KEYNOTE ADDRESS BY PROFESSOR BLADE NZIMANDE, MINISTER OF SCIENCE, TECHNOLOGY AND INNOVATION AT 2026 CONFERENCE OF THE HUMAN SCIENCES RESEARCH COUNCIL (HSRC), 16 SEPTEMBER 2026

Prof Xoliswa Mtose, the Chairperson of the HSRC Board;

Members of the HSRC Board;

Senior Government Officials;

Prof Sarah Mosoetsa, CEO of the HSRC;

The Executive of the HSRC;

Leaders of South Africa's Academic and Research Institutions;

Leaders of Industry and Civil Society;

Researchers and Scientists;

Distinguished Guest Speakers and Scholars from various parts of the world;

Members of the media:

Thank you for the honour of inviting me to address this prestigious gathering - the 2026 Annual HSRC Conference. Please accept my apologies for only now being able to attend this important conference as I only landed a few hours ago from the People's Republic of China, having attended the 19th Pujiang Innovation Forum in Shanghai.

The Pujiang Innovation Forum, which hosted South Africa as the Country of Honour, is a premier global sci-tech gathering that brings together governments, science agencies and some of the most influential scientists and industry players from across the world in astronomy and space science, health innovation, climate technologies, biotechnology and energy with a specific focus on promoting the interests of the global South in the innovation economy.

HSRC Conference theme and Challenges posed:

The theme of this conference is titled '*The Age of Digitality and the Future of Society: Rethinking Knowledge, Ethics, and the Role of the Humanities and Social Sciences'*. I am greatly encouraged by your conference theme focus which seeks to place ethics, knowledge and the role of social sciences and humanities at the centre of debates about a future society defined by the digital revolution of our time.

I say this because of my own deep discomfort about the terms in which many public debates and mainstream media narratives portray the future of society shaped by the growing impact of digital technologies. These narratives tend to represent technological change as if it evolves outside of given social relations and the power structures in which it is expressed.

And it speaks about the promises, perils and threats posed by major technologies such as AI, robotics, bioengineering, materials science, etc., without a satisfactory critique of the political economy in which it is embedded. In fact, these narratives neatly side-step any critical view of the unequal patterns of capital accumulation through technology innovation.

On the one hand, the broader context of technological change is treated as neutral, whilst on the other hand the direction of that change is portrayed as ‘natural’ and ‘inevitable’. The function of this ‘fetishization of technology’, as the US writer, John Bellamy Foster correctly calls it, is to airbrush out of analysis the dominant mechanisms accounting for unprecedented levels of social equality, the erosion of real democracy, destruction of ecological systems, climate change and planetary destabilization in recent decades.

Yet we know from history that all the great leaps of technological change – from agrarian to industrial societies to the digital age – are not only the result of specific political choices by dominant forces at each historical period but have also been accompanied by new forms of inequality and social exclusion. I am therefore encouraged to see the critical lens through which the Conference theme document has posed the key issues.

If we accept that there is nothing ‘inevitable’ or ‘necessary’ about digital futures, then we have to ask: how will such theories of change tackle the unresolved challenges of social inequality, social injustice, and ongoing efforts to undermine real democracy? How will such a vision help us to solve other global problems such as climate change, ecological degradation and planetary instability?

The nine (9) sub-themes of the Conference raise questions about how best we can promote the inclusion of marginalized voices and stories in the new digital spaces. This is important given Africa’s long colonial history of epistemic injustice. Your theme also raises the important question of ethics in the context of the age of digitality: how do we construct an ethical framework that can meaningfully ensure our society confronts the root causes of social inequality, injustice and exploitation.

I hope that conference participants have been able to shed new light on some of these challenging questions. This effort is not only important for intellectual or academic reasons. For us, policy makers, they can raise key considerations around which to frame and direct public policy on how Government could best promote an inclusive, socially-just digital future for South Africa. Similarly, I would imagine civil society can also draw on insights gained here to inform social and political action to campaign around digital futures.

Current Historical Context of Digital Transformation:

This Conference is taking place at a historical period marked by great economic, social and political instability across the world – and new regional conflicts, trade wars, disruptions in global supply chains and rising super power rivalries. The major roots of these instabilities, in my view, can be traced to a series of convergent crises in the global system dating back to the early 1970's: decline of the neo-liberal economic growth order; of climate change and ecological sustainability; and a crisis of global social inequality.

In response to the crises, many governments across the world have turned to new advances in artificial intelligence (AI), automation, robotics, blockchain and machine learning tools to resuscitate economies. These technologies are increasingly being deployed in the processes of production, commerce, finance, trade and industry.

In recent decades, they have been increasingly expanded into many aspects of social, education, cultural and personal life. The boundaries between the digital and physical worlds are increasingly becoming blurred and indistinguishable as technological systems get more powerful. Indeed, almost all of us inhabit an increasingly large part of our

working and social lives in artificial realities – emails, web portals, multimedia platforms, digital twins, avatars – which are starting to become less distinguishable from the physical world.

Whilst technological advances have undoubtedly brought many positive benefits to society, they have also begun to trigger new uncertainties and existential fears about the future of global humanity:

- Have evolution and history prepared us for a world in which human experiences of the physical world and synthetic experiences created by machines are increasingly difficult to distinguish? A good case in point is the contradictory impact of social media on communities, including rising levels of suicide and depression in certain demographics;

- What existential and cultural values do we attach to authentic human-derived intellectual labour versus machine-derived intellectual outputs – in education, arts and culture? I recently attended the Women in Science Awards function at which the keynote speaker played a song that got the entire audience wildly dancing with much joy – only to be told afterwards that its entirely composed by an AI agent!

- Can we, and if so, how do we co-exist with powerful, increasingly smart machines and what should be limits to extension of their reach into society? If AI becomes smarter than us in more fields than narrow intelligence domains (like chess or maths), should we allow it into other spaces of human agency?

I realise that some of these are difficult issues extending beyond the scope of focus of your conference, but I hope you will agree with me that they will shape the choices we make about the future society we want to

inhabit. The answers to these questions I want to submit are *not technological, but social in nature*. They raise fundamental issues about the philosophy of science and technology, about human nature, our deepest desires, fears and wishes, and what it means to be a human being.

Only the *social sciences and humanities* are able to respond adequately to the theme of your conference - 'the future of society in an age of digitality'. It is certainly clear that powerful techno-elites are now trying to impose their own visions of future societies.

Today we can hardly miss endless streams of media about the techno-utopian visions of Elon Musk, Sam Altman and others of a future - led by intelligent machines, able to provide abundant and efficient production of goods and services, shifting the cost burden of adaptation and risks onto the shoulders of working people. It is perhaps not surprising that many of these techno-oligarchs have amassed spectacular personal wealth and are often ardent sponsors of rightwing political and social movements across the world.

If we are to promote an ethical AI future for all humanity, then such an ethical framework must speak to the conditions of social inequality, neo-colonialism and imperialist wars. It must speak against the use of digital tools such as AI in the occupation and genocide in Gaza, the invasion of Venezuela and the Middle East.

Such an ethical framework cannot pretend to be neutral or silent to the gross injustices – irrespective of where they are committed. It should not only be the domain of experts and governments. It must be pushed by social forces in civil society, labour and grassroots social movements.

It is hoped that insights gained from your conference can contribute towards this historic task.

I understand the International Union of Scientists (IUS) are planning to host a Global People's Summit on Ethical AI for Humanity in South Africa in May 2027 with the intention of adopting a People's Charter on Ethical AI. I wish to commend this effort and hope that it will galvanise as wide as possible a cross-section of social forces especially from the Global South and the wider African continent for this important task.

'*Placing Science, Technology and Innovation at the centre of government, education, industry and society'*:

Our department adopted a mantra in 2025 to place the placement of science, technology and innovation (STI) at the centre of government, education, industry and society. This stems from a growing recognition of the relatively low visibility and social capital afforded to STI in national development and social transformation. To be sure, when we refer to 'science' here, we refer to *both natural and social sciences and humanities*, with particular emphasis on trans-boundary and inter-disciplinary knowledge as critical to the future of the national system of innovation.

The White Paper on STI of 2018 and Decadal Plan of 2022 promote the need to raise the scale and impact of STI across all spheres of South African society, to increase gross investment in research and innovation, to expand and diversify the National System of Innovation (NSI), to ensure higher levels of social transformation focused in particular on inclusion of blacks and women in the NSI, and scaling the impact of socio-economic innovation to include all sectors of society.

Both the White Paper and Decadal Plan recognize the importance of promoting the rapid development of indigenous knowledge systems (IKS) in order to bring the talents, voices and resources of marginalized sections of our society to the centre of human development, to enrich the innovation system, and to ensure our systems of knowledge production fully recognize its unique contributions.

The full development of IKS is crucial not only in terms of health innovation, biotechnology, astronomy, archeology and anthropology, but also all other social sciences and humanities disciplines. Our department has also been looking into programmes to develop African natural languages through machine learning tools now widely available, and its integration into the education system.

The Decadal Plan has also cited the Future of Work and the Future of Society as over-arching themes in the coming decade. The Department is working with its entities, including the HSRC, as well as our universities, on a range of research instruments such as the SARCHII Chairs, Centres of Excellence and research programmes to study the impact of rapid technological change on the nature of work and its broader impact on society.

It is crucial that we develop the capacity to not only monitor and track social impacts of technological transformations but also proactively modelling of future pathways that can provide secure new livelihoods for communities under threat of technological change. This is a vital part of our digital project. An example of this is work being done in the Just Energy Transition programme related to clean coal technologies and the shift to renewable energy platforms.

Again, these questions place the social sciences and humanities at the heart of transitional strategies in the search for a sustainable economy and society. They cannot be adequately responded to by the natural and physical sciences, as important as they are. Indeed, we require greater trans-boundary and inter-disciplinary research teams working on a range of transitional questions facing our people today: energy transition, health innovation, food sovereignty, sustainable cities, regional integration, and so forth.

The HSRC has a key role in these trans-disciplinary teams, together with CSIR, NRF, universities and other agencies. To place STI at the centre of society also compels us to collaborate with communities in all walks of life, especially the most marginalized, on making our knowledge systems real, relevant and responsive to the many developmental challenges facing us all. For too long science and technology have been the privy of elites and experts.

Such a vision for placing science at the centre of society requires an important shift beyond 'science for society' to *'science with society'*. Currently, the DSTI is extensively involved in many innovative programmes aimed at 'taking science to society' through for example, National Science Week, science exhibitions, and support for the development of Science Centres in Provinces to promote science education, especially focusing on schools.

This is excellent and important in the context of low levels of science education in many, especially working class and poor communities – and needs to be expanded in collaboration with the DHET and Department of Basic Education.

However, science with society' implies co-creation, collaboration and rooting science in and emerging from communities. This would require a different approach and set of social process from traditional 'outreach' campaigns to science teams being embedded in local communities as collaborators, not providers, in the social construction of socio-economic development and public works programmes in which scientific practices are part of the problem-solving processes. Lessons from Cuba and Costa Rica could be instructive in this respect.

Concluding Remarks:

It is hard to think of any other time in human history when we were confronted with truly planetary-scale, existential threats than what humanity is facing in the first quarter of the 21st century. Our actions have induced large-scale and potentially runaway biophysical changes in key life-supporting systems on our planet: the systems in our oceans, atmosphere and land providing the conditions of relatively stable life to not only our species, but all life forms on earth.

Today, climate change and ecological degradation pose real existential threats to millions of people, especially the most marginalized and poorest sections of our societies.

At the same time, human ingenuity over several centuries have made it possible for us to develop amazing new technologies which undoubtedly has brought about many major positive transformations in our lives – modern transportation, healthier food, more effective disease management, new forms of communication, etc.

But this ingenuity has also brought us to the point where today we are facing the spectre of having to co-exist as collaborators with another species equal if not *potentially* smarter than ourselves: a new synthetic

organism that we created - artificial intelligence (AI). I cannot think of a more apt set of disciplines other than social sciences and humanities to help us grapple with how to confront these challenges in ways that can hopefully reclaim, preserve and perpetuate the finest features of what it means to be a human being – our capacity for caring, solidarity, cooperation and compassion – into a future world where many parts of our lives may well be governed by smart machines and agents.

After all, these human traits, perhaps uniquely human, have been the key to our survival and eventual flourishing as a species, for over 300 000 years of human evolution, dating back to our common origins on the African savannah and eventual spreading across the earth.

I suspect we will have to rediscover these moral qualities and social skills in facing up to the challenges of a human future in an age of digitality.

May I wish you well with the remainder of the important Conference and request that its proceedings become a reference point in future work on democratic, inclusive and equal human futures for all.

Thank you.

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Minister Blade Nzimande, flanked by HSRC CEO Prof Sarah Mosoetsa, HSRC Board Chairperson Prof Xoliswa Mtose, HSRC executives and Board members, delivered the closing address at the 2026 HSRC Annual Conference today, 16 September 2026.