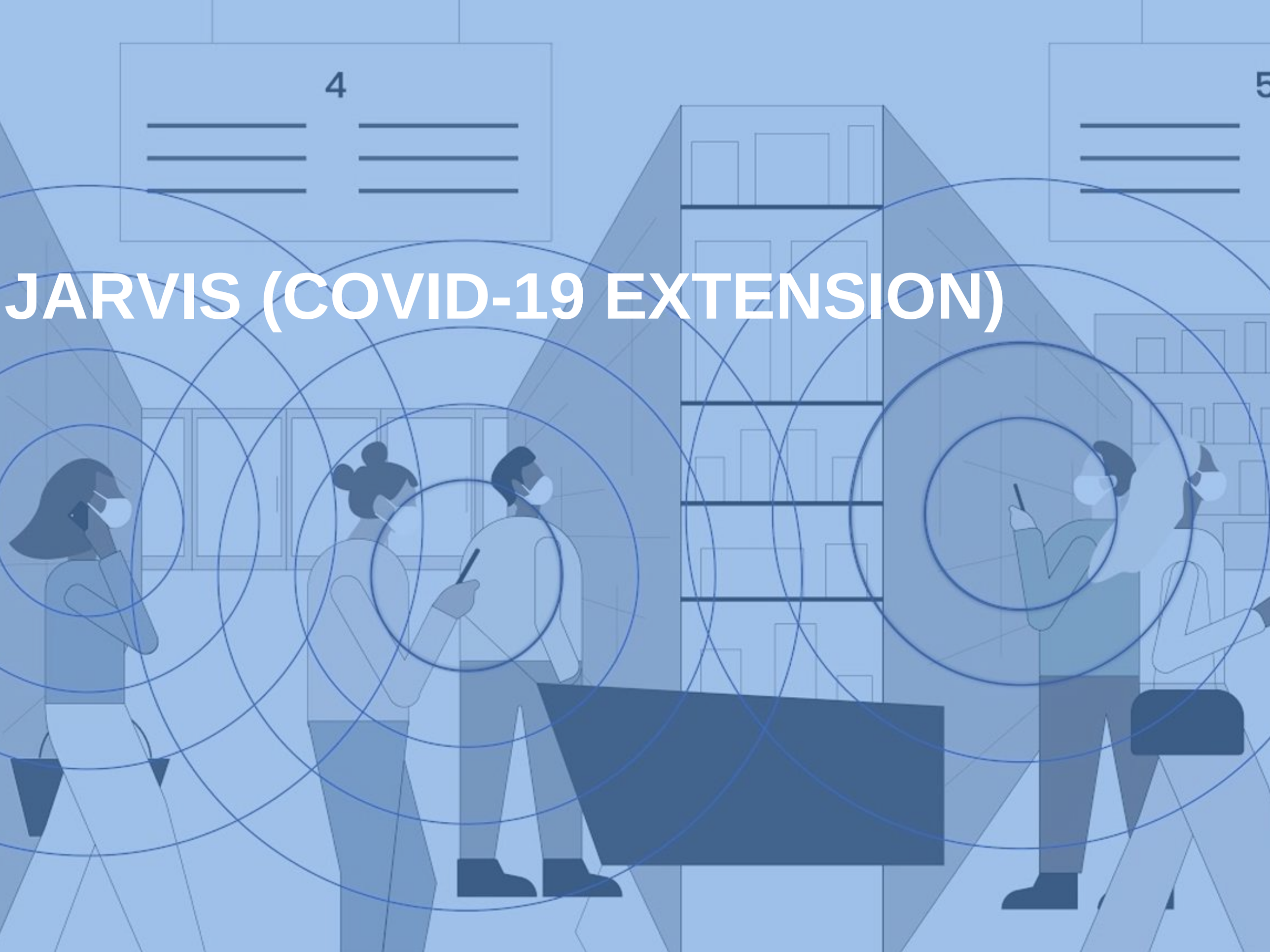
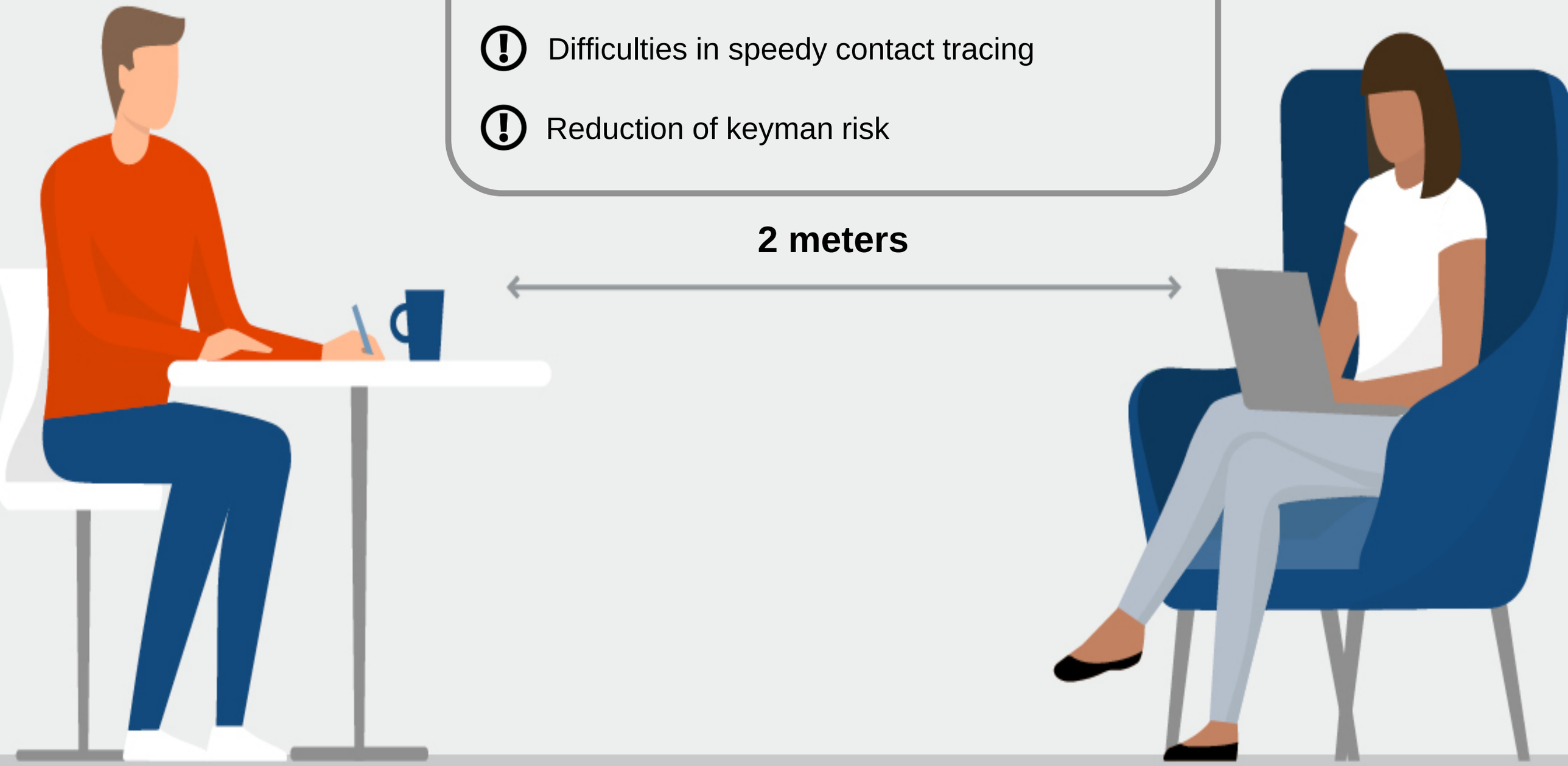
JARVIS (COVID-19 EXTENSION)



JARVIS (COVID-19 EXTENSION)

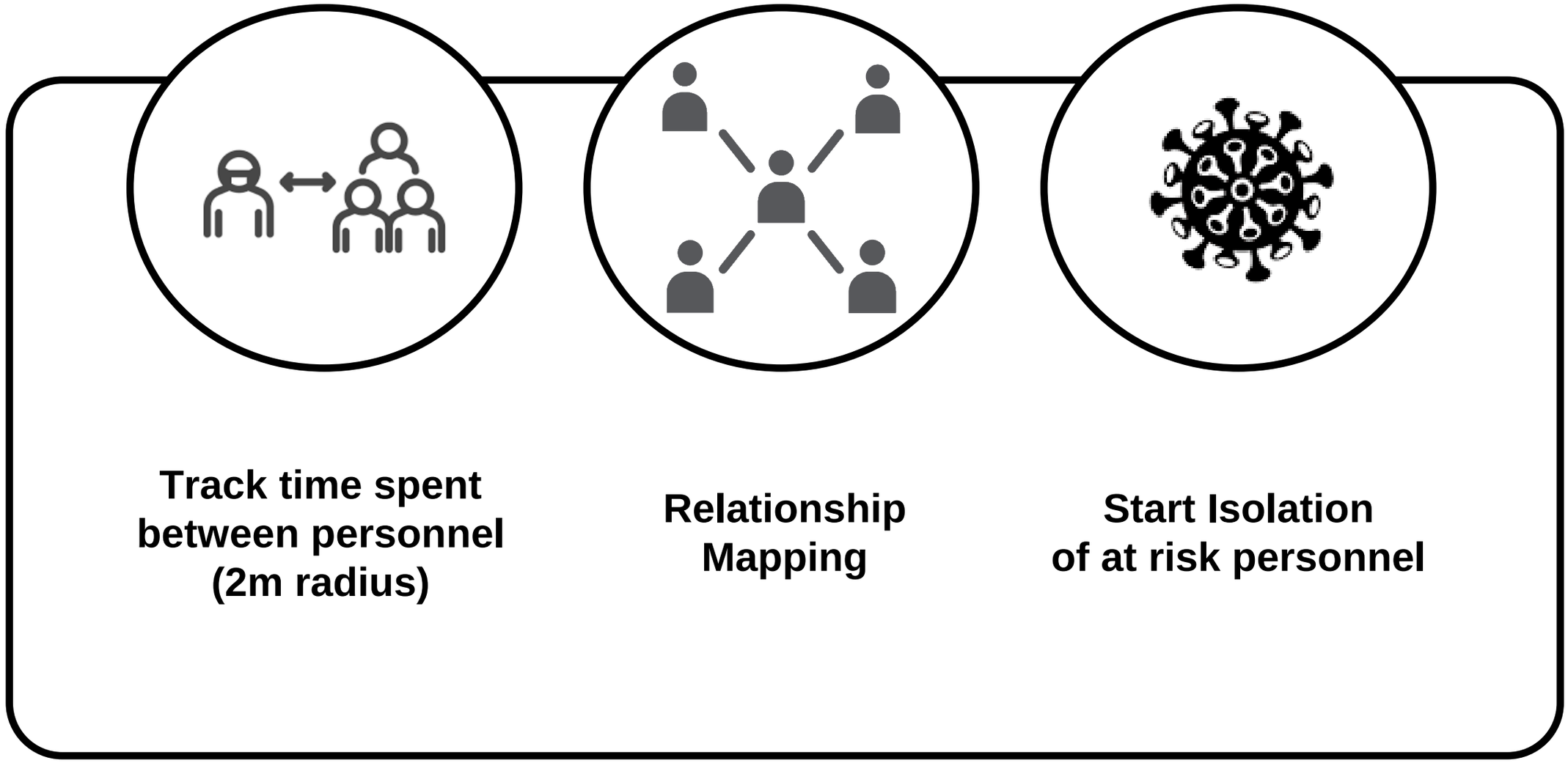
- Compliance requirement for social distancing
- Employee movement for compliance tracking
- Difficulties in speedy contact tracing
- Reduction of keyman risk



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



JARVIS (COVID-19 EXTENSION)

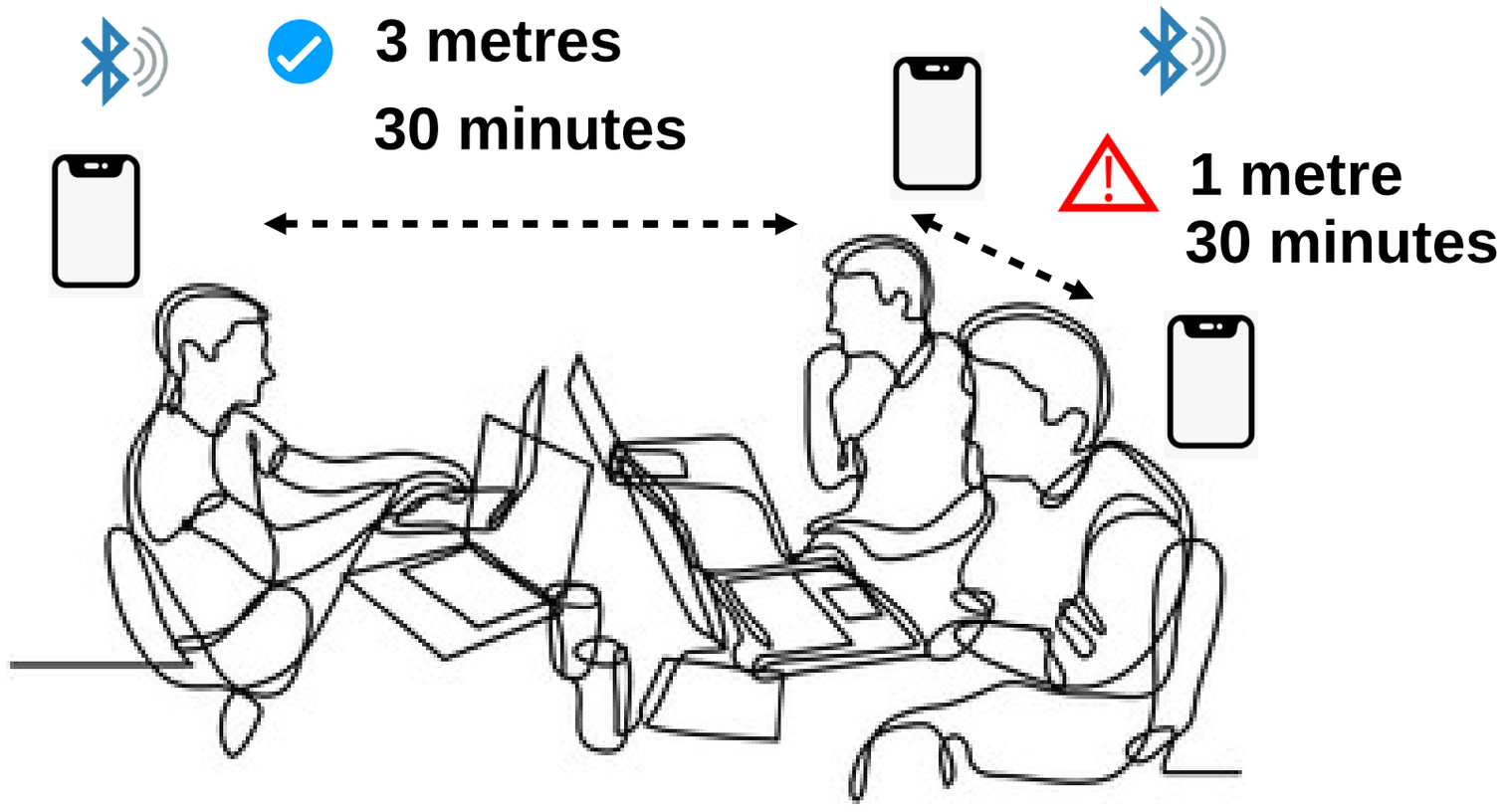
How Does it Work?

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**

2 metres

1 minute

JARVIS (COVID-19 EXTENSION)

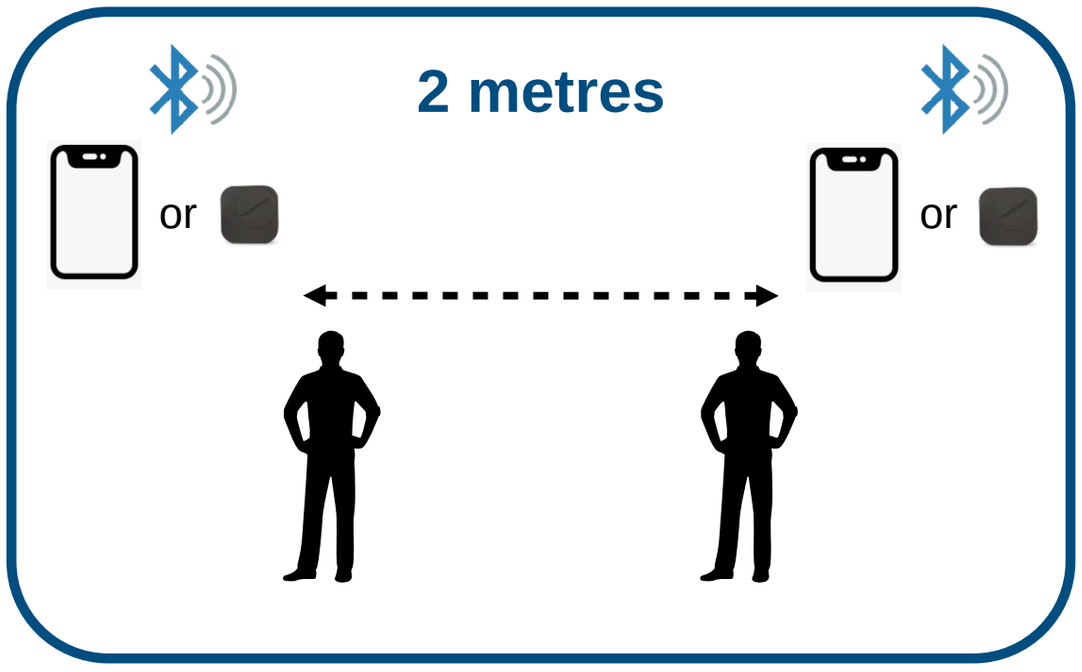
Wearable/Tag Specs

Attachable to

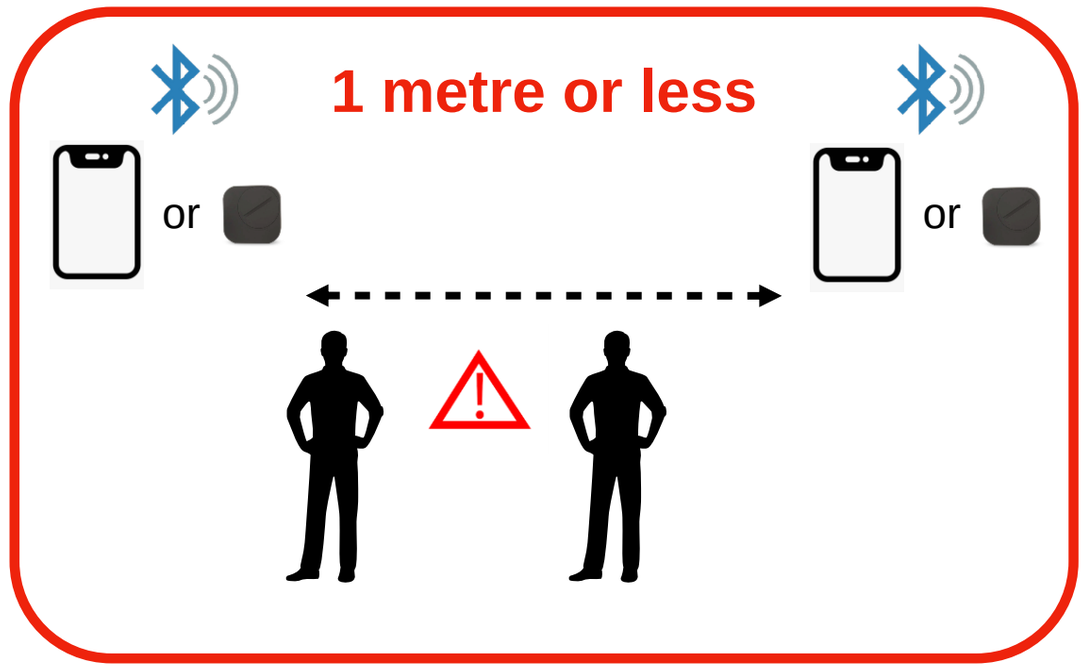
Product Name	**JARVIS Buzz Wearable**
Dimensions	43x43x14.5mm
Technology	BLE 5.0
Battery Lifespan	6 Months (Maximised - no charging/recharging needed)
LED Alert	Red, Green, Blue
Sound Alert	Electrical Buzzer
Colors	Black / White
Storage on Ram	>30,000 records
Replaceable Battery	Yes
Options of Usage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

JARVIS (COVID-19 EXTENSION)

How Does it Work? - Social Distancing



Comply



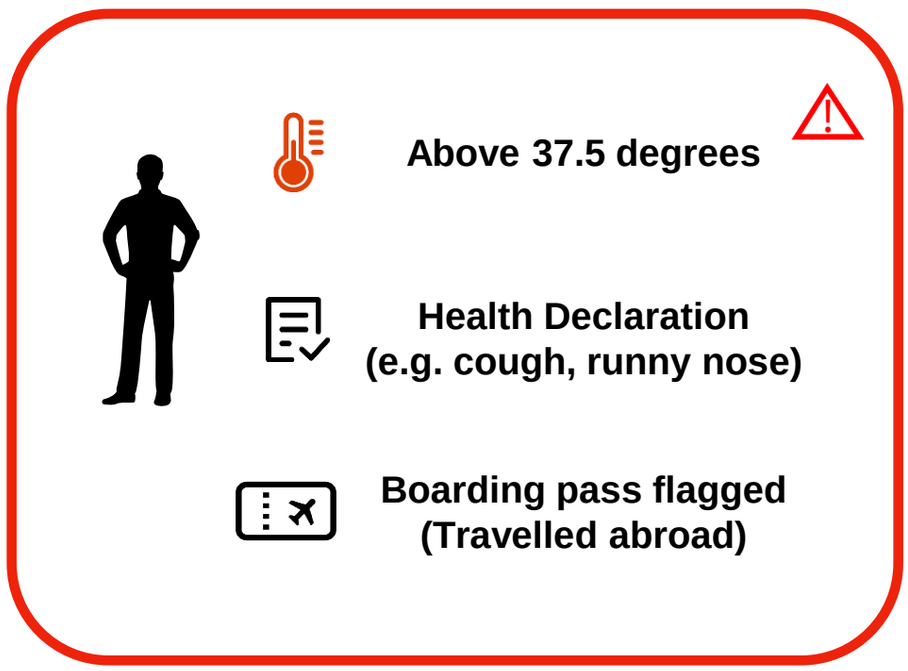
Non Compliance

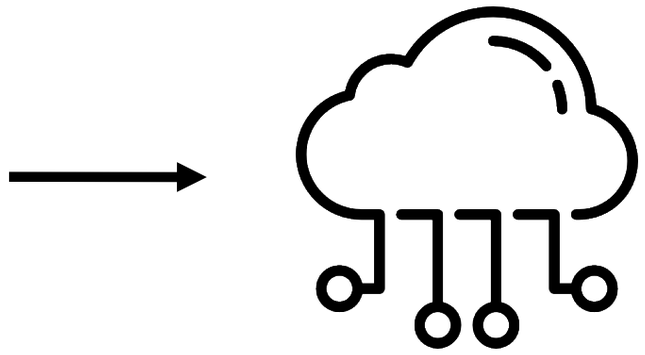
Signals get processed on Huawei Cloud

Safety Measurement Officer Gets Alerted

JARVIS (COVID-19 EXTENSION)

How Does it Work? - Temperature & Health Declaration





Submitted, processed, stored on Huawei Cloud

Companies get alerted of flagged personnel

Companies narrow down search of personnel exposed, based on proximity and time spent

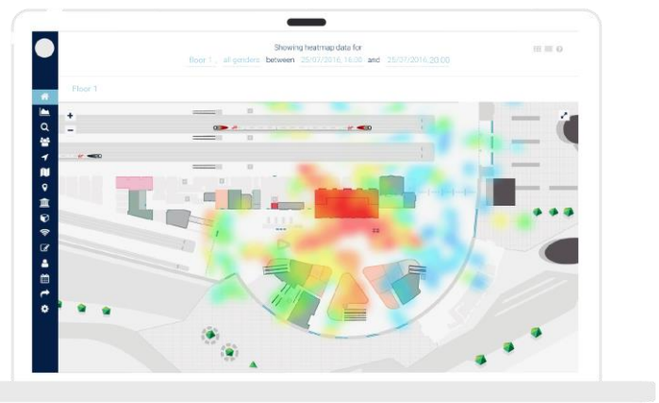
JARVIS (COVID-19 EXTENSION)

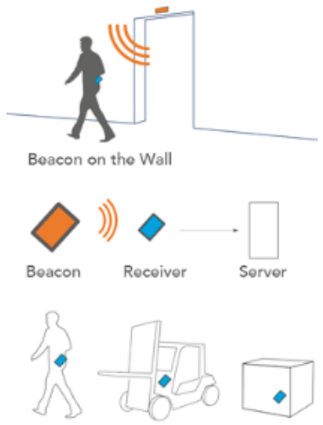
Why Bluetooth?

Wifi | BLE Trackers | BLE 5.0 | UWB Tracking | BLE 5.1 | Ultrasound

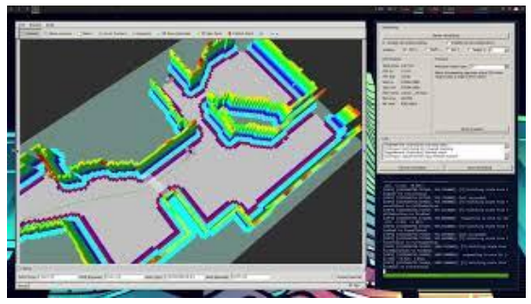
Positioning Accuracy

Low (~10-15m)





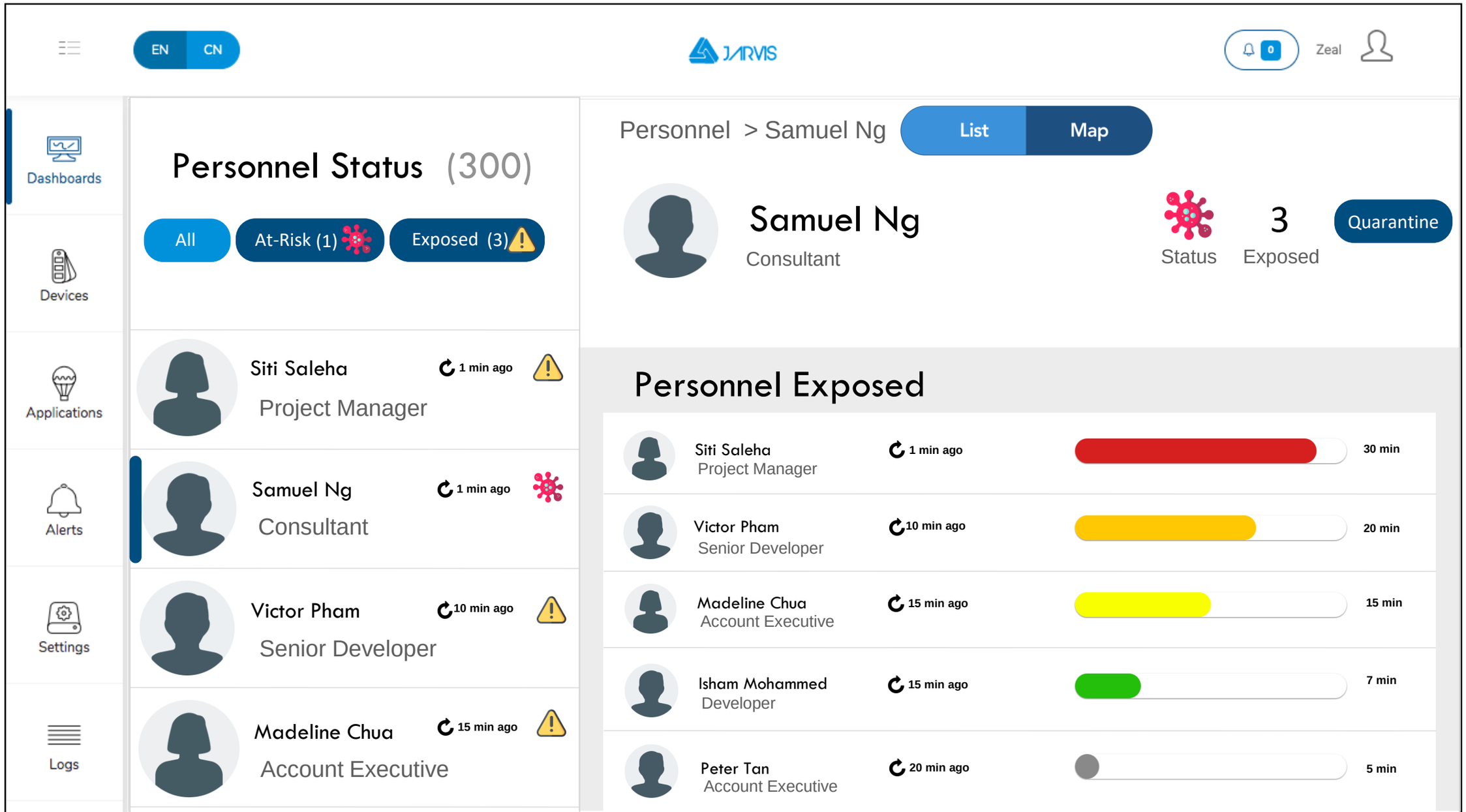
High (~1cm)



JARVIS (COVID-19 EXTENSION)

Speeding Up Contact Tracing

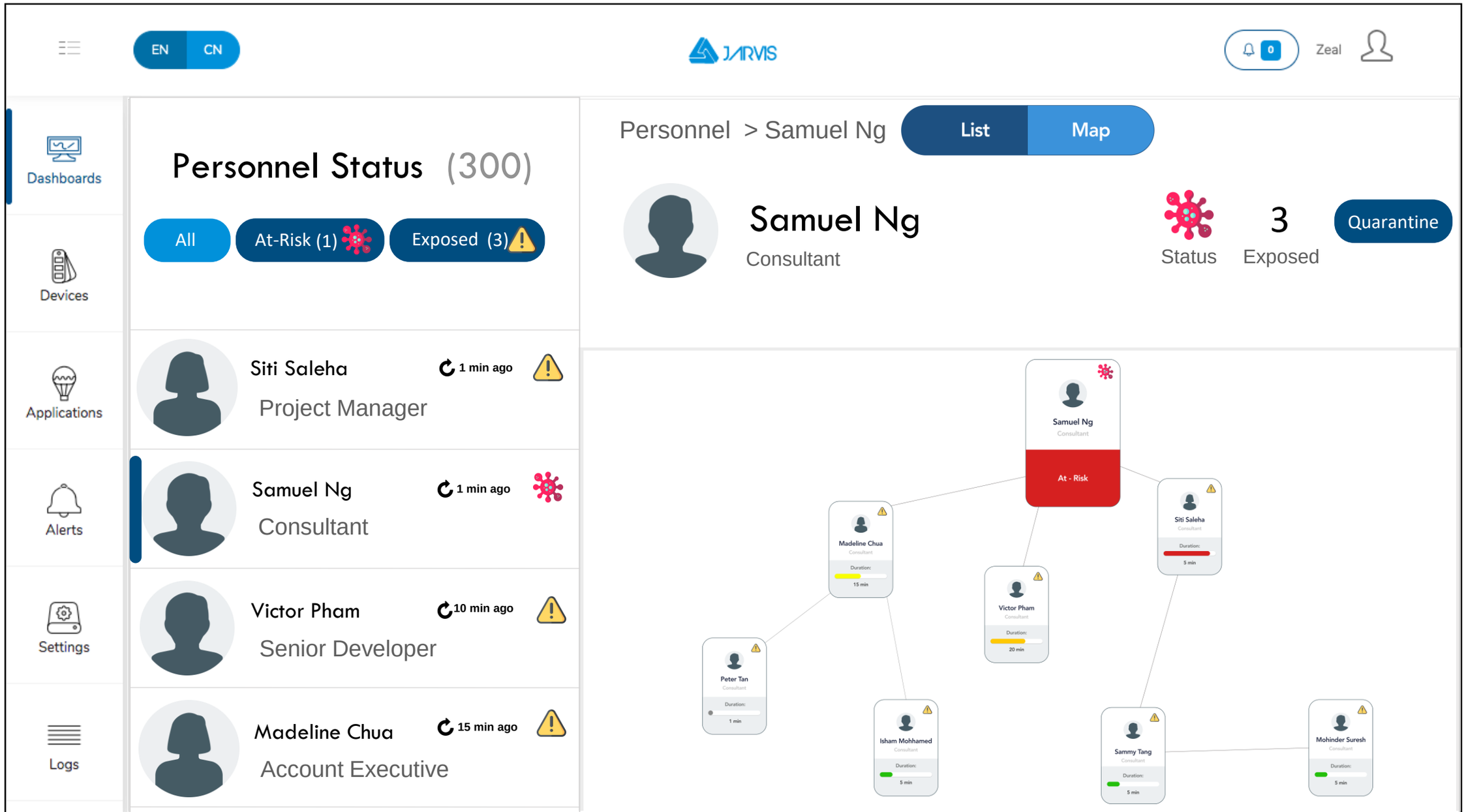
When a personnel is symptomatic / asymptomatic, the key is speed in locating other exposed personnel



JARVIS (COVID-19 EXTENSION)

Speeding Up Contact Tracing

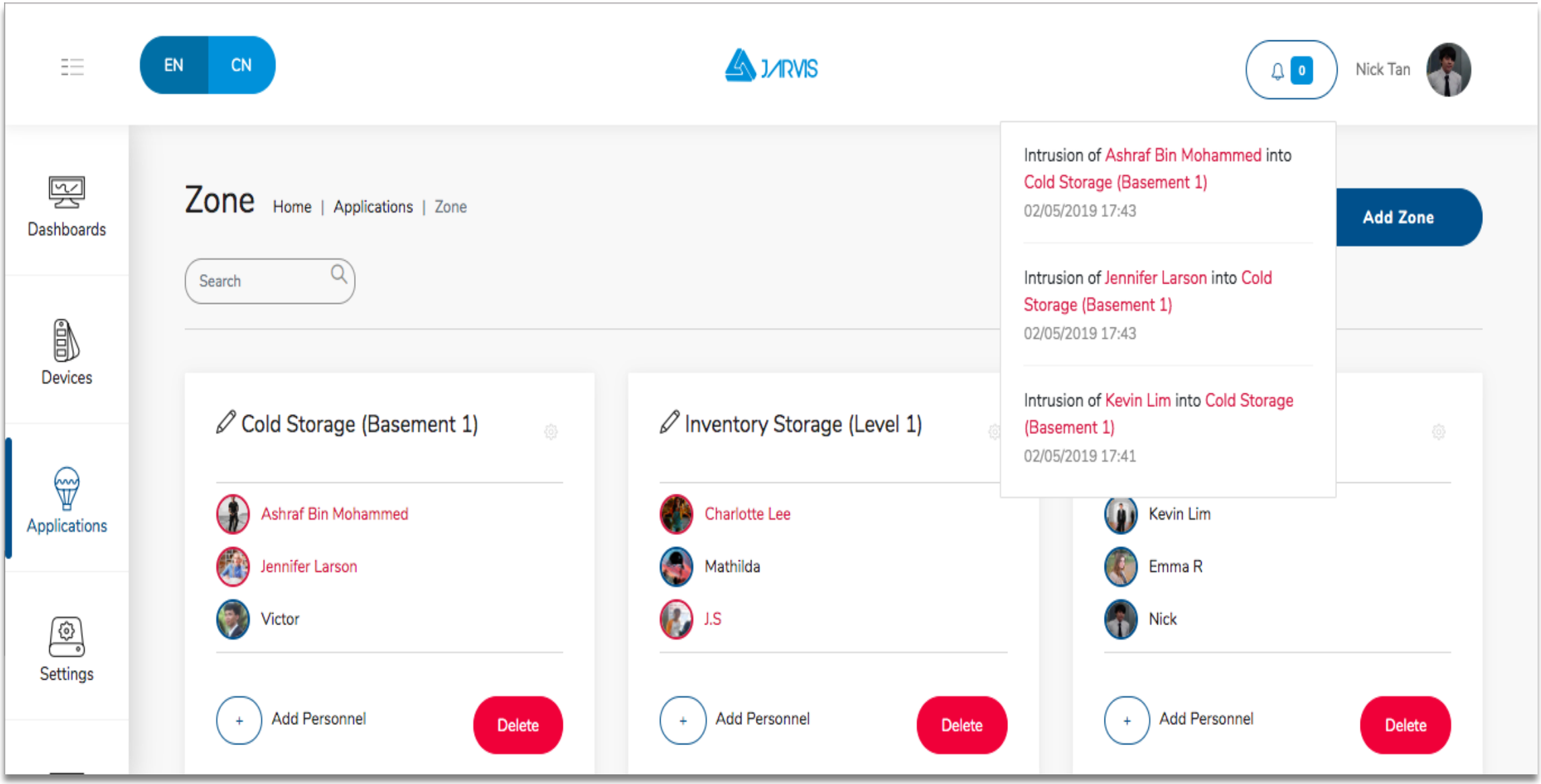
When a personnel is symptomatic / asymptomatic, the key is speed in locating other exposed personnel



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**



JARVIS (COVID-19 EXTENSION)

Indoor Mapping (Opt-In)

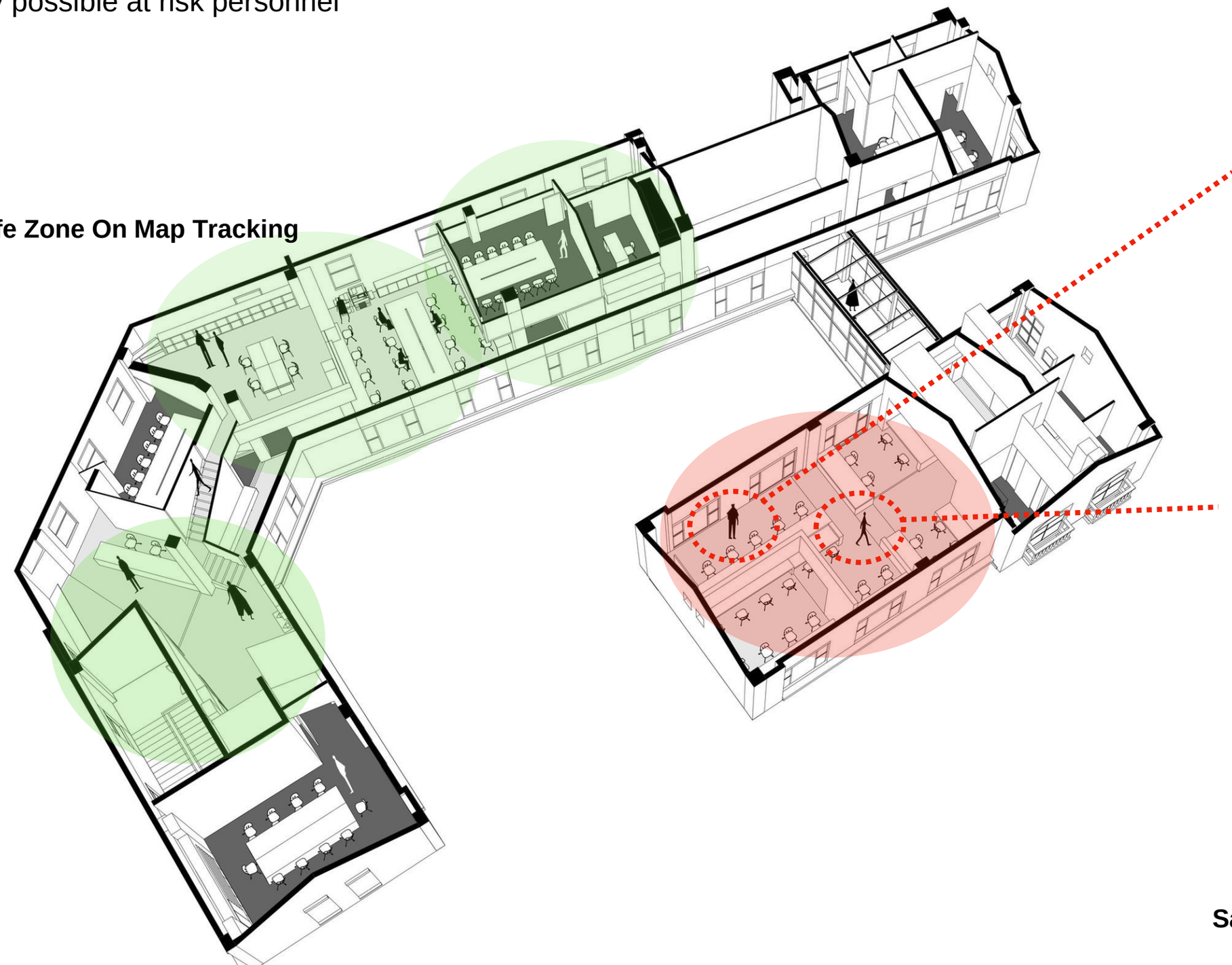
Users of JARVIS will be able to turn on indoor mapping features, to know who's where, and map out safe / authorised zones

JARVIS (COVID-19 EXTENSION)

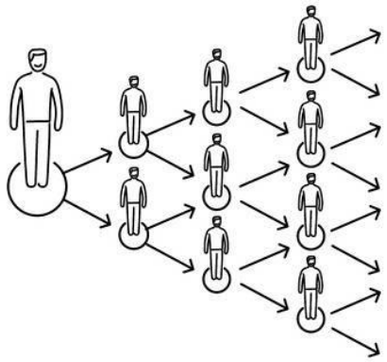
Indoor Tracking & Mapping (Opt-In)

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

Safe / Unsafe Zone On Map Tracking



Temperature At Risk Personnel

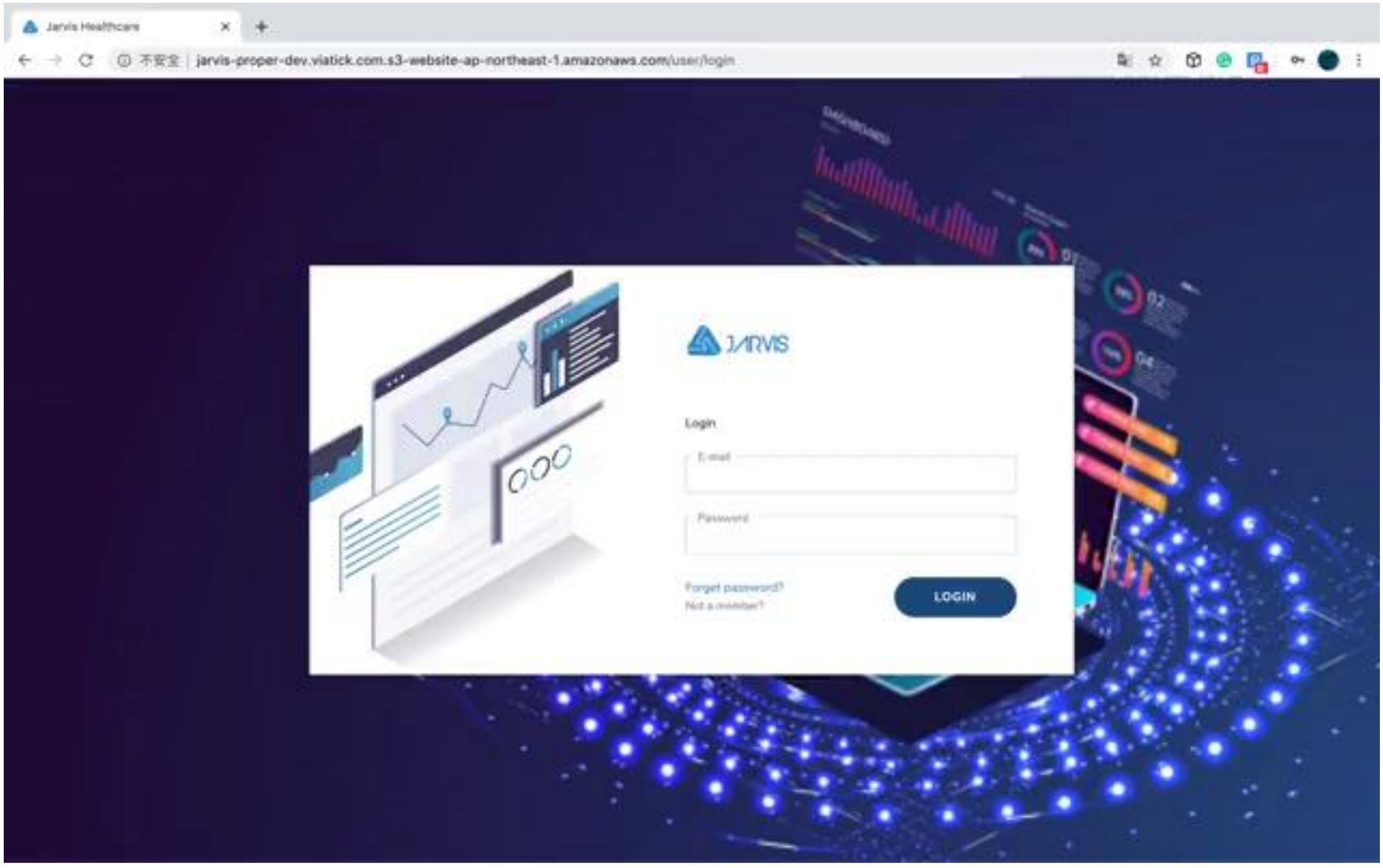


Relationship Mapping For Contact Tracing

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*	✓

Source: VIATICK 2020

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*	✓

Source: VIATICK 2020

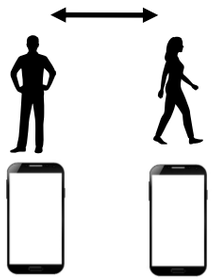
IMPLEMENTATION WALKTHROUGH

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

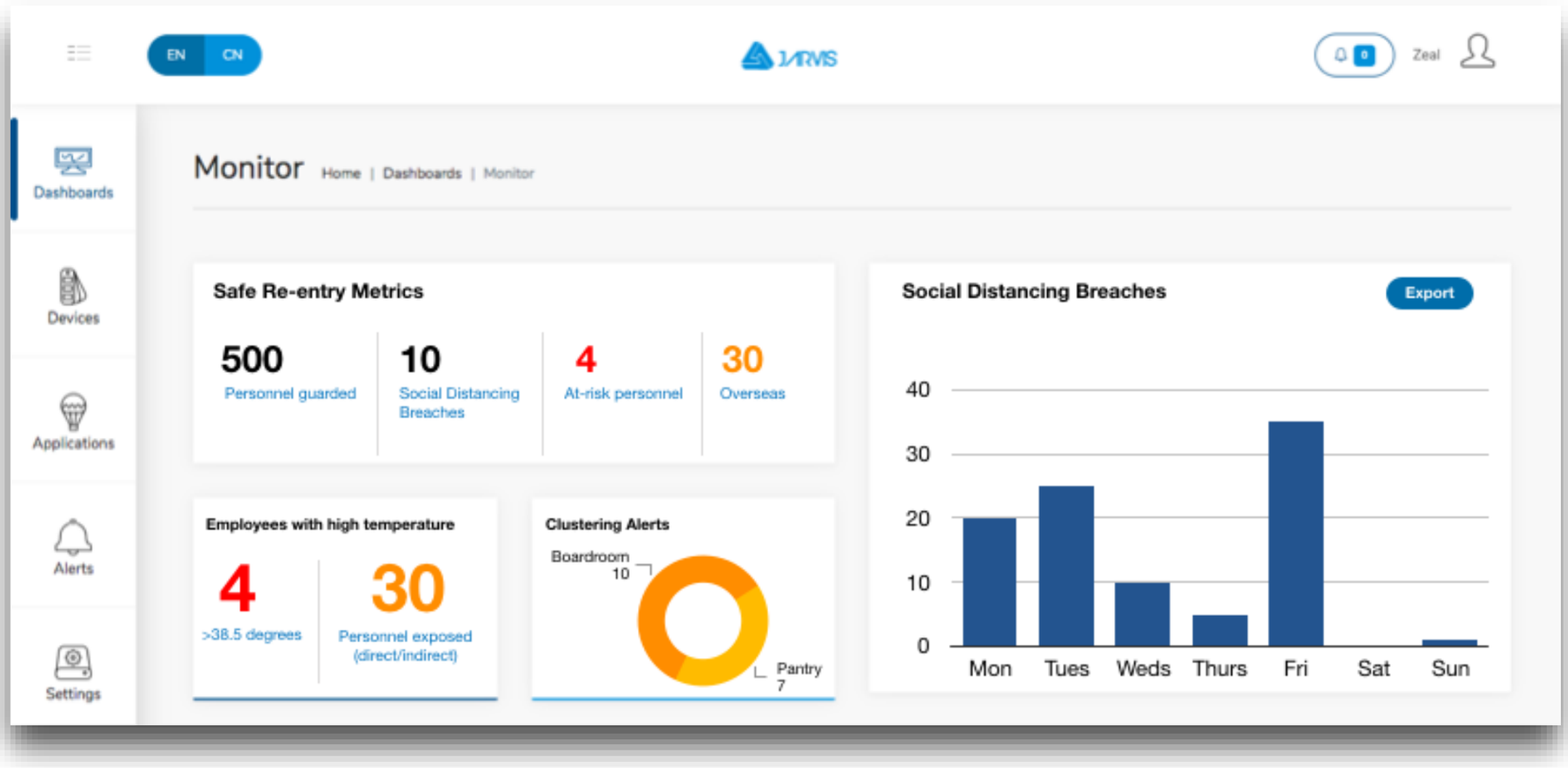
SPED-UP

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

MEGA FORTRIS GROUP

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**

MEGA FORTRIS GROUP

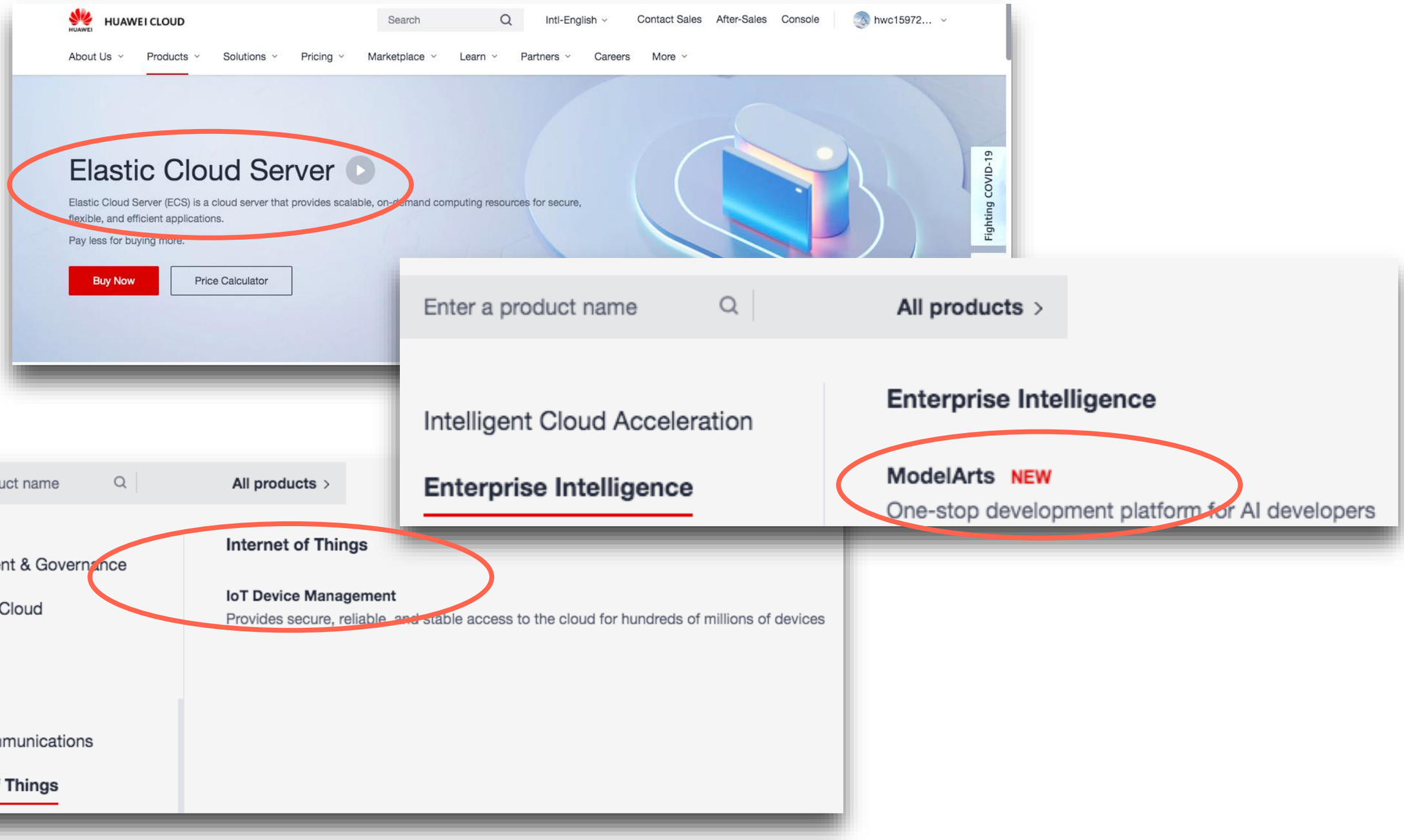
DEPLOYING JARVIS

Where / How to Subscribe

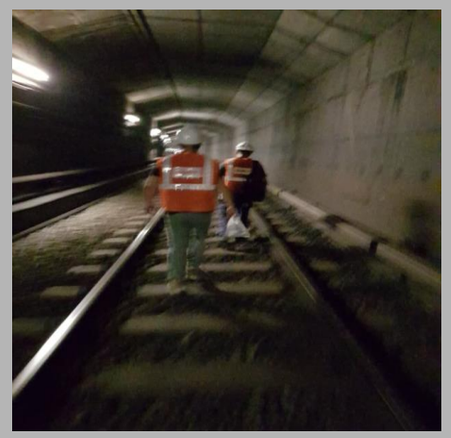
Mediums	Options	Hardware	Dockerised
Huawei Market Place	SaaS / Enterprise	Add to Scale / Bundled	Yes
VIATICK Main Site	SaaS / Enterprise	Add to Scale / Bundled	Yes
System Integration Partners	Enterprise	Separately Billed	Yes
Management Consultancy Partners	Enterprise	Separately Billed	Yes

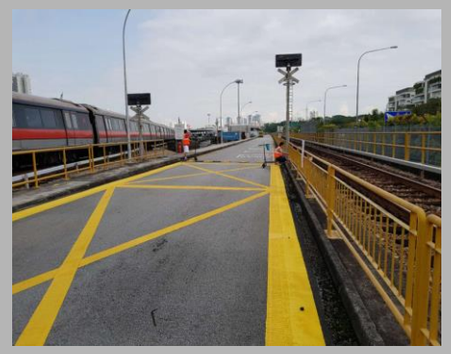
DEPLOYING JARVIS

Resources Used



NOTABLE USED CASES





THALES SAMSUNG 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

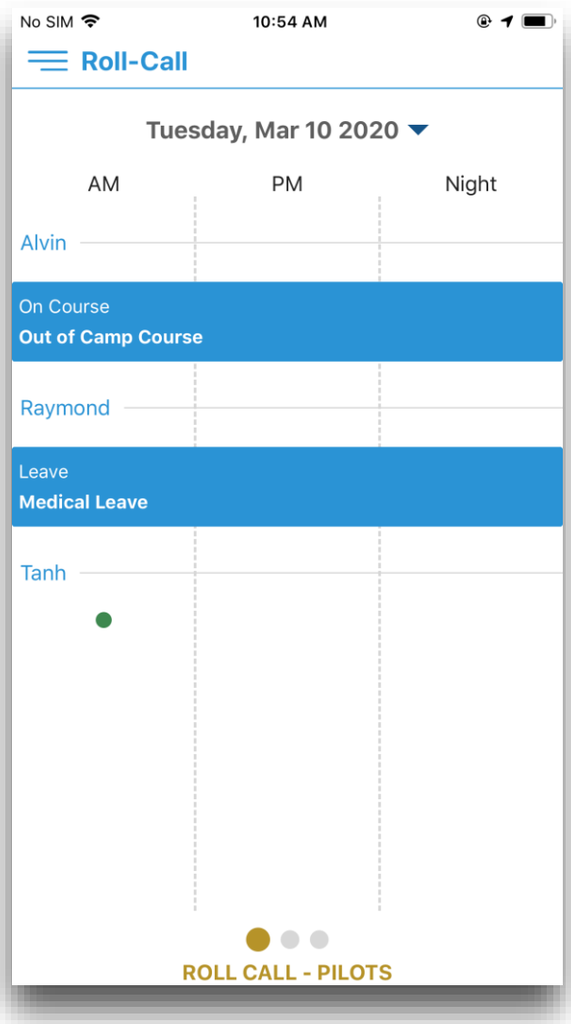
Immediate deployability for tasks in camp, based on where personnel are

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

VANGUARD HEALTHCARE

Silveray

ELDERCARE TRACKING (AGED CARE FACILITIES)

NOTABLE USED CASES

PERSONNEL & ASSET TRACKING (SECURED FACILITIES)

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

NOTABLE USED CASES

AUDITABLE

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

SECURED

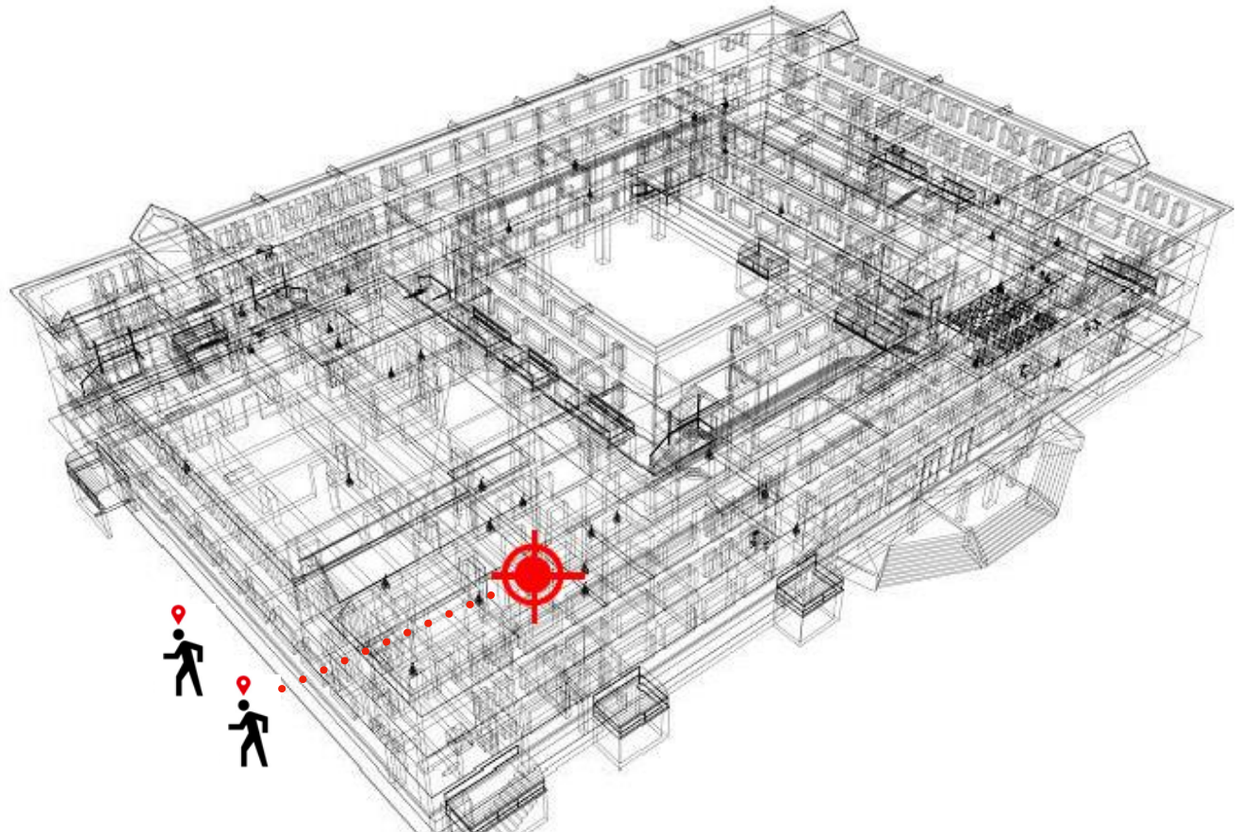
Secured automated protocols to trigger breach, for areas controlling sensitive content

IoT

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

KPP PACKAGING
KPP Packaging Pte Ltd

PERSONNEL TRACKING (SECURED FACILITIES)

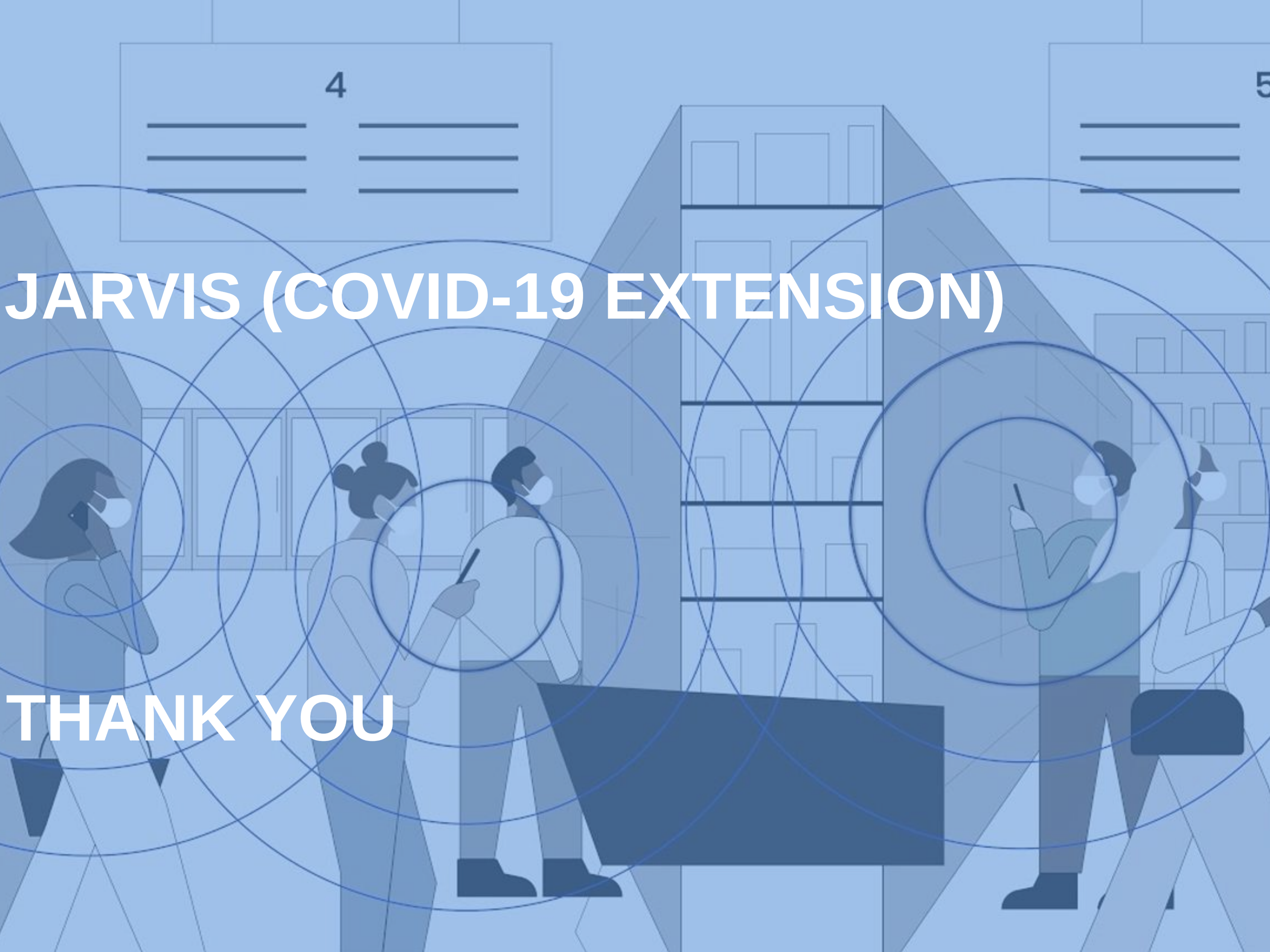


POTENTIAL INDUSTRIES

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

JARVIS (COVID-19 EXTENSION)



THANK YOU