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Please cite this paper as:

OECD (2018), "Analysing Megatrends to Better Shape the Future of Tourism", *OECD Tourism Papers*, No. 2018/02, OECD Publishing, Paris, https://doi.org/10.1787/d465eb68-en

OECD Tourism Papers No. 2018/02

Analysing Megatrends to Better Shape the Future of Tourism

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Co-funded by the European Union

OECD Tourism Papers

Analysing Megatrends to Better Shape the Future of Tourism

The future of tourism will be impacted by large-scale social, economic, political, environmental and technological changes, bringing new and often unseen challenges, threats and opportunities. These "megatrends" are slow to form, but once they have taken root, exercise a profound and lasting influence on human activities, processes and perceptions, including for tourism. Four megatrends are likely to have significant impacts and relevance for tourism: i) evolving visitor demand; ii) sustainable tourism growth; iii) enabling technologies; and iv) travel mobility. Exploring the multidimensional implications of these megatrends to 2040 is important to inform policy and shape the future of tourism. This Tourism Paper develops a range of plausible scenarios and potential policy responses for the megatrends mentioned above, it then examines how policy makers can better prepare for megatrends, and presents a set of guiding principles for effective strategic foresight in tourism.

***Key words*:** tourism, megatrends, strategic foresight, scenario planning, visitor demand, sustainable tourism, enabling technologies, travel mobility

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This document was approved and declassified by the Tourism Committee at its 102nd Session on 30 October 2018 [CFE/TOU(2017)7/FINAL] and prepared for publication by the OECD Secretariat. The publication of this document has been authorised by Lamia Kamal-Chaoui, Director, Centre for Entrepreneurship, SMEs, Regions and Cities.

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ABOUT THE OECD

The OECD is a multi-disciplinary inter-governmental organisation of 36 member countries which engages in its work an increasing number of non-members from all regions of the world. The Organisation's core mission today is to help governments work together towards a stronger, cleaner, fairer global economy. Through its network of 250 specialised committees and working groups, the OECD provides a setting where governments compare policy experiences, seek answers to common problems, identify good practice, and co-ordinate domestic and international policies.

The OECD member countries are: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The European Commission takes part in the work of the OECD.

ABOUT THE TOURISM COMMITTEE

This policy paper was prepared by the OECD Centre for Entrepreneurship, SMEs, Regions and Cities (CFE), as part of the Tourism Committee's Programme of Work. The Tourism Committee, created in 1948, acts as the OECD forum for exchange, and for monitoring policies and structural changes affecting the development of domestic and international tourism.

Addressing the major challenges faced by the tourism industry, and maximising tourism's full economic potential, requires an integrated and multi-faceted approach to tourism policy development across many government levels and departments. In this environment, OECD members see considerable benefit in co-operating to address economic, sustainability and employment issues, and to promote tourism policy performance and evaluation, innovation and liberalisation. A closer co-operation with major emerging economies is also seen as being critical to achieving a strong impact with this work.

The website of the Tourism Committee (www.oecd.org/cfe/tourism/) provides detailed information about the OECD activities on Tourism.

Acknowledgements

This report is prepared by the *OECD Centre for Entrepreneurship, SMEs, Regions and Cities (CFE)*, led by Lamia Kamal-Chaoui, Director. The report is part of the programme of work of the OECD Tourism Committee, and is undertaken with the financial assistance of the European Union*.

This report builds on Chapter 2 of OECD Tourism Trends and Policies 2018, Megatrends Shaping the Future of Tourism. Peter Haxton and Taekyeong Jung, Policy Analysts, co-ordinated and edited the report, under the direction of Alain Dupeyras, Head of the OECD Regional Development and Tourism Division, and Jane Stacey, Head of the Tourism Unit. The report was drafted by Sunil Johal, Jordann Thirgood, and Kiran Alwani (Mowat Centre), with significant inputs and drafting from the Secretariat. The report benefitted from additional input and support from Anna Bolengo, Junior Policy Analyst, and Alexandra Campbell and Monserrat Fonbonnat, who provided administrative support.

Specific contributions, feedback and guidance were received from 19 OECD member and partner countries: Australia, Austria, Belgium, Bulgaria, Croatia, Denmark, Estonia, Finland, Germany, Greece, Japan, Lithuania, Luxembourg, Portugal, Romania, Slovak Republic, Spain, Switzerland, and Turkey. The report has been informed by two workshops (one co-hosted by Portugal) that brought together policy makers and industry leaders for interactive, in-depth discussions on megatrends.

A number of International Organisations and industry leaders also contributed to this report: UN Environment, UNESCO, UNWTO, Alliance for Excellency in Tourism, Alliance 46.2, Ecole hôtelière de Lausanne, European Tourism Association, European Tourism Commission, International Air Transportation Association, International Federation on Ageing, International Unions of Railways, Promoting Entrepreneurship for Sustainable Development, and the World Travel and Tourism Council.

The report has also benefited from exchanges with OECD colleagues in the Strategic Foresight Unit, the Development Centre, the International Transport Forum, and the Centre for Entrepreneurship, SMEs, Regions and Cities.

* This document was produced with the financial assistance of the European Union. The views expressed herein can in no way be taken to reflect the official opinion of the European Union.

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Key Messages

In order to prepare for megatrends, it is first necessary to understand them. This report contributes to this process by identifying and analysing those megatrends anticipated to drive change in the tourism sector to 2040 and beyond, namely: i) evolving visitor demand, ii) sustainable tourism growth, iii) enabling technologies, and iv) travel mobility. The report provides a number of tailored policy considerations to prepare for each megatrend, but more broadly highlights that policy makers need to develop systemic and strategic approaches to adapt in an increasingly fast-moving, inter-connected and dynamic environment.

Policy makers need to take proactive measures to reduce uncertainty and effectively prepare for megatrends that will significantly impact tourism. In addition to adopting an integrated governmental approach there are three key areas where governments should focus their efforts:

- **Modernising regulatory and legislative frameworks**. Undertake regular reviews of regulatory and legislative frameworks to remove outdated requirements and promote the emergence of innovative approaches to delivering goods and services. Broadly engage with key stakeholders to ensure that the perspectives of new and emerging market entrants are reflected, and provide regular feedback mechanisms, to identify opportunities to adapt where necessary.
- **Cultivating partnerships with key stakeholders**. Promote an ongoing dialogue that engages government, industry and the community. Coordination across various levels and between government departments is key to address the complex cross-cutting issues expected to impact the sector. Tackling global issues will require international agreements that launch national policy efforts.
- **Exploring ways to "future-proof" policies**. Foster a culture of innovation and change management within governments, ensuring that long-term megatrends are given due consideration within the decision-making process. Ensure that policy makers have the capacity to make data-driven decisions that take into account key tourism trends and issues. Maintain a horizon scanning process over the long-term to identify weak signals of change likely to affect tourism.

Strategic foresight exercises can help tourism policy makers anticipate alternative futures and inform the development of forward-looking policies. The report provides the following guiding principles to maximize the value of such exercises:

1. **Agility** – Utilise existing evidence and projections, while being agile enough to adapt to emerging realities.
2. **Multiplicity** – Prepare for and consider alternative futures when designing policies and programme.
3. **Proactivity** – Take proactive steps to work towards the desired future.
4. **Long-term sustainability** – Consider the impact of policies on future generations and take responsible actions in the present.
5. **Engagement and inclusion** – Engage with diverse stakeholders that represent a range of perspectives and interests.
6. **International collaboration** – Collaborate internationally to ensure that policies and decisions are globally sustainable.

Overview and Policy Considerations

A number of trends have emerged that could transform society in the coming decades – the most significant of which are considered megatrends. Megatrends capture globally relevant social, economic, political, environmental and technological changes over the long-term. While megatrends often unfold slowly and follow relatively stable trajectories, they have potential for high impact and can drive the global economy and society in specific directions. The exact outcomes of these trends are typically uncertain, although it is important that governments are proactive in considering their potential long-term implications and planning for the future through informed predictions.

What these widespread and long-term changes will mean for tourism, and how policy makers can begin to contemplate potential challenges and opportunities that may result is a key consideration for tourism policy makers. The tourism industry has grown significantly in recent decades, and while that growth is expected to continue, megatrends are likely to dramatically transform the face of tourism by 2040.

In order to prepare for megatrends, it is first necessary to understand them. This report contributes to this process by identifying and analysing those key megatrends anticipated to drive change in the tourism sector in the coming years, namely: i) evolving visitor demand, ii) sustainable tourism growth, iii) enabling technologies, and iv) travel mobility.

- **Evolving visitor demand** as a result of changing demographics will transform the way people around the world choose to travel. An expanding global middle class – driven largely by growth in emerging economies – will greatly increase purchasing power for individuals and create new tourism markets. Similarly, population patterns around the world will increase the number of elderly travellers with particular needs and travel preferences, and emerging tech-savvy generations will become increasingly dominant consumers in the tourism market
- **Sustainable tourism growth** is key to addressing the potentially damaging impacts associated with unchecked tourism growth on both the natural environment and host communities – such as greenhouse gas emissions, land and water usage and unsustainable food consumption, as well as dislocation of traditional societies and negative impacts of "over-tourism" on host communities. Tourism is also highly susceptible to the impacts of climate change, and built upon broad stakeholder engagement and sustainable development principles, tourism can play a key role in driving the transition to a low-carbon and resource efficient economy.
- **Enabling technologies** continue to reshape the way in which people work, travel and do business. The digital economy, automation and artificial intelligence, blockchain and virtual/augmented reality have the ability to make travel more affordable, efficient and accessible to many people. At the same time, as people live increasingly digital lives, the opportunities to unplug and have *analogue* or natural experiences through travel may become a preferred alternative.
- **Travel mobility** including the ability for people to travel safely and freely across borders, will be a key factor in the success and growth of the tourism sector. Transport has always been a key enabler of international tourism, bringing consumers to commercial services and providers to global markets. However, mobility is a complex issue that cuts across transport, border controls, safety and security and broader

geopolitical environments. These can be highly impacted by external forces such as political turmoil, pandemics or natural disasters – all of which must be considered in tourism management plans and policies to ensure sustainable growth of the sector.

Policy Considerations

Megatrends such as those outlined above will present a range of opportunities and challenges for the tourism sector between now and 2040. To better understand the ways in which each of these megatrends might unfold, the report explores plausible alternative futures for each, and based on detailed analysis of these scenarios, a range of policy considerations are identified to assist governments prepare for and respond to megatrends. Key examples are outlined below:

- Policy makers and industry should ***prepare for growing demand among elderly tourists*** due to an ageing population. From the perspective of government, this preparation should largely focus on strengthening accessibility requirements and investing in infrastructure to support those with mobility challenges and cognitive impairment. Efforts should also be taken to respond to the needs of visitors with different levels of digital fluency in the digital era.
- Destinations should ***re-think how travel experiences are framed and marketed***, as changing demographics are likely to dramatically shift the way in which people choose where and how to experience travel. Innovative digital campaigns, utilising social media platforms to promote the sharing of experiences will become increasingly important components of tourism marketing strategies.
- Promote ***horizontal and vertical policy co-ordination, and closer integration of multiple policies*** to support a more strategic and co-ordinated approach to sustainable tourism growth. Long-term strategies and policies focused on promoting quality employment and job creation, skills development, entrepreneurship, innovation, effective investment, and integrated regional development, are integral to achieving sustainable and inclusive tourism growth.
- Work closely with industry and local communities to ***better manage tourism flows*** at destinations that are susceptible to environmental and social degradation, and encourage tourism development in alternative areas to spread the potential benefits and impacts. Approaches might include, the introduction of dynamic pricing mechanisms that can spread demand and/or better reflect the true cost of tourism-related activities, tackling seasonality to mitigate risks of over-tourism, and utilising technology to better manage visitor numbers[1]
- Policy makers should adopt policies to ***support the transformation of SMEs to a digital economy***. The process of digital transformation can provide SMEs with new opportunities to reach international markets easily and directly interact with customers from around the world. An important element of this process will be facilitating SME access to technical knowledge and specialised inputs (e.g. linkages with service and technology providers, including research centres and universities, to increase ICT adoption, learning and innovation).

[1] For example, park authorities at Cinque Terre in northern Italy are currently implementing a trial using an app that allows prospective visitors to see the number of people on specific trails in real-time, in an attempt to deter additional tourists from visiting during peak busy times (BBC, 2018).

- In an age in which technology plays an increasing role in the tourist experience, ***international cooperation will be an integral component in efforts to achieve data security and privacy goals***. As a global phenomenon that crosses borders, this will require ongoing conversations across various levels of government within nations, as well as cooperation between nations[2].
- Ensure that the ***medium- to long-term needs of the tourism industry are considered as part of the transport access and infrastructure planning process***. It is essential that tourism and transport policymakers work closely together and with industry to develop transport services and infrastructure that respond to the needs of both local communities and tourists.
- Policy makers should identify opportunities to ***utilise current and emerging technologies to streamline visa and cross-border processing for low-risk travellers*** through pre-screening and authorization programs[3]. In addition to improving efficiency and reducing costs, such initiatives will significantly improve the travel experience if scaled up successfully, being implemented at regional and/or multi-national levels for greater mobility.

The specific impacts of megatrends for tourism to 2040 remain uncertain. However, in order to begin to look forward, governments must first have a clear sense of the value of tourism for their economies and invest accordingly. They need to have a clear strategic vision with well-articulated objectives, and adopt an integrated approach bringing together key stakeholders. Developing comprehensive long-term plans that extend beyond the political cycle – while maintaining the flexibility to quickly identify and respond to emerging trends and evolving priorities – provide a stable platform for sustainable and inclusive growth. Growth that not only takes into account current and future economic, social and environmental impacts, but also addresses the needs of visitors, the industry, the environment, and host communities.

[2] The EU's General Data Protection Regulation (GDPR) – a modernized data protection framework that went into effect in May 2018 – is a promising step forward in this regard. The GDPR introduces a number of reforms that level the playing field among businesses and provide individuals greater control over their personal data (European Commission, 2018).

[3] The Nexus Card program, which is currently used by eligible travellers moving between Canada and the US, is a good example of this type of arrangement.

Introduction

The next 50 years will see the centre of gravity of the world economy shift east and south. By 2030, developing countries are expected to contribute two-thirds of global growth and half of global output, and will be the main destinations of world trade. Emerging economies such as China and India are increasingly important markets for firms in many industries. A new middle class is fast emerging that will lead to a rise in consumption of basic consumer products and other product categories. These demand-side factors mean emerging economies are likely to remain favoured locations for production activities, while significant shifts towards services will see China and other emerging economies gain large shares in services trade at the expense of OECD countries in the long-run (OECD, 2016a).

Global tourism has grown significantly in recent decades, benefitting from the rise of globalisation and technological advances that have led to cheaper airfares, making it easier for people to plan and book their own travel, and then to share their experiences with friends in real time. While this growth is projected to continue, shifting environmental conditions, technological innovations, and changing demographics are likely to dramatically transform the face of tourism by 2040.

What will the tourism sector look like in 2040 and how can policy makers prepare for potentially sweeping changes? This report attempts to assess the future of tourism by analysing the megatrends that are likely to impact the sector, considering potential plausible futures that may unfold as a result, and offering recommendations for government and industry alike to mitigate the negative consequences and reap the potential benefits.

Megatrends capture globally relevant, social, economic, political, environmental and technological changes over the long-term. They typically have decades-long impacts and, therefore, have the potential to fundamentally alter and upend industries around the world, including the tourism sector. This report identifies and analyses four key megatrends that are expected to drive change in the coming decades, and are anticipated to significantly impact tourism.

For each megatrend, the analysis includes a presentation of key facts and projections for the future and potential implications for the tourism sector. A number of critical uncertainties – inflection points that may alter the expected trajectory of these trends – are identified and used to develop three plausible future scenarios. These scenarios are presented, discussed and used to inform actionable recommendations for tourism policy makers. Building on these findings, the chapter concludes by offering overarching strategies for policy makers to better shape the future of tourism, and a set of principles to guide effective strategic foresight exercises in tourism.

This report benefits from an extensive literature review and stakeholder engagement process, including a survey of OECD countries conducted over the summer of 2017, feedback from an OECD workshop on Analysing Megatrends to Better Shape Future of Tourism, and a second scenario building workshop (both of which had strong representation from government, international organisations, and industry) held in Lisbon, Portugal, with the support of Turismo de Portugal, in 2018. The analysis draws on outcomes from the 2017 OECD High Level Meeting on Tourism Policies for Sustainable and Inclusive Growth and builds on Chapter 2 of the OECD Tourism Trends and Policies 2018 publication, *Megatrends shaping the future of tourism*.

Overview of global megatrends

Around the world, a number of trends have emerged which have the potential to transform society. The most significant of these are considered megatrends, as they are large in scale and long-term in nature – usually relevant for at least two decades. Consequently, megatrends usually refer to circumstances that will unfold across the globe in a number of countries and that can often drive the global economy and society in specific directions.

Megatrends are likely to result in meaningful, long-term changes impacting social, economic, political, environmental and technological issues. Despite their potential for high impact, they often unfold slowly and follow relatively stable trajectories. Global megatrends that are likely to impact countries around the world over the next decade include demographics, economic interconnectedness, public debt, climate change and urbanisation, among others. A megatrend, like urbanisation for example, is likely to both unlock social and economic opportunities, while also straining infrastructure and resources as ever increasing numbers of people reside in cities. While the exact outcomes of these trends are not certain, informed predictions can be made that enable governments to start to take early steps to plan for them.

In order to prepare for megatrends, it is first necessary to fully understand them. Governments around the world must be proactive and look ahead to make decisions that will have long-term implications, in order to address potential challenges and take advantage of opportunities that may result. Therefore, policy makers must consider the implications of megatrends in areas where they hold responsibility, including ensuring economic prosperity, security, social cohesion and environmental sustainability (KPMG and Mowat Centre, 2013).

To assist with responding to megatrends, the OECD has developed an approach that focuses on four key categories: people, planet, productivity and polity (Table 1).

Table 1. OECD megatrends framework

People	This megatrend generally refers to changing demographics, as well as trends related to health, labour and social cohesion. In the context of tourism, this trend is most closely related to evolving visitor demand, which refers to trends such as aging populations and the growth of the global middle class.
Planet	This megatrend generally refers to the state of the environment and the impacts of climate change, as well as access to resources such as food, energy and water. In the context of tourism, this trend is most related to sustainable tourism growth, which emerged in light of the impact of climate change as a way to lessen the environmental footprint of travellers.
Productivity	This megatrend generally refers to sources of growth, such as technology, innovation and entrepreneurship. In the context of tourism, the rise of enabling technologies has impacted the way people around the world can travel, such as through platforms in the sharing economy. Advancements in the decades ahead like automation are likely to further transform the sector.
Polity	This megatrend generally refers to the state of governance, trust and accountability in the public sphere. In the context of tourism, public decisions will have a role in a number of areas, particularly on travel mobility. For instance, mobility is significantly impacted by the degree to which national governments support international transport and are accepting of foreign visitors.

Source: OECD (2014)

The tourism sector and related industries are parts of the global economy set to be affected by a variety of megatrends. For instance, the International Air Transport Association (IATA) predicts that passenger demand over the next 20 years will be impacted by the emerging middle class in developing countries, diverging demographic outlooks,

increasing liberalisation of aviation markets, and climate change (IATA, 2016). Based on feedback from member and partner countries, industry and international organisations, this chapter will explore similar trends, in relation to:

- Evolving visitor demand,
- Sustainable tourism growth,
- Enabling technologies,
- Travel mobility.

Global tourism has experienced steady growth for over six decades, culminating in an estimated 1.2 billion arrivals in 2016; a figure which is forecast to rise to 1.8 billion by 2030, with international tourist arrivals in emerging economy destinations projected to grow at double the rate of that in advanced tourism economies. Similarly, global expenditures on travel more than doubled between 2000 and 2016, rising from USD 495 billion to USD 1.2 trillion and accounting for 7% of global exports in goods and services (UNWTO, 2017a). In OECD countries, tourism accounts for, on average, 4.2% of GDP, 6.9% of employment and 21.7% of service exports.

Overall, projected growth in the tourism sector may be both helped and hindered by the key megatrends that have been identified. To effectively respond and adapt to these megatrends, policy makers and industry need to better understand what they are and the likely impacts they will have on tourism in coming decades.

Megatrends transforming tourism

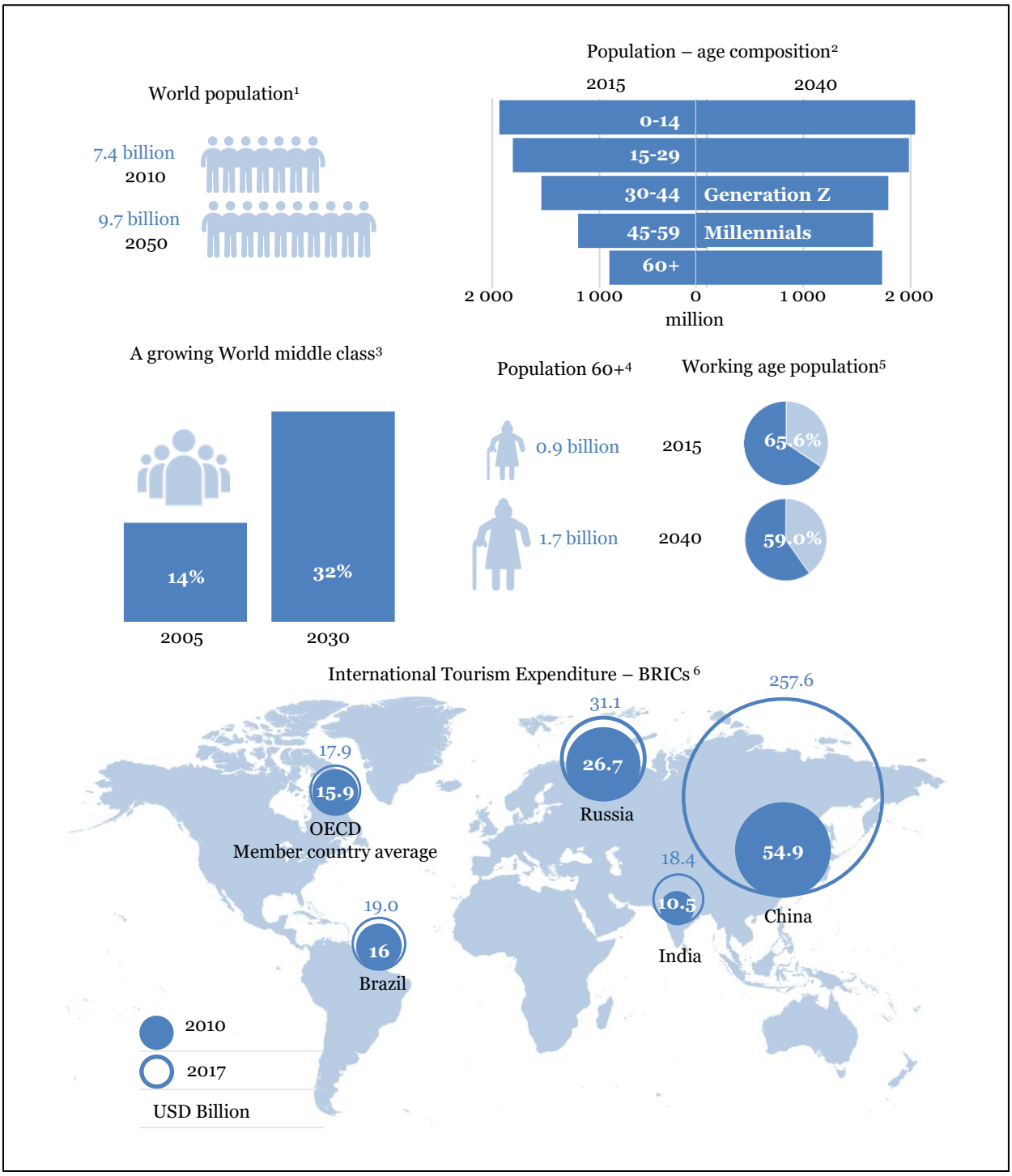
When considering its likely evolution over the coming decades, it is clear that tourism will be transformed by large-scale social, economic, political, environmental and technological changes. While slow to form, once such 'megatrends' have taken root, they exercise a profound and lasting influence on human activities, processes and perceptions.

Megatrends bring new and often unseen challenges, threats and opportunities, the impacts of which may vary between the economy as a whole, and individual sectors. While we cannot be certain how these influences will present for tourism, we can be confident that the structure of the visitor economy will evolve significantly between now and 2040, as: i) income and education levels increase in emerging economies, the global population continues to age, and new consumer groups emerge; ii) the global economy continues to shift towards low-carbon, resource-efficiency; iii) enabling technologies and peer-to-peer/shared usage platforms continue to create new tourism marketplaces and business models; and iv) the expected growth in visitor numbers, safety and security concerns, changes in travel facilitation policies, transport innovations, access infrastructure, and aviation regulations, all affect travel mobility.

It is critical for both governments and industry to explore and understand the multi-dimensional implications of these megatrends in order to inform policy and shape the future of tourism. An in-depth discussion of such trends will better enable policy makers to bring currently unforeseen and emerging issues onto the strategic policy agenda, develop potential policy responses, and better assist public and private actors to capitalise on opportunities and challenges as they arise.

Evolving visitor demand

Figure 1. Key trends related to the evolving visitor demand



OECD infographics based on various sources: 1. UN (2017). World Population Prospects; 2. UN (2017); 3. Bussolo et al. (2014); 4. UN (2017); 5. UN (2017); 6. UNWTO (2017a); OECD (2018), OECD Member Country average refers to 2016 International Tourism Expenditures. Some of the icons were designed by Freepik from www.flaticon.com.

Over the next few decades, the structure of the visitor economy will evolve as income and education levels increase in emerging economies, gender imbalances are addressed, the global population continues to age, and new consumer groups emerge. Combined, these factors will impact on the propensity to travel as well as the expectations of travellers. Although expected to grow at a slower rate than in the past, the world population is forecast to rise from 7.4 billion in 2015 to 9.7 billion in 2050, driven by growth in developing countries.

Changing demographics will have a major impact on visitor demand in coming years. In particular, trends such as the continued growth of the global middle class and aging populations mean that the global population will generally be richer and older in the decades ahead. Additionally, the rise in prominence of emerging generations will further upend current considerations that fuel the tourism market. Indeed, Millennials and Generation Z will become key forces in mobility and their travel behaviour could lead to significant shifts in the tourism market.

As a result of these trends, not only will the way people travel change, but their needs and demands are likely to be quite different when compared with tourism today – prompting new opportunities, and challenges, for the future, and a likely shift away from a currently dominant western view defining travel, holidays and related practices (Kyyrä and Rantala, 2016).

Due primarily to increased wealth in emerging economies, the world is experiencing a significant and ***rapid expansion of the global middle class***. This major increase in middle class purchasing power and consumption is likely to play a major role in the world economy in the years ahead. Indeed, it has been estimated that the world is only a few years away from the majority of the world's population being considered middle class (Kharas, 2017). Not only is the middle class increasing, but it is doing so at a rapid rate.

This trend will have broad implications, particularly since this growing demographic will have more spending power. The combination of this growth alongside advances in technology means that people in the middle class will have greater access to goods and services around the world.

Despite this high-paced expansion of the global middle class, challenges will abound in coming decades. For example, the impact of technology and automation on the labour force is one issue that could fundamentally alter the number of people in the middle class (Bremmer, 2016). Indeed, inequality could continue to rise within this large demographic.

Furthermore, growth trends vary across different parts of the world. The fast-growing middle class predominantly stems from emerging economies. Developed countries will experience a much slower expansion, and in some western jurisdictions, this has stalled or declined. As the middle class grows in developing economies, these parts of the world are going to play an increasingly important role as source markets for global tourism.

Another expanding demographic group is that of the elderly – due to a combination of increases in life expectancy alongside decreases in fertility rates (ESPAS, 2015). Due to ***aging populations***, the share of people in the global population over 60 years of age is expected to nearly double over the next 35 years, with some regions experiencing more significant growth than others. The next 50 years will see population ageing affecting most OECD countries, and developing countries, notably in Africa and South Asia, experiencing considerable population increases. Fertility rates are below replacement rates in many advanced countries and in some large emerging economies like China and Brazil. Between 2010 and 2060, the OECD's population is expected to increase by 17%, but the working

age population (age 15-64 years) may fall by 7%, which could lead to a labour shortage that is unable to meet increased tourism demand (Figure 1). The ageing of the work force may have negative effects on long-term growth, put pressure on social systems, and introduce major changes in consumption and investment flows.

As such, the range and volume of goods and services that older people are likely to consume, including tourism, are also positioned to grow substantially. Infrastructure and support services will need to be tailored to accommodate both increased demand and changing visitor needs and preferences. For example, accessibility (both physical access and information provision) is likely to be an area of particular concern for older tourists.

Emerging generations refer to demographic groups that are on the horizon. Generation Z (born in the late-1990s to early-2010s) and Millennials (born in the early-1980s to mid-1990s) will both represent important market opportunities in the tourism sector by 2040.

Both of these demographics have grown up with technology and were raised with the Internet, which will play a key role in how they access, navigate and interact with different tourism products and services. Indeed, they are likely to be particularly demanding compared to previous generations, having grown up with the quick and direct access to information enabled by digital technology. They are also more likely to travel independently compared to past generations and be open to temporarily accessing or renting products or services, such as modes of transport or accommodation, rather than owning them outright.

Different policy and industry pressures will result from changes in these demographic groups, each of which has very unique travel preferences.

Key facts and projections

At the end of 2016, there were approximately 3.2 billion people considered to be in the middle classes around the world. Annually, approximately 150 million people are joining this demographic group, with the majority of those (an estimated 88%) residing in Asia (Kharas, 2017).

As of 2015, the global middle class was spending USD 35 trillion annually – about one-third of the total global economy – however, that figure is forecast to nearly double (USD 29 trillion) by 2030, with only USD 1 trillion of the increase coming from developed economies (Kharas, 2017). Other projections indicate that, by 2030, this rapidly expanding middle class will result in increased populations in major cities, particularly in Asia (ESPAS, 2015).

The United Nations (UN) has projected that by 2050, nearly all regions of the world will have almost a quarter of their population aged 60 or older. This demographic group is currently growing at a rate of about 3% per year, and is expected to reach 1.4 billion people in 2030 and 2.1 billion by 2050 (UN, 2017).

The rate of aging is not expected to be equal around the world. For instance, in Europe, 25% of the population is already 60 years of age or older and that figure is expected to increase to 35% by 2050 (UN, 2017). Other parts of the world are not expected to see such dramatic rises.

Research indicates that tourism is one of the major areas that will benefit from an aging population that is increasingly more inclined to pursue leisure-oriented experiences compared to past generations. Indeed, tourism targeted at older markets has been identified as a particularly high yield and high growth opportunity for the industry. For instance,

individuals 65 years and older in the UK increased spending on overseas travel by GBP 1.3 billion between 1999 and 2011 while those between the ages of 16 and 34 decreased spending by GBP 922 million over the same period (Kingman, 2012).

Similarly, a recent study commissioned by the European Commission highlights the growth potential for accessible tourism in Europe. The study shows that accessible tourism demand by people with special access needs from the European Union currently generates a total economic contribution of EUR 394 billion in terms of GDP within the European Union (3% of total EU27 GDP in 2012). Furthermore, it estimates that if European Union tourism destinations were improved to achieve almost complete accessibility of buildings, hotels, restaurants, museums, and various accessible services, by 2020 demand would increase almost 44% resulting in a potential rise of 39% in economic contribution (Miller, 2014).

One such example is reflected in the rise of multi-generational travel, often involving families, and fuelled by older tourists with high spending power and significant leisure time. Approximately one-third of retired individuals have taken trips with people in other generations (Age Wave and Merrill Lynch, 2016). A unique challenge for destinations posed by this growing market is the ability to develop and align activities of interest to all members of the travel party.

Another niche segment that is likely to experience significant growth in the coming years is that of medical tourism. As the costs of medical insurance and procedures, whether for health or cosmetic purposes, continue to increase in developed economies, emerging economies will be become attractive options. As the quality of medical practitioners and infrastructure improves and the costs remain low, relative to those in source markets, tourists will be more likely to consider travelling abroad for wellness purposes and/or to combine a medical procedure with a short break (Alén et al., 2015).

Millennials currently account for approximately 20% of international travel, spending an estimated USD 203 billion around the world. By 2040, they will range in age from 45 to 60, with the oldest beginning to approach retirement, and having accumulated additional wealth over the next 25 years, their proportion of total spending is expected to increase substantially.

Meanwhile, the generation that follows Millennials – Generation Z – will also be a major force in the tourism market and labour force by 2040, ranging between the ages of 30 and 45. By as early as 2020, this demographic group will make up the largest share of the global population at 2.6 billion, projected to overtake Millennials who are estimated will number 2.3 billion (Weinswig, 2016). Given the expected growth in tourism demand from emerging economies in Asia, young travellers from this part of the world will become an important market.

Data indicates that Millennials take more trips annually compared to other generations – at four or more per year. However, trips tend to be shorter in duration compared to other demographic groups (Globetrender, 2017). Furthermore, they are more likely to pick travel experiences that they consider to be “authentic” – preferring to head off the beaten track and “live like a local” (Future Foundation, 2016).

A study by Airbnb found that many Millennials consider travel more important than other priorities, including buying a home or a car. Additionally, Millennials surveyed in the United States, United Kingdom and China valued experiences more than ownership (Airbnb, 2016).When combined with a second nature use of digital technologies, this group are more likely to create their own travel itineraries than to rely on the advice of travel agents or participate in package tours.

Implications for the tourism sector

All of these demographic factors appear to present significant growth opportunities for the tourism industry. As the population ages and more people enter the retirement phase of their lives, they are more likely to spend income and savings on leisure activities such as travel. Similarly, the overall growth of the middle class will mean more people are likely to spend on luxuries such as tourism.

While there is significant potential for tourism growth associated with an expansion of the global middle class, challenges may arise in the future. As populations in Asia are observing the most significant middle class growth, they are likely to experience the most significant increase in demand for pursuing travel and tourism. However, the tourism industry may need to take into account potential colliding interests, with fast growth in emerging markets contrasting with slow growth in developed economies (Kharas, 2017).

Furthermore, middle class growth may not be stable, with the current trajectory susceptible to influence from geopolitical or macroeconomic instability, while automation and emerging technologies could alter growth patterns and expectations. Governments and industry will need to continue to monitor these signals, estimate their likely impacts and adjust long-term strategies and target markets where necessary.

With an ageing global population, seamless transport to and within destinations (including the challenge presented by the "first" and "last" mile – that travel from a person's home to an airport, port or train station, and then on from their point of arrival to their destination) is a strategic issue that will increasingly need to be addressed. Tourism-related infrastructure, modes of transport, and information provision, will need to be carefully designed and operated to cater for a greater number of customers with reduced mobility and limited communications abilities, in order to help tourists confidently navigate their way around a destination. In the context of mobility, universal design refers to those transport systems that accommodate diverse abilities and needs. The adoption of such an approach can expand potential tourist markets to include people with special needs, whilst also benefitting travellers without mobility impairment. For example, walkway ramps provide access for those tourists with limited mobility or wheelchair users, but also convenience for those with wheeled luggage or parents travelling with a child in a pushchair.

While the purchasing power of older populations is projected to remain high in coming decades (Dobbs et al., 2016), the current trajectory could alter if work becomes less stable and the retirement age in countries continues to rise. This could lead to increased variation in levels of spending power for those approaching retirement in 2040. Flexibility will be critical in order to effectively respond to their evolving needs and changing expectations.

Various circumstances can impact the travel decisions of older tourists. For instance, those still in the labour force are more likely to make leisure travel decisions based on whether they have the money or time to do so, while travel decisions of those who are retired are more likely to be influenced by their health status (Alén et al., 2015). The implication being, that for those people that need to continue to work beyond the traditional age of retirement, simply whether they are healthy enough to travel will unlikely be the only consideration in any travel decision.

Box 1. New Zealand's marketing to Chinese travellers

New Zealand has already experienced some of the impacts of evolving visitor demand. China is currently New Zealand's fastest growing source market and the second largest overall. New Zealand's Ministry of Business, Innovation and Employment forecasts that Chinese travellers will double between 2017 and 2023, expecting growth to 913 000 visitors who will spend an estimated NZD 4.3 billion per year. These trends prompted New Zealand to develop efforts that focus on helping the tourism industry respond to the influx of Chinese travellers.

In 2012, the government initiated a review of the Chinese market. That review included a recommendation calling for the development of a nation-wide toolkit that was designed to "accelerate the ability of New Zealand businesses and destinations to raise their service levels for the Chinese visitor market." Tourism New Zealand took leadership in administering the toolkit, which is supported by the government, tourism industry groups and the private sector. As part of its efforts, Tourism New Zealand develops training and networking events with various industry segments.

The government's efforts also involve a shift toward independent travellers and away from tour groups. In light of this shift, the Ministry of Business, Innovation and Employment commissioned the ***China Visitor Insight Program*** in 2015 to help the tourism industry better understand the needs and preferences of independent travellers from China. The program provides webinars and online services on topics such as developing products specific to that market and reaching out via social media. It is focussed on marketing toward independent travellers, as they are believed to be more likely to stay longer and travel further distances. Workshops developed to support these efforts have had more than 1 000 tourism operator attendees. Furthermore, the government is taking steps to encourage Chinese travellers to visit during off-peak periods and new and emerging destinations within New Zealand.

Also as part of its efforts to aid travel for visitors from China, New Zealand's government has made it simpler for travellers from the country to visit, such as by extending the timeframe for multiple-entry visas for Chinese visitors and by providing them with access to more expedited processing at the border

Source: New Zealand Ministry of Business, Innovation & Employment

Despite the projected increase in the over 60s market in the years ahead, Millennials, Generation Z and other emerging generations will comprise the bulk of domestic and international tourists by 2040. An increasingly large proportion of these will be middle-class and originating from emerging markets. For example, recent research has found that Millennials in China – which has experienced significant middle class growth – place a higher significance on travel than Millennials in other countries (Airbnb, 2016). The tourism sector will need to adapt to these trends and adopt innovative approaches to accommodate new demands and specific preferences of these individual groups. New Zealand's marketing strategy in response to China's growing importance as a source market is one such example (Box 1).

The predominance of emerging generations and their preferences for unique, customised, and sustainable travel experiences could lead to a shift away from more traditional sun, sea and sand, and attraction based tourism. Generation Z, for example, appears to be highly

influenced by social media and recommendations by peers when making travel decisions. They are interested in taking risks on vacations and having unique experiences, as well as trips focused on relaxation (Globetrender, 2017). While the appetite for risk-taking may decline as Generation Z approaches retirement, it is likely that this preference will be taken up by following generations.

In order to capitalise on these changing trends, policy and industry decision makers will need to consider how to more effectively develop and connect travellers with more remote destinations, where appropriate, to provide diverse and distinct experiences outside of traditional tourism destinations, and support the socio-cultural and economic development of local communities.

However, the purchasing power of these groups in 2040 may impact their willingness and/or ability to travel, as they have faced economic circumstances that have generally made it more difficult for them to accumulate wealth as easily as for preceding generations (Dobbs et al., 2016). Indeed, Millennials were hit hard by the global recession, which impacted career advancement, and now face a changing workforce that is often precarious and increasingly automated, as well as greater inequality in general. These changing circumstances may also go some way to explaining the trend towards shorter trips and increasing popularity of cheaper travel options such as low cost airlines, home-sharing and ride-sharing platforms, hostels etc. These issues must all be considered in assessing the travel preferences of emerging generations in the decades ahead.

Critical uncertainties

When undertaking a strategic forecasting exercise, such as scenario building, in the first instance it is necessary to consider potential inflection points that may alter the expected trajectory of these trends. Below is a set of critical uncertainties that may alter the expected evolution of visitor demand between now and 2040:

- It is uncertain whether the growth of the global middle class will be sustained. Technology and automation may impact the labour forces of emerging economies negatively, potentially leading to greater inequality and lower purchasing power for a greater number of people. Unpredictable geopolitical and macroeconomic conditions may further place a drag on the demand for tourism.
- The rapid growth of emerging economies and their middle class populations may contrast with slow growth in developed economies, leading to uneven supply and demand conditions.
- Increases in the aging population, particularly in OECD countries, may lead to labour shortages that are unable to meet the increasing tourism demand and may negatively affect long-term growth. Increases in retirement age to overcome labour shortages may also negatively impact demand for tourism.
- While seniors are expected to increase spending and positively impact tourism demand in the years ahead, uncertainties about future pension developments could affect this trend. Similarly, it is unclear what impact unstable work and insecure economic conditions will have on Millennial and Generation Z spending on travel and tourism.

Plausible future scenarios

Based on these critical uncertainties, this section explores the three plausible future scenarios that could potentially unfold in relation to evolving visitor demand between now and 2040:

1. The Rise of the Penny-Pinching Tourist

- Changing demographic realities of the world have led to a sharp decline in the demand for tourism. Frequent economic recessions and a generalized macro-economic slow growth period have reduced purchasing power, stifled innovation, and bred protectionism.
- Western economies have stagnated due to aging populations and lack of economic development. A sharp increase in the aging population has led to acute labour shortages, including in the tourism industry. Many countries have increased the age of retirement to meet labour demands, and this late retirement has further eroded the tourism industry due to reduced demand for tourism from retirees.
- The situation is equally bleak for younger travellers. Increases in gig and precarious employment and global inequality made it increasingly difficult for Millennials and Generation Z to accumulate wealth. Due to low incomes and lack of savings, they are more price-sensitive and have limited purchasing power to afford travel.
- While emerging economies have grown, the new global middle class, largely comprised of people from Asia, has less spending power compared to travellers from traditionally developed economies. This relatively limited consumer wealth means a lack of demand for personalised and premium tourist experiences.

2. The Age of Futuristic Travellers

- Increased global economic prosperity, particularly due to the growth of the middle class in emerging economies, has led to increased demand for tourism and rapid innovation in the industry.
- Travellers from different population segments are actively seeking diverse and distinct travel experiences. To cater to their varying demands, the industry has evolved to provide a range of options to the aged, the adventurous, as well as multi-generational families and diverse cultural groups at various price points. Travellers are also able to design personalised experiences tailored to their specific interests.
- To maximize the potential of the increasing travel demand from Asian middle class populations, Asian and Western travel companies are increasingly collaborating to leverage this market for the benefit of both travellers and businesses. This cooperation has been possible due to unprecedented geopolitical stability.
- Significant advances have been made in universal design, making accessibility and inclusion a key consideration in the creation of spaces and experiences. This has been instrumental in meeting the needs of a diverse range of travellers from different age groups with varying abilities and preferences. Information is also more readily available in multiple languages and can be customized based on the needs of different tourist groups.

3. Continuing on the Path of Incremental Innovation

- The new global middle class from emerging economies and aging populations from developed economies have accelerated the demand for tourism.
- While elderly travellers have more wealth to afford premium experiences, Millennials and Generation Z have less disposable income and are more price sensitive. Similarly, although members of the global middle class have additional money to spend on tourism, they are not as affluent as middle classes from traditionally developed economies. To cater to the varying profiles of these different traveller groups, the tourism industry is trying to adapt quickly to develop products and experiences that meet their diverse demands at various price points.
- The increase in tourism demand has also created greater competition in the industry, leading to a variety of choices and better value for consumers. Technology has also advanced, causing increased awareness and competition by allowing travellers to customize their trips from a range of options. Younger travellers are particularly likely to pick and choose options online. While mobility has increased overall, geopolitical considerations such as security conditions and visa restrictions remain central when travellers select tourist destinations.
- Over-tourism is becoming an increasingly critical issue, particularly for the most popular tourist destinations. It is an ongoing challenge for the tourism industry as well as policy makers to devise solutions to this problem to protect the locals' quality of life and ensure sustainability.
- Information in 2040 is more accessible than ever in multiple languages to assist travellers from different countries. While advances have been made to make tourist spaces more accessible and inclusive, there remains potential for further innovation in this area to create experiences that are universally accessible and welcoming.

Scenario Analysis

The expected increase in international arrivals and growing tourism demand in the coming years – especially coupled with advances in technology – will raise a number of issues related to digital fluency, inclusion and accessibility. For example, will all members of society be digitally savvy enough to take full advantage of the onrushing wave of technological innovation, or will particular subsets of the population be left out of this revolution? Can we engage with all tourism consumers equally in the same way or will some consumers, such as the elderly, require additional supports?

An important question to be addressed is how to mandate accessibility and inclusion for consumers of various ages, preferences and cultural backgrounds. An ageing population means that elderly travellers may face mobility issues and require assistance[4], while the growing global middle class will likely provide tourism growth from emerging economies, all of which will necessitate significant investment in supporting infrastructure (e.g. accommodation, accessible transport, and effective signage and communication tools). It is important to note that distinctions in cultural preferences between tourists from Asia and those from Europe and North America could also drive behaviour when it comes to

[4] In response to this issue Germany provides comprehensive and accessible online information for prospective travellers through Discover Germany's Barrier Free initiative (German National Tourism Board, 2018).

preferred destinations and their perceived authenticity in travel. There are also questions around the linkages and potential conflicts between growing visitor demand and sustainable tourism.

However, in the event that tourists feel financial pressures as a result of economic and demographic trends – and change their travel preferences as a result – there may indeed be a decline in global tourism. If traditional travel becomes unaffordable for many, it is likely that in general, people would take fewer long-haul trips, and focus instead on domestic or regional experiences that are more affordable. There could also be a growing interest in "virtual travel" through virtual and augmented reality technologies that emerge in its place. However, it could also be the case that technology enables greater travel: Virtual Reality experiences could be used as a tool to market destinations rather than substituting travel to those destinations, and travellers looking to stretch their resources could rely on platform technologies to leverage real-time information to tailor their experiences to fit within a specific budget.

Personalization and authenticity in travel may become attractive low-cost options for those with less disposable income available to pursue travel. Tourists may become more tolerant of challenging or uncomfortable travel conditions such as crowded transportation, shared accommodation or multi-stop flights. In fact, people may care less about high-quality accommodation and view it as merely a place to sleep, staying in hostels or budget hotels and instead focusing more on daytime activities such as dining and other experiences. Tourism providers may wish to respond to this by extending opening hours for certain attractions and modernize marketing efforts for hostels, train travel, and other less expensive options. This personalization may also place emphasis on highly specialized travel preferences, such as cyclists or runners (e.g. those participating in overseas races or participating in organised tours) and gourmands (e.g. those with a keen interest in food and drink). Greater knowledge of such groups and how they prefer to travel will become increasingly important for providers of goods and services in the tourism industry.

A scenario in which consumers reap the benefits of digitally-driven changes would indeed make travel swift and welcoming, although tourists are likely to begin to expect immediate access to all goods and services – including reservations, attractions, virtual reality or other options. Furthermore, while emerging generations may prefer personalization in their travel experience enabled by new digital platforms, this also raises questions around data privacy.

While changing demographics and consumer preferences may enable digital experiences to flourish, this may also lead to a wave of demand for "analogue" and real-life experiences that technology cannot replace. For example, start-ups have already begun to emerge that promote dining and experience nightlife with a local, and one can imagine spectre of "digital detox" experiences marketed as a means to escape the constant demand to be plugged in to the online world. For example, backcountry camping, hiking on remote islands with limited cell phone reception and monastery stays that focus on living in the moment are already gaining in popularity as alternative vacations to disconnect and truly relax (National Geographic, 2017).

In this case, human labour will need to add more value in the future of tourism – for example, professional tour guides will need to enhance their level of quality to add value to the experiences of clients, rather than simply provide information. A demand for specialized consultants who can give insights into what would be attractive about a particular destination given one's personal preferences could also be highly likely, creating new jobs in the tourism sector. Concerns around a shrinking tourism labour force due to

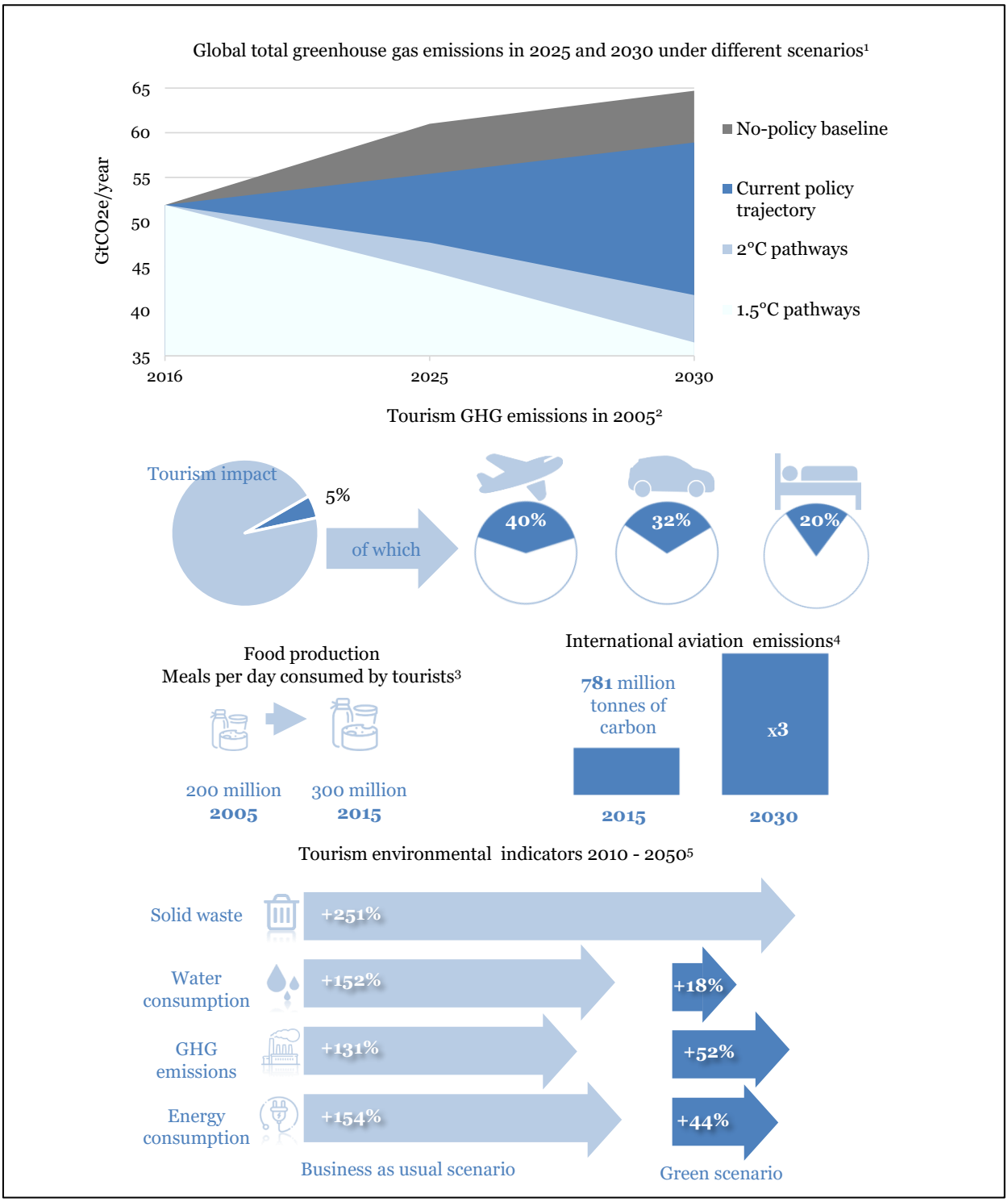
the ageing population and automating technologies may be partially offset by this demand in such a scenario.

Potential policy responses

1. Policy makers at all levels of government should ***consider investment strategies within and across destinations*** expecting considerable growth in tourism demand to balance the demand-supply challenge. Promotion of strategic investment and long-term planning for physical infrastructure should be a priority for governments – although such strategies should be multifaceted and consider other aspects of a destination that might see strain in the event of rapid tourism demand.
2. Policy makers and industry should ***prepare for growing demand among elderly tourists*** as a result of an ageing population in many parts of the world. From the perspective of government, this preparation should largely focus on mandating accessibility requirements and investing in infrastructure to support those with mobility challenges, physical disabilities and cognitive impairment. Efforts should also be taken to explore ways to engage with visitors with different level of digital fluency in the digital era.
3. Policy makers and industry should work together to develop comprehensive strategies to ***promote cross-cultural understanding and awareness*** in light of the expected increase in the number of visitors from emerging markets. Efforts for cross-cultural understanding should include the provision of information to travellers in multiple languages and utilising technology to offer real-time translation solutions.
4. Destinations should ***re-think how travel experiences are framed and marketed***, as changing demographics are likely to dramatically shift the way in which people choose where and how to experience travel – particularly in reaching out to young travellers and emerging tech-savvy generations. Innovative digital campaigns, utilising social media platforms to promote the sharing of experiences will become increasingly important components of tourism marketing strategies.
5. Opportunities to ***develop and promote authentic and personalised experiences*** should also be explored by both government and industry. Unique, off-the-beaten path experiences outside of standard hotel-style accommodation and highly-structured guided tours are likely to increase in popularity as people search for low-tech and authentic experiences. Technology can play an integral role in curating these opportunities, and technology-enabled platforms engaged in this space, could be valuable partners.

Sustainable tourism growth

Figure 2. Key trends related to the sustainable tourism growth



OECD infographics based on various sources: 1. UNEP (2017); 2. UNWTO (2017b); 3. UNWTO-UNEP (2008); 4. CREST (2016); 5. UNEP-UNWTO (2010). Some of the icons were designed by Freepik from www.flaticon.com.

Tourism is widely recognised as a human activity that is dependent on natural resources, while at the same time contributing to the depletion of these same resources. As for many sectors, tourism is a relevant factor in the consumption of energy and generation of greenhouse gas emissions. It also contributes to fresh water and land use, environmental degradation, and unsustainable food consumption. The sector also has various impacts on global biodiversity. Tourism's interrelationship with these resources can be direct or indirect, and even though all tourism activities are ultimately local, they add up to phenomena of global significance.

At the same time, however, tourism can also raise awareness of cultural and environmental values, help finance the protection and management of protected areas, and increase their economic value and importance. When built upon broad stakeholder engagement and sustainable development principles, tourism can contribute to more inclusive growth through the provision of employment and economic development opportunities in both urban and rural areas, and promote social integration.

Tourism can play a key role in driving the transition to a low-carbon and resource efficient economy. Due to its cross-cutting nature and close connections to numerous sectors, even small improvements will have important impacts. In recognition of tourism's potential to advance the universal 2030 Agenda for Sustainable Development – by mainstreaming sustainable consumption and production patterns that are resource efficient and result in enhanced economic, social and environmental outcomes – 2017 was declared the UN International Year of Sustainable Tourism for Development.

Key facts and projections

Total global greenhouse gas emissions are estimated at about 51.9 $GtCO_2e$/year in 2016 and expected to increase to 61.0 in 2025 and 64.7 in 2030 according to the no-policy baseline scenario. The Paris Agreement adopted in 2015 set the specific goal of holding global warming to well below 2 degrees Celsius (°C) compared to pre-industrial levels, and of pursuing efforts to limit warming to 1.5°C (UNEP, 2017).

Estimates of ***tourism related emissions*** include all domestic and international leisure and business travel, with a focus on transportation to and from the destination, accommodation, and activities at destinations. Taken together, the tourism sector is estimated to contribute approximately 5% of global GHG emissions (UNWTO, 2017b). A more complete analysis would also include food and beverages, infrastructure construction and maintenance, as well as tourist retail and services.

Transport is responsible for around three quarters of the tourism total (aviation accounting for 40% and cars for around 32%), followed by accommodation (over 20%), and cruise ships. International aviation has increased its emissions by 83% since 1990, generating an estimated 781 million tonnes of carbon in 2015 (ATAG, 2016). In a business as usual scenario, it is estimated that the sector will generate three times this amount by 2035 (CREST, 2016).

Tourism is both dependent on ***fresh water resources*** and an important factor in local fresh water use. Tourists need and consume water when showering or using the toilet, when participating in activities such as skiing (snowmaking), and when using spas, saunas, wellness areas or swimming pools. Fresh water is also needed to maintain hotel gardens and golf courses, and is embodied in tourism infrastructure development (including accommodation), and food and fuel production. Changes in the availability or quality of water resources can have negative impacts on tourism (OECD, 2015).

Tourism growth and the trend towards higher-standard accommodation and more water-intense activities, and declining water resources, will lead to increased pressure on water resources in many destinations. As a consequence, tourism development may become less feasible or impossible due to declining water quality and the costs associated with providing fresh water. Impacts will ultimately depend on several factors, including the relative scarcity of fresh water in existing and potential tourism destinations, competition with other economic sectors such as agriculture or biofuels, and the structure of the tourist industry (e.g. small guesthouses vs. large resort hotels), and the level of water use per guest night. Regional conflicts over water use have already been reported (ITP, 2013), and are projected to increase in the future due to increasing demand and declining supply.

Food production and waste minimisation have a wide range of sustainability implications. For example, UNWTO-UNEP (2008), estimates that 25 billion tourist days were spent in 2005 alone. At an average of three meals per tourist per day, this represents roughly 200 million meals per day. With the number of international arrivals increasing by over 50% to 2016, this figure increases towards 300 million per day. Hotels, consequently have considerable power over food production, and can directly influence sustainable food production and waste minimisation and can directly influence sustainable food production through regional or organic food purchasing policies. For example, the initiative by the Scandic hotel chain to only purchase organic and fairly traded coffee affects 20 million cups of coffee served per year (Gössling et al., 2011).

While well-planned tourism development has the ability to contribute to the ***economic and socio-cultural well-being*** of host communities, rapid and unplanned tourism growth can equally result in negative impacts, such as overcrowding, which can impact upon both the communities and the environment upon which it depends. For example, some studies have correlated tourism growth with the deterioration of traditional culture, as well as increased gambling, drug trafficking and even prostitution. There is also some evidence to suggest that increased tourism can result in higher property taxes and higher cost of living in host communities, which may become unaffordable for local residents (Kim et al., 2013).

The exponential growth in the tourism sharing economy is a case in point. Peer to peer platforms have the potential to drive economic growth and job creation, and generate added value by encouraging tourists to disperse to less well-known destinations. However, it may also generate negative externalities. Accommodation sharing services in particular may impact neighbours and local residents, due to noise and other disturbances, and by contributing to pressure on the local housing market. In a worst-case scenario, poorly managed growth of these services may also have a detrimental impact on the historical fabric of destinations and reduce the appeal of areas as places to live and visit (OECD, 2016b).

The OECD report on Green Innovation in Tourism (OECD, 2013) highlighted an industry perception of ***customer reluctance*** to pay a premium for more environmentally sustainable products or services. However, customer perceptions may be changing. Results from a 2015 study showed that 66% of global consumers were willing to pay more for sustainable brands, up from 55% in 2014, while for Millennials, the figure was significantly higher at 73%, up from only 50% (Nielsen, 2015). Despite a growing number of travellers expressing a willingness to pay a higher price for sustainability, in some markets, there is still a large proportion of those who are not (López-Sánchez and Pulido-Fernández, 2016). A key factor influencing purchasing decisions is brand trust, which is why third-party certification programs have become so common in the field of sustainable tourism. Accreditation programmes such as 'Green Star' in Turkey, serve the dual purpose of encouraging

accommodation providers to be more conscious about environmental sustainability and the environment, while increasing consumer confidence in the eco-credentials of accredited tourism businesses.

Each year, the World Travel and Tourism Council (WTTC) recognises tourism destinations and enterprises for best practices in sustainability relating to the community, environment, innovation, and people. In its most recent report, there were a number of key trends identified that provide insight into the future of sustainable tourism (WTTC, 2016):

- There has been a notable increase in quality and quantity of applications from urban destinations, highlighting the growth in urban tourism as well as an increased use of tourism for economic development by municipal governments.
- Conservation and preservation of biodiversity have always remained a constant priority over time. However, as a result of a global push for climate action, climate change and GHG emissions are increasingly seen as critical elements of any sustainability initiative.
- Social enterprises are becoming more engaged in the tourism sector, due in part to the role of social media and mobile technology in connecting people quickly and easily.
- The "people" aspect has become more prominent in the tourism sector, resulting in greater promotion of employment, training and workforce participation as key drivers for industry development.
- There is a greater focus on measurement and evaluation of sustainability initiatives, which has in turn increased the overall standards in this area.

Implications for the tourism sector

The consequences of climate change will be felt across the travel and tourism sector over the coming decades. Existing tourism offers in many countries will be challenged as the physical environment is altered and ***extreme weather events*** become common. For instance, much of international tourism occurs in coastal regions, which are under significant threat of storms, flooding and tidal surges. Southern destinations are likely to face extreme heatwaves in the summer seasons, and northern destinations that rely on outdoor winter activities will face shorter periods of snowfall, leading to potentially larger ***seasonal variations*** for many countries. For both government and industry, this will require a serious rethinking of how travel activities are offered and how tourism is managed over the long-term (Box 2).

It will become increasingly important for governments and industry to work together in a pro-active approach to ensure the sustainable development and management of attractions for the benefit and enjoyment of local communities and tourists in both the short and long-term.

Box 2. Sustainable Destination Development Programme in Sweden

In 2012, over 40 regional and local organisations applied to the Swedish Agency for Economic and Regional Growth (Tillväxtverket) to take part in a four year initiative to strengthen and develop sustainable tourism destinations in Sweden. The five regions of Bohuslän, Kiruna, Stockholm Archipelago, Vimmerby and Åre were selected. Each region has its own unique character and development needs, and while sharing common objectives, each had its own specific goals as well. The total budget for the project was EUR 6.4 million, of which around EUR 1 million was allocated to each destination. Destinations initiated activities to prolong the tourist season, improve quality in hosting, develop new and more sustainable products and services, enhance accessibility, and generally improve the destination's quality and competitiveness.

The project highlighted the benefits of a national initiative, bringing credibility and status, as well as driving practical actions. By sharing knowledge, clear communication and targeted activities, each location increased its number of international visitors and developed programmes of sustainable development that were sensitive to both social and environmental factors. The programme is recognised as contributing to UN Sustainable Development Goal 12.

A new programme was launched in 2016 and is due to run until 2019, with seven projects across Sweden focused on cultural and nature tourism.

With the number of international arrivals estimated to reach 1.8 billion by 2030, and domestic arrivals potentially four times that figure, the transition to a low-carbon and resource efficient economy presents a range of opportunities and challenges for tourism policy makers. These include the need to better understand the current and potential impacts of different forms of tourism on the environment and natural resources, and providing the right incentives throughout the value chain to promote sustainability, and demonstrate that environmentally-friendly policies can also be business friendly.

To achieve ***greater resource efficiencies***, green investment structures, and cross-sectoral synergies there is a need to consider various sustainability drivers (UNEP, 2011). These include, for i) energy – increased costs and carbon surcharges; government incentives; eco-labels; as well as regulations/legislation on energy efficiency; ii) water – price structures reflecting water scarcity and responsible water management; and iii) biodiversity – regulation regarding sensitive ecosystems, as well as national policies attracting revenue through tourism for protecting critical biological habitats. Under such a green investment scenario, tourism could make a larger contribution to GDP growth, while significantly reducing water consumption, energy use and CO2 emissions, compared to a business-as-usual scenario.

Within this context, and due to its cross-cutting and fragmented nature, tourism policy needs to be considered within its broader policy context. Support and leadership from policy-makers at the highest level can help ensure that the impacts on tourism of related policy areas and initiatives are also considered. The linkages between different policy areas together create a policy mix that shapes how tourism develops over the short, medium and long-term.

An ***integrated governmental approach***, with input and support from industry and civil society, is therefore necessary to address the multi-faceted challenges faced by the tourism industry. These include protecting, managing and enhancing natural and cultural resources, and developing the infrastructure and skills needed to meet expected future demand. Such an approach will help to secure the longevity of tourism as an economic and social force by focusing on environmental sustainability, inclusiveness, diversification, innovation and strategic improvements to productivity; rather than simply reacting or seeking to meet short-term objectives to stabilise, adjust or shift towards new market opportunities.

Critical uncertainties

The following are critical uncertainties that could alter the expected trajectory of sustainable tourism growth between now and 2040:

- Environmental pressures and the consequences of climate change can negatively impact the tourism sector in many destinations, particularly if extreme weather conditions become more common (e.g. resulting in coastal flooding and dangerous heat waves in southern regions).
- If poorly managed, growth of tourism services may have a detrimental impact on the historical fabric of destinations and reduce the attractiveness of areas to live in and visit.
- Sustainable tourism can play a key role in driving the transition to a low-carbon and resource efficient economy. However, there is a risk that higher costs related to sustainable tourism may deter some travellers who are unwilling to spend more, making it a relatively niche market in tourism.
- The cross-cutting nature of these issues poses greater complexity. The international cooperation and intergovernmental approach over the environmental issues can be critical. Achieving greater resource efficiencies may require increasing costs (e.g. air travel) and restricting supply (e.g. visitor caps on sensitive ecosystems) in tourism activities.

Plausible future scenarios

1. An Era of Social and Environmental Irresponsibility

- The promise and popularity of sustainable tourism activities has dwindled – largely due to the higher costs associated with environmental and social responsibility in travel. Sustainable tourism has become a niche market with many tourists unwilling to invest additional funds on their next trip in order to “give back” to their host community and local ecosystem. The tourism sector, as with many other industries, invests very little in sustainability and the environment suffers as a result.
- Environmental pressures caused by over-tourism have destroyed many destinations and landmarks entirely: coral reefs have been permanently bleached, popular coastal regions flooded, and southern destinations face extreme and dangerous heatwaves for most of the year. Extreme weather, combined with years of high and uncontrolled visitor demand, has eroded historical monuments and displaced traditional culture in the world’s most renowned travel destinations.
- Regulatory efforts to reduce CO2 emissions have made air travel inaccessible for the average traveller. Governments, in an attempt to reign in some of environmental

destruction resulting from climate change, have tightened regulations on the aviation industry and airline prices have skyrocketed. Small island destinations, who rely almost entirely on inbound flights for tourism, have seen their local industries collapse.

2. Green Growth: The Inherent Sustainability of Travel

- Sustainable tourism continues to flourish as people purchase and participate in environmentally-friendly and socially-conscious travel more than ever before. Sustainable tourism is no longer perceived as a niche market – rather, travel has become inherently sustainable with few caveats. Its booming popularity has largely driven down prices, making sustainable tourism accessible and affordable for the average traveller.
- Industries around the world have reframed their thinking around economic growth and have shifted towards more resource-efficient and low-carbon operations. The tourism sector is no exception: hotels are energy-efficient and committed to providing the local community with decent work opportunities. Most land travel is electric, and more often than not, tourists both young and old involve some aspect of volunteering or charitable giving in their trips at home and abroad.
- As destinations around the world begin to take sustainability more seriously, progress has been made on social, environmental and economic objectives. Of course, landscapes and ecosystems have irreversibly changed over time, but tourism destinations and operators have made the most of it – promoting longer seasons for warm beach weather and cautiously managing demand for at-risk monuments

3. Polarized Progress: Diverging Views on Sustainability

- The growth in sustainable tourism continues, albeit more slowly than its initial surge in popularity in the early 2000s and 2010s. The perception of sustainable tourism being an unaffordable niche industry has certainly softened, and many travellers do their best to give back to the community – particularly younger generations.
- The tourism sector has become better at addressing the social ills related to tourism – offering decent work opportunities, better engaging local communities and promoting traditional culture. However, the sector has yet to reach the end goal of tourism as a whole becoming inherently sustainable, and still struggles considerably in limiting its environmental impacts.
- The extent to which a country has transformed its tourism sector into a sustainable one has depended largely on the regulatory and legislative environment that the sector is operating within. While the majority of international governments have signed and ratified the Paris Agreement and are working towards emission reductions, some are much further ahead than others. Such inconsistencies in approach continue to pose challenges – as a phenomenon that does not respect borders, the consequences of climate change continues to damage many destinations irreversibly.

Scenario Analysis

In order for tourism to be truly sustainable at a global level, significant cooperation among various levels of government both within and across national borders, and in close consultation with industry, will be required. At the international level this could entail collaboration among governments to devise strategies to meet sustainable tourism goals (e.g. UN SDGs, OECD Policy Statement on Tourism Policies for Sustainable and Inclusive Growth). However, steps will also need to be taken at the national and subnational level, and in addition to strategies designed to mitigate unsustainable practices, steps will also need to be taken to adapt to environment change. For example, in 2017 the Queensland state government (Australia) established the Queensland Tourism Climate Change Response Plan, a comprehensive tourism-specific adaptation plan with extensive stakeholder consultation, providing priority actions in response to six climate hazards and risks for tourism in the State.

In the near-term, the tourism industry is likely to continue offering products across a wide spectrum of sustainability: there will be destinations and service providers that prioritize social, economic and environmental sustainability in their operations, and many who do not. Consumers will thus have a choice in whether to be sustainable or not, which will require transparent certification and accreditation measures to ensure that consumers are well-informed about the place they are visiting, and where their money goes when spent in that destination.

There are many challenges to such processes. As an industry that is inherently global, to be effective, certification and accreditation systems in the tourism sector will require standardization across jurisdictions. However, it will be difficult to provide consumers with consistent information on sustainable destinations and services because indicators of sustainability and measurement approaches may vary widely between destinations.

Further, while such certification systems exist in the market already, there tends to be such a high volume that consumer perceptions of trust and value are not maximised. Instead, consumers increasingly rely on online review mechanisms in which trusted consumers share experiences. However, such reviewers are unlikely to fully understand the back-end sustainability of service providers, and instead focus on the front-end customer experience. An ideal system might enable consumers to build the criteria with which goods and services are assessed for sustainability.

Given the dominance of technology in these peer-to-peer mechanisms, there are perhaps ways to utilize existing technology to promote transparency in sustainable tourism. In Italy, Florence offers the first non-profit reservation website called Viva Firenze (http://www.vivafirenze.it/en) in which any hotel can become involved. The same revenue model is used as any other booking site, but the distribution model is more sustainable. When booking online, consumers can select a project being undertaken by a non-profit organization in the region to which they would like to contribute a donation from the cost of their booking. One could imagine these principles being used more broadly through an online tool or application which enables users to see exactly how much of their money stays in the local economy.

In the medium term, there is a sense that in order to be truly sustainable, tourism is likely to become unaffordable for some consumers – millennials for example, may be particularly hard hit given recent economic trends. For those who can afford international travel, it will be a positive experience as many will find more options that align with their personal values, and feel as though they are part of a community and wider cause for the public

good. For those unable to afford international travel, alternative forms of tourism may grow in popularity. Virtual reality technology may prove to be a useful tool to enable travel experiences remotely. Similarly, destinations may find enormous opportunity to develop and promote domestic tourism options.

Through the promotion of sustainable value chains, sustainable tourism services may offer greater opportunity for economic development and decent work prospects for communities, although this will also require regular investment from employers to ensure skills enhancement for employees in order to keep up with the changing industry. At the same time, there is a possibility that destinations might be perceived as losing their authenticity if "going green" is mandated and manifests in ways that does not reflect local traditions and culture.

In the event that prices for sustainable products are driven down over the longer term, there is always the chance that tourism could once again tend towards the mass market. This comes with a persistent risk of over-tourism, which is antithetical to the concept of sustainability itself. Governments will need to carefully manage this difficult challenge. Portugal's *Valorizar* program was created to achieve a more balanced distribution of demand throughout the country – supporting investment in the country's inland regions and increasing their attractiveness to tourists who tend to concentrate their stays around coastal areas. Similarly, Amsterdam's multi-purpose *Travel Ticket* provides visitors unlimited access to various methods of transportation to explore the city, and has been extended to the surrounding areas to encourage broader regional travel rather than maintaining high levels of tourism in the historic city centre.

Similarly, it may be difficult to pilot good policy ideas in a way that is palatable to all stakeholders. For example, if policy makers wish to move to longer stays to promote sustainability by encouraging accommodation providers to charge substantially higher prices for short stays (e.g. 1-2 nights), it would likely be difficult to find industry partners willing to take such a risk, without additional incentives.

Dynamic pricing – in which prices adjust in response to real-time supply and demand – may be a useful tool to combat over-tourism and meet sustainability goals in the sector in a way that is more palatable to stakeholders. Evidence of its application can be seen in efforts to better manage high-season demand for certain attractions, but it could be used to smooth demand throughout countries and regions in various tourism sub-sectors. For example, Switzerland has been experimenting with dynamic pricing for ski-lifts depending on weather forecasts for some time.

Governments around the world have long been thinking about the implications of over-tourism, particularly in destinations that have experienced such problems for decades. As a result, some interesting potential solutions have emerged. In France, for example, the government has dispersed the dates of school holidays to spread demand at popular tourist destinations (e.g. ski resorts and coastal destinations).This effort exemplifies successful cooperation between policy makers and industry, and could be used as a model to replicate in other destinations. Similarly, Croatia has opened dialogue with both the cruise industry and local communities to coordinate schedules, so that numerous ships do not overcrowd individual ports at any given time.

Interestingly, Greece offers its civil service employees extra vacation days if taken between October and May as a means of offsetting the high season for vacations. However, while an innovative initiative, few employees apparently take advantage of the incentive. This

raises important questions around the extent to which an individual's behaviour can be influenced – particularly with respect to strong travel preferences.

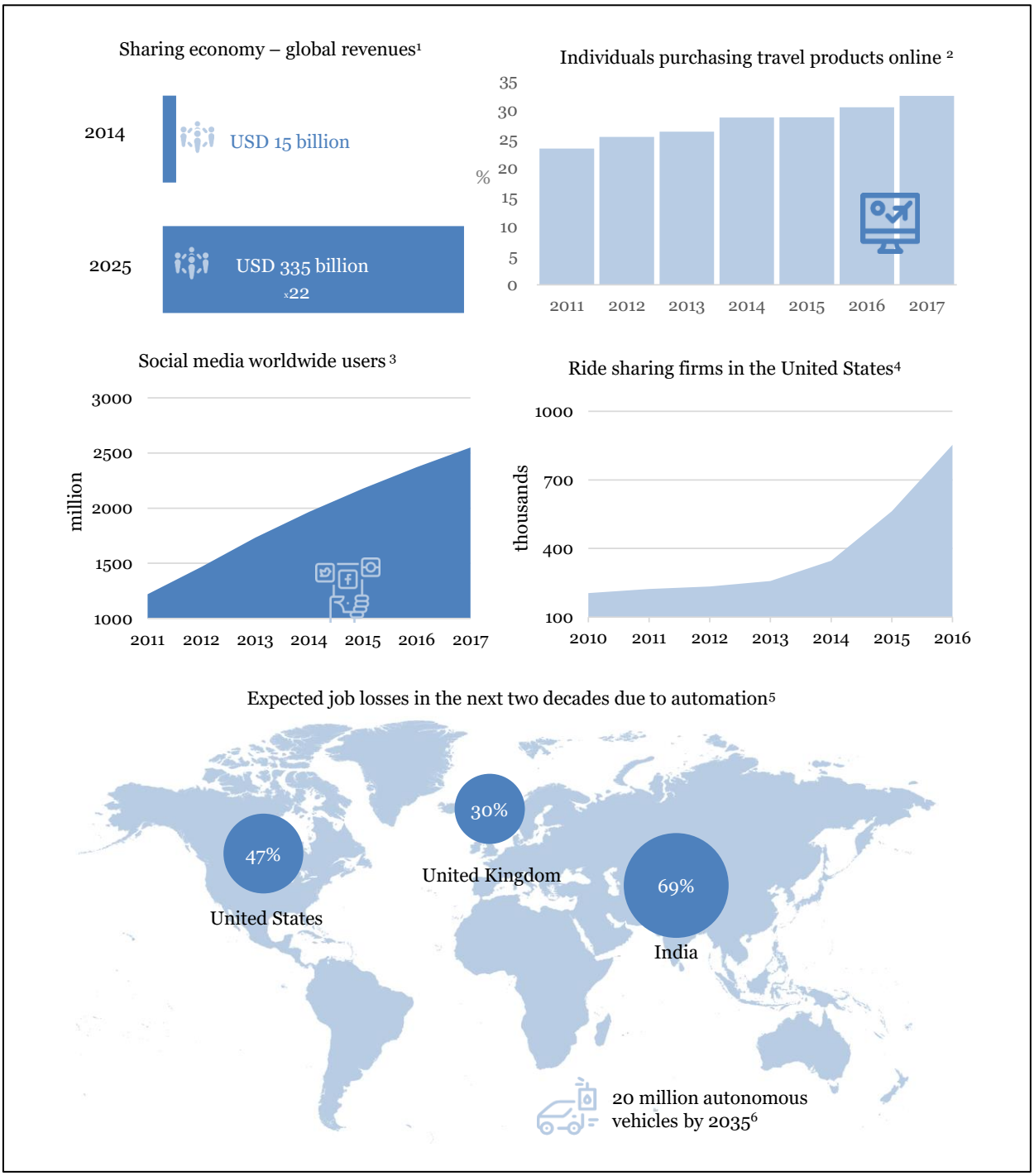
Potential policy responses

1. Promote ***horizontal and vertical policy co-ordination, and closer integration of multiple policies*** to support a more strategic and co-ordinated approach to sustainable tourism growth. Long-term strategies and policies focused on promoting quality employment and job creation, skills development, entrepreneurship, innovation, effective investment, and integrated regional development, are integral to achieving sustainable and inclusive tourism growth – growth that takes into account current and future economic, social and environmental impacts, and addresses the needs of visitors, the industry, the environment and host communities.
2. Work closely with industry and local communities to ***better manage tourism flows*** at destinations that are or will become susceptible to environmental and social degradation, and encourage tourism development in alternative areas to spread the benefits and minimize potential negative impacts arising from mass tourism. Approaches might include, the introduction of dynamic pricing mechanisms that can spread demand and/or better reflect the true cost of tourism-related activities, tackling seasonality to mitigate risks of over-tourism, and utilising technology to better manage visitor numbers[5].
3. Provide ***stable and long-term market signals***, (e.g. carbon pricing or other market instruments addressing the externalities associated with environmental challenges), which are a core element of a strong and comprehensive strategy for green growth. Such signals will enhance the incentives for firms to adopt and develop green innovations, and help to indicate the commitment of governments to move towards greener growth. They will also enhance efficiency in allocating resources by establishing markets for green innovation, and will lower the costs of addressing environmental challenges.
4. There is an important role for governments to play to ***address existing information gaps*** by taking steps to better educate tourism businesses and the public concerning potential or perceived investment costs for businesses, as well as the environmental, social, and economic benefits associated with adopting and supporting sustainable business practices.
5. Mainstream ***investment and financing practices that support sustainable tourism*** to better support the transition to a green, low-emissions and climate-resilient tourism economy. Specific policy responses might include incorporating sustainability criteria into public financing and investment supports, incentivise private investment in resource efficient infrastructure, build capacity and improve horizontal and vertical co-ordination, and improve data and analysis on green finance and investment in sustainable tourism development.

[5] For example, park authorities at Cinque Terre in northern Italy are currently implementing a trial using an app that allows prospective visitors to see the number of people on specific trails in real-time, in an attempt to deter additional tourists from visiting during peak busy times (BBC, 2018).

Enabling technologies

Figure 3. Key trends related to the enabling technologies



OECD infographics based on various sources: 1. PwC (2015); 2. OECD Dataset: ICT Access and Usage by Households and Individuals (extracted in June 2018); 3. UNWTO/GTERC (2017); 4. Hathaway and Muro (2017); 5. Frey and Osborne (2013) and Kim (2016); 6. IHS markit (2016). Some of the icons were designed by Freepik from www.flaticon.com.

New technologies continue to reshape markets and sectors around the world, and the pace and scale of disruption appears to be hastening. From the sharing economy to the Internet of Things, to autonomous vehicles and artificial intelligence, and blockchain technology to big data analytics, a range of new and emerging innovations are promising to unlock more opportunities for people around world.

Together, these trends could make travel more affordable, efficient and accessible to many people. The reconceptualisation of intermediaries likely means that long-standing models of tourism in areas like accommodation or travel agencies will continue to be radically reshaped, with more travellers connecting directly through a technological platform with a service provider, rather than dealing with a hotel, a booking agent or professional travel agent.

Policy makers will need to consider how to provide a supportive environment that promotes innovation as new technologies emerge, with the potential benefit of more easily connecting tourists with a broader array of business partners and destinations. At the same time, however, new technologies will also have complex and less well-understood implications on workers employed in the tourism industry. For example, the advent of new technologies that can automate human tasks through machine learning and artificial intelligence could completely change how people work, what they do, and more generally how many jobs are available. Policy makers must also consider how to manage these rapid changes to mitigate potential negative consequences.

In recent decades, technological advancements have made travel more affordable, accessible and simpler for many people, and in the future, technology has the potential to completely change what is thought of as tourism (e.g. integrated ticketing, mobile payment systems). For example, as virtual reality technology continues to improve, it is conceivable that virtual tourism could either complement or supplant physical journeys for some travellers. Conversely, as people live increasingly digital and connected lives, the opportunities to unplug and have analogue, natural experiences while on trips may well become a preferred alternative to purely digital experiences.

How people's behaviours will change in light of these types of paradigm-shifting technologies is not yet clear, but technology poses both broad opportunities and challenges for policy makers who will want to ensure that their national and local economies are best positioned to thrive in the world of tourism in 2040.

Key facts and projections

Digital platforms are often used to inform travel decisions – making it easier and more convenient for travellers to plan and book holidays – and their impact is only likely to grow in coming decades. In particular, social media is used as an effective tool to influence the decisions of emerging generations, such as Millennials or Generation Z. For example, a recent report from online travel platform Expedia shows that 27% of Millennials have posted about a potential trip on social media to canvas opinions before booking, and 36% of Generation Z users have chosen a destination specifically because seeing another user's social media posting about that destination (Expedia, 2018) .

While the increasing pervasiveness of social media presents opportunities for those marketing destinations, it can also present a threat for vulnerable destinations (communities, cultural or environmental attractions) unprepared or unsuited to rapid growth in tourist traffic due to sudden popularity on one or more platforms. However, as

nature conservation efforts need to become more agile, technology can also be a solution. Despite potential challenges, digitalisation is expected to greatly benefit the tourism sector, creating an estimated USD 305 billion in value between 2015 and 2016.

Over the same time period, digitalisation in the aviation, travel and tourism industries is estimated to migrate USD 100 billion in value from traditional players to new competitors, and generate USD 700 billion in value for customers and broader society (WEF, 2017). However, while use of digital platforms can bring convenience to consumers and increase capacity to accommodate travellers, there are also challenges that come with disrupting the traditional system.

For example, in Germany, digitalisation in the tourism sector is posing significant issues for SMEs who are struggling to keep pace with the evolving demands of consumers. Surveys of the sector in 2015 show that 60% of Germans used the internet as a source of information to book their holiday, while internet usage during holidays continues to rise. The competitiveness of tourism service providers will increasingly depend on their ability to provide not only constant internet access, but also having digital presence and content that meets the changing needs of clients. This situation is reinforced by the fact that digital marketing channels are used more frequently for the tourism sector than for the German economy as a whole (28%) according to a survey by the German Chamber of Industry and Commerce (DIHK): Especially by accommodation facilities (66%), travel agencies (59%) and gastronomic businesses (41%). The DIHK estimates that almost one-fourth of the tourist businesses that also offer their products online are able to achieve more than 50% of their revenue through digital channels.

The sharing economy in particular has grown quickly in the past five years to capture a sizable portion of economic activity. The growth has been most notable in transportation and accommodation, but continues to extend to many other sectors. The top five sharing economy sectors could see global revenues jump from USD 15 billion in 2014 to USD 335 billion by 2025 (PwC, 2015). ***Home-sharing platforms*** such as Airbnb, HomeAway and Couchsurfing are now significant competitors to the hotel industry – Airbnb is valued at an estimated USD 30 billion, which compares favourably to the Hilton chain at USD 19 billion and Marriott at USD 35 billion. Airbnb bookings continue to grow at a rapid pace, from 4 million nights in 2011 to 40 million in 2014 and a projected 80 million in 2017 (Duryee, 2012; Somerville, 2015). Only one in 10 travellers from the United States used private accommodation in 2011, a figure which jumped to one in three travellers by 2015 (Quinby, 2016). However, concerns have been raised about the quality of home-sharing accommodations compared to hotels. Some jurisdictions have made progress on regulating home-sharing but many more are still determining how best to respond to its emergence and growth.

The same is true for ***ride-sourcing***, which has also encountered similar challenges despite its significant growth in recent years. The continued, rapid growth of ride-sourcing firms such as Uber, Lyft and BlaBlaCar is also providing more options for people when travelling that can be cheaper and more efficient. Ride-sharing firms in the United States increased by 69% between 2010 and 2014, and then by another 63% in 2015 alone (Hathaway and Muro, 2017). Ride-sourcing firms are experimenting with new offerings such as rides with drivers who are proficient in English or cross-border trips to further gain a foothold with tourists (Sawers, 2016).

Future growth in the ***dining and travel experience*** realm can be expected in the sharing economy as well, as consumers become more comfortable and familiar with the opportunity to eat in someone's home when on a trip (through platforms such as

BonAppetour and VizEat), or take advantage of a tour or personalised experience through platforms like Vayable, ToursbyLocals and recently through Airbnb's Trips feature, which offers tours and unique experiences hosted by locals.

Rapid advances in ***automation*** through robotics, machine learning and ***artificial intelligence*** are poised to disrupt labour markets around the world in the next two decades, potentially eliminating up to 69% of existing jobs in India, 47% in the United States and 30% in the United Kingdom (Frey and Osborne, 2013; Kim, 2016). However, these disruptions in sectors ranging from manufacturing to retail to administration are also likely to deliver more efficient, affordable goods and services in a range of areas.

In 2015, the world's first hotel staffed by robots opened in Japan and the firm behind the idea has plans to open 100 more locations by 2021 (Kikuchi, 2017). Many jobs in the tourism sector, ranging from travel agents to hotel staff, are likely to be impacted by the increased penetration of automation into the economy. At the same time, ***real-time translation software*** is making it more convenient for tourists to travel to areas in which they do not speak the language. Indeed, translation apps are now able to translate signage and are expected to go beyond that capability into translating verbal statements in coming years (NITB, 2013). This can add to the options made available to tourists, but also have the potential to impact the duties of tour guides.

Additionally, companies in the tourism sector are using big data and predictive analytics to increase knowledge of consumer behaviour and customise travel experiences accordingly. Indeed, the industry is already developing ***virtual assistants*** powered by artificial intelligence to help travellers book trips more easily (Boztas, 2017; Levere, 2016). Big data is also being used to make services more efficient and targeted by using such data to track purchasing behaviour and predict service demand (Song and Liu, 2017). For instance, data generated through social media sites can impact the way decisions are made in the sector (Miah et al., 2017). However, with the increased use of big data come concerns over privacy, inaccuracy and misuse of such information.

Autonomous vehicles (AVs) are already successfully being piloted on the roads in a number of jurisdictions and it is anticipated that the application of this technology on a broader scale could happen by 2025 or sooner (Keating, 2017; Assis, 2017). Sales of AVs could reach more than 20 million by 2035 (IHS Markit, 2016). Widespread adoption of AVs would have major implications for travel mobility and tourism both within major urban centres as well as for inter-city or regional travel.

Blockchain technology, known predominantly for underpinning cryptocurrencies such as Bitcoin, has a broad range of potential applications in many sectors. For example, it permits people to securely register their ownership over data and also to engage in transactions more efficiently and with higher degrees of trust. Blockchain applications in tourism could include better forms of identity management and more secure, efficient communication for travellers with the entire spectrum of travel service providers, from airlines to loyalty reward programs (Gjerding, 2017; Aitken, 2016).

Furthermore, it could also reduce costs associated with exchange rates among foreign currencies when travelling abroad. Indeed, the use of cryptocurrency such as Bitcoin, would eliminate any fees or the need to exchange currencies at all when travelling abroad, potentially increasing the appeal of international travel. This is particularly the case for emerging economies, as cryptocurrencies could be an effective hedge against inflated currencies and therefore offer greater certainty and security. Blockchain technology also

has the potential to change and simplify loyalty programs for frequent travellers (Kowalewski et al., 2017).

At present, ***virtual reality*** (VR) technology is used primarily in video games, however, tourism is a sector that could obviously be impacted if people were readily able to experience new and exotic locations without leaving the comfort of their own homes. In the tourism sector, balancing the potential and promotion of VR destination experiences against the interests of those along the traditional tourism value chain, will likely become a key decision point for many marketing entities.

Box 3. Experience Australia in 360^0

In 2016, Tourism Australia produced a number of videos that allowed online users to experience some of the country's most famous sites, such as the 12 Apostles, Sydney Harbour, Whitehaven Beach, and the Gold Coast. A total of 18 clips were developed as part of the latest iteration of its global "There's Nothing like Australia" brand: the Aquatic and Coastal multi-platform campaign. The footage was designed to be used for immersive experiences, such as a helicopter flight, kayaking, snorkelling and sailing, using 360-degree mobile technology that can be viewed through readily available virtual reality (VR) headsets. However, the footage can also be viewed without these devices online, including via mobile phone apps.

The immersive VR experience aims to entice prospective travellers to visit and experience the unique aquatic and coastal tourism attractions in Australia, targeting key markets such as the United States, United Kingdom, China, India, Japan, South Korea, Singapore, Indonesia, Malaysia and New Zealand. The global marketing push has so far proven to be successful with more than 10 million views in the few months after its launch and a 64% increase in engagement on the Australia.com website. Emerging VR technologies are providing new ways for consumers to engage with destinations, providing a level of immersion and engagement unmatched by other media platforms, through a more compelling mode of storytelling.

Tourism Australia partnered with TNS and Google Think Board to understand the potential of VR as a marketing and promotional tool for tourism businesses and destination marketing organisations. Research findings highlighted that VR experiences bring a destination to life and can help to make travellers consider destinations they otherwise would not have. According to their estimates, 25% of travellers plan to use VR in the future to assist with choosing a holiday destination (22% in the United States, 25% in the United Kingdom, 30% in Australia). This technology is reported to allow travellers to get a feel of the destination, to preview the experiences on offer, and to assist with managing expectations. Consumers appeared to be most interested in experiencing VR content relating to nature and wildlife, and aquatic and coastal offerings (*www.australia.com/360*).

In Canada, Destination BC has developed an immersive VR tour of the Great Bear Rainforest designed primarily for travel trade and media partners. Similarly, Tourism Australia has captured high-resolution footage of their most popular tourist destinations for use in immersive VR experiences (Box 3). Some hotel chains have also experimented with VR in-room experiences that make it possible to experience destinations without ever stepping foot outside.

Virtual tourism experiences may increasingly provide an opportunity for alternative on-site experiences at locations considered too environmentally or culturally sensitive to allow physical visitor access. For example, climbing on the UNESCO World Heritage-listed monolith, Uluru, in central Australia, will cease from 26 October 2019 to reflect its significance as a sacred site to the *Anangu*, the park's traditional Aboriginal owners. VR might provide future visitors with the option to enhance their experience at Uluru, while contributing to the local economy. However, any VR activities would not be focussed on the Uluru climb area, but on other areas of the park that promote the park's cultural and natural values.

Augmented reality (AR) could end up being equally transformative for the sector, as travellers and service providers adapt to technologies such as holograms or mobile apps that add virtual elements to real-life situations. Easier access to navigation information, translations, and even virtual interactions with historical figures are possible ways of enhancing visitor experiences using AR technology. For example, the International Centre for Cave Art, near Montignac in south-west France, is a vast site cut into the landscape that houses a full-scale replica of the Lascaux cave system augmented with the latest digital technologies to help protect fragile archaeological finds.

Implications for the tourism sector

The inherent unpredictability of how enabling technologies that are already in existence will continue to evolve – as well as the emergence of new and yet unknown technologies – makes specific actions today by policy makers a challenge. The rapid rate of technological change in society, which is likely to only accelerate in scale and speed, further exacerbates the difficulty of adjustments to existing approaches and novel policy responses. Technological innovations could, either radically or incrementally, alter the tourism experience, how people work within the sector, and raise questions about how to best manage these transitions.

However, there do appear to be shared key characteristics of new and anticipated emerging technologies that can help guide policy responses. Digital technologies will help connect people with more information, people and experiences, more quickly than ever before. They will likely make marketplaces and operations across a range of endeavours more efficient. These changes are likely to be disruptive to a variety of sectors, including tourism, and in the short-term may dislocate many workers from their existing work patterns. Increasing fluency and the ability to make data-driven decisions in an environment with vast amounts of information will become increasingly important.

New technologies may offer the opportunity to provide highly customised products and experiences to travellers, as tourists increasingly have more transparent and comparable information at their fingertips when making decisions about where to stay, how to get to a destination and where to eat. However, the rise of digital platforms and aggregators in travel and tourism may also squeeze the profit margins of existing tourism suppliers across sectors ranging from transportation to accommodation to dining.

Policy makers will also need to consider how and whether to pursue more digital strategies to market and deliver tourism services in a global environment where that approach is likely to be prevalent. For example, Austria launched a digitalisation strategy for Austrian tourism in September 2017. Some destinations, however, will likely opt to differentiate their travel experience by offering more analogue and offline options that are not overwhelmed with visitors at the same sites and locations that are consistently ranked highly online.

A priority area for policy makers will be the continued emphasis on future-proofing and anticipating how enabling technologies will unlock new opportunities and pose challenges to the tourism sector should be a priority focus. Regular review processes of how particular sectors are vulnerable to disruption and potentially can be re-oriented to stay ahead of the disruption curve should be held, with perspectives of all key stakeholders, including innovators.

A second key priority should be to strengthen regulatory and compliance frameworks to make them more permissive of innovation and responsive to rapid technological changes. These approaches need to be considered within the context of overall economic and social policy frameworks which necessarily overlap and touch on the operations of both national, sub-national and local governments and many different sectoral fields, ranging from housing to transportation to security issues.

Box 4. Smart Destinations Project in Spain

A Smart Destination is an innovative tourist destination using state-of-the-art technology for the sustainable development of a tourist area, accessible to everyone, that facilitates the visitors' interaction with and integration into their surroundings, increases the quality of the experience at the destination while also improving the quality of life of its residents.

This initiative has been developed and promoted by the Spanish Secretariat of State for Tourism, through SEGITTUR (a state owned company responsible for promoting research and development for innovation and new technologies in the Spanish tourism industry), to improve the position of Spain as a world tourism destination. The methodology developed fosters innovation, sustainability and competitiveness at a local level through the development and deployment of ICT with the aim of creating differentiated and highly competitive services.

Destinations seeking to become SDs must implement a strategy aimed at increasing competitiveness through more sustainable use of their natural and cultural attractions, the creation of additional innovative resources, and improvements in the efficiency of their production and distribution processes. Issues considered as part of the Smart Destinations initiative include, ensuring sustainable development, managing the carrying capacity of destinations, contributing to the seasonal and territorial distribution of tourism flows, increasing profitability, ensuring that residents share in the wealth generated by the tourist activity, and increasing tourist satisfaction.

On the way to becoming a Smart Destination, stakeholders are confronted with vast challenges and possibilities which need to be carefully considered, prioritised and selected. Geo-referenced data, Big Data, the Internet of Things, Open Data and many other data-related sources and concepts represent fundamental elements for the transition towards more intelligent, sustainable and competitive tourist destinations that meet the needs of all stakeholders involved (*www.segittur.es/en/inicio/index.html*).

A third key issue for consideration in both the tourism sector and more broadly, is how to best balance concerns about privacy and security in an increasingly connected, data-rich world. For travellers, the benefits of sharing more data could include faster transit and security clearances, but there will likely be a growing demand for the development of appropriate safeguards to ensure data is not being used for unauthorised purposes.

Technologies have continually and progressively reshaped tourism value chains, and will continue to do so. The ongoing evolution of business models within the sector will offer new opportunities for many entrepreneurs while disrupting others. A greater focus on communication, networking and partnership management skills for businesses in the space will be critical. Therefore, working closely with government bodies to develop strategies should be a top priority to seize on the potential to offer better services for travellers (Box 4).

Critical uncertainties

The following are critical uncertainties that may alter the impact of enabling technologies on tourism to 2040

- The pace and scale of adoption of technologies such as artificial intelligence is challenging to predict, with a variety of studies offering projections of small impacts of roughly 5 per cent of existing jobs all the way up to nearly half of jobs being automated out of existence within two decades.
- The role of dominant digital platforms in controlling access to particular types of activities such as flight and accommodation bookings could dramatically alter the face of the travel industry. Whether and how traditional players such as airlines and hotels are able to compete with the established tech giants could determine their longer-term prospects for profitability and relevance in a world with fewer intermediaries.
- As populist sentiment potentially continues to rise, data and technology may become new levers in trade disputes between nations. If tech firms aren't able to easily access and share consumer data across borders, they may play a less prominent role in the tourism sector, and be restricted to largely advertising and information roles, which could open up the door to traditional intermediaries to play a key role within domestic markets.

Plausible future scenarios

1. Embracing a Technological Utopia

- A host of enabling technologies have dramatically improved the travel experience. Consumers with mobility issues or financial limitations are able to quickly and cheaply use immersive virtual reality to experience destinations on the other side of the world without ever leaving their home. This same technology permits discerning consumers to sample a number of potential trips before settling on the particular destination and service providers that they prefer, as they select from a diverse ecosystem of choices powered by both tech giants and smaller, more bespoke firms.
- Personal digital assistants powered by artificial intelligence provide seamless, real-time travel information and advice about flight and accommodation options, sifting through several platform offerings to find the best combination of price and experience. Simultaneous translation devices mean that anyone can carry on fluent conversations, regardless of their own foreign language ability.
- Cryptocurrencies are ubiquitous and reduce transactional costs of exchange rates to virtually zero, and blockchain technology also powers passport, secure traveller and

visa authentications, making long security lines and waits a distant memory. Air travel is as quick and easy in terms of wait times as hopping on a local bus. Hyperloop and electric car technology has dramatically cut the carbon footprint of most domestic and regional travel experiences, and advances in solar and electric technology for jets has also dramatically reduced international travel carbon footprints; enabling more and cheaper travel for most.

2. Battling a High-Tech Capitalist Dystopia

- Tourism has become the playground of a small, wealthy elite. Concerns about the degradation and over-saturation of popular tourist destinations has seen host countries implement drastic measures to cut down on in-person visits. Most visitors are restricted to unsatisfying virtual reality simulations of the real sites, while only those who can afford to pay a hefty premium are allowed into certain districts or on-site at particular destinations.
- A dramatic collapse in the labour markets of advanced economies as a consequence of artificial intelligence and robotics replacing many well-paying jobs and putting downward wage pressure on many other jobs means that disposable income for the vast majority of citizens is at a premium. Those who can afford to take trips typically stay close to home, or are forced to choose a budget offering through one of the small handful of digital titans that provide bookings for airfares. These flights are priced at a high premium due to lack of competition online and are a rare luxury for the average traveller.
- Frequent and pervasive hacks of electronic infrastructure by non-state actors seeking to disrupt and monetize personal information means that the travel experience now takes longer than ever. Long waits at airports and even for trains and buses are a strong disincentive to travel for many, and there is no coordinated international process to increase data security or streamline security checkpoints.

3. Trapped in Technological Myopia

- Ever advancing technologies have led to significant progress in the tourism industry. Advances in artificial intelligence and data analytics have facilitated personalization of travel experiences based on personal preferences, and companies are now better able to meet the diverse needs of travellers from different countries, age groups and cultures. Technological developments have also improved the integration of various services, resulting in better-quality real-time information for travellers. The sharing economy has continued to flourish, leading to an increased number of peer-to-peer transactions that have facilitated affordable, non-traditional accommodation and transportation options to travellers.
- Advances in technology have also led to sophisticated innovation in virtual and augmented reality. However, while these technologies have improved destination marketing, travellers do not see them as a real substitute for traditional in-person travel to popular tourist destinations. This means that challenges such as over-tourism and environmental pressures are still pertinent.
- Another ongoing challenge for policy makers continues to be the protection and regulation of consumer data by businesses without impeding innovation. Governments also continue to grapple with the increasingly global nature of technology giants, and there are still conflicts over international tax cooperation.

Global platforms continue to be accused of monopolizing the tourism industry, as interactions between small travel companies and consumers have dramatically reduced. Automation and AI have not eliminated many jobs in the tourism industry, but have put higher expectations for technological skills on many workers.

Scenario Analysis

The impact of technology in reshaping the future of the tourism sector is inevitable. Indeed, incumbent players will require the use of technology to survive today, and travellers will continue to both rely on technology and sometimes struggle to keep up with its rapid evolution. This inevitable growth is especially true for the sharing economy and more exchange and facilitation platforms are likely to emerge. While these are low-cost and offer many options for consumers, the culture of online reviews hinders market entry. For example, when consumers rely on good ratings when choosing a service or accommodation online, they are unlikely to select new postings that have not yet been reviewed. Further, while there may be issues associated with these intermediaries, it is difficult to imagine an alternative given the rise and increasing dominance of these players in the market.

We are also likely to see the growth of virtual reality (VR) in tourism. VR is an interesting case because there seems to be a fine line between utilizing technology to facilitate different travel experiences and replacing these experiences altogether. For example, the use of VR technology may be useful for interested travellers to "sample" various potential destinations before deciding on where to spend their next vacation. However, one could also imagine a world in which VR technology is so advanced that some may not feel the need to travel at all if they can live the experience in the comfort of their own home. This is a particularly likely situation if international travel becomes unaffordable for many people due to the restriction of tourism for example. In the event that such a phenomenon were to occur in the tourism industry, new policy issues such as intellectual property may arise around these technological advances. Wealthier destinations or global technology firms could be a main benefactor of this change.

If international tourism becomes expensive and restrictive, there may be an opportunity for destinations to focus on the development of domestic tourism. In this case, governments will need to think strategically about investment and planning for the infrastructure required to support the increased demand for domestic travel. For example, providing bike-share options at various transit stations to ensure greater options for travellers within a destination, and intermodal transport n and integrated ticketing/smart cards to facilitate travel beyond traditional destinations. While restrictive travel may drive alternative forms of tourism, it may also foster popular resentment towards the increased costs.

Another concern is the growing dominance of "digital titans" – the private sector firms that are increasingly expanding market share in the tourism industry – many of whom are tending towards a monopoly in the industry. There is a common consensus that these players require some degree of regulation, particularly with respect to data and security. However, governments can expect intensive lobbying efforts from these actors in any pursuit of regulation. Moreover, there is concern that policy makers will see their control diminish as a result of growing information technology (IT) dominance – i.e. tourism ministries may be slowly taken over by IT ministries.

Amid these concerns however, there are several pitfalls of existing government processes which do not adequately reflect the rapid technological change they intend to address. For example, legislative processes are far too slow – in many cases, by the time a legislation is drafted and passed, and directives are set, it may already be years out of date. Similarly,

regulations are inconsistent – for example, the regulatory environment is very different for a consumer purchasing a ticket in-person at a venue compared to someone standing in that same venue and purchasing the ticket online from a smartphone. Regulations result in great frustration to the industry, which expresses a desire for governments to find better alternatives. Finally, the nature of short political cycles and consistent focus on re-election issues also result in several inefficiencies.

There is also the threat that technological change will shift the employment landscape of the sector. It seems likely that some jobs will disappear, particularly on the service side of tourism. Automation and artificial intelligence could easily replace back of house tasks in hotels and restaurant kitchens. Similarly, many jobs in transportation could be replaced by autonomous vehicles and transactional occupations at tourist attractions could disappear as well.

Jobs in the sector will likely require a much higher technology-focused skills base than currently exists. Ensuring that the workforce is well-equipped to pursue future jobs in the tourism industry will require significant investment from both employers and governments. Estonia, for example, has invested heavily in preparing its workforce for the expected wave of technological change. In order to address a shortage of programmers in the IT sector, the government offers free courses and training to address the demand for this skill profile, in addition to enabling the inflow of foreign workers to fill any gaps. Similarly, the government also invests substantially in preparing the youth and elderly to be skilled in in the use of technology.

Other promising government strategies address the need for governments to become more flexible and responsive to technological change. For example, Croatia's E-Visitor program, which uses technology to develop an information system for tourist check-in and check-out, provide a free internet application that connects the nation's tourist boards, and informs a central database of tourism-related data (Croatia National Tourist Board, 2018). has been an important first step in a wider Digital Tourism effort from the country's national government. It will also be important to consider the role of developing nations within this discussion of technological change. For example, in places like India, which have large portions of their population living without electricity, disproportionate challenges may be faced in the coming years.

Potential Policy Responses

1. Policy makers should consider strategies to ***encourage innovation to capture opportunities that emerging technologies will bring*** and ensure that proactive and consultative regulation mechanisms to set the rules on these technologies are developed. An innovation culture supported by the regulatory and compliance frameworks necessary to attract investment, foster a start-up culture, and respond rapidly to technological change, will promote ICT uptake in the tourism sector[6].
2. Policy makers should adopt policies to ***support the transformation of SMEs to a digital economy***. The process of digital transformation can provide SMEs with new opportunities to reach international markets easily and directly interact with customers from around the world. An important element of this process will be

[6] For example, Paris&Co launched the Welcome City Lab in 2013 – a platform dedicated to promoting Paris as a leader in urban tourism innovation. The Lab includes start-up incubation with coaching and business development, an academy for specific tourism-related skills, experimentation of new products and services, and forecasting expertise to identify new trends.

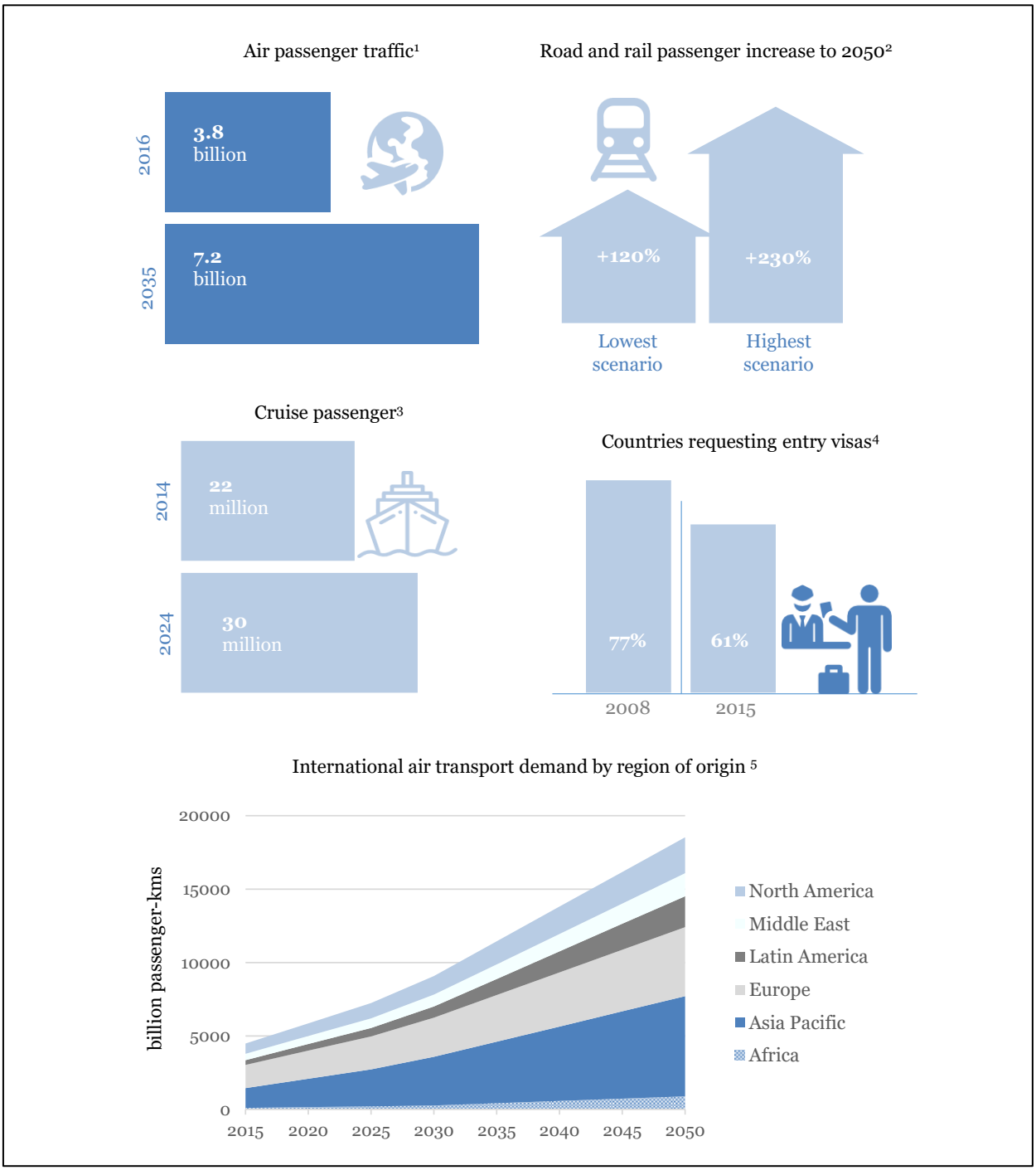
facilitating SME access to technical knowledge and specialised inputs (e.g. linkages with service and technology providers, including research centres and universities, to increase ICT adoption, learning and innovation).

3. Policy makers must ***work closely with industry, colleges, universities and training institutes*** to ensure that the tourism workforce of the future meets the needs of an evolving sector and is equipped to work with, and adapt to, new technologies. SMEs in particular will need support in their efforts to attract and retain tech savvy staff (e.g. via mentoring and business support networks and access to relevant training).
4. In order to keep pace with technological change, governments will also need to focus on recruitment and training efforts to ***attract and retain staff who are highly competent with emerging technologies***. This will be especially important within tourism ministries, which may not have such technological expertise on hand but will be able to deploy expertise to leverage new technologies to promote tourism goals.
5. In an age in which technology plays an increasing role in the tourist experience, ***international cooperation will be an integral component in efforts to achieve data security and privacy goals***. As a global phenomenon that crosses borders, this will require ongoing conversations across various levels of government within nations, as well as diplomatic efforts and cooperation between nations[7].

[7] The EU's General Data Protection Regulation (GDPR) – a modernized data protection framework that went into effect in May 2018 – is a promising step forward in this regard. The GDPR introduces a number of reforms that level the playing field among businesses and provide individuals greater control over their personal data (European Commission, 2018).

Travel mobility

Figure 4. Key trends related to the travel mobility



OECD infographics based on various sources: 1. IATA (2016); 2. OECD/ITF (2015); 3. CLIA (2015), 4. UNWTO (2016b); 5. OECD/ITF (2017); baseline scenario. Some of the icons were designed by Freepik from www.flaticon.com.

Transport is an essential component of the tourism system and plays a vital role in moving tourists efficiently from their place of residence to their final destination and on to various attractions. Transport connects the markets in tourism generating regions to destinations and facilitates the internal movement of visitors between components of the tourist experience (e.g. accommodation, attractions, commercial services, etc.), and can be a major element of the attraction or an experience in their own right. The location, capacity, efficiency and connectivity of transport can play a significant role in how a destination physically develops, influencing the mobility of visitors and the connectivity of tourist experiences within destinations.

The synergies between transport and tourism policy are significant and clear, and governments have an important role to play in leveraging the linkages between these policy areas. While transport policy aims to achieve strong connectivity and seamless transport that meets both the short- and long-term needs of the economy and the community, these same policies affect tourists as they move around a destination. Providing integrated, multi-modal transport systems (including land, sea and air transport) between cities or across borders, requires co-ordinated responses to technical, institutional and financial issues from a variety of stakeholders (OECD, 2016c).

Transport has always been a key enabler of international tourism, bringing consumers to commercial services and providers to global markets. However, inflows of tourists can put significant pressure on transport infrastructure and related services such as roads, buses, railways, maritime transport and – perhaps most notably – aviation.

From an international tourism perspective, the dominant role that air transport plays in delivering tourists to destinations is clear. In 2015, for example, the UNWTO estimates that air transport accounted for just over half (54%) of all international arrivals, while travel by road accounted for 39%, water 5%, and rail 2% (UNWTO, 2016a). While air and road are by far the primary choices of transport for international tourists, rail and water, and by extension, cruise terminals and international train stations, have an important role to play in distributing visitors to and around their destination of choice.

The rapid growth in tourism and air transport, in recent decades, is in response to two major factors i) higher incomes and an emerging middle class in emerging economies, which encourage greater consumption expenditure, including travel (by all modes) and; ii) air travel has become better value for money, as a result of improved aerospace technology and market liberalisation. Aviation liberalisation has encouraged competition, fostered the creation of new routes and enabled new airline business models to emerge, such as charter and low-cost carriers, which injected a greater level of competition in the airline industry (ICAO, 2013).

The projected growth of tourism over the next 20-25 years will provide enormous economic benefits and job opportunities in destinations all over the world. However, the growth and success of the sector relies upon the ability of people to travel safely and freely cross borders (WEF, 2016). Travel mobility will be affected by a range of internal and external factors presenting opportunities and challenges for industry and policy makers. All of which must be considered in tourism policies and strategies to ensure sustainable growth of the sector.

Travel facilitation measures in particular, including customs and immigration policies and visa requirements for visitor entry, are key components in ensuring ease of mobility between destinations. When these processes are made time-consuming, expensive or bureaucratic, they can act as disincentives for travel to that destination. Indeed, a

destination can be made more desirable when such processes are instead streamlined and efficient.

Border measures and overall safety and security efforts are, of course, shaped by larger external factors such as geopolitical instability and increased risk of terrorist attacks. The world has entered a time of significant uncertainty, as protectionist sentiments rise and many nations retreat inwards. While travel mobility is inextricably linked to these geopolitical changes, they are inherently unpredictable and difficult to prepare for in any sector.

Key facts and projections

The number of international tourist arrivals is projected to grow significantly in coming decades. ***Air passenger traffic*** in particular is expected to nearly double between now and 2035, expanding from 3.8 billion to 7.2 billion passengers (IATA, 2016). The International Transport Forum (ITF), forecasts that the number of passenger-kilometres will double to 9 trillion by 2030, pushed by the large growth in the Asia-Pacific region, which will represent 40% of world passenger traffic, up from 30% in 2015 (OECD/ITF, 2017).

The ITF has also forecast strong growth in global ***road and rail*** passenger travel to 2050, with estimates ranging from 120% to 230%, depending on future fuel prices and urban transport policies. This growth is driven by non-OECD economies, where passenger volumes are projected to grow between 240% and 450% (OECD/ITF, 2015). Similarly, the ***cruise*** industry has enjoyed strong growth over a period of 30 years, driven initially by demand from North America and more recently by growing demand from Europe and the rest of the world. Cruise Lines International (CLIA), estimates that over the ten years 2004/2014 demand for cruising worldwide increased from 13.1 million to 22 million passengers (+68%) with 3.4% growth achieved in 2014. In 2018 global passengers are expected to exceed 25 million before reaching 30 million in 2024 (CLIA, 2015).

The strong growth in world air passenger traffic experienced in recent decades is expected to slow between 2030 and 2050, for two main reasons. Firstly, slower growth after 2030 is driven by projected GDP and population growth, which slow or even decrease (e.g. the expected population peak in China is 2030). Secondly, the network gradually reaches saturation, with fewer and fewer potential new links. This is especially true of very long distance routes, for which the low-cost carrier business model cannot be readily adapted, and leaving regional networks with more capacity to grow (OECD/ITF, 2017).

In Asia, for example, this means that passenger numbers at mature, long-haul airports are expected to grow at a slower rate than at secondary and often regional airports. Regional airports, many of which are still largely dependent on domestic traffic, only recently started to accept international flights. Their growth has been facilitated by the commencement of regional flights, in particular from low-cost carriers. For instance, the number of international flights at Chongqing airport increased five-fold between 2010 and 2015, while passenger demand is expected to increase at more than 15% in the region over the next two decades. This contrasts with the Beijing or Shanghai regions, which have experienced less than 5% growth in international passenger numbers in recent years, and a figure that is not expected to rise in the foreseeable future (OECD/ITF, 2017).

For shorter routes, growth in ***high-speed rail***, with established networks in Europe and a quickly expanding network in China, may present increasing competition for the aviation sector, particularly in light of it being perceived as a convenient and more environmentally friendly alternative. For example, in the European Union, rail travel significantly increased

in the decades preceding the economic crisis, largely thanks to the building of a large high-speed rail network. For some city pairs (e.g. Paris and London and Paris and Brussels), high-speed rail has now largely or completely replaced aviation as the mode of choice for most passengers (OECD/ITF, 2017).

While old and new destinations alike stand to benefit from the upward trend in international passenger aviation, and the expansion of the global aviation industry more broadly, the sheer growth in movement will also pose significant challenges.

For example, as the number of international arrivals grows, there will be greater demand pressures on the tourism sector to adapt in the face of climate change. Although tourism is currently responsible for around only 5% of global GHG emissions, the aviation industry is responsible for the large majority of that figure, generating 781 million tonnes of carbon in 2015 alone (ATAG, 2016). If travel and tourism remain on a business-as-usual pathway, the sector will become an increasingly important source of GHG emissions.

However, climate change itself imposes further risks. While average daily temperatures could rise around three degrees, maximum daily temperatures could rise as much as four to eight degrees by 2080. These extreme heat waves are likely to ground one-third of airplanes in the future, resulting in more costly cancellations and delays (Coffel et al., 2017). Extreme weather events are also expected to cause more frequent and severe turbulence, especially on a number of popular transatlantic routes (Williams, 2017). Both government and industry will require a rethink of aviation and its regulations to prepare for these threats.

Security and border measures not only play an important role in travel mobility, but also in the customer experience. IATA reports that security wait times are among the top grievances of travellers, and these complaints are likely to worsen in the coming years (WEF, 2016). In the United States, for instance, the United States Department of Homeland Security has indicated that such burdens are inevitable, especially during peak seasons (Hetter and Pearson, 2016).

Similarly, the World Economic Forum has declared ***entry visas*** "one of the worst bureaucratic inefficiencies for travellers" that can deter people from visiting a destination (WEF, 2016). In fact, there is some evidence to suggest that countries that have improved their visa facilitation processes have seen an increase in the number of international visitors of between 5% and 25%, with positive economic impacts rippling throughout the economy (UNWTO and WTTC, 2012). On the whole, most countries are seeking to balance enhanced travel facilitation processes with maintaining or improving border security, while fewer nations now requiring entry visas from particular citizens. In 2008, destinations on average required 77% of the global population to have an entry visa, dropping to only 61% in 2015 (UNWTO, 2016b).

Travel and tourism is also highly sensitive to the threat of ***terrorism, pandemics, and other large-scale crises***. Examples include, the H1N1 outbreak in Mexico in 2009, which resulted in a loss to the tourism industry in the order of USD 5 billion, and the United States, which took six years to reach pre-crisis levels following the terrorist attacks on September 11, 2001 (WEF, 2016). More recently, during the outbreak of MERS (Middle East Respiratory Syndrome) in 2015, more than 54 000 people cancelled trips to South Korea and economists estimated that the impact on the economy was in the region of several billion US dollars as a result (Misrahi, 2015).

Natural disasters such as the Hurricane Maria, which devastated Caribbean Islands including Puerto Rico in 2017, are forecast to grow in regularity and destructive capacity

in the coming years. Such storms have the ability to cripple transport networks both in the direct aftermath and for extended periods following such events, with potential impacts on international and domestic accessibility and connectivity.

Political instability can especially dissuade travellers from visiting a destination if there is a real or perceived threat involved. This will pose a unique challenge in the coming years, as the global middle class grows and emerging economies account for an increasing number of inbound and outbound trips. These nations, which tend to have a higher risk of political instability, will account for nearly 57% of international arrivals by 2030 (WEF, 2016).

Implications for the tourism sector

Managed effectively, transport and tourism synergies can improve visitor mobility to and within destinations, enhance visitor satisfaction, and help to secure the economic viability of local transport systems and services by servicing both residents and tourists. Ensuring that the medium- to long-term needs of the tourism industry are considered by governments as part of transport access and infrastructure planning can help to maximise and spread the socio-economic benefits of tourism more widely and manage visitor impacts over time.

The future growth of tourism and air transport are very much interlinked, and will depend largely on sustained world economic and trade growth, a growing middle class in developing economies, as well as declining ticket prices and airline operating costs, which will be impacted by aircraft technology, improvements in airline resource management and the price of fuel. Airspace and airport congestion could also constrain the growth of selected markets (OECD, 2016c).

Policy makers will need to be agile in order to respond effectively to these and other developments, to implement policies and practices that enable greater traveller mobility and confidence, while promoting sustainable tourism growth and maintaining or enhancing security and border integrity. Examples include the likely need for greater consistency and harmonisation of international standards in relation to safety and security, and international transport regulations to reflect geopolitical power shifts (e.g. aviation). Governments might also envisage the need to impose restrictions or limits on inbound (e.g. visa restrictions) or outbound travel (e.g. carbon footprint limits or mandatory carbon offsetting), in order to meet international emissions reduction commitments and/or achieve sustainable development goals.

The aviation industry in particular will face significant challenges as a result of climate change and increased demand for air travel. Emerging literature suggests that the industry may need to brace for thinner profit margins or push more aggressively on climate action, by designing lighter vessels or developing engines that produce fewer emissions (Williams, 2017; Coffel et al., 2017).

However, global market based measures that incorporate the price of carbon are likely to be one of the most effective mechanisms to reduce emissions with potential implications for both short and long haul destinations. There is evidence to suggest that increasing the price of travel may be the only way to have a meaningful reduction in GHG emissions. However, policy options to reduce the impact of tourism on climate change will need to reflect the wider context of tourism's place in the structure of a country's economy and, more broadly, the complex dimensions that underpin a country's connectedness to the global economy (OECD/UNEP, 2011).

At the destination level, good accessibility will continue to play an instrumental role in overall competitiveness and in spreading the benefits of tourism beyond major centres. The

provision of suitable infrastructure and adequate means of transportation are fundamental requirements to facilitate the mobility of tourists. In order for tourism to deliver on its potential as an engine for economic growth, it requires access to source markets and multimodal transport systems in-country that offer convenience, capacity, reliability and connectivity to suit all destination types (e.g. integrated seaside resort, or small scale isolated eco lodge). By promoting the development of intermodal hubs and gateways, transport policies at the national and sub-national level can not only help attract, manage or direct visitor flows but also facilitate a shift to more eco-friendly transport options, which can help consolidate a destination's reputation as sustainable.

Many of the underlying difficulties in meeting the associated infrastructure challenges can be attributed to governance issues that span infrastructure planning, policy, regulation, financing, procurement and management. The importance of institutional co-ordination cannot be stressed enough when it comes to the seamless operation of multimodal transport systems. Good governance at all levels of government and co-operation with the private sector is needed to improve decision-making and create incentives to invest in connectivity. There is a need to think in terms of mobility systems rather than modes and modal networks.

In addition to diversifying the tourism offer, better connectivity with regional and rural destinations can serve another function by helping to eliminate overcrowding and infrastructure pressures in major tourism centres. Such issues have become prevalent among popular tourist destinations such as Barcelona, Amsterdam and Santorini, all of which have found it challenging to manage massive inflows of tourists. Transportation infrastructure initiatives could be beneficial in destination planning and combating over-tourism by improving access to nearby destination.

Given the anticipated growth of the Asian region as a source market for global tourism, jurisdictions are pursuing targeted initiatives to improve mobility and increase access. For example in November 2014, the United States and the People's Republic of China concluded a reciprocal visa validity arrangement to strengthen the ever-broadening economic and people-to-people ties between the two countries. Both countries agreed to increase the validity of short-term tourist and business visas issued to each other's citizens from one to ten years – the longest validity possible under United States law – and increase the validity of student and exchange visas from one to five years. This arrangement will improve trade, investment, and business ties by facilitating travel and offering easier access to both economies. Since this policy change was implemented, Chinese demand for United States visas has grown by more than 50% compared to the same period in 2014 (OECD, 2016b).

In 2017 the Australian and Chinese governments established the "China-Australia Year of Tourism", to increase tourism between the two countries. Australia commenced a trial Frequent Traveller Visitor visa for Chinese nationals in December 2016, valid for up to ten years and allowing multiple short stays of up to three months for tourism or business. Other Australian initiatives for the Chinese market include online lodgement for visitor visa applications; trials of a fast-track (48-hours) visitor visa processing service; and a simplified Chinese lodgement option through a service delivery partner. Similarly, 2018 is the EU-China Tourism Year , with the multiple aims of i) promoting lesser known destinations, ii) improving travel and tourism experiences, iii) providing opportunities to increase economic cooperation, and iv) providing a launch pad to make progress on EU-China visa-facilitation and air connectivity. Additionally, the governments of Canada and China officially named 2018 the Canada-China Year of Tourism, with the goal of doubling two-way visits by 2025, based on 2015 statistics.

Another example of the type of innovative measure that national governments and industry are seeking to introduce to improve travel mobility across borders is that recently introduced by the Airports Council International (ACI) and IATA. The Smart Security Strategy is a multi-pronged strategy to modernise security measures at the border for ease of mobility (Box 5).

Box 5. Airport Smart Security Strategy

Security checkpoints continue to be among the greatest grievances for travellers and much of the technology and conventional measures used at the border have become outdated and inefficient. Given the anticipated growth in air travel to 2040, evolving security threats and passenger dissatisfaction with queues and intrusive measures, a strategic partnership between Airports Council International (ACI) and IATA was established to develop a Smart Security Strategy. The two organisations have signed a memorandum of understanding to leverage their respective resources and expertise to "improve the journey from curb to boarding" (IATA, 2013).

Smart Security is a three-pronged strategy to integrate risk-based security concepts, advanced screening technologies, and process innovations in order to streamline security processes and improve the passenger experience. Priority components include passenger screening, cabin baggage screening, alternative detection methods, checkpoint environment and management, centralised image processing and risk-based differentiation. Improvements in these areas, such as advanced detection algorithms, can help to improve the ability of "future-proofing" security measures in response to evolving threats and demands of the aviation industry (ACI and IATA, 2017).

Smart Security has been piloted in several international airports such as Amsterdam Schiphol, London Heathrow, and Melbourne International, and passenger satisfaction surveys have indicated that these trials have been successful (Future Travel Experience, 2016). ACI and IATA have embarked on a second wave of these developments, and continue to hold workshops and events around the world to facilitate knowledge translation.

Multi-destination visas such as the Schengen Area in Europe, the East Africa Tourist Visa, a planned ASEAN single visa; as well as visa free travel such as in the Economic Community of West African States (ECOWAS – which allows citizens of the 15 member states to travel without visas within the region), are becoming more common. These schemes can offer dramatic reductions in costs, enhance the attractiveness of destinations, allow multiple governments to share the burdens of processing, security screening and administration, as well as improve regional security and data-sharing.

Trusted traveller programs such as the APEC Business Travel Card (ABTC) are also becoming more popular as a means of improving efficiency and harnessing big data. The ABTC scheme, for example, helps to enhance border integrity and security in participating economies by increasing the number of low risk travellers – those checked against "watch lists" of other participating economies. According to the APEC Policy Support Unit, the scheme reduced transaction costs for ABTC holders by 38% between 2010 and 2011, representing a total savings of USD 3.7 million. Total at-the-border immigration time savings experienced by ABTC holders during the same period was 62 413 hours, with monetary value of USD 1.9 million.

Critical uncertainties

The following are critical uncertainties, that could alter the expected trajectory of travel mobility between now and 2040:

- When managed effectively, transport and tourism synergies can improve visitor mobility to and within destinations, enhance visitor satisfaction, and help to secure the economic viability of local transport systems and services by servicing both residents and tourists. When managed poorly, however, this can result in significant pressures on a destination's infrastructure.
- The future growth of tourism and air transport are interlinked, and will depend largely on sustained world economic and trade growth, a growing middle class in developing economies, as well as declining ticket prices and airline operating costs. This will be impacted by aircraft technology, improvements in airline resource management and the price of fuel.
- The world has entered a time of significant uncertainty, as protectionist sentiments rise and many nations retreat inwards. While travel mobility is inextricably linked to these geopolitical changes, they are inherently unpredictable and difficult to prepare for in any sector.

Plausible future scenarios

1. Global Citizenship: Connectivity, Cooperation and Seamless Mobility

- Years of international cooperation have set the stage for a tourism landscape defined by freedom and ease of mobility. Aside from a very small handful of countries with restrictive visitor requirements, entry visas have largely become a thing of the past. In most parts of the world, borders feel inconsequential – technology has enabled advanced screening technologies and process innovations, making customs and security measures more streamlined and efficient than ever before.
- Removing bureaucratic hurdles has encouraged more international travel among those who long dreaded such processes. This upward growth in international arrivals around the world has allowed the tourism sector to flourish. Increased demand has brought new actors to markets – increasing competition, driving down prices and offering more options for travel services. This is especially true for the new influx of discount airlines, which offer greater opportunity for both international and domestic tourism.
- Connectivity has greatly improved within destinations as well. More strategic infrastructure planning, policy, regulation, financing, procurement and management has led to greater institutional coordination and crucial collaborations with the private sector. Investment in multimodal transport hubs has helped manage visitor flows and facilitate a shift to more environmentally sustainable transportation. Furthermore, better connectivity from city centres to regional and rural areas has also eliminated overcrowding and infrastructure pressures in popular destinations, enhancing travel experiences by offering a diversity of options.

2. Looking Inward: Protectionism and Restricted Global Mobility

- Mobility in tourism is no longer a reality. International cooperation has been declining since 2017, with geopolitical tensions on the rise. Most nations have turned inward, tightening up their borders with respect to trade and immigration, as well as visitor entry requirements. Existing multi-destination visas, such as the Schengen Area in Europe and the Association of Southeast Asian Nations (ASEAN) have been abandoned in favour of restrictive single-country visas with high costs. Complicated bureaucratic processes and long waits to receive visas are now standard – after the rising occurrence of terrorist attacks, national security is the priority for each and every government.
- Negative perceptions of safety and security associated with travel have been further exacerbated by the media. Coverage of terrorist threats, pandemics, and natural disasters have been sensationalized, spurring a culture of fear. Whether these threats are real or perceived is difficult to determine but irrelevant – they have dissuaded many people from travelling altogether.
- For those who do wish to travel, options are limited. With protectionism also comes disregard for climate action and efforts to reach global emissions reduction targets. The consequences of climate change have worsened markedly: extreme weather and heatwaves have begun grounding planes and airlines have cancelled many existing routes. The overall decline of air travel and other tourism services has driven up prices exponentially, and few national governments view this as a priority worthy of an intervention.

3. Fragmentation over Integration: Divided Approaches to Mobility

- Growth in domestic and international tourism rises exponentially until the early 2030s, at which time it begins to slow as GDP and population growth tapers off around the world. While those decades of growth in road, rail and air passenger traffic were good for the tourism sector on the whole, such volume posed difficulty in maintaining ease of travel mobility. This growth seems to have caused a global polarization in border openness, in which some national governments have improved mobility and security measures markedly, while others have not kept up with the pace of growth.
- Some countries across the OECD membership have been able to harness new innovative technologies to streamline security measures at the border, whereas others have fallen behind – only becoming slower and more bureaucratic. The same can be said about the administrative burdens of entry requirements and travel visas. Given the relatively consistent occurrence of security threats, some countries continue to enforce restrictive visa processes and remain difficult to visit. On the other hand, select regions have shown greater cooperation and collaboration, establishing multi-destination visa schemes and more open travel between participating countries. These inconsistencies across countries have been a cause for frustration for many travellers.
- The logistics of travel within destinations has improved in many places around the world, with the establishment of multi-modal transport hubs becoming more common. However, it has been more difficult to elicit greater interest in travel to nearby regions or rural areas as a means of managing visitor flow. This is especially true for destinations that have a concentrated area of sights and landmarks that

visitors wish to see (e.g. Paris), making such infrastructure pressures a problem yet to be solved.

Scenario Analysis

Entry visas present a key challenge with respect to travel mobility, and the issues presented by restrictive borders may be exacerbated significantly in the future – especially in the event that geopolitical tensions ramp up or protectionist policies limit trade, immigration and entry requirements. Many crucial factors that influence the state of border controls, however, are largely exogenous forces that are beyond the control of policy makers, particularly within tourism ministries. Decisions made around national security – and, likewise, individuals' appetite for international travel – are often highly influenced by recent events such as terrorist and natural disasters. Furthermore, there may be concern that the impacts of a restrictive travel environment on trade, employment and GDP would be first order priorities for governments, citizens and businesses, while tourism would be a secondary or tertiary concern. However, there are opportunities to work at the international level to tackle some of these systemic challenges, which are likely to become a growing priority in any future scenario, to indirectly influence the health of the tourism sector.

In a world where travel mobility is greatly constrained, tourism operators and the business community more broadly would be significantly harmed. As such, business interests would likely employ intense lobbying campaigns against restrictive entrance and exit requirements. The private sector may also play an important part in establishing trust overseas. For example, the collection of big data enabled by technology platforms and through the use of rating systems could potentially play a role in bridging the trust gap between countries with respect to travellers that are deemed higher-risk. Other technology-enabled opportunities could be explored as well, such as the use of biometrics and implantable technology that could be utilized to advance security.

Efforts to address visa challenges can also be pursued from a process perspective. Options that enable pre-approved travellers to bypass more rigorous screening requirements at airports or other border checkpoints may become more ubiquitous in a future in which greater global stability allows it. The Nexus Card, for example, offers a voluntary program designed for more efficient border crossings for low-risk travellers between Canada and the United States. However, these types of approaches generally require a fee, which may further exacerbate issues around inequality in a world where travel is likely to become more expensive.

This unaffordability issue is especially true given the future of the aviation industry, which is likely to see restrictions in nearly any scenario in which climate change is a priority issue for many nations. The impact of many climate policy decisions, such as carbon pricing, regulation or other emissions reduction strategies, will likely make air travel more expensive. In the event that tourist flows and revenue are negatively affected in certain areas as a result, there would be an increased demand and need for innovation in destination promotion, as well as a shift towards domestic travel and more sustainable means of transportation (e.g. electric vehicles, cycling). This shift could provide great economic opportunity for some nations, although it could pose issues in others nations. For example, this could result in a great deal of harm for isolated/long-haul destinations reliant on air travel for tourist flows, or even issues of overcrowding in more populous destinations unprepared for such a shift in demand.

More efficient and accessible infrastructure will be a crucial consideration for tourism in any future scenario – and this is an area where sound policy and planning can have a major

impact. The well-developed rail systems that are currently operating across many parts of Europe provide a useful example of how infrastructure can offer seamless travel opportunities across borders, which could very well be replicated in other r

egions around the world. Multimodal transport and integrated ticket sales will also b/e important to enhance travel mobility, and tourism operators interested in making this a reality have much to learn from the airline industry – which currently uses back-end systems to seamlessly link multiple flights with multiple airlines together into a single ticket purchase. However, it is important to note that international and cross-national collaboration will be a crucial component to scale up any efforts to implement seamless travel.

Finally, technological innovation has had profound effects on individual and commercial transportation for over a century and emerging technologies will continue to play an important role in enabling greater travel mobility – for example, technology can be utilized to streamline screening and processing mechanisms in airports, or enabling pre-screening efforts associated with other modes of cross-border travel such as buses or trains. While the continued development of high-speed rail in many countries offers significant opportunities to enhance traveller mobility and provide competition for airlines, particularly over short to medium distances, disruptive innovations in ultra-high speed transport (e.g. Maglev and Hyperloop systems, low cost supersonic air travel, space tourism), are often restricted by high development and construction costs, safety concerns, and logistical limitations (e.g. the need for application in areas of low population density) , and as such are very much the exception.

Potential Policy Responses

1. Ensure that the ***medium- to long-term needs of the tourism industry are considered as part of the transport access and infrastructure planning process***. It is essential that tourism and transport policymakers work closely together and with industry to develop transport services and infrastructure that respond to the needs of both local communities and tourists.
2. Governments should strategically ***invest in transportation infrastructure to support travel mobility***, such as multimodal transit hubs, and collaborate with private transportation providers to improve efficiency and cost-effectiveness[8] and encourage integrated ticketing/destination smart cards to provide a convenient travel experience in cities and improve accessibility to regional destinations and attractions.
3. Policy makers should continue to identify opportunities to ***utilise current and emerging technologies to streamline visa and cross-border processing for low-risk travellers*** through pre-screening and authorization programs[9]. In addition to improving efficiency and reducing costs, such initiatives will significantly improve

[8] The King Cross St. Pancras hub in London) fulfils the role as an effective transit hub for both commuters and travellers, connecting national and international high-speed rail to London's underground, taxis and car rentals, bicycles, and connections to the city's five international airports (OECD, 2016).

[9] The Nexus Card program, which is currently used by eligible travellers moving between Canada and the US, is a good example of this type of arrangement.

the travel experience if scaled up successfully, being implemented at regional and/or multi-national levels for greater mobility.

4. Policy makers should also ***consider ways to support alternative and sustainable mobility in tourism*** – particularly given the implications of the expected trajectory of aviation growth for GHG emissions. This could include promotion of more sustainable means of transportation within and between destinations and might include working with industry to provide supporting infrastructure to facilitate electric vehicle touring (e.g. charging stations), and human powered mobility options[10].
5. Importantly, policy makers should ***develop crisis management strategies*** to better prepare for and respond to largely unpredictable events such as security incidents, political instabilities, pandemics and natural disasters. This includes strategies for both specific destinations as well as the tourism sector more broadly, which is particularly susceptible to such external shocks.

Preparing for megatrends

How should policy makers begin to prepare for the challenges and opportunities posed by megatrends that will play out over the next quarter of a century? There are major uncertainties inherent in predicting the particular path of certain megatrends, such as the impacts of certain technologies. Meanwhile, other trends, such as aging populations, are more assured in their path but still come with questions in terms of likely impacts and most effective ways to respond. Consequently, the best approach for policy makers should be to consider how to build systemic and strategic approaches to adapt in an increasingly fast-moving, inter-connected and dynamic environment.

In addition to adopting an integrated governmental approach, there are three key areas that require focus: i) modernising regulatory and legislative frameworks, ii) cultivating partnerships with key stakeholders and iii) exploring ways to future-proof policies.

Modernising regulatory and legislative frameworks

The emergence of new business models and technological innovations in recent years, such as ride-sourcing and home-sharing platforms, have highlighted the urgent need for governments to develop more flexible and adaptable regulatory and legislative frameworks. Given the likelihood of continued fast-moving technological developments in the sharing economy, as well as the rise of artificial intelligence, more pressure will be placed on existing frameworks. As a result, these reforms will only become more pressing.

Undertaking regular reviews of regulatory frameworks to remove outdated requirements and promote the emergence of innovative approaches to delivering goods and services is one such strategy. Broadly engaging stakeholders in the development of new regulatory frameworks to ensure that the perspectives of new and emerging market entrants are reflected is also critical.

Greater inclusion of, and support for, predictive mechanisms in the policy and regulatory process is also a key means of ensuring that policies developed today are not obsolete

[10] For example, the New Zealand Cycle Trail consists of 2500 km of trails throughout the country, promoted as an opportunity for both adventure and leisurely travel that that generates economic, social and environmental benefits for communities.

before they come into force. Both new and existing frameworks should be assessed against medium- and long-term trends.

Governments do, in general, move more slowly than the speed at which challenges evolve. Addressing this will be an important part of strategically planning for the future of tourism. The current situation tends to be rather reactive and should instead move towards being proactive. While this requires foresight and planning, it is clear that developing a fixed 10-year strategy will not suffice – ***approaches must be flexible and adaptive, and provide regular feedback mechanisms*** between government, local communities and industry. Feedback mechanisms can enable ongoing discussion and opportunities to adapt as necessary.

Cultivating partnerships with key stakeholders

The impacts of megatrends and the process of policymaking generally, are more cross-cutting both sectorally and jurisdictionally than ever before. Travel mobility issues that involve visa and security coordination among jurisdictions, sustainable approaches to tourism for resources that are shared among countries, and the challenges of regulatory digital platforms that operate globally, all illustrate the increased need to think beyond local and national issues to craft effective responses.

A renewed focus and investment in international and regional fora that can look at horizontal issues effectively and develop shared governance and policy responses is one means to ensure responses are balanced and effective. Furthermore, increased engagement with key stakeholders (industry and civil society) in the tourism and related sectors should also be a priority. For example, the Turkish Ministry of Culture and Tourism recently brought together over 300 tourism stakeholders including Ministers, tourism leaders, local authorities, and NGOs at a meeting of the Tourism Council, in order to better understand key tourism trends and inform the preparation of a new long-term tourism strategy and action plan. Understanding how best to adapt infrastructure needs for an aging population will require conversations with officials and representatives from financing, infrastructure, housing, planning, social services and many other ministries. Tourism policy makers will play a key role in articulating issues but the policy remit will often lie elsewhere.

The need to engage more closely with industry and ensure that the perspectives of SMEs, emerging businesses and traditional operators are all understood is a vital consideration as the sector takes on a different shape in the coming years and decades. Policy makers need to ensure that while they develop approaches that prioritise the public interest, the perspectives of businesses on the cutting edge of new and innovative approaches to delivering services are essential to shaping those decisions. Industry-government round-tables that consider medium- and long-term issues on which to prioritise action, offer one possible way of developing and ensuring close and regular engagement.

Partnership and cooperation are fundamental. Within destinations, ***there must be ongoing dialogue that engages not just government and industry, but the community as well***. Within countries, there should be coordination across various levels of government as well as different governmental departments in order to sufficiently address the complex issues posed to impact the sector. Tourism is a sector that extends far beyond the remit of the tourism ministry, cutting across many policy areas from economic development, to education, transportation and infrastructure. Finally, there must be international cooperation to move forward. Tackling global issues will require international agreements that launch national policy efforts (e.g. The 2030 Agenda for Sustainable Development and

the SDGs) – although these processes can be cumbersome and take many years to transpose into real action.

Taking steps to future-proof tourism policy

Governments can often be challenged when faced with rapid changes and shifts to the status quo. Promoting a culture of innovation and change management within government will be vital to ensuring that long-term megatrends are given due consideration within the decision-making process. The use of innovation labs and design labs which tackle forward-looking issues through creative engagement with a broad range of internal and external stakeholders is one potential means of promoting a culture of continuous improvement and future-oriented thinking.

Long-term scenario planning exercises are another way to begin conversations about potentially transformative changes on the horizon. Examples of country approaches include Finland's national foresight network, which is designed to leverage data to inform decisions and prepare for the future, as a potential model for anticipating and preparing for change (Hartikainen, 2015), while Austria's Ministry responsible for tourism conducted an extensive study and scenario planning exercise to address trends posed to influence the tourism sector specifically (Box 6). Similarly, Switzerland used trend analysis and scenario planning to design and implement policies that recognize that the tourism sector is affected by a range of external factors (Box 7).

Policy makers focused on tourism will also need to work closely with their colleagues in other ministries to develop systems that can measure and monitor megatrends such as demographic change in order to better prepare for their impacts. Where these systems already exist, they need to be leveraged to anticipate and prepare for potential policy and service delivery changes that may be required. These systems also require robust data to analyse and stay abreast of key megatrends, how they are unfolding and whether any course corrections or adjustments are occurring or require action.

Box 6. Strategic Tourism Planning in Austria

Plan T - Masterplan for Austrian Tourism

In 2018, Austria initiated a consultation process as a first step in the development of a new Masterplan for the continued growth of sustainable and competitive tourism. The process involves experts and stakeholders - not only from tourism but also other areas. Discussions are organised in a number of thematic areas including: i) stronger cooperation between tourism, agriculture and the culinary sector; ii) new ways of tourism funding; iii) sustainable tourism - environment, mobility, climate/energy; iv) the development of a future-oriented system of indicators for measuring tourism; v) marketing, promotion and communication; vi) creating favourable framework conditions for future tourism development (including how to deal with new business models); vii) labour market and tourism education & training; and viii) digitalisation in tourism. It will be presented in the first half of 2019.

Source: www.bmnt.gv.at/tourismus/masterplan_tourismus.html

European Tourism Forum 2018

Given the fast-changing, interconnected and dynamic environment decision makers in tourism have to face, Austria dedicated the theme of the 2018 European Tourism Forum (under its EU Council Presidency in the second half of 2018) to strategic tourism planning. The focus was on the central question: How to shape a sustainable form of tourism, which ensures quality of life and value added in the long run? Experts gave insights on how megatrends such as digital and technological progress, demographic developments and evolving global visitor demand and travel patterns, as well as the shift to low-carbon and resource efficiency, will shape the future of tourism. This was followed by discussions on how to respond to current and emerging challenges in strategic tourism planning.

Source: www.eu2018.at/calendar-events/political-events/BMNT-2018-10-01-Tourism-Forum.html

Study on Megatrends

In 2016/2017 Austria's Ministry responsible for tourism conducted a study in collaboration with the Interdisciplinary Research Centre Tourism and Leisure of the University of Innsbruck to analyse the impacts of megatrends on Austria's tourism. The study, “Is everything different? Tourism 2025” delivered a comprehensive analysis of the trends and drivers impacting the country’s tourism sector, mapped out both positive and negative scenarios to 2025, and made recommendations for policy development accordingly. In order to paint a complete picture of the supply and demand sides of the sector, the study took a threefold exploratory approach to data collection. This included a systematic media analysis, qualitative interviews with key experts, and a workshop to evaluate the empirical results. Key driving forces were identified – such as geopolitics, climate change, ecological drivers, demographic drivers, economic drivers and technological drivers – which together push six trend areas. For each trend, a number of challenges were highlighted with recommendations offered to address them.

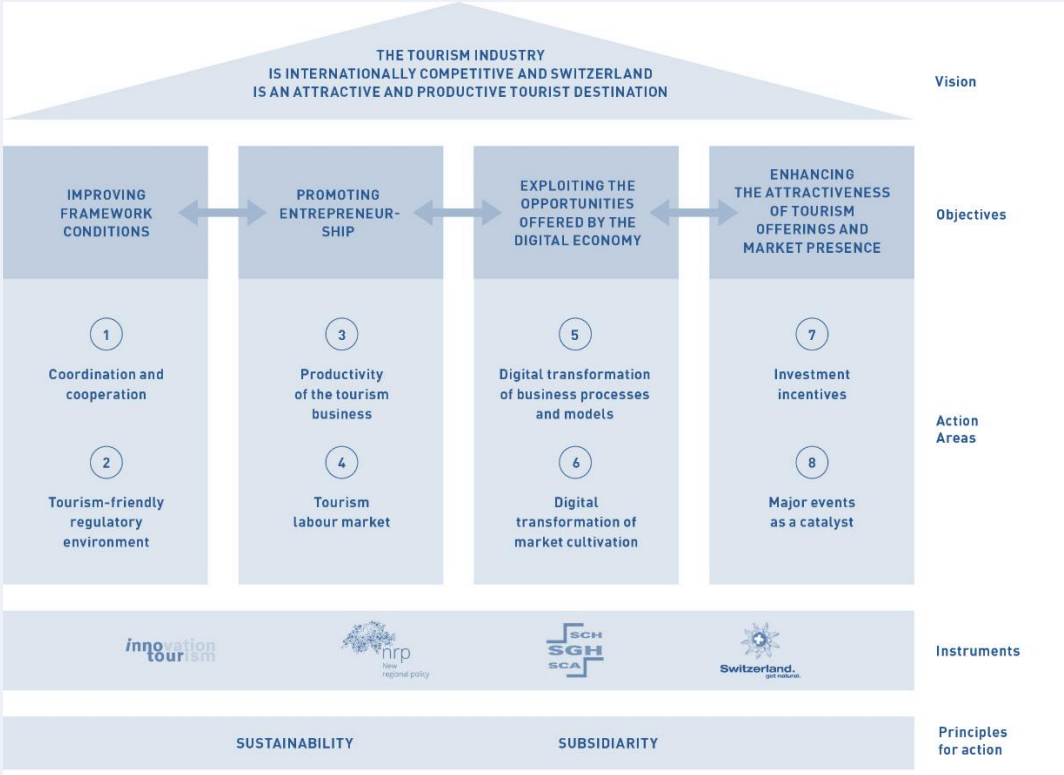
Source: www.bmnt.gv.at/service/publikationen/tourismus/studie-tourismus-2025.html

Box 7. Tourism Strategy of the Swiss Confederation

Switzerland adopted a new tourism strategy in 2017, which was developed by the State Secretariat for Economic Affairs (SECO) on behalf of the Federal Department of Economic Affairs, Education and Research (EAER). The new tourism policy has four key objectives, which include improving framework conditions to improve policy coordination and promote synergies, promoting entrepreneurship, exploiting the opportunities presented by the digital economy, and enhancing the attractiveness of tourism offerings and market presence.

The vision of the Federal Council is to ensure that the Swiss Federation's tourism industry is internationally competitive and the country is an attractive tourist destination. In developing its tourism strategy, Switzerland used trend analysis and scenario planning to design and implement policies that recognize that the tourism sector is affected by a range of external factors. The megatrends identified include globalisation and increasing mobility, rising global prosperity, technological progress, safety concerns, urbanisation, changing demography, and increasing environmental awareness. A SWOT analysis was also conducted to identify strengths and weaknesses, and opportunities and threats to the Swiss tourism industry. Based on such analysis, Switzerland has identified eight action areas with accompanying action items, as well as two guiding principles for action – sustainability and subsidiarity (Tourism Strategy of the Swiss Confederation, November 2017).

Figure 5. Overview of the key elements of Switzerland's tourism policy



Source: www.seco.admin.ch/seco/en/home/Standortfoerderung/Tourismuspolitik/Tourismusstrategie_des_Bundes.html

In a public sector environment where data is increasingly driving decisions, the ability to harness and make sense of that data becomes even more important. Tourism policy makers must ensure that they either have the capacity to make data-driven decisions or that other departments with that capacity are fully briefed on key tourism trends and issues to play a supportive role.

Maintaining a horizon scanning process over the long-term that identifies weak signals of change that require closer examination will be a useful approach. These long-term planning approaches should bring experts from other fields related to tourism to the discussion table – such as those dealing with transportation, taxation, land-use planning processes, and statistics. All strategies and decision-making processes must be informed by evidence, but not exclusively developed in a top-down manner. To the extent that visions are developed at a high-level and do not translate well to those executing the plans or impacted by them, discussions should be informed by those on the ground.

Principles for effective strategic foresight in tourism

Strategic foresight can assist policy makers to anticipate possibilities for the future and design forward-looking policies. There are various strategic foresight methods that can be used to analyse trends, envision various plausible futures, and prepare effectively for the challenges and opportunities the future holds. The following broad principles aim to provide guidance to tourism policy makers in order to maximize the value of strategic foresight as a policy tool:

Figure 6. Guiding principles for effective strategic foresight

1. Agility

- While policy makers should use existing evidence and projections to support strategic planning, they must also acknowledge that they will be faced with unanticipated opportunities and challenges (UNDP, 2018). As such, policies and programs should provide the certainty that businesses require, while being agile enough to adapt to emerging realities.

2. Multiplicity

- One of the realities of employing strategic foresight is that the future cannot be predicted with certainty and in fact there are many possible futures. As such, policy

makers should prepare for and think about alternative futures when designing policies and programs. Futurists have suggested planning for four different but interrelated types of futures. These include the possible, plausible, probable and preferable futures (Bengston, 2018). Scenario building exercises, such as the one employed in this report, can be a useful tool for considering these multiple plausible futures.

3. Proactivity

- Current action or inaction are both going to influence the future. Hence, it is vital to take proactive steps to work towards the desired future. One of the approaches to this is backcasting, i.e. creating a vision for the preferred future and working backwards to determine the pathway to achieving it (Wilkinson, 2017). This technique allows policy makers to focus on the future as a process rather than a destination, and create proactive policies in the present that are geared towards achieving desired outcomes. This also allows policy makers to acknowledge their agency in influencing the future in a positive direction (Bengston, 2018).

4. Long-term perspective

- Policy decisions should not just be geared towards short-term or medium-term goals, but should rather consider the impact of tourism and related policies on future generations and take responsible actions in the present. Thinking about the long-term future in addition to the short-term and medium-term ensures that decision-makers keep environmental, social, and economic sustainability at the heart of policies. Similarly, maintaining a horizon scanning process will help policy makers to identify weak signals of change that may require closer examination and could potentially affect existing or future policies.

5. Engagement and inclusion

- To avoid narrow visions of the future, it is essential for policy makers to engage with diverse stakeholders that represent a range of perspectives and interests. Inclusion and participation of diverse actors, particularly marginalized voices, is also essential to understand and address the diverse needs, aspirations and concerns for the future of different groups. Further, engagement is vital to increase buy-in for policies and programs (UNDP, 2018). In the case of tourism policies, strategic foresight must include the perspectives of two key stakeholders – locals and tourists – and keep their wellbeing at the centre. An ongoing dialogue between government, local communities and industry, utilising regular feedback mechanisms can play an important role in identifying opportunities and challenges as they arise and developing policy responses to adapt as necessary.

6. International Collaboration

- The world is becoming increasingly globalized and enabling technologies are rapidly facilitating connections. In this new reality, policy makers cannot operate in silos and must collaborate internationally to ensure that the gains from tourism are inclusive and equitable, and that policies and decisions are globally sustainable. Areas where international collaboration can help governments grapple with complex challenges include safety and security, enhancing travel mobility, and achieving sustainable tourism targets.

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