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11 February 2019 - 15 February 2019

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HealthCare	Robotics & Automation	Design & Innovation
Cybersecurity	Digital Design & Fabrication	Advanced Manufacturing

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3D PRINTING
Is the Revolution of 3D-Printed Building Getting Closer?

"3D printing was expected to transform architecture and construction, but uptake has been slow. Could that be changing?"

Source: CityLab (11 February 2019)

ARTIFICIAL INTELLIGENCE
Using Artificial Intelligence to Engineer Materials' Properties

"Applying just a bit of strain to a piece of semiconductor or other crystalline material can deform the orderly arrangement of atoms in its structure enough to cause dramatic changes in its properties, such as the way it conducts electricity, transmits light, or conducts heat."
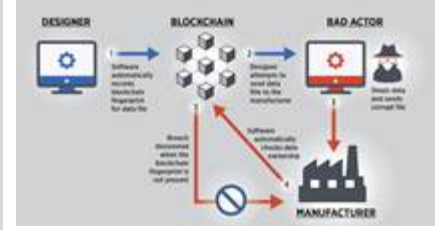
Source: MIT News (11 February 2019)

AVIATION
How Mitsubitshi Heavy Industries Group is Helping Cities Build Airports of the Future

"Air travel is booming. As increasing passenger traffic pushes Asia's airports to capacity, governments will have to make crucial investments in infrastructure to prepare for the future."

Source: Bloomberg (February 2019)

BLOCKCHAIN
NIST: Blockchain Provides Security, Traceability for Smart Manufacturing

"Blockchain not only provides tamper-proof transmission of manufacturing data, it also yields something just as valuable to its users - traceability of that data to all participants in the production process."

Source: NIST (11 February 2019)

CITIES
What Urbanism Needs to Learn from Dubai

"To inspire creativity, leaders should also encourage healthy conflict and debate. Instead of micromanaging, empower others and give them the reins to explore and take risks, which can lead in unexpected directions."

Source: Arch Daily (11 February 2019)

DESIGN THINKING
30 Traits of Outstanding Design Thinkers

"Although nearly 80 percent of companies include design in most projects, only five percent are leading the way, "tackling design in a truly integrated way that is elevating strategy, increasing market share, and surging employee impact."

Source: Forbes (12 February 2019)

HEALTHCARE
Diabetes: Could a Pill Replace Insulin Injections?

"Researchers came up with an innovative new design for a pill that consists of a biodegradable capsule containing an insulin microneedle. When a person swallows the pill, insulin injects directly into the stomach wall."
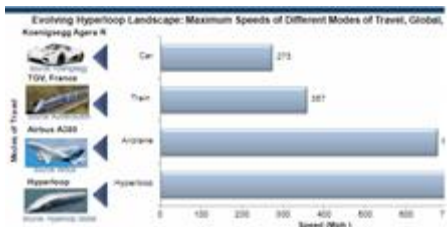
Source: Medical News Today (10 February 2019)

HEALTHCARE
How Robots and AI Are Creating the 21st-Century Surgeon

"Imagine a world where Medtronic + Microsoft, Zimmer + Apple, Depuy + Amazon, Siemens + Facebook, Stryker + Uber, Philips + Alibaba, Abbott + Tencent, Steris + Baidu, etc., are collaborating on new projects."

Source: Robotics Business Review (7 February 2019)

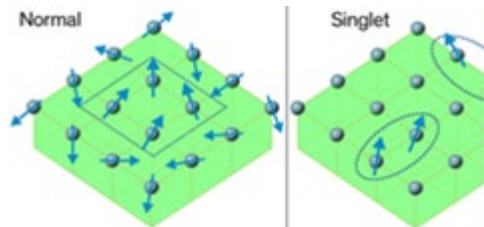
HYPERLOOP
Global Evolving Hyperloop Landscape, 2018–2025

"This study provides a quick snapshot of the evolving Hyperloop landscape. It discusses the history of Hyperloops and how they can help in addressing some of the mobility challenges of today. The advantages that Hyperloops will bring into the mobility landscape of the future and how it can revolutionise passenger and cargo transportation is covered."

Source: Frost & Sullivan (18 January 2019)

MAGNETS
Scientists Discover a New Kind of Magnet

"A new kind of magnet, theorized for decades, may now have been experimentally proven to exist. And it could eventually lead to better data storage devices."

Source: IEEE Spectrum (7 February 2019)

MATERIALS SCIENCE
North America; Technology Innovation Award - The Alternatives to Plastics Industry

"In order to reduce environmental impact of plastics, bioplastics are slowly being adapted as packaging materials. However, bioplastics have several challenges. Most of them are currently derived from food crops, such as corn, which tends to spark the food versus biochemical debate."

Source: Frost & Sullivan (7 February 2019)

MATERIALS SCIENCE
Unleashing Perovskites' Potential for Solar Cells

"Perovskites can be processed in a liquid solution at temperatures as low as 100 degrees, using inexpensive equipment. It can be deposited on a variety of substrates, including flexible plastics, enabling a variety of new uses that would be impossible with thicker, stiffer silicon wafers."
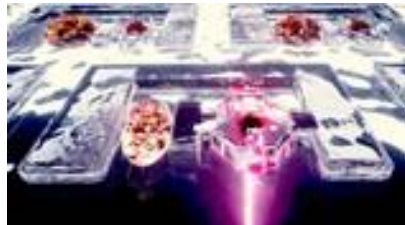
Source: MIT News (7 February 2019)

MATHEMATICS & COMPUTATION
'Squeezed Thermal States' Could Make Computers More Energy-Efficient

"The energy cost of erasing a bit of data can be decreased exponentially by embedding the bit in a 'squeezed thermal environment'. That is the conclusion of Jan Klaers at the University of Twente in the Netherlands, who has studied a simple model of a bit that comprises a particle trapped in a box."

Source: Physics World (6 February 2019)

ROBOTICS
Gummy-Like Robots That Could Help Prevent Disease

"Scientists have developed microscopic, hydrogel-based muscles that can manipulate and mechanically stimulate biological tissue. These soft, biocompatible robots could be used for targeted therapy and help to diagnose and prevent disease."

Source: Science Daily (8 February 2019)

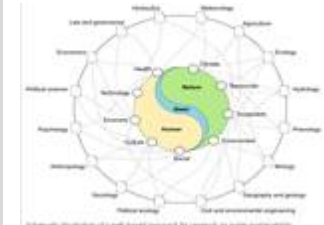**SMART FABRICS**
This New Fabric Will Automatically Cool You Down When You Get Hot and Sweaty

"The material responds to the body's heat and wetness to help keep us at a comfortable temperature at all times."

Source: MIT Technology Review (7 February 2019)

WATER MANAGEMENT
On Knowledge Generation and Use for Sustainability

"In order to address sustainability challenges, we posit that knowledge generation needs to move rapidly from a disciplinary linear 'tree' model to an interdisciplinary 'web' model."

Source: Nature Sustainability (11 February 2019)

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