

Presentation 2018 för Destination Piteå Ekonomiska Förening

TRENDS AND CHALLENGES IN DIGITAL TOURISM AND SMART DESTINATIONS

Hansi Gelter



*The Future belongs to those who prepare for it today!
The Future starts now!*

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Visit Arctic Europé – Stronger together, Rovaniemi 21-22/11 2017

*The Future belongs to those who prepare for it today!
The Future starts now!*

VISIT ARCTIC EUROPE



**Interreg
Nord**
European Regional Development Fund



 Northern Norway
Tourist Board

Swedish Lapland
Visitors Board
REGIONAL TOURISM ORGANISATION OF
SWEDEN'S NORTHERN MOST DESTINATION

 Lapland –
The North of
Finland

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Presentation based en a research report for VAE 2017

VISIT ARCTIC EUROPE 



132p

Looked at resent research papers and white papers (industry reports) what they predict about trends in digital tourism.

= Qualitative forecasting

≠ Science Fiction

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Presentation based en a research report for VAE 2017

VISIT ARCTIC EUROPE 

METHODOLOGY



- Searched Google Scholar (search engine on scientific papers on the Internet)
- Search period 2013- 2017
- Scanned 1160 scientific papers
- Analysed 215 relevant scientific paper
- Analysed 162 White papers (industry reports)
- Analysed 112 webpages on digital development

4

Presentation based on a research report for VAE 2017

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WHITE PAPERS FROM:

- Cairos Future
- TrendOne
- Expedia
- iSoft
- eCommerce Europe
- Huawei
- Google
- Facebook
- Microsoft
- Interactive Intelligence
- Viator
- Smart Travel
- Etc.



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Presentation based on a research report for VAE 2017

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Digital trends in tourism was sub-divided into four sub-themes of:

1. General trends in tourism and digital tourism
2. Digital trends in tourism business management
3. Digital trends in travel distribution
4. Digital trends in tourism marketing

Customer digital mobile behaviour was sub-divided according to customers experience-process of travelling into three themes:

1. Pre-consumption digital behaviour
2. During-consumption digital behaviour
3. Post-consumption digital behaviour



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PRESENTATION AGENDA

- 1. Background and megatrends**
- 2. Technological evolution**
- 3. Tourist digital mobile behavior**
- 4. Challenges for tourism companies**
- 5. Challenges for destinations**
- 6. Destinations of the future – smart destinations**

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PRESENTATION AGENDA

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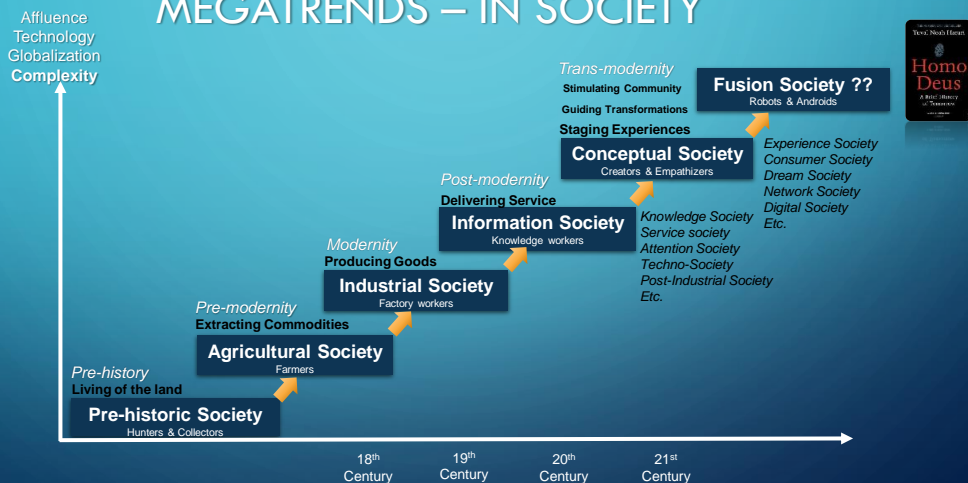
1. BACKGROUND AND MEGATRENDS

- Disruptive megatrends in society are changing way of living and doing business
- Every industry sector is currently undergoing a Paradigm shift towards digitalization (e-business, e-commerce, e-payment, e-tourism and e-traveler, digital generations) = Digital transformation
- We are entering industry revolution 3.0

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1. BACKGROUND AND MEGATRENDS

MEGATRENDS – IN SOCIETY



.A simplified stage model of progression of society and economical offerings. (modified after Pine & Gilmore 1999, Florida 2002, Luyckx Ghisi, 2006, Pink 2007, and others.)

10

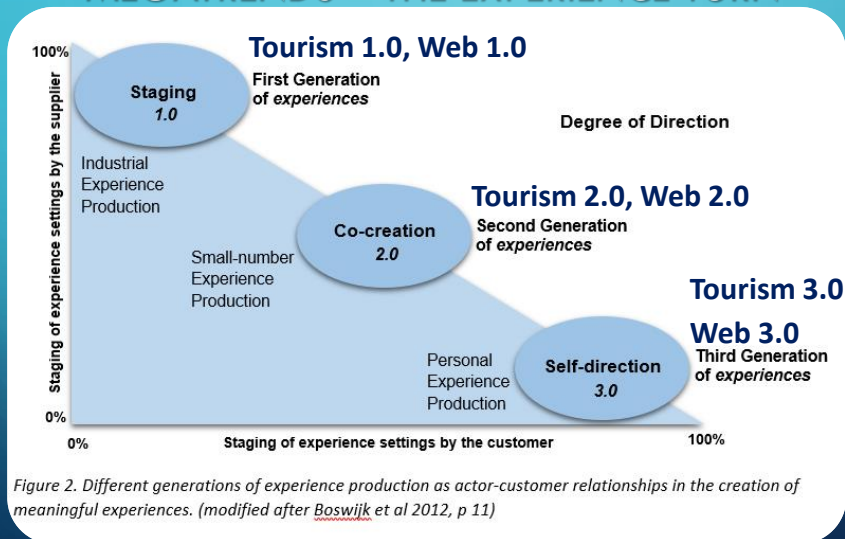
1. BACKGROUND AND MEGATRENDS

- **Digital Information technology** has played a fundamental role in the development and growth of the tourism industry, and as an important tool for travellers and tourism suppliers.
- Megatrends in digital transformation will now strongly influence tourist behaviors and the tourism industry.

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1. BACKGROUND AND MEGATRENDS

MEGATRENDS – THE EXPERIENCE TURN



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1. BACKGROUND AND MEGATRENDS

MEGATRENDS – WEB EVOLUTION

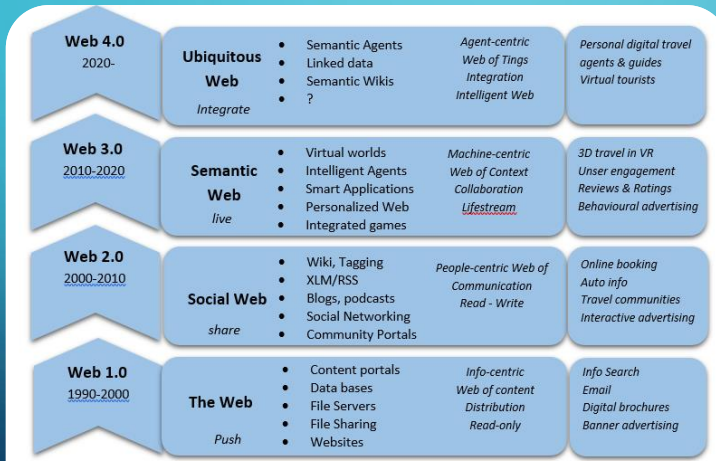


Figure 4. The evolution of the Internet (compiled from diverse sources)

TOURISM:

From:

Companies posting information
(web 1.0)

→ Interacting with guests
(Web 2.0)

→ Self-creating experiences
(Web 3.0)

→ AI supported experiences
(Web 4.0)

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PRESENTATION AGENDA

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2. TECHNOLOGICAL EVOLUTION

TECHNOLOGICAL MEGATREND – DEAD OF MOBILES



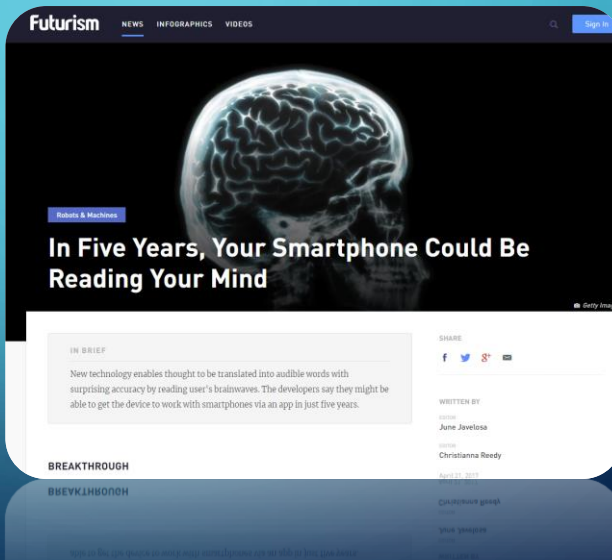
"Mobilen är redan död. Folk har bara inte insett det än!"
Foto: Fotolia

Snart är mobilen borta – det här kommer i stället

I framtiden kan mobiltelefonen och bildskärmar vara ett minne blott. Det nya ska ersätta allt sådant och kräver inte ens någon uppkoppling. Mobilen är redan död. Folk har bara inte insett det än, säger Alan Kijman.

Ytterligare en ledare i tidig 2010-talens tekniska utveckling är den som kallas 'brain-computer interface' (BCI). Detta är en teknik som gör det möjligt för människor att kontrollera datorer och andra tekniska enheter med sina tankar. Detta är en teknik som kan revolutionera många olika områden, från medicin till militär.

kommer i stället
snart är mobilen borta – det här



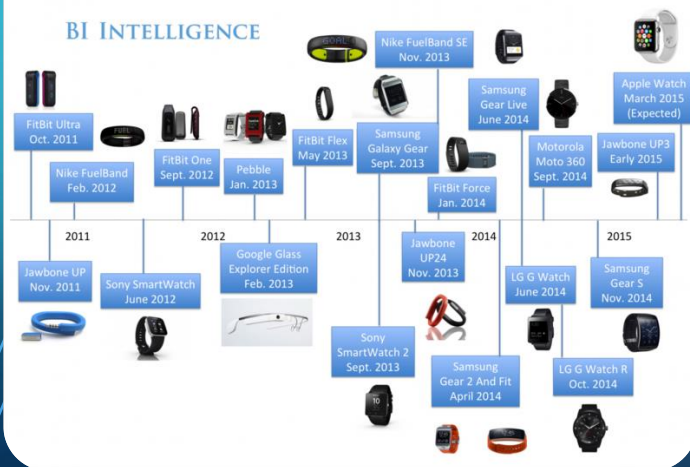
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2. TECHNOLOGICAL EVOLUTION

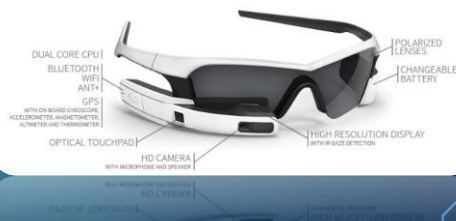
TECHNOLOGICAL MEGATRENDS – WEARABLES....

Wearable Device Release Date Timeline

BI INTELLIGENCE



THE WORLD'S MOST ADVANCED WEARABLE COMPUTER



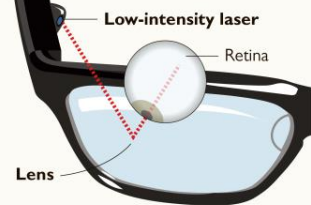
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2. TECHNOLOGICAL EVOLUTION

TECHNOLOGICAL MEGATRENDS – WEARABLES....

How it works

1 A low-intensity laser on the inside frame of the glasses projects information that reflects off the lens and into the retina of your right eye



2 You see the information in the lower right hand side of your visual field and syncs with your mobile phone apps via bluetooth



Intel Vaunt:
400x150 pixels projected
on retina by laser

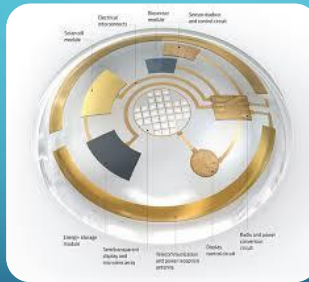
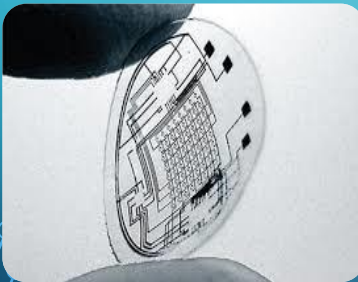


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2. TECHNOLOGICAL EVOLUTION

TECHNOLOGICAL MEGATRENDS – WEARABLES....

Bionic contact lenses

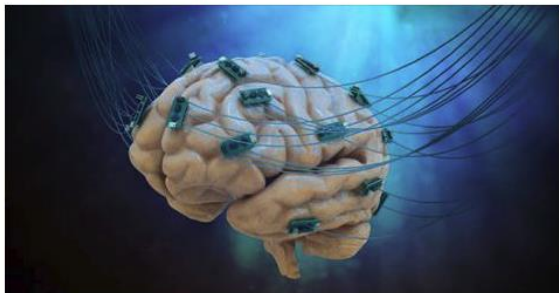


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2. TECHNOLOGICAL EVOLUTION

TECHNOLOGICAL MEGATREND – BRAIN-COMPUTER INTERFACE

Braininternet! here very soon!



Scientists Connect A Human Brain To The Internet For The First Time

Tired of tapping on the screen of your pesky, high-end smartphone to browse the Internet? No fear, because the awkwardly named "Braininternet" is here! A tea

IFLSCIENCE.COM

Elon Musk Wants to Merge Your Brain with a Computer



Humanity could become a giant brain, speeding up progress and evolving intelligence.



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2. TECHNOLOGICAL EVOLUTION

TECHNOLOGICAL MEGATREND – VR, AR, 4D, 5D

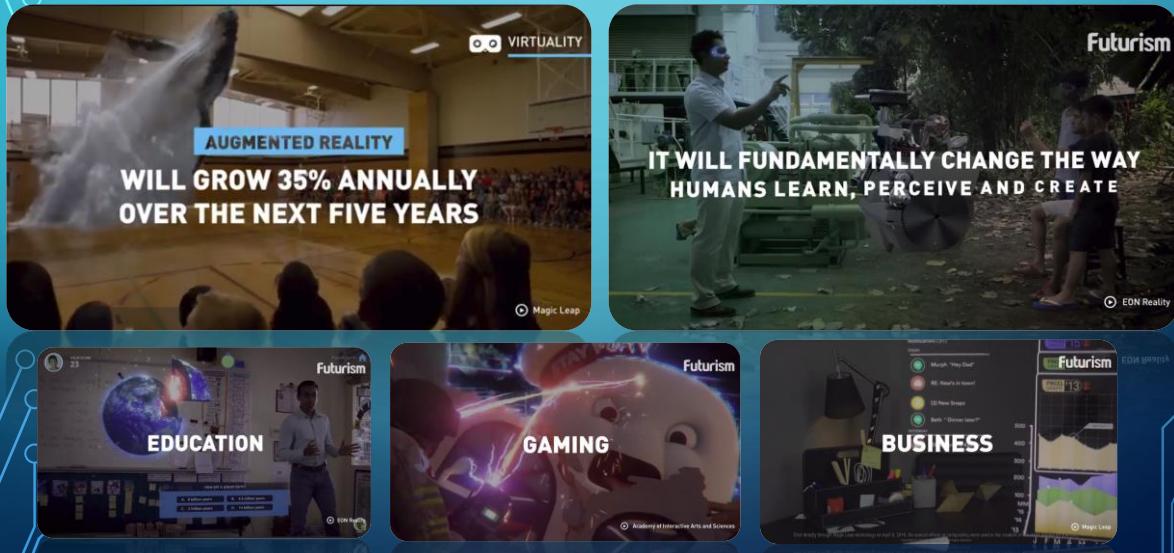


TOURISM: Old Uppsala AR experience of Vendel time year 550 AD

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2. TECHNOLOGICAL EVOLUTION

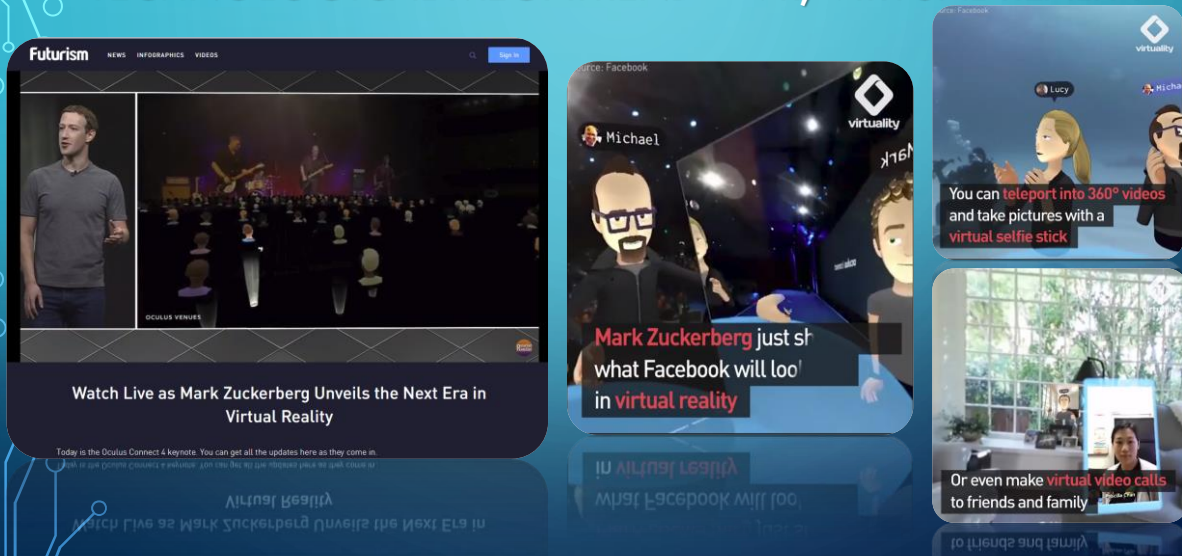
MEGATREND – AUGMENTED REALITY AR



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2. TECHNOLOGICAL EVOLUTION

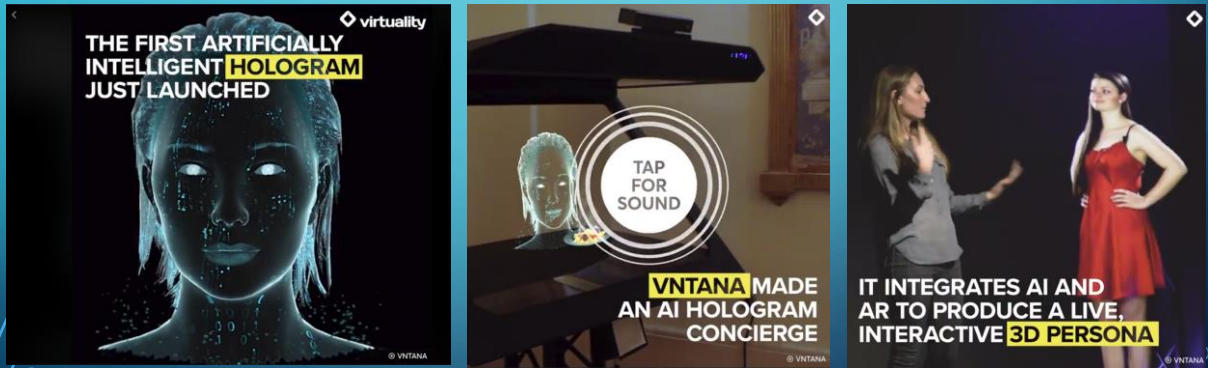
TECHNOLOGICAL MEGATREND – VR, VIRTUAL REALITY



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2. TECHNOLOGICAL EVOLUTION

TECHNOLOGICAL MEGATREND – HOLOGRAM

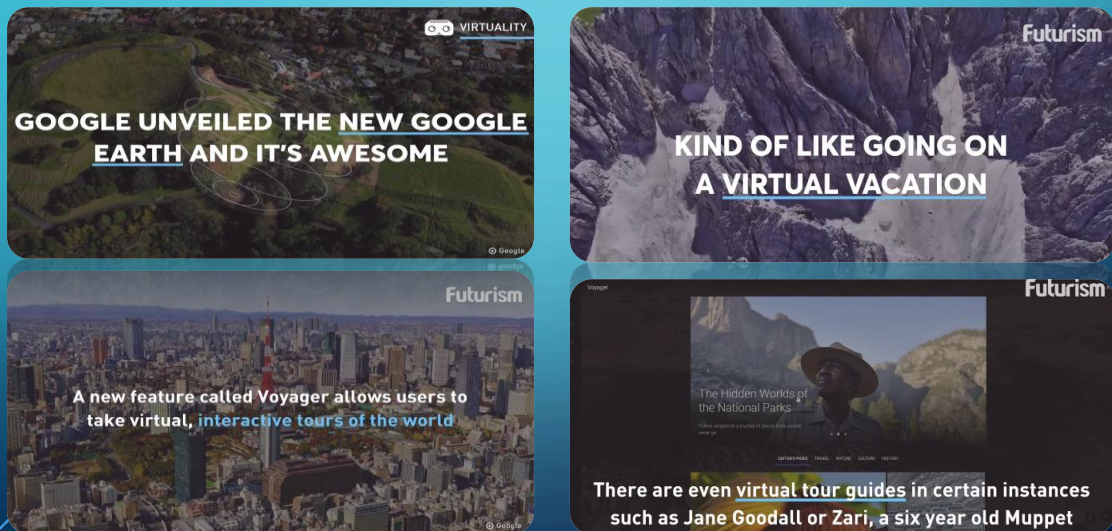


Virtual Hologram conferences

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2. TECHNOLOGICAL EVOLUTION

TECHNOLOGICAL MEGATREND – VIRTUAL REALITY TOURIST



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2. TECHNOLOGICAL EVOLUTION

TECHNOLOGICAL MEGATREND – AI SERVICES



“We’re going to shift from a service economy to an AI economy” - GDR
While GDR has frequently discussed the growth of Artificial Intelligence in the retail and hospitality sectors in recent years, one of the most potentially significant...
GDRUK.COM

Meet AMELIA
Your intelligent digital workforce

More than 50 global organizations are employing Amelia

FLUENT IN NATURAL CONVERSATION
EMOTIONALLY ENGAGED
UNDERSTANDS CONTEXT
SCALABLE

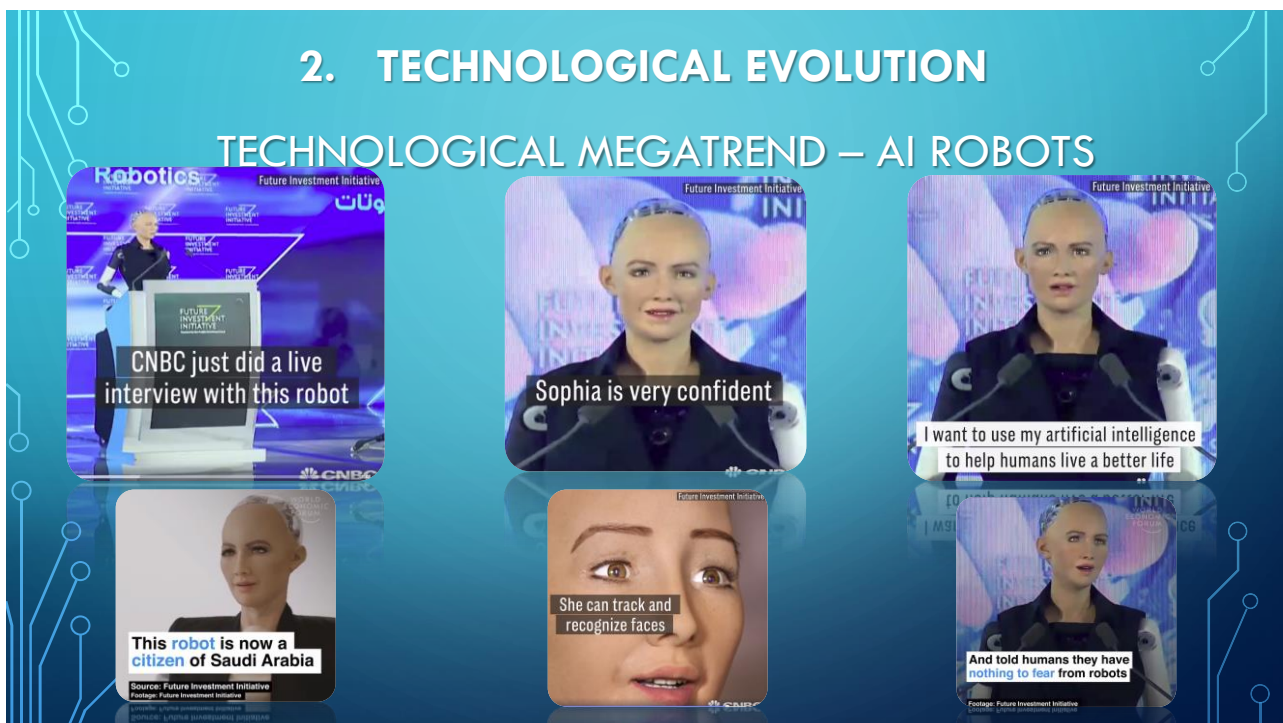
IPSOFT

SEB Bank
Customer Service Agent

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2. TECHNOLOGICAL EVOLUTION

TECHNOLOGICAL MEGATREND – AI ROBOTS



Robotics Future Investment Initiative

CNBC just did a live interview with this robot

Sophia is very confident

I want to use my artificial intelligence to help humans live a better life

This robot is now a citizen of Saudi Arabia
Source: Future Investment Initiative
Footage: Future Investment Initiative

She can track and recognize faces

And told humans they have nothing to fear from robots
Footage: Future Investment Initiative

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2. TECHNOLOGICAL EVOLUTION

TECHNOLOGICAL MEGATREND – AI ROBOTS



TOURISM: Robots in Service & hospitality

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2. TECHNOLOGICAL EVOLUTION

TECHNOLOGICAL MEGATREND – AI ROBOTS

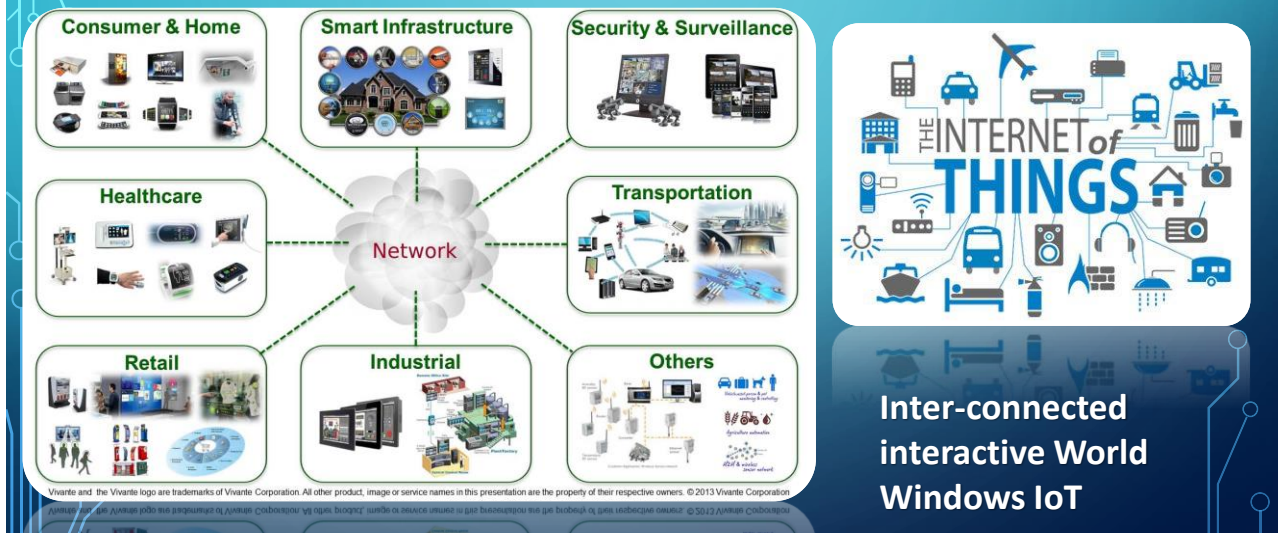


Self-driving transportation

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2. TECHNOLOGICAL EVOLUTION

MEGATREND – INTERNET OF THINGS



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2. TECHNOLOGICAL EVOLUTION

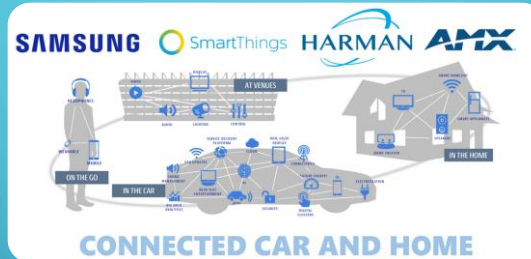
MEGATREND – INTERNET OF THINGS



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2. TECHNOLOGICAL EVOLUTION

MEGATREND – INTERNET OF THINGS



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2. TECHNOLOGICAL EVOLUTION

MEGATREND – CLOUD COMPUTING & BIG DATA



Customers;
Digital Footprint →
Big Data

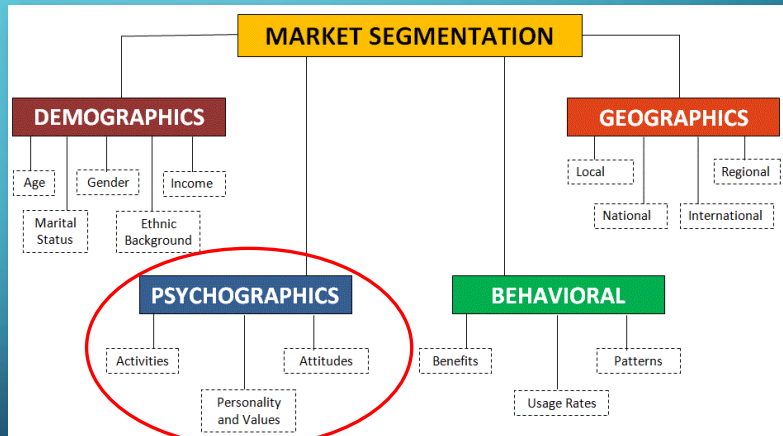
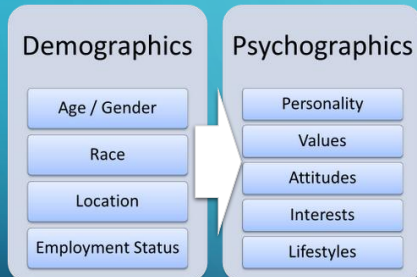


Businesses;
Cloud computing →
Data-lakes

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2. TECHNOLOGICAL EVOLUTION

MEGATREND – PSYCHOMETRICS/PSYCHOGRAPHICS



Big Data → Micro-targeting

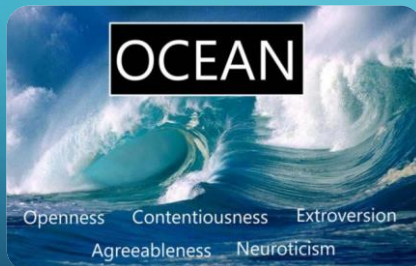
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2. TECHNOLOGICAL EVOLUTION

PSYCHOMETRICS MICRO-TARGETING MARKETING

Cambridge Analytica

- Developed simple methods to extract
- Personality traits from Internet activities based on;
 - Values
 - Attitudes
 - Interests
 - Lifestyle
 - Personality
- Micro-targeting Marketing is possible



Same demographics, different personalities



Female
25-35 Years old
AMEX User

Openness
Conscientiousness
Extraversion
Agreeableness
Neuroticism

People with high openness and extraversion love new experiences they can share with lots of people.



Female
25-35 Years old
AMEX User

Openness
Conscientiousness
Extraversion
Agreeableness
Neuroticism

People with low openness and extraversion really value down time spent with their closest friends.

Digital Footprint → Big Data → Micro-targeting

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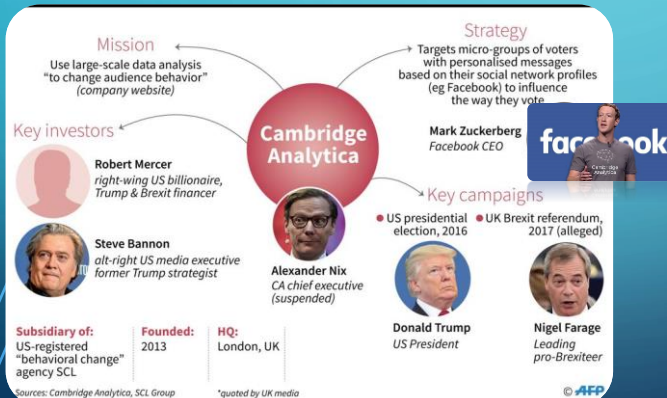
2. TECHNOLOGICAL EVOLUTION

PSYCHOMETRICS MICRO-TARGETING MARKETING

Big Data Back- Slash



Cambridge
Analytica



The Data That Turned the World Upside Down

Psychologist Michal Kosinski developed a method to analyze people in minute detail based on their Facebook activity. Did a similar tool help propel Donald Trump to victory?

MOTHERBOARD VICE.COM

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2. TECHNOLOGICAL EVOLUTION

PSYCHOMETRICS MICRO-TARGETING MARKETING

Big Data Back- Slash



Cambridge
Analytica

Facebook – Cambridge Analytica scandal:

- Cambridge Analytica collected data from 50 million US FB-users to influence Donald Trump election by **micro-targeting**
- Data collection 2014 by FB personal test –app “thisisyourdigitallife” by US psychologist Alexandr Kogan
- 270 000 did the test and got money as compensation, but by FB sharing of this test, data from 50 million were collected
- Data sold to Cambridge Analytica who made micro-targeting for the Trump campaign
- Cambridge Analytica also involved in other democratic elections
- FB CEO Mark Zuckerberg hearing at the US congress

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2. TECHNOLOGICAL EVOLUTION

PSYCHOMETRICS MICRO-TARGETING MARKETING

Psychometric Micro-targeting vs. new GDPR regulation in EU?



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2. TECHNOLOGICAL EVOLUTION

Disruptive hardware and software evolution such as:

- mixed reality (VR, AR)
- artificial intelligence (AI)
- robotization and automatization
- psychometrics micro-targeting
- digital footprints and big data
- cloud computing
- blockchain technology
- gamification
- holographic telepresence
- web 4.0
- Internet of Things (IoT)
- quantum computers, and much more



together with the “experience turn” (co-creation, customer-centered experience management, user-generated content)

challenges traditional business organizations and business value chains

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2. TECHNOLOGICAL EVOLUTION

DON'T BE:

- **Scared** by the technology (almost Science Fiction) – be curious!
- **Skeptical** – otherwise you will be overstepped by those adapting
- *Embrace the development and do your best of it!*

"The best way to predict the future is to invent it"
(Alan Kay, Xerox PARC)

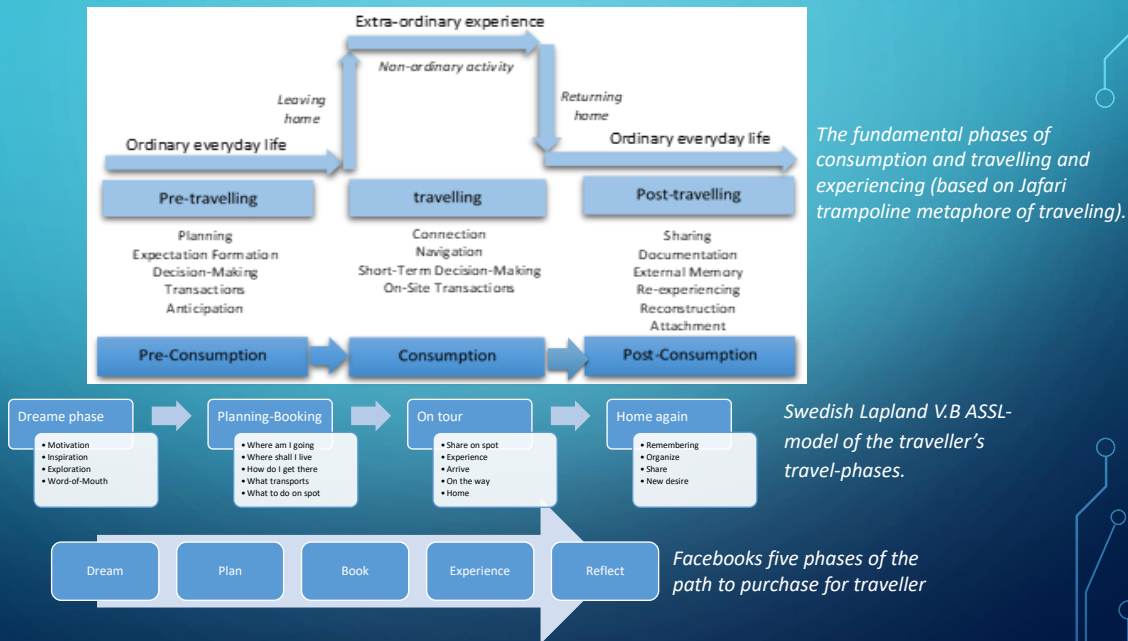
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PRESENTATION AGENDA

1. **Background and megatrends**
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4. **Challenges for tourism companies**
5. **Challenges for destinations**
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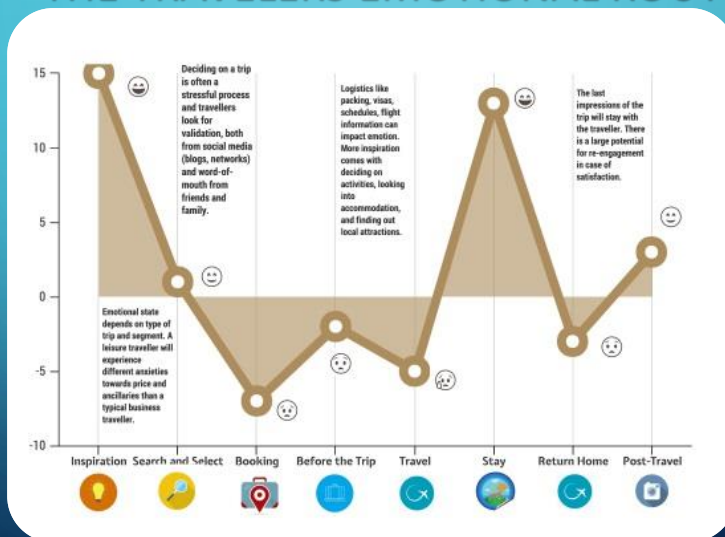
3. TOURIST DIGITAL MOBILE BEHAVIOUR



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3. TOURIST DIGITAL MOBILE BEHAVIOUR

THE TRAVELERS EMOTIONAL ROUT



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3. TOURIST DIGITAL MOBILE BEHAVIOUR

MOBILE MICRO-MOMENTS

Google:

- Want-to-get-away, dreaming moments
- Time-to-make-a-plan organizing moments "travel hacks"
- Let's-book-it, booking moment
- Can't-wait-to-go moment, anticipation moments
- Can't-wait-to-explore, experiencing moments

"I-want-to-know moments", "I-want-to-do moments", "moment-of-truth",
 "I-want-to-go-to-your-store moments", "I-want-to-buy moments",
 "Is-it-worth moments", "Sow-me-how moments",
 "time-for-a-new-one moments", "Didn't-plan-for-this moments",
 "Ready-for-change moments", "New-day-new-me moments",
 "I-wana-talk-to-humans moments" etc.

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3. TOURIST DIGITAL MOBILE BEHAVIOUR

MOBILE MICRO-MOMENTS

Amy had **419**
digital moments
 researching her
 trip over 2 months



In real-life Micro-moments of "Amy" using mobile or desktop when planning for a trip to Disney World (from Google)

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3. TOURIST DIGITAL MOBILE BEHAVIOUR

DIRECT BOOKING FOR MOBILE MICRO-MOMENTS

Illustrate how participants in the service cycle have changed in only three years by the introduction of booking services on Google, Facebook, and TripAdvisor.

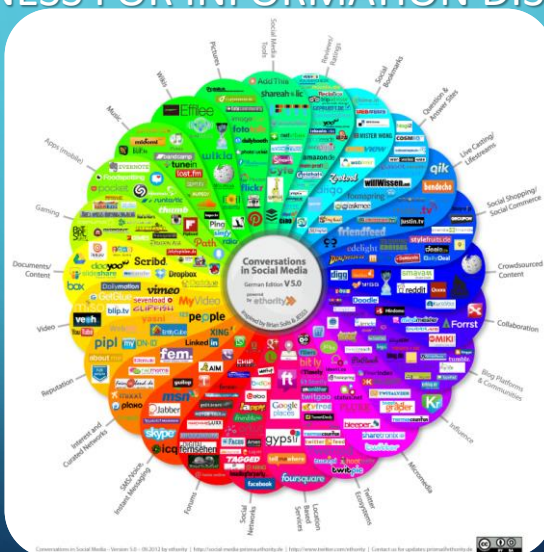


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3. TOURIST DIGITAL MOBILE BEHAVIOUR

TOGETHERNESS FOR INFORMATION DISTRIBUTION

Social media geography



. Social Media Prisma that summarises the social media in 2016 (by ethority Social Media Intelligence, <http://ethority.de/social-media-prisma/>)

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"STATUSPHERE"

Consumers are finding increasingly diverse ways to get their status fix. Are you ready?



STATUS STORIES versus STATUS SYMBOLS

3. TOURIST DIGITAL MOBILE BEHAVIOUR

THE SMART TOURIST

List of characteristics to better define the technologically savvy tourists:

- Well-connected and well-informed,
- Active critics and buzz marketers,
- Demand highly personalised service,
- Engaged both socially and technologically,
- Dynamically discuss through social media,
- Co-create experience,
- Contribute to content,
- Utilise end-user devices in multiple touch-points.

**FIT – Free Independent
Tourist/Traveller**

Buhalis & Amaranggana, 2013

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3. TOURIST DIGITAL MOBILE BEHAVIOUR

SNAP-SHORTS OF TOURIST DIGITAL BEHAVIOUR

- Importance of understanding Traveller's road to decision
- Micro-moments in travel
- Cross-device movements
- Mobile-in-destination behaviour
- Anywhere-and-anytime availability (7/24)
- Radical self-reliance of modern travellers – FIT-boom
- Diversity and complexity of behaviours
- Blurring of on-site and post-travel experience; blogging-on-spot

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3. CHALLENGES FOR TOURISM COMPANIES

DIGITAL TRANSFORMATION IN TOURISM COMPANIES

- **Digital organisation & working processes** (business models, book-keeping, production, cloud-computing, IoT, Expert systems, mobile payment, etc.)
- **Digital communication multiple platforms** (homepage, social media, SMS etc.)
- **Dynamic products** (co-production, self-production)
- **Dynamic digital marketing, booking and distribution**
- **Fierce competition** by early adapters (to digital transformation)

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3. CHALLENGES FOR TOURISM COMPANIES

TRADITIONAL VALUE CHAIN IN DISTRIBUTION

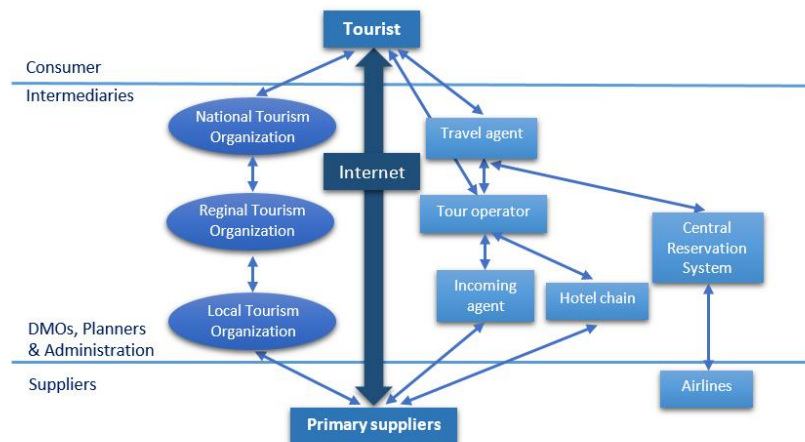


Figure 13. Simplified traditional travel and tourism industry value chain (adapted after Werthner & Klein 1999)

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3. CHALLENGES FOR TOURISM COMPANIES

NEW EMERGING VALUE CHAIN IN DISTRIBUTION

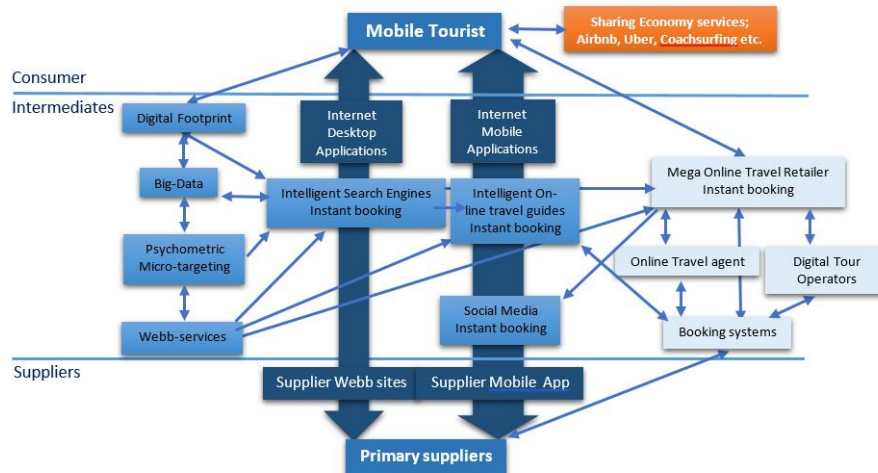


Figure 14. Simplified interpretation of future digital value chains in travel and tourism.

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3. CHALLENGES FOR TOURISM COMPANIES

BENCHMARKING ISLAND

35% Increase in tourism 2017

Bokun <https://bokun.io/>

Eldhestar <http://eldhestar.is/>

Travelade <https://travelade.com/>

Elding <https://elding.is/#>

Guide to Iceland <https://guidetoiceland.is/>

HeyIceland <https://www.heyiceland.is/>

Ion Adventure Hotel <https://ionadventure.ioniceland.is/>

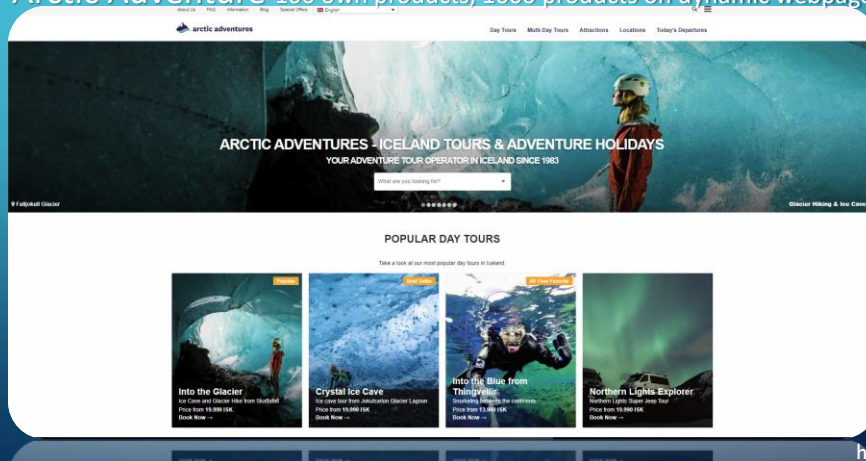
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3. CHALLENGES FOR TOURISM COMPANIES

DIGITAL TRENDS IN TRAVEL DISTRIBUTION

Disrupted value-chain by Cross-Selling by providers (BOKUN)

Arctic Adventure 100 own products, 1000 products on dynamic webpage

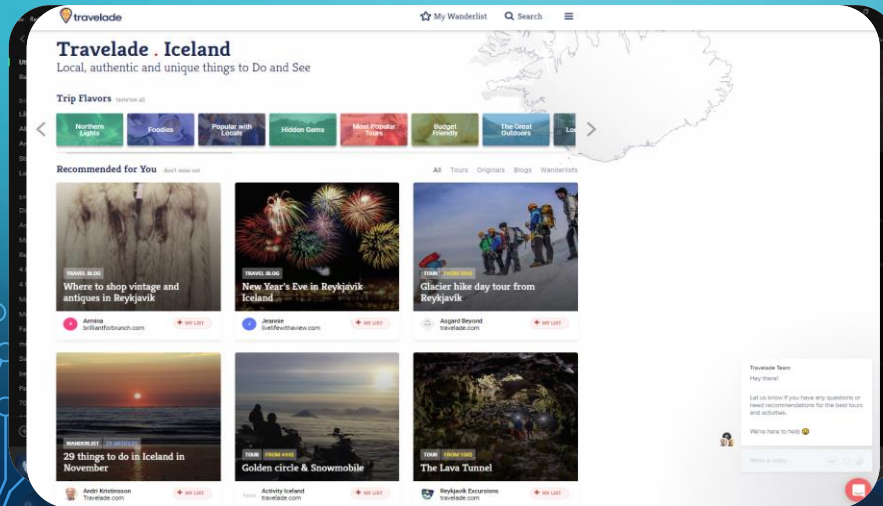


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3. CHALLENGES FOR TOURISM COMPANIES

AI IN MARKETING AND DISTRIBUTION

TravelAide = SPOTIFY for TOURISM



- Artificial Intelligence
- Content meta data
- User behaviour data



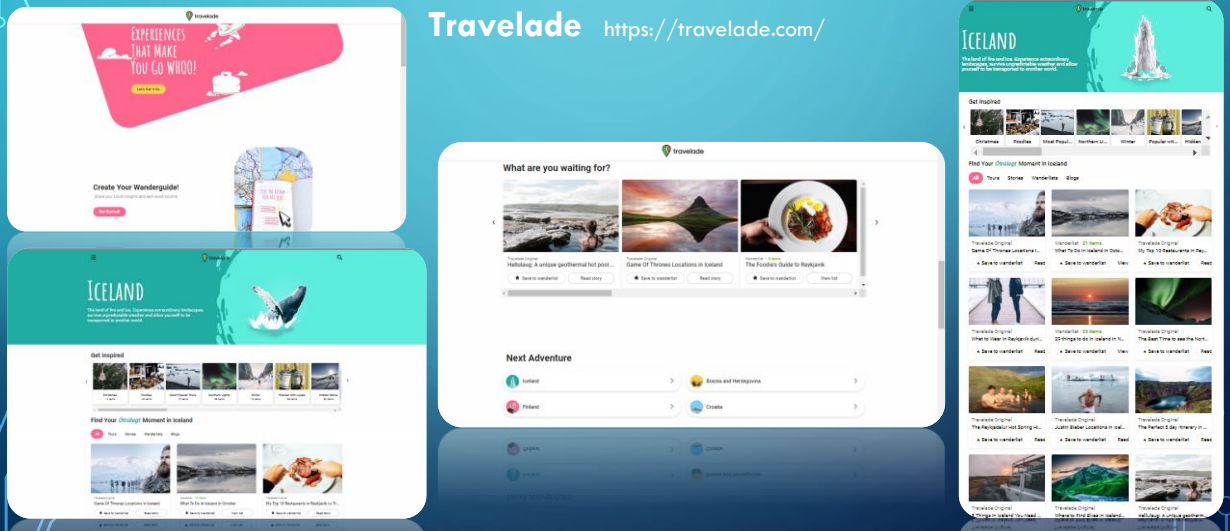
- Play list = Wander List
- Recommendations on previous behaviour
- Most Popular
- Etc.

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3. CHALLENGES FOR TOURISM COMPANIES

AI IN MARKETING AND DISTRIBUTION

Travelade <https://travelade.com/>

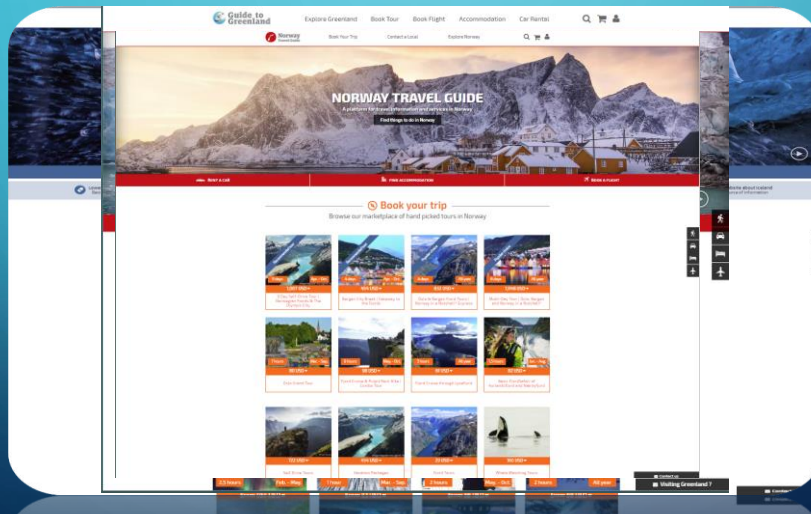


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3. CHALLENGES FOR TOURISM COMPANIES

MEGA ONLINE TRAVEL RETAILER

Offers dynamic product presentations of 5000 products of 1000 suppliers on Iceland:



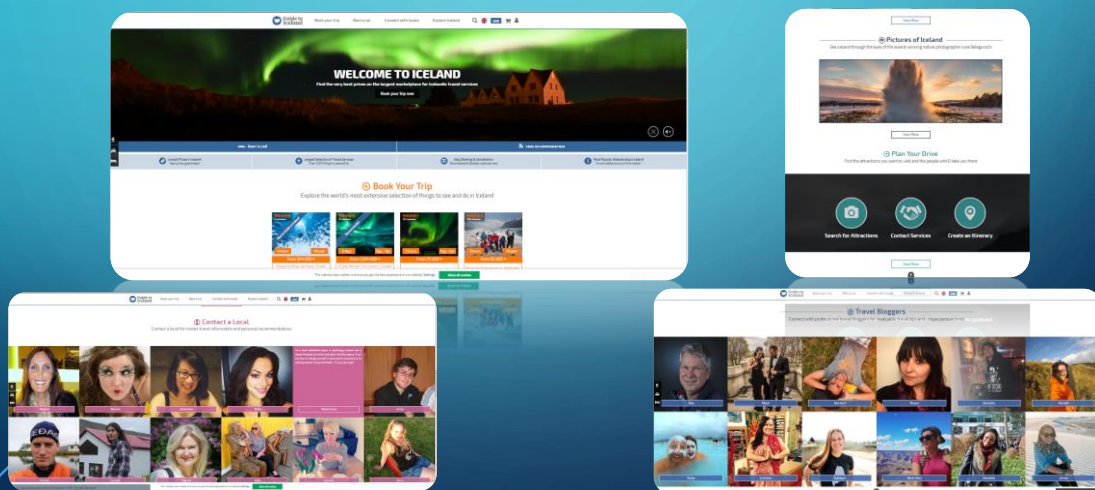
Guide to Iceland
Guide to Greenland
Norway Travel Guide

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3. CHALLENGES FOR TOURISM COMPANIES

MEGA ONLINE TRAVEL RETAILER

Guide to Iceland <https://guidetoiceland.is/>

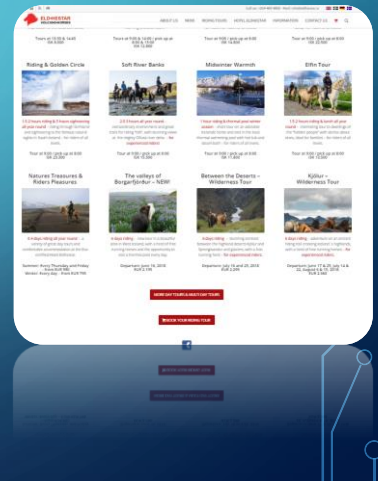
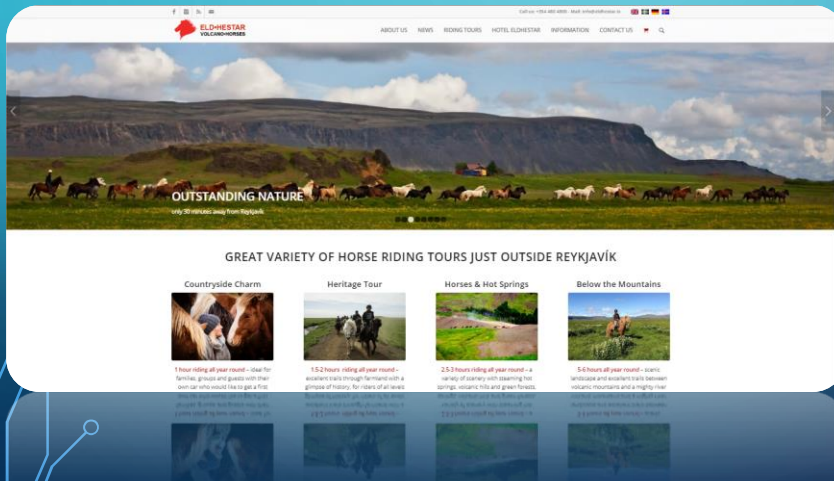


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3. CHALLENGES FOR TOURISM COMPANIES

BENCHMARKING ISLAND

Eldhestar <http://eldhestar.is/>

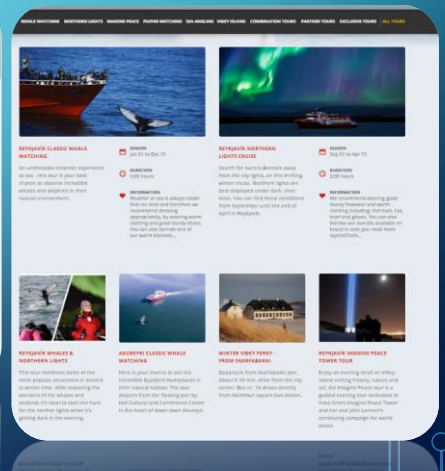
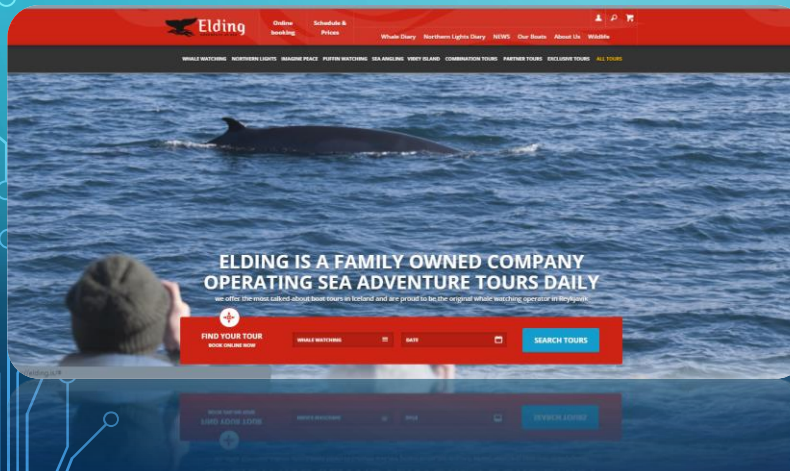


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3. CHALLENGES FOR TOURISM COMPANIES

BENCHMARKING ISLAND

Elding <https://elding.is/#>

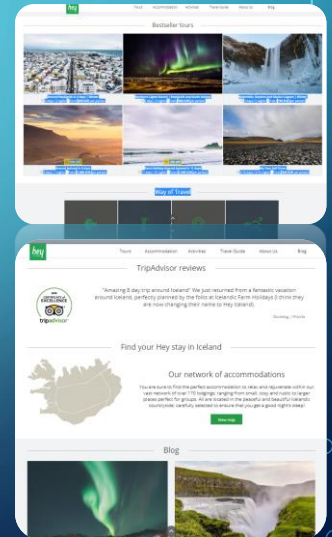
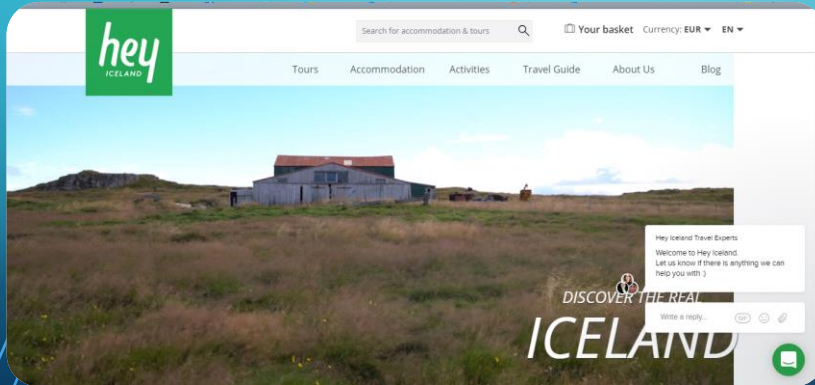


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3. CHALLENGES FOR TOURISM COMPANIES

BENCHMARKING ISLAND

HeyIceland <https://www.heyiceland.is/>

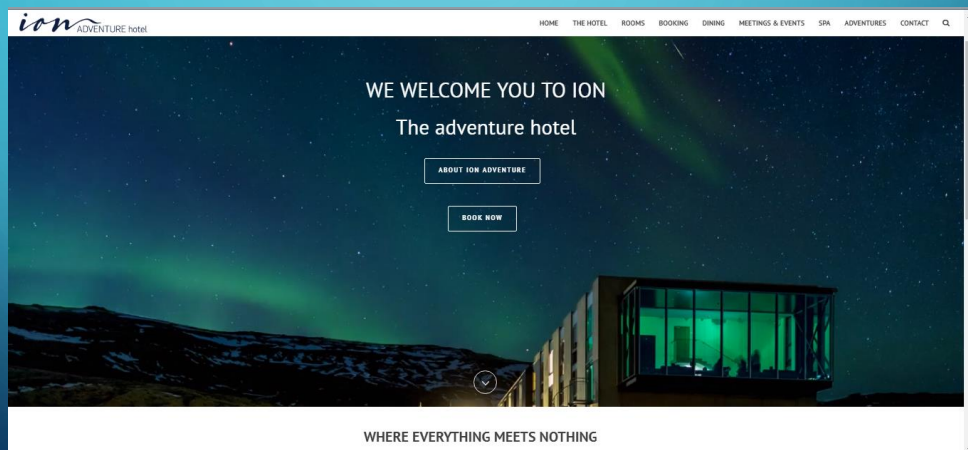


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3. CHALLENGES FOR TOURISM COMPANIES

BENCHMARKING ISLAND

Ion Adventure Hotel <https://ionadventure.ionice.land.is/>



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3. CHALLENGES FOR TOURISM COMPANIES

SNAP-SHORTS IN TOURISM BUSINESS CHALLENGES

- Push-marketing → pull-marketing (storytelling)
- Electronic-word-of-mouth (eWoM)
- User-generated content
- Social context mobile marketing (SoCoMo)
- Location-based social Network Marketing
- Real-time-marketing during real-time customer journey
- Infographics instead of text
- Immersive storytelling (360-videos, VR, AR)
- 24/7 digital availability & instant (late moment) booking
- Sharing economy (Uber, FB-groups etc.)

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PRESENTATION AGENDA

- 1. Background and megatrends**
- 2. Technological evolution**
- 3. Tourist digital mobile behavior**
- 4. Challenges for tourism companies**
- 5. Challenges for destinations**
- 6. Destinations of the future – smart destinations**

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4. CHALLENGES FOR DESTINATIONS

DIGITAL TRANSFORMATION OF DESTINATIONS

FIT smart mobile tourists

Mega Online Travel Retailer & Instant booking

Competition of SMART destinations

eWOM

Micro-targeting marketing



Virtual AI travel assistants

Cross-Selling by providers

Direct booking (Google, Facebook, etc.)

Anywhere-and-anytime availability

DMO-organization?

Frontstage

Backstage

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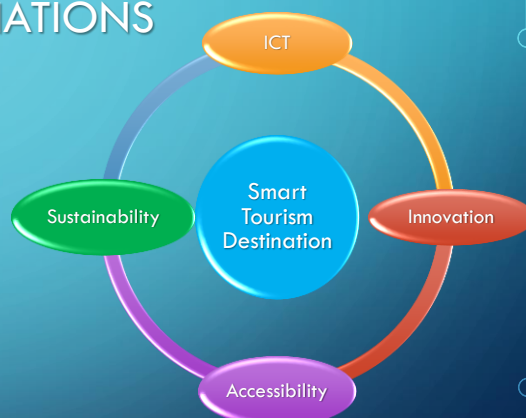
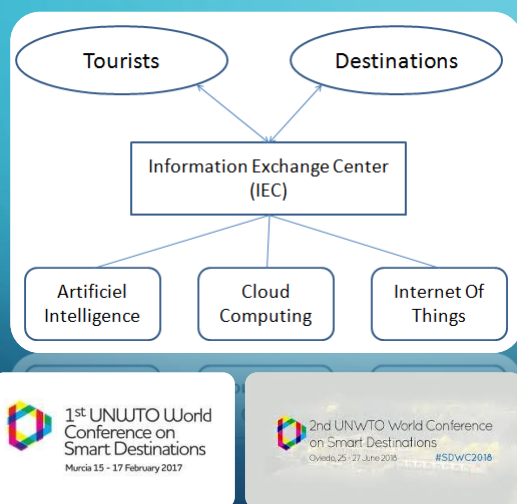
PRESENTATION AGENDA

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6. DESTINATIONS OF THE FUTURE – SMART DESTINATIONS

SMART DESTINATIONS



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6. DESTINATIONS OF THE FUTURE – SMART DESTINATIONS

SMART TOURISM

Based on cloud systems and IoT, SMART Tourism applies intelligent perception of tourism information, like tourist resources, tourism economy, tourism activities, and tourism participants “to realise the acquisition and adjustment of real-time tourism information through mobile Internet equipment”

SMART Tourism is reliant on four core information and communication technologies: **IoT, mobile communication, cloud computing and artificial intelligent technology.**

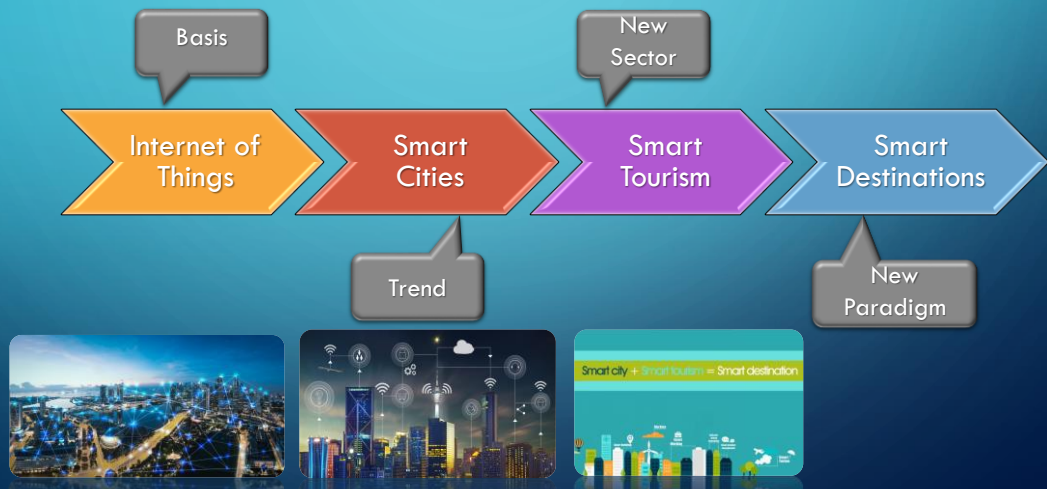
MacKay and Vogt, 2012; ChoandJang, 2008



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6. DESTINATIONS OF THE FUTURE – SMART DESTINATIONS

SMART TOURISM



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6. DESTINATIONS OF THE FUTURE – SMART DESTINATIONS

SMART TOURISM

The overall aim of smart tourism is to:

- enhance tourism experience,
- improve the efficiency of resource management
- maximise destination competitiveness,
- increase consumer satisfaction
- whilst implementing sustainability aspects to the destination.



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6. DESTINATIONS OF THE FUTURE – SMART DESTINATIONS

SMART TOURISM

- **Smart tourism tools** are a combination of **mobile hardware, software** and **network** that enable an **interactivity** between tourists, stakeholders, and physical objects.
- This **communication** allows tourists access to **personalized services** provided in **real-time information**.
- **The tracking and collection of Data** via these systems enables stakeholders to **manage destinations effectively and efficiently**.









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6. DESTINATIONS OF THE FUTURE – SMART DESTINATIONS

6 A'S OF A SMART DESTINATION

The 6's of Tourism Destination represent the different areas that can be considered as distinctive parts that form the smart tourism destination:

Symbol	Reference to 6 A's of tourism destinations (Buhalis, 2000 as cited in Buhalis et al., 2013)		
	Attractions: natural, cultural, etc...		Available Packages: Information services, etc...
	Accessibility: public transport, airports, etc...		Activities
	Amenities: Restaurants, Hotels, etc...		Ancillary Services: Hospitals, banks, etc...

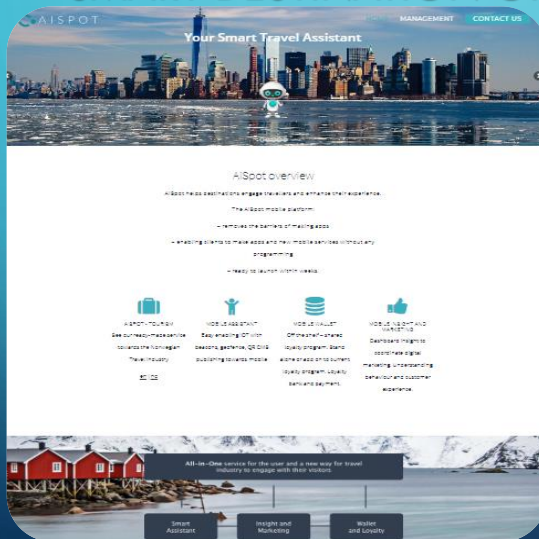
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6. DESTINATIONS OF THE FUTURE – SMART DESTINATIONS CHALLENGES

- The construction of a balanced system of **infrastructures, relations and values**.
- Any destination can become a **Smart Tourism Destination** by consisting of and involving the concepts of Soft and Hard SMARTness.
 - **Soft SMARTness:** collaboration, innovation, leadership (human capital)
 - **Hard SMARTness:** Technology and infrastructure (Heart of SMARTness)
- This means that destinations cannot simply embed technology into their environment and automatically believe it is smart,
- the Soft aspects refer to the human capital and the **smart** decisions that can be made based on the information gained through technical systems.

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6. DESTINATIONS OF THE FUTURE – SMART DESTINATIONS SMART DESTINATION ON THE MARKET



AISPOT mobile platform:

- AI system for smart destinations,
- developed in Norway

Provide the **right information at the right time** to tourists by allowing the use of IoT towards tourists, who will have a **mobile wallet travel assistance** for recommendations, activities, maps, booking and tickets, etc.

<https://aispot.no/>

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