

Artificial or human intelligence: Which will drive future innovation?

1 Warmer

Put these technological developments in order from 1 (most likely to happen soon) to 6 (least likely to happen soon).

- a. electric aircraft
- b. colonisation of the Moon
- c. drone mail deliveries
- d. cashless economies
- e. 3-D printed furniture
- f. 100% synthetic food

2 Key words and expressions

Find the words or phrases in the article that match the definitions below. Use the paragraph numbers to help you.

1. the first form of something new, made before it is produced in large quantities (1)

2. of the basic ordinary type, with no special features (2) (three words) _____
3. to function or operate very well indeed (3) (three words) _____
4. a private start-up business with a value of over \$1 billion (4) _____
5. a situation where a lot of people all try to do the same things at the same time (4)

6. ready to do or achieve something after preparing for it (6) _____
7. a situation in which there are many big and sudden changes (7) _____
8. something you can choose in a particular situation (9) _____
9. a written statement showing the value of a company at a particular time (10)
(two words) _____
10. income from business activities or taxes (10) _____
11. increasing a lot very quickly (10) _____
12. to increase the size, amount or value of something (11) _____

Bold business ideas: Where is tech taking us?

Smart companies will use innovation to augment rather than replace human intelligence

BY LEO JOHNSON

- 1 For the first 250 metres it all goes well. I am in Singapore, in the back of a prototype driverless car, gazing at the other side of the road. Then our car decides to veer slowly into the path of the oncoming rubbish truck.
- 2 Our emergency driver lunges for the wheel, yanks us back to safety, then tells me the game plan. This isn't a vanilla driverless car, he explains, it is a do-it-yourself driverless car, made with off-the-shelf technology, and the goal is to get it on the road as fast as possible.
- 3 But the car, which works a treat for the rest of the day, is only step one. Step two is to fully automate Singapore's economy. Step three is to put all citizens on universal basic incomes. Step four is to use facial recognition technologies to close off the city to unwanted foreign migrants. It is a straight line, in other words, from the technological to the economic to the social, then the political.
- 4 If the 2010s were the decade of the unicorn — the mythical beast of the \$1bn tech start-up — the 2020s appear poised for a unicorn stampede. With Timandra Harkness, the co-presenter of our BBC Radio 4 show FutureProofing, I have spent the past three years scanning the horizon for what is coming in terms of disruptive technologies. The cupboard isn't bare: eggless synthetic biology scrambled eggs, stem cell rejuvenation, weaponised nanobots, the colonisation of Mars, passenger-bearing mega-drones and brain-to-brain communication systems.
- 5 Across disparate fields, from artificial intelligence to robotics, from 3D printing to nanotechnology, from genetics to quantum computing, a pattern is emerging: technological developments are starting not just to accelerate but to amplify one another.
- 6 They are poised to reshape the business landscape. The core capacity we are going to need to survive, says Astro Teller, the so-called Captain of Moonshots at X, Google's research unit, may be dynamic stability — the velocity to stay upright.
- 7 But as the rubbish-truck economy of Henry Ford's fossil-driven mass production starts to yield to the age of the algorithm, what is the impact on business and society? Where does this rollercoaster look like it is going to take us?
- 8 My hunch it is not just speed that matters, it is direction. If technology is not the answer but the amplifier of intent, there is a primary question we have to answer: What are the problems we are looking to solve?
- 9 It looks like there are two different directions emerging. We have the option to prize artificial over human intelligence, to deploy technology in a centralised model that solves for shareholder value at the expense of jobs, that automates — according to projections by University of Oxford academics Carl Benedikt Frey and Michael Osborne — 47 per cent of US and UK white-collar jobs by 2035.
- 10 This would hit national balance sheets with the double whammy of lower tax revenues and surging welfare costs, and set the stage — with increased inequality and the perception of an economy no longer working for the many — for broader support for challenger populist movements.
- 11 But there is also another option: to do the opposite, not to replace human intelligence but to augment it. Go back 1,000 years and the means of production was the land, and the barrier to entry was the wall. For the past 200 years the means of production has been the factory, and the barrier to entry the capital to own it. But with this new set of technologies, from APIs, the cloud and open data, to the sharing economy and micro-printing, the barriers to entry are dropping fast.

Continued on next page

12 The potential is there, to unlock a new wave of cognitive surplus and put power in people's hands to drive innovations across the challenges that confront us, from distributed solar energy to data-driven banking for the unbanked, from 3D-printed ultra-low-cost housing to sensor-based micro-irrigation for drought-resilient agriculture.

13 What does real boldness look like for me as we head into the 2020s? It is boldness not just of execution but of intent.

FT

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3 Understanding the article

Are these statements true or false according to the text? Correct the false statements.

1. The author's driverless car crashed into a truck in Singapore.
2. There will be more unicorns in the 2020s than in the 2010s.
3. A lot of 'disruptive' technologies are coming, according to the author.
4. As a result of automation, 47% of US and UK white-collar jobs could disappear by 2055.
5. Jobs losses would mean less revenue from income tax and higher welfare costs.
6. The author suggests replacing human intelligence and augmenting artificial intelligence.

4 Business language – two-word phrases

Match the words in the left-hand column with those in the right-hand column to make expressions from the text.

- | | |
|---------------|----------------|
| 1. solar | a. recognition |
| 2. driverless | b. whammy |
| 3. basic | c. plan |
| 4. facial | d. car |
| 5. core | e. production |
| 6. double | f. energy |
| 7. mass | g. capacity |
| 8. game | h. income |

5 Business language – verbs

Complete the sentences using these verbs from the text.

reshape veer emerge deploy unlock accelerate

1. When new ideas _____, they appear for the first time.
2. If you _____ someone's potential, you give them the opportunity to develop that potential.
3. To _____ means to make something happen at a faster rate.
4. If people _____ a business, they change the way it operates or develops.
5. If companies _____ technology, they start to use it.
6. To _____ means to suddenly move in a different direction.

6 Business language – word building

Complete the table.

Adjective	Noun
1. safe	
2. intelligent	
3. stable	
4. bold	
Noun	Adjective
5. universe	
6. face	
7. technology	
8. economy	

Worksheet

7 Discussion questions

- Are artificial intelligence and automation the answer to the world's problems? Give reasons why or why not.
- Singapore is considering a four-stage programme. What do you think of the country's plans?
- The article suggests that humans not machines will drive technological innovations. Do you agree with this? Give reasons for your answer.

8 Wider business theme – technological developments

1. Paragraph 4 of the article refers to future developments and includes the possible colonisation of Mars. Imagine that this will begin to happen in the year 2035.

- List the potential advantages and disadvantages of colonising a new planet. Think about the technical, economic and social challenges that this would present.
- Then list the business opportunities that might appear because of colonisation.
- It is the year 2035. Which business would you like to be involved in and why?

If necessary, use a search engine to get ideas.

2. Present your ideas to the group.