

Industry renewal through digital infrastructure

Now more than ever, due to COVID-19, our country is experiencing a collective structural shift that is redefining how and where we work, how governments and industries collaborate, how we buy and how we appreciate where our vulnerabilities are.

The good news is that Australians have demonstrated we can adapt *en masse*, if we understand a clear purpose and direction and that we can work together to achieve it.

Underpinning and enabling this shift is the strikingly rapid building of digital infrastructure capacity – initially driven by the need for remote working, the need to better manage ICU capacity and supplies and to trace and identify COVID sufferers.



Frank Zeichner: Industries can be built on investment in digital infrastructure

Almost magically, old practices preventing significant advancement and innovation were overturned, in the wake of clear purpose and evident public good.

But this is a step only towards truly leveraging digital infrastructure for Australia to value-add, respond nimbly, optimise, predict and innovate by using real-time data and information

My hope is that the shift and investment in digital infrastructure and collaboration we have seen during the last three months is a harbinger for continuing change and momentum. If not, we risk falling back in global competitiveness, industry resilience, productivity and customer services.

To achieve that we recognise Digital Infrastructure at the same nation building status as roads, railways, airports and other physical assets. This is not however only about NBN and mobile, although they are essential components, and we must keep the pressure on here for better regional and rural connectivity.

It is about investing in and becoming leaders in the data and information infrastructure above the connectivity, which includes the following areas.

Data governance and privacy

That is a trusted culture and fabric for data sharing across public and private industry and citizens. This is fundamental to increasing data flow and unlocking the benefits. Initiatives such as the ACS Data Sharing Framework, rebalancing the onus of data privacy user consent with service provider accountability; and harmonising disparate and lagging state and federal privacy laws to make it simpler for us all.

Real-time data collection

Requiring all significant infrastructure spend to include real-time data collection and availability – also known as Smart Infrastructure – at build time.

Firstly this is cheaper than adding it later, but more importantly it helps drive assessment of infrastructure investment through real-time usage – from a capex model to a service model where asset utilisation, maintenance, remote monitoring data and ultimately prediction to help inform ongoing investment.

This demands investment in sensors, cloud, data repositories and applications, as well as harvesting and husbanding of our data resources; and down to the citizen level, such as through the implementation of Consumer Data Rights, through the ACCC.

This needs to be also reflected in federal and state policy and procurement, such as the NSW IoT Policy Framework and their nascent Smart Infrastructure strategy.

AI and Machine Learning

Without the data there is nothing. Without the AI and machine learning we lose the insights, the control and ultimately the value (and with it the profits and tax).

Australia simply must invest in developing local, ethical AI and ML for our critical industries and services if we are to remain competitive, resilient and trusted.

A case in point is in the AI lead our mining and financial industries have, and for our government services the transparent and ethical application of AI and ML is fundamental to their ongoing use of services.

Robotics and automation

Australia leads the world in robotics research. With the combination of data, intelligence and automation we should seize the opportunity to tackle our unique challenges of scale and remoteness

IoT Security

A vital part of our digital infrastructure will be improving our cyber resilience through pervasive IoT security. The federal government's voluntary code of conduct is an important first step, but users need a ready way to identify suppliers adherence to the voluntary (minimum) code through, for example an accredited IoT security trustmark that drives the market and suppliers.

By leading in this area, Australia not only improves its resilience against the increasing risks of cyber-attack but can build a competitive advantage as a secure place to do business and a safer place for citizens.

In short, the digital infrastructure we need is the fabric that supports our future national and international digital industrial, consumer and government services. Our own Internet of Things flavour of the German Industry 4.0 model.

The continuing digital infrastructure shift will need sustained leadership, in the absence of an ongoing COVID-19 shock that has successfully galvanised the nation. Not so much a technology problem as one of purpose, confidence to innovate and invest; and focus on where Australia has strengths.

It also requires us getting our heads around real-time data management in a legacy world, where old systems and processes and the need for new skills is holding us back

A recent indicator of global momentum in this direction is, in a fragmented US, the Senate passed the bipartisan Developing and Growing the Internet of Things (DIGIT) Act, in January this year. The outcome is how to plan for, and encourage, the development and deployment of the IoT in the U.S.

Thankfully we have demonstrated that can rally and work together better than most. Harnessing that for our critically needed Digital Infrastructure and our nation's future seems is a good investment.

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