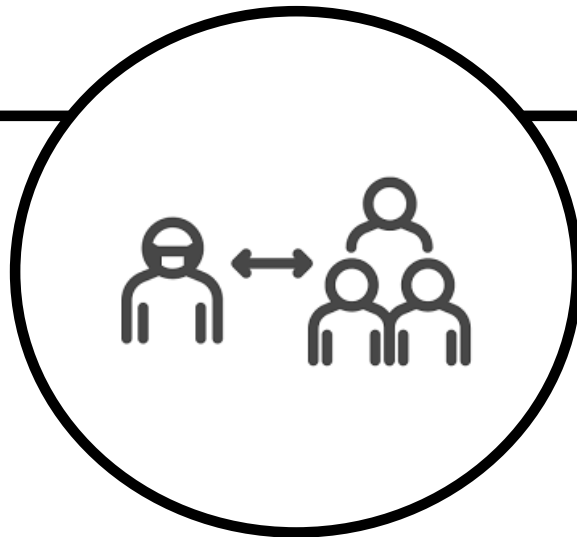
2 meters



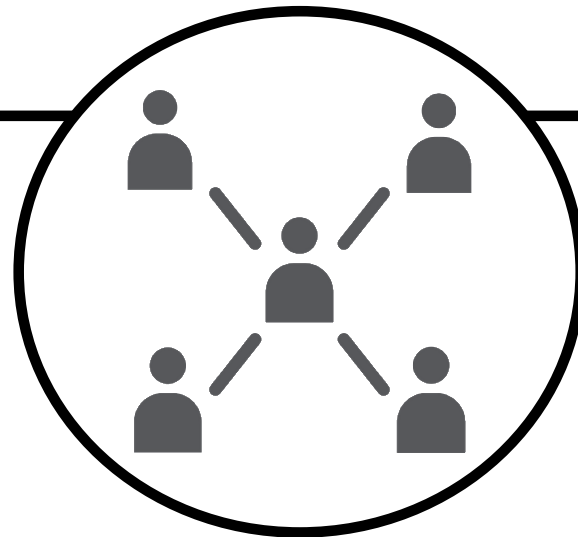
JARVIS (COVID-19 EXTENSION)

What Is It?

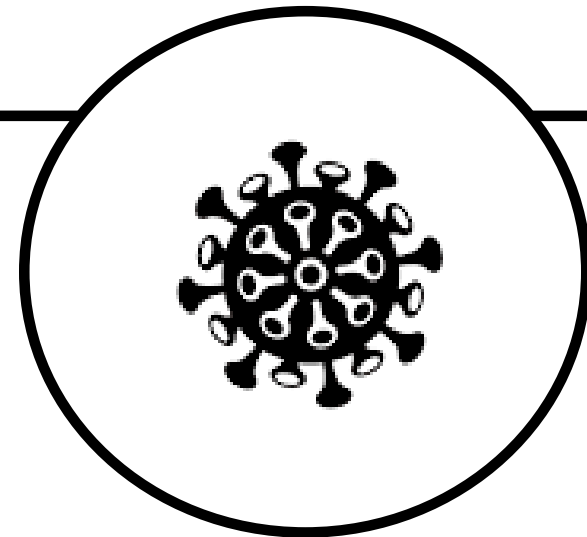
The ability to track personnel to personnel, proximity of time spent with each other and importantly, potential groups that are possibly at risk



**Track time spent
between personnel
(2m radius)**



**Relationship
Mapping**



**Start Isolation
of at risk personnel**

JARVIS (COVID-19 EXTENSION)

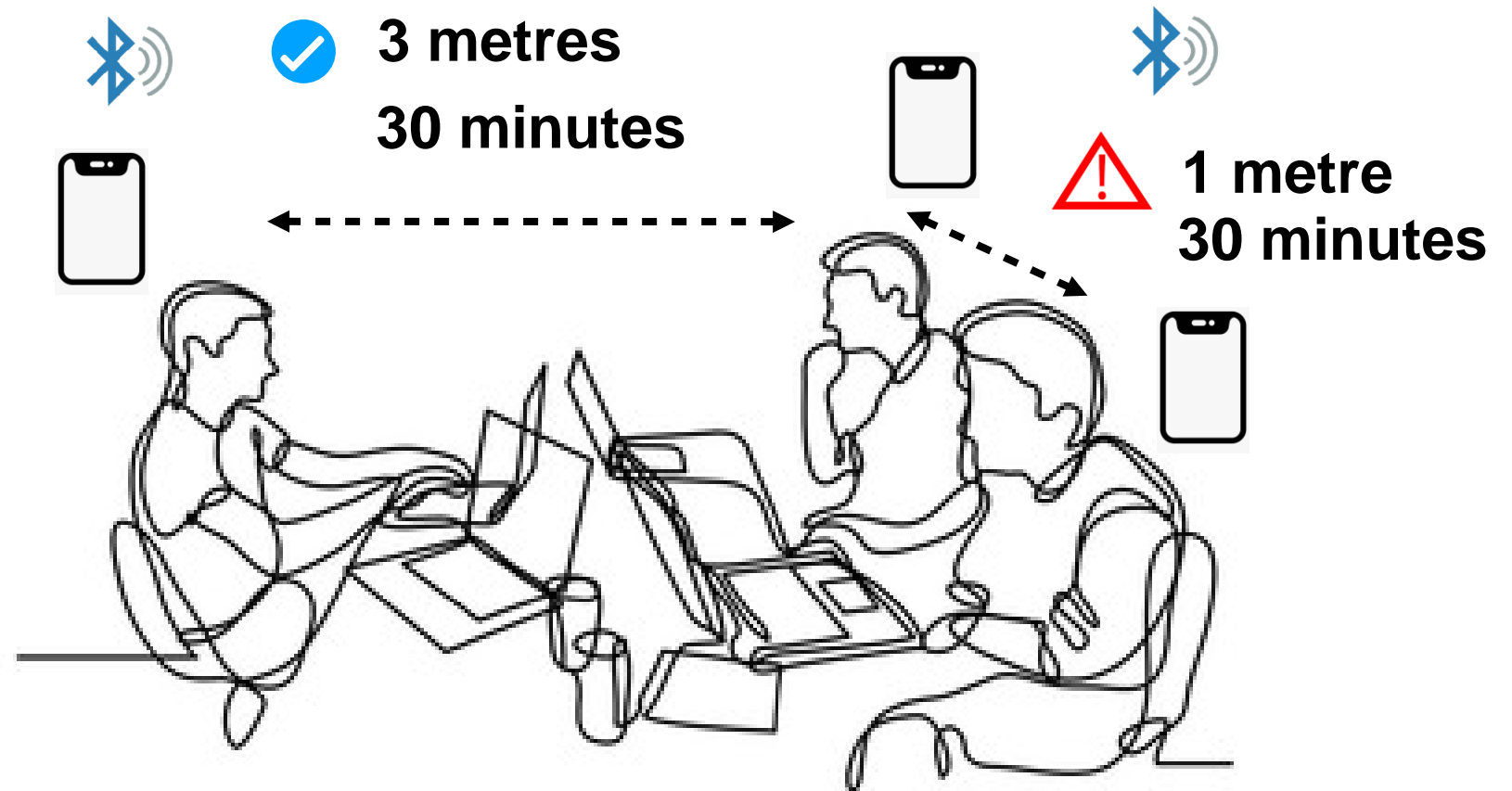
How Does it Work?

Personnel working together are tracked based on distances to each other through their mobile

1. Unique identifiers from smartphones are detected via Bluetooth Low Energy

2. Social distancing breaches are tracked, when someone breaches the 1m space rule

3. Contact history of such breaches, by who, and for how long, are curated, and sent back to the cloud



JARVIS (COVID-19 EXTENSION)

How Does it Work?

Personnel working together are tracked based on distances to each other through their wearables / attached devices

- ✓ Battery powered BLE sensing beacons
- ✓ Sound beep alert when distance between personnel is too close
- ✓ Light buzzer indicator flash, when social distancing distance is breached
- ✓ Used as wearable, or attached to PPE



JARVIS (COVID-19 EXTENSION)

Wearable/Tag Specs



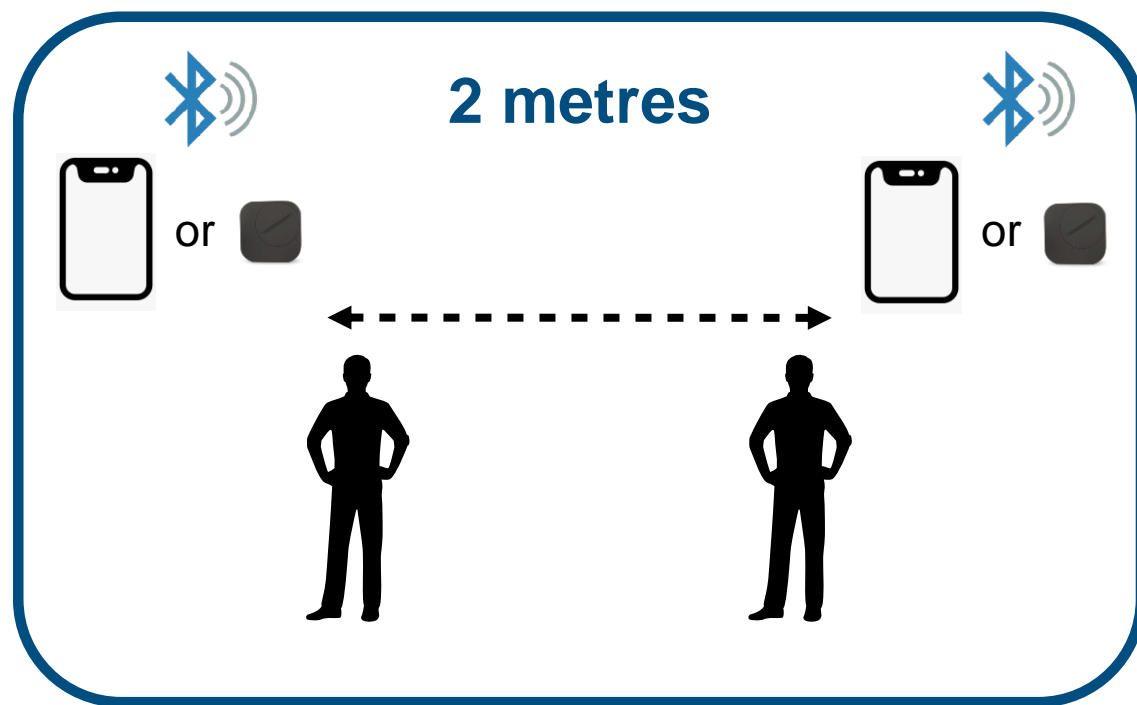
Attachable to



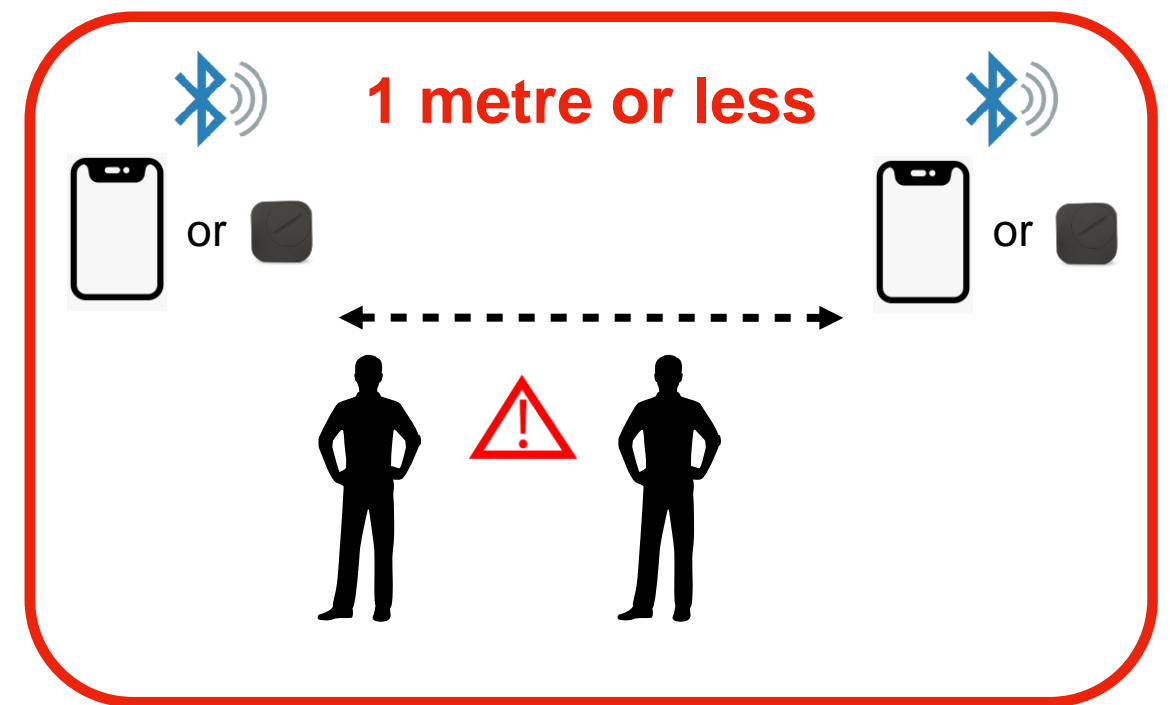
Product Name	JARVIS Buzz Wearable
Dimensions	43x43x14.5mm
Technology	BLE 5.0
Battery Lifespan	6 Months (Maximised - no charging/recharging needed)
LED Alert	Red, Green, Blue
Sound Alert	Electrical Buzzer
Colors	Black / White
Storage on Ram	>30,000 records
Replaceable Battery	Yes
Options of Usage	Wearable Lanyard / Attached for PPE

JARVIS (COVID-19 EXTENSION)

How Does it Work? - Social Distancing



Comply



Non Compliance



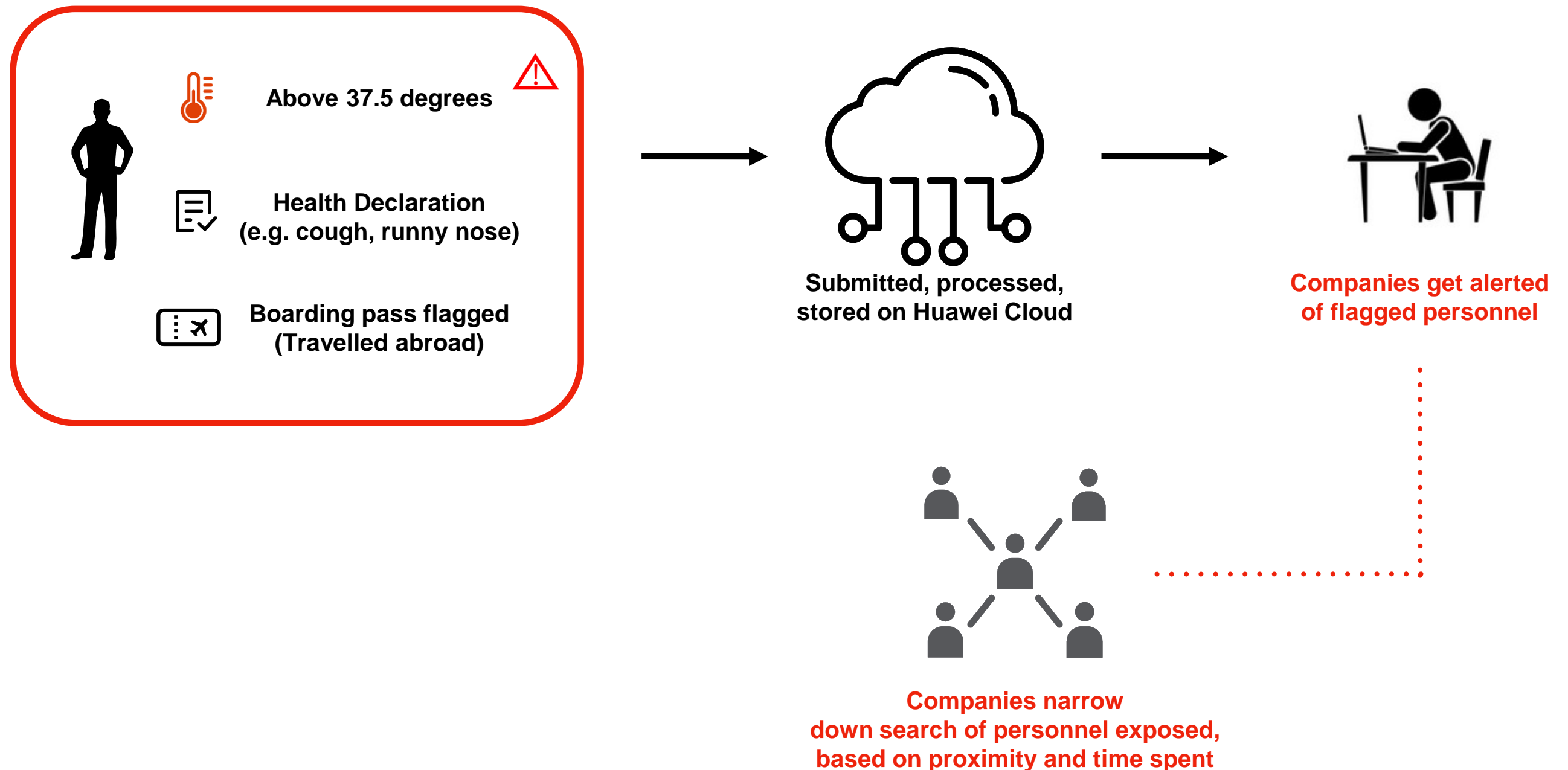
Signals get processed
on Huawei Cloud



Safety Measurement Officer
Gets Alerted

JARVIS (COVID-19 EXTENSION)

How Does it Work? - Temperature & Health Declaration



JARVIS (COVID-19 EXTENSION)

Why Bluetooth?

Wifi

BLE Trackers

BLE 5.0

UWB Tracking

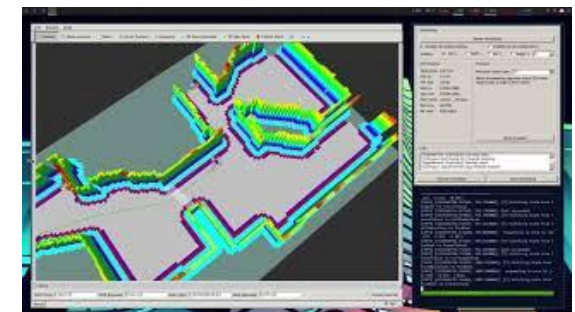
BLE 5.1

Ultrasound

Positioning Accuracy

Low (~10-15m)

High (~1cm)



JARVIS (COVID-19 EXTENSION)

Speeding Up Contact Tracing

When a personnel is symptomatic / asymptomatic, the key is speed in locating other exposed personnel

The screenshot displays the JARVIS COVID-19 extension interface. The top navigation bar includes a language toggle (EN/CN), the JARVIS logo, and a user profile (Zeal). The left sidebar contains navigation icons for Dashboards, Devices, Applications, Alerts, Settings, and Logs. The main content area is divided into two sections. The left section, titled 'Personnel Status (300)', shows filters for All, At-Risk (1), and Exposed (3). Below this, a list of personnel is shown, including Siti Saleha (Project Manager), Samuel Ng (Consultant), Victor Pham (Senior Developer), and Madeline Chua (Account Executive). The right section, titled 'Personnel > Samuel Ng', shows a profile for Samuel Ng (Consultant) with a status of Exposed (3) and a 'Quarantine' button. Below this, a 'Personnel Exposed' table lists exposed personnel with their status bars and exposure times.

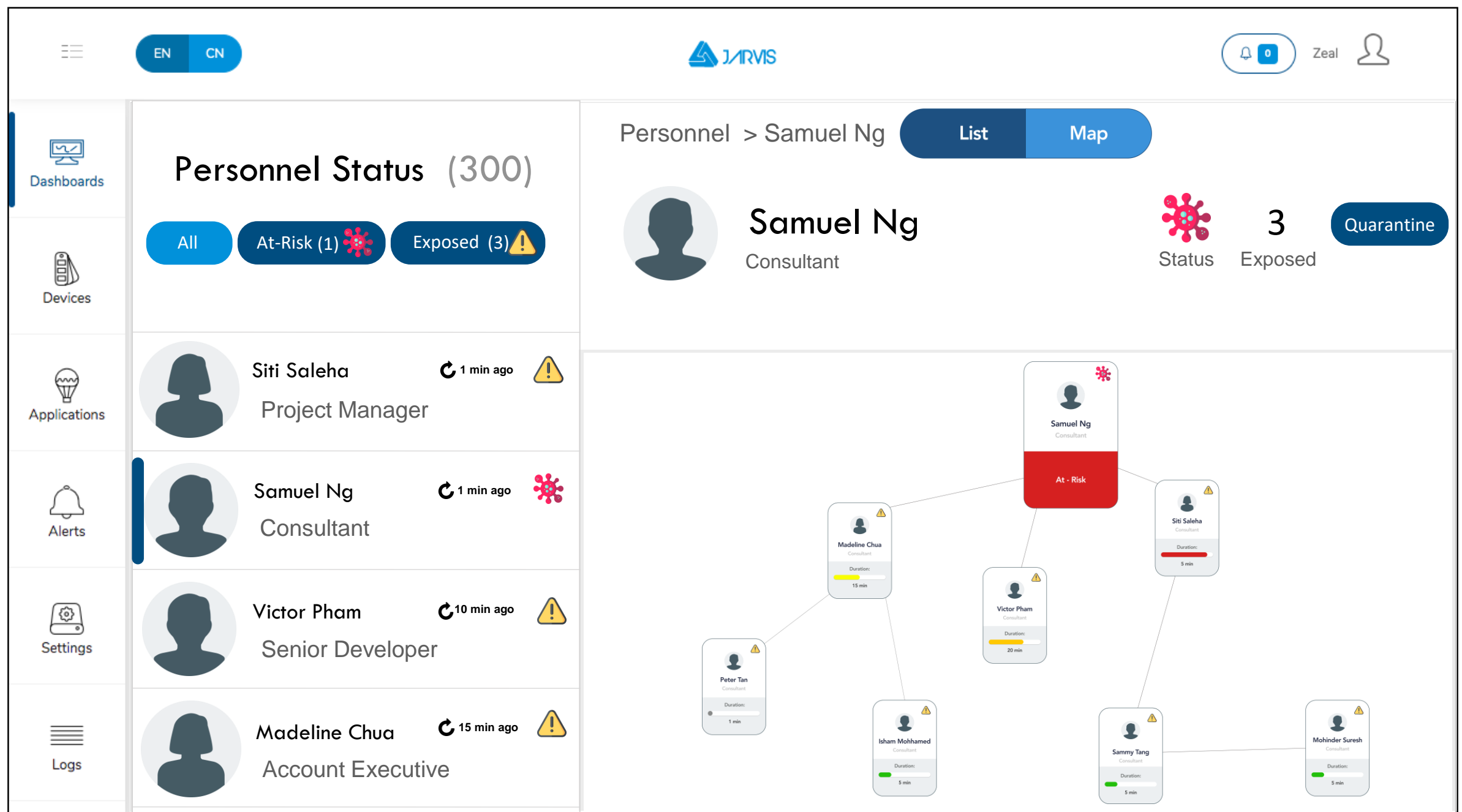
Personnel	Status	Exposed	Quarantine
Siti Saleha Project Manager	At-Risk	1	
Samuel Ng Consultant	Exposed	3	Quarantine
Victor Pham Senior Developer	At-Risk	1	
Madeline Chua Account Executive	At-Risk	1	

Personnel	Exposure Time	Exposure Level	Exposure Duration
Siti Saleha Project Manager	1 min ago	High	30 min
Victor Pham Senior Developer	10 min ago	Medium	20 min
Madeline Chua Account Executive	15 min ago	Medium	15 min
Isham Mohammed Developer	15 min ago	Low	7 min
Peter Tan Account Executive	20 min ago	Low	5 min

JARVIS (COVID-19 EXTENSION)

Speeding Up Contact Tracing

When a personnel is symptomatic / asymptomatic, the key is speed in locating other exposed personnel



JARVIS (COVID-19 EXTENSION)

Indoor Zone Tracking

Movement from zones to zone within working area can be tracked with the **addition of Bluetooth Beacons/Gateways**. Time-stamped check in and check out will also automatically be logged and sensed. Create zone alerts to **prevent zone movements of unauthorised personnel**

The screenshot displays the JARVIS Indoor Zone Tracking interface. At the top, there's a navigation bar with language toggles (EN, CN), the JARVIS logo, and a user profile for Nick Tan. The left sidebar contains icons for Dashboards, Devices, Applications, and Settings. The main content area is titled 'Zone' and includes a search bar. Three zone cards are visible: 'Cold Storage (Basement 1)', 'Inventory Storage (Level 1)', and another 'Cold Storage' area. Each card lists personnel and has 'Add Personnel' and 'Delete' buttons. A modal window shows intrusion alerts for three individuals: Ashraf Bin Mohammed, Jennifer Larson, and Kevin Lim, all intruding into Cold Storage (Basement 1) on 02/05/2019.

Zone	Personnel	Action
Cold Storage (Basement 1)	Ashraf Bin Mohammed	Add Personnel / Delete
	Jennifer Larson	Add Personnel / Delete
	Victor	Add Personnel / Delete
Inventory Storage (Level 1)	Charlotte Lee	Add Personnel / Delete
	Mathilda	Add Personnel / Delete
	J.S	Add Personnel / Delete
Cold Storage (Basement 1)	Kevin Lim	Add Personnel / Delete
	Emma R	Add Personnel / Delete
	Nick	Add Personnel / Delete

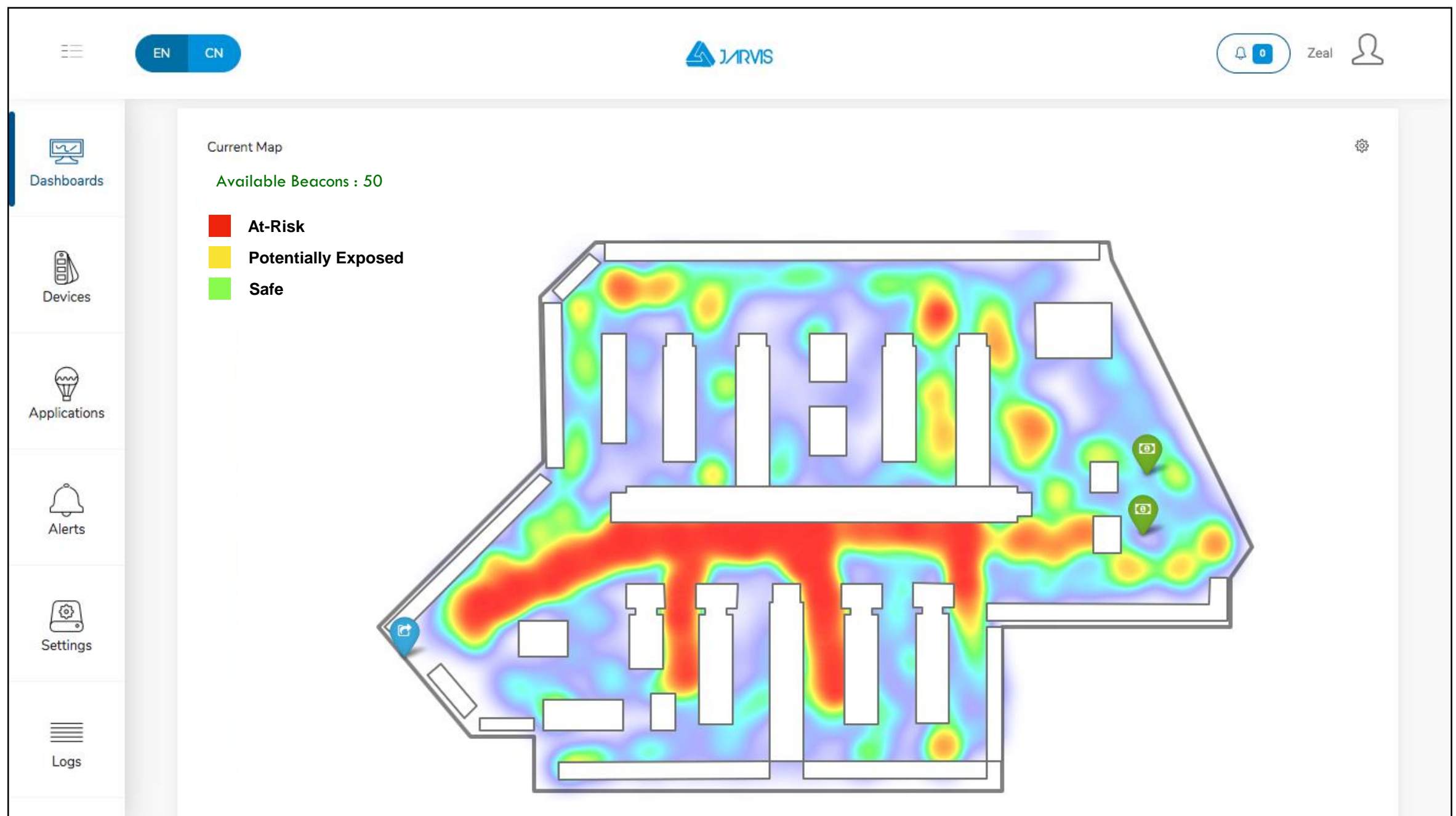
Intrusion Alerts:

- Intrusion of Ashraf Bin Mohammed into Cold Storage (Basement 1) on 02/05/2019 17:43
- Intrusion of Jennifer Larson into Cold Storage (Basement 1) on 02/05/2019 17:43
- Intrusion of Kevin Lim into Cold Storage (Basement 1) on 02/05/2019 17:41

JARVIS (COVID-19 EXTENSION)

Indoor Mapping (Opt-In)

Users of JARVIS will be able to turn on indoor mapping features, to know who's where, and map out safe / authorised zones

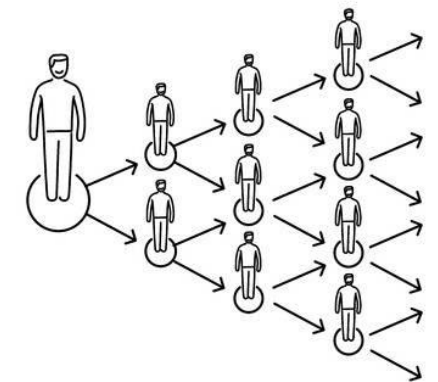
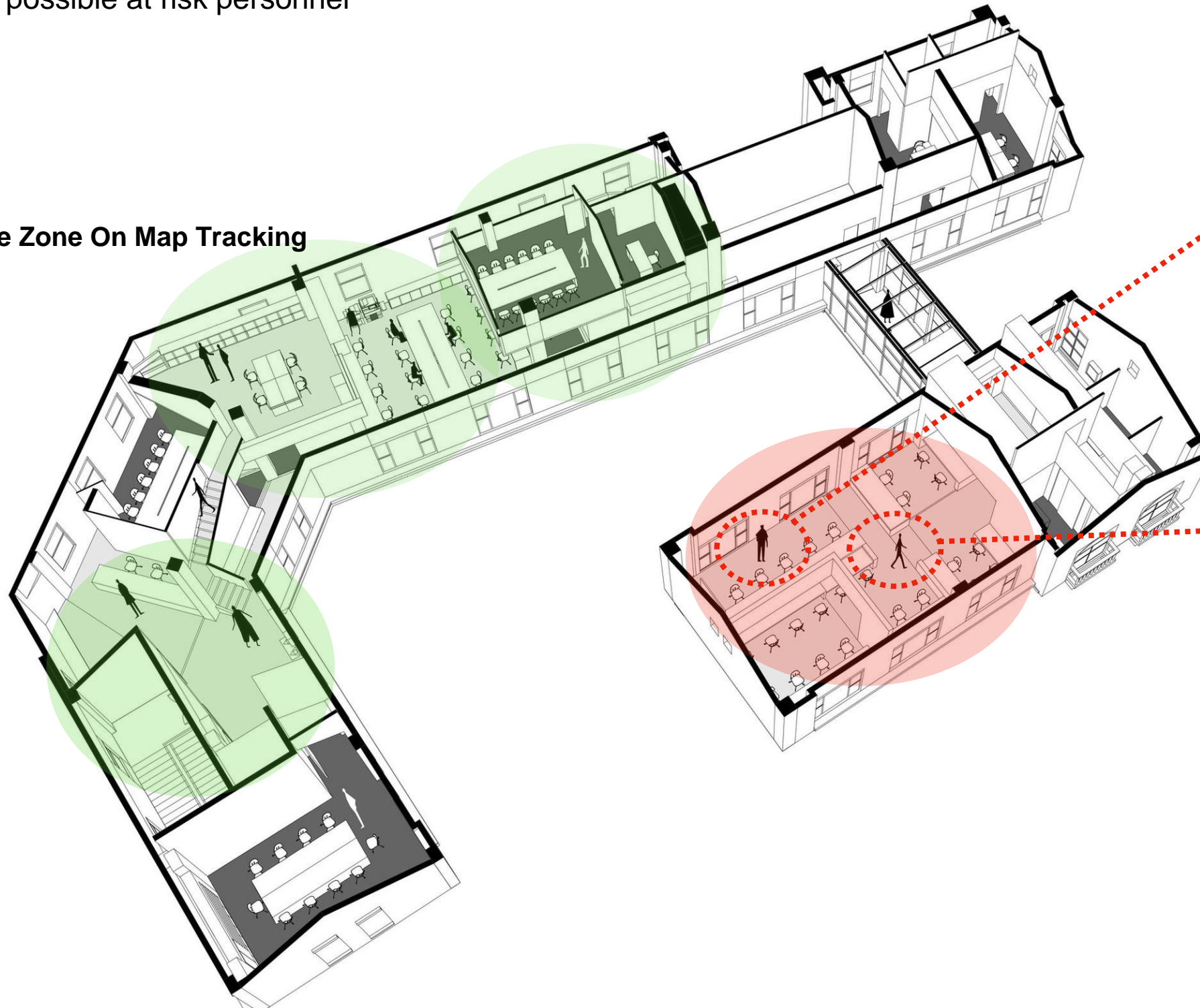


JARVIS (COVID-19 EXTENSION)

Indoor Tracking & Mapping (Opt-In)

Visualisation of safe zones / unsafe zones, based on time spent by possible at risk personnel

Safe / Unsafe Zone On Map Tracking



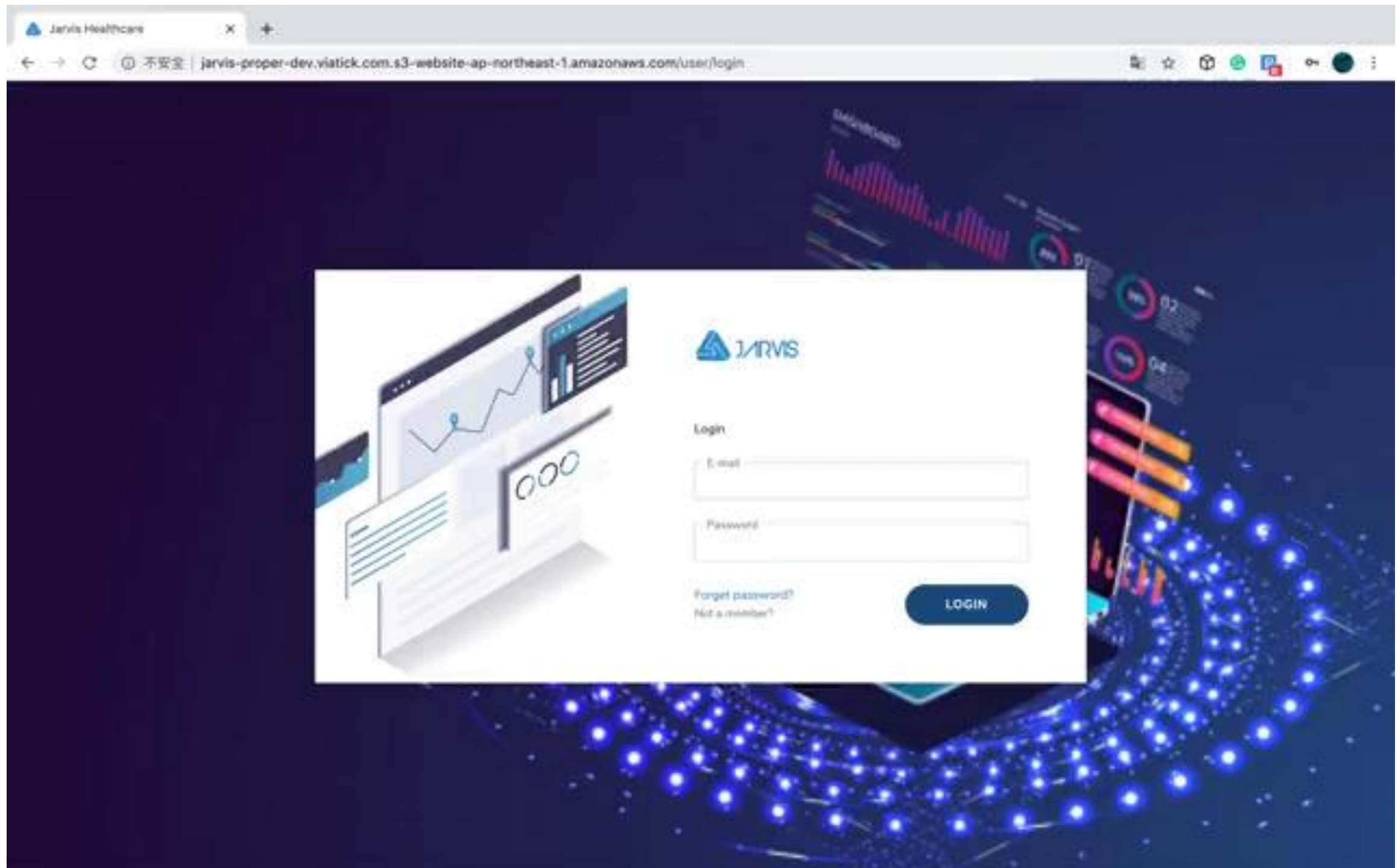
Relationship Mapping
For Contact Tracing



Safe Quarantine Process

JARVIS (COVID-19 EXTENSION)

Contact Tracing / Social Distancing in Action



JARVIS (COVID-19 EXTENSION)

JARVIS

Among Other Contact Tracing Tools (Singapore)

Applications	SaferTogether	SafeEntry	TraceTogether	JARVIS
Relationship Mapping	GOV ONLY	NO	GOV ONLY	✓
Social Distancing Breach Alerts	GOV ONLY	NO	NO	✓
Indoor Track & Trace	NO	NO	NO	✓
Indoor Mapping	NO	NO	NO	✓
Company Platform	NO	Business Visitor Count	NO	✓
Usable Across Different Countries	NO	NO	NO	✓

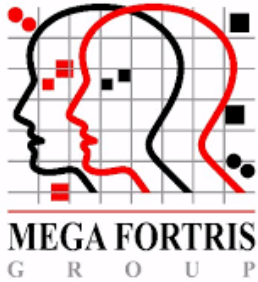
JARVIS (COVID-19 EXTENSION)

JARVIS

Among Other Contact Tracing Tools (Regional)

Applications	Covid19 Tracker (PH)	BlueZone (Vietnam)	TraceTogether (Singapore)	MySejahtera (Malaysia)	JARVIS (Singapore)
Relationship Mapping	GOV ONLY	GOV ONLY	GOV ONLY	GOV ONLY	✓
Social Distancing Breach Alerts	NO	✓	NO	NO	✓
Indoor Track & Trace	NO	NO	NO	NO	✓
Indoor Mapping	NO	NO	NO	NO	✓
Company Platform	NO	NO	NO	NO	✓
Usable Across Different Countries	NO	NO	NO	NO	✓

IMPLEMENTATION WALKTHROUGH

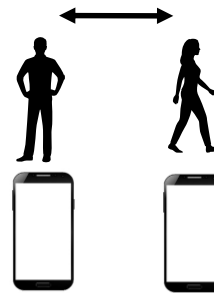


One of the world's largest security seals maker

SAFE REOPENING WOES

- Large plant in Malaysia
- Need for social distancing compliance
- Active cluster prevention at work areas
- Uniformity in contact tracing tool to be used (Malaysia, Singapore, other overseas office)
- Ability for company to view all data in real time
- Ability for company to report compliance measures to respective authorities
- Confidence in constant exposure tracing across all offices worldwide

Active Social
Distancing



1

Personnel working together are tracked based on distances and time spent with each other through their mobile and wearables



2

Relationship maps are generated for exposure tracking under 30 mins, in the event of exposure, with any staff that is running a high temperature (>37.5 degrees)

Zone
Control by Beacons



3

Movements of personnel, current count of personnel at any zones, are automatically detected with BLE beacons, to prevent clustering of any area

Team A / Team B authorisations, based on allowed time and profiles to be at work zones, are also detected and done automatically

Alerts, breaches
monitored by Safety
enforcement officer



4

Safety enforcement officers, get notified immediately of any non compliance.

Company's data on the platform, for local reporting to each country's regulators will be readily exportable at any time, saving man hours to corroborate

IMPLEMENTATION WALKTHROUGH

SOCIAL DISTANCING

Adherence to constant social distancing at workplace, prevention of clustering

ALERTS

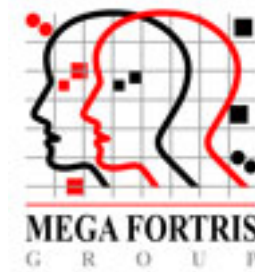
Alerts for breaches of social distancing, possible direct/indirect exposure to employees with fever

AUDIT-ABLE

Movement audit trail of persons of interest, time spent in areas, with who, date and time stamp

SPED-UP

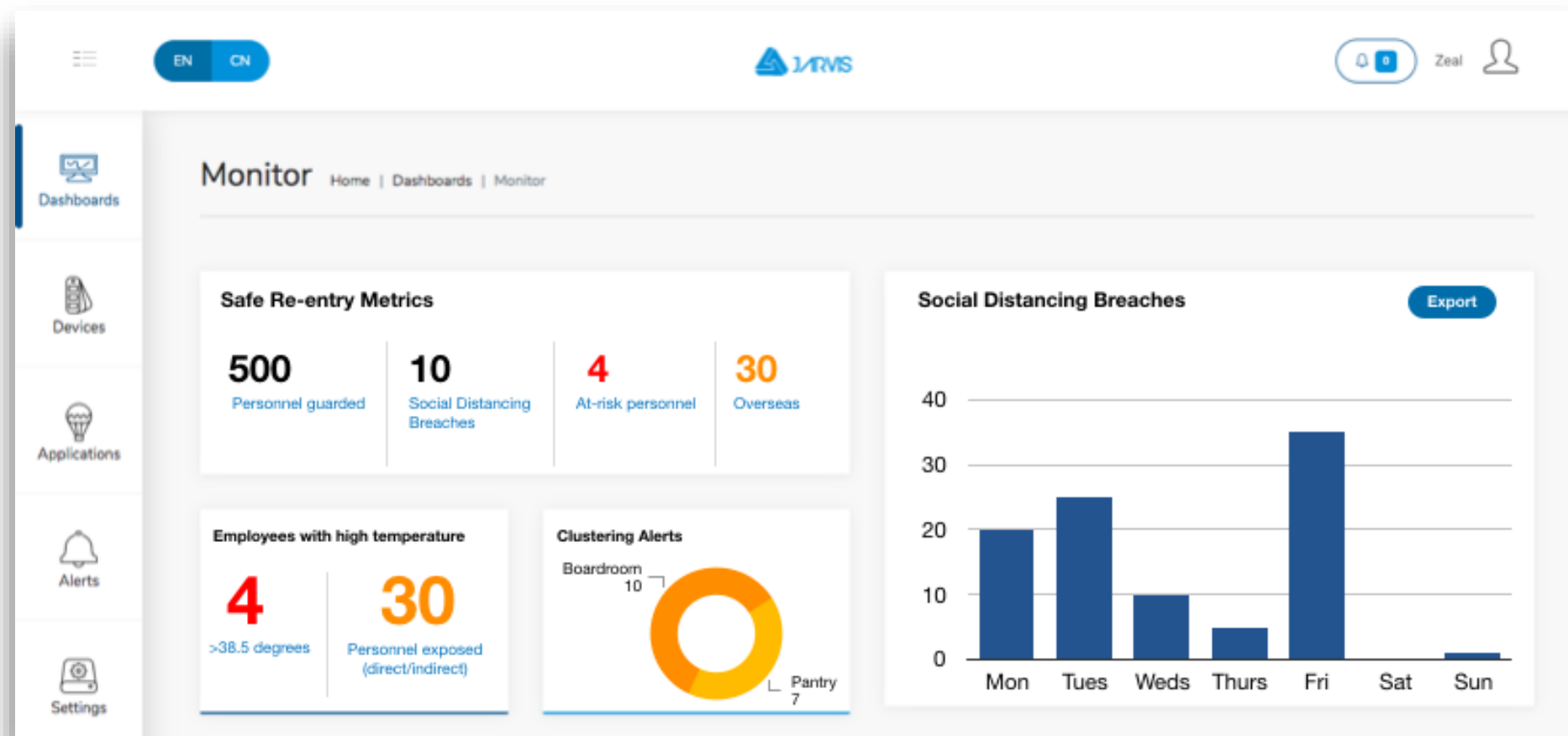
Identification of exposure list of personnel, directly/indirectly, within 30 mins



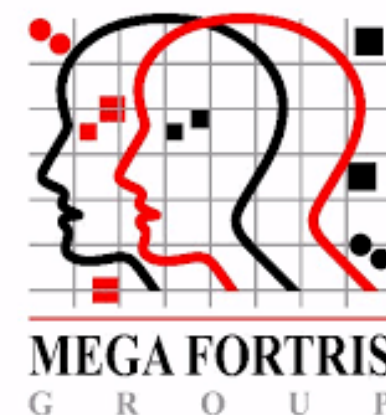
Safe Reopening (Factory & Office)



IMPLEMENTATION WALKTHROUGH



- 1 All in one platform with insights
- 2 Uniform management across different offices (no need for multiple government apps)
- 3 Hassle free compliance with authorities



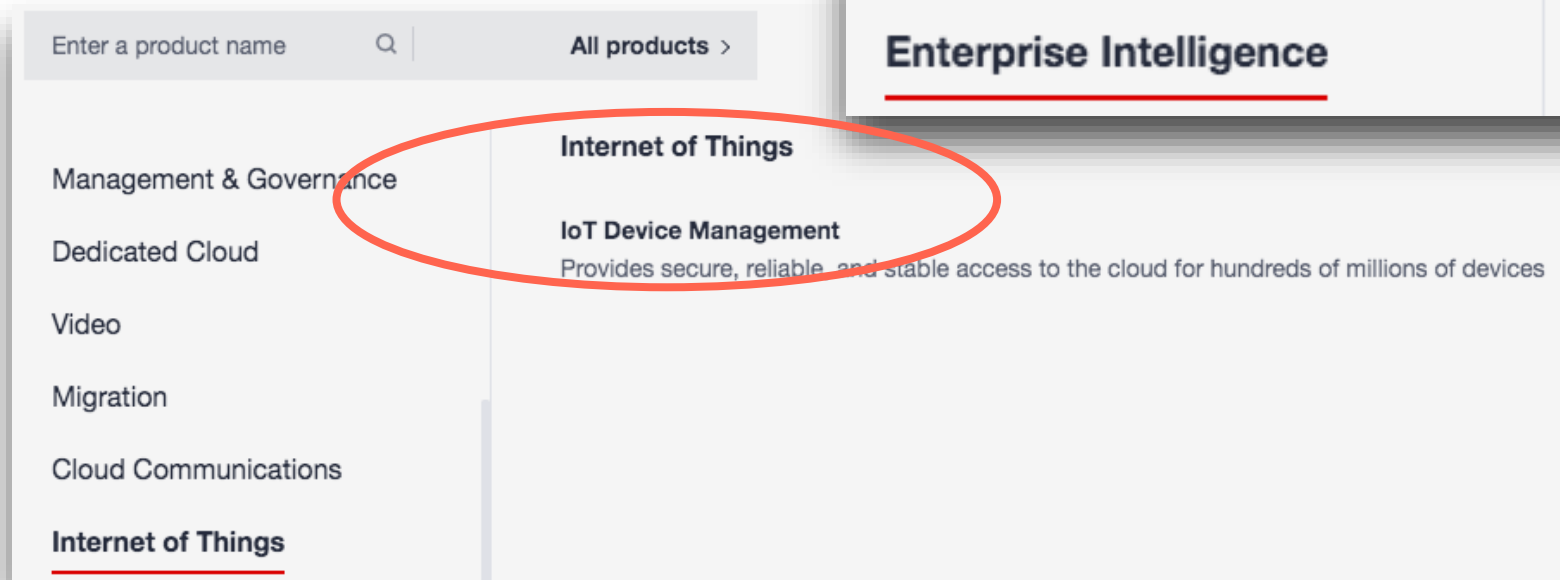
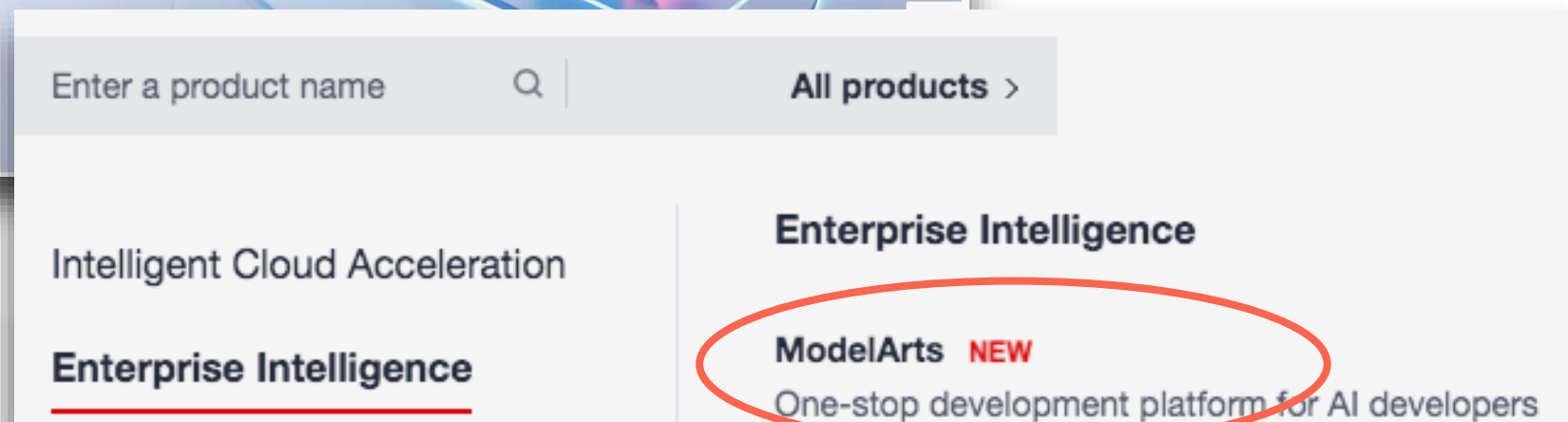
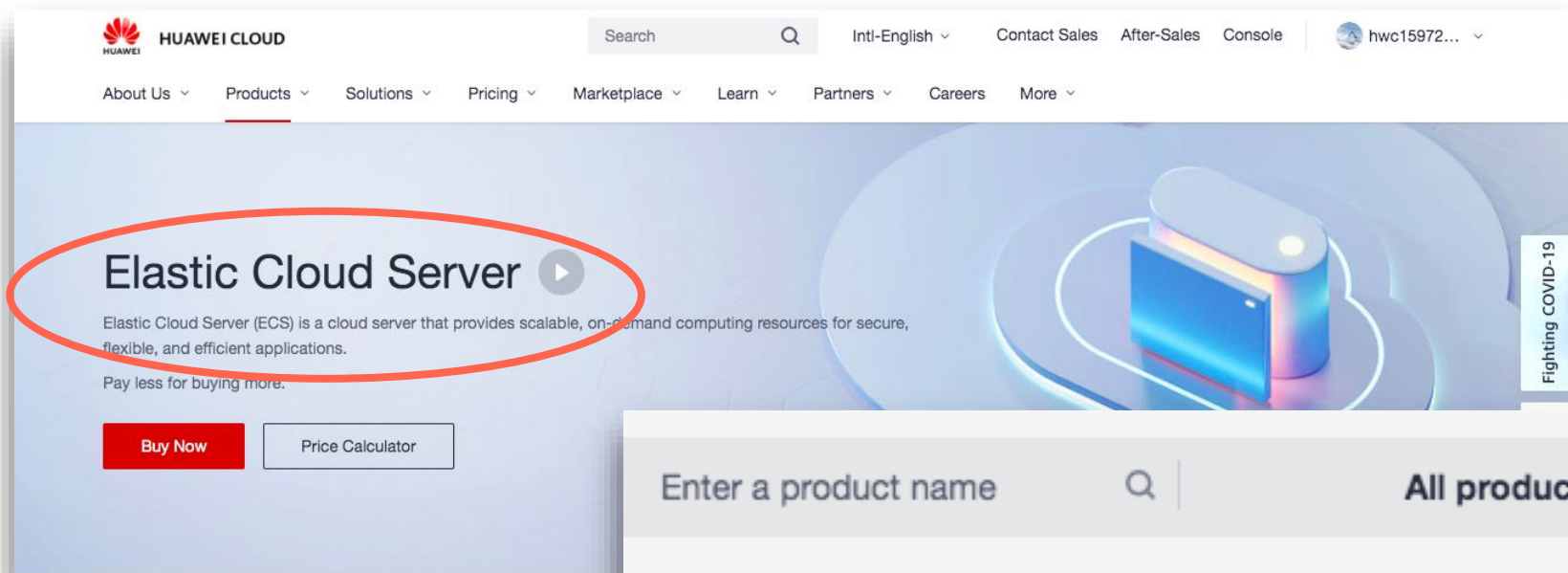
DEPLOYING JARVIS

Where / How to Subscribe

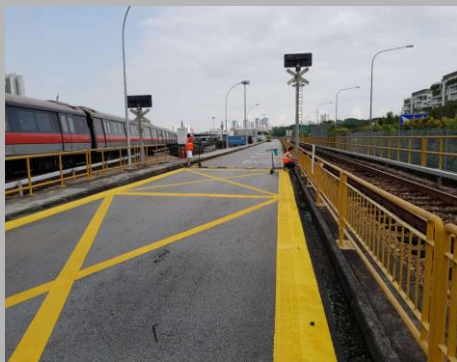
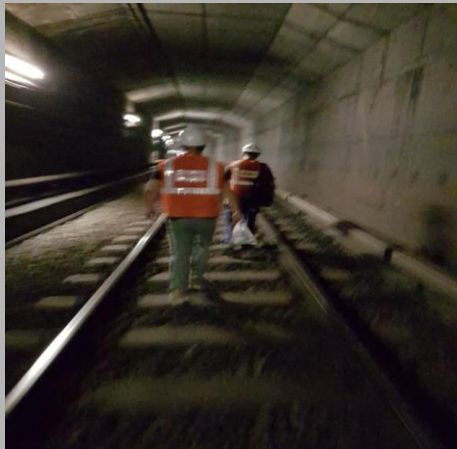
Mediums	Options	Hardware	Dockerised
Huawei Market Place	SaaS / Enterprise	Add to Scale / Bundled	Yes
VIATICK Main Site	SaaS / Enterprise	Add to Scale / Bundled	Yes
System Integration Partners	Enterprise	Separately Billed	Yes
Management Consultancy Partners	Enterprise	Separately Billed	Yes

DEPLOYING JARVIS

Resources Used



NOTABLE USED CASES



THALES



SAMSUNG SDS

PERSONNEL TRACKING (RAILWAY TRACKS & TUNNEL)

Harsh Environment - Tracking of engineers in deep tunnels, down to the exact location of where they are currently at

Automated Alerts - Alerts triggered when personnel goes into a specific area that is not authorised / stayed way past the allowed time granted

On site / Off-site transition - Immediate notice when a personnel leaves designated working area, or enters another designated working area

NOTABLE USED CASES

AUTOMATED

Automated roll-call for mission briefs

PRODUCTIVE

Immediate deployability for tasks in camp, based on where personnel are

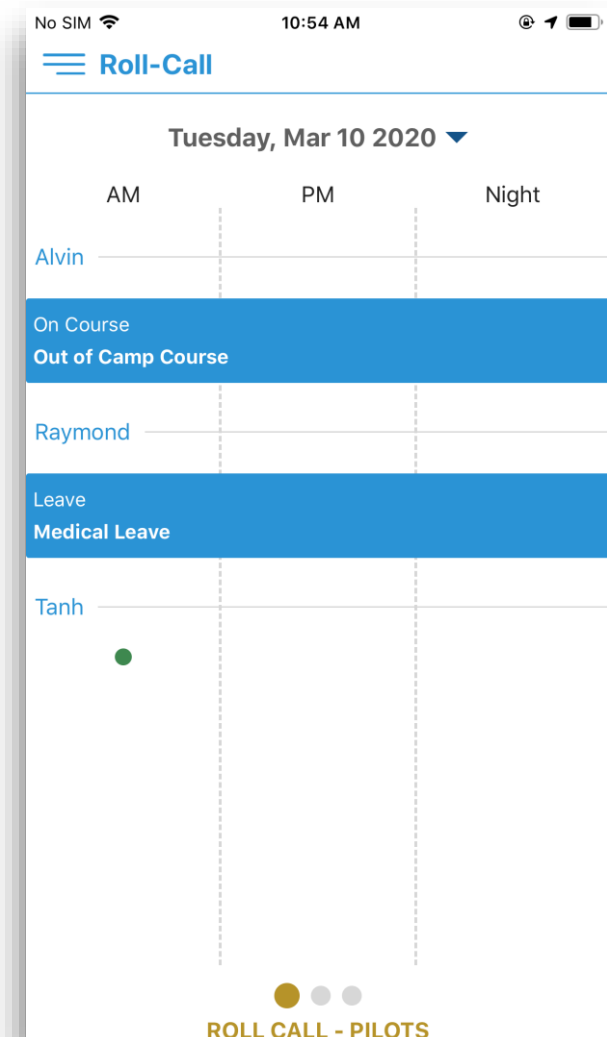
AUDIT-ABLE

Movement data of all personnel detailing audit trails, breach of zones, nature of incidents



MINDEF
SINGAPORE

PERSONNEL TRACKING (SECURED FACILITIES)



NOTABLE USED CASES

AUTOMATED

Automated zone tracking (in vehicle / within aged care centre)

ALERTS

Movement alerts, when elderly patient leaves zone boundaries (within aged care centre etc)

AUDIT-ABLE

Movement audit trail of persons of interest, time spent in zone, date and time stamp



ELDERCARE TRACKING (AGED CARE FACILITIES)



NOTABLE USED CASES

TRACEABLE

Which employee is on which forklift

CONTROL

Active tracking of where high value items are within compound

PRODUCTIVE

Knowing which forklift is currently utilised, by who, and which forklift is currently empty



PERSONNEL & ASSET TRACKING (SECURED FACILITIES)



NOTABLE USED CASES

AUDITABLE

Audit trails on who has been to a secured zone, and for how long

SECURED

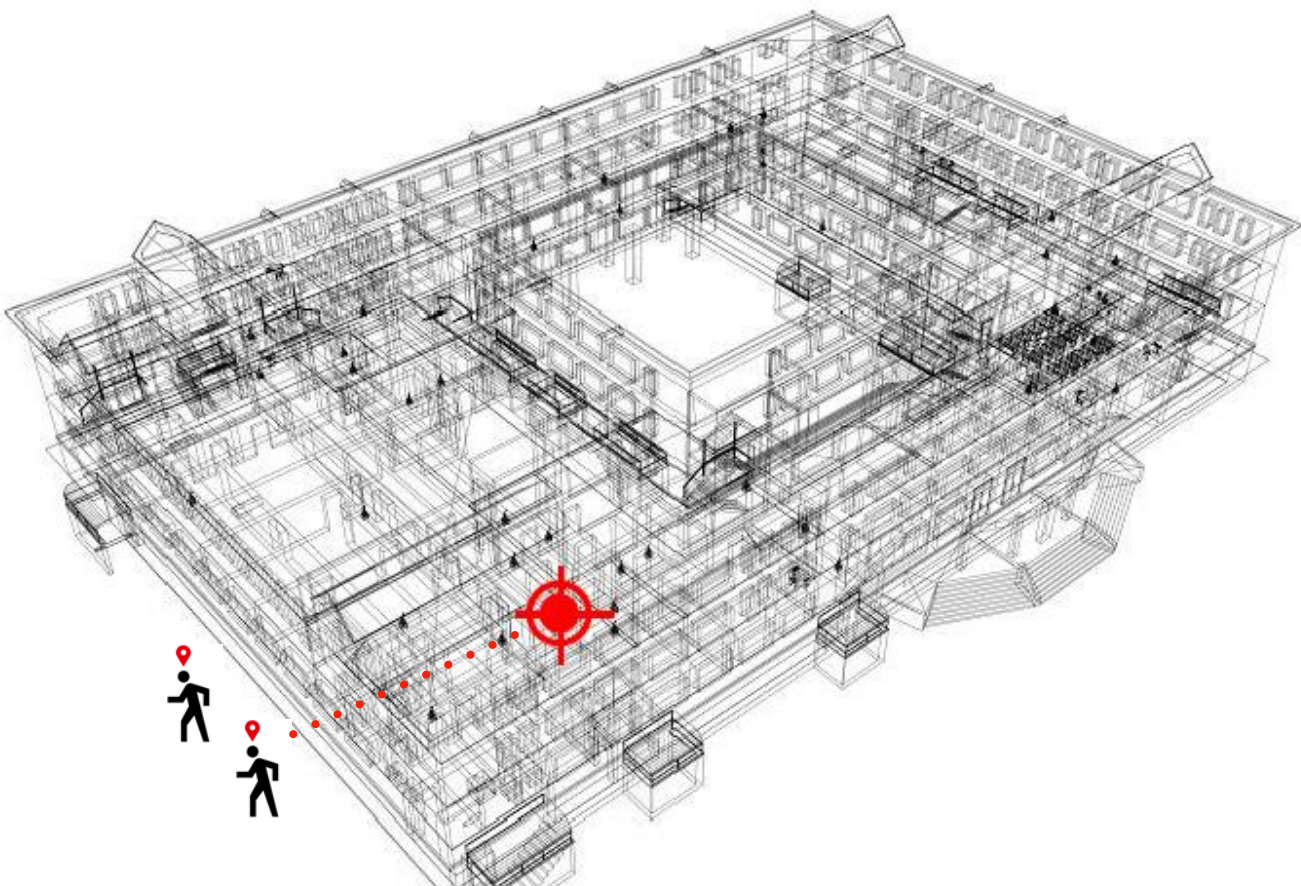
Secured protocols to trigger breach, for automated areas sensitive controlling content

IoT

Merged with other Bluetooth assets that automatically triggers, when unauthorised personnel, is sensed



PERSONNEL TRACKING (SECURED FACILITIES)



POTENTIAL INDUSTRIES

Potential Industries, current distribution presence

Industry	Presence Focus	Local / Distributor
Healthcare	SG, KR	Both
Logistics	SG, MY, VN	Both
Defence	SG, MY	Both
Education	SG, AU	Distributor
Hospitality	SG, AU	Distributor
Manufacturing	SG, MY	Both

A stylized, monochromatic blue illustration of a library interior. In the background, there are tall bookshelves filled with books. In the foreground, several people are depicted wearing face masks. On the left, a woman is talking on a mobile phone. In the center, two people are looking at a smartphone together. On the right, a man is holding a smartphone. The entire scene is overlaid with a network of thin, intersecting circles, suggesting a social or digital network. The text 'JARVIS (COVID-19 EXTENSION)' is written in a bold, white, sans-serif font across the upper middle of the image.

JARVIS (COVID-19 EXTENSION)

THANK YOU