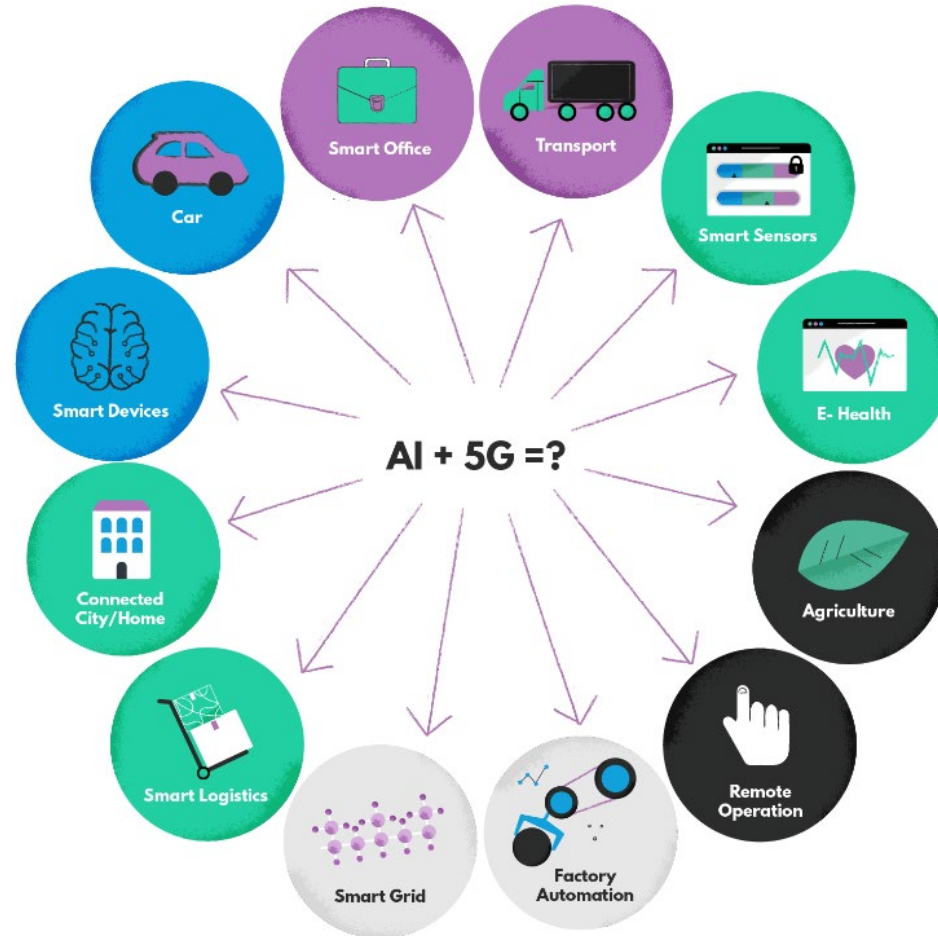


D. 5G and AIoT Technologies

Chapter #4: 5G and AIoT Use Cases Part #1

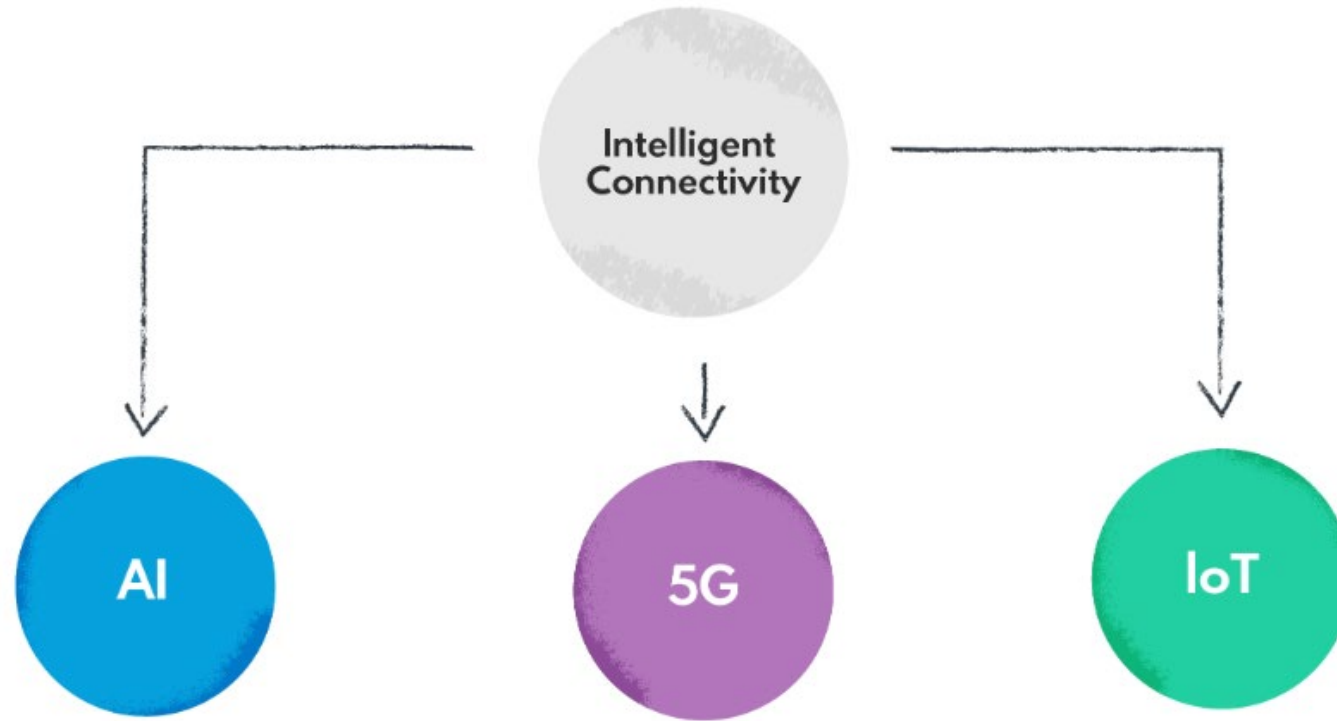
With sincerest thanks to: Lucas CHEONG Wai

4.1 Understand the Convergence of 5G and AIoT Technologies



Source: <https://nexocode.com/blog/posts/how-5g-and-iot-enable-ai-solutions-to-emerge/>

4.1 Understand the Convergence of 5G and AIoT Technologies



5G + IoT + AI = Intelligent Connectivity

Source: <https://nexocode.com/blog/posts/how-5g-and-iot-enable-ai-solutions-to-emerge/>

4.1 Understand the Convergence of 5G and AIoT Technologies

Major 5G & AIoT Application Areas

Smart Cities



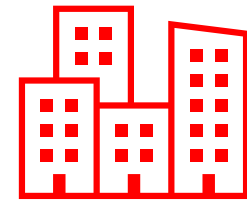
Smart Manufacturing



Healthcare



Smart Homes
and Buildings



IoT is empowered by
three key technologies:

Artificial
Intelligence (AI)



Programmable intelligence
enabling devices to learn,
reason, and process
information like humans

5G Networks



5th generation mobile
networks with extremely
fast, near-zero latency for
real-time data processing

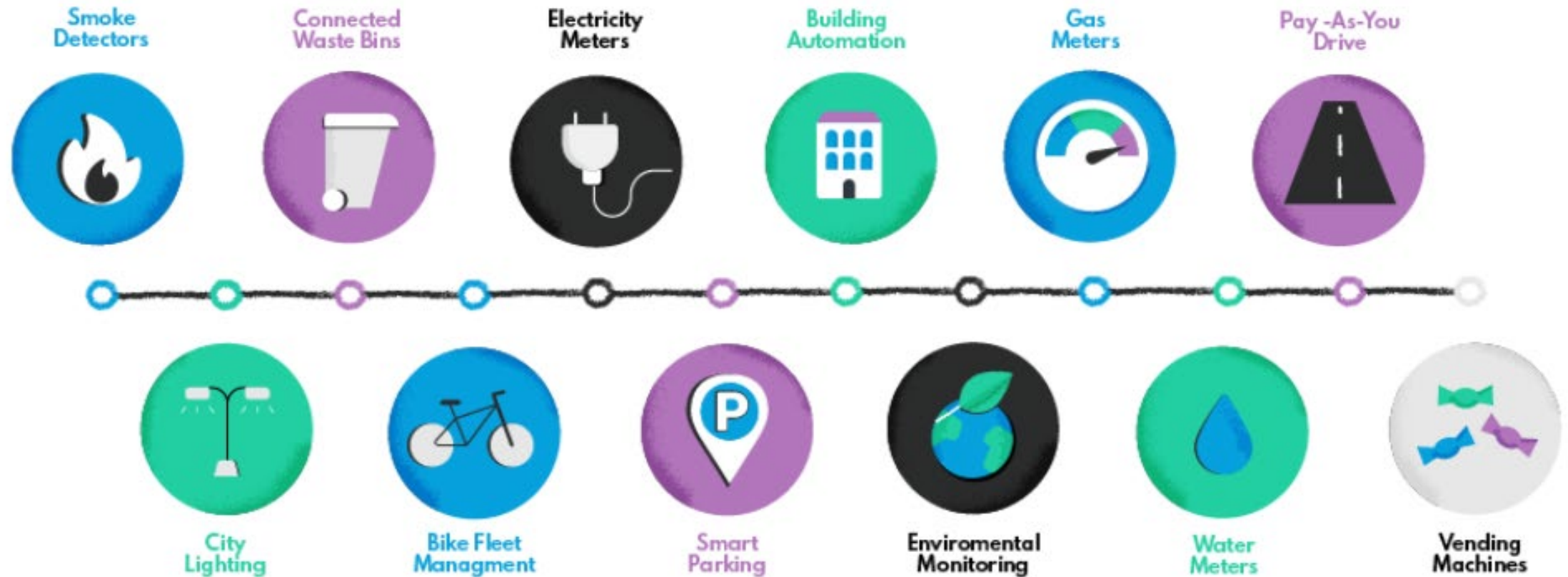
Big Data



Volumes of data from
numerous Internet-connected
sources, that are too large for
normal processing methods

Together, AI and IoT merge to create AIoT — a smart, connected
network of devices that seamlessly communicate over powerful 5G
networks — unleashing the power of data better and faster than ever.

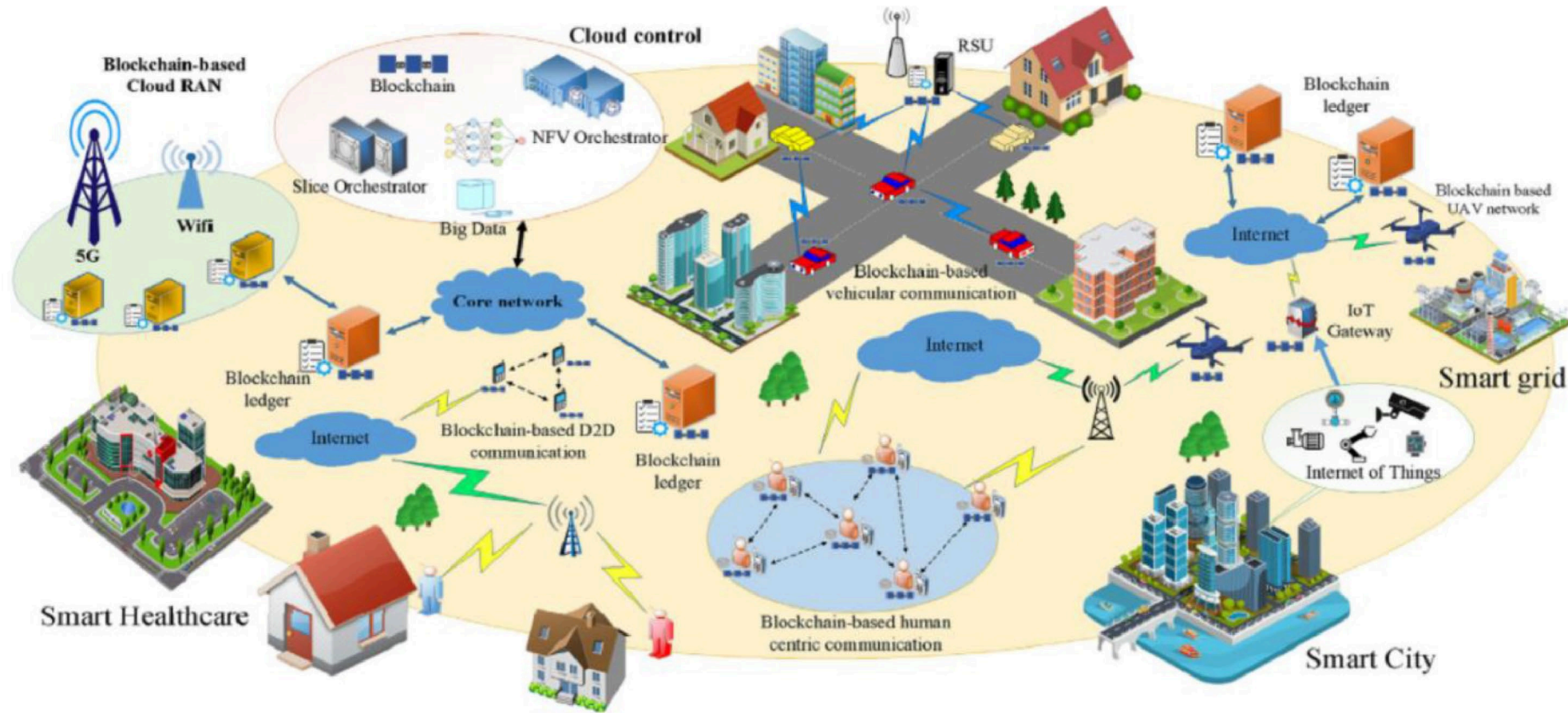
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Smart Cities

Source:
<https://nexocode.com/blog/posts/how-5g-and-iot-enable-ai-solutions-to-emerge/>

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Potential Smart City Ecosystem

Source:

<https://www.sciencedirect.com/science/article/pii/S2666546821000653>

4.1 Understand the Convergence of 5G and AIoT Technologies

Smart Nation Singapore

What is a “SMART” city?

- Many devices communicating with each other to create an efficiently run ecosystem
- Make life easier for citizens

- CODEX
- E-Payments
- Moments of Life Initiative
- National Digital Identity (NDI)
- Smart Nation Sensor Platform
- Smart Urban Mobility

- CorpPass
- Data Innovation Programme Office (DIPO)
- FinTech Sandbox
- Networked Trade Platform (NTP)
- Punggol Digital District

- E-payment
- National Digital Identity
- Moments of Life Initiative
- Core Operations Development Environment and eXchange (CODEX)
- National Digital Identity (NDI)

Transport

- Smart urban mobility
- Autonomous Vehicles
- Contactless fare payment for public transport
- On-demand shuttle
- Spearheading research in standards for SDVs

Strategic National Projects

Government Initiatives

Startups And Businesses

Digital Government Services

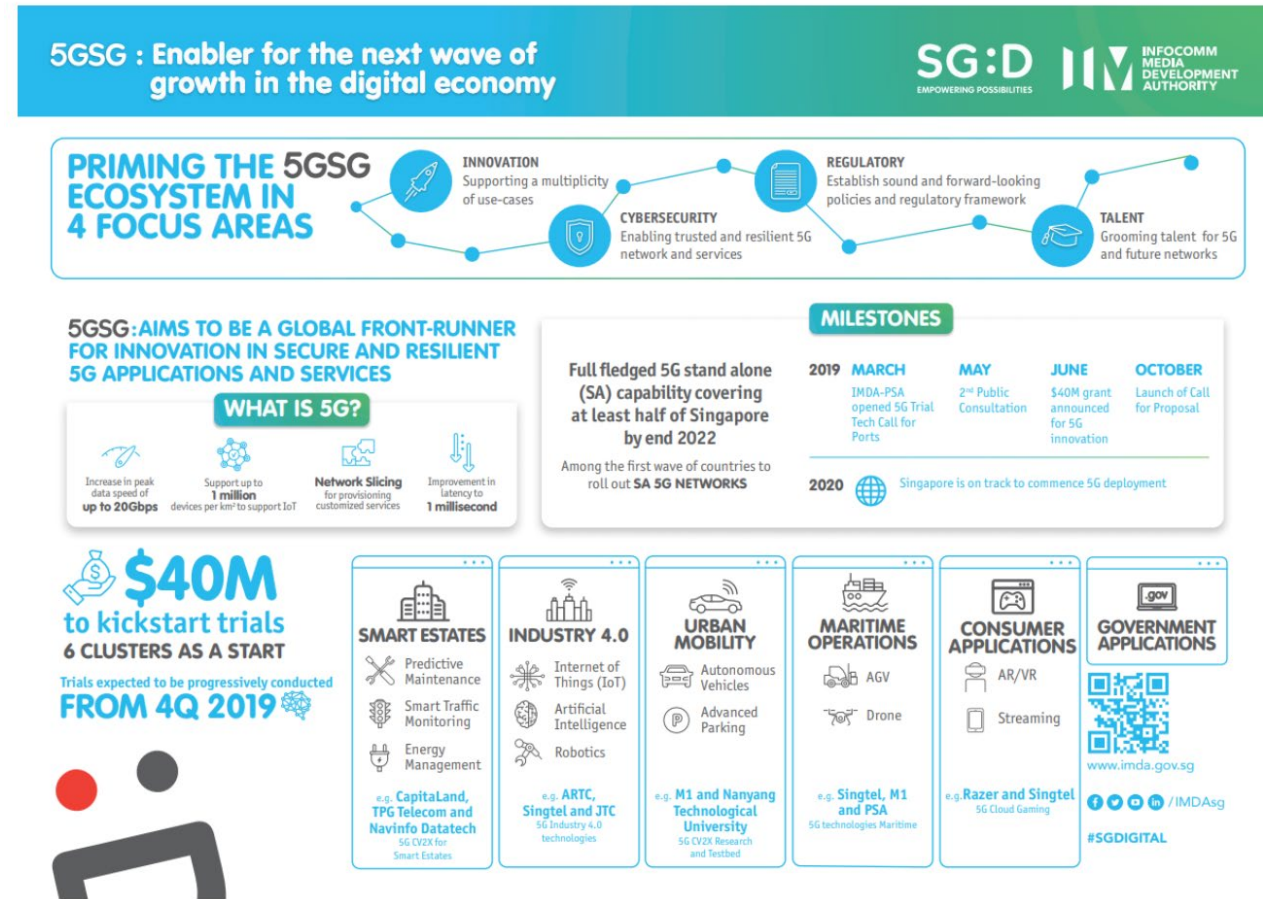
Health

- Automated Meter Reading (AMR) Trial
- Drones to Survey Dengue Hotspots
- myENV app
- OneService App
- Planning for Our People and Businesses
- Smart Elderly Alert System
- Smart Towns
- Virtual Singapore

- Assistive Technology and Robotics in Healthcare
- HealthHub
- National Steps Challenge & the Healthy 365 app
- TeleHealth

Source: <https://www.smartnation.sg/what-is-smart-nation/initiatives>

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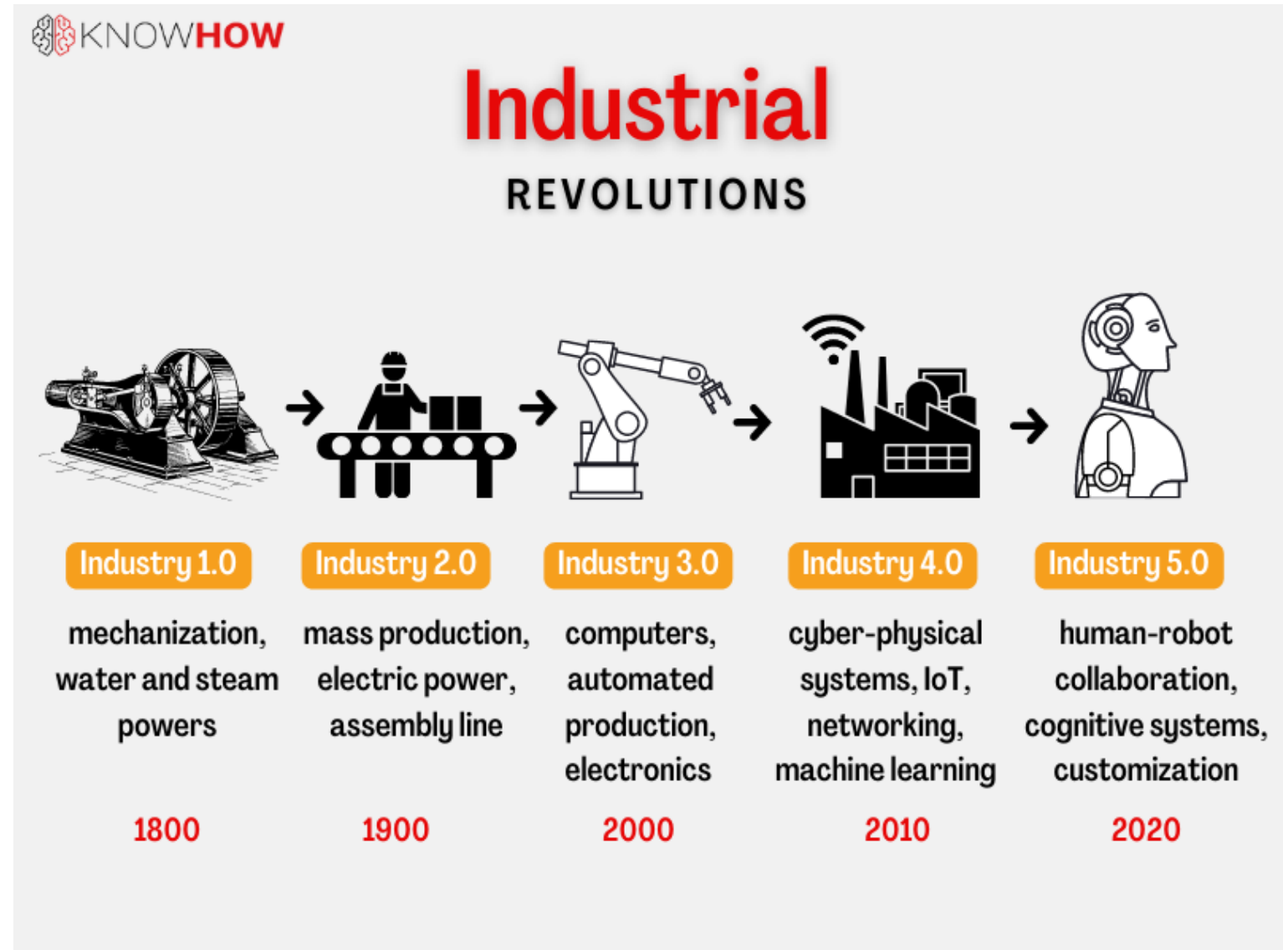


Singapore 5G Innovation Plan

Source:
<https://www.imda.gov.sg/how-we-can-help/5g-innovation>

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Industry IoT (IIoT) And Industry 4.0



Source: <https://knowhow.distrelec.com/manufacturing/is-your-business-ready-for-industry-5-0/>

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Smart Manufacturing



Manufacturing Automation
e.g. Automated Guided Vehicles (AGVs)

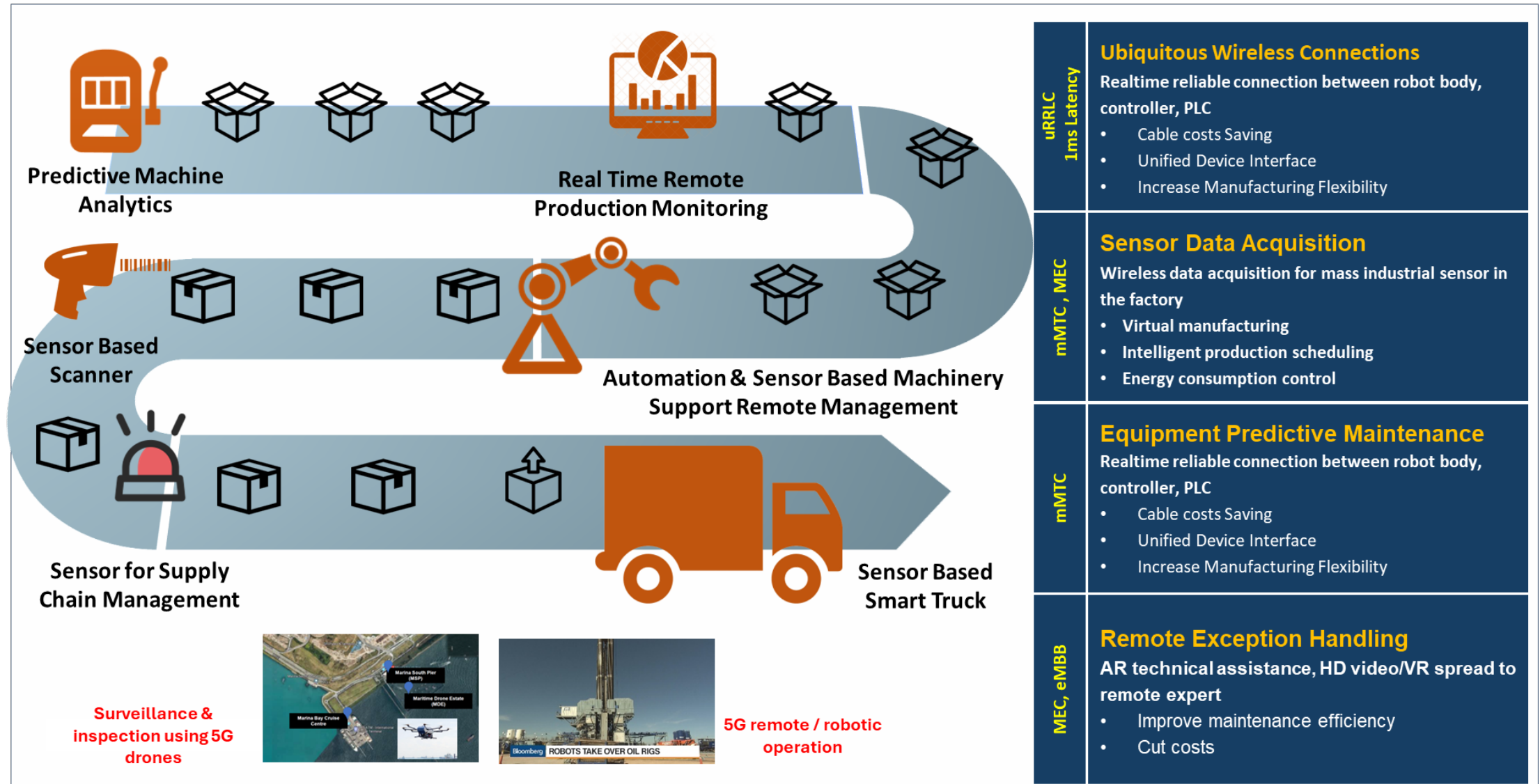


Remote Robotic Control

Source: <https://dgtlinfra.com/5g-use-cases-in-10-different-industries>

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Smart Factory



4.1 Understand the Convergence of 5G and AIoT Technologies Digital Twins

