

Griffith 2020 IT Strategic Directions

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Background

In August 2012 the University Council adopted *Griffith 2020*, a strategic statement for Griffith over the next decade and beyond. It summarises Griffith's history, the challenges we face, and lays the foundations for Griffith's vision as *one of the most influential universities in Australia and the Asia-Pacific region*. The document notes that *Information technology (IT) is now ubiquitous within higher education, which has created both challenges and opportunities*. The Vice Chancellor concludes that *Whilst Griffith's current use of information technology positions us well for today, our success in the future will rely even more on IT. In this light, I have asked the PVC (information Services) to engage with the University community to develop a strategic roadmap for IT that will serve us through to 2020* (August 2012 p.7).

By understanding and exploiting the interplay between Griffith's strategic aims and the potential of emerging technologies, Griffith seeks to gain a distinctive advantage in a highly competitive global knowledge economy. Strategic advantage will be contingent upon change and innovation in university practises and processes. The strategic differentiation will not be in the IT itself, but the way in which its potential is used to realise Griffith's aspirations.

This Strategic Directions document is the culmination of a broad consultation process with our extended University community through a Discussion paper¹, blog posts, focus groups and workshops. All of these provided rich discussion and a myriad of sometimes conflicting ideas which have been brought together to shape the strategic directions for IT at Griffith.

The document begins by outlining Griffith's IT aspirations as we move toward 2020 by considering emerging trends in IT and their possible implications. These considerations frame our strategic directions for IT at Griffith. The set of broad action statements in this document provide both an aspirational, and an essential, roadmap to ensure Griffith leverages the full potential of IT to deliver the University's 2020 vision. Whilst we cannot predict what IT will look like in 2020, these broad actions will position Griffith to realise the potential that IT can bring to delivering on Griffith's 2020 vision. This strategy will be brought to life through the University's IT plan and related budgets.

Context

Information technologies are radically transforming the ways in which we communicate, collaborate, create, collect and share information in all its many forms. As such, they are at the heart of a university's business of knowledge creation, synthesis, dissemination and preservation.

The emerging global digital world is about connection rather than location, challenging our conventional notions of higher education being a primarily face to face endeavour and enabling research without for the restriction of organisational or national boundaries². The

¹ IT 2020 Discussion paper: http://www.griffith.edu.au/_data/assets/pdf_file/0008/435689/itsp-discussion-paper.pdf

² Diana Oblinger, CEO of EDUCAUSE, notes *Information technology can be a game changer in higher education, as it has been in other sectors*. (EDUCAUSE, May/June 2012, p.10) and *The Future of higher education: beyond the campus*, CAUDIT, EDUCAUSE, JISC, SURF, January 2010

higher education market is becoming more complex and more competitive, with existing and new types of competitors attempting to leverage the potential of a globally connected world to develop new ways of engaging with scholars, be they learners, teachers or researchers.

In the world of IT, looking eight years ahead might seem foolish. Eight years ago Gmail and Facebook were launched, Griffith rolled out its wireless network and the first iPhone was still three years away. Whilst we can't predict what 2020 will look like, understanding the opportunities and challenges brought by IT is critical to realising Griffith's 2020 aspirations. Successful manipulation of the interplay between what technology makes possible, and the future we wish to create, will ensure that Griffith realises its vision.

Griffith 2020

Griffith's vision is to be a university of influence – recognised for its positive influence within Australia and the Asia-Pacific region. *The mission of Griffith University is to engage in outstanding scholarship that makes a major contribution to society and to produce ground-breaking research. Students will be provided with an excellent education and the capacity to use knowledge gained to exercise influence and make meaningful life-long contributions to their communities*³. The Griffith 2020 strategy is characterised by:

- *Placing students at the centre of our educational activities to ensure that our programs, processes and campuses are responsive to student needs, and by delivering an excellent educational experience our students will develop their potential and become influential graduates.*
- *Broadening and deepening our research areas of international excellence and achieving benchmarked performance and impact in these areas (influential research).*
- *Continuing to focus and grow our campuses.*
- *Deepening our engagement with Asia and the near Pacific region.*⁴

Key IT trends and their implications

The following broad IT trends, whilst a simplification of a complex and rapidly changing environment, provide a useful base upon which to craft Griffith's IT 2020 Strategy.

Five broad trends are currently evident:

Trend 1: Ubiquitous connectedness

By 2020 people, devices, appliances and a myriad of other “things” will be connected to the Internet at all times and in all locations, making it easy to collect unimaginable amounts of data and to work, learn and research from anywhere.

Trend 2: Convergence

Individual personal devices will connect, collect, communicate, collaborate, and create, transforming not only the “when” and “where” but also the “how” of scholarship and services.

Trend 3: Information abundance

Information and data in all its forms will be available digitally from anywhere at any time and is more likely to be openly accessible.

³ Griffith 2020 p.10

⁴ Griffith 2020 p.13

Trend 4: Access over ownership

A changing business environment, with enormous economies of scale and ubiquitous network access, will favour access to, rather than ownership of, information, applications and infrastructure.

Trend 5: Consumerisation

The general consumer, rather than the business world, will be the primary driver of IT innovation, increasing the speed at which innovation, and its uptake, occurs.

These key trends provide major challenges as well as opportunities for higher education. Innovation cycle time is shrinking, as devices get smarter, faster and cheaper at ever more rapid rates; time to reach market penetration is reducing. It is clear that in the near future our students and staff will come with their own devices, their own apps, their own ways of working with information and technology, and expect to seamlessly link to networks, information, services and systems. The age of closed systems has past.

Digital content- whether print, image, video or music - is now easily created, published, shared, mashed up and re-purposed. With this ease has come an expectation of openness. This challenges the traditional concepts of intellectual property and copyright, a tension which remain unresolved. Collaboration without boundaries has allowed crowdsourcing to become a feature of the current Internet, one which is likely to continue. Just as companies are crowdsourcing the design of future products⁵, this phenomenon has crept into the world of research with students contributing to content creation for future learners and citizens contributing to research in new ways⁶.

As potentially every device is connected to the Internet, we see amazing opportunities for research with all the concomitant challenges of “big data”. RFID (radio frequency identification) and sensor networks can generate large amounts of real time data for storage and analysis, making the data available to anyone anywhere. Whether it is ocean sensors or a brainwave monitor the challenge is to manage and realise the research potential of a volume of data well beyond what has previously been managed - to continue to develop ways to manage, mine, analyse, understand and present this data. Whilst technology change may keep pace with data growth, enabling increased storage capacity at reduced cost; the research practises and tools needed to realise the research potential of big data, particular as it spans discipline domains, will require the development of new capabilities.

It isn't just in research that people see big data as the next frontier for innovation, competition and productivity⁷. Increasingly our digital ‘tracks’ are being mined and analysed so that vendors such as Amazon can suggest books we may like, or relevant Google ads can be displayed. As devices become increasingly location and context aware, and our identity becomes embedded in our devices, it will be possible to automatically check-in and post updates onto your social media site.

The Internet has blurred boundaries, making it easier for research and innovation to be inter-disciplinary, inter-institutional and international. It has also made it easier to move beyond

⁵ See for example the article by [Eric Markowitz on how Fiat is using its customers to design its concept car](#)

⁶ See for example [Dunning, July 2011](#)

⁷ See [McKinsey Global Institute Big data: The next frontier for innovation, competition, and productivity June 2011](#)

the institution to the individual collaborator. While our students and staff are affiliated with Griffith, the resources they access, the tools they use, and the colleagues they collaborate with, go well beyond the physical campus. Potentially you could learn, teach, research, or provide a service from anywhere, without the need for an organisational affiliation.

IT@Griffith

Given that IT is a critical resource that lies at the very essence of the university's functions of knowledge creation, preservation, synthesis and dissemination, it follows that investments in IT must continue if Griffith is to remain competitive. Griffith is currently in a sound position thanks to past investment, strong leadership and our integrated approach to information services. The recent external review of Griffith's IT services, systems and infrastructure noted that our IT is *well-run and providing outstanding value to the University through the delivery of cost-effective and high quality core IT services over a sustained period of time*⁸. It also noted the high regard with which external partners and university colleagues held Griffith's IT leaders and team.

We are at a pivotal stage in Griffith's history, with the Griffith 2020 vision creating both aspiration and opportunity. In the world of higher education we are witnessing potentially 'game changing' initiatives in higher education through the application of IT - coalitions are forming to deliver massive open online courses and different players in the education market, such as textbook producers, are seeking to position themselves for a changing environment. The Griffith IT review concluded that whilst we are in good shape *Future aspirations appear to the Committee to warrant an increased level of boldness in decision making and a necessary review of investment in technology*⁹.

Establishing Griffith's Strategic Directions for IT

As we enter a world where our students and staff have inexpensive ubiquitous mobile access to scholarly resources in ways never imagined, where technology change cycles are measured in months rather than years, it is clear that we must invest differently if we are to remain competitive. Whilst continuing to invest in *well-run ...cost-effective and high quality core IT services* is necessary for us to remain competitive with comparable research universities, it is unlikely that general investment in IT alone will provide competitive or strategic distinction for Griffith. However, the innovative development, use and application of information technology in research, learning and teaching could be a strategic advantage for Griffith. Whilst we cannot predict what technologies will be available in 2020, we can ensure that Griffith is well placed to realise the full potential offered through a rapidly changing IT landscape. It requires the inter-twining of the development of our organisational capability and our IT investment strategies, guided by Griffith's 2020 aspirations. Our challenge is to identify the optimal strategy in order to advance these interdependent areas and move forward.

⁸ Report of the Committee Reviewing the Information and Communication Technology Services, Systems and Infrastructure of the Division of Information Services 2-22 March 2012 p.iii

⁹ Ibid p.9

Gaining strategic advantage will be contingent upon change and innovation in university practises and processes. The differentiation is not in the IT itself, but the way in which its potential is used to realise Griffith's aspirations through its application in ground-breaking research, innovative teaching and learning models, student centred services and effective cost-efficient administrative practises.

To frame the strategic directions for Griffith IT we have examined the ever growing range of papers and reports focused on IT's future impact on higher education¹⁰. We have also consulted widely with our staff, students and members of our broader community about their vision of 2020. This research, coupled with an understanding of Griffith's 2020 vision and mission, has informed the strategic directions below.

IT Strategic Directions

The descriptions below are created as aspirational images of Griffith's use of IT as we transition from the present toward 2020. There are elements of these images that are recognisable today, and others which will be realised over the coming years. They describes how IT is changing the world of a Griffith scholar: our learners, teachers and researchers, and also the world of the University itself, framing a series of broad action statements and their consequent challenges.

Scholarship towards 2020

As we move toward 2020 the world of a scholar¹¹ has fundamentally changed. Global mobile access to scholarship, in all its forms, is the norm. Collaboration across disciplinary, organisational and national boundaries is easy. Research, teaching and learning are significantly multimedia digital endeavours. Griffith's competitors are undeniably global, offering flexibility of time, place and approach in the ways in which a scholar can learn, teach and research.

Scholars are drawn to Griffith as a university that makes a positive difference to the world in which we live. Griffith is recognised as a leader among universities in the innovative development and application of IT to facilitate research informed teaching, student-centred learning and ground-breaking research. Our research, teaching and learning generate scholarship, and scholars, who make meaningful life-long contributions to their communities. The products of our research: whether data, multimedia or publications, enriches our teaching, our students learning, and translates our research outcomes into a form from which social benefit can readily be derived.

Griffith's students are creators of new forms of content, which informs future teaching, and changes the relationship between teacher and student. Our students, as well as the broader community, are active participants in the research process in ways never thought possible, blurring the boundaries between research, learning, teaching and contributing to social and business benefits in real time.

¹⁰ See for example the Pew Research Center's series on the future of the Internet at, specifically there July 2012 paper on higher education <http://www.pewinternet.org/topics/Future-of-the-internet.aspx>

¹¹ learners, teachers and researchers

To realise these aspirations we must:

1. Rapidly move toward providing scholarly content, be it learning materials, research data or publications; from text through to multi-media; in a digital mobile way.
2. Implement secure, yet simple, IT-enabled authentication, authorisation and provisioning to make it easy for our scholars to collaborate globally and for others to become authenticated members of the broader Griffith community; giving each user the appropriate access rights and responsibilities required to participate in, and contribute to, our research, teaching and learning.

In 2020 scholarship transcends boundaries of time and place, yet our campuses have never been more important as tangible evidence of Griffith's commitment to outstanding scholarship and deep community engagement. Our campuses are vibrant learning and meeting places throughout the whole year, rather than simply during semesters. They draw in our scholars and the broader community, providing technology enriched formal and informal spaces to facilitate learning, research and knowledge transfer.

This challenges us to reconsider the pathways we provide for students to move in and out of Griffith programs, the ways in which we blend online and on campus teaching and learning, our pattern of teaching across the year and the ways in which we assess learning. It also challenges us to develop our campus spaces to provide flexibility, creating varied environments in which learning, and work, can occur, while also providing the flexibility for spaces to be repurposed as approaches to learning, teaching, research and the world of work continue to evolve.

To realise these aspirations we must:

3. Provide high quality, state-of-the-art technologies in our physical and virtual learning, teaching, research and gathering spaces which enable our scholars and the broader community to connect, access, collaborate and engage using their own preferred devices and apps.
4. Plan and develop our physical and virtual infrastructure in an integrated way.

As a learner at Griffith in 2020, you are an active, responsible participant in your own learning with the ability to choose your learning pathway, mode of delivery, device and app that best meets your learning style and personal circumstances. Whilst the University provides you with flexibility and choice, these choices are informed by intelligent systems that assist you to make decisions based upon a range of data, to better ensure you achieve your learning outcomes. You have the ability to engage in valuable technology-enabled experiences to further your career and study goals, whether by gaining real-world work experience through our external partner companies, both local and global, contributing to a research project or by taking an online course with one of our partner universities in Asia.

This challenges us to design our curricula and learning opportunities in a way that facilitates informed student choices.

To realise these aspirations we must:

5. Implement processes and systems which enable us to collect, manage and analyse data about our students and their behaviours so that this can be used to inform student choice.

6. Ensure processes are in place to provide equitable services to students who may not have access to the level of technology expected or the capability to use such technologies.

As a teacher, innovation in your use of applications and tools is actively encouraged and “frictionless”. University processes and systems make it easy for you to experiment, to engage students in ways that work for them.

Sitting behind this innovation are mature information management practises and a robust, standards-driven information infrastructure which ensures that data flows between the different applications and systems to provide the information you need, at the time and in the way you need it, to effectively manage student learning.

To realise these aspirations we must:

7. Design and implement information processes, systems and infrastructure which make it easy for our scholars to innovate, and to understand the impact of this innovation on student learning, by managing our information, both scholarly and corporate, as a valuable asset that must be appropriately collected, stored, managed, maintained, mined and made accessible.

As a researcher in Griffith 2020, the world of research data, tools and your research collaborators are accessible as seamlessly as though they are part of the University’s environment. You benefit from ready access to IT, information and e-research consultants who can help you identify and apply the IT capabilities you need in your research, from data collection through to presentation of research outputs in multimedia format. Blending technology and creativity, these information professionals have the skills to assist you to apply or develop approaches and tools to assist you with managing, manipulating, mining and visualising data and presenting your research and creative outputs to enhance the impact of your outstanding research and scholarship. Our strength in working across discipline boundaries is evident in the way we combine our IT expertise, both academic and professional, with other areas of academic discipline strength to generate ground-breaking research and innovation which solves real world problems.

This challenges us to consider how we develop our academic IT capability to meet the challenges and opportunities of a ‘big data’, connected, mobile world.

To realise these aspirations we must:

8. Develop and sustain deep, mutually beneficial partnerships with state, national and international research information infrastructure providers to ensure we can deliver access to the infrastructure our researchers need to be globally competitive.
9. Increase our professional capability in e-research, research information management and multimedia development to work in partnerships with our researchers to meet Griffith’s research aspirations.

The Internet allows our scholars to contribute to the world’s store of knowledge and knowledge tools - and to build upon the foundation created by others - using a myriad of emerging tools and technologies. Students, teachers and researchers are part of a community of scholars which extends far beyond the walls of the University, ensuring we collaborate effectively will maximise the impact of our scholarship. In areas of research and teaching

strength, Griffith is recognised as a leader among universities in the innovative development and application of IT.

This challenges our academics to be flexible and adaptable, to undertake deliberate experimentation in the application of IT for teaching, to facilitate learning, and in their research, and to learn from this. It challenges the University to remove barriers to innovation, to harness and learn from the innovations taking place and to promote the outcomes of our innovative practise.

To realise these aspirations we must:

10. Provide an IT environment that is “frictionless”, enabling academic innovation and the sharing of the outcomes to build the University’s capability.
11. Collect, store, maintain and make accessible Griffith’s creative and scholarly outputs to maximise research benefit and societal impact.

University towards 2020

In a world where change is constant, with ever shorter technology and business change cycles, our university processes and systems need to facilitate agility, connectedness, and sustainability. Our virtualised work environment allows us to access the tools, information and people we need to undertake our work from any device, anywhere and potentially at any time. We are able to positively respond to unpredictable technological change through strong partnerships, and IT capabilities, which facilitate agility and sustainability.

As a connected university in 2020 we have deep, mutually beneficial partnerships both within, and outside the University. Our staff work without organisational or campus boundaries to provide “connected” services, maximising client satisfaction and minimising double work.

This is founded on the effective use of client relationship systems, that ensures we have the information needed to best manage our relationships in, and outside of, the University. It provides us with the ability to build long term relationships with our scholars, from prospect through to alumnus, and with our broader community partners. Our scholars are connected to the global knowledge community and to the world of work. Our collaboration systems and underlying communications infrastructure meet, or exceed, international research university standards.

This challenges the University to put people at the centre of our processes and systems, ensuring that our services respond appropriately to changing expectations whilst improving administrative efficiency. It also challenges us to rethink the notion of work as a physical place in which tasks are undertaken.

To realise these aspirations we must:

12. Continue to invest in our network; to keep our collaboration, communication and virtualisation services and infrastructure in line with comparator international research universities.
13. Develop a “Whole of University” roadmap for the development of mature client relationship management processes and systems which, in the first iteration, puts the student, from prospect to alumnus, at the centre of our thinking. This should be expanded to include the management of all the University’s relationships.

14. Identify key external IT and service partners and build mutually beneficial relationships to advance the University's IT strategy.

As an agile university we rely upon nimble governance and university processes, workflows and underlying technologies that allow us to be aware, flexible, productive and adaptive. Our mature enterprise information architecture presents the roadmap for providing a “nonintrusive foundation of revitalised infrastructure and operational systems and processes”¹², facilitating innovation as staff and students become more sophisticated consumers and co-creators of content and technology.

Increased business success, greater agility and innovation will be achieved through embracing consumer device and app trends, and an increased use of cloud-based IT services. These will allow continuous product innovation without costly project upgrade cycles, placing the technology change risk with the solution vendor.

To realise these aspirations we must:

15. Establish an enterprise IT governance, investment and delivery model which appropriately balances inclusiveness with agility in decision-making to deliver agreed business benefits.
16. Develop and implement an enterprise information architecture¹³ which supports BYOD (bring your own device)/BYO App (bring your own application), enabling seamless data and process integration across systems, no matter how they are supplied while applying appropriate security.
17. Develop more expert contract negotiation and vendor management capability.

Mature approaches to University information management will enable us to manage information as a critical University resource in an increasingly complex IT environment. Flexibility in the use of the device and app, whilst providing user-centred services and reducing user complexity, requires that we have mature information management processes. This will ensure that University data is collected once, kept current, mined, manipulated, shared and made accessible in many formats to aid in efficient business processes, enhanced services and better decision-making. It will also ensure that appropriate information risk mitigation strategies are embedded into our processes to protect information appropriately in an increasingly borderless information world. Our information architecture is where we must maintain control of our information lifecycle if we are to deliver business benefit and manage risk.

An increasingly borderless world, where open scholarship is encouraged and University data is stored across multiple jurisdictions, challenges us to continually re-assess our risk management framework to determine the appropriate balance between business value and business risk.

To realise these aspirations we must:

18. Rapidly mature the University's information management policies, practises and systems.
19. Implement business processes, systems and increase our data mining and analysis capability in support of University decision making and student performance,

¹² Gartner [The Nexus of forces: social, mobile, cloud and information](#), 14 June 2012 p.3

¹³ The “architectural” plan by which we manage our digital landscape

ensuring we collect data once, manage and maintain it, and deliver the right data to the right people in the right way to enhance productivity and improve decision-making.

20. Review and update information and IT policies and risk management practises to balance need for business agility and the management of business risk.

University staff will be required to be flexible, change-positive, prepared to try new approaches and technologies and be committed to ongoing learning and development.

The IT complexity of the University will increase as more and more people bring their own devices, and their own apps, they expect to be able to seamlessly connect to University services at any time from any location, and to the University networks when on campus. As more services are delivered through people's own devices and through cloud solutions, rather than reducing the need for specialist IT capability, this will change the type of capability required. Increasingly, the emphasis needs to be on providing a combination of "just in time" support and easy access to IT specialists to build the capability of staff to leverage the value of IT.

As staff and students become more digitally savvy, with expectations of 24*7 IT services, the service model needs to change. Intuitive systems and self-help tools, including easy access to peer support, will meet the majority of people's "just in time" support needs.

This challenges us to consider the ways in which we deliver services, and the workforce we need to develop, to meet rapidly changing service expectations.

To realise these aspirations we must:

21. Develop and implement mechanisms to grow the capability of the University workforce to operate effectively and safely in a rapidly changing IT environment.
22. Develop an IT workforce plan which shifts the emphasis from an "IT build and maintain" model to one which develops the University's overall capability to "integrate and exploit IT".
23. Source IT solutions which maximise agility and cost effectiveness whilst establishing and maintaining an appropriate level of information integration and security.

As a sustainable university Griffith has built upon its core, long term commitment to sustainability. In 2020, from an IT perspective, this is evident in the use of technology to deliver "smart" buildings, digital as the preferred method for information sharing - reducing the need to use and manage paper, effective management of e-waste (such as the mobile phone and battery recycling scheme) and continued attention to developing an IT environment which minimises our power consumption.

This challenges us to ensure that the planning and development of our physical environment and our IT infrastructure are interwoven.

To realise these aspirations we must:

24. Redevelop our University processes, workflows and systems as digital preferred, removing the need for use of paper and paper storage.

Effective application of IT also drives sustainable services as technology is applied to continuously improve service effectiveness whilst increasing productivity by reducing transaction costs. Fundamental business process change, responding to increased client service expectations and the emerging capabilities that IT provides, ensures we maximise the value of IT-enabled solutions. This will be essential as the University grows and as our community expects our services to be as sophisticated as those available in their business and home life.

Investments in IT are driven by an understanding of the whole of service lifecycle costs, and decisions are founded on the principles of connectedness, agility and sustainability. Our human capability and investments are increasingly directed toward those activities which most add value.

This challenges us to question whether our desire to be agile, connected and sustainable, is best served by the service itself being cloud-delivered, or delivered through a partner agency, rather than simply by changing the underpinning IT model.

To realise these aspirations we must:

25. Drive down the cost of administrative processes and systems to release IT capability and investment to support research, learning and teaching and to enhance the overall student experience.

Conclusion

IT will rapidly change and evolve in ways we are yet to imagine. Given that gaining strategic advantage from IT will be contingent upon change and innovation in university practises and processes, rather than from the IT itself, our biggest challenge is driving the cultural change required to realise the benefits of emerging technologies. This is a shared challenge, requiring each of us to continually consider how emerging technologies might better enable our learning, our teaching, our research and our work.

This statement of strategic directions sets an aspirational but essential roadmap for ensuring that our IT services, systems and infrastructure enable 'frictionless innovation', facilitating our ability to evolve our practises and processes to exploit emergent opportunities. Ultimately our success will be measured through the ways in which Griffith's aspirations are realised by developing and applying IT to deliver ground-breaking research, innovative teaching and learning models, student centred services and effective cost-efficient administrative practices.

Our aspiration for Griffith IT is one in which Griffith's scholars are encouraged to purposefully experiment and innovate in their use of technologies to enhance their learning, their teaching and their research. By sharing what we learn through purposeful experimentation we will evolve our practises and processes to leverage the emerging opportunities offered through technological change.

The high quality outputs from our research and outstanding scholarship; from research data and tools to creative works, learning objects and publications; are translated into social benefit through a combined strategy of open access and in-house exploitation of our intellectual property, affirming Griffith's reputation as a university of influence. Our IT

development capability is targeted at areas of research and teaching strength where our content and tools will be internationally influential.

Griffith is recognised as a leader among universities in the innovative development and application of IT to facilitate research informed teaching, student-centred learning and ground-breaking research. Our IT services facilitate connectedness, organisational agility and sustainability, positioning us well for an ever changing world.

This document sets the roadmap to realise these aspirations through our collective action.

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