Thursday 30th November 2017

Science, Technology and Innovation (STI) For Sustainable Development Goals (SDGs)

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“New technologies are redefining industries, blurring traditional boundaries and creating new opportunities on a scale never seen before. Public and private institutions must develop the correct policies, protocols and collaborations to allow such innovation to build a better future, while avoiding the risks that unchecked technological change could pose,”

[Murat Sönmez, Head of the Center for the Fourth Industrial Revolution, 2017]

What is MPESA?

- Money transfer by SMS
- Daily part of life: fast, easy and safe
- Available to anyone
  - no need for a bank account
  - no joining fee
  - no monthly charges
  - no minimum balance
- Banks have been forced to collaborate after waiting years for its demise

Impact of MPESA to Poverty

- M-Pesa has reduced poverty by 2-5%.
- M-Pesa helped people to spend their money to buy what they needed, and start their own business, grow their business and create more employment.
- People can also save money with M-Pesa, they can put as little as 100 Shillings (equivalent to $1) in a savings account (Mshwari), get interest on it and withdraw what they need, changed their lives dramatically.
- When M-Pesa introduced in 2007, there were 1.5 million people who would never save, but today they do
- CLASSIC CASE OF DISRUPTIVE TECHNOLOGY

[Source: Tavneet Suri, Professor at MIT Business School]

Agenda 2030

19 of 169 targets have a direct link with technology.

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24 targets have technology as an indirect enabling role.

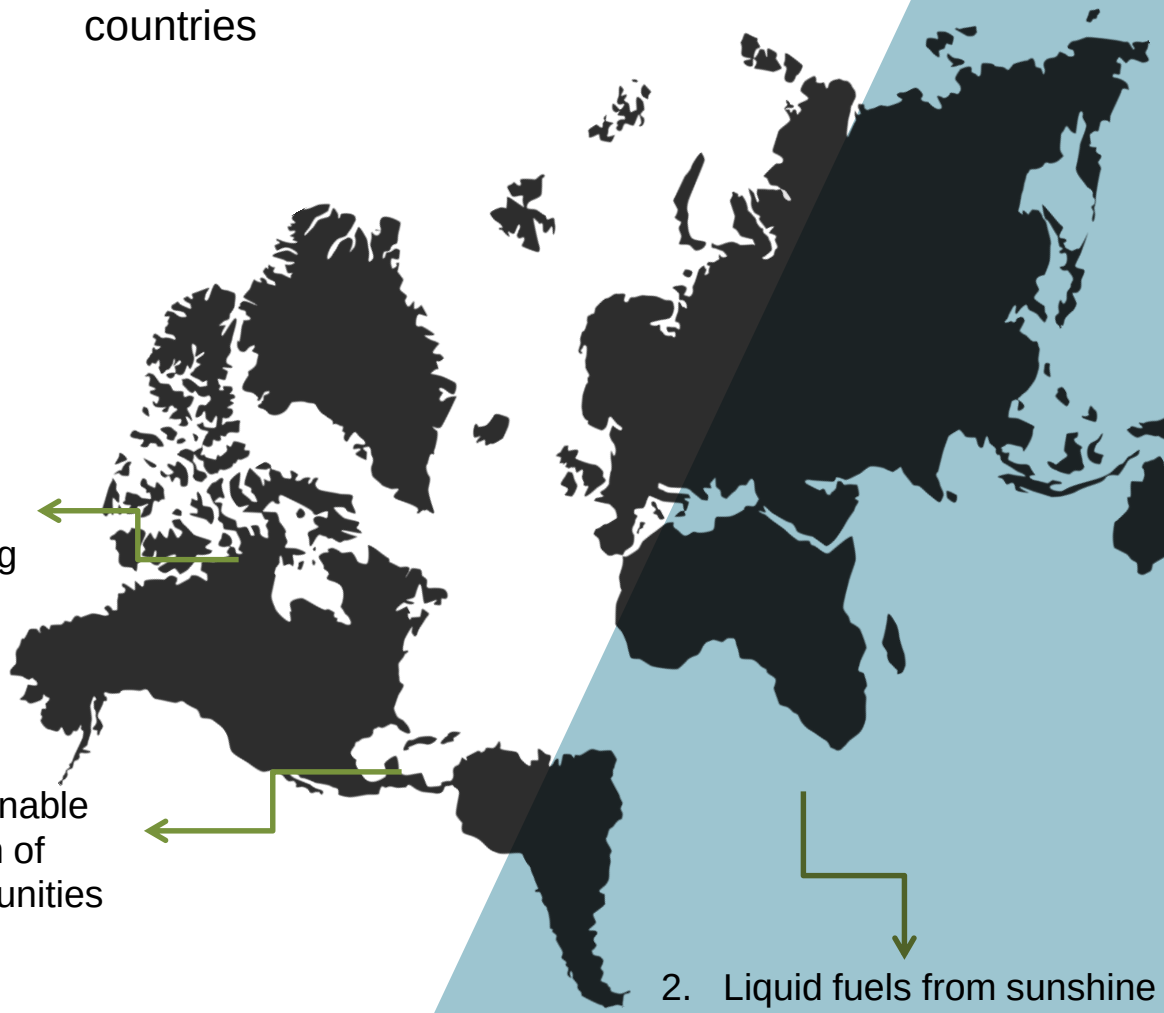
STI evidently is a major means of implementation for all SDGs with a key catalytic beneficial role in addressing these goals.

The Role of Partnerships

- What type of partnerships are needed to deliver on STI to address the SDG gaps?
- What is the nature of partnership. Is it partnerships for partnerships sake?
- Who should intervene & at what stage to take these issues beyond discussion and fancy glossy policy documents.
- Example, partnership between Kobe City in Japan and Kigali in Rwanda.

WEF 2017 Disruptive Technologies

A number of disruptive technologies are essential for achieving the SDGs in the forum, but risk that their benefits may be disproportionally distributed across countries



4. Quantum computing

1. Harvesting clean water from the air

3. Sustainable design of communities

2. Liquid fuels from sunshine

Key Technologies

1. Internet of Things
2. Big Data
3. Artificial Intelligence
4. Space Colonisation
5. 3D Printing

Internet of Things

Identifiable objects and virtual representations in the internet.

Equipping all objects with machine readable identifiers could dramatically change lives

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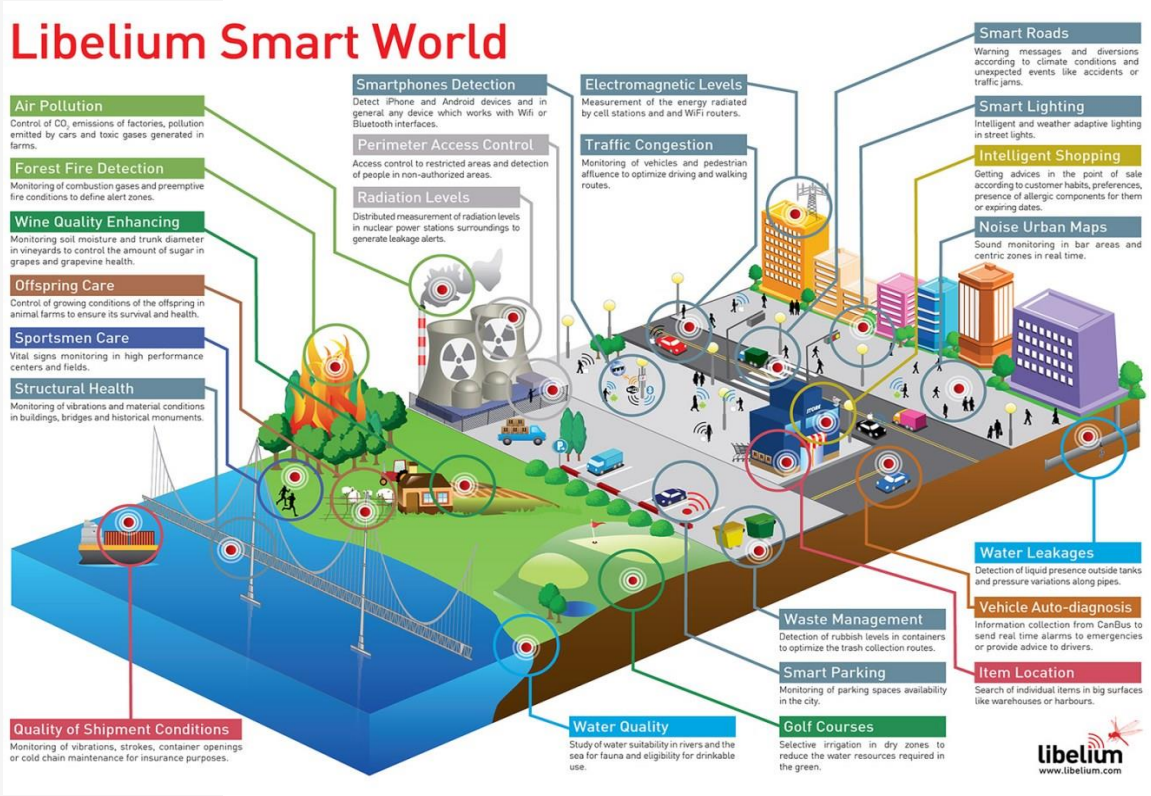
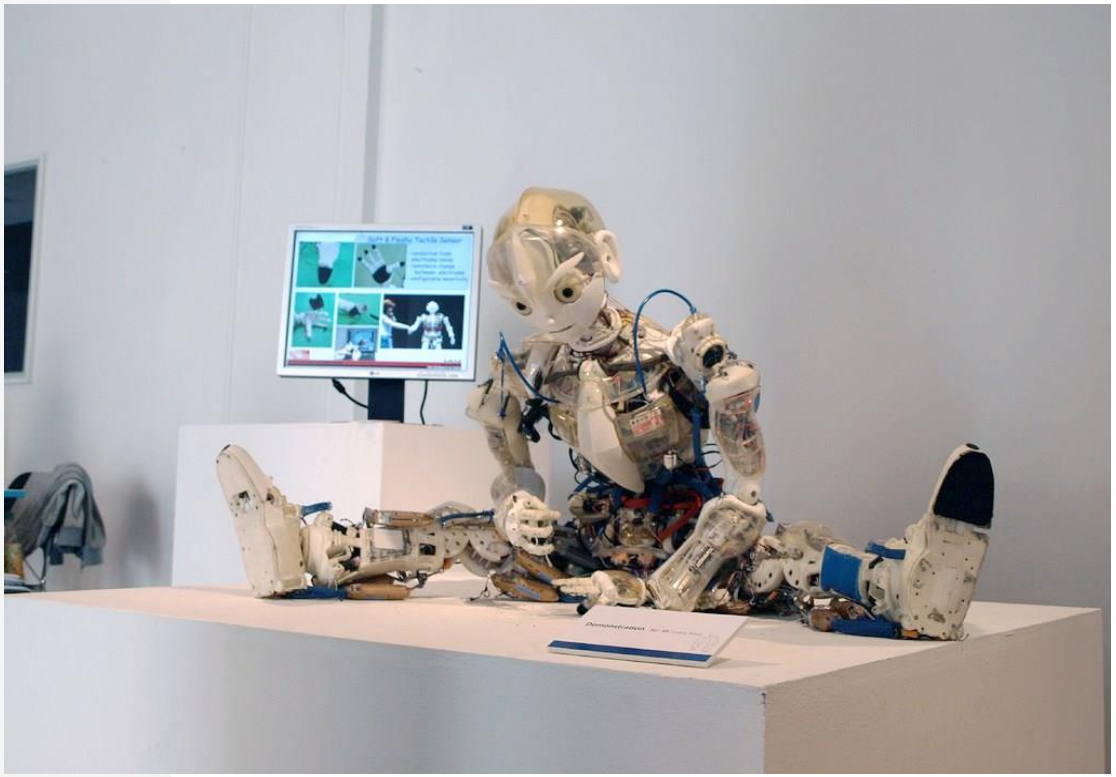
IoT is certainly an interesting innovation to look into; looking at the benefits vis a vis the dangers.



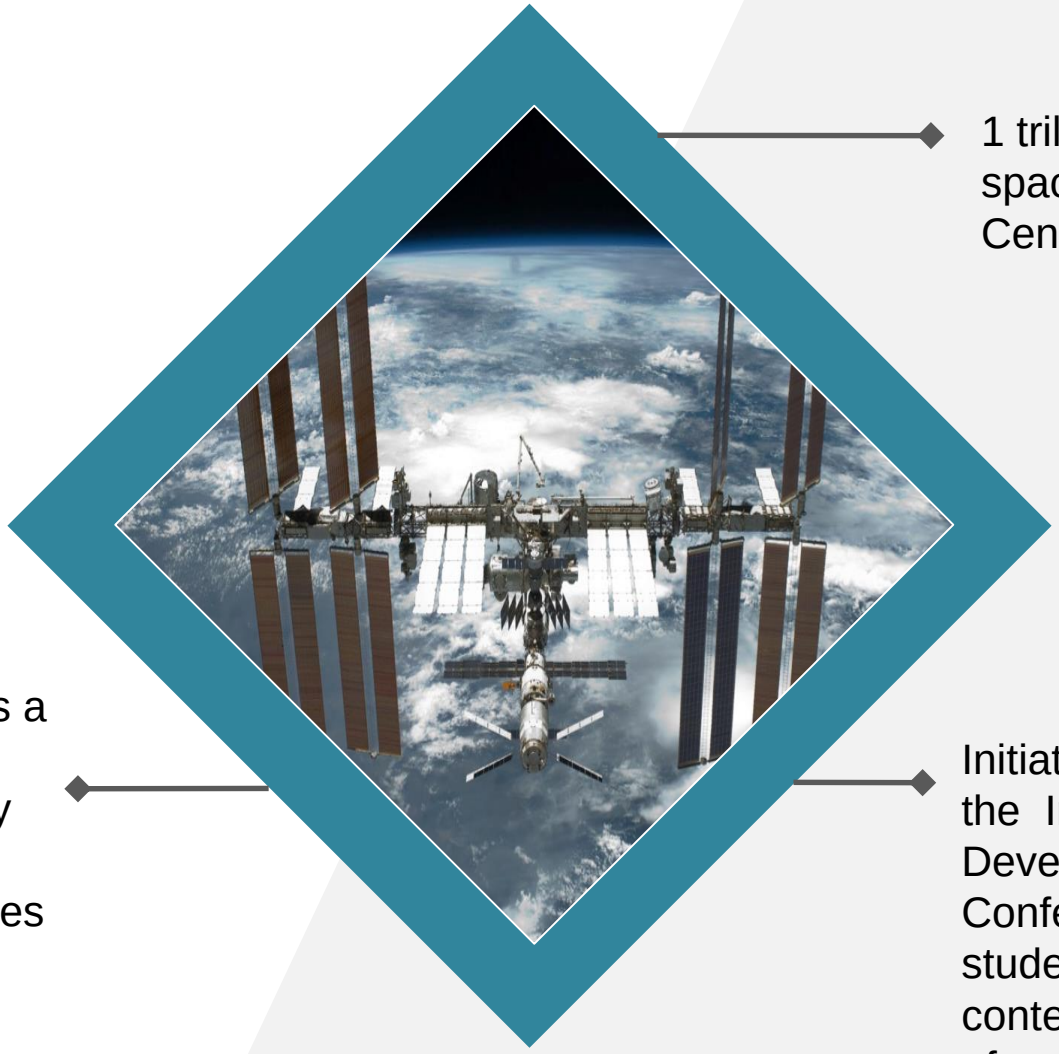
Artificial Intelligence

Special type of intelligence exhibited by computers and other machines.

Artificial intelligence is used when machines copy the cognitive functions of the human brain in learning and solving problems.



Space Colonisation

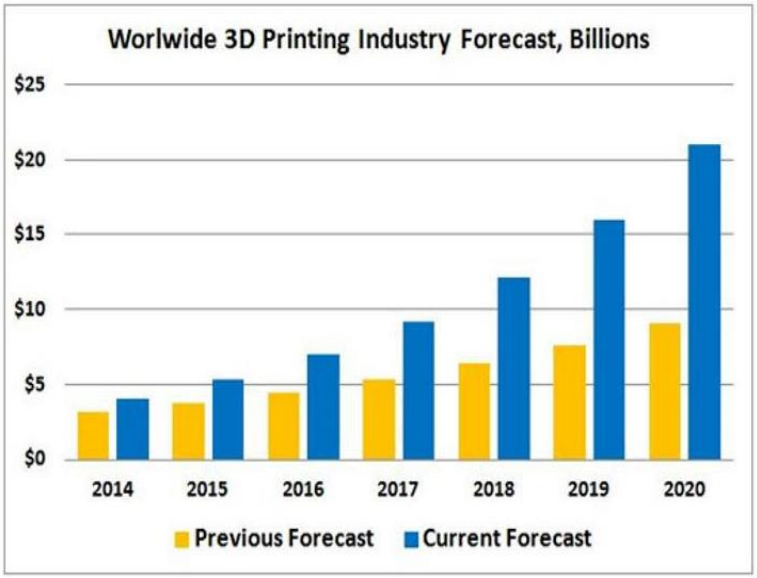


1 trillion people in space by the 22nd Century.

Space colonization is a good example of disruptive technology where lots of macro disruptive technologies will be invented as a result.

Initiatives such as the International Space Development Conference where students participate in contents (a possible area of partnership perhaps?

3D Printing



In the long-term commercial activity of transporting goods to customers and the fabrication of products on a large scale will be disrupted.

It will reduce human activities that cause climate change.

It will be possible to print settlements, furniture, utensils, transportation, clothes etc through the transfer of a document containing such files.

Not widespread yet but potential to be disruptive.

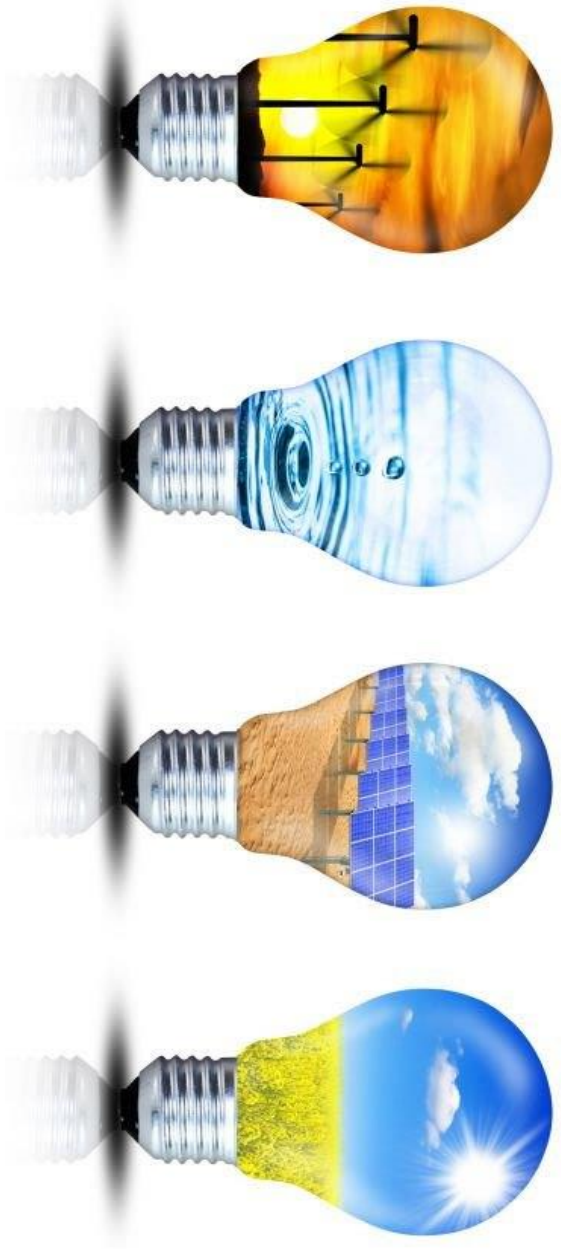
3D printing is arguably a great enabler of the SDGs.

Renewable Energy

Generation of energy from renewable sources such as solar and wind is certainly disruptive that will accelerate sustainable development.

Renewable Energy will minimize climate change and pollution.

Renewable energy includes technological inventions such as wind turbines, photovoltaic cells, concentrated solar power, geothermal energy, ocean wave power among others.



Lessons from TFM Independent Assessments

- The online platform should support actual technology transfers via matchmaking, not be simply an information repository for policy/scientific information.
- A key group of platform users is public agencies and private suppliers of such services within country-based innovation ecosystem.
- Critical start-up phase will require more and centralised resources, including specialist technology transfer service providers.
- The platform will need a small team once it is fully operative, but it is crucial that it be permanently ‘animated’.
- The skill set of the human resource should not be limited to the ICT domain, but rather focus on service development, process management and facilitation of networks.

Thank you!

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