

Pax Technologica

PEACE

Policy Taskforce Proposal

JUSTICE

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Contents

1. Building a harmonious man-machine relationship through policy
2. Introducing Pax Technologica's Policy Intelligence Unit
3. Learning from global leaders
4. Our 10 Policy Principles
5. Building the future together

1. Building a harmonious man-machine relationship through policy

Pax Technologica is dedicated to radically improving the adoption of exponential technologies, particularly artificial intelligence, in emerging geographies of the Global South. Our vision is to foster a harmonious relationship between humanity and technology, which promotes peace, equity, and cultural enrichment. Achieving this vision requires policies that are not only innovative but also inclusive, contextually relevant, and aligned with the unique challenges and opportunities of these regions.

Technology has unparalleled potential to transform lives and reshape societies, especially in regions like Africa, where rapid economic growth intersects with complex social and environmental challenges. When guided by thoughtful and effective policy frameworks, technology can accelerate development, drive inclusive progress, and preserve cultural integrity. These frameworks are essential for ensuring that technological advances benefit everyone equitably while addressing critical risks, such as widening inequality, environmental degradation, or cultural erosion. Without such frameworks, the promise of technology may fail to translate into meaningful, sustainable change.

At Pax Technologica, policy is one of three critical levers- alongside venture and public education- through which we strive to empower local leaders, innovators, and communities. By focusing on policy, we aim to create conditions where technology serves as a catalyst for positive transformation, enhancing well-being, safeguarding cultural diversity, and ultimately fostering peace. Our approach emphasises collaboration and co-creation, recognising that the most effective solutions arise when those most affected are at the forefront of shaping their own future.

2. Introducing Pax Technologica's Policy Intelligence Unit

Pax Technologica is proud to announce the establishment of its Policy Intelligence Unit, a cornerstone initiative that reflects our dedication to promoting ethical, sustainable, and culturally aligned technology adoption. As one of several forward-looking efforts- including the Fellowship Programme, the Africa Chapter, and the Essay Series - the Policy Intelligence Unit will serve as a vital mechanism for translating our vision into actionable frameworks that empower communities and decision-makers alike.

Led by Aaron Maniam, Fellow of Practice and Director of Digital Transformation Education at the University of Oxford's Blavatnik School of Government, the unit will address the complex interplay between exponential technologies and public policy. Through in-depth research, strategic partnerships, and policy development, it aims to equip stakeholders such as governments, private sector actors, and communities with the tools needed to harness technology in ways that drive inclusive growth and cultural preservation while mitigating risks such as inequality and environmental harm.

At its core, the Policy Intelligence Unit seeks to bridge the gap between aspiration and implementation. Its work will include producing evidence-based insights, fostering global collaborations, and developing adaptable policy solutions that respond to the unique needs of diverse contexts. Through these efforts, the unit aspires to advance long-term prosperity, social equity, and environmental sustainability, ensuring that technology adoption not only aligns with the values and priorities of the communities it serves but also drives transformative change.

3. Learning from global leaders

Pax Technologica's Policy Intelligence Unit has already begun researching inspiring examples of successful technology adoption and policy frameworks, drawing valuable lessons to guide our efforts in the Global South. Our aim is not to reinvent the wheel, but to build on the outstanding work already being undertaken in various regions. By learning from global leaders, we can accelerate progress and ensure that technology adoption is ethical, sustainable, and culturally aligned.

One such leader is Singapore, whose Smart Nation project exemplifies the importance of placing people at the heart of technology policy. This initiative harnesses technology not just to increase efficiency or optimise resources, but to improve the lives of citizens as much as possible. Smart Nation involves a range of innovative and human-centric applications. For example, CrowdTaskSG allows government agencies to engage citizens in crowdsourcing, inviting ideas and feedback on new policies and proposals. LifeSG consolidates key life milestones- such as education, employment, and starting a business- into a single platform, streamlining interactions with government services. Parents Gateway connects parents and teachers in real-time, fostering better communication without frequent in-person meetings. Similarly, Sg Translate Together supports Singapore's multicultural society by facilitating community-driven translations, capturing cultural nuances that automated tools often miss.

At the heart of these services is Singpass, a digitised national ID system that simplifies access to public services through secure, centralised authentication. By integrating efficiency with accessibility, Singpass embodies the human-centric ethos of Smart Nation.

Singapore's Smart Nation project offers a compelling blueprint for how technology can drive ethical and culturally aligned policies, proving that human-focused innovation can transform societies and improve lives.

Rwanda shows similar vision, drive, and energy when it comes to the potential of technology. Its Digital Acceleration Project exemplifies how technology can catalyse national development and improve lives. Currently in the midst of a five-year phase (2021–2026), the initiative allocates \$200 million in public funding to increase broadband access, enhance digital public services, and foster innovation. This ambitious programme is a collaboration between Rwanda’s Ministry of ICT, the Rwanda Information Society Authority (RISA), and international organisations like the World Bank and AIIB.

The project focuses on four key areas:

First, digital access and inclusion aim to bridge the connectivity gap by expanding broadband infrastructure, ensuring affordable access, and enhancing digital literacy for all citizens.

Second, digital public-service delivery leverages technology to improve citizen services. A notable feature is the rollout of digital IDs, which streamline authentication processes while adhering to stringent data security and privacy standards. Cybersecurity remains a cornerstone, building trust in the digital ecosystem.

Third, the initiative promotes digital innovation and entrepreneurship, driving growth in the digital economy beyond government services.

Finally, technology is harnessed to enhance project management, enabling the government to optimise administrative processes and communication while minimising costs.

Rwanda’s integrated and inclusive approach serves as a model for other nations, showcasing how a comprehensive digital strategy can accelerate progress and create meaningful change.

Sierra Leone has a similarly ambitious initiative. The country’s Digital Transformation Project is spearheaded by Chief Minister David Sengh, who pioneered many innovative techniques while he was Minister for Education, using them to transform how education was conceptualised and delivered for children across Sierra Leone.

The Digital Transformation Project spans five key areas, which closely mirror those in Rwanda:

First, there is access and the resilience of the digital environment, ensuring not only that access is available but that people trust the digital space.

Second, there is digital skills development and innovation, because without skills individuals cannot fully or meaningfully participate in digital projects.

The third area focuses on digital government services and systems, which is very similar to the Rwandan idea of e-services delivery and also aligns with Singapore’s example of transforming government delivery through technology.

The fourth area is project management and implementation support, echoing Rwanda’s focus on improving the administration and communication of projects.

Finally, there is a contingency emergency response component, where technology is used to address immediate needs that citizens may have.

This holistic approach looks at technology from the individual citizen to the economy and society at large, including how government delivers services. It demonstrates the broad scope of how technology drives transformation, impacting various sectors and fostering meaningful change.

Our final example, Estonia, is widely recognised as one of the most digitally advanced nations in the world. At the heart of its digital infrastructure is the X-Road system, which serves as the primary foundation for the nation’s digitalisation efforts. X-Road enables interoperability and data exchange across various agencies, such as the tax board and the population register. Built on the public internet, the system also allows private firms, such as telecommunications companies and banks, to access shared data. This ensures that citizens do not have to repeatedly input the same information into different systems.

Estonia's digital framework also supports citizen journeys, similar to Singapore's LifeSG app. It ensures that key milestones in a citizen's life are well managed and mediated within the X-Road infrastructure. Like Singapore, Estonia has a national ID system that provides the identification and authentication mechanisms required for accessing and interacting with the data stored on X-Road.

Estonia's digital initiatives bring tangible benefits to citizens through various innovative services. One notable example is the e-Estonia State App, a user-friendly platform designed with the citizen journey in mind. Another example is e-Marriage, which allows couples to complete marriage registration online, simplifying a traditionally bureaucratic process. Estonia's digital innovations also include Bürokratt, an AI-powered virtual assistant launched as part of the government's AI strategy. Bürokratt helps citizens access a wide range of government services through a single device, streamlining interactions with public services and reducing administrative burdens. Additionally, Estonia offers remote notary verification, which eliminates the need for in-person visits, making legal processes more accessible.

The Estonian case shares strong parallels with the examples of Singapore, Rwanda, and Sierra Leone, each of which is harnessing technology in innovative ways to connect with individual citizens and create meaningful, tangible improvements in their everyday lives.

4. Our 10 Policy Principles



Pax Technologica’s Policy Intelligence Unit has analysed numerous examples of systematic digital transformation from around the world in addition to the four case studies presented earlier. This has allowed us to identify 10 essential Policy Principles, each of which addresses distinct aspects of how technology should interact with governance, citizens, and bureaucracies to achieve optimal outcomes. We believe that these principles are clearly manifested in the work undertaken in Singapore, Rwanda, Sierra Leone, and Estonia, as well as in other notable initiatives, making them an invaluable framework for anyone wishing to undertake similar work.

1. Citizen-centred design & citizen participation

Principle One highlights the critical importance of citizen-centred design—prioritising the needs of citizens over what governments may find most efficient or convenient. This approach, often associated with Design Thinking, involves defining problems, understanding users, developing solutions, and rigorously testing prototypes to ensure they address genuine human needs.

Equally essential is citizen participation, a growing feature of policymaking as governments recognise the limits of their own understanding. By involving citizens actively in policy and service delivery processes, governments can reflect their needs in more meaningful ways. Insights gained from participatory processes directly inform citizen-centred design, creating solutions that resonate with those they aim to serve.

2. Expect both harm and benefit

As we increase our reliance on technology, it is crucial to acknowledge the coexistence of both harm and benefit. While technology offers unparalleled convenience and transformative potential, it also expands the threat landscape and exposes us to significant digital risks.

This dual nature of technology can be likened to a “double-edged sword,” an enduring metaphor that captures its capacity to both help and harm. Striking

the right balance between these effects is essential. Overlooking potential risks leaves us vulnerable to harm, while focusing solely on harm causes us to miss the vast opportunities technology can unlock. Effective management and mitigation of risks, paired with a commitment to harnessing the benefits, is key to navigating this duality successfully. As governments recognise the limits of their own understanding. By involving citizens actively in policy and service delivery processes, governments can reflect their needs in more meaningful ways. Insights gained from participatory processes directly inform citizen-centred design, creating solutions that resonate with those they aim to serve.

3. And the benefits can be hugely transformative

Building on the previous point, Principle Three highlights the huge and hugely transformative potential of technology. These benefits are not just significant in scale but revolutionary in their ability to reshape entire systems and improve lives across society.

This idea was eloquently expressed by Singapore’s former Prime Minister, who oversaw the launch of the Smart Nation initiative. During a review of the programme, he emphasised that being a Smart Nation isn’t about flaunting glitzy technology or achieving incremental policy improvements. Instead, it’s about leveraging technology to solve real problems that matter to people. By embracing this mindset and rethinking how business models and governance structures can evolve, we can unlock unparalleled opportunities for societal transformation.

4. So good policy should not crowd out opportunities in the name of minimising harms

Principle Four builds on the previous ideas, emphasising the importance of creating policies that do not stifle opportunities in the pursuit of minimising harms. Policymaking often involves navigating tensions, managing trade-offs, and striking a balance, but this balance must not always favour harm avoidance at the expense of potential benefits.

Bureaucracies, while adept at identifying and mitigating risks, often struggle to prioritise opportunities and maximise their potential impact. This is why Principle Four is critical: an overemphasis on harm minimisation can obscure and ultimately erode the transformative possibilities that lie within emerging priorities. To achieve meaningful outcomes, policies must carefully manage risks while fostering innovation and ensuring that opportunities are not overlooked.

5.

Policy should aim to transform governance fundamentally, not just create minor efficiency gains

It is essential that the policies we implement aim to fundamentally transform governance, rather than merely creating minor efficiency gains. If we recognise the vast transformative potential of technology, our approach to governance must reflect this by reshaping foundational structures, not just digitising existing processes.

A compelling example comes from Singapore’s Digital Government Blueprint, introduced at the outset of the Smart Nation initiative. This comprehensive framework integrates citizens, businesses, and public officials, guided by core principles such as “going digital to the core” and “serving with heart.” Its transformative strategies include strengthening the integration of policy, operations, and technology; building secure and resilient systems; and creating common digital and data platforms. These measures are designed not only to make government more efficient but to fundamentally redefine how it interacts with citizens.

This vision extends beyond digitisation for its own sake. It’s about enabling citizens to engage with government more conveniently while ensuring that personal, complex challenges are met with meaningful human support when needed. Such an approach has also driven the transformative projects in Rwanda, Sierra Leone, and Estonia. The aim is not incremental improvement but a reimagining of governance itself- shaping a system that is truly citizen-centric and equipped for the future.

6.

Tech both transforms/ entrenches the status quo

Having a transformative vision is essential, as Principle Six reminds us that transformation is not automatic. While technology holds the potential to drive change, it often doesn’t do so unless we consciously design its integration to support transformation. In many cases, technology is adopted in ways that reinforce the status quo rather than challenging it.

This concept is powerfully illustrated by Conway’s Law, which originated in computer programming and states that the structure of a system will inevitably mirror the communication structure of the organisation that designs it. For example, when governments adopt digital strategies or smart nation initiatives, they risk embedding the existing structures and communication patterns, rather than disrupting them for the better.

If we’re not mindful of this risk, we may end up reinforcing the very systems we seek to change. Transformation is possible, but it requires careful planning and deliberate effort to avoid the trap of reinforcing existing power dynamics and structures.

7.

Keep the long term in mind- constantly iterate and adapt

To ensure that transformation has the best chance of success, we must keep the long term in mind while remaining flexible and adaptable. Principle Seven stresses the importance of maintaining a clear vision for transformative technological work and committing to long-term goals, without succumbing to short-term expediency. However, this long-term vision should not be rigid; we must be open to continuous iteration and adaptation.

The concept of Problem Driven Iterative Adaptation (PDIA) from Harvard University’s Building State Capability programme offers valuable insight here. PDIA emphasises the importance of refining and adapting solutions as new information emerges. In the ever-evolving technological landscape, it is crucial that systems, policies, and delivery mechanisms are designed to iterate and adapt in response to change.

This principle reminds us that transformation requires both a clear vision and a commitment to continuous, thoughtful iteration, ensuring that we move towards our long-term goals in a sustainable and effective way.

8.

Avoid “Not Invented Here” Syndrome- Use Public Digital Infrastructure

As we work towards our vision, it’s crucial to adhere to Principle Eight and avoid the “Not Invented Here” Syndrome. In large, complex bureaucracies, there is often a temptation to believe that achieving our goals requires creating entirely new systems and structures. However, we must recognise that many countries are already using common structures in their digital infrastructure. This approach, increasingly known as public digital infrastructure, is exemplified by systems in countries like India, Brazil, South Africa, and Togo.

At the heart of these systems lies a fundamental identification layer, similar to the national IDs used in Singapore or Estonia. Built upon this foundation is a data exchange and payment infrastructure level that allows interaction across various agencies and entities. With this core infrastructure, a wide range of services can be built- banking, emergency payments, vaccine distribution, disease surveillance, education, and more. The key point is that we can leverage these existing infrastructures rather than reinventing the wheel, which would risk creating fragmented, inefficient systems that fail to communicate with one another and complicate the experience for citizens.

9.

Strategy < Structure < Skills < Culture

To ensure that digital infrastructure is used as effectively as possible, we must consider Principle Nine: Strategy < Structure < Skills < Culture. While strategy and structure are important, they can only succeed if underpinned by a strong culture. As Peter Drucker famously said, “Culture eats strategy for breakfast.”

This is a crucial point to recognise, as it reminds us that technology alone won’t produce the desired outcomes without human guidance and curatorial instinct. It’s essential to cultivate the necessary skills and people who can shape and nurture the culture, ensuring that the use of technology aligns with the intended goals in the most systematic way possible.

10.

Your work is less unique than you think – use vendors well

As we engage in technology work, it’s essential to remember Principle Ten: while pride in our efforts is natural and while we may be tempted to value what we create ourselves, our work may in fact be less unique than we think.

This is another manifestation of the “Not Invented Here” Syndrome. It’s not just about reluctance to collaborate within government, but also about hesitation to engage with the private sector. However, effective technology work requires collaboration with vendors. This means knowing when to outsource and being honest about aspects of the work that may not be as remarkable as initially thought.

Outsourcing, however, is not about relinquishing responsibility; it requires having the right internal skills. This approach, which we may call “in-skilling,” ensures that the necessary skills are in-house to assess the quality of outsourced work. This involves selecting the right vendors, evaluating their performance, monitoring their work, and holding them accountable to ensure they meet the required standards.

5. Building the future together

The 10 Policy Principles offer a powerful approach to policymaking and delivery, moving away from the traditional, linear, and mechanistic models. By integrating these principles, we can create more dynamic and impactful policies that respond directly to the needs of the communities they serve.

Pax Technologica's Policy Intelligence Unit is excited to collaborate with partners who share this vision. As we embark on our work in Africa in 2025, we invite partners to engage with us in five key areas that will help us shape better, more effective policy together.

Co-creation

We offer the opportunity for deep collaboration through co-creation, where we embed our team members long-term within partner agencies to contribute dedicated focus and expertise to important projects. This immersive approach ensures that the work is driven by shared goals and informed by local needs.

Capacity-building programmes

Building on our content, we aim to develop capacity-building programmes that equip partner teams with the tools, knowledge, and frameworks to apply these principles in their daily work. These programmes are designed to empower teams to implement the vision of human-centred technology at scale.

Project-based collaboration

For those who prefer a more structured, time-bound approach, we also offer the option of collaborating on specific projects, where we can contribute our expertise without fully merging teams. This allows for flexibility while still achieving impactful results.

Community building

Over time, our goal is to create a community of practice among individuals and organisations who are literate in these principles, fostering a network that can collaboratively advance the integration of human-centred technology into policy and practice. By connecting these professionals, we can strengthen our collective impact and drive meaningful change.

Content development

Our team has already begun developing valuable content, such as case studies and core principles like the 10 Policy Principles, that illustrate how technology can be used more effectively. We are committed to expanding this content to support partners in their work, making it more accessible and actionable.

These areas of collaboration are not linear. For example, some partners may prefer to begin with capacity building and community development, leveraging existing content, before transitioning to co-creation or collaboration. Conversely, more mature organizations may opt to start with co-creation to accelerate progress based on their current technological readiness.

Pax Technologica's agile, user-centred approach is designed to be flexible and responsive, in line with the principles outlined earlier. Our aim is to partner with organisations to bring human-centred technology to the citizens we all serve, contributing to a more inclusive and equitable future.

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