

MedTech in APAC

# Improving Health & Transforming Lives





# The Value of Medical Technologies

Medical Technologies are a critical part of well-functioning healthcare systems. They can save lives, improve health outcomes and patient experience, and contribute to sustainable healthcare – all key drivers of healthy societies and strong economies.

As COVID-19 persists globally, the response of the healthcare industry as a whole has been phenomenal. The MedTech industry has played a critical role within this ecosystem responding to new and rapidly evolving challenges through multiple interventions and innovations, and ensuring that the right technologies are available, at speed and scale, for providers and patients, to diagnose, treat and manage the virus.

This paper aims to increase understanding of medical technologies and elucidate the role that they play within healthcare systems and broader economies, drawing on recent examples from the COVID-19 experience. We hope that this will be an informative tool for governments, providers, patients and other healthcare ecosystem stakeholders and will encourage multi-stakeholder collaboration to pursue our shared objectives of saving lives and creating value for patients, health systems and broader economies both during, and beyond, this pandemic.

The MedTech industry remains fully committed to better health, better systems, and better societies for patients in the Asia Pacific region and beyond.

A handwritten signature in black ink, appearing to read "Harjit Gill".

Harjit Gill  
Chief Executive Officer  
The Asia Pacific Medical Technology Association



**A Brief Introduction  
to MedTech in APAC**

# What is Medical Technology?

Every day, medical technologies help save the lives of patients across the Asia Pacific region

Medical technologies can be defined as the technologies that diagnose, treat and/or improve a person's health and wellbeing, encompassing both low- and high-risk medical devices – products from tongue depressors, surgical gloves and medical thermometers to insulin pumps, pacemakers and in-vitro diagnostics – and used to save the lives of patients across the world every day.

Medical technologies can assist healthcare professionals to diagnose and treat patients with a higher level of accuracy and in a timelier fashion, and can help patients overcome sickness and disease, improving their quality of life.

While a global definition of what defines a medical technology is difficult to establish due to the various regulatory bodies worldwide that oversee the use and categorisation of medical technologies, there is a good chance that people are surrounded by medical technologies without even realising it.



# With you every step of the way

## PREVENTION

Recent advances in sensors (wearables), imaging and genomics, along with big data, inform personalised recommendations to help people to stay healthy and prevent disease.

## DIAGNOSIS

Timely and accurate diagnosis, using imaging and laboratory tests, empowers healthcare professionals with the information they need to make clinical decisions and provide care that optimises patient outcomes.

## TREATMENT

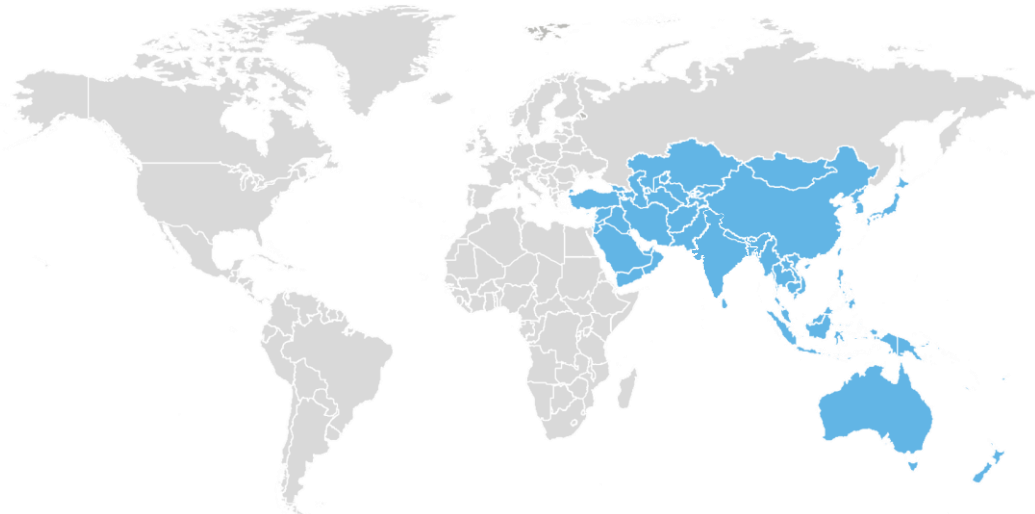
MedTech is present at every stage across the treatment spectrum from bandages and optical lenses in everyday use, to highly complex interventions like cardiac and orthopaedic implants.

## MANAGEMENT

New models of care, underpinned by digital health solutions and other medical technologies, have enabled patients to access 'care anywhere' and empowered patients with the tools they need to become active participants in the management of their own healthcare.



# A partner in health and prosperity in APAC



## Snapshot of APAC Healthcare Needs

60% of world's population

Rapidly ageing population with 1 in 4 estimated to be >65 years old by 2050

Largest patient population with chronic diseases

Limited access to care in many regions

**\$150 Billion+**

Value of MedTech in APAC by 2022

**#2**

Projected to be #2 region globally

**9%**

Annual Growth

**2%**

Positive contribution to GDP

**25,000**

MedTech companies in the region

**350,000**

Employees with MedTech companies

**400,000**

HCPs trained by MedTech companies each year

Sources: APACMed, World Health Organization, UN World Population Prospects 2019

A dark, monochromatic background featuring a grid of glass test tubes. The tubes are arranged in a regular pattern, and one tube in the lower-left quadrant is filled with a bright yellow liquid, providing a focal point and a color contrast. The overall aesthetic is clean and scientific.

# **The Value of MedTech Healthcare and Beyond**

# Strong healthcare systems underpin healthy societies and drive economic prosperity



Strong Healthcare Systems



Healthy Societies



Economic Prosperity

Key building blocks of well-functioning healthcare systems:

- Policy and governance
- Financing
- **Essential medical products and technology**
- Human resources
- Technical knowledge and skills
- Infrastructure and services

Strong healthcare systems lead to:

- Better clinical outcomes and patient experience
- Healthy individuals, families, communities and populations
- Protection against disease
- Individuals and communities empowered to manage their own health

Healthy societies lead to:

- Increased productivity
- Reduced absenteeism
- Reduced unnecessary healthcare utilisation
- Protection against the financial consequences of ill-health



# MedTech is a critical pivot in this value chain



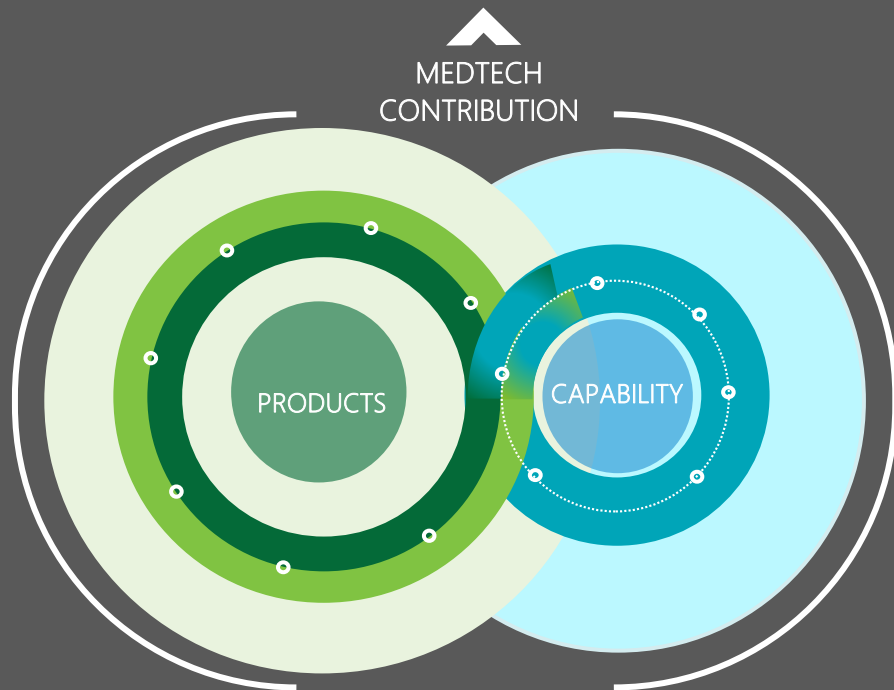
STRONG HEALTHCARE SYSTEMS



HEALTHY SOCIETIES



ECONOMIC PROSPERITY



Supporting healthcare systems by providing essential products and capability to deliver care effectively

## MEDTECH IMPACT

### Improves Patient Experience and Outcomes

MedTech contributes to improved health outcomes through more accurate and earlier diagnosis, effective treatment options, less invasive procedures and greater precision driving reduced errors and complications and faster recovery.

### Advances Population Health

MedTech provides the tools for populations to monitor and maintain their health and empowers patients to become active participants in the management of their own care. MedTech facilitates population health screening across a range of conditions for earlier detection of disease.

### Reduces Overall Cost of Care

With preventive care, timely and accurate diagnosis, interventions with reduced complications, and virtual care tools, MedTech can support healthcare systems to reduce healthcare spending over the patient lifespan.

### Makes Care Accessible

Digital innovation has catalysed the development of virtual health platforms that allow providers to deliver care and monitor patients remotely. This has expanded care delivery exponentially in APAC and alleviated some of the demand-supply gap in clinical manpower and infrastructure.

# Innovation, the life-blood of MedTech

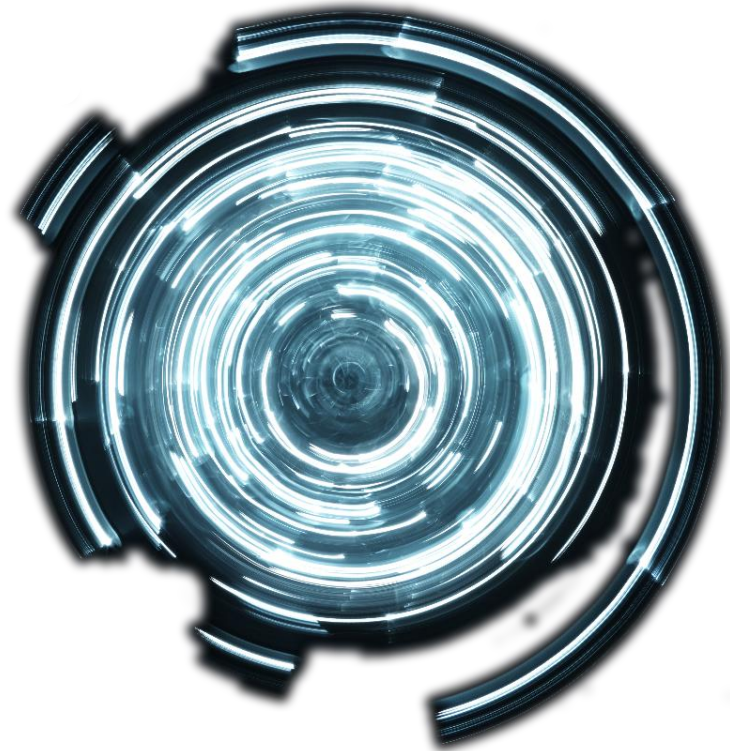
## The MedTech sector is defined by its strong history of research and innovation

By turning scientific ideas into solutions for patients, health professionals and health systems, MedTech has progressively contributed to better outcomes and greater efficiency in healthcare. From everyday products like adhesive bandages and braces, to technologies like MRI, artificial organs, and robotic surgery, **MedTech innovation has made a sizeable impact in the field of medicine.**

MedTech is also transforming conventional approaches to healthcare innovation. Combining the power of big data, predictive analytics, artificial intelligence and genomic information, **MedTech innovation is driving a disruptive and forward-thinking transformation of care delivery models.**

Innovation today requires a broad coalition of healthcare stakeholders to explore new approaches that combine devices, diagnostics, medication, digital tools and big data to deliver the best outcomes for patients. **MedTech, in partnership with other healthcare system leaders, consistently explores disruptive solutions to ensure patients have access to the right care, in the right format, at the right time.**

Conditions which were once considered incurable have now become manageable in part thanks to MedTech's constant pursuit of innovation.



INNOVATION



### Asia Pacific is increasingly becoming home to MedTech innovation

- Several MedTech firms are setting up their R&D centres in APAC with Japan, China, Taiwan, South Korea, Singapore, Australia and India becoming new hotspots for innovation
- APAC is also witnessing a very dynamic MedTech start-up scene with more than 2500 MedTech start-ups developing innovative products and solutions here.

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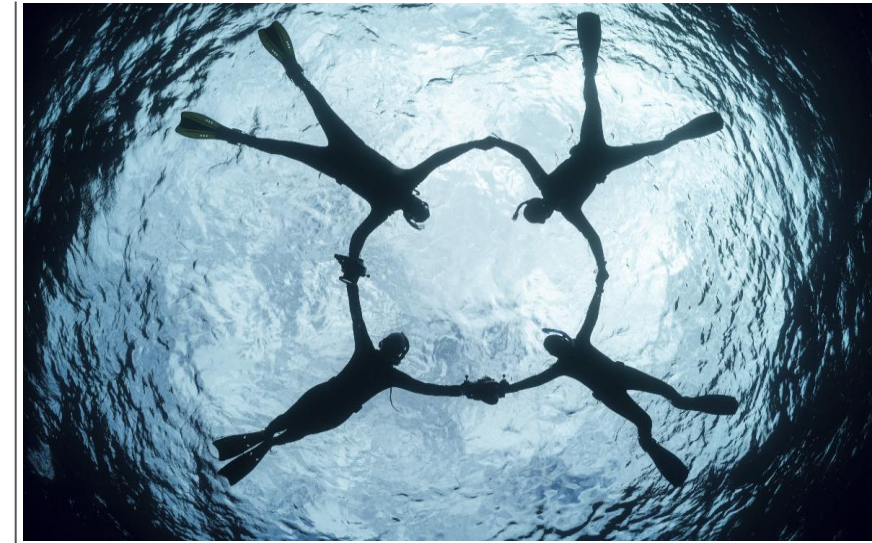
**The Value of MedTech**  
**Our COVID-19 Response**

# MedTech: Our people, products and partnerships in the fight against COVID-19



COVID-19 has profoundly transformed the world we live in. This pandemic has stretched healthcare systems, closed schools, grounded flights and brought global economies to a near halt. Yet, amongst this, we have seen the healthcare community rise together to do truly phenomenal things – and the medical technology industry has played a critical role within this response.

*Diagnostic testing* has helped experts understand the epidemiology of the disease and aided in curbing its spread; *Personal Protective Equipment (PPE)* has reduced risk of infection for frontline healthcare workers; and *MedTech products and solutions* have played a critical role in treating and managing the disease for patients globally.



*Through our people, products and partnerships, the MedTech industry has united to support patients, providers and systems during this unprecedented time.*

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# Our People: MedTech's Beating Heart

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Our people have been front and centre in this global crisis. The commitment and the incredible efforts of the MedTech community seen in this pandemic has been truly inspiring.

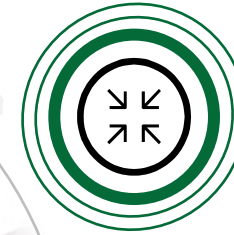
With the onset of the COVID-19 pandemic, healthcare systems faced a double blow – a sudden shortage of critical products along with disruptions in supply chains which made it challenging for these products to reach those who needed them most. Working in a resource constrained and highly time sensitive environment, the people of MedTech took unprecedented steps to support healthcare professionals and patients. With a strong sense of purpose, our people –

- worked round the clock to develop new products for new and rapidly changing health challenges;
- rapidly ramped up production to alleviate global supply shortage;
- explored new and innovative solutions to ensure that critical products reach patients at the right time;
- worked hand-in-hand with clinicians, hospitals and clinics, and regulators to address immediate needs ranging from training to expedited service for equipment set-up and maintenance;
- Worked on the frontlines supporting healthcare professionals in care delivery.

# Our People: Agilely adapting new ways to support healthcare professionals

## TRAINING & KNOWLEDGE SHARING FOR THE MANAGEMENT OF COVID-19 PATIENTS

- Remote training programs, webinars and learning modules to support clinicians to acquire the latest information and best practices for:
  - Diagnosis and management of COVID-19 cases
  - Clinic and hospital operations to manage COVID-19 cases
- Development and provision of handbooks and reference kits
- App-based ventilator training



## SUPPORTING CLINICIANS IN MANAGING NON-COVID-19 PATIENTS

- Digital tools for clinicians to connect with patients for:
  - Virtual monitoring
  - Treatment
- Operational workflows for delivering virtual care



## OTHER SUPPORT TO PROVIDERS

- Remote service support
- Flexible financing options
- Support in setting up testing facilities





# Our Products: Diagnosing, treating and protecting individuals and communities



## DIAGNOSTIC ASSAYS

Test kits for the detection of SARS-COV-2 or antibodies (with development of rapid tests)

## IMAGING, ANALYSERS AND MONITORS

Blood analysis systems, CT scanners, vital monitoring systems to continually assess patients' health condition.

## PERSONAL PROTECTIVE EQUIPMENT

Masks, gloves, other PPEs (innovative approaches with 3D printing, reusable PPEs, newer production methods)

## RESPIRATORY AIDS INCL. VENTILATORS

Ventilators supporting patients with the breathing process (further development of reusable ventilators and 3D printed ventilators)

## INFECTION CONTROL

Anti-bacterial infection control products, sterilisers etc for maintaining sterility

## VASCULAR ACCESS SOLUTIONS

Infusion pumps, IV sets etc for drug infusion and nutrition to manage patients in ICU

## EQUIPMENT

R&D equipment, medical equipment, beds and accessories customised for existing and pop-up clinical sites

## DIGITAL TOOLS

Digital support tools for patient triaging and testing



# Our Partnerships: Securing essential supplies for healthcare systems



- Collaboration with federal and local agencies to secure essential supplies

MedTech associations set up taskforces with governments and industry stakeholders to assist in securing essential supplies of ventilators, test kits, Personal Protective Equipment (PPE) and other ICU supplies required by the healthcare system to manage the growing COVID-19 situation.

- Planning to meet expected national demand of ventilators

MedTech associations, with their linkages to MedTech companies, hospitals and distributors, were integral in providing governments with the baseline information that underpinned planning for provision of ventilators in the country against COVID-19 medical treatment forecasts; as well as helping countries to understand and address gaps.

- Coordination with international and domestic suppliers on policy standards and commercial requirements

MedTech associations worked with stakeholders to harmonise policy standards and coordinate commercial operations. Working with the industry, they went further to develop frameworks for streamlining logistics' workflows up to the last mile delivery.





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# Supporting local ecosystems and vulnerable populations in the fight against COVID-19

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## Monetary Contributions

Financial contributions to relief efforts in APAC and globally to provide health, economic and food services to vulnerable populations.

## Employee Support

Supported employees across several dimensions:

- Wellness packages
- Virtual wellness offerings
- Safety measures to minimise risk
- Training to adjust to new normal
- Family reunion program
- Special bonus incentives.

## Medical Supplies

Support for local providers via contributions of:

- PPE
- Medical Equipment such as ventilators and ECMO
- Essential medical supplies.



## Employee Contributions

Matched donations by their employees by 1x-2x to empower them to identify local needs and direct resources to their communities.

## Volunteerism

Supported employees to volunteer by offering both virtual and skills-based opportunities that support organisations responding to the pandemic.

## Crowdsourcing

Established platforms for individuals inside and outside the company to share ideas on how to meet the evolving needs of healthcare systems and communities in which they served and regionally.



# MedTech Contributions in COVID-19

Case Studies

# Key contribution areas by MedTech firms and associations\*

Colour reference for case studies in subsequent pages

## DIAGNOSTICS

- All supporting technologies for the detection of SARS-CoV-2 or antibodies

## TREATMENT

- Imaging, analysers and vital monitors
- Respiratory Aids incl. Ventilators
- Vascular Access Solutions
- Antibacterial infection control products

## OTHER MEDTECH PRODUCTS & SERVICES

- Personal Protective Equipment
- Digital tools that enable clinicians to manage patients and technical team to support remotely
- Other relevant products & services

## TRAINING AND KNOWLEDGE SHARING

- Remote training programs, webinars and learning modules on managing COVID-19 cases & clinic and hospital operations
- Handbooks and reference kits

## PHILANTHROPIC CONTRIBUTIONS

- Monetary contributions
- Flexible financing options for providers in recognition of the impact on cash flows
- Support to set up/supply testing facilities/equipment

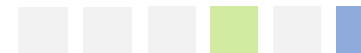
## STAFF MOBILIZATION

- Team mobilisation to provide remote support and services
- Technical team deployment to attend to critical support needs

## INDUSTRY PARTNERSHIP FOR SECURING ESSENTIAL SUPPLIES

- Enhancing industry partnership and strengthening supply chain to mitigate risk of essential supplies shortage in critical times

\* Case studies based on information submitted to APACMed



## Diagnostics

Abbott is continuing to ramp up production of our COVID-19 tests across our multiple platforms\*, helping healthcare providers on the front lines battle the pandemic.

(\*availability of Abbott's COVID-19 tests and platforms in a geography is subject to regulatory and other local approvals)

- ID NOW™ – Abbott's rapid, portable testing instrument is used in urgent care clinics, hospital emergency departments, and physicians' offices.
- Molecular lab tests – Abbott's high-volume molecular laboratory instruments (m2000 and Alinity™ m) are helpful in the detection of novel coronavirus and are used in laboratories around the world.
- Antibody lab tests – Abbott's lab-based antibody blood tests to help determine if a person was previously infected with the virus that causes COVID-19, leveraging our ARCHITECT and Alinity™ i test platforms.
- Lateral flow tests – Abbott continues to develop lateral flow tests that help round out the arsenal of COVID-19 testing.



### Other MedTech Products and Services

- Supporting clinicians in managing non-COVID-19 patients  
To minimise disruptions or delays to treatments, Align increased virtual treatment options and released products and digital tools like Invisalign Virtual Appointment and Invisalign Virtual Care to keep doctors and patients connected whilst clinics are closed.
- Securing essential supplies
  - Leveraged 3D printing technology and manufacturing expertise to produce face shields and medical (nasal) swabs for COVID-19 testing kits and donated them to hospitals.
  - Sourced additional PPE through vendors in APAC to supply hospitals.

### Training and Knowledge Sharing

- Remote clinical training programs
- Additional webcasts and online training programs for clinic staff on how to manage / open clinics.
- Handbook on best practices and recovery kits to help doctors navigate times of shutdown and to help them prepare for clinic opening
- Increased virtual treatment options to minimise disruptions or delays to treatments.

### Philanthropic Contributions

- PPE Donation  
Donating existing PPE supplies to local communities where we have a corporate presence.  
Donating face shields that are assembled in Juarez, Mexico operations to various hospitals around the world.
- Donated RMB 1 million to the Chinese Red Cross Foundation to support COVID-19 relief efforts – the donation enabled the purchase of 5 ECMO heart-lung machines for 3 hospitals in Hubei, China.
- Donated US\$1 million to support COVID-19 relief efforts globally [Including Nippon Foundation Kids Support Project (Japan), Japanese Red Cross, Singapore Wok the Talk and Ramathibodi Hospital (Thailand)].
- Making cash donations through the World Health Organisation (WHO) to fund PPE and other medical supplies.



### Training and Knowledge Sharing

- Conducted 1,000+ online trainings and events through the Alcon Experience Academy (AEA), and in partnership with ECPs, trade media, medical societies and universities
- Provides platform for collaboration amongst surgeons in different countries, to discuss prevention and preparing for the new normal.

### Philanthropic Contributions

- Offered flexible finance options in recognition of the impact of COVID-19 on our customers' livelihoods
- Donated water, personal protective equipment (PPE), disinfectant and/or technical equipment to medical staff on the COVID-19 front lines in several countries, including China and Japan. Alcon Foundation also donated funds that helped build a 1000-bed hospital to treat COVID-19 in China; reallocated funds and made monetary donations to local, national and global organisations to support meal programs for children and seniors; provided essential supplies to shelters; and aided public health emergency relief efforts.

### Staff Mobilisation

- Continued to deploy technical service teams to attend to critical support needs that would allow surgeons to continue performing emergency eye procedures.



### Treatment

- AVANOS Closed Suction System and Endotracheal Tubes
- CORTRAK Enteral Access Device – to help place tubes and protect healthcare workers
- CORFLO NG tubes.

### Training and Knowledge Sharing

- Promotion of “Strategies for ICUs in a highly infectious environment of COVID-19”, sharing guidelines and global best practices for ICUs.

### Philanthropic Contributions

- Donated \$250,000 USD to Direct Relief, a humanitarian aid organisation active in more than 80 countries.
- Matches 100% of contributions up to \$1,000 USD per employee per calendar year for qualified organisations, through Matching Gifts program
- Funded a program to support frontline healthcare workers in local communities with cash donations to charities to support workers by providing food, PPE or other means.

### Staff Mobilisation

- Created cross-functional task-force to ensure sufficient supply of life-enabling respiratory products
- Focus was put on employee safety and extensive measures were taken to protect the employees.

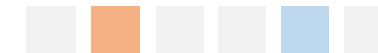


### Other MedTech Products and Services

- AXIO launched a new range of hygiene and protection products (Hand Sanitisers and Surgical Hand Disinfectants) called RESIST+ to address the lack of reliable supplies at hospitals and the shortage arising due to the pandemic.

### Philanthropic Contribution

- Axio extended its support to COVID-19 patients under ECMO (Extracorporeal Membrane Oxygenation) by supplying Axiostat (Vascular Hemostatic Pad) free of cost to all the doctors treating patients under ECMO. The pandemic has seen a surge in the use of ECMO for the most serious COVID-19 cases, and due to usage of high french size in the catheters and anti-coagulants, bleeding control is a challenge. Axiostat helps with achieving timely hemostasis in these scenarios.



### Treatment

- Oxiris Filter Set*

Baxter team worked closely with the U.S. FDA to secure emergency use authorisation (EUA) for Oxiris to treat patients who have confirmed COVID-19 and have been admitted to the intensive care unit (ICU) with confirmed or imminent respiratory failure in need of blood purification therapy to reduce pro-inflammatory cytokine levels, including use in continuous renal replacement therapy (CRRT).

Oxiris is already available in countries across EMEA and APAC, but this marks its U.S. introduction. It's now the only filter set available in the U.S. that can be used to perform multiple blood purification therapies simultaneously, including CRRT and the removal of cytokines and endotoxins from the blood.

### Philanthropic Contribution

- The Baxter International Foundation is providing more than \$2 million in financial support for humanitarian relief organisations on the front lines of the pandemic globally.
- It also includes support for World Vision's COVID-19 Global Emergency Response, and geographic-specific support to Direct Relief in Europe, Project Hope in Asia, Americares in Latin America and the iBio Institute and local United Way chapters in the Chicagoland area. These latest donations build on initial grants to the global United Nations Foundation/WHO COVID-19 Solidarity Response Fund, IsraAID and Partners in Health.



## Treatment

- B. Braun's antibacterial infection control products, especially the hand disinfection range of products such as Softaman®, Softalind®, LifoScrub® and Promamum® are providing protection against the coronavirus
- The B. Braun range of soft, cushion-like dressing ranges Askina® DresSil® and Askina® Foam, and local skin moisture management products such as Askina® Barrier and Linovera®, support the treatment of COVID-19 patients who are at risk of suffering pressure sores
- Critically-ill COVID-19 patients are supported by B. Braun Clinical Nutrition products from the Nutricomp® range.

## Philanthropic Contributions

- Donation of B. Braun infection protection products, medical devices and PPEs across the APAC region
- Food relief for daily wage migrant workers in India
- B. Braun Mobile Medical Unit in India is providing free medical treatments to affected communities.

## Training and Knowledge Sharing

- Hand hygiene e-Learning module
- Treating COVID-19 patients: the China experience
- ICU therapy in times of COVID-19
- Management of critically ill COVID-19 patients
- Issues in surgical training amidst the COVID-19 pandemic
- Safe and optimum abdominal wall closure & GI Anastomosis during the COVID-19 pandemic
- Infection control practices and challenges in healthcare settings during the COVID-19 pandemic
- Environment Sanitation in hospitals and clinics during the new normal
- Nutrition in the time of COVID-19
- Cancer care: Strengthening the mental health of nurses during COVID-19
- Cancer Care: Strengthening Home Health during the pandemic
- Perioperative strategies for elective surgeries during the pandemic
- Trusted nutrition fundamentals in the new normal
- Cathlab safety protocols during COVID-19.





## Diagnostics

- Expand sample collection options

Collaborating with Bill & Melinda Gates Foundation, U.S. government agencies and molecular diagnostic companies, to validate additional materials and alternate sample collection approaches for COVID-19 diagnostics. Validating alternate sample collection approaches for COVID-19 diagnostics, swab types and transport media may alleviate supply concerns and support increased testing.

- In under three hour Molecular test

Multiple new products to help aid in the detection and identification of COVID-19, including a molecular test for the detection of COVID-19 for clinical laboratories in countries recognising the CE mark and FDA EUA, which can return results 2-3 hours.

- 15-minute antigen test

Launched the Veritor SARS CoV-2 antigen test which can detect COVID-19 in 15 minutes. This assay is available on the widely available, handheld Veritor Point of Care platform.

## Other MedTech Products and Services

- Prepping for mass vaccination

Providing devices and expertise for vaccine trials and delivery with a full portfolio of medication delivery devices for rapid deployment of mass vaccination campaign

- Safety-engineered and auto-disable injection devices, such as syringes and needles, to support safe practices
- Know-how in combination product development to support scale up and regulatory filing
- Prefillable devices for safe and convenient parenteral or nasal vaccine administration.

## Training and Knowledge Sharing

- Accelerating the discovery of potential therapy

BD offers instruments, reagents and software that help researchers: Identify biomarkers and study immune status, memory and response; Support complex multi-omic studies with comprehensive portfolio of solutions; Simplify complex data analysis and visualisation with FlowJo.

- Prevention Course in HAI Knowledge and Control

Announced the launch of the Prevention Course in HAI Knowledge and Control, developed independently by the Society for Healthcare Epidemiology of America (SHEA) and supported in full by an educational grant from BD.

## Philanthropic Contributions

- Emergency pumps

In Greater Asia, BD has helped supply emergency pumps to hospitals across the region. In particular, partnerships with government hospitals in India, New Zealand and Australia. In addition to pumps, BD has maintained the supply of relevant vascular access and injection-related products used in treatment of COVID-19.

- Monetary contribution

BD is deploying \$1.1 million in cash and product donations to seven non-profit organisations – Direct Relief, the International Medical Corps, Americares, the World Health Organisation-United Nations Foundation COVID-19 Solidarity Response Fund, Project HOPE, the CDC Foundation and the Wuhan Red Cross – to advance their work to contain COVID-19, support healthcare workers and treat patients in countries throughout the world.



### Other MedTech Products and Services

- PPE - Producing face shields for healthcare workers through multiple collaborations. These include efforts with the nonprofit GetUsPPE.org, as well as an international coalition of medical experts, clinicians and industry leaders to design and develop the Pneumask™ Face Shield, which combines a full-face snorkeling mask and a Boston Scientific custom-molded adapter that wearers can attach to a medical-grade air filter.
- Working with University of Minnesota Bakken Medical Device Center and industry collaborators to bring an emergency resuscitator to market, replacing the need for manual respiration in emergency settings. The University of Minnesota has made the design files available so that other organisations can help manufacture Coventors going forward.

### Philanthropic Contributions

- Contributed over US\$13M to aid COVID-19 relief efforts globally through monetary and supply donations, and by providing engineering and manufacturing expertise and resources.
- Provide support to children, families and the most vulnerable through direct financial contributions to local community and global non-profit organisations including Project HOPE and International Federation of Red Cross and Red Crescent Societies.

### Training and Knowledge Sharing

- Leveraging on technology to provide remote support for physician customers. This includes augmented reality platforms for next-generation case support, harnessing technology platforms to provide virtual training, education and technical support, and on demand webinars to help providers navigate new legislation and challenges.

### Training and Knowledge Sharing

- CryoLife continued its investment in enhancing its remote education dissemination programs across the region to drive awareness of its technologies and therapies
- Extensive customer training programs were executed across the globe during this time to keep customers up to speed on their clinical knowledge and acumen.

### Staff Mobilisation

- CryoLife products were supported extensively by our teams in surgical theaters and cathlabs around the region.
- 100% technical assistance is being provided in spite of travel restrictions and controls as required by our HCPs
- Additionally, we moved our products closer to the customers during these times by starting direct operations in key geographies to ensure easy access and reach.



## Treatment

- Increased the supply of enteral feeding pumps and mechanical compression devices to healthcare institutions to support the wellbeing of intubated patients in the ICU
- To help meet the critical shortage of thermometers, we leveraged our global supply chain to secure thousands of G3 Thermometers for hospitals and COVID-19 screening centres
- Supported cardiovascular (InCraft AAA stent graft) and endovascular (Mynx Control vascular closure) intervention on patients to address blood vessel related complications in patients.

## Other MedTech Products and Services

- Manufactured, sourced and delivered PPEs (surgical masks, gowns and gloves) to healthcare providers and frontline medical teams dealing with the pandemic.

## Training and Knowledge Sharing

- Organised online medical education sessions to share COVID-19 management best practices and information on less well publicised COVID-19 related health issues (VTE and cardiovascular conditions) to around 70,000 healthcare professionals across the Asia Pacific region.

## Philanthropic Contributions

- Donated over USD700,000 in PPEs (surgical masks, N95 masks, face shields and gloves) to non-profit groups working with healthcare organisations in Wuhan and other affected Chinese cities
- Donated 284,200 pairs of Protexis Latex gloves and Duraprene gloves to hospitals and medical centres in Thailand.

## Staff Mobilisation

- Cardinal Health employees worked closely with healthcare providers to provide remote, real-time service support to address product maintenance queries from ICU teams.
- Our employees provided onsite thermometer calibration servicing at hospitals to ensure measurement accuracy.
- Employee volunteers in China collected and delivered urgently needed medical supplies to healthcare institutions at the height of the outbreak in China.



## Treatment

- Dräger provides ICU ventilators of Evita and Savina product family and patient monitoring. Its related single-use and reusable hospital consumables and accessories secure the treatment.
- With the help of its ventilation monitoring device PulmoVista 500 the optimisation of the treatment of ventilated COVID-19 patients is possible during the critical phase.

## Other MedTech Products and Services

- Dräger provides protection for health care workers and emergency medical service providers with personal protect equipment like FFP masks and protective suits.
- Dräger was sharing strategies for infection prevention and control in hospital environment to prevent the spread of the COVID-19 virus in this sensitive area.

## Philanthropic Contributions

- Donations of ventilators to healthcare facilities in China and other countries.

## Training and knowledge sharing

- We offer webinar series with global experts on how to treat COVID-19 patients
- We have created videos, 'How to' Guides and infographics for our ventilation, anesthesia, monitoring devices and accessories to support digital knowledge transfer around the world
- Dräger participates in the global Ventilator Training Alliance (VTA)
- Dräger offers a dedicated COVID-19 page with FAQs on reprocessing, disinfection, use of filters, equipment limitations, product information and clinical guidance
- Dräger supports health care associations with educational material, e.g. the British Association of Critical Care Nurses ([www.baccn.org](http://www.baccn.org)) as an Educational Resources Partner and provides useful information in the fight against COVID-19
- Further examples of webinars and digital events:
  - COVID-19 experience sharing webinars by European KOLs
  - COVID-19 Hypoxemia: A Rational Approach and Critical Care Management (Thailand)
  - Effective management of COVID-19 Patients – experience sharing by Malaysia and Thailand Experts (ASEAN)
  - New Normal in Critical Care Medicine after the COVID-19 Pandemic (Thailand)
  - Innovative drive through jaundice screening for patients (Malaysia)
  - Ventilation management of COVID-19 in adults (Philippines).



### Other MedTech Products and Services

- Fresenius sent several Novalung ECMO machines & consumables to Wuhan, China during the first outbreak of COVID-19. Novalung is an extracorporeal membrane oxygenation (ECMO) system from Fresenius Medical Care that pumps and oxygenates a patient's blood. These consoles for ECMO are specially designed and dedicated to provide extracorporeal lung and cardio circulatory support on intensive care units.

### Staff Mobilisation

- Three of Fresenius' head nurses volunteered to serve dialysis patients in the epicenter in Wuhan, helping to provide dialysis treatment.



### Other MedTech Products and Services

- Apollo mobile app

Apollo was launched in collaboration with Stanford Medicine's Department of Epidemiology and Public Health and Evive. While the initial launch is in the US, the app has been translated into nine languages and content can be localised as appropriate for other markets.

The app helps people determine if they are likely to qualify for COVID-19 testing based on national guidelines and helps them find a nearby testing facility from a nationwide directory. The frontline screener scans the patient's encrypted Apollo mobile pass (even through the closed car window) to rapidly review symptoms and risk data, calls the patient with the tap of a button, and directs them to test sample collection. After sample collection, the tester adds the test kit ID to Apollo and sends the form to the lab with one tap.

By enabling contactless screening and digitising the testing process, this app aims to eliminate paperwork and direct contact with patients unless necessary to minimise exposure, optimise use of PPE, and enable high throughput of patients at testing centers.



## Other MedTech Products and Services

- The Rapid Response Analytics Solution™ provides reusable, curated, customisable building blocks that can reduce development time by up to 90% and increase productivity up to 10x — and allow non-analysts to configure and visualise data in easy-to-use dashboards.
- The Patient Safety Monitor application monitors incoming patient data from multiple sources in near real-time. Patient Safety Monitor enables comprehensive identification and analysis of all-cause harm and public health threats. Triggers for emerging threats (such as COVID-19) support enhanced biosurveillance monitoring and help organisations collaborate with public health agencies.
- Capacity Planning Tool, started with the highly regarded Penn Med Epidemic Model and made it easier to manage scenarios and see the results directly in terms of capacity throughout your system and region — for COVID-19 and all your other patients. Bed and ventilator planning is available now and we are turning to PPE, other respiratory equipment, and staffing.
- Touchstone™ National Data Sets and National Registry are COVID-19 planning and recovery tools that enable healthcare systems to analyse deidentified data from 80+ million patients across the United States as well as three national data sources (Johns Hopkins University, the New York Times, and The COVID Tracking Project) to conduct population-based research.
- The Elective Surgery analytics accelerator is a COVID-19 financial recovery tool focused on helping healthcare systems prioritise the safest surgeries based on provider and patient safety, financial impact, and provider availability.
- The Patient and Staff Tracker gives hospital systems reports that note and track locations of affected patients and staff within the health system, helping to identify exposures that can inform containment strategies.



## Other MedTech Products and Services

- HealthBeats™ is a global remote vitals monitoring platform designed to bring healthcare home. We provide patients with regulatory approved medical devices to be self-administered regularly at home and have their results transmitted real-time to care providers for proactive care management. HealthBeats is authorised global distributor of iHealth Labs full range of regulatory approved IoT medical devices.
- For COVID-19, HealthBeats extended the platform for rapid deployment and at-scale to support systemised digital collection of vitals data for those on precautionary quarantine or stay home notices and healthcare organisations manage influx of patients with symptoms of COVID-19 with 14 days remote monitoring and deferred non-essential reviews for existing patients by monitoring them remotely.



## Treatment

- Advancing Respiratory Health and Support for Ventilated Patients - MetaNeb

Hillrom has received emergency use authorisation from the FDA to adapt the company's MetaNeb System to help COVID-19 patients. The MetaNeb System combines lung expansion, secretion clearance and aerosol delivery into a single integrated therapy session and can be used with any ventilator. MetaNeb is clinically proven to reduce time on the ventilator and reduce ICU length of stay. With its new closed-circuit design using a bacterial-viral filter, caregivers of patients treated with MetaNeb are better protected from aerosolised particles that may escape during treatment.
- Two New Vital Signs Monitor Enhancements - Welch Allyn Connex® Spot Monitor

Hillrom has integrated digital respiratory rate capture capabilities into its Welch Allyn Connex® Spot Monitor, utilising the integrated pulse oximetry of the device to simply and accurately capture this key measure. Changes in respiratory rate often occur in advance of changes in heart rate, blood pressure and other parameters. This technological advance can empower care teams to accurately monitor the respiratory rate of COVID-19 patients and could lead to earlier detection and intervention.

## Other MedTech Products and Services

- Mobile Communication Solutions for Alternate Care Areas – Voalte

Hillrom has created and deployed a simple, cloud-hosted version of its Voalte mobile solution, a method for allowing caregivers and patients in field hospitals to communicate. Voalte® Extend software empowers patients by giving them the ability to send a message from a mobile device directly to their nurse.

## Training and Knowledge Sharing

- Increasing Access to COVID-19 Clinical Pathways and Predictive Analytics

Hillrom is partnering with AgileMD to offer constantly updated COVID-19 clinical pathways from leading centers managing these critical patients. With clinical recommendations changing daily and staff turning over quickly due to exposure and illness, instant access to advanced COVID-19 clinical pathways and predictive analytics through existing physician and nursing workflows empowers providers to quickly implement best practices for evidence-based, consistent care.

## Philanthropic Contributions

- Hillrom for Humanity Critical Care and Respiratory Support Program includes ICU beds, patient monitoring and respiratory health devices.
- Hillrom collaborated with local Yichang Maternal and Child Health Care Hospital to conduct vision screenings for the disadvantaged children to ensure their eyesight was protected
- 400 units of Spot LXI patient monitoring systems were donated to Red Cross Society of China in January
- Tympanic (ear) thermometers were donated to the Beijing Health Promotional Association during the height of the COVID-19 emergency
- Donated Metanab to Zhejiang Red Cross society
- Donated more than \$5.5 million across the world with more than \$2 million in vital signs monitors to the Chinese Red Cross.



### Diagnostic

- Molecular Test for the Novel Coronavirus, SARS-CoV-2

Hologic’s global leadership in molecular diagnostics has created a highly accurate, fully automated test that detects genetic material from SARS-CoV-2, the new coronavirus strain, in under three hours.



Avellan – The Medtech Subsidiary of HUMA



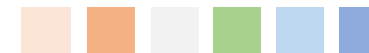
### Treatment

- Avellan- MS1, which is the Medtech Subsidiary of HUMA (Medopad), is developing a remote cardiovascular monitoring solution based on their patented technology that relates to COVID-19 post infection cardiovascular sequelae.

### Other MedTech Products and Services

- HUMA has developed a COVID-19 smart phone detection and monitoring system that has been deployed across the world.





## Diagnostics

- Johnson & Johnson has responded swiftly to the urgent need for increased COVID-19 testing across many countries. For instance, in India, Johnson & Johnson worked with multiple stakeholders such as Reliance and Adi Enterprise to produce high quality, low cost swabs in a record seven days.

## Treatment

- Vaccination - Johnson & Johnson announced on 30 March 2020 the selection of a lead COVID-19 vaccine candidate from constructs it has been working on since January 2020; the significant expansion of existing partnership between the Janssen Pharmaceutical Companies of Johnson & Johnson and the Biomedical Advanced Research and Development Authority (BARDA); and the rapid scaling of the Company's manufacturing capacity with the goal of providing global supply of more than one billion doses of a vaccine.

## Training and Knowledge Sharing

- Expanded online professional education programs — going above and beyond virtual learning experiences to gather experts, share knowledge and provide support for surgeons leveraging the digital environment.
- The Johnson & Johnson Institute, the training and learning centre for healthcare providers, rapidly expanded its education ecosystem with the development of a new COVID-19 Community Hub. Online training and webinars are also made possible by an expanded collaboration with Advances in Surgery (AIS).
- In Asia, during the first quarter of the year, more than 40,000 HCPs attended virtual training sessions held by the Johnson & Johnson Medical Devices Companies.

## Training and Knowledge Sharing (continued)

- Johnson & Johnson Medical Devices is also leveraging digital technology in expanding reach by providing remote coaching and case support for Operating Room staff, while also expanding coverage of next tier cities.

## Philanthropic Contributions

- In March 2020, the Johnson & Johnson Family of Companies and the Johnson & Johnson Foundation committed US\$50 million dollars for immediate COVID-19 response, primarily focused on supporting frontline health workers.
- Across Asia, Johnson & Johnson has also contributed over US\$ 7 million in financial aid and product donations to support vulnerable communities and frontline health workers, supplemented by local employee fundraising campaigns.
- Working in conjunction with local partners, such as Chinese Red Cross Foundation, The Salvation Army in Korea and the Ministry of Public Health and Family Welfare, the Government of Maharashtra in India, Johnson & Johnson has contributed to the provision of masks, protection suits, sanitizer and care products for frontline healthcare workers and patients, as well as other vulnerable communities.

## Staff Mobilisation

- Encouraging medically trained employees to donate their time and expertise by joining the ranks of those on the front lines combating the COVID-19 pandemic supporting their efforts with a COVID-19 Medical Personnel leave policy.
- Across Asia Pacific with some countries such as China or India under COVID-19 related lockdowns, many Johnson & Johnson Medical Devices employees travelled long distances amidst blockades to deliver critical equipment for emergency surgeries.



## Treatment

- With soaring needs for Extra-corporal membrane oxygenation (ECMO) globally and a limited production capability for all manufacturers, all countries have been facing serious shortages of ECMO supply. LivaNova, with 40 years of legacy in extra corporal circulation offered a new configuration of its S5® heart-lung machine (HLM), normally used during cardiac surgeries, that could effectively provide long-term support for affected patients.

## Training and Knowledge Sharing

- Provided trainings to frontline healthcare professionals on how to use ECMO to treat critically ill COVID-19 patients for life-saving
- Provided platform for collaboration globally amongst Perfusionists, Cardiologists, Anesthesiologists, etc. to share experiences for COVID-19 clinical care.

## Philanthropic Contributions

- Five ECMO devices donated by LivaNova for Hubei, the worst affected region under COVID-19, were used to support medical staffs and treat critically ill patients. The devices were transferred to five designated hospitals in Hubei province through Red Cross Society of China.
- LivaNova tapped various sources (including Brazil and India), procured and dispatched tens of thousands of PPEs to support the medical community and our team in China.



## Other MedTech Products and Services

- Merit's Critical Care products including the disposable blood pressure sensors (closed blood sampling type), closed blood sampling systems, infusion pressure bag and ECG leads. These products are being used in the front-line ICU fighting against the COVID-19, playing an important role in reducing the incidence of infection, blocking the collection of patient pure blood, reducing iatrogenic blood loss, and avoiding acupuncture injuries among medical staff.
- To address the need of shortage in swab for testing COVID-19, a sample collection and transport kit (Cultura), comprised of a nasopharyngeal swab and transport vial, is developed.

## Philanthropic Contributions

- Fourteen boxes of intensive care supplies were donated to hospitals in Wuhan to minimize infection risks for healthcare workers in caring for the critically sick patients.
- Monetary donations & PPE care packs were donated to groups in need in the local communities in Hong Kong and Singapore.



## Treatment

- Increasing Ventilator Production and Innovation

In response to COVID-19, Medtronic introduced several measures to increase ventilator production and use worldwide. It increased the production of its own ventilator portfolio by fivefold, shipping ventilators to customers in the highest risk, highest need locations in the world.

Medtronic also publicly shared the design specifications for the Puritan Bennett™ 560 (PB 560) to enable participants across industries to evaluate options for rapid ventilator manufacturing to help doctors and patients dealing with COVID-19. Based on these open-source plans, Tesla, Foxconn, and other manufacturers teamed up with Medtronic to further increase production.

## Other MedTech Products and Services

- Protecting Frontline Workers

Medtronic is exploring new methods of protecting doctors and nurses treating patients on the frontlines of the COVID-19 fight – for example, 3D printed masks.

It also created its COVID-19 Virtual Care Evaluation and Monitoring, which provides a safe, efficient, and cost-effective approach to remotely monitor – and provide recommendations based on CDC guidelines for – individuals who are concerned, have COVID-19 symptoms, or have been exposed to, or diagnosed with COVID-19.

## Training and Knowledge Sharing

- Providing Virtual Ventilator Training

Medtronic partnered with other global ventilator manufacturers to launch the Ventilator Training Alliance app, which provides medical providers access to a centralised repository of ventilator overviews, instruction manuals, and other training materials.

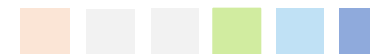
## Philanthropic Contributions

- The Medtronic Foundation increased its employee and retiree giving program, offering a 2:1 match for monetary donations made to any eligible non-profits across the world. This further elevated the company's COVID-19 response by empowering 90,000 Medtronic employees to identify local needs and direct resources to their communities.
- The Medtronic Foundation also continues to make employee volunteerism easier by offering both virtual and skills-based opportunities that support organisations responding to the pandemic.
- In March, the Medtronic Foundation announced an additional \$10 million in contributions to COVID-19 global relief efforts, adding to an initial donation from Medtronic and the Medtronic Foundation of \$1.2 million in February.
- The company continues to donate Personal Protection Equipment (PPE) and other supplies to doctors, hospitals, and NGOs across the region. For example:
  - Korea Thank You x Heart to Heart
  - Korea fundraising for Dagu
  - Thailand fundraising for Thai Red Cross Society
  - Local donations to hospitals across APAC.



## Training and Knowledge Sharing

- Activated six hospitals for COVID-19 screening
- Designed three studies to make PCR testing for screening and diagnosis more effective
- Ongoing studies:
  - PCR kits comparison study
  - Optimization of spit sample for COVID-19
  - Crude extraction protocol for COVID-19
  - Machine learning algorithm for mass population and health workers
- Developed subscription package providing:
  - Playbook
  - Work schedule to maximise capacity testing
  - Best practices and training for lab technician safety
  - Troubleshooting channel
  - Inventory tracking
  - Lab portal and report generation software.



## Diagnostics

- Virtual screening and diagnostic pathways in China, India and ANZ. ResMed opened new channels for patients to be screened and diagnosed through digital and virtual pathways, using combinations of our own tech and partnerships with diagnostic companies in various APAC markets.

## Treatment

- ResMed and Curative, a subsidiary of ResMed, manufacture a range of ventilators and bilevel devices that provide invasive and/or non-invasive ventilation for hospital and home use with the flexibility for use in various clinical scenarios to provide respiratory support to patients at various stages of dependency.
- ResMed continues to supply ventilators for those critical COVID-19 patients, including a range of masks to best provide treatment while minimising aerosolization, and bilevel positive airway pressure (PAP) devices to treat non-critical COVID-19 patients.

## Other MedTech Products and Services

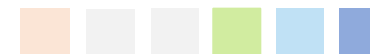
- ResMed has used predictive modelling algorithms to help identify which countries may be most at risk for ventilator shortage and to prepare governments, industry, and healthcare networks with adequate resources for the next wave of infections.
- ResMed products are well positioned to help set up, monitor, and manage patients in an at-home setting through remote monitoring and patient engagement tools that can benefit patients, their families, and their clinicians well beyond the current pandemic.

## Training and Knowledge Sharing

- In response to COVID-19, ResMed quickly mobilised a myriad of resources to help frontline healthcare workers easily access the tools they need to understand ResMed's devices. ResMed launched regionally dedicated COVID-19 resource webpages with specific product setup and use training, hosted remote webinar trainings on our devices and mask setups, and provided links to international guidelines and updates (i.e. WHO, CDC, ATS/ERS guidelines).
- ResMed was also proud to join the Allego-sponsored Ventilator Training Alliance, a free digital library of training and product resources from leading ventilator manufacturers, for healthcare workers. This resource is vital at a time when efficient access to information can help to save lives.
- ResMed engaged international key opinion leaders through interviews and surveys on ventilator and bilevel positive airway pressure respiratory devices usage during COVID-19 to collate and share this knowledge with other healthcare professionals

## Staff Mobilisation

- One ResMedian in China's Hubei province, the epicenter of the coronavirus outbreak, has donned a positive pressure hazmat suit and helped set up thousands of people on ResMed ventilators and ResMed masks.
- Over 130 ResMedians from Malaysia in mid-March volunteered to keep working in our Singapore manufacturing plant when Malaysia closed its borders, relocating to live near our plant in Singapore, spending weeks away from their families, so they could continue to produce as many lifesaving ventilators and ventilation masks as possible.



## Diagnostics

- Real-time PCR test: Roche launched the cobas® SARS-CoV-2 in March – within days of COVID-19 being declared a pandemic by the World Health Organization (WHO). The test can run on Roche’s fully automated cobas® 6800 and cobas® 8800 Systems under Emergency Use Authorization. The test is also available for countries accepting the CE-mark.
- Antibody test: In May, Roche launched a highly reliable qualitative antibody test. The Elecsys® Anti-SARS-CoV-2 is an immunoassay for the in vitro qualitative detection of antibodies (including IgG) to SARS-CoV-2 in human serum and plasma. The test is intended as an aid in the determination of the immune reaction to SARS-CoV-2.
- Managing critically ill patients: in June Roche received an FDA EUA for the Elecsys® IL-6 test to assist in identifying severe inflammatory response in patients with confirmed COVID-19.
- Blood gas digital solution: Roche launched a new blood gas digital solution that can help to simplify the screening, diagnosis and monitoring of patients with respiratory compromise in the current COVID-19 pandemic.
- Rapid antigen test: Roche recently launched the SARS-CoV-2 Rapid Antibody Test in markets accepting the CE Mark. The launch is a partnership with SD Biosensor Inc.
- Investigating treatments: Roche has confirmed initiation of multiple clinical trials, and is also collecting and compiling data from other, independently led, clinical trials that are taking place around the world, as well as partnering with other companies and research organisations.

## Training and Knowledge Sharing

- Roche developed online training modules and invested 200 hours a month training our consultants and field and applications specialists in the region, to support the deployment of its products.

## Philanthropic Contributions

- In Singapore, all Roche entities have come together as one to help people who have been adversely affected by COVID-19. Employee contributions have been matched dollar-for-dollar by the company.
- In India, Roche has partnered a local charity to supply food to daily wage workers and economically marginalised who have been severely impacted by the lockdown
- In Hong Kong, Roche provided masks and sanitisers to a local children’s charity to support children with chronic heart conditions.
- Collaboration: Roche is working together with partners in the industry, customers, governments and regulatory bodies to ensure together we can maximise the impact of our work to contain the novel coronavirus – from calling for agile regulatory pathways to supporting frontline healthcare workers by donating PPEs.

## Staff Mobilisation

- Roche staff who are part of the Global PPE Task Force are providing to frontline colleagues around the world since late February 2020. So far, they have successfully delivered thousands of coveralls and PPEs to teams across the region.



## Diagnostics

- **Molecular testing** for the specific identification of the coronavirus (SARS-CoV-2) causing COVID-19.
- **Immunoassay and chemistry lab tests** help assess severity and manage comorbidities in COVID-19 patients.
- **Hemostasis and Hematology testing** in the identification of severe COVID-19 infections.
- **Management of ventilated patients under respiratory distress** - The Siemens RAPIDPoint® 500e Blood Gas System and epoc® Blood Analysis System are important analyzers that integrate seamlessly into hospital networks with the Point of Care Ecosystem™, which offers remote management of operators and devices.
- **Evaluate COVID-19 patients and survey their progression** - The unique mobile CT workflow of SOMATOM go. platform scanners permits technologists to maintain a distance of at least 1.5 m (5 ft) from potentially infected patients. These scanners can also be installed in mobile units to provide access in high-demand or in isolated areas.
- **Initial assessment of severity and monitoring of lung involvement** - MULTIX Impact is a flexible, modular radiography system which covers a wide range of clinical requirements, offers specific solutions for deployment in temporary COVID-19 diagnostic and therapeutic options.
- **Reducing the need of patient transportation** - MOBILETT Elara Max is a lightweight, fully digital mobile radiography system that can be quickly deployed wherever needed, help with the monitoring of disease progression in particularly severe cases, help reduce the need for transportation of COVID-19 patients.
- **Remote scanning assistance** - *syngo*Virtual Cockpit is a software for remote scanning assistance, making it possible to provide comprehensive scanning assistance to imaging personnel –regardless of their geographic location.

## Diagnostics (continued)

- **AI-Rad Companion Research CT Pneumonia Analysis** - This prototype is designed to automatically identify and quantify hyperdense regions of the lung and could be used to analyse ground-glass opacities and consolidations. High opacity abnormalities were shown to correlate with lungs of COVID-19 patients.
- **ACUSON P500™** - A portable powerful bedside ultrasound with FAST and Lung report templates for emergency medicine.

## Other MedTech Products and Services

- **myCare Companion COVID-19** - Connecting patients in quarantine remotely with physicians so that they can track progress of potential COVID-19 symptoms of these patients and act accordingly.

## Training and Knowledge Sharing

- Webcasts to share lessons learned and actionable insights for COVID-19.

## Philanthropic Contributions

- Monetary donations and donation of medical equipment, respiratory masks, medical protective suits, safety goggles, relief packs to vulnerable communities.

## Staff Mobilisation

- Provided remote support, education, service and training and onsite where needed
- A service where we address workforce challenges with flexible contract terms. Applications Specialists from Siemens Healthineers, are additional workforce members who can assume the roles of technicians during the COVID-19 pandemic.



## Other MedTech Products and Services

To provide an immediate, short term solution to the shortage of Personal Protective Equipment (PPE), STERIS is pleased to announce the following:

The U.S. FDA has granted STERIS an Emergency Use Authorization (EUA). This allows STERIS to temporarily provide a distinct option to **effectively decontaminate compatible N95 Respirators up to 10-times using the Non-Lumen Cycle of the V-PRO® Low Temperature Sterilization System** (Models: 1 Plus, maX, maX 2, 60 and s2).

Although the FFP2 respirator testing was not part of the US FDA Emergency Use Authorization (EUA) submission or approval, respirators equivalent in design and construction to FFP2 respirators were tested under the same conditions using the Non-Lumen Cycle of the V-PRO® Low Temperature Sterilization System (Models: 1 Plus, maX, maX 2, 60 and s2) up to 10 times and with results consistent with those for the N95 Respirators. This testing was done with the support of 3M to support use in regions outside of the United States.



## Other MedTech Products and Services

- Production and Innovation

Stryker has launched new products essential for the COVID-19 response and at the same time actively worked with our industry trade association and regulatory bodies to accelerate the authorisation and approvals for much-needed equipment. Stryker has also increased the production of its products that can help during this crisis. These include hygiene, disinfecting and surgical protection products, as well as hospital beds, stretchers and defibrillators.

- Virtual Engagement

Stryker is using technology in new ways to connect with customers and meet their needs, including holding meetings, conducting training and attending education events virtually.

## Training and Knowledge Sharing

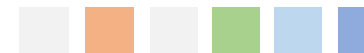
- Partnering with government

Stryker maintains strong relationships with agencies and policymakers in an effort to help as they respond.

## Philanthropic Contribution

- Stryker employees have been donating blood through the Red Cross to help alleviate shortages and supporting the SleevesUp virtual campaign, giving to local charities and global organisations, including the World Health Organization's COVID-19 Solidarity Response Fund and the Red Cross, engaging in virtual volunteer opportunities to support non-profits locally and around the globe.





### Treatment

- A number of Teleflex products have been used in the hospital setting to treat conditions associated with COVID-19, including:
  - Airway Management
    - LMA® Fastrach™ Airway
    - LMA® Protector™ Airway
  - Vascular Access
    - Arrow® EZ-IO® Intraosseous Vascular Access System
    - Arrow® central venous catheters, peripherally inserted central catheters and arterial lines
  - Cardiac Care
    - AutoCAT2WAVE® & AC3 Optimus™ intra-aortic balloon (IAB) pumps and Arrow® IAB catheters
  - Respiratory Therapy
    - Hudson RCI® passive humidification & filtration products
    - Voldyne® Incentive Spirometer

### Training and Knowledge Sharing

- Teleflex has continued supporting customers & health care professionals through the use of virtual training platforms such teleflex-academy.com and urolift.skilljar.com.
- Teleflex has also organised remote clinical training programs, virtual events, online courses & digital materials to provide clinical training, product support & information to health care practitioners. Topics covered relate to critical care & surgery, including adapting clinical practices in ICUs & ORs in times of COVID-19.

### Philanthropic Contributions

- Donation of Personal Protective Equipment (PPE) and Medical Products  
Teleflex has been donating medical supplies to health care practitioners through its Humanitarian Donations program, such as PPE including face masks with shields, gowns & masks, as well as products across Respiratory, Vascular, Anesthesia and Emergency Medicine, to meet the urgent needs.  
Donations have been made to local communities, such as to the Hubei Red Cross Foundation and designated hospitals in Wuhan City. As an Americares Emergency Response Partner, Teleflex has increased our annual donation to Americares to aid their global initiative supporting front line health workers during this important time.

### Staff Mobilisation

- Supported employees who are health care professionals and who have volunteered to return to the frontlines of their healthcare specialty to help in the fight against COVID-19 across sites globally.



## Treatment

- Terumo's Extra Corporeal Membrane Oxygenation therapy (ECMO) continues to aid critically ill COVID-19 patients. Terumo has significantly ramped up production of ECMO to support the pandemic affected hospitals.
- Terumo Syringe and Infusion Pumps are supporting millions of affected patients.
- U.S. Food and Drug Administration (FDA) has issued Emergency Use Authorization (EUA) for the use of Terumo BCT's Spectra Optia™ Apheresis System combined with Marker Therapeutics' D2000 Adsorption Cartridge to treat patients 18 years of age or older with confirmed COVID-19 admitted to the intensive care unit (ICU) with confirmed or imminent respiratory failure to reduce pro-inflammatory cytokine levels.
- A study published on 23<sup>rd</sup> April in peer-reviewed Vox Sanguinis shows Terumo BCT's Mirasol Pathogen Reduction Technology (PRT) System effectively reduced the titer of SARS-CoV-2 in both plasma and platelet products to undetectable levels. Mirasol is designed to add an extra layer of safety to the blood supply. In some parts of the world, where Mirasol is approved for use, the device is used to treat convalescent plasma for COVID-19 patients.
- Across the world several million patients are being served by Terumo's General Hospital Products like syringes, needles, IV Catheter, etc.
- Terumo, through its partnership with Xenex, is making available its LightStrike Germ-Zapping Robots™, proven to destroy live (not surrogate) SARS-CoV-2. Xenex is a pioneer in environmental disinfection. Xenex LightStrike™ has already being deployed in many Public and Private hospitals to fight COVID19 in Singapore, Thailand and Japan.

## Philanthropic Contribution

- Terumo Corporation has donated USD 2.4 million in cash and products to support the COVID-19 relief efforts worldwide - including a USD 1 million donation to the COVID-19 Solidarity Response Fund for WHO.
- Terumo provided emergency relief supplies of 2,500 thermometers and 1,250 sphygmomanometers to China in February. The products were delivered by Terumo China Holdings to the two newly built hospitals in Wuhan (Huoshenshan Hospital and Leishenshan Hospital).



## Other MedTech Products and Services

- In response to COVID-19, Varian has added and augmented capabilities in its software platforms to support safe distancing for cancer patients and their care teams, including:
  - Introduction of a new Patient Activity Dashboard as part of its cancer analytics software. These new capabilities help cancer providers triage patient appointments to determine which must proceed, which can be rescheduled, and which can happen via telehealth channels.
  - A remote desktop solution to support radiation therapy departments in accessing the Varian oncology information system and treatment planning software platforms remotely, allowing radiation oncology teams to more easily manage care across sites and from home.
  - A collaboration with Peter MacCallum Cancer Centre in Australia to ensure up to 40% of their workforce were able to plan patient treatments remotely from home during the lockdown due to COVID-19.

## Philanthropic Contribution

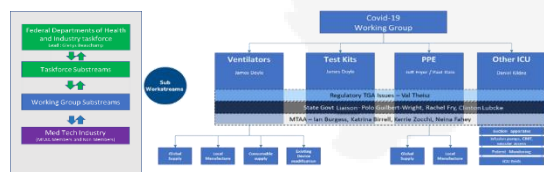
- Varian made a RMB1 Million donation to China Red Cross Foundation in January for providing PPEs to medical staff in Hubei Province.
- Employee donation drive in India for PM Care Fund launched by Prime Minister Modi.



China Chamber of Commerce for Import & Export of Medicines & Health Products

▪ Collaboration and Framework Development with Federal Agencies

In mid-March 2020, MTAA developed the framework for a COVID-19 Working Group to support the Federal Government’s Taskforce to assist in securing essential supplies of ventilators, test kits, Personal Protective Equipment (PPE) and other ICU supplies required by the healthcare system to manage the growing COVID-19 situation across Australia.



▪ Planning to meet expected national demand of ventilators

Information provided by the Taskforce provided the baseline data that underpinned planning for provision of ventilators across Australia against COVID-19 medical treatment forecasts; and understanding the gaps MedTech companies, with their linkages with hospitals and distributors, were integral in providing government with advice and an understanding of national ventilator installed base and capacity. Using their data sources, information on units installed, in which jurisdictions, numbers being serviced and numbers on order, industry has provided a cross-jurisdictional bridge of information that was not otherwise available.

▪ Supporting China to acquire critical MedTech products

Facilitated supply of medical products from overseas by consolidating demand information from hospitals and government and working with international partners to source the supplies.

Coordinated overseas donations to China with a framework and streamlined logistics workflows up to last mile delivery.

Coordinated between industry and government by establishing communication channels for sharing of supply chain information as well as resolving any intermediary issues.

▪ Supporting international partners to acquire MedTech products from China

Sourcing Chinese essential supplies and provide regulation consultation for overseas partners with the aim of global commercial procurement of COVID-19 related products.

Facilitated donation of Chinese products to other countries by mobilising the Chinese MedTech firms and coordinating the supply chain logistics.

Experience sharing of China’s medical industry in the fight against COVID-19.

# About APACMed

We provide a unifying voice for the medical devices and in-vitro diagnostics industry in Asia Pacific.

The Asia Pacific Medical Technology Association (APACMed) represents manufacturers and suppliers of medical equipment, devices and in-vitro diagnostics, industry associations and other key stakeholders associated with the medical technology industry in Asia Pacific. Our mission is to improve the standards of care for patients through innovative collaborations among stakeholders to jointly shape the future of healthcare in Asia Pacific.

Promoting innovation and impacting policy that advances healthcare access for patients

### ACCESS

Improve access to high quality healthcare for patients.

### INNOVATION

Support innovative new technologies and start-ups that improve the quality of care and healthcare outcomes.

### HARMONISATION

Aligned with international best practices promoting speed to access via common regulatory standards.



### Our members





### Important notice

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