



REC

# GMIS

## Global Manufacturing & Industrialisation Summit



# #GMIS2020 VIRTUAL SUMMIT

## SEPTEMBER 04 - 05

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## ABOUT GMIS

# The Global Manufacturing and Industrialisation Summit

The Global Manufacturing and Industrialisation Summit (GMIS) is the world's first cross-industrial and cross-functional platform which aims to establish a global consensus on the trajectory of the Fourth Industrial Revolution (4IR) and its impact on the future of the manufacturing sector.

Co-chaired by the United Nations Industrial Development Organization (UNIDO) and the Ministry of Industry and Advanced Technology of the United Arab Emirates, the annual conference unites influential delegates, including visionary government leaders, expert industry CEOs and specialist researchers and academics, to discuss, debate and shape the future of manufacturing.

Discussions at GMIS are typically underpinned by the 17 Sustainable Development Goals (SDGs) of the United Nations, most notably Goal 9 to "Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation". This places the manufacturing sector at the heart of economic regeneration and government policymaking, thus presenting it with an opportunity to contribute towards global good while working for the benefit of all.

The first two editions of the Global Manufacturing and Industrialisation Summit were held in Abu Dhabi, United Arab Emirates in March 2017, and Yekaterinburg, Russia in July 2019, and were each attended by more than 3,000 high-level delegates from over 40 countries.

#GMIS2020 was initially planned to take place in April 2020 alongside the Hannover Messe industrial trade fair in Germany under the theme of #GermanyConnects – inspired by the country's leadership in connecting the global manufacturing and industrial community with its transformational digital and technological solutions. The Virtual Summit was announced due to the disruption caused by the COVID-19 pandemic.





# THANK YOU TO OUR CO-CHAIRS



**H.E. Dr. Sultan Ahmed Al Jaber**

Minister of Industry and  
Advanced Technology, UAE

Co-chair



UNITED ARAB EMIRATES  
MINISTRY OF INDUSTRY  
& ADVANCED TECHNOLOGY



**H.E. LI Yong**

Director General,  
UNIDO

Co-chair



UNITED NATIONS  
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# The Future of Manufacturing in a Post-Pandemic World

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It is likely that 2020 will go down in history as the year our world changed.

Not only did the Coronavirus pandemic fundamentally alter consumer habits and social interaction, but it also exposed vulnerabilities in global value chains and accelerated digital transformation.

While technologies such as big data, machine learning, the Internet of Things (IoT), remote collaboration tools, artificial intelligence and advanced manufacturing have been gaining momentum for over a decade - helping organisations to improve production efficiency, product customisation, speed to market capabilities and service effectiveness – the pandemic forced these innovations to come of age, entering the mainstream and bringing the far-reaching potential of 4IR to the fore.

Since its inception, the Global Manufacturing and Industrialisation Summit (GMIS) has championed the potential of transition towards a digital world, providing a multinational and multilateral platform for discussions, ensuring that the benefits of the Fourth Industrial Revolution reach far and wide. The Coronavirus pandemic has heightened the need for such discussions, making collaboration, dialogue and knowledge sharing even more critical as the manufacturing sector begins to right itself and consider its next move.

The manufacturing sector has been forced to change rapidly and at scale, altering trade, skill requirements and sustainability parameters.

The pandemic has accelerated industry's move towards digitalisation, with many manufacturers fast-tracking digital strategy plans and leveraging technology to circumnavigate lockdowns and maintain production.

There is also evidence of a fundamental shift in approach. For example, offshoring - a dominating trend for the past fifty years – is beginning to wane as governments choose to support domestic manufacturing to ensure production of necessities despite lockdowns. If this shift continues, it will bolster the adoption of automation, initiate a great race towards new opportunities in developed and developing countries, create a surge in the advancement of robotics, and a major shift in the jobs market as a result.

On a macro level, the pandemic has taught manufacturers a difficult lesson in the importance of being part of a resilient value chain with many suffering major disruption during the height of the crisis. Where manufacturers previously relied on long, complex and inflexible supply chains, almost every link in the chain is now looking for ways to ensure continuity and resilience. Indeed, a recent survey by McKinsey found that 93 per cent of manufacturing and supply-chain professionals plan to focus on resilience in their supply chains over the next twelve months. Technology such as blockchain, which is able to provide transparency, accountability, speed and resilience can help, digitise interactions and insulate the supply chain against external shifts.





However, whilst digitalisation increasingly becomes key to creating a competitive advantage, for manufacturers in some countries, digital transformation at scale is fraught with challenges. From a lack of investment or skilled workers, to inadequate infrastructure and a lack of R&D, COVID-19 is likely to deepen the divide between digitised manufacturers and those without access to the resources needed to modernise – in turn affecting progress across many of the UN’s 17 Sustainable Development Goals. If manufacturers in less developed countries are left to fall further behind, the effect would be felt the world over.

The global manufacturing community cannot truly thrive unless every company is allowed to reach its full potential. It is therefore vital that manufacturers work together to build resilience across the sector, sharing knowledge and driving collaboration and partnerships in order to support industry through the crisis, drive sustainable development and build a resilience for the future.

The Global Manufacturing and Industrialisation Summit is committed to this endeavour, aiming to promote a global dialogue and cross-

border solutions and partnerships between policymakers, global organisations and research and development agencies, to harness the potential of the 4IR. Discussions at the #GMIS2020 Virtual Summit focused on the major issues facing the manufacturing sector and explored how the adoption of 4IR technologies, localising production capabilities and capacity building, and spreading inclusive and sustainable development will all be critical to the future of global value chains.

Innovation has always been the driving force behind the advancement of humanity and the acceleration of global good, therefore, although the crisis has been devastating for many, it has allowed the 4IR to showcase the ability of technology and digital networks to build organisational resilience and create sustainability. Manufacturers today are living through a pivotal period. While the sector has been rocked by an unprecedented global shock, it has also been handed an opportunity to transform and collaborate to make organisations, industries and economies stronger, smarter and more sustainable for future generations.



▶▶▶  
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# Placing Global Value Chains at the Heart of Discussions at #GMIS2020

#GMIS2020 was developed under the theme – **Glocalisation: Towards Inclusive and Sustainable Global Value Chains**, and brought together close to 100 high-profile thought-leaders and business pioneers from around the world to shape the future of manufacturing, discuss the impact of pandemics on Global Value Chains (GVCs), and highlight the role of Fourth Industrial Revolution (4IR) technologies in restoring economic, environmental and social activities.

The Summit addressed how the disruption of GVCs is forcing a fundamental rethink by manufacturers to become more resilient in the future. Digitalisation is transforming GVCs by creating a new digital thread that allows for advanced systems of traceability and improved logistics and planning. The sessions explored how the adoption of 4IR technologies, localising production capabilities and capacity building, and spreading inclusive and sustainable industrial development will all be critical to the future of GVCs.



**The Summit addressed how the disruption of Global Value Chains (GVCs) is forcing a fundamental rethink by manufacturers to become more resilient in the future**



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**#GMIS2020 VIRTUAL SUMMIT**  
**SEPTEMBER 4-5, 2020**

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**10,000**  
ATTENDEES



**5**  
HEADS OF STATE



**28**  
SESSIONS



CLOSE TO  
**100**  
SPEAKERS



**13**  
MINISTERS



**140**  
COUNTRIES



**4**  
WORKING  
GROUPS



**16**  
VIRTUAL  
EXHIBITORS



**4** HEADS OF STATE  
REPRESENTATIVES



**20** HOURS OF BROADCAST  
AND NETWORKING TIME

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**#GMIS2020 VIRTUAL SUMMIT**  
**SEPTEMBER 4-5, 2020**

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PRESS IMPRESSIONS



**10.6M+**  
VIDEO VIEWS



**\$82.3M+**  
EDITORIAL VALUE




**1.6M+**  
IMPRESSIONS



**831K+**  
AUDIENCE REACH



**55+**  
COUNTRIES  
REPORTED IN

**91K+**       
ENGAGEMENTS ACROSS  
SOCIAL PLATFORMS

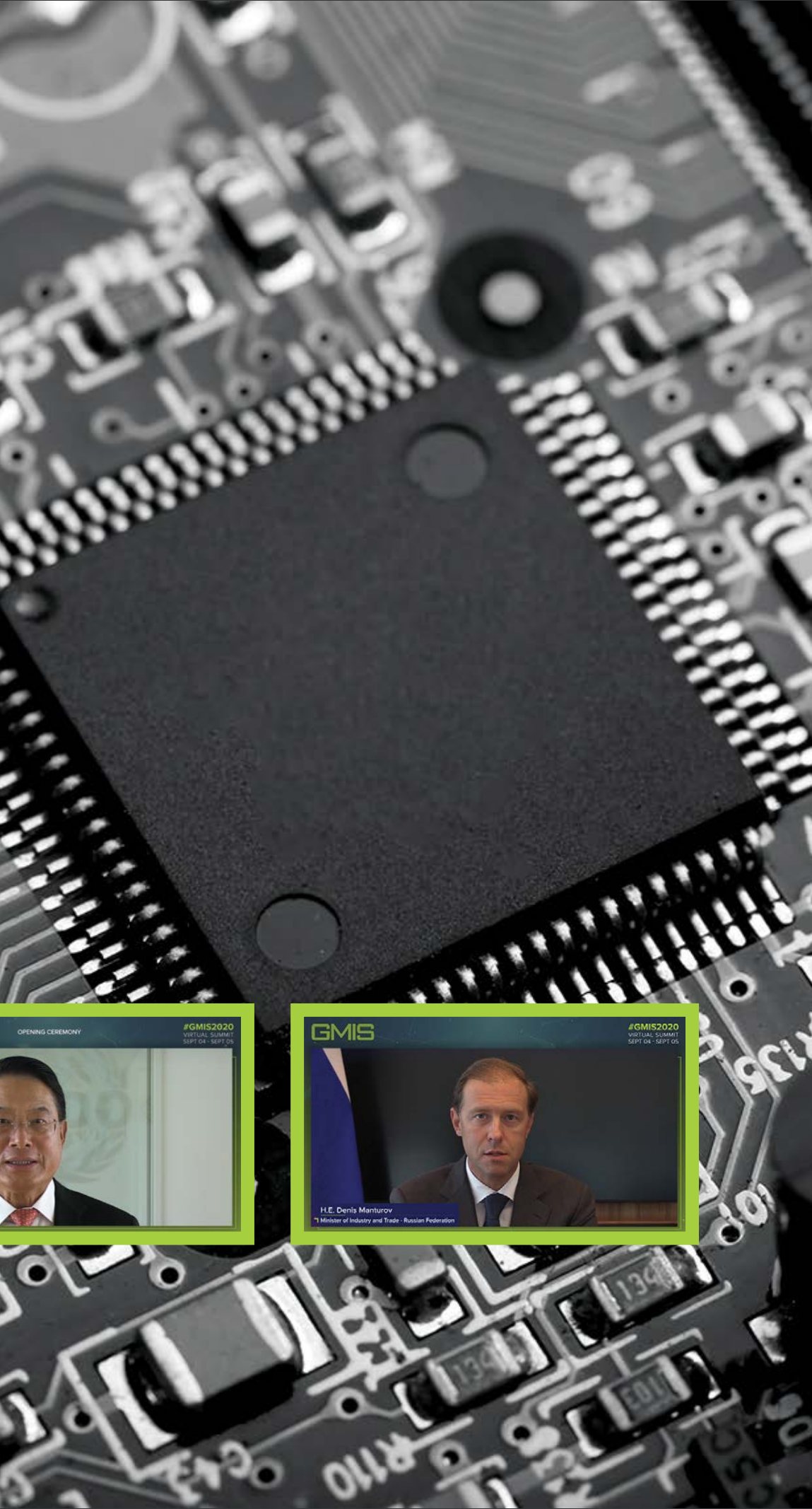
FRIDAY, SEPTEMBER 04, 2020



# #GMIS2020 VIRTUAL SUMMIT OPENING CEREMONY



[▶ WATCH DAY ONE HIGHLIGHTS](#)





DAY ONE:

# Welcome Address

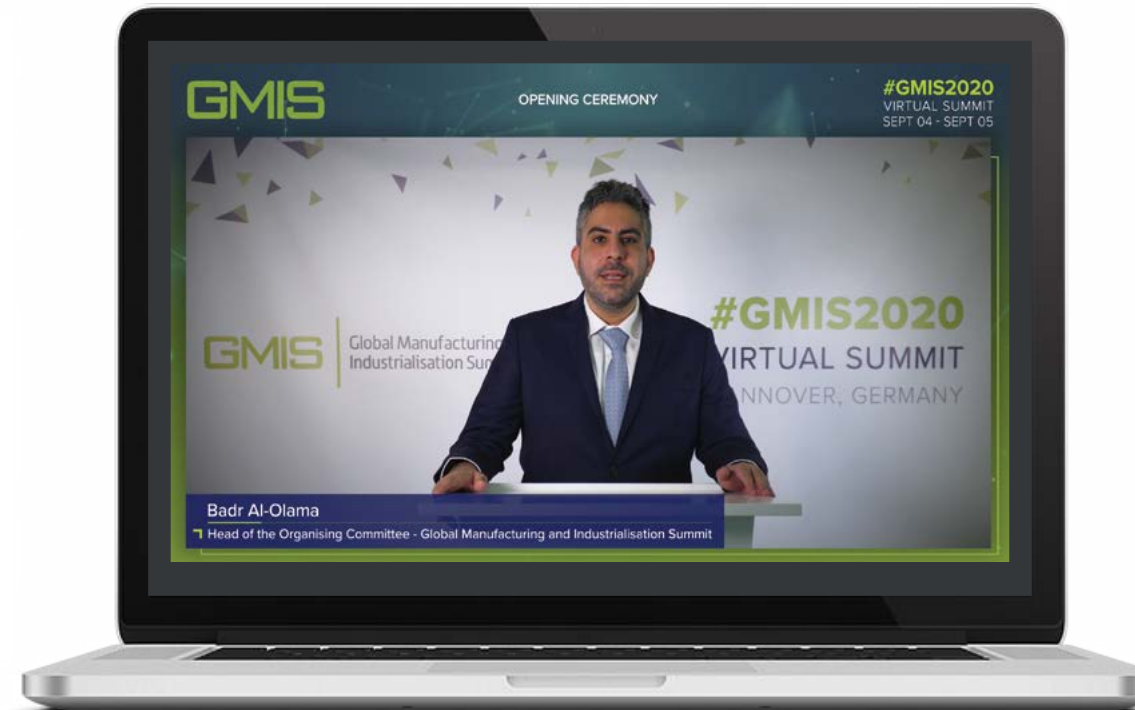
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## Badr Al Olama

Head of the Organising Committee, GMIS



The coronavirus has unfortunately hijacked our world. Practically no aspect of our lives has been left unscathed. The health and safety of every individual has become a primary concern. And in the process of protecting public health, immeasurable damage has been inflicted on our economies.

As challenging as this new reality may seem for most of us in the manufacturing sector, coupled with the geopolitical shifts and protectionist sentiments that have overwhelmed us in recent years, we must strike a sensible balance between having efficient and competitive supply chains whilst also securing necessary and flexible local capacity.

Overcoming these challenges requires a paradigm shift towards “collaborative management” between stakeholders. Private sector

companies should take the lead and accelerate the next evolution of digital capabilities, while governments should focus on providing the right policies and frameworks to embrace the Fourth Industrial Revolution.

Without a doubt, this industrial revolution will be key to resetting our future. We hold our destiny in our own hands. The decisions we take in the coming years will define our future and that of future generations. We owe it to them to plan for tomorrow rather than acting in the narrow self-interest of today. Let us work together and charter a new course towards a more inclusive, sustainable and prosperous world for all.





DAY ONE:

# Special Address

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## H.E. António Guterres Secretary-General, United Nations



The COVID-19 pandemic continues to present colossal challenges. The world's reliance on manufactured products can be seen clearly through the shortage of critical supplies and disruptions in global value chains. Yet we have also witnessed a leap in digitalisation in learning, working and connecting with others. Indeed, technology has the potential to restore business, improve industrial efficiency and safety, and fortify critical infrastructure. It can also help safeguard the environment and move towards a cleaner and more resilient world.

Efficient, green technologies can help to mitigate more than 70 per cent of today's emissions. Renewable energy is now cheaper than fossil fuels. We need industries to take rapid and ambitious steps that will get the world to carbon neutrality by 2050.

Some sectors have already started this transition, such as steel and auto-manufacturing. Others should accelerate, especially when

they have the know-how and the financial means. The information technology industry has a special responsibility.

We must also address vulnerabilities such as cybersecurity and the automation of labour-intensive jobs. Digital technologies must not increase the risk of unemployment for women or worsen economic and other inequalities.

The joint effort of the United Nations Industrial Development Organization and the United Arab Emirates in convening this platform is an opportunity to address these challenges as we pursue recovery from COVID-19.





DAY ONE:

# Opening Address

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## H.E. Dr. Sultan Ahmed Al Jaber

Minister of Industry and Advanced Technology, UAE



The theme of this year's summit – Sustainable and Inclusive Global Value Chains – couldn't be more timely. One of the key lessons of the COVID-19 pandemic has been that global supply chains are only as strong as their weakest link and this can put countries' health and economic wellbeing at risk.

The pandemic has pushed countries to build buffers into their inventories, reinforce resilience, and embrace the innovations of the 4IR. The UAE believes that advanced technologies have a vital role to play in protecting and enhancing global supply chains from global shocks. Artificial intelligence can transform the performance of industrial and

manufacturing sectors. Big data can give us faster insights into gaps and deficiencies. And machine learning can transfer essential knowledge and expertise from one sector to another.

The experience of this year has demonstrated just how interconnected the world's economies truly are. Now is the time to work even more closely together as a platform designed to build bridges between technologists, governments and industry. GMIS has a crucial role to play at a critical point in time and the UAE is more than ready to play its part as a constructive partner to all who wish to work with us.





DAY ONE:

# Opening Address

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**H.E. LI Yong**  
Director General, UNIDO



It is appropriate that the theme of this year's summit addressed glocalisation and value chains. Seldom has the general public been more aware of how closely interwoven international supply chains are, how much we depend on them for everyday goods and services, or how the 'global' affects the manufacturing sector almost as much as the 'local'.

Certainly, the year 2020 has brought a much-changed international environment, and few countries have emerged unscathed from the economic effects of the COVID-19 pandemic. UNIDO's Index of Industrial Production demonstrates this: a comparison of data for April 2020 and December 2019 shows that industrial output fell an average of 20 per cent in 93 per cent of countries.

In these extraordinary times, a sense of clarity is more important than ever. The Fourth Industrial Revolution (4IR) will not only impact the factory floor, but also wider society. No matter how influential, no one actor can control this phenomenon alone.

We can only hope to shape an inclusive and sustainable 4IR through building strong multi-stakeholder partnerships with representatives of national governments, multilateral organisations, the private sector, the research community, and civil society. With initiatives such as GMIS, we hope to convert theory and best practices into action on the ground.







DAY ONE:

# Special Address

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## H.E. Denis Manturov

Minister of Industry and Trade,  
Russian Federation

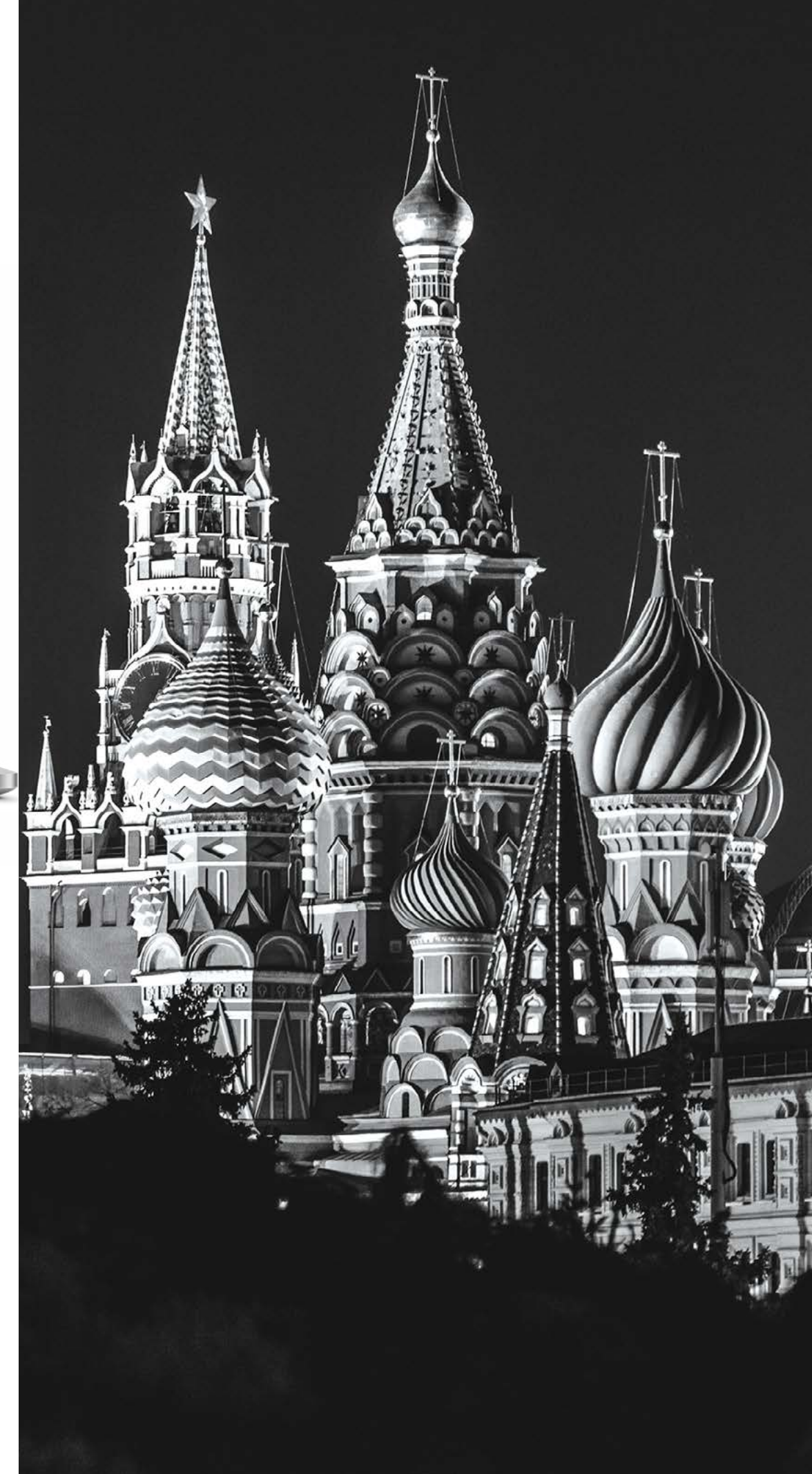


One of our prime objectives for 2020 is to tackle the spread of COVID-19. It is highly important for all of us to join our efforts together in response to the pandemic and its aftermath.

Regretfully, we are witnessing a highly negative impact, not only on the health and wellbeing of our citizens, but also on the economy. Though trade in services is one of the fields that has suffered the most, other sectors, including manufacturing, are also under pressure.

Yes, manufacturing is one of the first sectors to get back on track, but many companies and industrial sectors have suffered substantial losses.

We should completely revise the approaches that have defined our industrial and commercial ties for many years. Initiatives that were once considered medium or long-term priorities should be launched urgently. By that I mean increases in transparency and the predictability of trade regimes. In order to minimise the negative impact of the pandemic and get back on the tracks of sustainable development, it is necessary to lower tariff and non-tariff barriers to trade. This is the best way to achieve such critical goals as the increase in labour productivity and household incomes, striking a balance between the bio and technosphere.





DAY ONE:

# Keynote Address

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## H.E. Dr. Gerd Müller

Federal Minister for Economic Cooperation and Development, Germany



## GERMANY'S MARSHALL PLAN WITH AFRICA

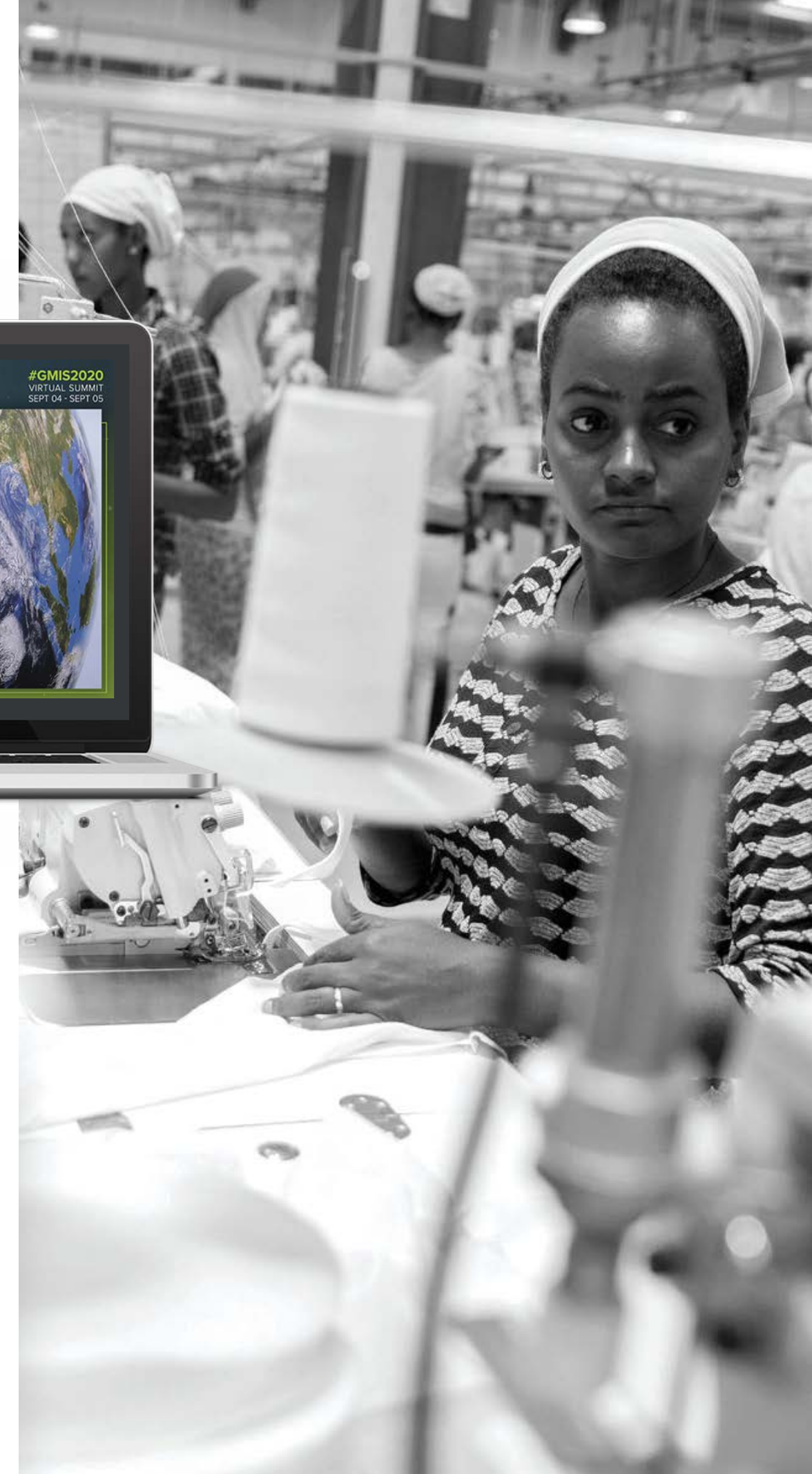


Africa is the continent of the future. Africa is dynamic: it is home to six of the world's 11 quickest-growing economies. Africa is rich: it has 89 per cent of the world's copper, cobalt, rare earth reserves. Africa is about opportunities: the new free trade zone creates a huge market of 1.2 billion people.

The other side of the coin is the fact that hunger affects almost 30 per cent of the people in Sub-Saharan Africa. The continent needs 20 million jobs per year – the impact of COVID-19 has only made the challenges greater. That is why I launched the Marshall Plan with Africa – with, not for Africa.

The plan is built on three pillars: economic activity, trade and employment; peace and security; and democracy and the rule of law. We have started a paradigm shift with the Marshall Plan, building reform partnerships with countries that are especially reform oriented, to jointly work on improving the environment for investment.

During Germany's EU presidency we want to take the Marshall Plan to the next level by promoting the idea of a new EU-Africa partnership. We will also need to integrate the lessons learned from the COVID-19 crisis in future action so as to make the next decade a Decade of Delivery.





DAY ONE:

# Fireside Chat

H.E. JOÃO MANUEL GONÇALVES LOURENÇO

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H.E. ALBERT M. MUCHANGA

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H.E. EBRAHIM PATEL

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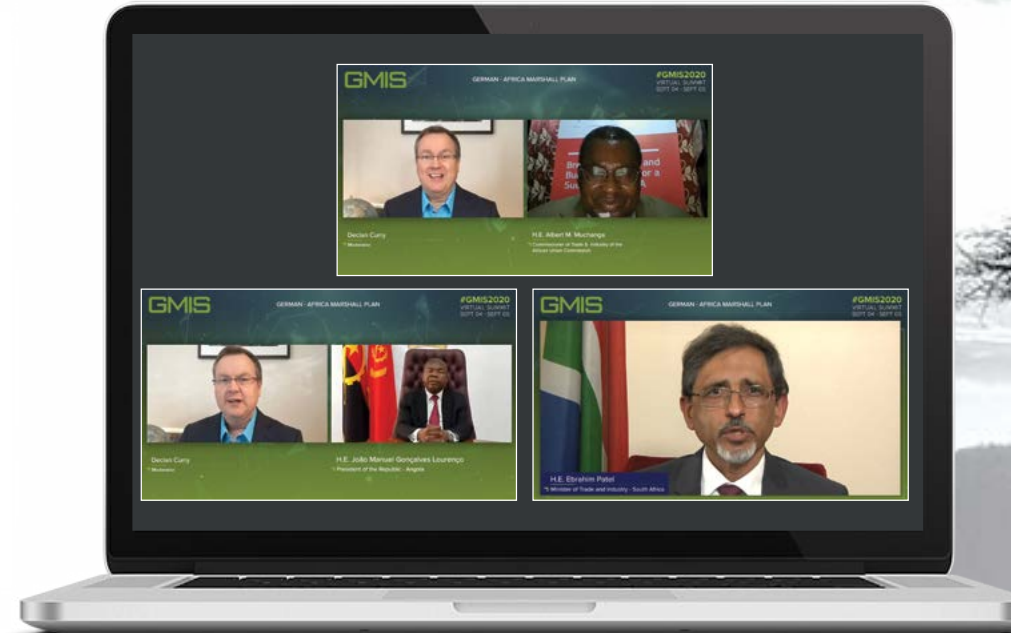
**H.E. JOÃO MANUEL GONÇALVES LOURENÇO**  
President of the Republic of Angola



**H.E. ALBERT M. MUCHANGA**  
Commissioner of Trade and Industry of the African Union



**H.E. EBRAHIM PATEL**  
Minister of Trade and Industry, South Africa



## GERMAN-AFRICA MARSHALL PLAN

Germany's Marshall Plan with Africa marks a new era of cooperation between Europe and Africa that could drive industrial development and deliver huge opportunities for Africa's fast-growing youth population.

This was the key message during an insightful discussion on the collaborative initiative, which aims to help bolster entrepreneurship and innovation and create the estimated 20 million new jobs needed in Africa every year.

H.E. João Manuel Gonçalves Lourenço, President of the Republic of Angola, stressed the need for strong government, appropriate oversight, and flexibility in implementing the plan.

"The Marshall Plan should focus the goals of the 2063 African Union agenda, whereby the EU and Africa should cooperate on a political, economic, social and cultural level in order to ensure the progress of our continent," said Lourenço. "On our side, we commit to forwarding the assistance that we'll be receiving to the right areas in order to ensure better monitoring in the implementation of different

programs. Weak leadership in projects is a waste of resources, and that is what we need to prevent."

H.E. Albert M. Muchanga, Commissioner of Trade and Industry - African Union Commission, emphasised the importance of public-private partnerships to help Africa develop new and sustainable opportunities for young people.

"For us to ensure that we dynamise the process of industrialisation and also try to leverage the opportunities offered by the Fourth Industrial Revolution, we need to develop a partnership among the governments, academia, and the private sector," said Muchanga. "We need governments to provide the policy framework and to provide public resources. And we need the private sector and academia to embark on vigorous training programmes as well as rigorous research and development programmes."

Representing H.E. Cyril Ramaphosa, President of South Africa, H.E. Ebrahim Patel, Minister of Trade and Industry of South Africa, spoke



**Germany's Marshall Plan with Africa marks a new era of cooperation between Europe and Africa that could drive industrial development and deliver huge opportunities for Africa's fast-growing youth population**



of the urgent need for Africa to start living up to its true potential by increasing its GDP and providing employment for a burgeoning youth population. Developing a strong manufacturing base, he said, was one way to shift from being a provider of raw materials and unprocessed agricultural products to becoming an importer of consumer goods.

“African countries are learning the hard lesson that we cannot remain simply exporters of raw materials and importers of finished goods like medical supplies and processed food products,” said Patel. “We must confront uncomfortable facts and deal with Africa’s position in the global economy. Africa has 17 per cent of the world’s population, yet only 3 per cent of the world’s GDP, 2 per cent of the global manufacturing output and 1 per cent of global steel production.”

### GERMANY’S MARSHAL PLAN WITH AFRICA



**H.E. JOÃO MANUEL GONÇALVES LOURENÇO**  
President of the Republic of Angola



**The Marshall Plan should focus the goals of the 2063 African Union agenda, whereby the EU and Africa should cooperate on a political, economic, social and cultural level in order to ensure the progress of our continent**



**H.E. ALBERT M. MUCHANGA**  
Commissioner of Trade and Industry of the African Union



**For us to ensure that we dynamise the process of industrialisation and also try to leverage the opportunities offered by the Fourth Industrial Revolution, we need to develop a partnership among the governments, academia, and the private sector**



**H.E. EBRAHIM PATEL**  
Minister of Trade and Industry, South Africa



**We must confront uncomfortable facts and deal with Africa’s position in the global economy. Africa has 17 per cent of the world’s population, yet only 3 per cent of the world’s GDP, 2 per cent of the global manufacturing output and 1 per cent of global steel production**





DAY ONE:

# Fireside Chat

H.E. SUHAIL MOHAMED FARAJ AL MAZROUEI

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H.E. ALEXANDER VALENTINOVICH NOVAK

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H.E. SUHAIL MOHAMED FARAJ AL MAZROUEI  
Minister of Energy and Infrastructure, UAE



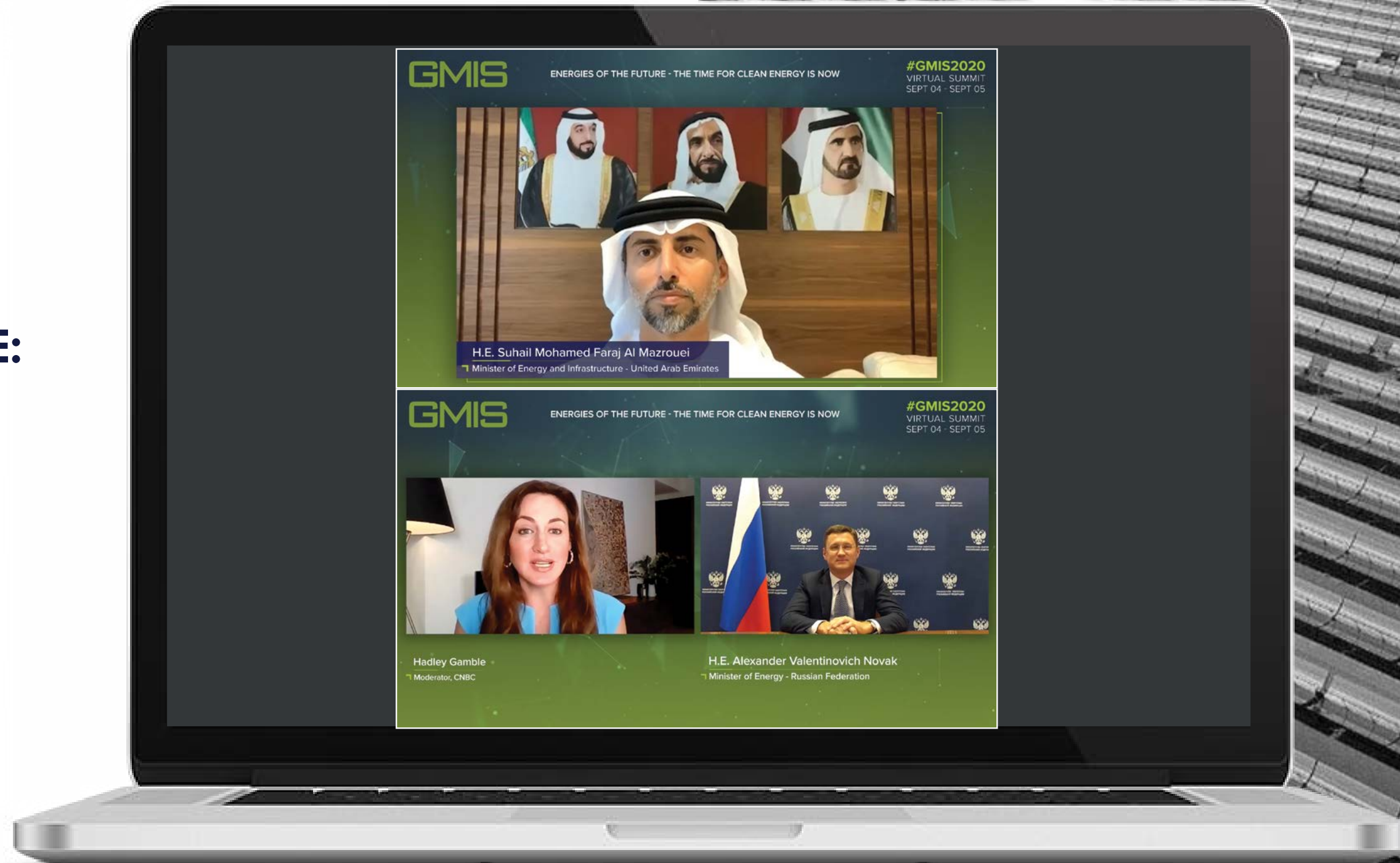
H.E. ALEXANDER VALENTINOVICH NOVAK  
Minister of Energy, Russian Federation

## ENERGIES OF THE FUTURE: THE TIME FOR CLEAN ENERGY IS NOW

The time for clean energy is now. That was the key message from a panel discussion on the energies of the future, with the energy ministers of major oil-exporting countries affirming their commitment to renewable energy.

The Ministers of Energy from the UAE and the Russian Federation discussed efforts to diversify their economies and shift towards a green economy. A shift that has become even more important in light of the COVID-19 pandemic.

H.E. Suhail Mohammed Faraj Al-Mazrouei, the UAE's Minister of Energy and Infrastructure, said the country took a long-term approach to energy planning and tackling climate change, with green energy expected to provide half the country's energy by 2050.



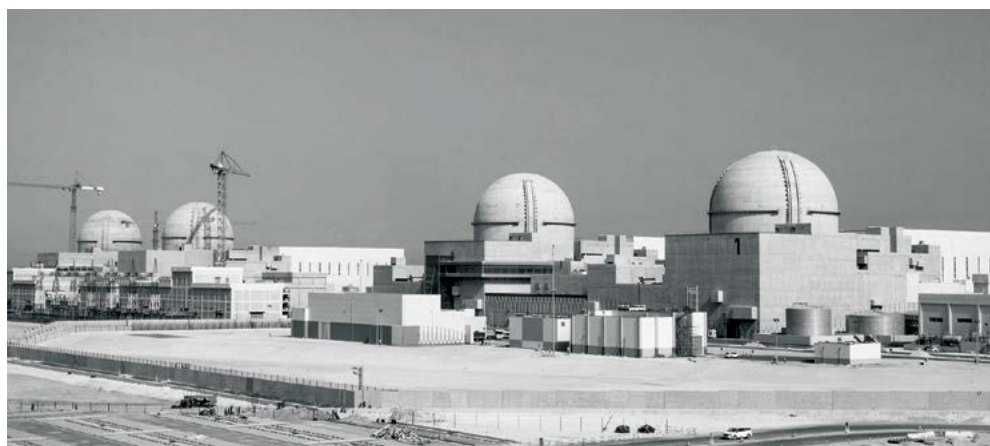


“In 2017 we looked at our options from energy sources and we looked at the targets and how we can make our cities among the world’s most liveable in the future,” said Al-Mazrouei. “And by 2050, we plan to shift from 100 per cent reliance on natural gas in 2017 to produce 50 per cent from green forms of energy.”

Solar will become the dominant contributor in the UAE energy mix with a 44 per cent share, which will cut CO2 emissions by 70 per cent and produce savings of \$190 billion versus natural gas. The UAE is also the first country in the Middle East to develop nuclear power, with the first of four reactors at the Barakah nuclear power now online. Nuclear will provide 24 per cent of the country’s power when all four reactors are eventually commissioned.

“The time is now,” said H.E. Alexander Valentinovich Novak, Minister of Energy of the Russian Federation, discussing the need to reduce dependency on carbon-based energies. “The structure of our energy balance is changing. The pandemic has influenced consumer behaviour but it was already changing. Demand for oil is falling at the moment and there’s a larger portion of non-carbon sources in the energy mix. Now hydrocarbons account for 85 per cent of that mix, but it needs to reduce to 74 per cent by 2040 and we’re seeing an investment increase of 5 per cent in green and renewable energy sources compared to last year.”

Novak said Russia is making steady progress towards developing renewable energy, having launched a programme in 2014 with the target of adding 6,000MW over a 10-year period to 2024 supported by government subsidies. Currently natural gas provides just under half of Russia’s energy production, with nuclear and hydroelectric power providing almost 20 per cent each.



### ENERGIES OF THE FUTURE: THE TIME FOR CLEAN ENERGY IS NOW



**H.E. SUHAIL MOHAMED FARAJ AL MAZROUEI**

Minister of Energy and Infrastructure, UAE



**H.E. ALEXANDER VALENTINOVICH NOVAK**

Minister of Energy, Russia



**In 2017 we looked at our options from energy sources and we looked at the targets and how we can make our cities among the world’s most liveable in the future”**

**“And by 2050, we plan to shift from 100 per cent reliance on natural gas in 2017 to produce 50 per cent from green forms of energy**



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DAY ONE:

# Keynote Address

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## H.E. Gen (Ret.) Luhut Binsar Pandjaitan

Coordinating Minister for Maritime Affairs and Investment, Indonesia

REPRESENTING H.E. JOKO WIDODO, PRESIDENT OF INDONESIA



## ENERGIES OF THE FUTURE



Indonesia is a large archipelagic country, blessed with a productive demographic and a variety of natural resources and cultures. Nevertheless, such blessings have made us historically complacent.

We realise that reliance on fuel exports is unsustainable – a fact made clear by the huge drop in natural resource prices during global-scale recessions such as the current pandemic.

Moving forward our resolution is to diversify our economy. According to data from Bloomberg, Indonesia has four out of seven components needed for lithium battery production, particularly copper, aluminium, nickel and cobalt, which highlights our potential. We are also striving to improve our human capital, inviting investors to cooperate with our ministry of industry to make vocational technology schools and use a more competitive local labour force.

In line with our concerns regarding global warming and our commitment to the Paris Agreement, we want to make sure that the investment coming in is environmentally sustainable.

Indonesia has had continual support from our dear friend the UAE, with regards to developing various initiatives and investment projects. One such initiative is the Sovereign Wealth Fund (SWF), in which we pool investor funds in various potential projects in order to develop Indonesia.

I invite everyone to invest in Indonesia to develop our Downstream Metal and Renewable Energy Industries – industries with nascent potential. We guarantee a smooth and lucrative experience for investors.





DAY ONE:

# Fireside Chat

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**H.E. HOULIN ZHAO**  
Secretary General, ITU



**H.E. LI YONG**  
Director General, UNIDO

## GEARING UP FOR A MANUFACTURING RENAISSANCE

Lack of investment and the rise of protectionism threaten the world's ability to spread internet connectivity to the half of the global population currently living without it. That was the warning from Li Yong, Director General, UNIDO, and Houlin Zhao, Secretary General, ITU, during a discussion on the impact of COVID-19 on Foreign Direct Investments (FDI).

Zhao said that by some estimates investment of around \$100 billion could be needed to achieve universal, affordable and good quality internet access just in Africa by 2030. "We would like to see everybody connected affordably by 2030, so this is a real challenge," he said. "Those that are not connected yet live mainly in poor or remote areas, and you cannot just use the same strategy to bring these people online. This will require investment and the only way is through public-private partnerships. And in the ICT field, we know that the majority of investments come from private sector."

Asked how countries would work together to find the investment needed to achieve universal connectivity when some countries have been withdrawing into intellectual protectionism, Yong said: "Protectionism is really an obstacle to multilateralism, to technology advancement.

And also, it will hurt the private sector's ability to innovate. And this is something that will stop things moving forward. We should stand together to fight against protectionism."

The UNIDO Director General also emphasised strong policymaking and partnerships for global digitalisation, saying: "Without good policies from governments to start a good programme for the digitalisation process... the countries will not move because the digitalisation infrastructure must have strong support from the governments. And the second thing is the private sector should be actively encouraged to be involved in digital technology development. This is a very important process and the international community also needs to work together, particularly in addressing the big gap between advanced countries and developing countries."

Yong also stressed a number of UNIDO interventions to help MSMEs adjust to the pandemic, such as publishing a guidebook to business recovery, as well as repurposing of manufacturing towards production of PPE and training and upskilling initiatives. He also underlined the necessity of industrial strategy, citing the cooperation with the Government of Egypt on their national industrial development policy.





FRIDAY, SEPTEMBER 04, 2020

▶ ▶ ▶  
**#GMIS2020 VIRTUAL SUMMIT  
WORKING GROUPS**



**GMIS LEADERSHIP  
PROGRAMME**



**GLOBAL INITIATIVE FOR FUTURE  
INDUSTRIAL SAFETY**



**GENDER-RESPONSIVE AND  
INCLUSIVE MANUFACTURING**



**INCLUSIVE AND SUSTAINABLE  
INDUSTRIAL PERFORMANCE INDEX**



## DAY ONE:

# GMIS Leadership Programme

GMIS gathered a cross-section of experts from leading global organisations to develop a **Leadership Programme** aimed at shaping future global leaders who prioritise advancing humanity and promoting global prosperity.

By adopting a holistic, human-centric approach using experiential training at a work placement, the programme will combine cultural, technological, and change management experiences with a journey of transformational human development and sustainability experiences.



Participants in the working group included Sama Mbang, Head of Digitalisation and Simulation of Manufacturing Load Cases, Daimler; Chris Moehle, Managing Director, The Robotics Hub; and Bernard Meyerson, Chief Innovation Officer Emeritus, IBM.

“More and more companies are gradually giving due weight to addressing the world’s biggest challenges, but to accelerate this process we need education programmes which are inclusive, global in outlook, and bridge the gaps between academia and industry,” said Meyerson. “The GMIS Leadership Programme can help to create future leaders equipped with the skills needed to take on these tough challenges by harnessing the most advanced technologies.”

### Action Points

- ▶ There is a need to increase understanding amongst future industry leaders about the importance of their role in society. The working group recommends seeking means to equip ourselves and future industrialists in leading safely and responsibly.
- ▶ Knowledge transfer and sharing is much more impactful if an experimental approach is taken, through experiential processes and through convergence of education, bringing together different disciplines.
- ▶ The working group will aim to create mechanisms to help build alumni networks centered around a 4IR curriculum that will foster knowledge sharing, innovation and implementation.

### Participants in the working group included:



**SAMA MBANG**  
Head of Digitalization & Simulation of Manufacturing Load Cases, Daimler



**CHRIS MOEHLE**  
Managing Director, The Robotics Hub



**RUTH BOUMPHREY**  
Director of Research, Lloyd’s Register Foundation (LRF)



**TSUNG PING CHUNG**  
Chief of the Strategic Planning and Coordination Division at UNIDO



**HUSSEIN MURAD**  
CEO, Inspiratus Group and Eupepsia



**BERNARD MEYERSON**  
Chief Innovation Officer Emeritus, IBM



**SRDJAN SUSIC**  
Director of Conservation, Emirates Nature-WWF



**DAVID LEAL-AYALA**  
Principal Policy Consultant – Manufacturing Technology & Innovation Policy at Policy Links, Institute for Manufacturing, University of Cambridge



**KEITH JEFFREY**  
Founder, BreakThrough Coaching & Consulting



**BRIAN VIDIC**  
Director of Partnerships, Office of Economic Partnerships, University of Pittsburgh



DAY ONE:

# Global Initiative for Future Industrial Safety

GMIS created a working group to help drive and develop the **Global Initiative for Future Industrial Safety**, which is aimed at ensuring the safety of workers and the public as manufacturers adopt emerging Fourth Industrial Revolution technologies. The initiative, a partnership between Lloyd's Register Foundation, the United Nations Industrial Development Organization (UNIDO) and the Global Manufacturing and Industrialisation Summit (GMIS), aims to bridge the gaps between academia, industry, regulators, NGOs and governments.

“Emerging trends in technology such as big data, cloud computing, robotics, and 3D printing, are changing the industrial environment very quickly,” said Professor Richard Clegg, Chief Executive, Lloyd's Register Foundation. “Governments, regulators, and business leaders must work at a similar pace to ensure these new technologies are adopted safely, and keep workers and the public safe in the future. We are excited to be working in partnership with GMIS

and UNIDO to develop a new global programme that will promote safety in the future of industry.”

**Action Points**

- ▶ The 4IR has brought to light the need to work on protocols to enhance safety of human workers and the environment globally and help procedures and workers ease into new models of work and collaboration.
- ▶ The working group aims to actively participate in the formulation of standards and promote knowledge sharing and capacity building, through inter alia open databases of best practice examples and joint international training programmes.
- ▶ Given the existence of several sub-domains of industrial safety and 4IR, dedicated workstreams will be established to advance the discussion and help build consensus on best available solutions, or develop them when necessary.

**Participants in the working group included:**



**JOAQUIM PINTADO NUNES**  
Chief of the Labour Administration, Labour Inspection and Occupational Safety and Health Branch, International Labour Organisation (ILO)



**MICHAEL TOOMA**  
Managing Partner, Australia Clyde & Co



**IRINA SOKOLOVA**  
Head of International Relations Department Federal Environmental, Industrial and Nuclear Supervision Service of Russia, Rostekhnadzor



**JANE ZAVALISHINA**  
CEO and President, Mechanica AI



**EVGENY GONCHAROV**  
Head Kaspersky Lab ICS CERT



**JOHN MARSHALL**  
CEO, World Ethical Data Forum



**JC SEKAR**  
CEO, Acuizen Technologies



**KATE FIELD**  
Global Head Health, Safety and Wellbeing, British Standards Institution (BSI)



**ROBERT JEFFERSON**  
Medical Director Occupational Health, International SOS



**NIKKI MCCULLOUGH**  
Global Application Engineering and Regulatory Manager, Personal Safety Division, 3M





## DAY ONE:

# Gender-Responsive and Inclusive Manufacturing

This GMIS working group is looking at ways to promote a **Gender-Responsive and Inclusive Manufacturing sector**. Evidence suggests that the developments seen across the manufacturing sector disproportionately benefit men in comparison to women.

However, important strides have recently been made to encourage more women to pursue an education in the science, technology, engineering and mathematics (STEM) fields. It is now critical that these positive developments translate to a more gender-diverse workforce in the manufacturing sector.



The virtual working group included Loubna Bouarfa, CEO, OKRA Technologies; Ismail Abdulla, CEO, Strata Manufacturing; and Dr. Alina Sorgner, Assistant Professor of Applied Data Analytics in the Department of Business Administration, John Cabot University.

“In the new digital age, the rapid spread of under-developed AI models has resulted in the fragmentation of our society,” said Bouarfa. “Bias is ramping up, in both the physical and digital world. I am a firm believer in the value of diversity, from the way we build our teams to the way we test our algorithms. All stakeholders in society need to embrace diversity and learn to be comfortable addressing human and algorithmic biases.”

### Action Points

- ▶ To reap the full benefits of the 4IR, targeted gender-responsive actions, policies and investments are essential. However, the lack of current research on the topic underscores the need to initiate the debate for evidence-based policy advice in this field.
- ▶ The working group resolves to promote evidence-based industrial policies and recommendations for a gender-responsive and inclusive 4IR.
- ▶ Priority focus areas for an inclusive industrial future include inter alia redressing the gender digital divide, and promoting technology-driven, innovative solutions to systemic barriers faced by women and girls to lead, participate in and benefit from industrial development.

### Participants in the working group included:



**ISMAIL ABDULLA**  
CEO, Strata Manufacturing



**LOUBNA BOUARFA**  
CEO, OKRA Technologies



**HIROSHI KUNIYOSHI**  
Deputy Director General, and  
Managing Director, External  
Relations and Policy Research,  
UNIDO



**DR. ALINA SORGNER**  
Assistant Professor of Applied  
Data Analytics in the Department  
of Business Administration, John  
Cabot University



**PROFESSOR SIRIN TEKINAY**  
Dean of Engineering, American  
University of Sharjah





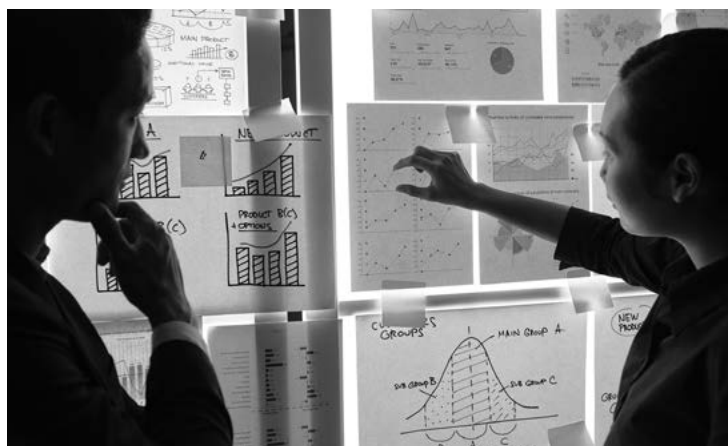
DAY ONE:

# Inclusive and Sustainable Industrial Performance Index

Experts from world-leading organisations came together in this GMIS working group to help drive and develop a new **Inclusive and Sustainable Industrial Performance Index** that will help measure the Environmental, Social, and Corporate Governance (ESG) performance of public and private sector entities.

A virtual meeting of the working group focused on the need and opportunity to develop an index which would successfully integrate the economic, environmental, social and governance dimensions of industrial development and the manufacturing sector, and which would take into account considerations pertaining to 4IR and impact investment.

Moderating the session, Fernando Cantu Bazaldua, Chief Statistician, UNIDO, said: “The Fourth Industrial Revolution cannot function without high quality data, statistics and knowledge products, as these are fundamental for evidence-based policymaking and monitoring inclusive and sustainable industrial development.”



Participants in the working group included Valentin Todorov, Senior Manager, UNIDO, Kate Field, Global Head Health, Safety and Wellbeing British Standards Institution (BSI), Nathan Fabien, Chief Responsible Investment Officer, UN Principles for Responsible Investments (UNPRI) and Maria del Sorbo, Monitoring, Indicators & Impact Evaluation Unit, Joint Research Center (JRC) of the European Commission.

“Advanced innovation is underpinned by data,” said Del Sorbo. “For an inclusive and sustainable future of manufacturing, we must ensure that digital industries are built on reliable, comparable, robust and disaggregated data.”

### Action Points

- ▶ The working group recognises the need to design and develop a new index to measure ISID that reflects all its complexities and that is useful to monitor performance and guide policymakers, firms and practitioners.
- ▶ The ISID index should provide a general framework that allows firm-level and country-level measurements to be aligned and contribute to monitoring ISID. It should offer hard evidence to set up baselines, measure progress, promote impact investment and identify best policies.
- ▶ UNIDO, as the custodian of the SDG 9 indicators on ISID, and GMIS are committed to provide support throughout the inception phase of the working group to mobilise resources and ensure the engagement of support partners and experts from different domains.

### Participants in the working group included:



**FERNANDO CANTU BAZALDUA**  
Chief Statistician, UNIDO



**SORIN COHN-SFETCU**  
ISO 56008 Project Leader for Innovation Measurements, International Organization for Standardization (ISO)



**RENE KAMP**  
Professorial fellow at UNU-MERIT and Professor of Innovation and Sustainable Development at ICIS, Maastricht University



**VALENTIN TODOROV**  
Senior Manager, UNIDO



**NATHAN FABIEN**  
Chief Responsible Investment Officer, UN Principles for Responsible Investments (UNPRI)



**JOSE PINEDA**  
Senior Researcher, United Nations Development Programme (UNDP)



**KATE FIELD**  
Global Head Health, Safety and Wellbeing British Standards Institution (BSI)



**MARIA DEL SORBO**  
Monitoring, Indicators & Impact Evaluation Unit, Joint Research Center (JRC) of the European Commission



**JOHN MARSHALL**  
CEO, World Ethical Data Forum



**RAKESH AQARWAL**  
Chief Risk officer & Accounting Expert, Reliance Industries Ltd

SATURDAY, SEPTEMBER 05, 2020

# #GMIS2020 VIRTUAL SUMMIT DAY TWO

**GMIS** A TRILLION-DOLLAR QUESTION - IN AN AGE OF DIGITAL RESTORATION, HOW ARE LEADERS REPURPOSING OUR ECONOMIES TO DEAL WITH A POST-CRISIS ERA? #GMIS2020 VIRTUAL SUMMIT SEPT 04 - SEPT 05

John Defferios  
\* CHN Emerging Markets Editor

H.E. Khaldoon Al Mubarak  
\* Managing Director and Group CEO - Abu Dhabi Investment Company

Joe Kaeser  
\* President and CEO - Siemens AG

Dariusz Adamszyk  
\* Chairman and CEO - Honeywell

Jean Pascal Tricoire  
\* Chairman and CEO - Schneider Electric

**GMIS** 4IR FOR A MORE RESILIENT MANUFACTURING SECTOR? #GMIS2020 VIRTUAL SUMMIT SEPT 04 - SEPT 05

Laura Buckwell  
\* Moderator

H.E. Marcos Pontes  
\* Minister of Science, Technology & Innovation - Brazil

Hon. Mattia Fantinati  
\* Member of the House of Representatives - Italian Parliament

Dr. Steven Walker  
\* Vice President & CTO - Lockheed Martin

Anders Fredholm  
\* Vice President, Global Business Development Leader for Industrial Products & Chemistry - 3M

T.V. Narendran  
\* President, Delegate, CEO & CEO & Managing Director - Tata Steel Limited

**GMIS** GLOBALISATION: FROM GLOBAL TO LOCAL? #GMIS2020 VIRTUAL SUMMIT SEPT 04 - SEPT 05

Declan Curry  
\* Moderator

Dr. Volker Treier  
\* Chief Executive of Foreign Trade & Member of the Executive Board - Association of German Chambers of Industry and Commerce (DIHK)

Dr. Nicholas Garrett  
\* CEO - RCS Global - UK

Nan Cunhul  
\* Chairman of CHN Group & Vice Chairman of CNE

**GMIS** THE POLICYMAKERS' CHALLENGE: NAVIGATING THROUGH A RECESSION #GMIS2020 VIRTUAL SUMMIT SEPT 04 - SEPT 05

John Defferios  
\* CHN Emerging Markets Editor

Arkady Dvorkovitch  
\* Chairman - Skolkovo Foundation

H.E. Nurul Majid Mahmud Humayan  
\* Minister of Industries - Bangladesh

Hon. Soraya Hakuziyaremye  
\* Minister of Trade and Industry - Rwanda

▶ WATCH DAY TWO HIGHLIGHTS PT.1

▶ WATCH DAY TWO HIGHLIGHTS PT.2



DAY TWO:

# Welcome Address

▶ WATCH FULL VIDEO

▶ WATCH HIGHLIGHTS



## Dr. Jochen Köckler

Chairman of the Managing Board of Deutsche Messe AG



This year in April, together with our partners from GMIS, we planned to stage the Global Manufacturing and Industrialisation Summit (GMIS) at Hannover Messe. It would have been a perfect match. The 3,000 participants of GMIS would have had the opportunity to exchange ideas about the challenges and solutions of our industrial future and they would have had the chance to see the technological solutions at the booths of the 6,000 exhibitors of the Hannover Messe.

But due to the COVID-19 pandemic the Hannover Fair could not take place as planned. Therefore, we organised a virtual Hannover Messe in July, just like the virtual version of GMIS.

We believe that the partnership between GMIS and Hannover Messe is more important than ever in these times. And the exchange about the impact of the pandemic, but also about what the global industry and 4IR can contribute to overcome this crisis, is crucial.

What is the future of globalisation? Is local the new global? What effects will digitalisation, automation, robotics have in this new era? I am convinced that after these virtual exchanges we will have a clearer picture of the future and will tackle the challenges of our time with new ideas, impulses and a new approach.





DAY TWO:

# Keynote Address

▶ WATCH FULL VIDEO

▶ WATCH HIGHLIGHTS



## H.R.H. Hussein bin Abdullah II

Crown Prince, Jordan



### RESTORING PROSPERITY IN A POST-PANDEMIC WORLD



As the pandemic overtook our world, the first instinct of some may have been to turn inwards. However, physical distancing should not mean operating in silos. We need each other, now more than ever, if we are to truly overcome COVID-19 and its far-reaching implications.

This crisis has exposed the weaknesses in our world – social injustice, income inequality, and poverty. But by doing so, it has also shown us what we can do to make it better.

Instead of abandoning our global system of cooperation and multilateralism, Jordan, led by His Majesty King Abdullah II, believes a better global integration is the way forward – a re-globalisation that builds on the strengths and resources of each of us, for the benefit of all, ensuring global synergy and prosperity.

Instead of falling into the trap of nationalism, protectionism, and division, we can choose global solidarity and economic reconstruction. Every country has something to offer. And Jordan is ready to play its part, to become a regional hub to counter COVID-19, its repercussions, and future challenges, capitalising on its medical supplies, pharmaceutical and ICT sectors.

Throughout history, global crises have brought out the best and worst of humankind. Let us not fail the test this time. Let us choose to be the best that we can be, for the shared prosperity of our world.







DAY TWO:

# Keynote Address

▶ WATCH FULL VIDEO

▶ WATCH HIGHLIGHTS



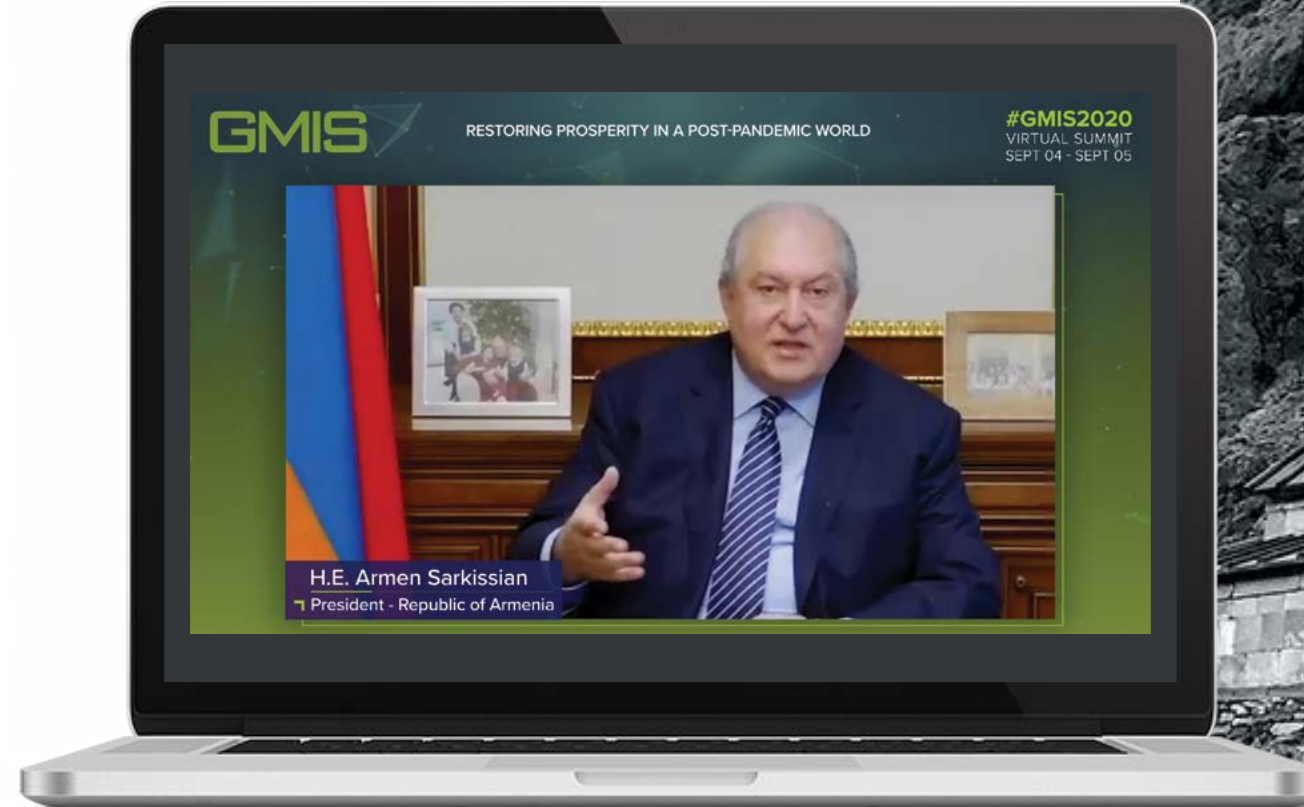
**H.E. Armen Sarkissian**  
President, Armenia

## RESTORING PROSPERITY IN A POST-PANDEMIC WORLD



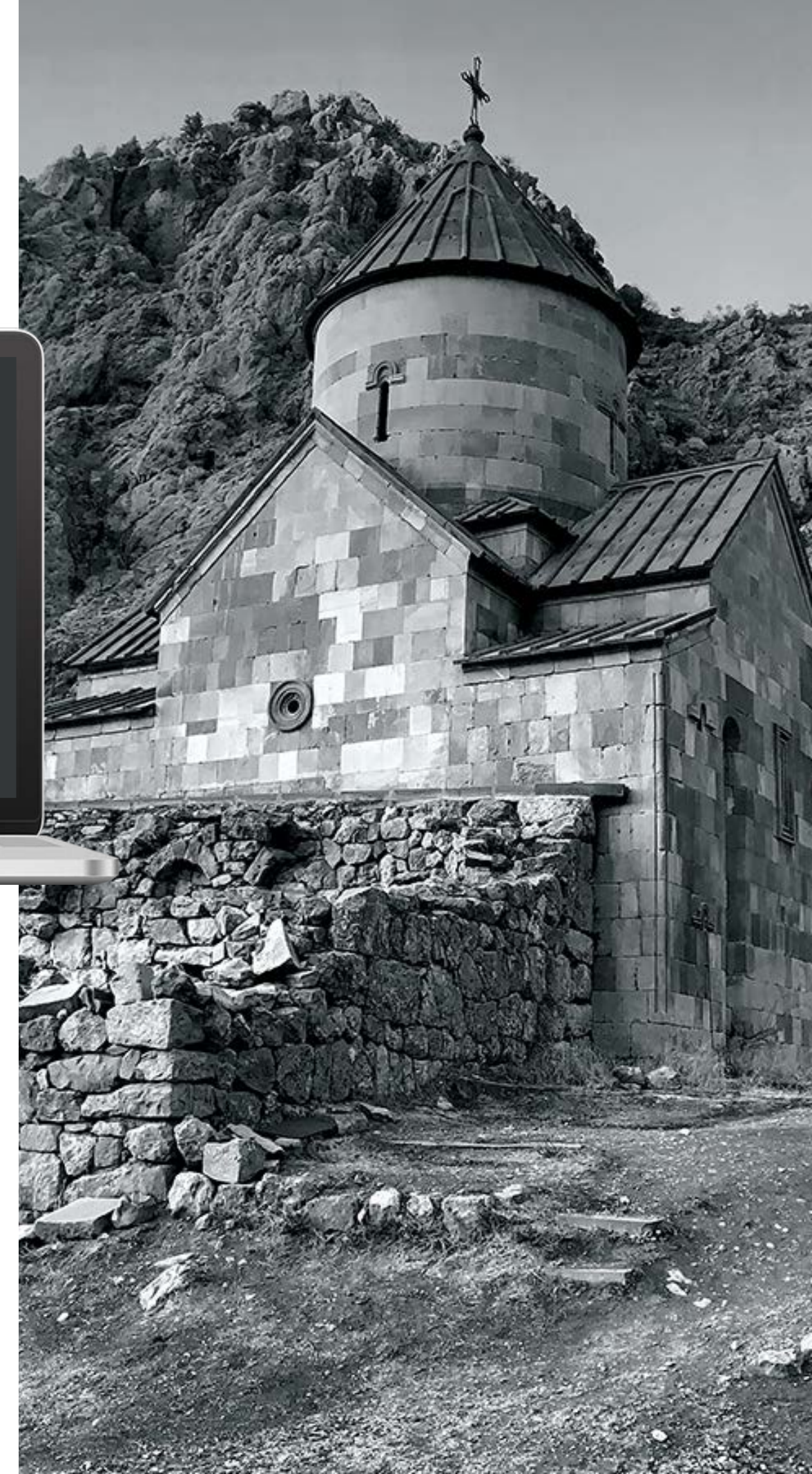
What's the future? It's investing in education, science and new technology. That's why, as president, I have an initiative called ATOM (Advanced Tomorrow) which is creating joint ventures in artificial intelligence, in biotech, and in other new technologies. We are also organising international conferences and helping to boost Armenia into the future.

I hope, and I believe, that it is possible to make a small country an advanced one. We have so many examples – Singapore, the UAE, Israel, Luxembourg – that have been smart. They have one thing in common. They are investing in science and technology and education first. That's the path to the future.



That is why I am also focusing on an initiative called A Club of Small and Smart. I've been speaking to leaders of several successful small states and advocating an idea that we should create a club. This is not an alliance. This is not an international organisation. This is not for something or against something. This is just a place where we come together and share our experiences.

Go back 30 years. Who could have imagined that a small state from the Gulf would send its scientific equipment to Mars. Unimaginable. But it's reality today. There is a new world opening for small and smart states. And I want to make Armenia one of them.





DAY TWO:

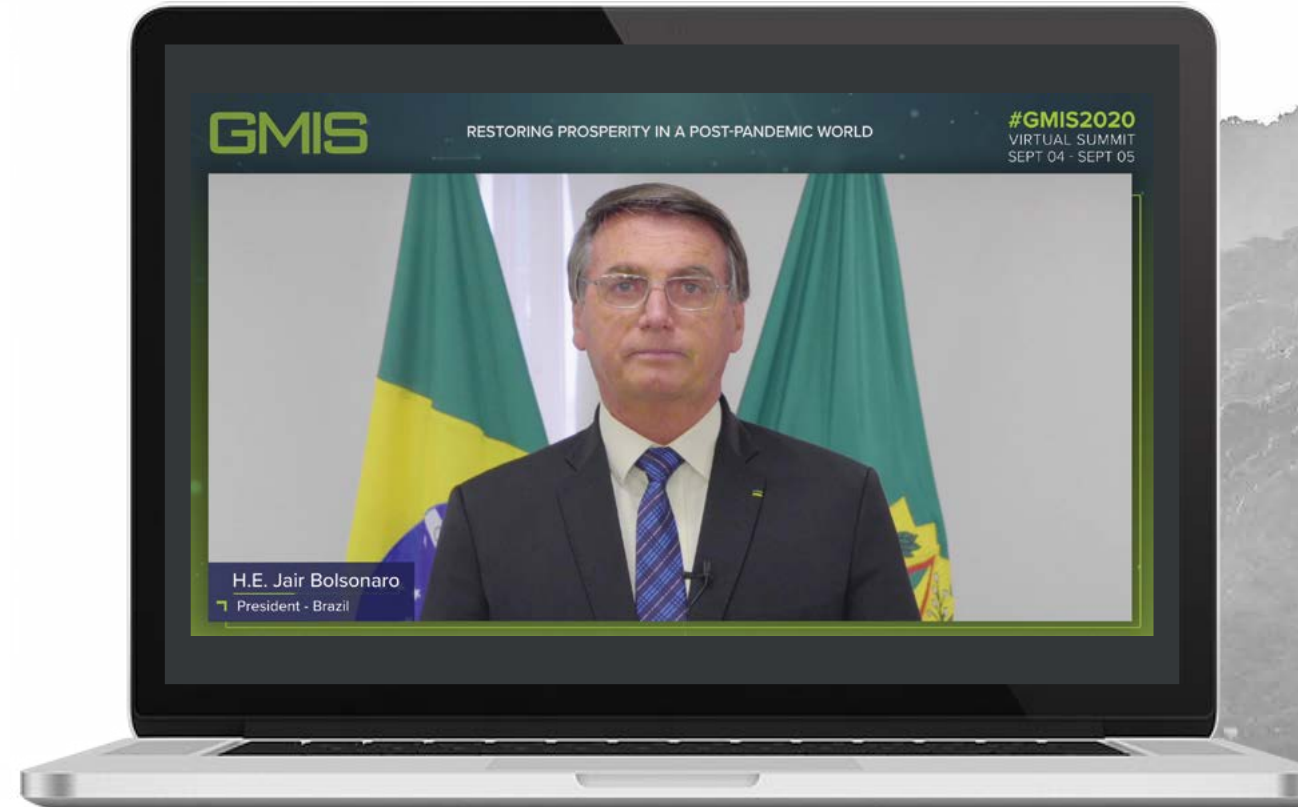
# Keynote Address

▶ WATCH FULL VIDEO

▶ WATCH HIGHLIGHTS



**H.E. Jair Bolsonaro**  
President, Brazil



## RESTORING PROSPERITY IN A POST-PANDEMIC WORLD



We will join forces with our partners to mitigate those distortions in global productive activity that the pandemic has made even more evident. It is a fact that certain regions have come to dominate some stages of the production chain and, as a result, the rest of the world has become dependent on the supplies they manufacture. It is this imbalance which causes shortages particularly of personal protective equipment and pulmonary ventilators. If the supply of such items were not restricted to such a small group of countries the cost of the pandemic in human lives would have been lower.

The pandemic has also highlighted the fact that a small group of manufacturers concentrates the production of active ingredients and medicines. In Brazil we face similar difficulties to those of many other

countries in order to secure the supply of masks, respirators and pharmaceutical supplies. Nevertheless, we have had practically no deaths caused by hospitals being under-equipped or to the lack of proper assistance.

The long-term response to the situation of shortages that we are dealing with lies with the further integration of a larger number of countries into global chains and Brazil is ready to do its part, attracting investments and doing more and better. To that end our government has been pursuing an ambitious economic modernisation agenda for sustained growth. We are steadily turning Brazil into a more dynamic place for entrepreneurs and wealth creators. We are committed to a more efficient state, a freer economy, a more open country.





DAY TWO:

# Keynote Address

▶ WATCH FULL VIDEO

▶ WATCH HIGHLIGHTS



## H.E. Samdech Akka Moha Sena Padei Techo Hun Sen

Prime Minister, Cambodia



## RESTORING PROSPERITY IN A POST-PANDEMIC WORLD

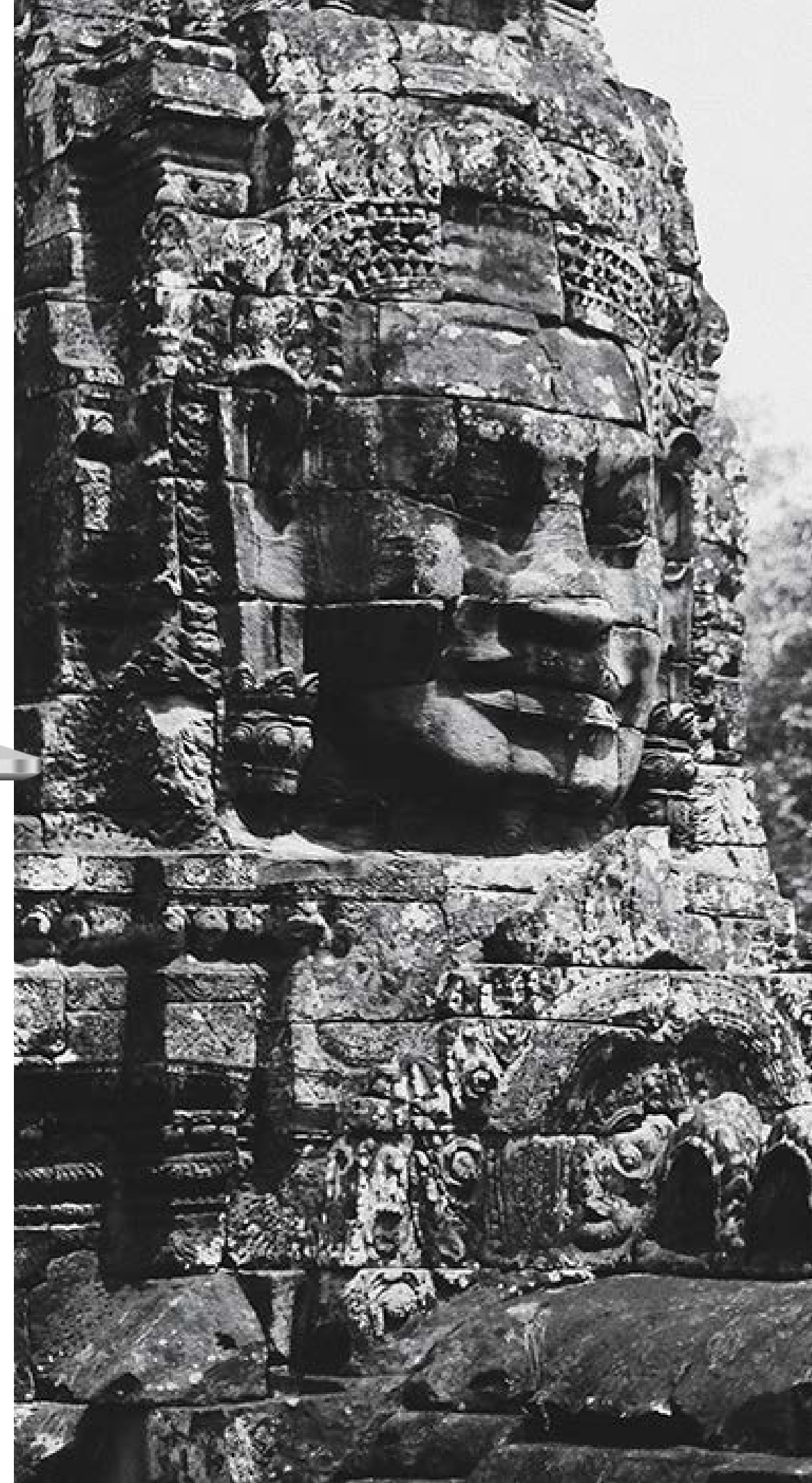


It has been nine months since the entire world began to fight against the COVID-19 pandemic, which has created an unprecedented crisis. Until now, despite impressive progress in vaccine development, there is no certainty of when the pandemic will end. Similarly, nobody can precisely estimate the impact of the pandemic on all aspects of lives in each country.

To restore prosperity we should respond urgently and responsibly to overcome this challenge through the implementation of pragmatic strategies and actions that are aimed at strengthening the value of peace, dignity and solidarity. In this sense, each country should play a more active and interactive role in global governance in a flexible, constructive and responsible manner. Especially when it comes to

maintaining peace and security – the key prerequisites for trade and long-term, sustainable and prosperous growth for all.

At the same time, we should continue strengthening the momentum of globalisation, which has significantly contributed to economic growth and the reduction of poverty. Everything is connected and interconnected. In this context, we must ensure that our cooperative mechanisms maintain a spirit of open-mindedness and we continue to support multilateral trade by speeding up our social and economic interlinkages to support each country's development in a sustainable and inclusive manner.





DAY TWO:

# Panel Discussion

▶ WATCH FULL VIDEO

▶ WATCH HIGHLIGHTS



**H.E. KHALDOON AL MUBARAK**  
Managing Director and Group  
Chief Executive Officer, Mubadala  
Investment Company



**DARIUS ADAMCZYK**  
Chairman and CEO,  
Honeywell



**JEAN-PASCAL TRICOIRE**  
Chairman and CEO,  
Schneider Electric



**JOE KAESER**  
President and CEO,  
Siemens



## A TRILLION-DOLLAR QUESTION: IN AN AGE OF DIGITAL RESTORATION, HOW ARE LEADERS REPURPOSING OUR ECONOMIES TO DEAL WITH A POST-CRISIS ERA?

The world faces a protracted economic recovery from the COVID-19 crisis, despite the benefits of advanced technology, the potential imminent development of a vaccine, and government stimulus packages. That was one of the key warnings from this keynote discussion on the repurposing of economies for a post-crisis era.

The CEOs of Mubadala Investment Company, Siemens, Honeywell and Schneider Electric were united in their praise of swift government action taken to protect jobs and businesses. However, they warned that this would likely lead to a period of economic stagnation in 2021, and possibly even through 2022.

“We have seen the positive economic reaction to the financial steps taken by most governments, particularly in the large economies around the world,” said Khaldoon Khalifa Al Mubarak, Managing Director and Group Chief Executive Officer, Mubadala Investment Company. “Getting back to a more stable period of economic activity, and visibility into business growth, will take time.”

Darius Adamczyk, Chairman and CEO of Honeywell, agreed that governments had acted quickly and decisively and said that attention must now turn to financing the vast economic stimulus that has been required to support the world’s economies during the pandemic. “There’s been an incredible level of stimulus in the United States, the EU and other economies as well,” he said. “Now governments around the world are going to have to figure out a smart way to pay for this that doesn’t damage the economies going forward.”

For Jean-Pascal Tricoire, Chairman and CEO of Schneider Electric, there is a danger that a lost generation of youth will struggle to find opportunities in the coming years. “Protective measures have understandably focused on vulnerable older people in our societies, but the people who are getting punished because they can’t get jobs are the youngsters, and they are the future of our world,” he said. “We work closely with governments and other institutions to propose internships, and try to make sure that there is not a generation that is left behind.”

Joe Kaeser, CEO of Siemens, added that it was vital for government rescue packages to be channeled into the right areas. “It’s crucially important that we not only have trillions of dollars of government money and stimulus, but also that this money is invested into future-oriented and not backward-oriented industries, because they are going to die anyway,” he said. “And if we are not mindful about this today, we risk forfeiting much of the future.”





**A TRILLION-DOLLAR QUESTION:** IN AN AGE OF DIGITAL RESTORATION, HOW ARE LEADERS REPURPOSING OUR ECONOMIES TO DEAL WITH A POST-CRISIS ERA?



**H.E. KHALDOON AL MUBARAK**

Managing Director and Group Chief Executive Officer, Mubadala Investment Company



**DARIUS ADAMCZYK**

Chairman and CEO, Honeywell



**JEAN-PASCAL TRICOIRE**

Chairman and CEO, Schneider Electric



**JOE KAESER**

President and CEO, Siemens



**We have seen the positive economic reaction to the financial steps taken by most governments, particularly in the large economies around the world”**

**“Getting back to a more stable period of economic activity, and visibility into business growth, will take time**



**There’s been an incredible level of stimulus in the United States, the EU and other economies as well,” he said. “Now governments around the world are going to have to figure out a smart way to pay for this that doesn’t damage the economies going forward**



**Protective measures have understandably focused on vulnerable older people in our societies, but the people who are getting punished because they can’t get jobs are the youngsters, and they are the future of our world**



**The reform starts with partnering of industry and education together, listening to each other about what are the industry needs, what can the academia deliver and fusing them together, both in a traditional setting, but also with work-based training within the companies**





DAY TWO:

# Keynote Address

▶ WATCH FULL VIDEO

▶ WATCH HIGHLIGHTS



## Patrice Caine

Chairman and CEO, Thales Group



## REPURPOSING OUR ECONOMIES TO DEAL WITH A POST-CRISIS ERA



Times like these are truly defining moments since they test and demonstrate a company's purpose and commitment to its customers in a world facing an unprecedented crisis. Today, we are collectively more aware of a number of issues — healthcare, sustainable development, sovereignty and autonomy, resilience — and we have also become better able to adapt to the unexpected.

As the world is getting increasingly unpredictable, it's vital that people have confidence in the ability of institutions and companies to perform their roles and successfully address the challenges ahead. What has become evident this year is that agility and resilience are at the forefront of adapting to a new normal and building a future we can all trust.

Technology and digitisation have been our biggest assets in recent times. We often talk about the digital transformation of our world, the value of the new practices and use cases arising from the digital evolution. These technologies have become an essential part of our daily lives. They have created a lifeline that keeps us connected both personally and professionally.

We have to continue building on the solid foundations we laid before the crisis. Together we will therefore be able to strengthen our resilience in the face of this crisis. And we look forward to continuing on this journey with our partners and customers in the UAE and throughout the world.





DAY TWO:

# Panel Discussion

▶ WATCH FULL VIDEO

▶ WATCH HIGHLIGHTS



**H.E. MARCOS PONTES**  
Minister of Science, Technology, Innovations and Communications, Brazil



**DR. STEVEN WALKER**  
Vice President and Chief Technical Officer, Lockheed Martin



**ANDERS FREDHOLM**  
Vice President and Global Business Development Leader, IBM Corporation



**T V NARENDRAN**  
President-Designate, CII (2020-21) and CEO & Managing Director, Tata Steel Limited



**HON. MATTIA FANTINATI**  
Member of the Italian Parliament's Commission on Productive Activities, Commerce and Tourism, Italy



## 4IR FOR A MORE RESILIENT MANUFACTURING SECTOR?

The velocity of change forced upon manufacturers by the COVID-19 pandemic has made the need to build resilience a business imperative. And the most effective way to build resilience is to adopt the technologies of the Fourth Industrial Revolution (4IR).

As H. E. Marcos Pontes, Minister of Science, Technology, and Innovations of Brazil explained, business resilience in a 4IR world is built on three factors; infrastructure, the environment, and the workforce. Yet implementing a technology-led resilience strategy at a national level is highly complex.

“We have different government and state governments in each part of Brazil, meaning coordination of change is a challenge,” said Pontes. “In addition, we must all consider significant variances in the skills of the workforce across the country so as we plan campaigns to prepare our workforce for digital transition, we must consider the issue of social differences in each of the region.”

“Most developed economies have adopted a different approach to building business resilience that reflects their own political,

economic, cultural and social system,” agreed Hon. Mattia Fantinati, Member of the House of Representatives of the Italian Parliament and Special Advisor to the Italian Minister of Technological Innovation and Digitalisation. “But investing in technology that can improve and scale up technological ability is necessary but a monumental task.”

The panel agreed that it is vital for manufacturers the world over to build resilience by adopting smarter, risk-adjusted business models to safeguard supply chains in an environment when lockdowns could reoccur at any time.

“COVID-19 has revealed the fragility of the global economy and supply chains,” said Anders Fredholm, Vice President, Global Business Development Leader for Industrial Products and Chemicals & Petroleum Industries, IBM. “At IBM, we are seeing greater demand for technology that better ties supply chains together, improving their agility and flexibility – something we need now, more than ever. We need technology that unleashes innovation rather than restricting the agility.”

Steven H. Walker, Vice President and Chief Technology Officer of Lockheed Martin Corporation, supported this view, stating that the importance of protecting the wider supply chain became a priority during the pandemic. “We are very dependent on our supply chain, so with support of the US government we have helped push cash flow along the chain,” he said. “For example, in July alone Lockheed Martin was able to pass about \$750 million to our supply chain to keep the chain strong, working and employed.”

As T V Narendran, President-Designate, CII (2020-21) and CEO & Managing Director, Tata Steel Limited, said: “Business resilience takes on a very different meaning in an interconnected world. What happens in one part of the world impacts someone sitting many thousands of miles away and therefore, whilst the ability to withstand cyclical, to be globally competitive and to operate in different macroeconomic conditions is one thing, the ability to anticipate and prepare for risks that are playing out in different parts of the world in real time, is now a major part of being successful.”



### 4IR FOR A MORE RESILIENT MANUFACTURING SECTOR?



**H.E. MARCOS PONTES**

Minister of Science, Technology, Innovations and Communications, Brazil



**DR. STEVEN WALKER**

Vice President and Chief Technical Officer, Lockheed Martin



**ANDERS FREDHOLM**

Vice President and Global Business Development Leader, IBM Corporation



**T V NARENDRAN**

President-Designate, CII (2020-21) and CEO & Managing Director, Tata Steel Limited



**HON. MATTIA FANTINATI**

Member of the Italian Parliament's Commission on Productive Activities, Commerce and Tourism, Italy

▶▶▶

“We have different government and state governments in each part of Brazil, meaning coordination of change is a challenge”

“We must all consider significant variances in the skills of the workforce across the country so as we plan campaigns to prepare our workforce for digital transition, we must consider the issue of social differences in each of the region

””

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We are very dependent on our supply chain, so with support of the US government we have helped push cash flow along the chain”

“For example, in July alone Lockheed Martin was able to pass about \$750 million to our supply chain to keep the chain strong, working and employed

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””

▶▶▶

Most developed economies have adopted a different approach to building business resilience that reflects their own political, economic, cultural and social system”

“But investing in technology that can improve and scale up technological ability is necessary but a monumental task

””





DAY TWO:

# Keynote Address

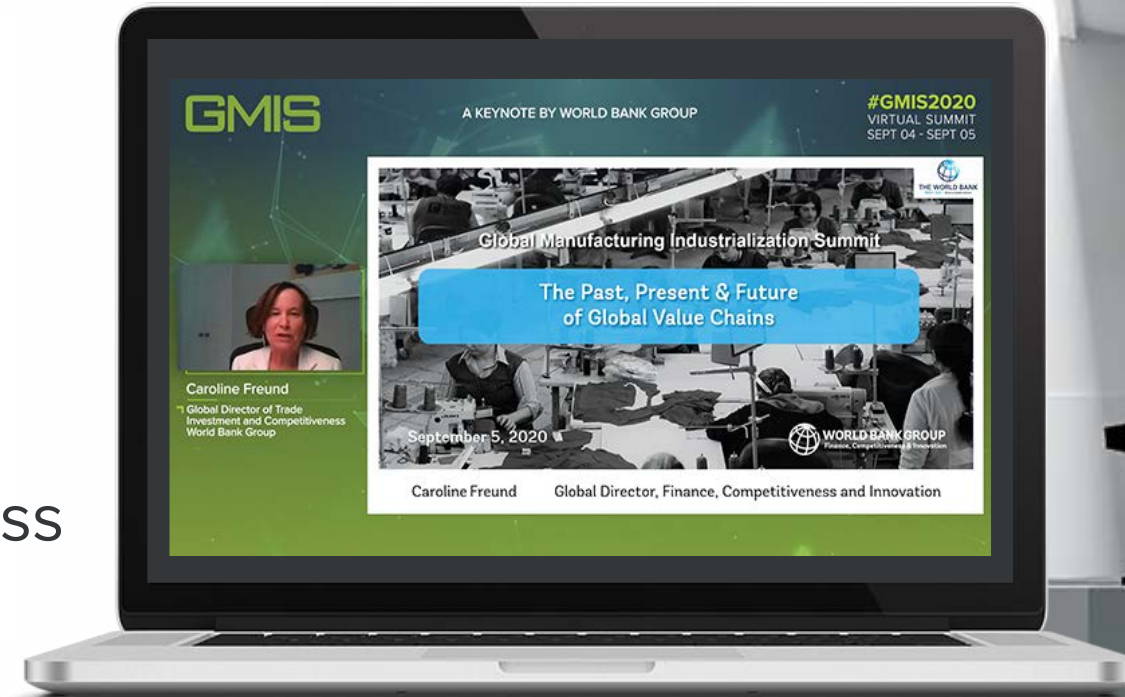
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## Caroline Freund

Global Director, Finance, Competitiveness and Innovation, World Bank Group



## THE PAST, PRESENT AND FUTURE OF GLOBAL VALUE CHAINS



What can we do to promote a more resilient recovery from the pandemic and maintain (and even expand) the benefits provided by global supply chains?

One is domestic policy reforms – reducing barriers to business and investment to keep finance flowing, preserve jobs and build a more sustainable economy.

Another is the adoption of technology. And this is kind of a silver lining to this crisis. Firms are adopting more digital processes for payments, for selling goods, for working with other businesses, and that will persist. Where firms find productivity gains, they're going to continue those into the future.

There's also more of a realisation of the dangers of climate change and the need for a focus on the sustainability agenda. We've already seen it at country levels and firms will be more cognisant of things they can do to reduce waste, recycle, and focus on conservation.

And finally, there's a real need for more global cooperation. We may not be in a position in the world economy where we see a lot of cooperation, but the way to solve a pandemic – the way to solve problems with domestic resource mobilisation because of shifting taxes and to ensure that medical goods or a vaccine are shared – is through greater cooperation.





DAY TWO:

# Panel Discussion

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▶ WATCH HIGHLIGHTS



**DR. VOLKER TREIER**

Chief Executive of Foreign Trade and Member of the Executive Board, DIHK, Germany



**DR. NICHOLAS GARRETT**

CEO, RCS Global, UK



**NAN CUNHUI**

Chairman of CHINT Group, China



## GLOCALISATION: FROM GLOBAL TO LOCAL?

A rise in protectionism across the global economy, triggered by COVID-19, threatens to setback 30 years of globalisation and could result in disruptive changes to the structure of global value chains. This was one of the key warnings from speakers during a panel discussion on Glocalisation.



“Right now, we have a setback in globalisation, a setback in investment, which is especially affecting the trading of goods,” said Dr. Volker Treier, Chief Executive of Foreign Trade and Member of the Executive Board, DIHK, Germany. “We have to take into account that there is a certain trend towards nationalist behaviour to protect very high-value goods like medical equipment and vaccines to dampen the effects of the virus. Globally there is a greater threat that crucial imported goods cannot enter countries because these trade barriers are being built up even stronger than before the pandemic.”

Treier said Germany had taken similar actions at the beginning of the crisis, restricting exports of crucial goods, especially those related to healthcare. However, it had since reconsidered this approach. “We did have export restrictions, but this provokes or could provoke other countries to introduce tit-for-tat measures. So, we eliminated this because we do understand that this is not the way a country like Germany should behave.”





Nan Cunhui, Vice Chairman, CHINT Group, China, said the China-US trade conflict could also determine the future of global value chains. "The most important factors affecting the future direction of global supply chains would still be the factor costs of countries and the way China-US trade frictions are heading," said Cunhui. "Over the past few decades, due to the rapid growth of China's manufacturing sector, the global supply chain has shown a strong tendency of concentration. In the future, as China's factor costs rise, security would be an increasingly big concern that will drive the global supply chain system toward diversification and decentralisation."

Another factor influencing Global Value Chains is growing customer consciousness of ethical production, especially in the West, over the origins of the products they buy and how they have been produced.

Dr. Nicholas Garrett, CEO, RCS Global, said technologies such as blockchain are being used to build stronger supply chains that offer traceability to demonstrate the origin of a product, and credible sustainability assurance data. "These are full value chain wide systems connecting companies that are linked through trade, through a technology platform, and this ultimately enables companies to reduce risk, to add significant value to their products," said Garrett. "Ultimately, this yields major market advantages, risk management and efficiency advantages."



### GLOCALISATION: FROM GLOBAL TO LOCAL?



**DR. VOLKER TREIER**

Chief Executive of Foreign Trade and Member of the Executive Board, DIHK, Germany



**We did have export restrictions, but this provokes or could provoke other countries to introduce tit-for-tat measures. So, we eliminated this because we do understand that this is not the way a country like Germany should behave**



**DR. NICHOLAS GARRETT**

CEO, RCS Global, UK



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**NAN CUNHUI**

Chairman of CHINT Group, China



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DAY TWO:

# Keynote Address

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## H.E. Nevein Essam El Din Gamea Minister of Trade and Industry, Egypt

REPRESENTING H.E. ABDEL FATTAH AL-SISI, PRESIDENT OF EGYPT



### GLOBAL VALUE CHAINS AND EGYPT'S ROLE IN AFRICA



Egypt believes in the importance of regional and international cooperation and the strengthening of joint industrial integration frameworks in a way that contributes regionally to the achievement of sustainable development goals.

Egypt has strengthened cooperation with many African countries with the aim of implementing a number of joint industrial development programmes and projects. This, in turn, contributes to supporting joint trade and manufacturing ventures and increases the competitiveness of value-added chains all around Africa.

I invite all international partners to cooperate with Egypt and UNIDO in implementing its industrial programme, and to set this programme as a

pioneering and effective model for empowering developing countries to enhance their industries and create a better future for their peoples.

We highly appreciate the current efforts of UNIDO to assist SMEs in adopting sustainable business models, promoting good and sustainable practices in industrial production, as well as integrating the circular economy into value chains.

More effort is needed to ensure the implementation of joint industrial projects in African countries and to make the best use of Egyptian industrial capabilities. If these efforts are sustained it will help achieve the full realisation of these joint industrial projects, and the accomplishment of the Sustainable Development Goals in Africa.





DAY TWO:

# Keynote Address

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## H.E. Bandar bin Ibrahim Al-Khorayef

Ministry of Industry and Mineral Resources, KSA



### THE POLICYMAKERS' CHALLENGE: NAVIGATING THROUGH A RECESSION



If we think about this pandemic and its effect on the industrial sector, the whole supply chain has been interrupted in a way that the world has not witnessed in the past. The overall dynamics of efficiency are under question, and we are going to see so many things change going forward.

We all understand the difficulties that economies are facing. We have managed to deal with this in Saudi Arabia by creating the right government structure to address the different needs of the private sector in a timely fashion. We also had to create different initiatives that dealt with cash flow difficulties.

This pandemic is going to push us to adopt new technologies such as artificial intelligence and 3D printing much faster than we thought. In Saudi Arabia, we view this as an opportunity. We have what it takes in terms of financial resources, in terms of the setting and in terms of the direction, but most importantly we have the required talent. We have a lot of young people who are well educated and will be able to accommodate these technologies. It's an avenue for them to enter into the industrial sector through this technology.





DAY TWO:

# Panel Discussion

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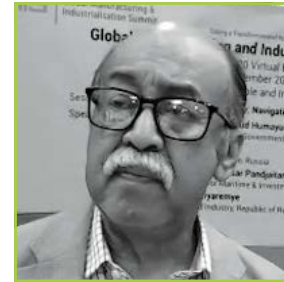
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**ARKADY DVORKOVICH**  
Chairman, Skolkovo  
Foundation, Russia



**HON. SORAYA  
HAKUZIYAREMYE**  
Minister of Trade and Industry,  
Republic of Rwanda



**H.E. NURUL MAJID  
MAHMUD HUMAYUN**  
Ministry of Industries,  
Bangladesh

## THE POLICYMAKERS' CHALLENGE: NAVIGATING THROUGH A RECESSION

The development of a COVID-19 vaccine will be crucial to the full recovery of the global economy by the end of 2021, said policymakers from the public sector during a discussion on the cooperation required to kickstart manufacturing amid the COVID-19 pandemic.

Arkady Dvorkovich, Chairman, Skolkovo Foundation, Russia, said his country's recently developed vaccine could provide an answer. "I think the development of the new vaccine against COVID-19 is really critical to stabilise the global economy," he said. "We believe that the vaccine that has been developed in Russia recently is safe. It's not going to be an overnight solution for the manufacturing sector, but the development of vaccines gives the hope that a reasonable timeframe for improvement is the end of 2021."





Dvorkovich added that the disruption to global value chains caused by the pandemic had encouraged more local production in Russia and many other countries. However, he warned against countries going down the path of introducing protectionist measures in response to the pandemic.

“More and more localisation is going on all around the world, including in Russia,” he said. “But what we are trying to do is to find out what are the critical things to produce in Russia rather than turning the whole economy into an island. We have a future export potential, and if we close our markets for other countries then other countries will do the same towards our products.”

In East Africa, regional cooperation is playing an important role in keeping supply chains moving during the crisis, said Hon. Soraya Hakuziyaremye, Minister of Trade and Industry, Republic of Rwanda, who attended the Summit on behalf of H.E. Paul Kagame, President of the Republic of Rwanda.

“Of course, this unprecedented pandemic has come with its challenges,” said Hakuziyaremye. “Rwanda is a landlocked country, so the supply chain disruption means that our manufacturing industry has seen its transport costs go up, with access to all materials disrupted. It was critical for the East African region to harmonise the response to COVID-19 and this has somewhat mitigated the risk that our industries are facing.”

For H.E. Nurul Majid Mahmud Humayun, Minister of Industries, Bangladesh, striking a balance between embracing the digital technologies of the Fourth Industrial Revolution and ensuring ongoing job security is a priority.

“For a country like Bangladesh, where two million people are entering the job market every year, poverty alleviation is the major challenge, and there’s a substantial amount of low-income people who are directly engaged in low-skilled manufacturing jobs,” he said. “To realise the dream of a digital Bangladesh, we are preparing to embrace the benefits of all 4IR technologies, keeping a fine balance between modernisation and job creation for the masses.”

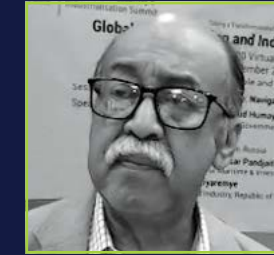
### THE POLICYMAKERS’ CHALLENGE: NAVIGATING THROUGH A RECESSION



**ARKADY DVORKOVICH**  
Chairman, Skolkovo Foundation,  
Russia



**HON. SORAYA HAKUZIYAREMYE**  
Minister of Trade and Industry,  
Republic of Rwanda



**H.E. NURUL MAJID MAHMUD HUMAYUN**  
Minister of Industries, Bangladesh



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DAY TWO:

# Panel Discussion

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**CHRIS MOEHLE**  
Managing Director,  
Coal Hill Ventures and  
the Robotics Hub, USA



**DR. SUSANNE BIELLER**  
General Secretary,  
International Federation  
of Robotics, Germany



**CHRISTIAN PIECHNICK**  
CEO & Co-Founder,  
Wandelbots, Germany



**DR. GARY FEDDER**  
Howard M. Wilkoff Professor  
of Electrical and Computer  
Engineering, Carnegie  
Mellon University



## RISE OF THE MACHINES: ROBOTS IN A POST-PANDEMIC WORLD

Fears that automation and robotics will lead to mass unemployment are unfounded. That was the key message from a panel discussion on the impact of Fourth Industrial Revolution technologies on the global workforce.

What's more, robots and automation free people from manual processes, enabling them to spend more time on strategy and value-add activities.

“At no point has an increase in automation, even in the same short-term period, led to a net decrease in jobs or a net decrease in pay,” said Chris Moehle, Managing Director, Coal Hill Ventures and the Robotics Hub. “This is kind of a stepping stone to better jobs, more resilient societies, and a better future.

“Increased automation is something that is ultimately better for the workforce. That has been the case consistently for over a century. What

that means is that when we fully reopen after the pandemic there will be a different workflow and a different workspace, and therefore the jobs will also be different to what people left in March too.”

Discussing the hesitance of some segments of society to embrace robots, Susanne Bieller, General Secretary, International Federation of Robotics, Germany, said: “It’s our job to convince people that robots are there to help humans and that it should be a pleasure to work with them. I’m very hopeful that the younger generations that have grown up with digital technologies will understand that robots are cool tools but that they will still be the ones in control.”

On the subject of education, Bieller added: “It’s a collaborative effort, so we have to get the SMEs, the start-ups, the large-scale end-users of robots, as well as the educational institutes and governments all at the same table to discuss what the future will look like, what skills are needed, and how we can teach them to students and the workforce of the future.”

“The combination of digital technology and mechanical and electrical is a big thing for kids, right?” asked Christian Piechnick, CEO & Co-Founder, Wandelbots. “And if you integrate it wisely into a school education, you can draw attention to engineering right away because you can use it in many, many classes. And in 10 years from now, you will get a workforce who just have grown up with the technology, being able to then drive the next wave of new technologies.”

Gary Fedder, Howard M. Wilkoff Professor of Electrical and Computer Engineering, and Faculty Director, Manufacturing Futures initiative at Carnegie Mellon University, added: “The reform starts with partnering of industry and education together, listening to each other about what are the industry needs, what can the academia deliver and fusing them together, both in a traditional setting, but also with work-based training within the companies.”





**RISE OF THE MACHINES: ROBOTS IN A POST-PANDEMIC WORLD**



**CHRIS MOEHLE**

Managing Director, Coal Hill Ventures and the Robotics Hub, USA



**DR. SUSANNE BIELLER**

General Secretary, International Federation of Robotics, Germany



**CHRISTIAN PIECHNICK**

CEO & Co-Founder, Wandelbots, Germany



**DR. GARY FEDDER**

Howard M. Wilkoff Professor of Electrical and Computer Engineering, Carnegie Mellon University



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DAY TWO:

# Keynote Address

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## Olga Golodets

Former Deputy Prime Minister, Russian Federation,  
Deputy Chairman of the Executive Board, Sberbank

### PUSHING THE LIMITS IN THE HEALTHCARE, TELECOMS, AND EDUCATION SECTORS



The pandemic has significantly changed attitudes in society towards various industries. New technologies, like telemedicine platforms, remote monitoring devices and AI, have come to the forefront.

We are now past the acute stage of the pandemic, but we can see that the elevated demand for new technologies has remained in place. The pandemic experience has accelerated the application of new solutions everywhere – in medical education, in consultation, in nursing and in patient support.

In this area, Sberbank, the largest finance and tech company in Russia, has created a platform that can monitor chronically ill patients in real time. This system uses special sensors to track the

patient's condition and notify the doctor if something goes wrong. Changes can be quickly made in the course of a treatment.

The mission of healthcare is changing today. In the past, the main mission was only to treat a patient. Today, the main mission is not only to treat a patient but also to preserve health and prevent disease. New technologies are helping to choose the right approach to preventive care. People have started to use special applications and programs to actively track their health on a daily basis, and the job of professionals is to help them in the most effective and efficient way.

I am quite sure that the discussion at GMS will help the participants to generate ideas that will ensure access to good quality healthcare, education and other spheres for all people in the world.





DAY TWO:

# Panel Discussion

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**H.E. HUSSAIN AL HAMMADI**  
Minister of Education, UAE



**EDWARD ZHOU**  
Vice President for Global  
Public Affairs, Huawei  
Technologies



## PUSHING THE LIMITS IN THE HEALTHCARE, TELECOMS AND EDUCATION SECTORS: BENT, BUT NOT BROKEN?

The COVID-19 pandemic has been the catalyst for a massive adoption of advanced technologies in the healthcare, education and telecommunications sectors, heard a discussion on the impact of the pandemic on the education and telecoms sectors.

Demand for telemedicine consultations rose 60-fold in the US alone, while over 1.2 million students in the UAE shifted to distance learning within two weeks.

The UAE had been well-prepared to make that shift, said H.E. Hussain Al-Hammadi, the UAE's Minister of Education, thanks to the launch of the Mohammed Bin Rashid Smart Learning Initiative in 2012. The initiative had introduced 'Smart Classes', whereby students utilise smart devices and high-speed 4G networks as a means of acquiring knowledge.

"We really invested a lot a long time ago in all these infrastructure requirements to enable us to continue educating in different scenarios," he said. "It's about building the best learning platform that is really smart, resilient, and meets modern requirements. Then you need to provide teachers and students with appropriate devices that enable them to enter the network and have the capabilities to use advanced applications and software to be embedded in the learning platform." The rapid shift to distance learning on an unprecedented scale had still created huge technical and logistical challenges for the education system, said Al-Hammadi. To deal with this, the Ministry of Education created a Satellite Operations Centre to cope with the demand and connect with the parents and students.

Edward Zhou, Vice President for Global Public Affairs, Huawei, highlighted the role that telecommunications had played in





keeping economies moving during the pandemic, but stressed the disproportionate impact that the virus has had on communities that still have no access to the internet.

“COVID-19 has been a reminder that we are still not doing enough,” said Zhou. “The current foundation is not as strong as we might think. According to the ITU, just under half of the world’s population is still offline, and has no access to digital technologies. Children in remote areas have been unable to join online classes during the pandemic.”

Zhao said investment in infrastructure at government level is a fundamental part of the solution, which should be accompanied by progressive tax policies that incentivise corporate investment. Increased investment would help support digital transformation of businesses, which has become an urgent priority in light of the pandemic. He also said governments should define network equipment as critical infrastructure which would allow workers to operate the network and maintain equipment during a time of crisis.



**PUSHING THE LIMITS IN THE HEALTHCARE, TELECOMS AND EDUCATION SECTORS: BENT, BUT NOT BROKEN?**



**H.E. HUSSAIN AL HAMMADI**  
Minister of Education, UAE



**EDWARD ZHOU**  
Vice President for Global Public Affairs,  
Huawei Technologies



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DAY TWO:

# Panel Discussion

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**DR. BERNARDO CALZADILLA-SARMIENTO**  
Managing Director, Directorate of Digitalization, Technology and Agri-Business, UNIDO



**ELENA SANTIAGO CID**  
Director-General, CEN and CENELEC



**PROF. JOAO CARLOS FERRAZ**  
Associate Professor, Instituto de Economia, Universidade Federal do Rio de Janeiro

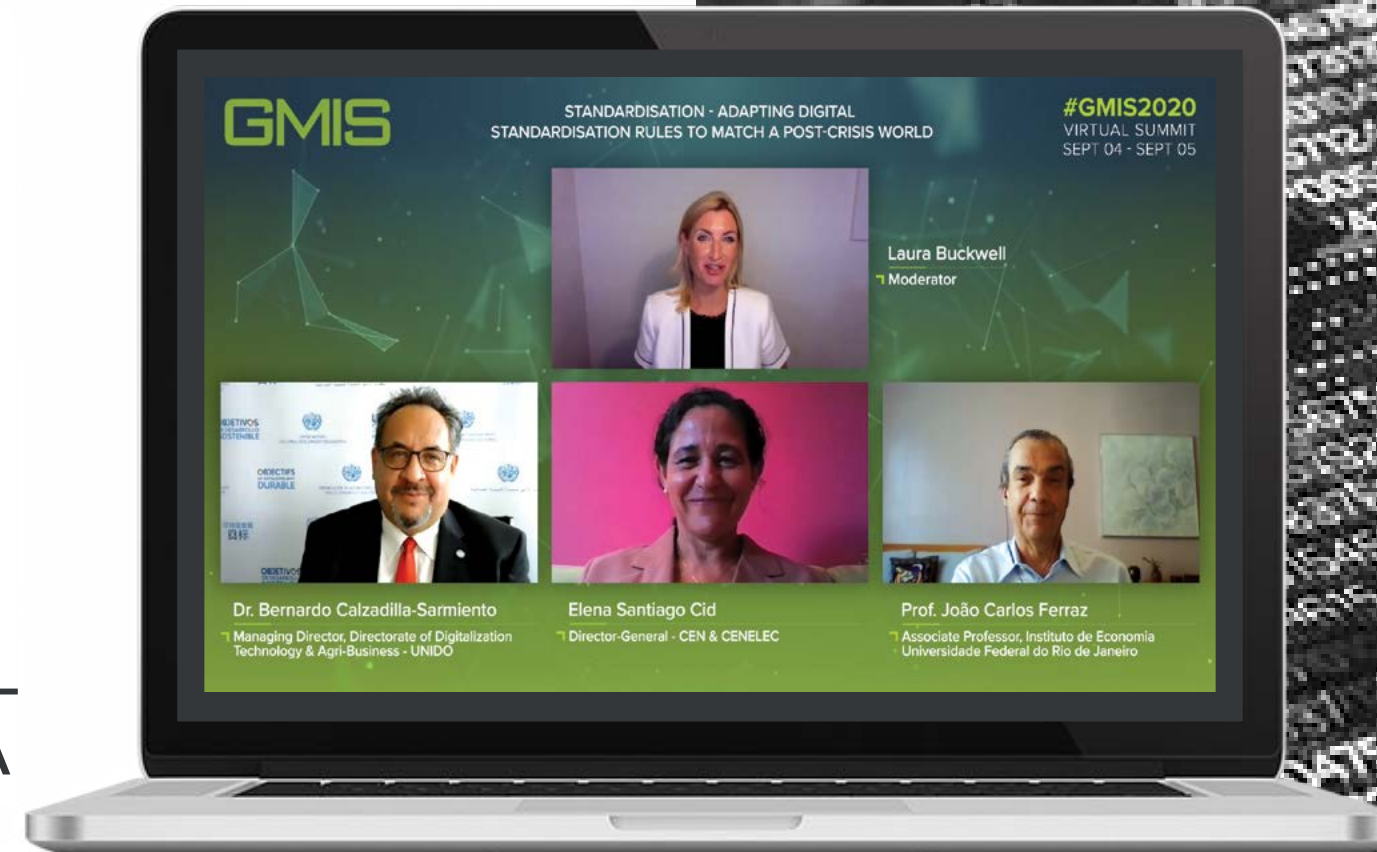
## STANDARDISATION: ADAPTING DIGITAL STANDARDISATION RULES TO MATCH A POST-CRISIS WORLD

The scale of the global COVID-19 pandemic has highlighted the urgent need for standardisation in medicine, innovation and industry, heard a panel discussion on the need for digital standardisation in a post-crisis world.

From the AI innovations that will come to define tomorrow to the critical Personal Protective Equipment (PPE) that frontline medical workers are using today, there is an urgent need to adopt globally recognised standards to support consumers, businesses and suppliers along Global Value Chains. Cooperation between global organisations will be fundamental to such adoption.

With standardisation creating trust and allowing for continuity along supply chains, Dr. Bernardo Calzadilla-Sarmiento, Managing Director, Directorate of Digitalization, Technology and Agri-Business, UNIDO, said the pandemic had highlighted how crucial it was to have international consistency as countries cooperated to share PPE, lab results, and a potential vaccine in the near future.

“At UNIDO, we are guiding the enterprises back to business continuity, because after the interruption, it’s not automatically the case that you can just open the door and resume activity,” said Calzadilla-Sarmiento. “The pandemic has highlighted that standards for trade and quality





infrastructure are absolutely important, from certification requirements, to laboratory services that need to have a basic quality, and mutual understanding across borders. Policies need to be absolutely clear and define clear roles and responsibilities.”

Elena Santiago Cid, Director-General, CEN and CENELEC, said the European Commission’s strategy is to create state-of-the-art standards that build trust and bring the best out of all organisations. “We believe it’s very important to understand that standards are a tool that generate trust in the market,” she said. “This desperate need to have harmonised documents and to create continuity within the supply chain, has been extremely high on the agenda from a strategic perspective. It has had a positive impact on the way we do things, in spite of the pandemic, because we were under so much pressure to deliver, that we put a lot of effort and energy into what was really a priority.”

Standardisation impacts a multitude of factors, noted João Carlos Ferraz, Associate Professor, Instituto de Economia, Universidade Federal do Rio de Janeiro. “Standards are the lingua franca of technology, and with so much data now, standards are absolutely necessary,” he said. “There is a need for rule-based, established agreements on how to move forward.”



**STANDARDISATION:** ADAPTING DIGITAL STANDARDISATION RULES TO MATCH A POST-CRISIS WORLD



**DR. BERNARDO CALZADILLA-SARMIENTO**  
Managing Director, Directorate of Digitalization, Technology and Agri-Business, UNIDO



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Director-General, CEN and CENELEC



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**PROF. JOAO CARLOS FERRAZ**  
Associate Professor, Instituto de Economia, Universidade Federal do Rio de Janeiro



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**“There is a need for rule-based, established agreements on how to move forward**





DAY TWO:

# Keynote Address

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## Elisabeth Winkelmeier-Becker

Parliamentary State Secretary at the Federal Economic Affairs and Energy, Germany



## THE GLOBAL HYDROGEN ECONOMY



The COVID-19 pandemic has hit people and the economy hard. The crisis will continue to profoundly shape our world over the coming months as political leaders seek to make sure the economy will recover as fast as possible.

Democratic decision-making serves the purpose of delivering freedom and equality. Also, in these hard times, economy has to take into consideration the needs of all citizens, whether acting as employees or entrepreneurs, because they all need a solid basis for the welfare of their families and to succeed in achieving their personal goals.

We can also regard the pandemic as an opportunity, as a driving force for economic and social development. To tackle the crisis, cooperation

and solidarity are needed. Policymakers and society have to draw the right conclusions from this crisis. Together and in solidarity with all EU member states, we have to draw the right lessons from the crisis and give the impetus that is needed for economic recovery.

During its presidency of the Council of the EU and beyond, Germany will advocate open markets as an essential part of the solution to the current challenges. With a view to overcoming the COVID-19 crisis, Germany believes that the EU has to oppose protectionist trends and strengthen free and rules-based trade. International cooperation, rules-based trade, and open markets are a fundamental part of the response needed for the COVID-19 crisis.





DAY TWO:

# Panel Discussion

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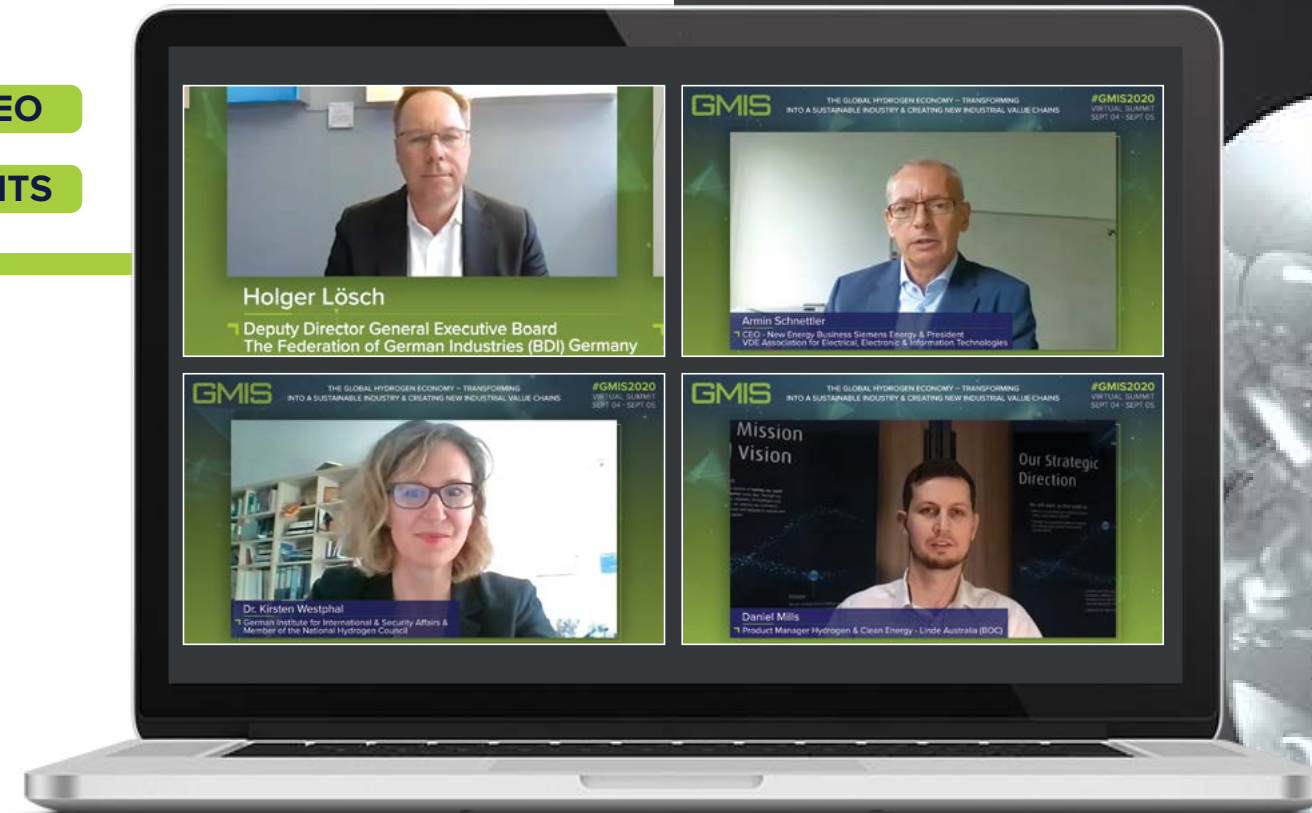
**DR. KIRSTEN WESTPHAL**  
German Institute for International and Security Affairs and Member of the National Hydrogen Council



**ARMIN SCHNETTLER**  
CEO New Energy Business, Siemens Energy & President, VDE



**DANIEL MILLS**  
Product Manager Hydrogen and Clean Energy, Linde Australia



## THE GLOBAL HYDROGEN ECONOMY - TRANSFORMING INTO A SUSTAINABLE INDUSTRY AND CREATING NEW INDUSTRIAL VALUE CHAINS

The push to develop hydrogen as a significant energy source is likely to disrupt and reshape global energy value chains and create opportunities for more countries to play a significant role. These were the key learnings from a panel discussion on the challenges of developing a global market for hydrogen, which was moderated by Holger Lösch, Deputy Director General of the Federation of German Industries (BDI).

Hydrogen has often been referred to as “the oil of the future”, said Dr. Kirsten Westphal of the German Institute for International and Security Affairs and a Member of the National Hydrogen Council, but there is still a long way to go before we see a global hydrogen market comparable to the existing oil market.

“There are more options with hydrogen and it’s really also more about who you partner and team up with and this is very important from the geopolitical and geoeconomic point of view,” said Westphal. “It’s really about defining joint ventures across the whole value chain. The oil system is very different. It’s basically dictated by geology and then infrastructure. Of course, we managed to build up a global oil trading system but this took a long time. My hope is that a similar system will develop for hydrogen, but it will be very different.”

Armin Schnettler, CEO New Energy Business, Siemens Energy & President, VDE, said it was vital to bring the cost of hydrogen production down in order to transform and decarbonise existing fossil fuel-based industries.





“It is very important to drive costs down and the cost for hydrogen or green hydrogen strongly depends on costs for renewable electricity,” said Schnettler. “This is something we are very focused on to help existing industry transform and reduce their CO2 footprint. And at the same time, we’re moving towards the green hydrogen opportunity by investing in technology development, but also developing renewable electricity in countries with excellent conditions. In the long run I do see green hydrogen as the key opportunity, the key market.”

Daniel Mills, Product Manager Hydrogen and Clean Energy at Linde Australia (BOC), said that while renewable energy is seeing phenomenal growth and gaining a larger share of the energy mix, the electricity is mostly produced in the middle of the day when demand is at its lowest. However, he said this provided an opportunity to use any surplus electricity for hydrogen production.

“We’re seeing extremely high peaking power prices in the afternoon as a major challenge to industry and particularly to the manufacturing industries,” said Mills. “What we’d love to see is hydrogen being used as a storage mechanism to help shift that great peak of renewables we see in the middle of the day to when industry and households are really looking for that power.”



### THE GLOBAL HYDROGEN ECONOMY - TRANSFORMING INTO A SUSTAINABLE INDUSTRY AND CREATING NEW INDUSTRIAL VALUE CHAINS



**DR. KIRSTEN WESTPHAL**

German Institute for International and Security Affairs and Member of the National Hydrogen Council



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**ARMIN SCHNETTLER**

CEO New Energy Business, Siemens Energy & President, VDE



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Product Manager Hydrogen and Clean Energy, Linde Australia



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SATURDAY, SEPTEMBER 05, 2020

# #GMIS2020 VIRTUAL SUMMIT CLOSING CEREMONY

**GMIS** LEGACY INITIATIVE ANNOUNCEMENT **#GMIS2020**  
VIRTUAL SUMMIT  
SEPT 04 - SEPT 05



Declan Curry  
Moderator

Badr Al-Olama  
Head of the Organising Committee  
Global Manufacturing and  
Industrialisation Summit

Dr. Hiroshi Kuniyoshi  
Deputy Director General - UNIDO  
and the Managing Director of External  
Relations and Policy Research

Holger Lösch  
Deputy Director General Executive Board  
The Federation of German Industries (BDI)  
Germany

Dr. Volker Treier  
Chief Executive of Foreign Trade and Member of  
the Executive Board - DIHK, Germany

**GMIS** FROM INDUSTRY 4.0 TO SOCIETY 5.0 - HARNESSING  
AUGMENTED INTELLIGENCE FOR A SUSTAINABLE FUTURE **#GMIS2020**  
VIRTUAL SUMMIT  
SEPT 04 - SEPT 05



Declan Curry  
Moderator

Mayor William Peduto  
Mayor of Pittsburgh

Christopher Martin  
Director of Engineering & Research & Development  
Robert Bosch, LLC





DAY TWO:

# Keynote Address

▶ WATCH FULL VIDEO

▶ WATCH HIGHLIGHTS



## Mohamed Jameel Al-Ramahi

CEO, Masdar, UAE

### CLEAN FUTURE FOR ALL



Five years ago this month, Mark Carney, the former Governor of the Bank of England, made his famous “breaking the tragedy of the horizon” speech on the systemic risks to our financial system posed by climate change.

As a symptom of our mass production, over-consumption and over-reliance on concentrated supply chains, COVID-19 has helped to bring those risks more clearly into view – and it has confronted us with a simple choice. Either we attempt to delay the inevitable, or we redouble our efforts to realise viable solutions to the world’s sustainability challenges.

Realising a truly sustainable future for all will depend as much on effecting lasting cultural change as it will on supportive government policymaking and fiscal innovation.

One of the more significant changes since Masdar was established nearly 15 years ago has been the definite shift in public attitudes



towards climate change here in the Middle East, particularly among the youth – who in many cases have gone from being indifferent towards climate change to being sustainability champions.

Today, these changes in the public mindset are influencing our business practices, social behaviour, consumption patterns and even our regulatory frameworks.

For example, the adoption of the Guiding Principles on Sustainable Finance by the UAE’s leading financial authorities in Abu Dhabi earlier this year clearly expressed the expectations of all stakeholders for more concerted action on climate change.

We must continue to build on that broad consensus in the UAE and all nations around the world to ensure we meet our sustainability targets. As we recover from COVID-19, doing so will remain as urgent as ever.





DAY TWO:

▶ WATCH FULL VIDEO

▶ WATCH HIGHLIGHTS

# GMIS Legacy Initiative Announcement



## Badr Al Olama

Head of the Organising Committee, GMIS



## #GMIS2020 LEGACY INITIATIVE: THE GREEN CHAIN INITIATIVE



GMIS has partnered with German organisations, GMOL and UNIDO to launch The Green Chain Initiative, a multi-stakeholder effort to develop new renewable energy global value chains.

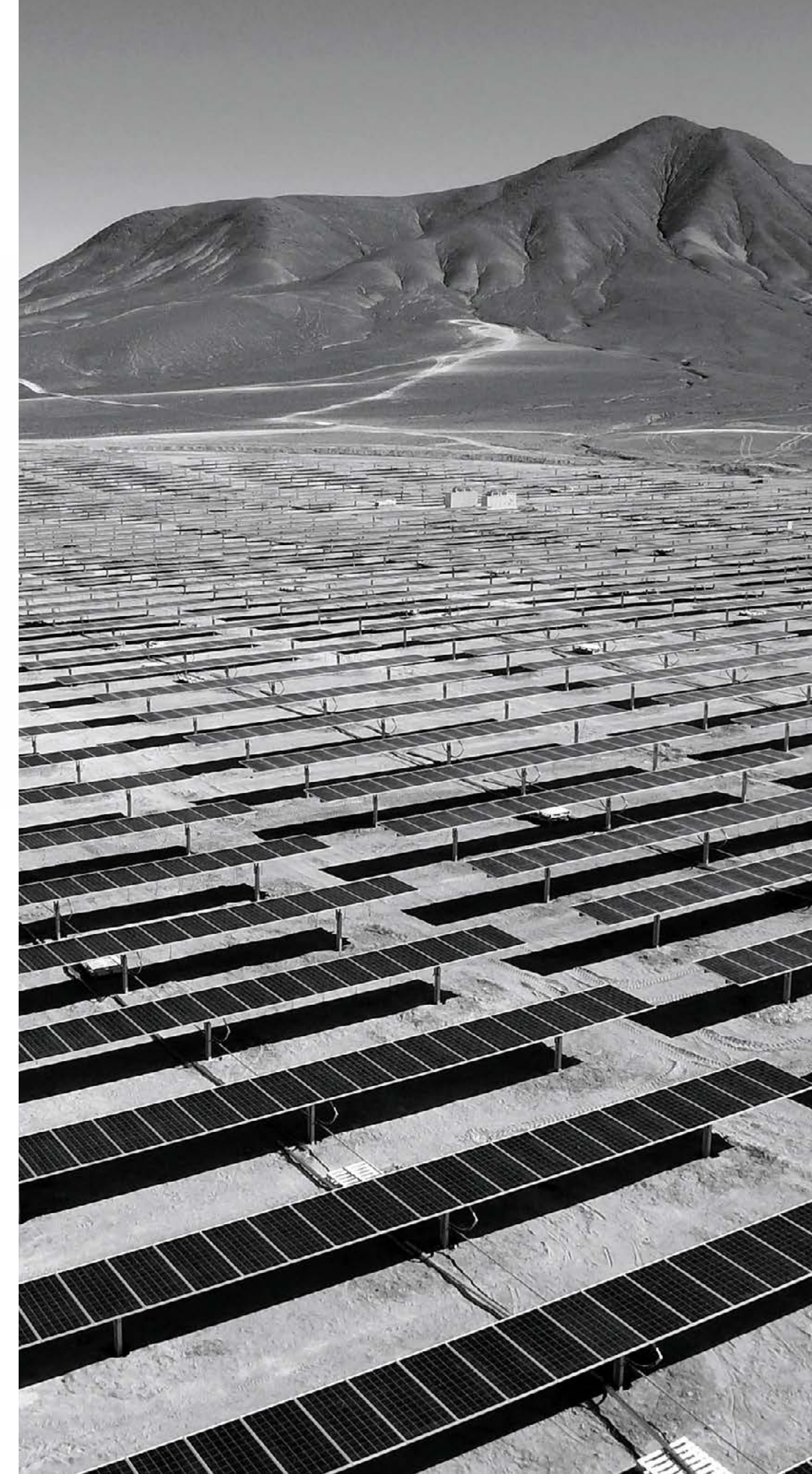
Inspired by Germany's leadership in driving clean technologies and its ambitions for a net-zero carbon world, The Green Chain Initiative was announced by Badr Al-Olama, Head of the GMIS Organising Committee.

"Taking the events of the past few months into consideration, we wanted to initiate a legacy that can truly make a difference to our world, ensuring green energy to make green products that can be bought using green currencies," said Al-Olama. "Hence, I'm proud to formally announce, on behalf of the Organising Committee of the Global Manufacturing and Industrialisation Summit, our new legacy initiative called The Green Chain. The Green Chain Initiative will crowdsource

renewable energy projects that will use 4IR technologies to create the outcome of a greener planet for all."

"This initiative truly converges the interests of governments – by providing new sources of green energy, with the interests of industries – that will produce green products by decarbonising their manufacturing facilities, with the interests of consumers – who are able to opt for green crypto-currencies to purchase these products."

"What is also unique about this initiative is that it includes all countries of the world, not just those with fossil fuel resources, and not just those with renewable energy. In that sense, what better partner for us to adopt and co-lead this initiative than Germany, a country with a proven track record in launching strategies for carbon neutrality."





DAY TWO:

▶ WATCH FULL VIDEO

▶ WATCH HIGHLIGHTS

# GMIS Legacy Initiative Announcement



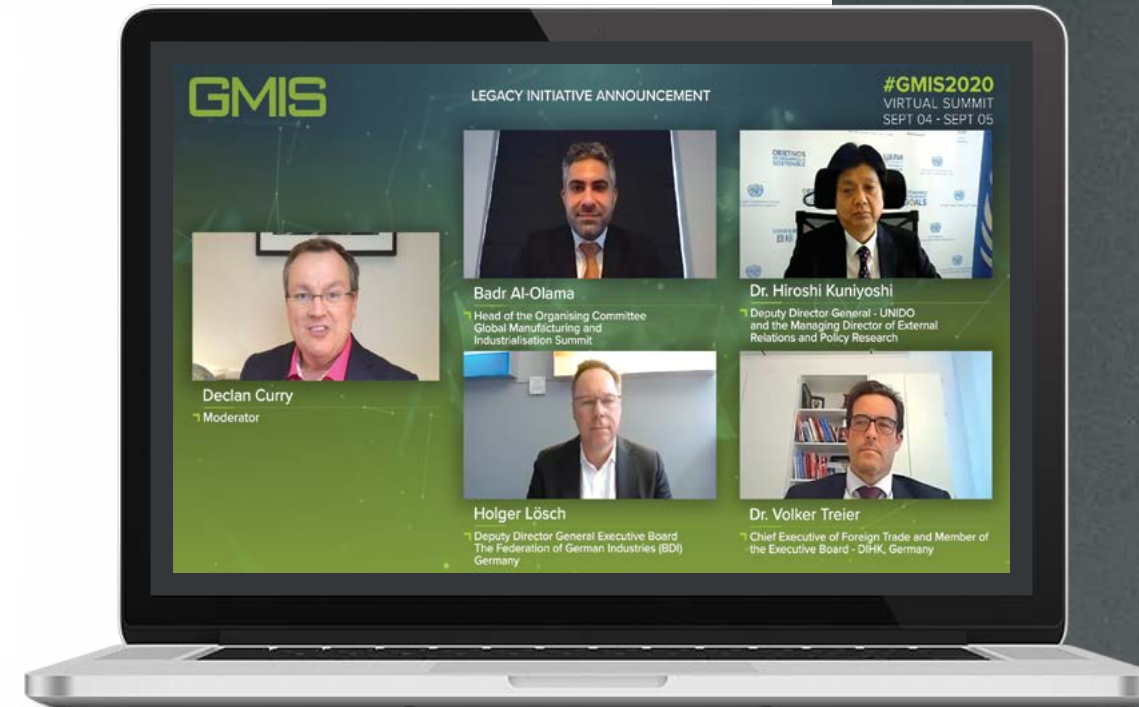
**DR. VOLKER TREIER**  
Chief Executive of Foreign Trade and Member of the Executive Board, DIHK, Germany



**DR. HIROSHI KUNIYOSHI**  
Deputy to the Director General and Managing Director, Director a.i. of External Relations and Policy Research, UNIDO



**HOLGER LÖSCH**  
Deputy Director General, The Federation of German Industries (BDI)



## DECARBONISATION OF INDUSTRY

Following the announcement of The Green Chain Initiative by Badr Al-Olama, Head of the GMIS Organising Committee, a panel of industry experts discussed how the mass-scale decarbonisation of industry is essential to tackling climate change and to delivering sustainable industrial development.

Dr. Volker Treier, Deputy Chief Executive Officer of the Association of German Chambers of Commerce and Industry (DIHK), said combatting climate change remains one of the major issues facing humanity. However, there needs to be a common understanding at a global level, or at least a European understanding, to fully address the challenge, he said.

“Right now Germany is a good role model, but we need a European approach in order to maintain competitiveness because we are a

highly industrialised country,” said Treier. “The problem is that policy makers are acting more or less on a national basis, and not on a European or a multilateral fundament.”

Dr. Hiroshi Kuniyoshi, Deputy Director General and Managing Director, External Relations and Policy Research of the United Nations Industrial Development Organization (UNIDO), pointed out that the International Energy Agency (IEA) has predicted that CO2 emissions in 2020 would fall by 8 per cent compared with 2019 levels. Despite the massive slow-down in economic activities, this is still far below what is required to meet the targets of the Paris Agreement.

“We need to introduce something more, and that is innovation,” said Kuniyoshi. “We need to introduce innovative technologies, including renewable energy and energy conservation technologies.





Manufacturing and industry needs to help the whole world by actively working on that direction and we all need to work together to achieve this.”

Reductions in CO2 over the past few months had come at a very high price in terms of the disruption to people’s livelihoods, said Holger Lösch, Deputy Director General and member of the Executive Board of the Federation of German Industries (BDI). He also noted that the fallout from the coronavirus pandemic will likely continue for years to come.

“To protect the climate we have to change everything about the way we are doing business, and therefore, we really have to focus on enormously intelligent and efficient ways to tackle this problem,” stated Lösch.

Defossilising the energy system globally is the main priority, he added, followed by major investments in energy efficiency and the ability to couple sectors intelligently. For the latter, he highlighted the example of getting the mobility sector to defossilise in combination with the energy sector. “All of this is very demanding, but it can be done by technology and by innovation. And this is, of course, a core competence of industry.”



## DECARBONISATION OF INDUSTRY



**DR. VOLKER TREIER**

Chief Executive of Foreign Trade and Member of the Executive Board, DIHK, Germany



**Right now Germany is a good role model, but we need a European approach in order to maintain competitiveness because we are a highly industrialised country”**

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**DR. HIROSHI KUNIYOSHI**

Deputy to the Director General and Managing Director, Director a.i. of External Relations and Policy Research, UNIDOO



**We need to introduce something more, and that is innovation”**

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Deputy Director General, The Federation of German Industries (BDI)



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DAY TWO:

# GMIS Announcement

▶ WATCH FULL VIDEO

▶ WATCH HIGHLIGHTS



## Namir Hourani

Managing Director, Global Manufacturing and Industrialisation Summit



### GMIS AMERICA ANNOUNCEMENT: PITTSBURGH TO HOST GMIS AMERICA IN 2021

GMIS launched a new partnership model that will enable more cities around the world to mobilise the global manufacturing community and encourage cross-border collaboration.

The first city to join the new partnership model is Pittsburgh in the US, which will organise the inaugural edition of GMIS America in 2021. The announcement was made by Namir Hourani, Managing Director of the Global Manufacturing and Industrialisation Summit (GMIS), during the closing ceremony of the #GMIS2020 Virtual Summit.



“As organisers of the GMIS we look at the event from two perspectives,” said Hourani. “The first is all about the experience. It’s about putting together a world-class show and offering a flawless experience for anyone involved, whether its our partners, the speakers or the attendees. The second is about who was there and, more

importantly, why they were there. As a platform, the best outcome we can ask for is one that reflects our vision of being inclusive.

“The most important thing to realise is that GMIS is not a talk shop. It is outcome driven; and outcomes can only be delivered through strong partnerships. These outcomes are very important – too precious to be limited to just one destination or to once a year.

“That’s why we’ve created a new partnership model that will prioritise social goals and expand the vision and mission of GMIS globally. This partnership model will be open to cities across the world that are keen to promote inclusive and sustainable industrial development and advance the 2030 Agenda for Sustainable Development.

“Cities that partner with us will host a GMIS event every year and I’m excited to announce that Pittsburgh will be the first city to join our new partnership model. The city will organise the very first edition of GMIS America in 2021 and bring a GMIS event back to Pittsburgh every year.”





DAY TWO:

# Panel Discussion

▶ WATCH FULL VIDEO

▶ WATCH HIGHLIGHTS



**WILLIAM PEDUTO**  
Mayor of Pittsburgh, USA



**CHRISTOPHER MARTIN**  
Director of Engineering and  
Research and Development,  
Bosch, LLC



## FROM INDUSTRY 4.0 TO SOCIETY 5.0: HARNESSING AUGMENTED INTELLIGENCE FOR A SUSTAINABLE FUTURE

The announcement of GMIS America by Namir Hourani, Managing Director of GMIS, was followed by a panel discussion between Bill Peduto, Mayor of Pittsburgh, and Christopher Martin, Director of Engineering and Research & Development at Bosch - whose US headquarters is in the city of Pittsburgh.

Pittsburgh's rejuvenation from a traditional heavy manufacturing heartland that had fallen on hard times to become a modern, advanced technology, innovation and robotics hub in the space of just a few decades is one of the success stories of the 21st century.

Such a success is one of the reasons why the 'Steel City' has become the first city to join GMIS's new partnership model.

"During the 1980s and 1990s, de-industrialisation tore the economic heart out of our region," said William Peduto, Mayor of Pittsburgh, during a panel discussion on the city's renaissance. "We went through a depression greater than the Great Depression. But at the same time, the seeds were planted for what we're seeing now as our new economy. They were planted in artificial intelligence, in robotics, and in life-sciences, and so many other areas where we have become a global leader, including advanced manufacturing.

"Today, Pittsburgh is once again on the world stage, but this time not for the production of steel, aluminium, or glass, but for the creation of innovation. Organising GMIS America in 2021 is testament to how we have overcome the struggles of the past 30 years and turned our fortunes around."







Mayor Peduto said building partnerships between the public and private sector and academia had been the most critical element in Pittsburgh's success in reviving its fortunes over the past two decades. It has also cultivated a thriving start-up scene, with the city home to many innovative companies focused on advanced technologies such as artificial intelligence, robotics, cybersecurity and additive manufacturing.

Christopher Martin, the Director of Engineering and Research and Development at Bosch, which established a base in the city in the 1990s, said: "We're in Pittsburgh quite simply because of the foundations that were laid at Carnegie Mellon University many years ago. The Bosch Center for AI represents one of our flagship efforts around the globe for our investment in the future of artificial intelligence and the partnership with Carnegie Mellon University is one of the pillars of our success."

Discussion at GMIS America will be centred around the concept of Society 5.0 – balancing technological and economic advancement with the resolution of social issues. Peduto said these ideas had already started to resonate throughout the world, but have been given fresh impetus in light of the COVID-19 pandemic.

"I think that as we look at this in Society 5.0, what we realise is the very economic model that we have lived by since the early 19th century was based on a single bottom line – profit," said Mayor Peduto. "The reality today is that there are many bottom lines that we need to address."



**FROM 4IR TO SOCIETY 5.0: HARNESSING AUGMENTED INTELLIGENCE FOR A SUSTAINABLE FUTURE**



**WILLIAM PEDUTO**  
Mayor of Pittsburgh, USA



**CHRISTOPHER MARTIN**  
Director of Engineering and Research and Development, Bosch, LLC



**During the 1980s and 1990s, de-industrialisation tore the economic heart out of our region"**

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DAY TWO:

# Closing Remarks

▶ WATCH FULL VIDEO



**Dr. Bernardo Calzadilla-Sarmiento**  
Managing Director, Directorate of Digitalization,  
Technology and Agri-Business, UNIDO



The COVID-19 pandemic has taken a huge toll on humanity: in terms of physical and emotional health, the global economy and our way of life.

Yet it is clear that the Fourth Industrial Revolution has not been decelerated by the COVID-19 pandemic, indeed it may even be accelerating. It is clear that many manufacturers and large companies are looking to avoid exposure to long value chains, and that we will see greater customisation, local production and regional trade integration as a result.

Certainly, the manufacturing sector has suffered a huge hit, with industrial output declining significantly in most countries. However, once again, manufacturing has shown its indispensability to our society, whether it be through production of personal protective equipment, testing kits and enhancement of quality infrastructure.

Digital technologies are also leading the way in battling the virus, whether it be the use of robotics to deliver medical supplies, 3D printing to produce emergency PPE, or artificial intelligence for contact tracing.

As we look further into the future and the achievement of the 2030 Agenda, we can see that advanced manufacturing will be crucial, especially for Goal 9 on inclusive and sustainable industrialisation.

The GMIS 2020 Virtual Summit saw the announcement of major initiatives, such as the establishment of several thematic working groups and a legacy initiative on decarbonisation. It is through such mechanisms that we hope to move from discussion to decisive action and towards an inclusive and sustainable Fourth Industrial Revolution.



SATURDAY, SEPTEMBER 05, 2020



# CLOSE OF #GMIS2020 VIRTUAL SUMMIT





# GMIS America

## Pittsburgh, 2021

The city of Pittsburgh in the United States will organise the inaugural edition of GMIS America in 2021, the first edition of a new partnership model that will enable more cities around the world to mobilise the global manufacturing community and encourage cross-border collaboration and partnerships to advance prosperity across the world.

[www.gmisummit.com](http://www.gmisummit.com)