

THE SCIENCE OF GEOGRAPHY

When faced with complex challenges, entrepreneurial leaders rely on the science of geography and spatial analytics technology to reveal the path forward.

As early epidemiologists grappled with the pandemics of the 19th century, English physician John Snow used a series of maps to identify a pattern of cases around a public water pump in the Soho district of London and deduce that epidemic cholera was being transmitted through contaminated water.

This visionary research not only led to Snow being recognised as a founding father of epidemiology, it also stands as one of the first documented public health applications of a Geographic Information System (GIS), highlighting the key role that mapping information can play in enhancing decision-making.

More than a century after Snow's research, Jack and Laura Dangermond founded the Environmental Systems Research Institute (Esri), a mapping technology company that in 1982 released the world's leading GIS software – known as the ArcGIS platform.

In Australia, the GIS technology sector is now

worth in excess of \$2.1bn, with almost 10,000 organisations relying on Esri's GIS technology to underpin their operations and drive innovation.

Most Australians have used Esri maps whether they know it or not. The technology is behind the viral Johns Hopkins University COVID-19 Map – which receives more than one billion hits a day – and guided authorities' response to the 2019–2020 Australian bushfires.

Brett Bundock, Managing Director for the Boustead Geospatial Group – which includes Esri Australia and Esri South Asia – noted recent crises had cast a spotlight on the ability of the technology to deliver actionable insight into any situation.

"The Johns Hopkins University COVID-19 map provided a clear visual picture of the pandemic as it unfolded, empowering a global audience to visualise critical updates in near real-time," Mr Bundock said.

"The ability to use the science of geography to provide insight into any aspect of a situation is what has made GIS technology a crucial component of any contemporary decision-making toolkit – whether it's a government authority, utility, mining company or major retailer."

The relatively simple problems solved by John Snow in London stand in stark contrast to the scale and complexity of the challenges currently facing the world – just as Snow's analytics appear rudimentary compared to the cutting-edge insights provided by GIS technology today.

What has remained consistent is the fundamental role the science of geography holds in delivering context and meaning to situations, communities, businesses – and the world in which we live.

NSW Premier Gladys Berejiklian, and Minister for Health Brad Hazzard looked to Esri's maps and analytics during the COVID-19 pandemic.

