Statement of Zebra Technologies Australia Pty Limited

To The
Department of the Treasury

Pre-Budget Submission
2020-2021 Budget

August 22, 2020

Introduction

Zebra Technologies Corporation ("Zebra") is a global leader in technologies that intelligently connect people, assets, and data and enable both public and private sector enterprises to make better business-critical decisions. The company has done business in Australia for over 30 years and its Australian headquarters is located in Melbourne. Zebra's FY2019 global revenues were $4.485B (USD) and the company employs more than 7,400 people worldwide. Overall, Zebra works with over 10,000 partners across 100 countries in serving a diverse array of public and private sector customers.[1]

While Zebra's expertise spans a number of economic sectors, the comments below are focused on healthcare and the related issues of patient safety and asset and supply chain management. The company would be pleased to serve as a subject matter resource to the Government on ways to accelerate the adoption of technologies which are essential to ongoing efforts to both improve the healthcare system overall and respond to the challenges of the Coronavirus pandemic.

In addition, Zebra wishes to extend its profound thanks to Australia's COVID-19 heroes who have worked tirelessly and selflessly on the frontlines of healthcare and other essential sectors of the economy to keep the country functioning through the pandemic.[2]

Policy Recommendation

Zebra recommends the Government provide funding for a pilot programme to enable NSW Health and the Victoria Department of Health and Human Services to test how the successful UK National Health Service Scan4Safety (S4S) pilot programme can benefit Australian healthcare.

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[1]   https://www.zebra.com/us/en/about-zebra.html.

[2]   Zebra Technologies Corporation (14 April 2020). *Empowering the Heroes on the Front Line of COVID-19*. Retrieved from https://www.youtube.com/watch?v=NGEvzxlQGns.

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Background

Zebra's views are informed by its more than 50 years of experience in creating and providing enterprise technology solutions to governments and businesses around the world. The company's long and successful involvement in barcode and scanning technology – which provides the foundation of the burgeoning category of technology known as Enterprise Asset Intelligence (EAI) – has grown significantly and now includes a global platform of barcode printing, mobile computing, data capture, locationing, data platforms, software, services, and supplies that serve both healthcare and other essential government functions and needs.

Zebra was an early leader in developing many key technologies, including its invention of the first handheld laser barcode scanner in 1979,[3] and several subsequent barcode print technologies in the 1980s.[4] Today, Zebra provides healthcare solutions which combine digital identity, mobility, and real-time intelligence to help untether clinicians from fixed workstations, enhance their ability to collaborate with their colleagues in real time, and enable them to spend more of their time delivering quality care to patients. Importantly, in the era of COVID-19, Zebra's devices are designed to withstand the rigors of aggressive infection control procedures which are essential to helping limit the spread of viruses and bacteria.

Zebra's white paper on _The Future of Healthcare: 2022 Hospital Vision Study_[5] provides a detailed review of the benefits that hospitals receive from mobile EAI-based technology, especially when combined with predictive analytics that address quality and cost of care issues. The study provides important insights into key technology trends which we urge the Government to reference in both creating a UK NHS Scan4Safety (S4S)-type pilot programme and in its ongoing efforts to continuously improve the healthcare system. These insights include:

- Predictive Analytics: Predictive analytics is proving very powerful in streamlining hospital workflows and holds great promise in such areas as reducing patient readmissions[6] – especially when deployed in tandem with mobile computing capabilities. The keys to realising the benefits of predictive analytics are found in the collection of the appropriate data and the subsequent willingness to make changes based on that data. Hospitals around the world are already embracing predictive analytics and this trend is expected to grow in the future, especially given the growth in the use of secure mobile devices in health care settings.[7]

- Asset and Patient Tracking/Real-Time Location Systems (RTLS): Hospitals are large, complex facilities that include miles of similar looking hallways, offices, treatment areas, and patient rooms. Keeping track of assets, staff, and patients is a daunting challenge and industry estimates suggest that these operational challenges contribute to delayed procedure start times, decreased clinician productivity, and lost medical equipment, specimens and supplies. In an effort to curtail

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[3] Zebra Technologies Corporation. (23 May 2019). _#THROWBACKTHURSDAY: Meet the Zebra (and AIDC Industry Legend) Who Designed The First Handheld Scanner – And The Scanner You Probably Have In your Hand Right Now_. Retrieved from https://www.zebra.com/us/en/blog/posts/2019/throwback-thursday-meet-the-zebra-who-designed-the-first-handheld-scanner.html.

[4] Funding Universe (Accessed 21 August 2020). _Zebra Technologies Corporation History_. Retrieved from http://www.fundinguniverse.com/company-histories/zebra-technologies-corporation-history/.

[5] Zebra Technologies Corporation. (29 January 2018). _Future of Healthcare: 2022 Hospital Vision Study_. Retrieved from https://www.zebra.com/content/dam/zebra_new_ia/en-us/solutions-verticals/vertical-solutions/healthcare/white-paper/2022-hospital-vision-study-en-global.pdf.

[6] _ibid._ p.9.

[7] Zebra Technologies Corporation. (11 April 2019). _Ontario Aims To Build The "Healthcare System Of The Future"_. Retrieved from https://www.zebra.com/content/zebra1/gb/en/blog/posts/2019/ontario-aims-to-build-healthcare-system-of-the-future.html.

these losses and increase visibility, hospitals are adopting RTLS and mobile computing to automatically track the real-time geographic location of everything from equipment, supplies, and pharmaceuticals to patients and staff. RTLS applications are evolving rapidly and providing important benefits to health care providers in such functional areas as:[8]

- o Patient Security: While this issue is complex, it is ultimately focuses on ensuring that those who receive care are safeguarded. For example, the placement of monitoring labels on a baby's wristband or a geriatric person's hospital gown help ensure that only those patients who have been properly discharged have exit access.

- o Staff Locationing: Identifying the physical location of a team member when they are needed strengthens patient care delivery coordination and improves staff collaboration.

- o Asset Tracking: The tracking of assets such as infusion pumps, heart monitors, and wheelchairs is critical and can help assure that key resources are ready and available when they are needed most.

- o Throughput: Reducing the average length of stay can have the equivalent effect of increasing a hospital's physical capacity by a potentially large number of beds. Enhanced throughput can be achieved when clinicians and staff have the tools to accelerate the performance of their jobs and decrease the amount of time patient rooms are not in use.

Key Technology Trends

The rising expectations of government by its citizens mirror the dramatic increase in consumer and customer expectations that the private sector has experienced over the past decade. Already intense before the global Coronavirus outbreak, ever-higher consumer, customer, and citizen expectations are fuelling the on-demand economy. In response, successful public and private sector organisations have been working to drive digital innovation in their operations. While such digital innovation began at the core of the enterprise – better Enterprise Resource Planning, Customer Relationship Management,

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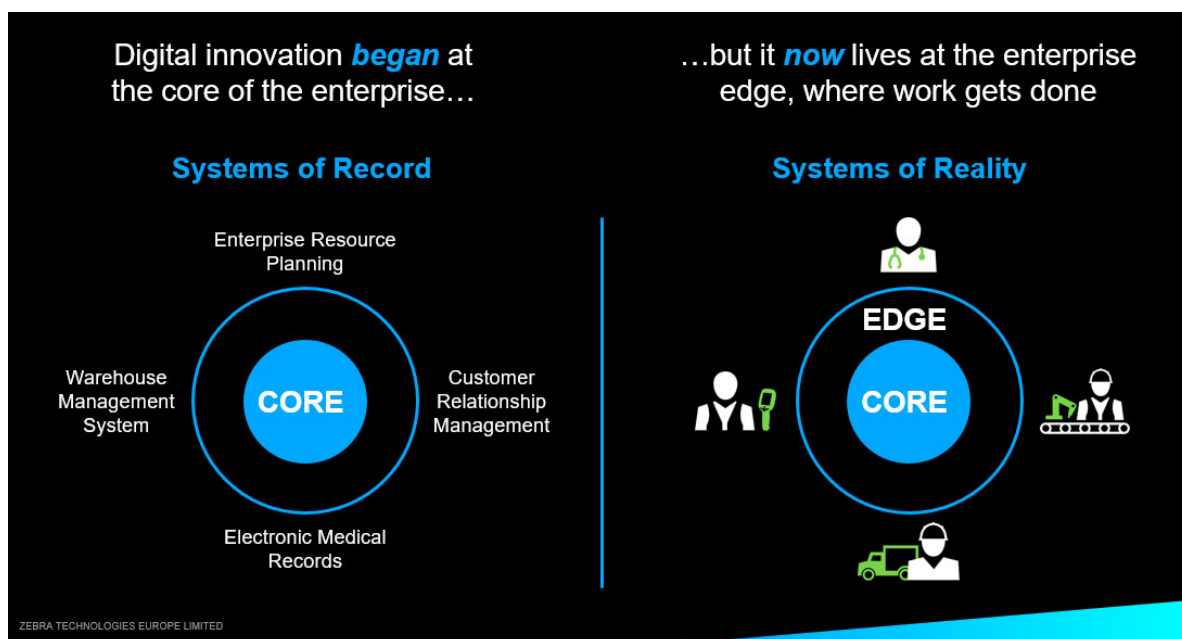
[8]   ibid.

Electronic Medical Records, and Warehouse Management Systems – today it is exploding at "the edge of the enterprise," where workers make real-time decisions and interact directly with the people they serve.[9]

Empowering those on the frontline in healthcare means that nurses spend more time at the bedside delivering better patient care and that critical supply chains operate with greater speed and accuracy as frontline clinicians have the technology and tools needed to amplify their skills, maximise their productivity, and reduce errors.

In addition, it is also important to ensure that the capturing and sharing of data is done using global data standards as they provide a powerful collaboration tool that helps partners use a common language when managing goods and assets across the supply chain. Using such standards allows for fast, accurate and frictionless transactions and analysis that work to reduce missed opportunities and cultivate greater consumer, customer, and citizen satisfaction.[10]

UK National Health Service Scan4Safety Pilot Programme

Programme Overview

Begun in 2016, Scan4Safety (S4S) "is a pioneering initiative led by the Department of Health and Social Care (DHSC) that is enabling the delivery of better patient care, improved clinical productivity and supply chain efficiency in the NHS."[11] Since its launch, the programme has both underscored the beneficial impact of the key technology trends discussed above and provided a proven approach for enhancing healthcare that is worthy of pilot testing in NSW and Victoria.

In brief, S4S is based upon and leverages the benefits of GS1 standards for barcoding and healthcare. These standards are "(O)pen, technology-independent standards (which) permit full interoperability and compatibility. End uses are not locked into proprietary solutions and R&D resources can be released up for other added value developments once standards have been adopted."[12]

Six UK NHS Trusts served as S4S pilot sites and demonstrated how barcode and scanning technology coupled with GS1 data standards could enhance the ability of Hospitals Trusts to:

- **Trace patients and their treatments.** Supporting clinical decisions and ensuring the right patient receives the right treatment, the right drug or the right blood at the right time.

- **Manage medical supplies.** Restocking supplies and medications based on usage and not presumptions. The right product in date and in stock.

[9]   Zebra Technologies Corporation. (6 August 2018). *Zebra Technologies Delivers a Performance Edge to the Front Line*. Retrieved from https://www.rfid-wiot-search.com/zebra-technologies-addresses-what-s-next-in-the-on-demand-economy-424.

[10]   Zebra Technologies Corporation. (2018). *Optimizing E-Commerce Fulfillment: Mobilize the Power of Industry Collaboration with Supply-Chain Visibility and Efficiency*. Retrieved from https://www.zebra.com/content/dam/zebra_new_ia/en-us/campaigns/future-ready-supply-chain/brochure/warehouse-optimizing-ecommerce-fulfillment-brochure-en-us.pdf.

[11]   Scan4Safety. (Accessed 22 August 2020). *Setting The Standards For Safer Care*. Retrieved from https://www.scan4safety.nhs.uk/#:~:text=Scan4Safety%20is%20a%20pioneering%20initiative,chain%20efficiency%20in%20the%20NHS%E2%80%A6.

[12]   Welcome to GS1. (9 February 2020). *GS1 standards in healthcare*. Retrieved from https://www.gs1.org/industries/healthcare/standards.

- **Monitor the effectiveness of their equipment.** Global Location Numbers allow traceability of patients, equipment, care teams and accurate communication.

An important recent report from GS1 UK, entitled *Scan4Safety report – Increasing patient safety and saving money using point-of-care scanning in the NHS*, provides an excellent summary of the patient care benefits and the financial savings that the six Hospital Trusts realised from the S4S pilot programme. As to patient safety benefits, the report makes a critical initial point:

> "At many of the demonstrator sites, Scan4Safety was initially seen just as a means of improving procurement and inventory control. The focus was on gaining the sort of efficiencies commonly seen in other sectors in which scanning is used * * * *However, what very quickly became clear – and what has been key to enthusiasm about scanning within trusts that have implemented point-of-care scanning – is the significant boost to patient safety*."[13] (emphasis added).

As to financial savings, the report states that the S4S pilot yielded recurrent inventory savings worth nearly £5M ($9.1M AUD) and non-recurrent inventory reductions amounting to £9M ($16.4M AUD). In addition, the report also said that the programme has freed up an estimated 140,000 hours of clinical time across the six Trusts which took part in the pilot project.[14]

Other sources have also provided similar reports as to the patient safety and financial savings benefits from S4S. A 2016 BBC report stated:

> "Tim Wells, a consultant cardiologist in Salisbury, said: 'Knowledge is power. This provides us with a level of data and insight that can be used to better challenge clinical practice and variation, helping us to reduce inefficiencies and improve patient experience and outcomes. But, more importantly, it ultimately helps to safeguard our patients from avoidable harm.'"[15]

Similarly, Health Business reported in 2017 that Salisbury NHS Foundation Trust found that, prior to Scan4Safety, it:

> "[D]idn't have visibility of its stock wastage. This has now been identified as around 10-15 per cent of total inventory value. Through point-of-use scanning, the trust has improved visibility of its stock and can better track expiring stock and wastage, including identifying the reasons why items are being discarded. This enables the trust to reduce waste in the future." [16]

Overall, S4S has recognised and advanced the application of proven technologies from retail and other economic sectors to improve the capacity and operations of Hospital Trusts across England. These applications have focused on the critical tasks of improving both patient care and the corresponding tracking and tracing of patients' specimens and treatments. In addition, these

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[13] GS1 UK. (July 2020). *Scan4Safety report – Increasing patient safety and saving money using point-of-care scanning in the NHS*. Retrieved from https://healthcare.gs1uk.org/scan4safety/.

[14] *ibid*. p.5.

[15] BBC. (29 December 2016). *Breast implants and other medical items get safety barcodes*. Retrieved from https://www.bbc.com/news/health-38403388.

[16] Health Business. (2017). S*canning for Safety – barcoding progress within the NHS*. Retrieved from https://healthbusinessuk.net/features/scanning-safety-barcoding-progress-within-nhs.

capabilities have worked to enhance the healthcare supply chain and reduce the cost of healthcare by optimising the use of key healthcare assets and equipment.[17]

The Role and Importance of Data Standards

The 2014 mandate that all Hospital Trusts in England adopt GS1 standards by 2020[18] was an important, capacity-enhancing first step for National Health Service (NHS) Trusts that was subsequently strengthened by the 2016 launch of the Scan4Safety (S4S) pilot programme. These important early steps were strengthened by the expansion of Sustainability and Transformation Plan funds for NHS Trusts which further supported the adoption of S4S.[19]

Of equal importance, it is also clear that the success of Scan4Safety reflects the strong and sophisticated leadership that the programme has had from key members of the Government over the past half-decade. As then-Secretary of State for Health and Social Care and current House of Commons Health Select Committee Chair Rt Hon Jeremy Hunt MP noted in 2017:

> "Using simple (standardised) barcodes that major industries rely on every day will help to transform standards of care – before, during and after patients have treatment, at the same time as freeing up resources for care by reducing waste."[20]

Similarly, current Secretary of State for Health and Social Care Rt Hon Matthew Hancock MP has spoken as to the importance of standards in unlocking the benefits of data and assuring that inter-operability is promoted across NHS England:

> "When we talk about the importance of data management and inter-operability, most of the public won't know what we mean.
>
> This is what I mean: right now, Tesco has more sophisticated and more efficient systems than the NHS. They know who you are through loyalty cards, where you shop through store IDs, and what you buy through the items scanned at the checkout.
>
> That wealth of information means they can run their operations with just-in-time deliveries and market their goods to shoppers with personalised discount vouchers.
>
> In the NHS, we don't have anything like that. We don't use common identifiers to identify patients, we don't know which hospitals a patient has been to, we don't know which medicines have been put into them. We don't even know what we already know!"[21]

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[17]   Additional information from Zebra on healthcare asset management can be found at:
- https://www.zebra.com/us/en/solutions/industry/healthcare/intelligence/hospital-asset-tracking.html.
- https://www.zebra.com/content/dam/zebra_new_ia/en-us/solutions-verticals/vertical-solutions/healthcare/success-stories/healthcare-medical-park-group-success-story-en-gb.pdf.

[18]   GS1 UK. (Accessed 21 August 2020). *GS1 Standards for NHS Acute Trusts*. Retrieved from https://www.gs1uk.org/our-industries/healthcare/gs1-standards-for-nhs-acute-trusts.

[19]   Scan4Safety. (Accessed 21 August 2020). *Matt Hancock announces £412m in STP funding for NHS trusts*. Retrieved from https://www.scan4safety.nhs.uk/matt-hancock-announces-412m/.

[20]   Wharfedale Observer. (12 January 2017). *Patients in Leeds to be given barcodes*. Retrieved from https://www.wharfedaleobserver.co.uk/news/15019759.patients-in-leeds-to-be-given-barcodes/.

[21]   GOV.UK. (11 February 2019). *I care about tech because I care about people*. Retrieved from https://www.gov.uk/government/speeches/i-care-about-tech-because-i-care-about-people.

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Overall, Scan4Safety has underscored how the proper (and increasingly mobile) technology can, when coupled with the right global data standards, increase operational visibility which, in turn, can improve workflows and increase organisational performance. This means that patient care teams can streamline communications on connected mobile computers and other devices, improve staff collaboration, clinical integration, and decision-making, and bring more care to the bedside.[22]

Conclusion

The combination of the right technologies, systems, and data standards deliver a compelling value proposition in healthcare that has been long utilised in a number of commercial sectors. Its application to healthcare through the Scan4Safety (S4S) programme has been well summarised by Cara Charles-Banks, Chief Executive Salisbury NHS Foundation Trust:

> "Scan4Safety is taking the learnings from other sectors such as retail to improve traceability and efficiency in the NHS through the use of international barcoding standards, known as GS1 standards, and common ways of doing business, referred to as PEPPOL. By adopting and using these standards proven to work elsewhere, we can better match the right patient with the right product in the right place."[23]

In Zebra's experience, giving an interconnected digital signature to people, assets, and transactions enables organisations of all types to gain sharper insights and visibility into their operations. This, in turn, can improve organisational performance and workflows as well as enhance staff collaboration.

Scan4Safety has demonstrated that a systemic use of technology and global data standards can significantly improve patient care, ensure that the right patient receives the right medication, procedure, or treatment at the right time from the right clinician, and serve to optimise key business processes such as inventory management and automatic supply reordering.

Zebra urges the federal government to provide dedicated funding for a pilot programme in New South Wales and Victoria to test how Scan4Safety can benefit the Australian healthcare system in improving patient care and saving money. In addition, the company would be pleased to serve as a subject matter resource to the Government on both the creation of a Scan4Safety-type pilot programme and overall ways in which to accelerate the adoption of technologies that can work to improve patient safety and make healthcare more efficient and affordable, both in the long-term and during the nearer-term battle against COVID-19.

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[22] Zebra Technologies Corporation. (May 2016). *Visibility That's Visionary*. Retrieved from http://images.seemore.zebra.com/Web/ZebraTechnologiesCorp/%7B07b4102b-f3bb-4a95-84bc-be197889dfe2%7D_zebra-visibility-vision-report-en-us.pdf.

[23] Salisbury NHS Foundation Trust. (23 November 2017). *Benefits of Scan4Safety*. Retrieved from https://www.youtube.com/watch?v=0mdgbfAwAVM.