

# Opening Plenary Part-2

## High-Level Panel

### Can Anticipation in Science and Diplomacy Help Renew Multilateralism?

#### Participants

Moderated by:

**Alexandre Fasel**, Ambassador and Swiss Special Representative for Science Diplomacy in Geneva, Switzerland

With:

**Sir Peter Gluckman**, outgoing President of the International Science Council (ISC); Chair of the International Network for Government Science Advice (INGSA); Director, Koi Tū: The Centre for Informed Futures; Member, GESDA Diplomacy Forum, New Zealand (remotely)

**Martina Hirayama**, State Secretary for Education, Research and Innovation, Switzerland

**Alondra Nelson**, Deputy Director for Science and Society, White House Office of Science and Technology Policy, USA (remotely)

**Naledi Pandor**, South African Minister of International Relations and Cooperation, South Africa (remotely)

**Achim Steiner**, Administrator of the United Nations Development Program, Brazil/Germany (remotely)

in technologies they tap into are creating silos that exacerbate longstanding gaps between science and policymaking among nations and multilateral institutions. GESDA believes anticipatory science diplomacy can bridge those gaps, reinvigorating Geneva's multilateral institutions by helping ensure these advances benefit as much of humanity as possible.

Alexandre Fasel, a career diplomat who is Switzerland's first science diplomacy envoy, said his short answer to the question posed in the panel's title – "Can anticipation in science and diplomacy help renew multilateralism?" – is "probably yes, if the science is good, and if diplomacy is able and willing to grasp the anticipatory signals, to reflect them". But what GESDA is trying to do is new and, therefore, challenging. "My sense is that we have a double balance to strike," said Fasel. "On one hand, we want to open to opportunities which science and technology bring to us. And then on the other hand, we have to factor in the risk that we have to calculate in and the precautions we need to take. And the other balance we need to strike is between anticipation and challenges: the actors of global governance and multilateralism are already very busy with dealing with today's challenges."

#### Discussion highlights

#### The GESDA Science Breakthrough Radar® as a starting basis: why anticipation is important

The premise of GESDA is based on the observation that the pace of scientific development is increasing every year, accompanied by a convergence of new technologies that affects scientists across the board, rather than in specific fields or locations. And while many of the disruptive breakthroughs occur in academic settings, using public resources, other advances (such as with AI) are happening at large, private institutions. As a result of this fast pace, policymaking is not keeping up. To help politicians and diplomats navigate this rising tide, the GESDA Science Breakthrough Radar® taps into scientists' insights from a spectrum of backgrounds. Scientists are traditionally collaborative, but the increased specialization in their fields plus the furious growth

The need to encourage politicians to discuss the science of the future, such as the possibility that some new form of global governance might be needed for AI, demonstrates the need for a new forum like GESDA, according to Martina Hirayama, whose expertise spans chemistry, technical sciences, and business. "One thing all scientists have in common is that they work being driven by curiosity. So, if you bring scientists together with diplomats, politics, other people, I think there has to be a curiosity to develop something good for the future," she said. "From my point of view, what is very important here and for Geneva, and for the multilateral objectives GESDA has, is that the GESDA Science Breakthrough Radar® shows important developments for the future with



high impact on our future life. And also, that it shows where we should discuss the needs on the political side to develop [those advances] in a good way.” To her, the starting point for discussions should be the important topics facing the world within five, ten and 25 years, because “they are already here. It is actually what we should start to think about”, she said. Usually, societies address them too late, she said, rather than “focus on the good news and avoid the things which shouldn’t happen”. “This is an important point” which, along with “working with curiosity”, can “bring the scientists to the table”.

Peter Gluckman agreed, saying the history of humankind is technological development, and every technology has an upside and a downside – both for intentional and unintentional uses. What is different now, he said, are the pace, pervasiveness and potential impact of technologies identified by the GESDA Science Breakthrough Radar®. “The challenge is we do not have a structure to deal with these issues at the speed at which they are developing,” said Gluckman, a paediatrician and former science adviser to New Zealand’s prime minister whose NGO, the International Science Council (ISC), encompasses 40 international scientific groups and more than 140 scientific organizations. “And secondly, I think that we need to ask increasingly whether these technologies are not going to create greater inequality rather than more equality.” Within GESDA, he said, there is debate over transhumanist and brain enhancement technologies, whether only an elite part of the world will have access to them, and how the diplomatic community might need to respond. “At the same time, we need to think about how we preemptively think about the implications for society, the ethical implications and the equity considerations that go along with the rapid development of these technologies. And clearly, that’s complicated,” said Gluckman. “There are the issues at an individual society level. There are enormous issues at the multilateral level. And there are some quite complicated worldview issues. Look at the state of the world because of the Internet: It has got a good side; it has got a downside. Would we have allowed the Internet to develop with all the benefit of hindsight in the way we have allowed it to develop now? I am not sure.”

Achim Steiner, a veteran UN administrator and environmental policymaker, said multilateral organizations already have an extensive track record of science enabling diplomacy, such as with climate change or biodiversity. “Take the ozone layer. We saw the emerging science informing, first of all, national thinking about a threat that was really for our planet, and then having to respond to that also as a community of nations,” he said. “That then was transacted and facilitated through the UN Environment Programme, and [this helped] our nations to come together to achieve the multilateral structure, most recently the Kigali Amendment.

It shows how science has continuously informed our interests who have to respond.” Another important development, he said, is the UN’s ability to develop legal instruments such as conventions and agreements like the Intergovernmental Panel on Climate Change (IPCC), the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), and many others. “So, I think the principle of science and diplomacy being very much twin sisters, so to speak, and enabling a world to move from ‘understanding a challenge’ to ‘acting on it’ is established,” he said.

Today’s challenge, he said, is “we have entered into another era where the problem is not so much the fundamental principle of science informing public policy, it is that we are in a race against time. Our ability to come together as a community of nations of seven and a half billion people to act in unison in the face of global warming, a pandemic, or, indeed, other technological challenges such as cybercrime, clearly is not living up to the needs of our time. And, therefore, I think one interesting question would be to explore: Can we make the transition from where science enabled us to understand the challenge to how diplomacy can accelerate that capacity to act, notwithstanding different interests and geopolitics? And I think multilateralism is absolutely fundamental to that”.

#### **Ensuring the access to benefits of science to everyone**

Naledi Pandor, a key player in South Africa’s foreign policy and member of parliament since 1994, said one of the best approaches GESDA can encourage is to develop as many partnerships as possible between the public and private sectors and citizens. “I think that a milieu, an atmosphere in which free thinking is encouraged and innovation is absolutely vital. And it is not governments that would always have responsibility in encouraging particularly responsiveness to anticipation,” she said. “I think it would be primarily the private sector, as well as science institutions that would play a role.” To her, addressing challenges that citizens ask policymakers about is key: “Are we responding to the problem of tuberculosis? We need new treatment. It is a real problem here,” she said, while noting that “those who are anticipating, who may be looking at innovation in terms of management and processing of digital big data and developing resources in the digital space – they would be more in the anticipatory domain.”

Inequities must be addressed because “for science to matter, ordinary communities must see that it makes a difference to their lives”, Pandor said. That means policymakers, scientists, diplomats, and investors in science must keep in mind everyone’s access to the opportunities offered by science. The message of the pandemic, and the global inequity of vaccine access, is that “the benefits of science are for some

– for those who have money. And those who do not have resources or robust science institutions, they will wait in the line until science reaches them”, she said. “We have to change that perception of science by making real these conversations about diplomacy, about international collaboration, and cooperation that we are having. Our people, our communities, must see that through our conversations, that which we promise – vaccines will be a public good – actually becomes a reality.”

Alondra Nelson, a distinguished social science professor and researcher, noted that US President Joe Biden has described our time as one of great peril and great promise, and “that’s exactly the tension that we sit in at this moment. And I think for those of us in government, to truly be of service, we really have a responsibility to be forthright about both those realities at once. And to be honest both about the risks of innovation and partnership, but also bold in addressing them head-on. And I think that the [Geneva Science and Diplomacy] Anticipator is a fantastic possibility for working this through. Anticipation is filled, of course, with both enthusiasm and yet unease”.

#### **International cooperation as a crucial lever**

In the policy space, Pandor said, international collaboration must be supported while dealing with current challenges on the ground. “What you need to do is encourage room for innovation and partnerships by all those groupings,” she said. “And I tend to encourage the use of international partnerships for much more adventurous blue skies relationships and exploration than perhaps the national institutions might be focused upon.”

Everyone’s fates are intertwined on the planet when it comes to climate change, economic prosperity, and public health, agreed Nelson, whose work in the Biden-Harris administration focuses on spreading the benefits of science and technology by overcoming economic, gender, racial and geographic disparities. That makes international cooperation a matter of practicality and equity. New tools can be misused or exploited, she said, for example, “extraordinary data can be abused, new technologies can be plagued by bias, research can fall into the wrong hands. So, I think we want to come into anticipation with some humility. We cannot predict the future, but we can certainly, in partnership with other governments, do our due diligence. We can assure that we are attempting to think through the possible implications of a new piece of technology and consider how it might be applied for good or for ill in the future. We cannot predict when the next pandemic will arrive, but we can be better prepared.”

The White House unveiled a proposed pandemic preparedness plan to transform US capabilities to respond quickly and effectively to a future pandemic or severe biological threat, Nelson said. One piece

involves modernizing digital health data with standardized software so data can be better shared and analysed. “It is the plan that we needed five years ago, and it is the plan that we hope will make us more prepared years from now. And these kinds of anticipatory investments will create products and capabilities that will not just lay dormant until the next pandemic, but will really create active capabilities, tools, resilience across society,” she said. “But of course, this approach is going to require international cooperation. So many of the challenges that we face are not challenges of a nation or a country, but of course are whole-of-society challenges. And so, it means that we have got to work with international partners and to really face head-on the complexity of international cooperation, which is not to try to predict the future but to expand global participation and collaboration without sacrificing safety or compromising security.”

How to make it concretely happen? Redesigning the future of development by working on concrete cases, and not just meta-conversations.

Steiner said GESDA’s anticipatory approach is similar to what he has tried to introduce at UNDP. “Very often, particularly in the international relations and development arena, you transact a lot of what is – essentially – unfulfilled promises. It is very much a legacy agenda. And one of the very deliberate exercises I have tried to bring during my tenure at UNDP is to be very much more anticipatory. What is the future of development?” he said. UNDP and many developing nations have been affected by digitalization and the evolution in fintech, despite some governments not being part of the rulemaking. As a result, UNDP tries to help nations use anticipation as a tool. “There is another element to innovation. That is to understand that science or technology are, in themselves, perhaps factual and conclusive on certain findings. They provide us with choices, but ultimately societies have to make choices,” he said. “We established over the last three years 92 so-called Accelerator Labs, essentially inserted into our country teams with a single objective and mandate to go look and understand how innovation is emerging from within a country, whether it is a rural community, whether it is the startup community, and then help a country and its national policymaking to translate those insights.”

#### **Towards a global learning platform**

These are choices that are not just answered by a technological fact or a scientific finding, but are difficult questions such as “how many poor people is it worth having in order to have a higher rate of GDP growth? What is the price you are willing to pay in terms of exclusion? Or do we prioritize inclusion in a digital ecosystem?” Steiner said. “And these are the kinds of choices where GESDA could really also contribute to through a global learning platform. Science is fundamental. Technology will be a driver.

"At the end of the day, we are still human beings living in communities who have to make very tough choices. And they have to be far more informed, far more empowered, and also – this is part of the United Nations DNA – less discriminatory."

The need to reduce discrimination in society, for example with access to vaccines, is essential to gain citizens' support, Pandor said. "If I am at the back of the queue for a vaccine that will make a difference to my life, science becomes immaterial. And that's a dangerous point for us. Because what happens is then you have a lack of belief in progress and in the modernity offered by science. So, I do think this period of the pandemic has created a basis for us to rethink how we reach those who are most disadvantaged and ensure that they become proponents for science advancement, that they become believers in the enterprise of science, cooperation and innovation. In that way, I believe we will achieve the greatest. It means that one of the things we need to attend to is the development of science in the poorest societies. We have got to ensure that we have science institutions. We must invest in human capacity, develop research capability. Because science becoming a human phenomenon cannot rely on an exclusive view. All of us must have a part to it, must play a role in it."

#### **The need to protect an open space of borderless science cooperation**

The Biden-Harris administration stands for "open, equitable and secure science", principles that are not mutually exclusive, said Nelson. "In fact, they have to work together in tandem if we are going to improve lives and livelihoods through the scientific and technological enterprise." Like everything, ensuring those principles work together is a balancing act, she said, and "there are things that we can and should do to ensure the security of our science, of our scientists. Like ensuring that federally-funded researchers disclose potential conflicts. But there are also clear solutions to address the sort of the challenges of our time. And at this moment, we really have to lean into values of openness and transparency, honesty and equity, fair competition, objectivity and democracy. The best antidotes to the risk of open science are the vigorous collaborative pursuit of integrity in our science, across borders and different parts of the scientific universe, and bringing everyone along, understanding that science and technology is truly the inheritance of all of us, not only the work of doing it, but also the implications that it holds for progress and the world. And I think it is really by taking on these practices together that we will be able to, to continue to work together, and to find new ways to reach this kind of geopolitical balancing act".

#### **Accelerating the pace at which foreign ministries take ownership of scientific breakthroughs**

Gluckman said history shows science and scientists are always collaborative, but science itself is changing as divisions increase and technologists "run ahead of" social considerations. "And I think one of the things that this discussion is highlighting is the need to make sure, as the ISC is [doing], that all the sciences and, in particular, social scientists are part of the discussion right from the start, rather than allowing the technological sciences to run ahead of the social considerations," he said. "We're seeing the emergence of transdisciplinary science as perhaps the most important way of approaching the many wicked problems we have."

"But I want to make one other comment: science is frustrated by the silos. There are very few countries that actually have effective input of science into their policymaking systems. There are only a few agencies within the multilateral system that, like UNDP and some of the technical agencies, do not view science as a marginal thing on the side," said Gluckman. "Very few countries have science embedded within their foreign ministries in any way, shape or form. And yet, if we are going to advance the global agenda with more equity, science cannot just be seen to be over here and the rest of the activity over there. We need the policy community and the diplomatic community to recognize science also needs to be embedded within their ambit as well. And so, I think there is a lot of thinking about what process might lead to better communication because, as we said earlier, things are moving so fast we do not have the luxury of taking it slowly. We have to think now about the impacts of these rapidly moving technologies."

#### **Conclusions from Ambassador Alexandre Fasel: Bringing the science into the mainstream of multilateralism and global policy**

Fasel noted that anticipatory science diplomacy, while ensuring that geopolitics do not interfere with the borderless and global collaborations that science needs to thrive, can lead to practical solutions by encouraging people to work concretely together on problems despite their different languages and agendas. "It is not just about anticipating the science and the technology. It is probably also a matter of anticipating governance," he said. "I think we have heard several elements such as that the time is pressing, that we need to work in a way that guarantees equity and equality, that we need to proceed in the logic of partnerships, that we need to make sure that there are no resource gaps, that we break up the silos and bring everybody on a platform to move those issues forward. And it seems to me those are exactly the orientations that GESDA, by bringing the science into the mainstream of multilateralism and global policy, is adopting with its methodology."

### Takeaway Messages

**Few nations effectively incorporate science into their policymaking, which would benefit from more international cooperation.**

**The topics facing the world, which are in the GESDA Science Breakthrough Radar®, should be the starting points of the discussions, to be launched now in order to maximize the beneficial use of those advances while minimizing the associated risks.**

**The main and most urgent challenge is the current lack of structures to deal with these issues at the speed at which they are developing, in order to avoid creating more inequalities. Diplomacy must accelerate its capacity to act, notwithstanding different interests and geopolitics.**

**Inequities must be addressed for communities to see that science matters. Everyone must promote universal access to the opportunities offered by science.**

**Everyone's fates are intertwined when it comes to climate change, economic prosperity, and public health. Countries need to face head on the complexity of international cooperation, without sacrificing safety or compromising security.**

**Anticipation is not the exclusive responsibility of national governments. More public-private partnerships would help.**

**People face tough choices that would be better informed and less discriminatory if they were based more on anticipatory science.**

**Maintaining open science, through collaboration and shared integrity can bring more balance to geopolitics.**

#### **More information**

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Opening Plenary Part-2



## Maria-Francesca Spatolisano

Officer-in-Charge,  
Office of the Secretary-General's Envoy on Technology;  
Assistant Secretary-General, Policy Coordination and Inter-Agency Affairs,  
Department of Economic and Social Affairs (DESA),  
Speaking on behalf of the United Nations Secretary-General,  
Italy

## Closing Keynote Address

Excellencies,

Ladies and gentlemen,

It is my pleasure to join you here today – thank you for the opportunity to speak at your inaugural summit.

As Assistant Secretary-General for Policy Coordination and Inter-Agency Affairs of the UN Department for Economic and Social Affairs, and Officer-in-Charge of the UN Office of the Secretary-General's Envoy on Technology, but also on behalf of the UN Secretary-General, I welcome this initiative undertaken by GESDA towards advancing multilateral science and diplomacy with the aim of achieving a better future.

I would like to share with you today a few thoughts on diplomacy in the Anthropocene – our times, when human activity is changing the Earth on a planetary scale, perhaps irrevocably.

For many of us here, this is not news.

Indeed, in October 1987 – 34 years ago, almost to the day – the United Nations published 'Our Common Future' which spoke of the Earth, 'as a small and fragile ball', and how 'humanity's inability to fit its activities within it... (was) changing planetary systems, fundamentally.' Prime Minister Brundtland, in introducing the report, spoke of the need to move intentionally from 'One Earth to One World.' Since then, globalization and technology have indeed pushed us towards 'One World'. But this is far from the world we want.

Indeed, it may seem that diplomacy itself may have fallen behind the rapidity with which our world is being transformed. Many of our governance mechanisms and diplomacy are falling increasingly behind the pace of the private sector, particularly in the area of digital technologies. I would suggest that diplomatic institutions, crucial to how we realize 'our common future' in this age, may want to consider three imperatives for their work:

First, for everyone, the global interest is now also their national interest.

Second, science and technology are evolving rapidly, capable of influencing the world at planetary scales.

Third, diplomats need stakeholders from the science and technology communities, just as much as these communities need diplomats.

We don't need to look very far back to find examples of when these three imperatives have effectively guided our work. Just six years ago, in 2015, the world came together to agree to the Addis Ababa Action Agenda, the 2030 Agenda for Sustainable Development and the Paris Agreement on Climate Change.

Each one of these was the result of months of negotiation and consensus building, testament to political will and diplomatic skills, exemplifying the three imperatives I mentioned earlier. In particular, the Addis Ababa Agenda and the 2030 Agenda set up new institutional entry points for science and technology at the apex level of the UN General Assembly, through mandates for the Global Sustainable Development Report, as well as the Technology Facilitation Mechanism. My Department is privileged to operationalize both of them.

Since 2015, the urgency for incorporating these three imperatives as systematically as possible into our work has only grown. Take our experience with the pandemic. Like you, I have despaired at our lack of preparedness, been alarmed at the state of our public institutions, marvelled at the near miraculous advances in science and technology, and felt profoundly grieved at the unnecessary continuation of the pandemic in 'hot spots' around the world. Indeed – to borrow a phrase that many of you here use routinely – we may already be seeing 'alternate futures' evolving – between those with access to vaccines, social protection, technology capacities; and those without. Being able to envision such futures before they happen is critical for being able to make the choices that will ensure that only the best outcomes – for us, as well as for succeeding generations – are realized.

I would like to congratulate this group for supporting these capacities and trust their work will also expand such knowledge and tools to developing countries as well. 'Anticipation', of course, is only the first step – both global efforts such as those from IPCC and IIASA, and national ones such as the Global Trends project in the USA – show that turning foresight into timely action is no easy task. Which is why the recent report of Secretary-General, Antonio Guterres, called 'Our Common Agenda', puts forward a suite of actions to help create a stronger, more networked and inclusive multilateral system, anchored within the UN – making the UN itself also more effective in dealing with the challenges of the present and the future. In addition, the Agenda puts a premium on the need for science as a basis for policy-making, stressing particularly that with regards to information, the "war on science" must end and that we must defend a common, empirically backed consensus around facts, science and knowledge.

One prominent set of actions recommended is around improving digital cooperation. The recommendations in 'Our Common Agenda' build on those of the Secretary-General's High-Level Panel on Digital Cooperation and the Secretary-General's subsequent Roadmap on Digital Cooperation issued last year, and culminate in a Global Digital Compact

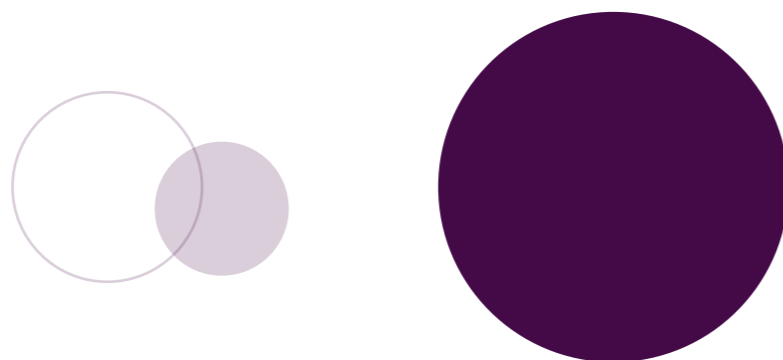
to be signed at the Summit of the Future in 2023. Throughout all this, we remain steadfastly committed to realizing a more open, free and secure digital future for all. Of the 90 recommendations contained in this report, there are many that are directly relevant to your work. I note, in particular, the proposal for the creation of the Emergency Platform and the enhanced use of strategic foresight through a Futures Lab to foster better anticipatory approaches and long-termism. Other actions promote a 'quintet of change' for the UN itself, including capacities for innovation, data, strategic foresight, results orientation and behavioural science.

Excellencies, ladies and gentlemen,

I began my remarks by reminding us all that we are indeed in the Anthropocene epoch. As with other geologic epochs, scientific opinion is divided on when it started. But there is consensus that the direction this epoch takes, and how long it lasts, is in our hands.

I trust that our meeting today will strengthen your substantive engagement with the United Nations, bringing us together, in diplomacy and otherwise, to help realize a shared, benevolent future for people and the planet.

I thank you.



**More information**

[Session recording on YouTube](#)



Opening Plenary Part-2



## Naledi Pandor

Minister of International Relations and Cooperation,  
South African Government,  
South Africa

## Closing Keynote Address

I would like in closing to really stress our congratulations to the Government of Switzerland and its partners on this I think very strategic initiative, in that bringing the worlds of science and diplomacy together is pioneering work which we believe leverages Geneva's attributes as one of the seats of our multilateral organization the United Nations. There are many urgent issues to which science and international collaborators, diplomats, need to develop responses to, among them the COVID-19 pandemic and future pandemics, as well as developing international cooperation and responses to climate change. The relationship between science and diplomacy needs to be highlighted as an important one, and I think the GESDA initiative is more than timely.

We are very fortunate as South Africa to enjoy a science and innovation partnership with Switzerland. We contribute to various science programmes in major multilateral organizations located in Geneva. For example, we are proud to be the host of the World Health Organization's first technology transfer hub for mRNA vaccine technology and we support the United Nations Conference on Trade and Development, in building capacity for agriculture and energy technology assessment in Africa. We also benefit from the work of the World Intellectual Property Organization in the area of indigenous knowledge science and innovation, and in our work as Co-Chair of the Group on Earth Observations hosted at the World Meteorological Organization.

Through this experience of international partnerships, we are eager and ready to contribute to the work of the Anticipator and I truly appreciate that senior South African scientific and academic leaders such as Prof Mamokgheti Phakeng are already strong participants. I wish to congratulate GESDA on the launch of its Science Breakthrough Radar® as its first flagship product. By anticipating breakthrough technology developments in science and technology, and through delivering authoritative advice for policy- and decision-makers, this will be a valuable tool to enhance the international governance of breakthrough science and thus make this instrument a global good.

I fully endorse the GESDA 2021 vision of "Using the future to build the present", I wish however to conclude by stressing that it is vital that we also not forget the past. As South Africa we are progressing from a young to a maturing democracy. We constantly have to remind ourselves, that in order to deliver a better future for all, we have to be mindful of the past painful legacy and the lessons we derived from it. Similarly, as we celebrate and anticipate the continued rapid progress of science and technology, we should never forget that, shamefully, many of the citizens of our world still live in extreme poverty and that ours

remains a world of huge and unacceptable inequalities that we must find international solutions to.

We have thus chosen "Science for Social Justice" as the theme for the UNESCO World Science Forum that South Africa will host in 2022, an event to which I hope many of you will attend and participate in.

So, dear colleagues, let us use the future to build the present, and learning from the past, let us ensure that it is a future, which as stated in the transformative vision of the Sustainable Development Goals, is one that leaves no one behind. I wish the Geneva Science and Diplomacy Anticipator all success in its important mission. You will all be required to respond with agility, it will be imperative that you act with purpose and always use your collaboration to reinforce international solidarity. In this work and in this endeavour, I wish to assure you that you can count on South Africa's diplomatic participation in all your efforts.

I thank you very much for listening to me and for having invited me to be part of this most exciting endeavour.

**More information**

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