



AI Measured **Social Distancing**

Created By
**Dynamic Crowd
Measurement**

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OBSERVE & MEASURE

COVID-19 HAS HIT US HARD. THE EFFECTS OF LOCKDOWNS AND PARALYSED BUSINESS ON THE WORLD ECONOMY IS UNPRECEDENTED.



FIG 1. DCM system monitoring crowds and social distancing.

Governments and private entities across the world are in search of optimal decision making for reopening the country and reactivate the economy while minimising the risk of new outbreaks. Several methods have been proposed to understand the effect of social distancing, however, it is first required to observe it. Dynamic Crowd Measurement (DCM) (<http://dynamiccrowdmeasurement.com>) has

developed artificial intelligence powered algorithms that extract real time social distancing metrics from public spaces while keeping the identity of pedestrians anonymous. The observations from our system supports both short and long term decision making.

UNDERSTAND & MANAGE

DCM HAS DEVELOPED COMPUTER VISION ANALYTICS TO DETECT PEDESTRIANS, ESTIMATE THEIR POSITION AND CALCULATE THE DISTANCE BETWEEN THEM.



FIG 2. **DCM Dashboard showing spatial heatmap, compliance and live measurement for social distancing.**

DCM has developed computer vision analytics based on neural networks and deep learning to detect pedestrians and estimate their position over time – simultaneously calculating the distance between them and reporting on quantitative measures of social distance.

DCM has a track record of providing real-time crowd analytics for some of Australia’s largest events, such as Vivid Sydney, working in a high crowd density environment. However, given the current scenario, we have adapted our dashboard to provide measures of social distancing in the form of time series data and spatial heatmapping. Our dashboard can be inspected via desktop or mobile environments.

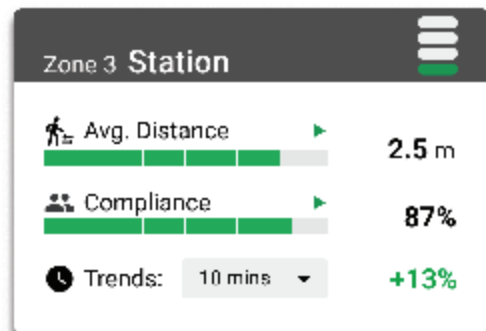


FIG 3. **Visualisation of social distancing at a location.**

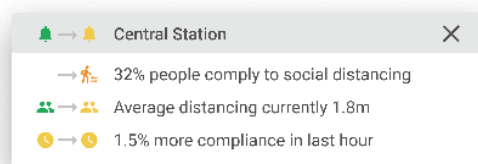


FIG 4. **Compliance Notifications.**

YOUR QUESTIONS ANSWERED

Is the solution scalable?

DCM solution is highly scalable. Our system is deployed in the cloud and is able to cope with thousands of CCTV streams. It supports the deployment of a private processing instance for your council, shopping centre, transport system or across the whole country/state.

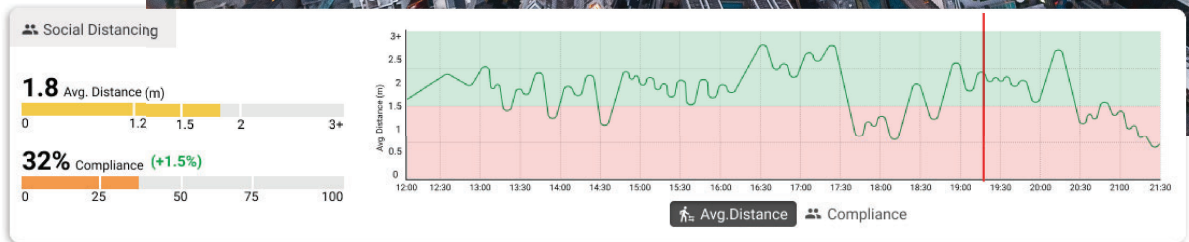
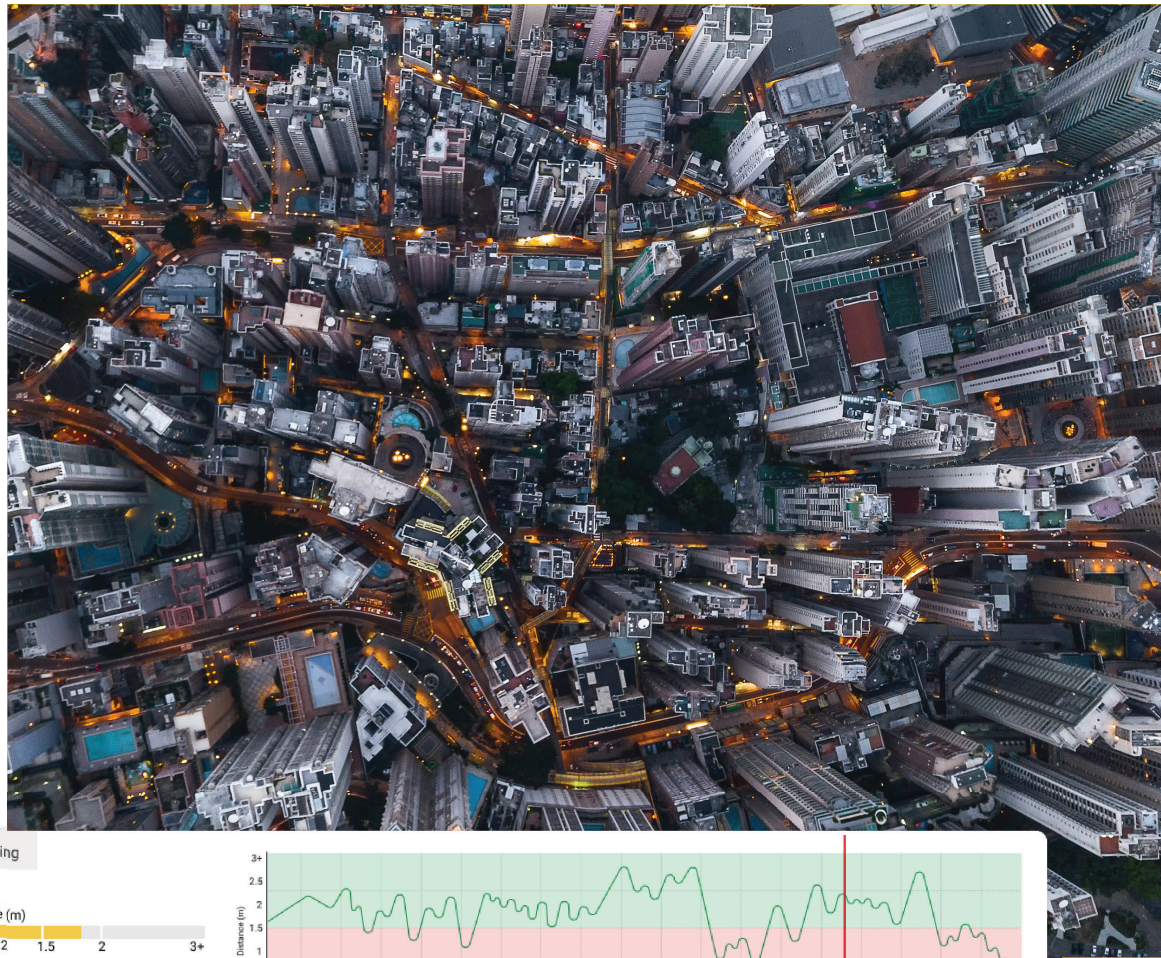
How is the information DCM produces useful?

Quantitative measures of social distancing can be used in the following scenarios:

1. Evidence for relaxing or imposing restrictive social distancing measures.
2. Real time identification of bottlenecks and spatial regions susceptible to shorter average distance between pedestrians.
3. Support research and development of predictive outbreak models, which are based on assumptions around social distancing.

Does DCM preserve the privacy of individuals?

DCM provides cloud infrastructure that allows footage from existing CCTV installations to be processed in a highly secure environment that maintains privacy of individuals. Pedestrians are never identified and are assigned anonymised labels. Furthermore, the imagery gets deleted from DCM servers after getting processed.



[WWW.DYNAMICCROWDMEASUREMENT.COM](http://WWW.DYNAMICCROWDMEASUREMENT.COM/SOCIAL-DISTANCING)
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