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20 APRIL 2020 – 24 APRIL 2020

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HealthCare	Robotics & Automation	Design & Innovation
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AI
Leveraging AI to Battle This Pandemic — And The Next One

"These clinical risk predictions could then be used to customize policies and resource allocation at the individual/household level, appropriately accounting for standard medical liabilities and risks."

Source: Harvard Business Review (20 April 2020)

ARCHITECTURE
Interview: Liam Young on the Future of Artificial Intelligence in Architecture

"The Australian-born architect and director has carved a vibrant path through architectural discourse, standing at the intersection of design, technology, and media. Young uses vivid imagery and films to spark conversations about the future of the built environment, and the relationships between humans and machines, bits and atoms, artificial and natural. "

Source: ArchDaily (20 April 2020)

CRYPTOGRAPHY
Computer Scientists Set New Record for Cryptographic Challenge

"An international team of computer scientists has set a new record for integer factorization, one of the most important computational problems underlying the security of nearly all public-key cryptography currently used today."

Source: SciTechDaily (21 April 2020)

DRONES
The stealthy little drones that fly like insects

"It is currently around eight inches long, but production versions are planned to be smaller. Squeezing a lot of aerodynamic and navigational wisdom into a diminutive package is nature's prerogative but was a big challenge for Animal Dynamics."

Source: BBC (21 April 2020)

ENGINEERING
How GovTech Developed Fit for Purpose Temperature Scanners – Part 3

"This temperature scanner developed by GovTech's Smart Nation Platform Solutions (SNPS) team combines hardware and software for the best of both worlds."
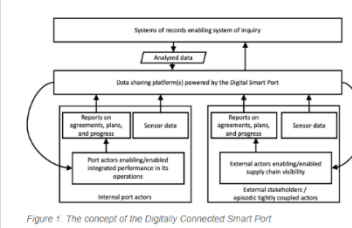
Source: GOVTECH (16 April 2020)

HEALTH TECH
Japanese biotech seeks to turn 'brown gem' into gold

"Metabologenomics is just one of more than 100 companies worldwide that have focused on unlocking the therapeutic benefits of the gut microbiome, and investors have poured large sums of money into some of the biggest players such as Seres Therapeutics in the US."

Source: Financial Times (21 April 2020)

LOGISTICS
Smart ports: on the move to become global logistics information exchange hubs

Figure 1: The concept of the Digitally Connected Smart Port

"The port's system will be a microservices data oriented layer invoking different services via standard APIs (Application Programming Interfaces) and exposing a rich set of services to the whole ecosystem."

Source: Digital Ship (20 April 2020)

MATERIAL QUALITIES
Rie Sakamoto knits rubber bands together like yarn for elastic garments

"Japanese designer Rie Sakamoto replaced yarn with rubber bands for her knitted fashion collection, which aims to showcase this stationary item's overlooked qualities."
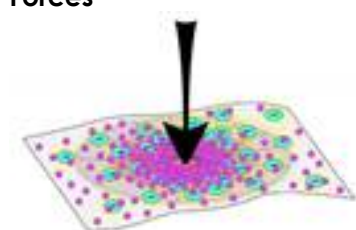
Source: Dezeen (20 April 2020)

MEDICAL DEVICES
Cost-Effective Canopy Protects Health Workers from COVID Infection During Ventilation

"The researchers say the plastic used for the canopy design does not allow fluid or particles to pass through it and that it has been tested against international standards, which score effectiveness based on the number and size of airborne particles that pass through the material."

Source: EurekAlert! (20 April 2020)

NEW MATERIALS
Under Pressure: New Bioinspired Material Can 'Shapeshift' to External Forces

"Johns Hopkins researchers have created a self-adapting material that can change its stiffness in response to the applied force. This advancement can someday open the doors for materials that can self-reinforce to prepare for increased force or stop further damage. "
Read more in Advanced Materials.

Source: John Hopkins University (17 April 2020)

PUBLIC HEALTH
New decision model shapes strategies for dealing with public health emergencies

"Decision scientists have developed models to help governments and policymakers allocate limited healthcare resources. The model accounts for differences between population segments and shows that segment-specific strategies for tests and treatments are crucial for attaining positive health outcomes, especially when there is limited capacity for treatments. "

Source: Aalto (16 April 2020)

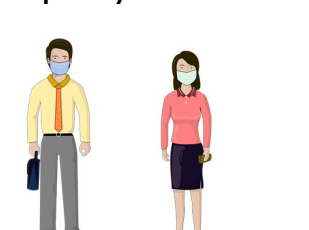### ROBOTS
Inside the hotel run by robots

"Until last year, if you had checked into the Henn na Hotel in Japan you'd have had a staff of 243 robots at your disposal. From the nodding velociraptor and humanoid "manning" the front desk, to the recycling bin droid that roamed the corridors and the chatty in-room artificial intelligence (AI) concierge, the world's first robot hotel even had mechanised fish swimming around a tank in the lobby."
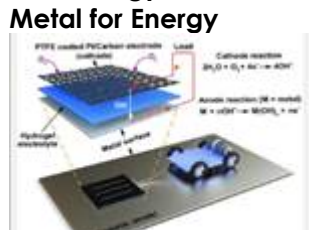
Source: Raconteur (19 April 2020)

ROBOTICS
Social distancing until 2022?! Hopefully not.

"A new paper by researchers from Harvard's school of public health modeling the spread of covid-19 in the United States says that "prolonged or intermittent social distancing may be necessary into 2022." The emphasis in many news reports about the paper is on the date, which is startling."

Source: MIT Technology Review (15 Apr 2020)

ROBOTICS
Penn Engineering's New Scavenger Technology Allows Robots to 'Eat' Metal for Energy

"Rather than from the chemicals in a battery, the researchers' metal-air scavenger vehicle gets energy from breaking chemical bonds in the metal surfaces it travels over."
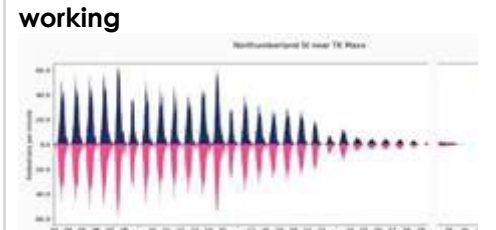
Source: EurekAlert! (21 April 2020)

SMART CITIES
Satellite project to help build the smart cities of the future

"Hong Kong Aerospace Technology Group (HKATG) has announced its first Starlink satellite constellation project with a view to helping build smart cities across the Greater Bay Area (GBA), encompassing Guangdong province, Hong Kong and Macau."

Source: Smart Cities World (20 April 2020)

SMART CITIES
This is how smart city technology can be used to tell if social distancing is working

"The Newcastle University Urban Observatory was established to better understand the dynamics of movement in a city. It makes use of thousands of sensors and data sharing agreements to monitor movement around the city, from traffic and pedestrian flow to congestion, car park occupancy and bus GPS trackers. It also monitors energy consumption, air quality, climate and many other variables."
Read about Social Distancing in Workplaces in MIT Technology Review.

Source: World Economic Forum (17 April 2020)