

## COVID-19 Rapid Containment for Cruise Lines

### Reducing Passenger/Staff Health Risks

#### EMPLOYEE SAFETY

You invite your staff back to the office after quarantine and someone has tested positive for COVID-19. How do you keep them safe and productive without sending staff home again?

#### BUSINESS CONTINUITY

Quantum Thought has a COVID-19 solution in production which can rapidly contain an outbreak on a corporate campus by tracking MAC addresses and locations of employees and visitors

#### RAPID CONTAINMENT

Using our solution, once someone is determined to be infected, management can quickly check the recent history of where, when and with whom the infected person interacted. Then management can quickly contact those who may have been infected and immediately test and quarantine. This would dramatically slow the spread of any infectious disease.

#### PRIVACY

As data is captured it is obfuscated using tokenization and cryptographic technologies. That captured data is encrypted at rest and in transit and discarded after a defined period of time, based on the client compliance policies. Privacy policies and use of information is also a function of user agreement and may be revealed or used upon emergency declarations or specific circumstances such as a self-declaration of an infection.



Our solution uses real-time data collected from mobile and wi-fi signatures that identify presence and movement of people based on their mobile phones and presence on wi-fi access points.

We can analyze the social transmission vectors of the Coronavirus - or any other communicable disease – on cruise ships and corporate campuses - anywhere wifi or Bluetooth can be made available. and mitigation of the spread of the virus.

Our solution provides a sophisticated analysis of data including a) the movement of individuals within one or more facilities, b) infection vectors based on interactions and risk factors; and c) individual risk factors, to create an overall risk profile of individuals in order to focus priority for treatment. Critical components of the Quantum Thought solution are in production and have been used with over 500 million MAC addresses.

When an emergency like the COVID-19 outbreak occurs in a corporate facility or campus, it is important to determine the incident location in order to contain the outbreak. You need to know where the infected person has been, who has come in contact with them as well as those in close proximity, so they can be directed to receive further information, be quarantined, or safely evacuate the area.

Quantum Thought's real-time contact tracing containment system uses device-based detection and location-based analytics to help stop the spread of virus. We leverage existing infrastructure, and no new equipment needs to be installed.

- **Rapidly contain any virus or security issue while maintaining privacy.**
- **Enhance intelligence by correlating information from video surveillance and access control systems.**
- **Locate individuals by type: employees, visitors, contractors, security team, IT team, EMT, Operations teams, etc.**
- **Zone Alerts – create virtual geo-fenced zones to monitor ingress, and egress activity of people through those zones and restrict access where needed.**
- **Track assets like mobile phones, stolen laptops etc. with appropriate notification workflow.**



Our interface allows administrators to easily configure, track, monitor and view analysis.

Our solution does not require any changes to existing Wi-Fi or Bluetooth infrastructure, ensuring easy and cost-effective deployment.

- Cruise Ships
- Corporate Offices and Campuses
- Health Care Facilities
- Military Bases
- Government Facilities



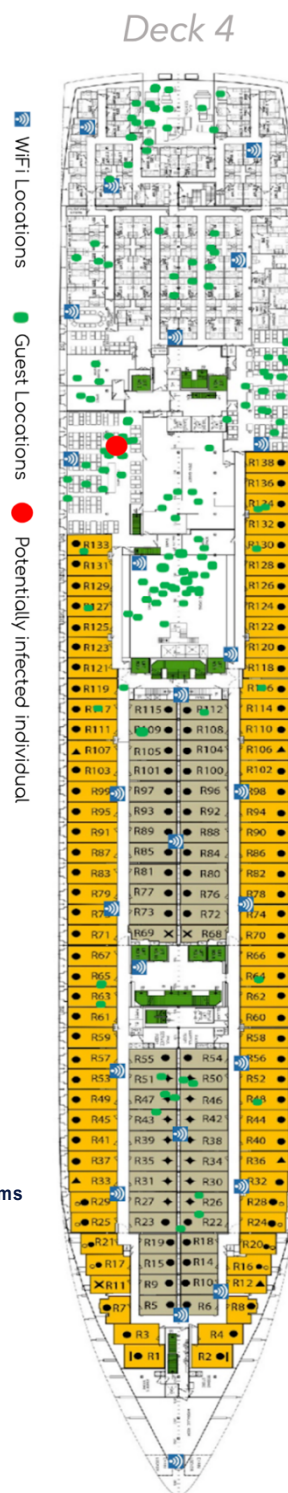
For more information on any of our products or services please visit us on the Web at:  
[www.quantumthought.io](http://www.quantumthought.io)

## Features and Benefits

- COVID-19 Alert when an "infected" person tests positive.
- Report of people potentially exposed
- Exposure contact tracing visual graphic over time by area.
- Report of areas potentially exposed by "excluded" people.
- Real-time exposure alerts.
- Tagging/classification of employees by status.
- Dwell time of visitors and groups per zone.
- Zone alerts based on per zone rules.
- General analytics for site management.
- Peak days/hours with visitor frequency.
- Real-time heat maps and daily visitor density flow.
- Passenger count, trends, dwell times & density by area of interest.

### Proof

- **500 million devices processed**
- **In production at over 1 dozen customer sites**
- **GDPR and CCPA Compliant**
- **Unique, patented technology base**
- **Integrates with existing WiFi and Video systems**  
**including**  
**CISCO, Fortinet, Aruba, Meraki, Ruckus**
- **AI and quantum computing enhancements**  
**underway**



## Analytics using Artificial Intelligence and Quantum Computing

Monitoring the interactions of individuals in buildings and facilities creates a massive amount of data generated by interactions and movements. Together with known and predicted individual risk factors, we continuously build and improve multiple machine learning models that perform three main tasks: 1) continuously predict those that are most at risk of infection, 2) learn and understand traffic patterns to analyze what areas are likely to be higher risk zones and 3) predict how an infection is likely to spread. Data is collected and stored for a designated period of time in order to analyze the historical interactions of constituent groups. We employ quantum-inspired machine learning algorithms enabling us to produce computational results superior to the current industry standards.



## QUANTUM THOUGHT

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