

WEF embraces the fourth industrial revolution: 'Food systems are ripe for technology disruption'

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Big data, the Internet of Things, artificial learning and blockchain technologies are largely underused in food systems, but present a major opportunity in accelerating their transformation, according to a World Economic Forum report.

As it stands, global food systems will be unable to feed the expected nine billion mouths on this planet by 2050. *"Global food systems today are in need of transformation,"* says the World Economic Forum (WEF) in its **Innovation with a Purpose** report published earlier today (23 January 2019).

In association with consultants McKinsey & Company, the WEF has investigated the role of next-generation technologies in advancing the world's food systems, with the aim of increasing food chain efficiencies.

According to the report, food systems are 'decades behind' other sectors in adopting technology advancements, particularly in low-income and developing countries. As such, food and agricultural sectors have attracted fewer investments and technology focused-business innovation.

"Our research revealed \$14bn (€12.3) in investments in 1,000 food systems-focused start-ups since 2010, while healthcare attracted \$145bn in investment in 18,000 start-ups during the same period," wrote the authors.

Yet new technologies can help to transform food systems, and prepare industry for growing population numbers: *"Food systems are ripe for technology disruption."*



"Food today generates a heavy environmental footprint. A shift to sustainable food systems is essential and includes: sustainable production and harvest on land and at sea, integrated land-use planning,

land and marine restoration, reducing food loss and waste, and shifting to low footprint diets. To achieve this we need progressive regulation, smart land-use governance, technology innovation, behavioural change and multi-stakeholder collaboration.” – Marco Labertini, director general of WWF International

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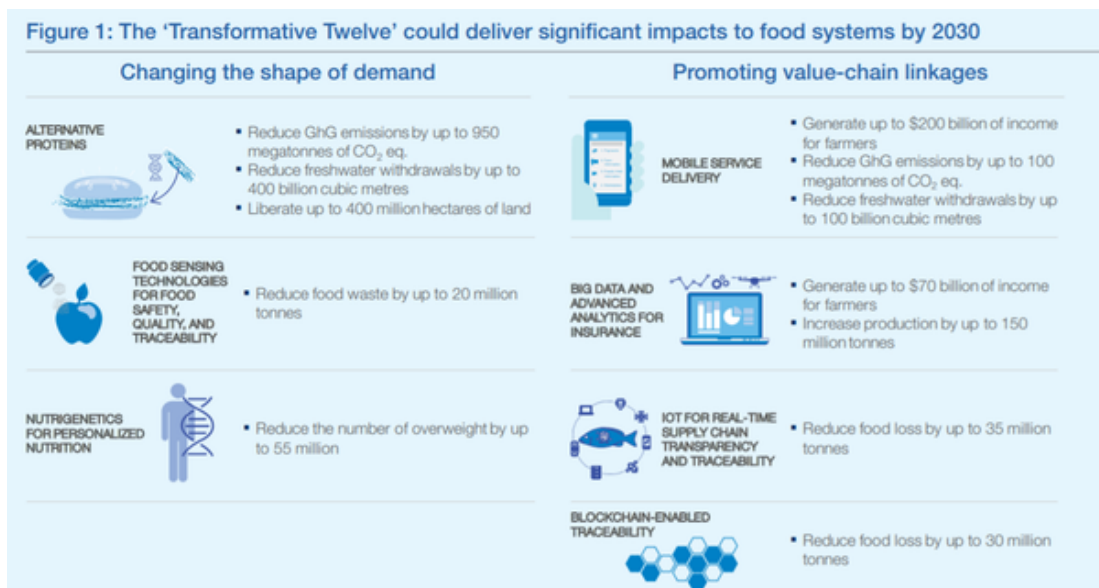
Big data and machine learning are poised to revolutionise how the food sector innovates. These technologies also affect how we tackle today’s environmental and public health issues. Join FoodNavigator as we explore this topic with an expert panel... [Click here](#)

Embracing technology

The report identified 12 technology applications that present opportunities in food systems, whether it be by improving consumer nutrition, increasing supply-chain efficiency and transparency, or enhancing farmer productivity and profitability.

Next generation digital building blocks, such as big data, artificial intelligence and machine learning, blockchain, and the Internet of Things (IoT) were among the disruptive technologies listed.

Physical systems, such as nanotechnologies and advanced robotics, and advances in genomic and biotech science, could also positively impact food systems, according to the WEF.



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A holistic approach

However, technology alone will not completely revolutionise the way we farm, source, and manufacture food, said the WEF.

"Achieving a true transformation of food systems requires a holistic approach – one engaging all stakeholders and deploying a wide array of actions such as improved policy, increased investment, expanded infrastructure, farmer capacity-building, consumer behaviour change and improved resource management."



"Innovations in technology – as well as policy, financing and business models – are essential to nourish the world in a safe, responsible and sustainable way. To improve global food security and nutrition, different players and stakeholders must come together to acknowledge gaps and share approaches for addressing them. We have an incredible opportunity to work together to use technology and innovation to create more inclusive and sustainable food systems." – David MacLennan, chairman and chief executive officer, Cargill

Holistic sustainability has been a running theme at the 2019 World Economic Forum in Davos, Switzerland this week. Expanding infrastructure, for example, is a primary objective of Moroccan start-up WaystoCap. In a discussion on building sustainable markets yesterday, CEO and founder Naima El Bassunie highlighted the importance of trade-related infrastructure in opening up the African market.

According to El Bassunie, 90% of Africa's economic backbone is made up of small and medium-sized enterprises (SMEs). *"So, if we don't focus on them, there is no way we can achieve longer-term growth and sustainability."*

"When we talk about building infrastructure, it has to be customised, it has to be regionalised, and it has to be personalised to different countries and to what they truly need. You have to identify what...the real infrastructural gaps are in those countries, in those regions, and then [find] innovative ways of...giving real access to small and medium-sized enterprises."

Ikea CEO Jesper Brodin also highlighted the importance of a holistic approach as industry looks to build sustainable markets and systems. In the same talk, Brodin focused on the importance of consumer behaviour, and the change he has observed in his consumers.

"In a recent study, we found that 90% of people are interested in changing their behaviour [to help combat climate change], 3% know how. So there is a huge gap today in society."

"There is willingness and awareness...there is a gap to 'how can I contribute?' How can my family be a part of this change? I think this is a very interesting topic and a void that we can fill together."

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