

Smart tourism and digital transformation

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**Business
School**





What comes
to your mind when
you hear smart tourism?



Smart technologies?

- intelligent systems
- cloud computing
- linked data
- social networks
- the Internet of Things
- Mobile applications
- Machine learning
- Chat boxes
- Context-awareness of mobile systems
- Near Field Communication
 - Augmented Reality
 - Virtual Reality
 - Processors
 - Sensors
 - Big Data
 - Industrial Internet (devices, software analytics + cloud computing)

The smart bike scenario

What does SMART mean?

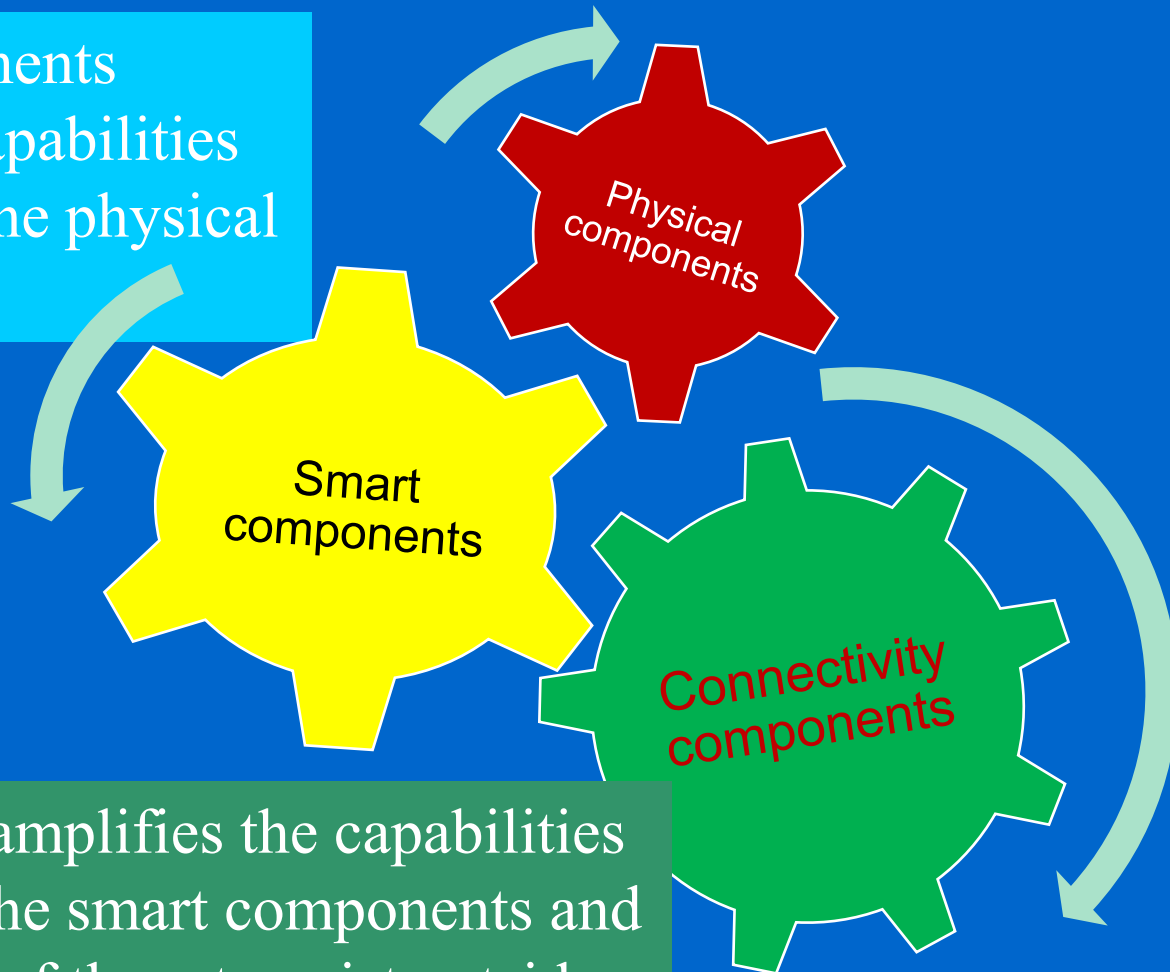
smart capabilities:

- intelligence
- connectivity
- autonomy: tech functioning with little or no human intervention
- technology as meaning capable of independent action (Oxford dictionary)

Building Smart Tourism Actors

(Porter & Keppelman, 2014)

Smart components amplify the capabilities and value of the physical components



Connectivity amplifies the capabilities and value of the smart components and enables some of them to exist outside the physical product itself

Capabilities of smart tourism actors

Monitoring

- **Sensors and external data enable monitoring of:**
- The resource condition
- The external environment
- Resource operation, capacity, usage
- Alerts, notification of changes

Control

- **Software embedded in the tourism resource or the cloud enables:**
- Control of tourism resource operations and functions
- Personalisation of user experience

Optimisation

- Monitor + control optimise resource operation and use in order to do:
- Improvements and real time quality management
- Predictive diagnostics and strategic planning

Autonomy

- **All the above allow:**
- Autonomous – self-operation of the resource
- Co-ordination with other smart resources and systems
- Autonomous resource enhancement and personalization
- self-diagnosis and re-regeneration

Smart is about everything !


The interconnection, synchronization and concerted use of networks, hardware, software, infoware and humanware to take real-time and pro-active optimal decisions
(Washburn et al. 2010; Harrison et al., 2010, Sigala, 2016)

Best London apps

<http://www.visitlondon.com/traveller-information/getting-around-london/london-maps-and-guides/apps#wejWlbDu3wRCVbMD.97>



Seoul City Tour Bus stops equipped with beacon technology that offer targeted information in four different languages

BUS

**The best tour in Seoul, since 2000**




HOME | JOIN | LOGIN | SEARCH | CONTACT


KOREAN JAPANESE CHINESE



Introduction Information Tour Message board Reservation Customer service

Seoul




**Quick Book**

KOR ENG JPN CHN

Bus Type : -- Select --

Course : -- Select --

Location : -- Select --

Date : 

Time : -- Select --


Adults : Students :

Book Now >>

Head Office in Gwanghwamun
02-777-6090

Seoul Station Office
02-336-6091

Pyeongchang Oly



Is beacon the smart tech?

Brisbane has recently mounted over 100 beacons onto points of interest to communicate information to tourists via a mobile app if they are within a certain radius of the location (<http://goo.gl/QidSOC>).

Amsterdam uses beacons to let tourist signs translate themselves into different languages

Amsterdam ArenA is testing sensors for better crowd management (<http://amsterdamsmartcity.com/>).



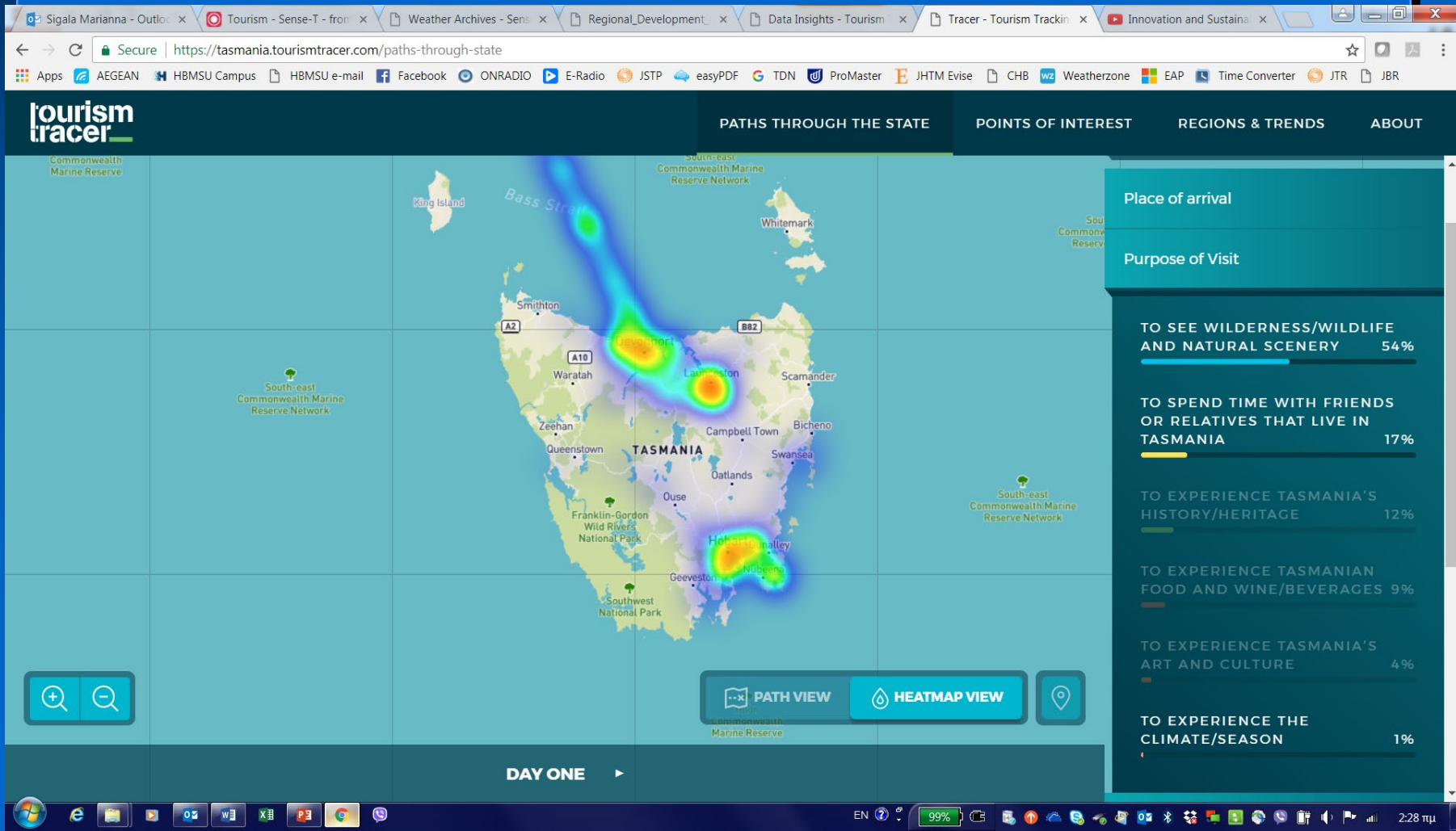
Or
do you think of
smart use of (big) data?



Discover how tourists behave in Tasmania

Launch

https://tasmania.tourismtracer.com/paths-through-state



Data Insights

We're learning more about how tourists behave every day. Check back regularly for insights into where tourists go and what impacts their behaviour.



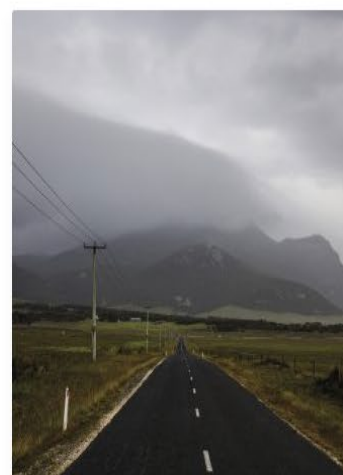
What's driving tourists in Tassie?

We have been busy analysing our data to work out what factors are



Tourists weathering it in Tasmania

On a fine day On a rainy day All
Tasmanians know that the weather
can be fickle in our beloved island



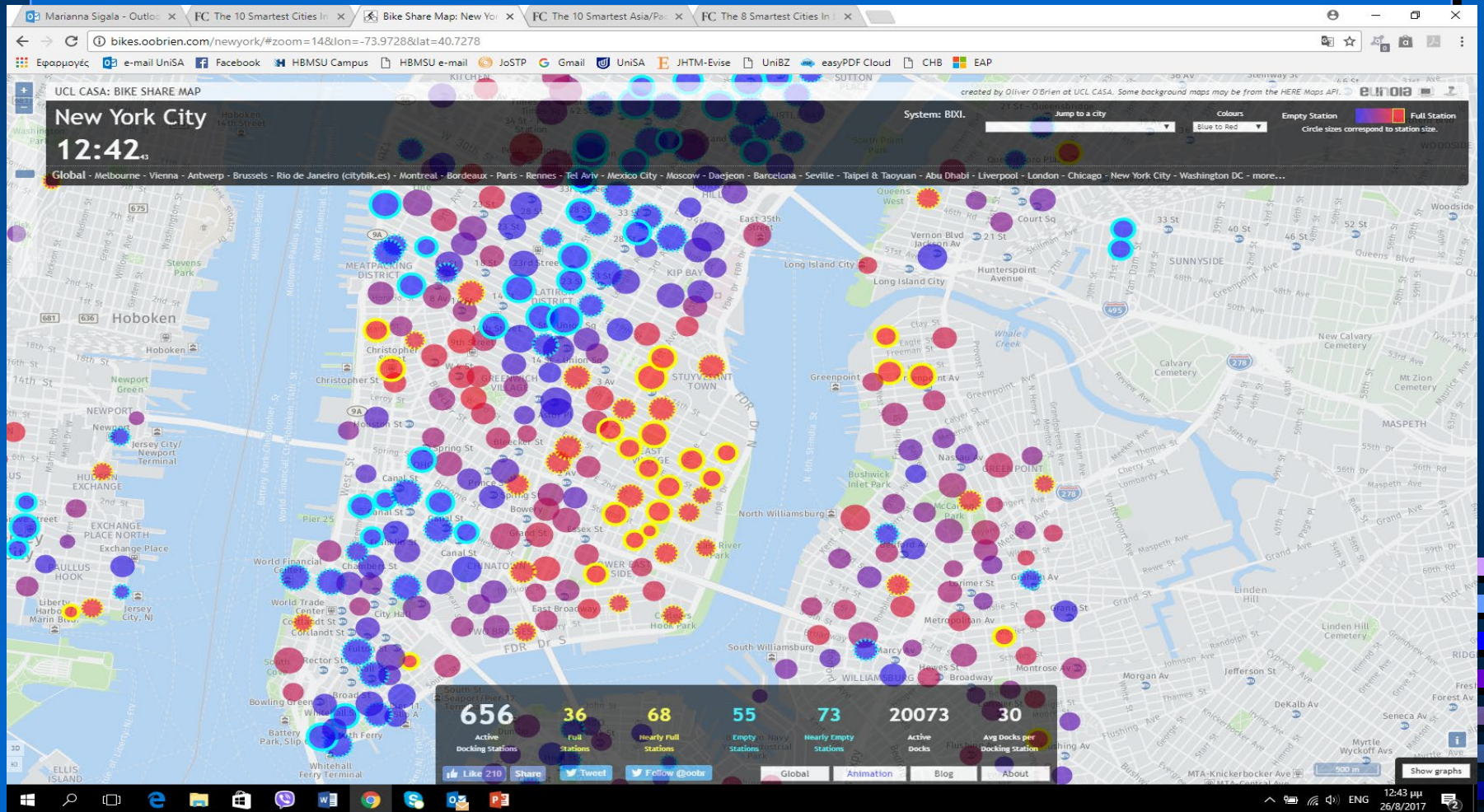
Tourists to Tassie travelling in the dark

The data that the visitor tracking project team has collected allows us to investigate tourist behaviour which



**Do you think of
smart tourism
applications?**

Bike share: smart mobility New York



Smart mobility:

digital map of Dublin buses

Real time traffic monitoring and management

Big Data streaming in from an array of sources – bus timetables, inductive-loop traffic detectors, and closed-circuit television cameras, GPS updates that each of the city's 1,000 buses transmits every 20 seconds

Predictive analytics:

Where should we add bus lines?

What are the optimum start times and start locations?

How can we take proactive steps to improve a traffic jam we know is about to occur?

Enhanced, personalized, meaningful experiences

- > Enrich experience with more information at attractions through the use of technology
- > Improve satisfaction with more activities as tourists now want to "do," not just "see"
- > Strengthen overall industry with more repeat visits and positive online reviews

Seamless Travel-transport

- > Improved nation-wide navigation system to encourage visit to under-explored destinations
- > Encourage longer stays as inter-region travels become easier
- > Optimisation of resources: smart parking, mobility sharing schemes

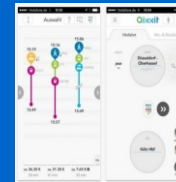
Smart Tourism Applications



Smart touchscreen wall



Virtual Reality



Integrated transport app



BIKE sharing



Translation app

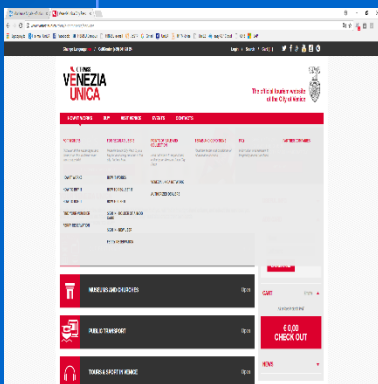
Convenient planning, booking, payment

- > Increase spending with more payment options
- > Allow attractions to develop more chargeable activities with facilitated payment
- > Improve personalisation, safety and convenience of tourists— e.g. less need to carry cash

Digital payment options incl. NFC



SoCoMo planning & booking



Destination smart cards

Fuorirotta Off - course



Detourism - Turismo Sostenibile Città di Venezia /Sustainable Tourism - City of Venice

Venice, Italy

Sustainable Tourism - City of Venice Official profile

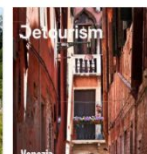
DETOURISM Web Magazine offers travel tips for a Sustainable Venice and suggests what to see and where to go in Venice to get a more local look at the city.

www.veneziaunica.it/it/content/detourism-venezia

PUBLICATIONS (39)

TRACKS (2)

FOLLOWERS (250)



www.veneziaunica.it/en/content/fuorirotta-other-map-venice

Official City Pass
DISCOVER HOW TO BUY IT

BUY NOW

HOME > VISIT VENICE > DETOURISM > FUORIROTTA: THE OTHER MAP OF VENICE

Fuorirotta: the other map of Venice



Fuorirotta ("Off-course" i.e. "Detour") is a guide for responsible, eco-friendly and ethical travel in the lagoon. Discover the "other" Venice: farmers' markets, craftsmen's and fair trade shops, secondhand shops, green parks, organic and zero miles food. "Fuorirotta - The other map of Venice" takes the visitor to the historic city, the islands, and also to the mainland at Mestre and Marghera. Simply download "Fuorirotta", and get around in the city and discover eco-friendly, cultural and local-oriented initiatives, enjoy parks and natural areas, eat organic and zero miles food, shop in craftsmen's and fair trade shops.



The map shows also parks and nature reserves and the public gondolas which cross the Grand Canal. The map includes an eco-etiquette which contains useful advice for tourists: visit the city on foot, choose the least busy periods, be careful not to drag your trolley on the bridges because it can damage the steps and don't impose others with your backpack on a vaporetto or in narrow streets, when there is high water or when walking on the footbridges.

And so the curious tourist is invited to make his or her own unique trip of discovery, following the fountains, from which spring water of excellent quality, in the streets and in the squares: the map encourages the **use of public water and the re-use of one's own bottles** in order to minimise environmental impact. Copies of the map are available at the indicated locations and online (www.comune.venezia.it/fuorirotta).

This is a project of the City of Venice in collaboration with the non-profit association **AEtes-Venezia** for Altraeconomia. For more information, write to fuorirotta@comune.venezia.it

The Fuorirotta map is part of the **DETOURISM project**, which invites you to discover the most authentic and unusual places in Venice, through a special series of thematic maps of the city and its lagoon. **DETOURISM** is an invitation to a different way of travelling, for all those who love to leave the beaten track and the usual touristy places, in search of the most original, unusual and secret aspects of the city.

[See the online map](#)

USEFUL INFO

ADD CARD

Name

Last name

CREATE CARD

CART

Empty

All prices include VAT

€ 0,00
CHECK OUT

NEWS

https://www.google.com/maps/d/viewer?mid=11Eoa6n4uTXvqghWYFILNNoSY&ll=45.4505614002337962C12.311672430843828&z=14

Fuori Rotta

Taltra mappa di Venezia
217.883 πποβολαές
ΚΟΙΝΩΝΙΟΤΗΤΗ

Categorie

- Artigianato "Made in Venice" - Made in Veni...
- Prodotti bio & equo solidali - Organic & fair...
- Cultura della sostenibilità - Culture of Susta...
- Riciclo & Riuso - Recycling & Re-use
- Mercati bio & solidali - Organic & Fair Trade...
- Parchi e aree naturali - Parks and nature re...
- Turismo sostenibile - Sustainable tourism
- Ristori Bio & Solidali - Organic & fair trade f...
- Aziende agricole bio & a Km zero - Organic ...
- Gruppi di acquisto solidale - Ethical purch...
- Distributori di latte crudo - Raw milk vendin...
- Finanza etica - Ethical finance
- Inserimento lavorativo di soggetti svantaggi...

Fontanelle pubbliche

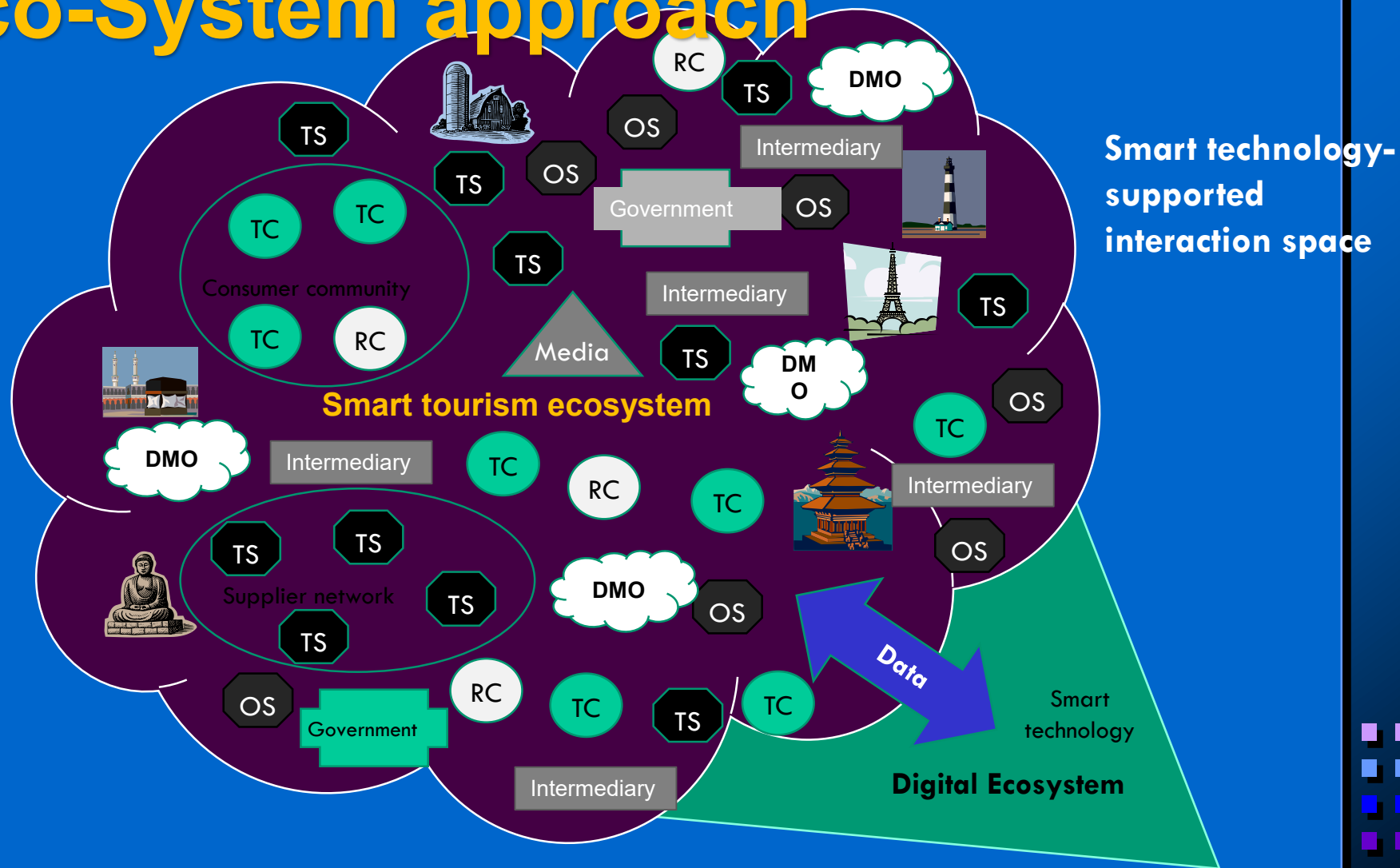
- fontanelle pubbliche

DeTourism

Gretzel, Sigala & Koo, 2015

smart tourism is defined as tourism supported by integrated efforts at a destination to collect, aggregate and harness data derived from physical infrastructure, social connections, government/organizational sources and human bodies/minds in combination with the use of advanced technologies to transform that data into on-site experiences and business value-propositions with a clear focus on efficiency, sustainability and experience enrichment.

Smart Tourism: Eco-System approach



(Gretzel et al., 2015; Beritelli et al. 2007, 2014,
Baggio and Del Chiappa 2013, 2014)


SMART TOURISM: a SDL approach

Smart INPUTS

Smart Co-creation processes & platforms

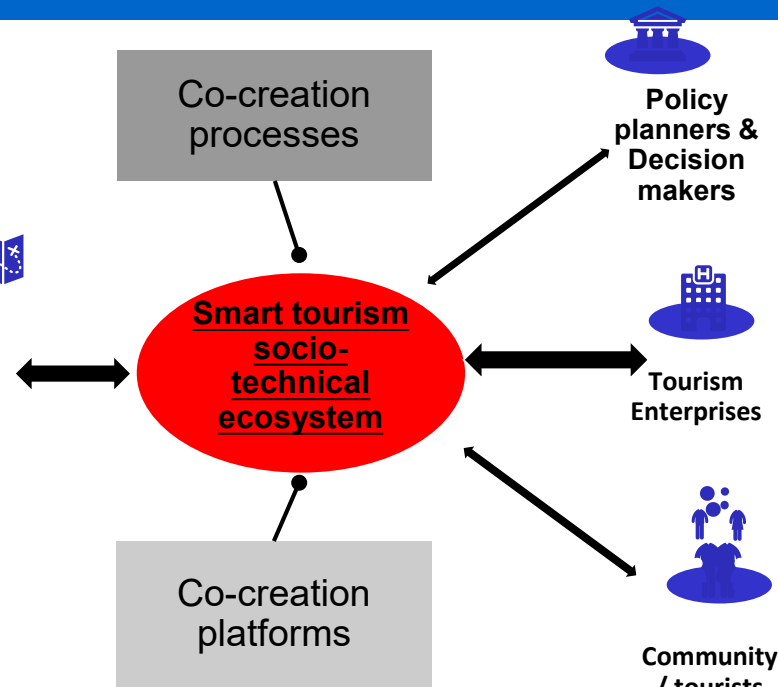
Smart OUTPUTS

PESTEL environment

Smart tourism
technological agents,
e.g. robots, chat-box 

Smart tourism
actors 

Smart tourism
resources 



SMART GOV

Set data-driven policies & strategies e.g. tourism areas zoning, pollution control, products classification

SMART BUSINESS

Improve ability to tailor products & services using analytics to match tourists preferences/ cultural needs

SMART PEOPLE

Improve social inclusion and wealth distribution
Quality of life
Well – being
Enhanced/enriched, high-value, meaningful and sustainable experiences

Decomposing definitions

inputs

- Real time data
- Technology infrastructure and tools
- Stakeholders

outputs

- Urban efficiency, development – planning
- Efficient and effective use of resources
- Destination competitiveness and sustainability
- Effectiveness communication - marketing
- Tourism experiences: meaningful, context and big data driven, technology augmented
- Quality of life

processes

- Interactions and interconnections
- Co-creation
- Knowledge exchanges – sharing

E-Tourism Vs Smart Tourism

	e-Tourism	Smart Tourism
Focus-objects	connected actors, tourism resources	connected, intelligent, autonomous smart actors – tourism resources
Sphere	digital	bridging digital & physical
Core technology	websites	Software+hardware+netware+huma nware+infoware Synergies more than the sum !
Travel phase	pre- & post-travel	during trip, seamless experience
Lifeblood	information	big data, machine learning
Paradigm	interactivity	technology-mediated value co- formation
Structure	value chain/intermediaries	ecosystem
Exchange	B2B, B2C, C2C	public-private-consumer collaboration, tech agents
Value	economic	economic, socio-cultural, environmental

Smart tourism

FROM

Multi-disciplinary
innovation

TO

Anti-disciplinary
creative space with
disruptive innovation

THANK YOU !

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