DISASTER-DRIVEN INNOVATION

The creation of a National Spatial Data Infrastructure (NSDI) would serve to consolidate information beyond organisational boundaries, and allow for coordinated national responses to crises.

By Brett Bundock

History has shown we connect in a crisis. From a trans-Tasman alliance forged on battlefields; to the unification of more than 200 nations tackling a global pandemic – nothing provokes the shared sentiment that 'we're all in this together' like a disaster.

When faced with extreme adversity, leaders gain clarity of purpose, slashing through red tape, political allegiances, legislative barriers and technology limitations to simply 'get things done'.

But history has also shown that once a crisis passes, the opportunity to lock-in leaner, smarter ways of operating, inevitably fades – along with the motivation to think and act differently.

One of the best examples of disaster-driven innovation was born on 11 January 2011, when Brisbane was slowly being swallowed by flood waters. Within 24 hours of the city being inundated, local, state and federal groups joined forces; working together to build a near real-time map that informed citizens of the precise flood path.

These digital pioneers achieved in 24 hours what would ordinarily take two years of lobbying to cut through red tape. They federated information into a single mapping application that provided everyone – from the Premier to mud-army front liners – with a connected picture of the crisis as it unfolded.

The Brisbane Flood Map delivered a paradigm shift in cross-agency collaboration; a first-of-its-kind blueprint for future disasters… but as the flood waters receded, so too did the impetus for change.

It would be almost a decade later – in the summer of 2019/2020 – before the tragic implications of the absence of a national spatial data infrastructure (NSDI) would be exposed.

This time, as Australia burned and government and community groups rallied to prevent the advance of an unprecedented national fire emergency, invisible geographic boundaries and long-standing bureaucracy stood firm.

The blueprint for cross-agency collaboration, drawn during the Brisbane Floods, was gone – and its potential value never realised.

The COVID-19 pandemic compounded the issue at an unprecedented scale. The media challenged the government officials with the courage to front the cameras as to why there was no comprehensive national view of cases or the communities at risk.

Every state agency housed critical information – and had their own systems to connect disparate data sources – but there was no framework in place to intuitively share critical insights past organisational boundaries.

The technology required to weave intricate networks of intelligent applications, information hubs and smart workflows exists – and forms the fundamental fabric of an NSDI. It's in every land management, law enforcement and defence agency, utility, air and sea port, local government, fire authority, university, land council, environmental and marine park authority – and the nation's most respected research organisations.

Supplementing governments' own networks of disconnected spatial data repositories is a litany of commercial enterprises – spanning every sector from manufacturing and agriculture, to retail, banking and finance – each across their own pools of geographic data.

It just needs to be sewn together.

If COVID-19 has taught us anything, it's the creation of an NSDI needs to be put on the national agenda.

The push for an NSDI is not new. The Australian Spatial Information Council (ANZLIC) have been championing the idea of a consistent framework to enabled location-based intelligence since the early 1990s.

Back then, the concept of an NSDI was just that – a concept. Fodder for idealists, spatial industry professionals and technology zealots. Fast forward to 2020 and we find ourselves in a very different position.

We have the technology, the data and the know-how to make this happen. The digital bedrock is in place and we simply have to press the 'on' switch to light up government, community and commercial decision-makers with new insight.

Insight that, according to ANZLIC, could improve our ability to digitally innovate to the tune of $315 billion over the next decade. Insight that could create jobs and boost national productivity and income by up to A$2.2tn.

But the most compelling argument for an NSDI comes from these national crises and the very basic need to share knowledge – without delay – across organisations, geographic boundaries and political jurisdictions.

Surely the health of Australians, the health of our economy and the future we are creating for the generations to come has to take priority over a steadfast commitment to protecting information silos that have no place in modern, entrepreneurial government.

In the past, we've understood critical, nation-building infrastructure to comprise of steel and asphalt. In the digital age, infrastructure takes on a new form – one comprising of data, connectivity and insight.

An NSDI may not have the physical presence of the Snowy River Hydro or Sydney Harbour Bridge, but it will deliver an equally significant impact for generations to come.

The good news is the digital bedrock and building blocks for an NSDI is in place. Connecting our spatial infrastructure is now more of a diplomatic activity than a physical one.

We're already seeing strong progress in pockets around the country. The New South Wales and Queensland governments are making significant inroads in establishing state-wide federated spatial systems and Dial Before You Dig will shortly shift to a next-gen referral service which enables information to be exchanged freely between members and network providers.

The extraordinary efforts of these digital pioneers proves it doesn't take a visionary of the caliber of Elon Musk to get this off the ground – all it takes is leaders with a shared goal of inventing better, who are prepared to take action.

The biggest challenges of our time – the shifting pressures on our health systems, climate change, public safety and aging populations – can be addressed more effectively with a national spatial data infrastructure.

We cannot afford to wait for the next crisis to strike before we move to connect our country. Now is the time for action.

Prime Minister Scott Morrison relied on maps to provide data-driven insights during the 2020 Australian Bushfire crisis

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