

Technology in Travel & Tourism During Peak Seasons

STRATEGIC INTELLIGENCE BRIEFING

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Executive summary



Explore the interactive version online

This map explores the strategic use of technology in the travel and tourism industry during peak seasons, covering the impact of big data analytics on predicting trends and enhancing service, the role of real-time data in operational decision-making, and the integration of AI, VR, and IoT for crowd management and safety. It delves into insights from investors on critical technologies and showcases success stories from companies that have effectively implemented these technologies during peak times. The map also addresses the challenges and opportunities presented by the impact of COVID-19 on air travel, the potential for digitalization to create additional value and reduce environmental footprint, as well as the impact of IoT and AI on diversity, inclusion, and future job prospects in the industry.

The key issues shaping and influencing Technology in Travel & Tourism During Peak Seasons are as follows:

Travel Governance and Regulation

Emergency situations like COVID-19 underline the need for effective governance

AI, Diversity, and Inclusion

One way to avoid problems with the technology is to create more diverse development teams

Travel and Tourism Digitalization

New technologies and changing consumer expectations are revolutionizing the industry

Architecture and Standards

The Internet of Things requires thoughtful architecture and standard selection

Shifts in Travel Demographics

The expanding global middle class means international travel has surged

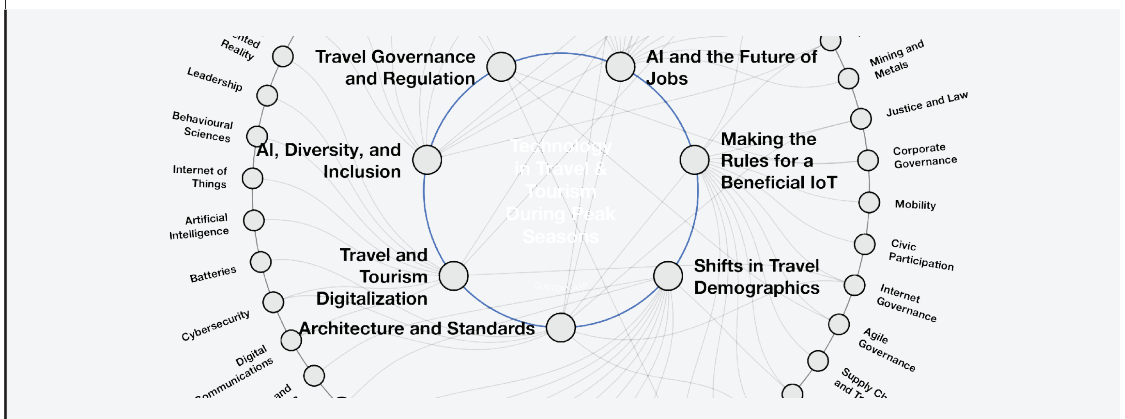
Making the Rules for a Beneficial IoT

The Internet of Things can truly benefit society if the right kind of governance is in place

AI and the Future of Jobs

Preparing for a future without human work will require more than addressing basic financial needs

Below is an excerpt from the transformation map for Technology in Travel & Tourism During Peak Seasons, with key issues shown at the centre and related topics around the perimeter. You can find the full map later in this briefing.



1

Latest insights


A synthesis of the most recent expert analysis.

Below are your latest updates on the topic of Technology in Travel & Tourism During Peak Seasons spanning 14 different sources.

1.1 Current perspectives

 **Harvard Business Review**
How GenAI Can Help Companies Go Beyond Social Listening
10 November 2023

GenAI can transform the process of collecting feedback from consumers, reaching more people across more demographics than ever before, and learning more about what they really think. Companies can rescue qualitative survey data from the trash and dig for deeper insights. To do so, they should: tailor genAI tools to meet their organization's specific needs, feed them existing data, and have them make suggestions for future survey questions.


 **International Telecommunication Union**
VHF communications with aircraft via aeronautical mobile satellite
27 September 2023

Manuel García Martín, Chief, Spanish Air Navigation (ENAIRE) Communications Division Space-based very high frequency (VHF) communications would enable aircraft to communicate with air traffic control (ATC) via satellite radio links operated in the aeronautical mobile-satellite (route) service (AMS(R)S). The concept is expected to support flight operations in many areas of the world, particularly in oceanic and [...]

The post VHF communications with aircraft via aeronautical mobile satellite appeared first on ITU Hub .

 **Boston Consulting Group**
For Chip Makers, Productivity Is an Untapped Source of Resilience
01 June 2023

Using capital expenditures to increase domestic production capacity isn't the only solution to semiconductor shortages. Instead, chip makers in the US and elsewhere can achieve expansion through productivity improvements.

 **Wired**
Buffalo Mass Shooting Victims' Families Sue Meta, Reddit, Amazon
15 May 2023

+++lead-in-text

The families of four people killed at a mass shooting in a Buffalo, New York, supermarket have filed a sweeping lawsuit against a slew of major internet companies, weapon vendors, the family of the perpetrator, and a Japanese toy company.

In a lawsuit filed Friday, the families name internet giants Meta, Amazon, and Alphabet, including social media they own; smaller platforms like Reddit and Snapchat; image board 4chan and its Japanese partner the Good Smile Company; three firearm companies; and the parents of the shooter, Payton Gendron.

While the suit does not set specific dollar amounts—the complaint says it will do so at trial—it attempts to hold this wide array of companies liable for the losses suffered during the May 14, 2022, massacre. It also seeks an order from the court requiring the social media companies “to stop the

harmful conduct ... [and] remedy the unreasonably dangerous recommendation technologies in their social media products.”



The Conversation (Spanish)

¿Son seguras las nanotecnologías?

29 February 2024

Las nanotecnologías son cada vez más prevalentes en nuestra vida diaria, pero su seguridad plantea interrogantes. El Instituto Nacional de Seguridad y Salud en el Trabajo de España ha publicado informes sobre la exposición a nanomateriales para aclarar esta cuestión. Estos informes evalúan la exposición laboral a nanomateriales y se centran en el grafeno. Existen métodos cualitativos y cuantitativos para evaluar la exposición a los nanomateriales, pero aún no se ha establecido una métrica adecuada. Además, es importante considerar otros factores al medir la exposición a los nanomateriales, como las partículas naturales o las generadas como subproductos industriales.

[Try translating with Google](#)



GovLab - Living Library

What if You Knew What You Were Missing on Social Media?

21 August 2023

Article by Julia Angwin: “Social media can feel like a giant newsstand, with more choices than any newsstand ever. It contains news not only from journalism outlets, but also from your grandma, your friends, celebrities and people in countries you have never visited. It is a bountiful feast.

So often you don't get to pick from the buffet. On most social media platforms, algorithms use your behavior to narrow in on the posts you are shown.



Frontiers

Supervised machine learning models for depression sentiment analysis

19 July 2023

Introduction Globally, the prevalence of mental health problems, especially depression, is at an all-time high. The objective of this study is to utilize machine learning models and sentiment analysis techniques to predict the level of depression earlier in social media users' posts. Methods The datasets used in this research were obtained from Twitter posts. Four machine learning models, namely extreme gradient boost (XGB) Classifier, Random Forest, Logistic Regression, and support vector machine (SVM), were employed for the prediction task. Results The SVM and Logistic Regression models yielded the most accurate results when applied to the provided datasets. However, the Logistic Regression model exhibited a slightly higher level of accuracy compared to SVM. Importantly, the logistic regression model demonstrated the

advantage of requiring less execution time.

Discussion The findings of this study highlight the potential of utilizing machine learning models and sentiment analysis techniques for early detection of depression in social media users. The effectiveness of SVM and Logistic Regression models, with Logistic Regression being more efficient in terms of execution time, suggests their suitability for practical implementation in real-world scenarios.



YiCai Global

Nearly 90,000 Singaporeans Applied for Chinese Visa in First Half

13 July 2023

China has become a popular tourist and business destination for Singaporeans since Covid-19 restrictions were lifted earlier this year, as nearly 90,000 of them applied for Chinese visas in the first half of the year.

The figure was recently disclosed by Sun Haiyan, the Chinese Ambassador to Singapore, on Facebook.



RAND Corporation

Life Cycle Management of Military Commercial Derivative Aircraft

21 November 2023

Drawing on interviews with U.S. Air Force, Federal Aviation Administration (FAA), and industry experts, the authors assess the benefits and challenges of (and propose best practices for) commercial derivative aircraft acquisition.



The Conversation (French)

Sécurité aérienne : une piste pour détecter les turbulences avec des lasers

04 December 2023

Les avions et les éoliennes produisent de dangereuses « turbulences de sillage », qui ne sont pas faciles à mesurer.

[Try translating with Google](#)



Australian Strategic Policy Institute

The threat spectrum

03 November 2023

A group of scientists have issued a stark warning that the planet is being pushed into a climate crisis that could threaten the lives of up to six billion people this century. In a report released last week in the journal Bioscience, 12 scientists from Asia, Europe and North America said that they were 'shocked by the ferocity of the extreme weather events in 2023'.

The report provides a snapshot of the health of the earth measured against 35 'planetary vital signs'.

The analysis shows that human activity has reached new extremes on 20 of these measurements, including global gross domestic product, fossil-fuel subsidies, annual carbon pollution and glacier thinning. A lead author on the report says: 'We're on our way to the potential collapse of natural and socioeconomic systems and a world with unbearable heat and shortages of food and freshwater.'



Science Daily

Propellers are louder over ground

24 May 2023

The effects of the ground on propeller noise have been measured experimentally for the very first time by researchers in the Aeroacoustics research team at the University of Bristol.

In findings, published in the Journal of Sound and Vibration, the team found clear differences in the noise characteristics of propellers when over ground, known as 'Ground Effect', compared to when operated normally. They noted an overall noise increase when measuring at angles above the ground, with hydrodynamic and acoustic interaction effects being a key factor to the overall noise trends.

It is hoped this research, tested in the National Aeroacoustic Wind Tunnel facility, can inform strategies to reduce the noise of aircraft while taking off or landing, by either changing the design of the landing pads or by changing the design of proposed aircraft architectures.

Lead author Liam Hanson explained: "In light of the need for greener aviation, there has been a push in the aviation industry to develop electrified aircraft.



The Conversation (Spanish)

El 11-S y el renacer de la mirada crítica en Hollywood

11 September 2023

Los atentados de 2001 reavivaron un género de suspense político abandonado. Entre 2005 y 2011, decenas de títulos exploran las tripas del poder en EE. UU.

[Try translating with Google](#)



Frontiers

Advice from "pracademics" of how to apply ecological dynamics theory to practice design

24 May 2023

There has been an increase interest in knowing and enacting pedagogical approaches such as the Constraints-led Approach (CLA) and Nonlinear Pedagogy (NLP) which are underpinned by Ecological Dynamics in recent years among practitioners. While there seems to be a perceived uptake of such pedagogical approaches that

encourages exploratory learning and the development of individualised movement solutions, there are still concerns on how these pedagogical approaches are enacted on the ground. In this paper, we the authors, as "pracademics", attempted to address some of the common concerns that we are aware of from our regular interactions with academics and practitioners. In brief, we highlighted some of the common challenges related to sense making concepts from Ecological Dynamics and building connections to practice. We stressed the need to invest time to think differently to create representative learning environment, rethink how assessment is to be done, finding a balance between theoretical jargon and practical application as well as intentionally situating coach development and support. We may not have all the answers, but we hope this paper could provide a useful starting point on how to apply Ecological Dynamics Theory to practice design.



RAND Corporation

Army Aviation Special and Incentive Pay Policies to Promote Performance, Manage Talent, and Sustain Retention

07 August 2023

This report presents results of an effort to determine how the U.S. Army might modernize special and incentive pays to better reward Army aviators' career advancement while cost-effectively achieving retention objectives. This report presents results of an effort to determine how the U.S. Army might modernize special and incentive pays to better reward Army aviators' career advancement while cost-effectively achieving retention objectives.



Cities Today

Can signage build trust in how cities use technology and data?

13 June 2023

Alongside Angers-Loire Metropolitan Region in France, and Boston and Washington, DC in the US, Innisfil recently completed a trial of new signage which aims to address some of the issues related to using data-gathering technology in public spaces.



GovLab - Living Library

AI-assisted diplomatic decision-making during crises — Challenges and opportunities

15 May 2023

Article by Neeti Pokhriyal and Till Koebe: "Recent academic works have demonstrated the efficacy of employing or integrating "non-traditional" data (e.g., social media, satellite imagery, etc) for situational awareness tasks..."

Despite these successes, we identify four critical challenges unique to the area of diplomacy that needs to be considered within the growing AI and diplomacy community going ahead:

First, decisions during crises are almost always taken using limited or incomplete information. There may be deliberate misuse and obfuscation of data/signals between different parties involved. At the start of a crisis, information is usually limited and potentially biased, especially along socioeconomic and rural-urban lines as crises are known to exacerbate the vulnerabilities already existing in the populations.



[The Conversation \(French\)](#)

Pourquoi se laisse-t-on avoir par les prédateurs financiers ?

17 October 2023

Certaines personnes peuvent se laisser piéger dans des engrenages qui les conduisent à abandonner progressivement leurs comportements rationnels.

[Try translating with Google](#)



[The Conversation](#)

Boeing: what the next CEO needs to do to ensure quality and turn things around

09 April 2024

Boeing is facing a series of technical failures and a decline in quality, resulting in the resignation of CEO Dave Calhoun and other top executives. Issues include incidents such as the mid-air blowout of a door plug on an Alaska Airlines Boeing 737 Max 9, which led to a compensation payment of \$160 million. These failures highlight systemic issues in quality management within Boeing. The company needs to address fundamental changes in its quality management to regain trust, improve its competitive position with Airbus, and prevent future incidents. Ensuring quality in a complex industry like aviation requires a holistic approach that includes behavioral, organizational, and cultural dimensions, as well as technical solutions like the six sigma methodology.



[YiCai Global](#)

China's Tourism Revenue Over Dragon Boat Festival Soars Nearly 45%

26 June 2023

China's revenue from domestic tourism over the Dragon Boat Festival holiday jumped 44.5 percent compared with last year.

Income from tourism hit CNY37.3 billion (USD5.2 billion) between June 22 and June 24, recovering to 95 percent of the same period in 2019, before the outbreak of the coronavirus pandemic, according to data from the Ministry of Culture and Tourism released yesterday.

Over the three-day break, 106 million domestic trips were made, up 32.3 percent from a year earlier and reaching 113 percent of the pre-pandemic level, the data showed.

The Dragon Boat Festival is an indicator of the tourism market during the summer vacation, said Feng Rao, head of the Mafengwo Tourism Research Institute. Given the over 100 million travelers during the Dragon Boat Festival, tourism is expected to boom during the summer vacation, entering a new phase of structural recovery, Feng noted.

Hotel bookings, scenic spot tickets, and traffic all surpassed the figures in the same period of 2019 this year's holiday, according to statistics from travel agencies, including Trip.Com, Tongcheng Travel, and Qunar.



[The Conversation](#)

How conspiracy theories around George III's madness and Queen Charlotte's scheming took hold of the 18th-century British press

08 April 2024

The British press during the 18th century was captivated by the mysterious illness of King George III, leading to a regency crisis and the emergence of conspiracy theories. The king's illness, which rendered him unable to perform his duties, sparked a public debate, with various theories about its cause. The government, led by Prime Minister William Pitt, delayed formalizing regency legislation, fearing that the Prince of Wales, who was next in line to the throne, would dismiss them. Supporters of the prince accused Pitt and Queen Charlotte of plotting to take power. The media played a significant role in reporting on the king's condition and fueling conspiracy theories. Queen Charlotte, previously seen favorably, was depicted in satirical images as manipulative and power-hungry.

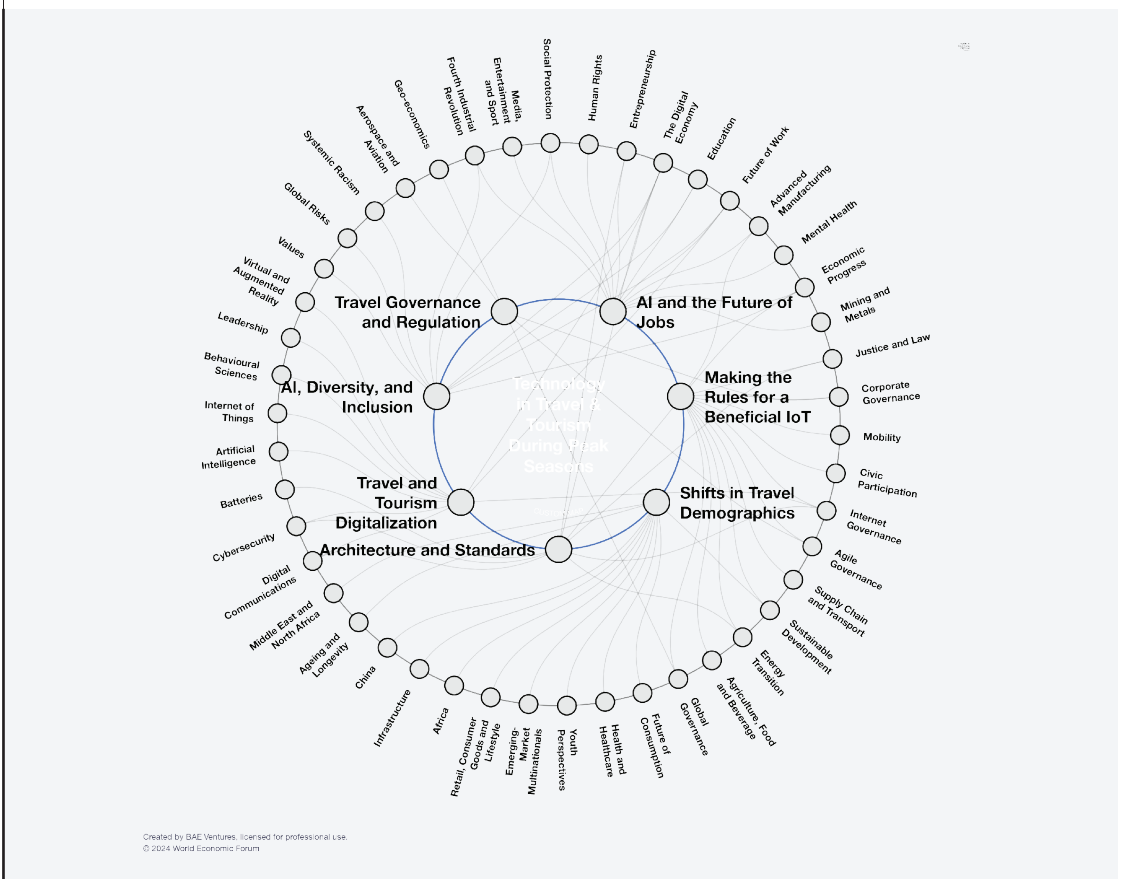
2

Strategic context

The key issues shaping Technology in Travel & Tourism During Peak Seasons.

The following key issues represent the most strategic trends shaping the topic of Technology in Travel & Tourism During Peak Seasons. These key issues are also influenced by the other topics depicted on the outer ring of the transformation map.

FIGURE 1 Transformation map for Technology in Travel & Tourism During Peak Seasons



2.1 Travel Governance and Regulation

Emergency situations like COVID-19 underline the need for effective governance

Travel and tourism are vital for the global economy, not least because of contributions from the dominant mode of international transport: aviation. However, the spread of COVID-19 quickly depleted demand for air travel and spurred efforts by public officials to address new safety needs - while at the same time enabling the industry to continue operating. As of February 2021 the World Health Organization was recommending

that national authorities and conveyance operators should not introduce requirements of proof of COVID-19 vaccination for international travel as a condition of departure or entry. Some countries have adopted regularly-updated travel restrictions to other locations based on the latest information about the status of the pandemic response there. Switzerland, for example, maintains an updated list of states and areas deemed at risk - and anyone arriving from a location on the list must go into quarantine, among other requirements. Wherever one is located, the World Tourism Organization recommends that before travelling they first consult their national health authority - and that they isolate themselves and seek medical attention if they become sick while travelling.

By October 2020, more than 40 airlines had already failed as a result of the pandemic. The airline sector has historically been segregated from broader international trade talks by antiquated, protectionist restrictions that remain relatively unnoticed and unchallenged. While the travel industry as a whole has undergone a wave of market liberalization that has often benefitted travellers in terms pricing and services, restrictions on foreign investment in airlines have remained largely unchanged since the middle of the previous century. Under existing “nationality” rules, for example, most of the world’s airlines are severely restricted in terms of their ability to sell equity shares, seek out new investors, and merge with other players. These restrictions increase the cost of capital, lead to higher prices for travellers, and reduce demand for travel services. This remains the case even as the aviation industry has evolved from a mix of national transportation systems into a complex global network fuelled by technological advances and globalization - and even as the depletion of demand for air travel has placed many individual airlines in dire financial straits.

Related topics: [Corporate Governance](#), [Agile Governance](#), [Aerospace and Aviation](#), [Global Governance](#), [Geo-economics](#)

2.2 AI, Diversity, and Inclusion

One way to avoid problems with the technology is to create more diverse development teams

Artificial Intelligence tools are often promoted as an opportunity to improve diversity and inclusion. However, the news is full of stories about AI systems going horribly awry in ways that have the opposite effect. Some aspects of AI - such as its large scale, automated processes, and data-based decisions - could in principle expand access to resources and foster fairer treatment. Yet these same features also risk creating only the illusion of objectivity, while they encode inequality and injustice on a vast scale - or are used to further oppress disadvantaged groups. While AI tools do have the potential to improve diversity and inclusion, that power comes not from AI itself but rather from their creators. Current AI is not capable of abstract reasoning, nor can it predict the impacts of major change, necessitating human creators who understand why a current system may be problematic - and how AI might improve it. Similarly, the problematic impacts of AI on diversity and inclusion stem not only from issues related to data and algorithm design, but also from their creators misreading and oversimplifying social systems - and not anticipating unintended consequences.

For example, a scandal erupted in the United Kingdom in 2020 related to an algorithm used to grade crucial university entrance exams that undercut the scores of less-affluent students (though it was not a full AI system) - illustrating how algorithm creators may not anticipate how their tool will reinforce existing inequalities. Consideration of the diversity and inclusion impacts of AI systems should be incorporated into the design and evaluation of all AI tools, as well as their regulation and oversight. In addition, subject matter experts are necessary to understand the context in which an AI system will be deployed. Perhaps the most critical need is for AI development teams themselves to become more diverse - through changes in access to education and resources, hiring practices, and organizational cultures. Numerous examples exist of AI systems that are problematic because they reflect the world views and assumptions of their creators. While diverse teams are not a guaranteed fix, they reduce the odds that diversity and inclusion impacts will be overlooked. Diverse AI talent also broadens the innovation landscape more generally in ways that can push the technology forward on all fronts.

Related topics: [Education](#), [Economic Progress](#), [Social Protection](#), [Fourth Industrial Revolution](#), [The Digital Economy](#), [Values](#), [Global Risks](#), [Systemic Racism](#), [Future of Work](#)

2.3 Travel and Tourism Digitalization

New technologies and changing consumer expectations are revolutionizing the industry

According to a 2017 white paper published by the World Economic Forum, digitalization is expected to

create up to \$305 billion in additional value for the travel industry between 2016 and 2025, while reducing the industry's environmental footprint, and migrating \$100 billion in value from traditional players to new competitors. Digitalization will also result in a net displacement of current jobs in the industry, as it is expected to only be partially offset by the creation of next-generation jobs, according to the report. Online travel aggregators and travel service platforms continue to shake up the industry. All travel providers are now seeking ways to develop stronger interaction with customers, and adapting operations to try to both better understand their customers and to boost their own financial performance. Connected devices and artificial intelligence provide ample opportunities to make operations more effective, and enable collaboration and asset-sharing among travel enterprises. Ericsson's 2017 Mobility Report counted 3.9 billion smartphone subscriptions worldwide, and projected that number to grow to 6.8 billion by 2022.

The combination of voice recognition, augmented reality and artificial intelligence will likely have a profound impact on the travel industry, by enhancing people's ability to discover the world. To remain competitive, industry players must complement a high-touch approach with high-tech applications. Consumers want to feel special and expect the personalization of services and experiences. Digitalization could also have a potentially positive environmental impact, by contributing to a more sustainable industry footprint through innovation in manufacturing, and through more efficient resource use. Intelligent automation will change the nature of some travel jobs, and put other jobs at risk. It will also generate new employment opportunities that could outpace the automation of existing roles, especially as the industry is expected to maintain its growth. A concerted effort among industry players, governments, educational institutions and civil society will be required to best mitigate potential negative impacts.

Related topics: [Artificial Intelligence](#), [Internet of Things](#), [Behavioural Sciences](#), [Leadership](#), [Internet Governance](#), [Cybersecurity](#), [The Digital Economy](#), [Future of Work](#), [Digital Communications](#), [Virtual and Augmented Reality](#)

2.4 Architecture and Standards

The Internet of Things requires thoughtful architecture and standard selection

The Internet of Things, which is rapidly connecting everything from doorbells to dams to the web, requires scalable, future-proof, and cost-effective architectural choices in order to thrive. By building on already-established reference architectures, companies and governments can develop standards with robust interfaces, and ensure healthy environments capable of addressing performance and safety issues. There is no one-size-fits-all solution for IoT architecture - whether it is in relation to sensing, communication, analytics, or actuation (turning an electric signal into a physical action). However, two specific models have become most common; the first is the concept of digital mirroring (sometimes referred to as Digital Twins), where real-world physical objects are duplicated as purely digital objects. These digital objects are able to interact with the physical world, with other digital duplicates, and with computing services - often using the cloud as a platform. Cloud services can in turn accommodate massive increases in computing power, which can be used to analyse large amounts of data or to create "Cognitive Firewalls" that protect physical systems against digital misdeeds.

A second approach to an architecture for the Internet of Things relies on "edge," or "fog" computing, which splits processing duties between responsive local computers and the cloud (where more heavy-duty, latency-insensitive analytics can take place). Dividing up processing like this enables devices and services to provide more prompt responses or perform more data-intensive analysis, albeit at a cost of greater power consumption. The importance of architectures cannot be overstated; they define the points and interfaces where standards can take hold. Developing a comprehensive set of IoT standards can in turn address networking, communication, and data handling, and can also help to improve overall interoperability (the ability of devices and services from different vendors to work together, share data, and improve utility and value). While emerging architectures and standards are helping to reduce the fragmentation that plagued early IoT systems, care must be taken to select and develop the right options - because the technical decisions made today will lock the Internet of Things into long-term, make-or-break trajectories, and over-standardization could lead to "vendor lock-in" limiting options and use.

Related topics: [Entrepreneurship](#), [Digital Communications](#), [Economic Progress](#), [Internet Governance](#), [The Digital Economy](#), [Justice and Law](#), [Cybersecurity](#), [Batteries](#), [Energy Transition](#)

2.5 Shifts in Travel Demographics

The expanding global middle class means international travel has surged

Historically, leisure travel was generally a luxury available only to a wealthy elite who could afford it. But declining costs and an expanding global middle class have fuelled a surge in tourism in recent decades. International tourist arrivals rose to 1.5 billion by 2019, on the eve of the COVID-19 pandemic, from just 25 million in 1950, according to the World Tourism Organization. Roughly 140 million people have been joining the middle class every year, according to a Brookings Institution estimate, and about 88% of the next 1 billion people to join will be living in Asia. That means that most near-term growth in international travel will come from outside of traditional markets in North America and Europe - and will instead come not just from Asia, but also Africa and the Middle East. As emerging economies provide more tourists they will also become more attractive destinations. The World Travel & Tourism Council has projected that between 2016 and 2026, the top 10 fastest-growing destinations for leisure travel spending would include Angola, Brunei, Myanmar, Oman, Mozambique and Viet Nam.

Young people have made a unique contribution to the travel boom. According to a report published by travel news and data service Skift in 2016, travellers between the age of 18 and 34 were tending to splurge selectively - by doing things like taking cheap flights but then going all out on experiences and restaurants. Younger people are relatively more willing to share their personal data to tailor their travel experiences, according to the 2016/2017 ITB World Travel Trends Report. Baby boomers also have a desire to discover new experiences, and have more disposable income to spend on them; they have been spending more than \$6,600 on travel annually on an individual basis, according to the 2019 Boomer Travel Trends report published by the AARP, a US-based organization focused on the elderly. A growing number of boomers are pursuing medical travel. According to the publication Patients Beyond Borders, the total market for medical travel is between \$45.5 billion and \$72 billion, with as many as 16 million cross-border patients spending an average or as much as \$6,000 per visit.

Related topics: [Future of Consumption](#), [Health and Healthcare](#), [Youth Perspectives](#), [Emerging-Market Multinationals](#), [Retail, Consumer Goods and Lifestyle](#), [Africa](#), [Sustainable Development](#), [Infrastructure](#), [China](#), [Ageing and Longevity](#), [Middle East and North Africa](#)

2.6 Making the Rules for a Beneficial IoT

The Internet of Things can truly benefit society if the right kind of governance is in place

The rapid but relatively uncoordinated evolution of the Internet of Things, a technology that makes our essential machines and devices smarter by connecting them to the web, has led to decentralized systems that lack proper governance. In order for the IoT to realize its potential, these fragmented systems have to find a way to effectively interact with one another. This requires governance that takes stock of the broader context. While the IoT does benefit from a certain level of governance, it is not at a level that can foster sustained growth. There is technical governance in the form of standards, for example, yet over-standardization has led to as many problems as it has tried to solve by spawning infighting and incompatibility. One of the IoT's biggest opportunities is therefore also one of its biggest challenges: diversity. One, single set of standards must be created that works equally well for dishwashers, autonomous cars, and smartwatches. The obstacles to this are considerable, however; every object, service, or network has its own design considerations, and within any given industry there may be several conflicting standards.

There is therefore a serious need for both corporate and international governance in the world of the Internet of Things. The real challenges are to determine how much governance is too much, and to create the right incentives to bring all interested parties to the table. The IoT requires a significant amount of investment to be of real use, and as a result it is primarily being deployed in relatively wealthy, well-resourced places - even though it is the less well-to-do areas that truly stand to benefit from the efficiency improvement and cost savings the IoT can facilitate. Anyone working to boost the adoption of the technology has to try to ensure that the IoT tide lifts all boats, rather than sending a tidal wave of disparity in the direction of the most vulnerable. Ultimately, the Internet of Things could create societal value that aids progress in achieving the United Nations Sustainable Development Goals, established in 2015 to guide responsible global development until 2030. Mobility services powered by the IoT can reduce vehicle ownership, fuel consumption, and emissions, for example, while IoT-enabled monitoring of agriculture and supply chains can ensure that the food being produced is not wasted, and gets to the people who need it most.

Related topics: [Justice and Law](#), [Corporate Governance](#), [Mobility](#), [Civic Participation](#), [Internet Governance](#),

2.7 AI and the Future of Jobs




















Preparing for a future without human work will require more than addressing basic financial needs














Is artificial intelligence coming for your job? While some reports suggest nearly half of all jobs may be automated, other analyses note two important nuances. The first is that AI creates as well as replaces jobs. AI systems still need humans to develop them, handle nonroutine cases, provide a human touch, and monitor for failures. New technologies can also sometimes create entirely novel jobs - like social media influencer. A second nuance is that - at least for the foreseeable future - AI systems will only be able take over specific tasks rather than entire jobs. One report estimated that while 60% of all jobs have at least some tasks that could be automated, only 5% are under threat of full automation. And, as AI excels at routine tasks, it can free up humans for more interesting challenges. This augmentation-rather-than-automation approach offers the best opportunities for not only preserving employment but also ensuring effective and valuable AI. Actively involving workers in the development, adoption, and implementation of the technology can result in systems that are more practical, innovative, and effective.

Even with an augmentation approach, however, AI systems will result in potentially significant job disruptions - and call for a rethinking of education, employment, and policy systems. While technology skills would seem a worthwhile investment focus, there is also a need for general skills that can improve employment adaptability - such as critical thinking, and the skills that AI struggles with replicating such as creativity, human touch, and emotional intelligence. It is not certain whether human work will eventually disappear, but two features of the current situation are particularly troubling. The first is prevalent wealth inequality both within and between countries. If AI does lead to widespread job displacement, extreme inequality could lead to disastrous outcomes. The second is the central role that work plays as a source of personal worth and meaning in many societies. One popular proposed solution to a future without work is a universal basic income, where people receive regular payment regardless of employment. While such a program might address financial need, truly preparing for a future without work requires a deeper reinvention of human identity.

Related topics: [Fourth Industrial Revolution](#), [Media, Entertainment and Sport](#), [Social Protection](#), [Human Rights](#), [Entrepreneurship](#), [The Digital Economy](#), [Education](#), [Future of Work](#), [Advanced Manufacturing](#), [Mental Health](#), [Economic Progress](#), [Mining and Metals](#)

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Our approach

In today's world, it can be difficult to keep up with the latest trends or to make sense of the countless transformations taking place. How can you decipher the potential impact of rapidly unfolding changes when you're flooded with information - some of it misleading or unreliable? How do you continuously adapt your vision and strategy within a fast-evolving global context? We need new tools to help us make better strategic decisions in an increasingly complex and uncertain environment.

This live briefing on Technology in Travel & Tourism During Peak Seasons, harnesses the World Economic Forum's [Strategic Intelligence](#) platform to bring you the very latest knowledge, data and context from our 300+ high quality knowledge sources. Its aim is to help you understand the global forces at play in relation to Technology in Travel & Tourism During Peak Seasons and make more informed decisions in the future.

Each day, our Strategic Intelligence platform aggregates, distills and synthesizes thousands of articles from around the world. We blend the best of human curation with the power of machine learning to surface high-quality content on over [two hundred global issues](#) to our one million users globally. Our hand-picked network of [content partners](#) from around the world means that we automatically exclude much of the noisy clickbait, fake news, and poor quality content that plague the Internet at large. We work with hundreds of think tanks, universities, research institutions and independent publishers in all major regions of the world to provide a truly global perspective and we are confident that our data are well positioned when it comes to the intrinsic biases inherent to open text analysis on uncurated content from the Internet. For further context on our approach, you may be interested to read [Strategic trend forecasting: anticipating the future with artificial intelligence](#) and [These Are The 3 Ways Knowledge Can Provide Strategic Advantage](#).

A leading expert presenting a transformation map at our Davos Annual Meeting



Transformation maps

Our [Transformation Maps](#) are dynamic knowledge visualisations. They help users to explore and make sense of the complex and interlinked forces that are transforming economies, industries and global issues. The maps present insights written by experts along with machine-curated content. Together, this allows users to visualise and understand more than 250 topics and the connections and inter-dependencies between them, helping in turn to support more informed decision-making by leaders.

The maps harness the Forum network's collective intelligence as well as the knowledge and insights generated through our activities, communities and events. And because the Transformation Maps are interlinked, they provide a single place for users to understand each topic from multiple perspectives. Each of the maps has a feed with the latest research and analysis drawn from leading research institutions and media outlets around the world.

At the centre of each map is the topic itself. This is surrounded by its "key issues", the forces which are driving transformation in relation to the topic. Surrounding the key issues are the related topics which are also affected by them. By surfacing these connections, the map facilitates exploration of the topic and the landscape within which it sits.

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