

Stranger Topics

Trends in the 2020s

by **Jairson Vitorino**
Elife



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Considering the vast amount of work being undertaken by scientists around the world, the future looks bright! Jairson Vitorino, co-founder of Elife and SA365, assesses the key areas he believes will impact our planet's future development.

1. Longevity

In the early 19th century, European life expectancy was 33. By the late 20th, it had soared to 77. In the decades ahead, we expect a new leap forward; some authors point to a 130-year life expectancy in the late 21st century.

Populations living longer, in greater comfort, will develop new needs and habits and create new market niches we can't even picture today. In addition to the obvious, like tourism and health, entertainment, smart assistants, e-commerce and virtual/augmented reality are areas that could bring in tens of billions of Euros a year to the global economy.

2. Smart homes

IKEA recently announced a new smart home division which will exclusively focus on developing the Swedish company's designs for the home of the future (the company currently has one billion global customers). From smart light bulbs to voice-operated curtains, IKEA is positioned to work with Artificial Intelligence (AI) platform suppliers like Amazon, Google, Apple and Microsoft.

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3. Robots and automation

At the University of Singapore, a research group has trained robot arms to assemble an IKEA chair. The DFAB House project, developed in Zurich by the National Centre for

Competence in Research, combines drones, 3D printing and robots to automate repetitive construction tasks. This combination of 3D printing and robotics generates less waste and speeds up house construction.

The use of robotics in varying part of our economy should become noticeable in the second half of the 2020s. Just imagine: robots building affordable, safe homes in Africa and 'Robots as a Service' assembling all the furniture in your new house. Your future will certainly be more automated.

4. Understanding human beings

Over the next decade, we'll have access to increasingly sophisticated software, capable of translating text at near-human competence level, talking to an assistant to book a medical appointment or shop online, helping a consumer use a new machine or fixing the air conditioning.

By the late 2020s, AI systems will be able to read thousands of scientific papers and summarise the findings within them, generating new knowledge through sophisticated inference processes. For the first time in history, software-based intelligence will make scientific discoveries of its own!

5. Streaming, games, extended reality and a dash of AI

With a billion more people soon to be included in the digital economy, current streaming leaders Amazon, Netflix, Apple, Disney and Spotify, will be looking to consolidate. The promise of extended reality, combined with smart software, could finally create immersive environments that radically change the way we communicate, create, buy/consume media and learn.

Education could be one of the most highly-impacted segments. Smart

artificial tutors, coupled with extended reality modules, could redefine the classroom in such a radical way that many present-day models may basically vanish.

6. Autonomous vehicles and sharing rides

Collectively, Uber and Lyft represented around US\$72 billion in market value in September 2019. In comparison, Lufthansa is valued at less than US\$8 billion. Such numbers reflect the beginning of the disruption curve that the transport sector will go through over the next decade.

Google's announcement that it intends to launch a mass-market autonomous vehicle made waves around the world and caught the attention of auto giants and companies like Uber. This 'herd effect' is positive for consumers, who can watch from the side-lines as 20 or more major players begin the next gold rush.

7. Mastering space, the internet for all and infinite connectivity

Historically, the cost of rocket launches since the beginning of the space age has been astronomical, between US\$100 million and US\$300 million per lift-off. However, new companies are offering highly-competitive solutions.

Rocket Lab in New Zealand intends to launch one rocket a week within a year and, if all goes well, conduct daily launches. Richard Branson's Virgin Orbit tested their 'cosmic girl' this year — a Boeing plane that carries a rocket which launches from the stratosphere.

There is also a desire to provide a fast, affordable internet service for the whole planet. In order to achieve this goal, Amazon wants to deploy a 'constellation' of over 3,000 satellites. SpaceX already has 60 satellites in orbit and plans to raise this to 12,000.

8. Brain-machine interfaces: super-humans

Scientists from the University of California have developed a prototype system that can read and decode the brain activity of people as they talk. These prototypes can be used to create software for people to control devices, games and any kind of computer application.

Start-ups like Neuralink and Paradromics are working to develop these types of solutions. One of the main drivers behind this kind of work is to restore neurological function to people with spinal and traumatic brain injuries, stroke victims and those with nervous system problems. ●



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