



FLAVOURS of EUROPE

Welcome!



Hello everyone! I introduce myself. I'm Jana. I'm going to accompany you throughout this course with some ideas, tips and comments, with the aim of helping you to complete the course successfully.

Remember a few things beforehand:

- Each module is divided into units. At the end of each unit you will be able to complete your self-assessment questionnaire in order to move on to the next phase.
- Along with the material of each module, there are several supplementary materials to improve your knowledge of each topic:
 - **Links of interest.** Websites where you can go to complete your information.
 - **Additional info.** Some boxes that will appear in the text to clarify some ideas, concepts, definitions...
 - **Case studies.** The best experiences to help you have a practical vision of each of the topics.
- We are at your disposal to help you in everything you need during this learning process.



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Training Toolkit Module #3

10 steps for Digitalization
of the Gastronomy
Cultural Heritage

UNITS

Introduction.

1. How to digitalize and promote the identity of cultural heritage rural gastronomy.
2. The development of digital marketing skills among the stakeholders.
3. Communicate heritage through digital and experiential storytelling.
4. Identification and digitalization of Ethno-diversity and Biodiversity in Rural Areas.
5. The Role of Intelligent Digital Platforms.
6. How to create Data base of national and European recipe inventory.
7. How to digitalize a rural gastronomic business.

Conclusion.



Let's Start

UNITS

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INTRODUCTION

Gastronomy tourism is, according to the UNWTO, **“a type of tourism activity characterized by the visitors' experience linked with food and related products and activities while traveling, including authentic, traditional, and / or innovative culinary experience”**.

This type of tourism is based on gastronomic heritage, and surprisingly it was not fully recognized until 2010, when UNESCO included in the intangible cultural heritage list the traditional cuisine of Mexico, gastronomic dining in French, and a gingerbread craft from Northern Croatia .

The intangible cultural heritage includes traditions living expressions inherited from our ancestors and passed on to our descendants, such as oral traditions, performing arts, social practices, rituals, festive events, knowledge and practices related to nature and the universe, or the skills needed to produce traditional crafts.

Gastronomy is the element that connects a place's identity, the historical characteristics and the heritage. It is the point of connection between tradition and modernity, between the specific and the universal.

Being part of history, culture, identity, economy and social life, the gastronomic heritage together with tourism can be the key point to revitalize the economy of a region..





INTRODUCTION.

Traditional cuisine is a cultural element that largely marks the identity and uniqueness of tourist destinations, and the marketing and management organizations of the destination are increasingly interested in highlighting the influence of gastronomic tourism as a primary factor in the development of tourism. And this is where the digital factor comes in, as an adjunct in promoting this heritage in the most original way possible.

Digitalization is an increasingly widespread key concept in any field.

Digitalization basically means the transformation of analog information and processes into a digital form.

If we refer to food in a broad sense, over time the digital transformation has strongly impacted food processing in the sense of increasing productivity, diversification, safety and shelf life.

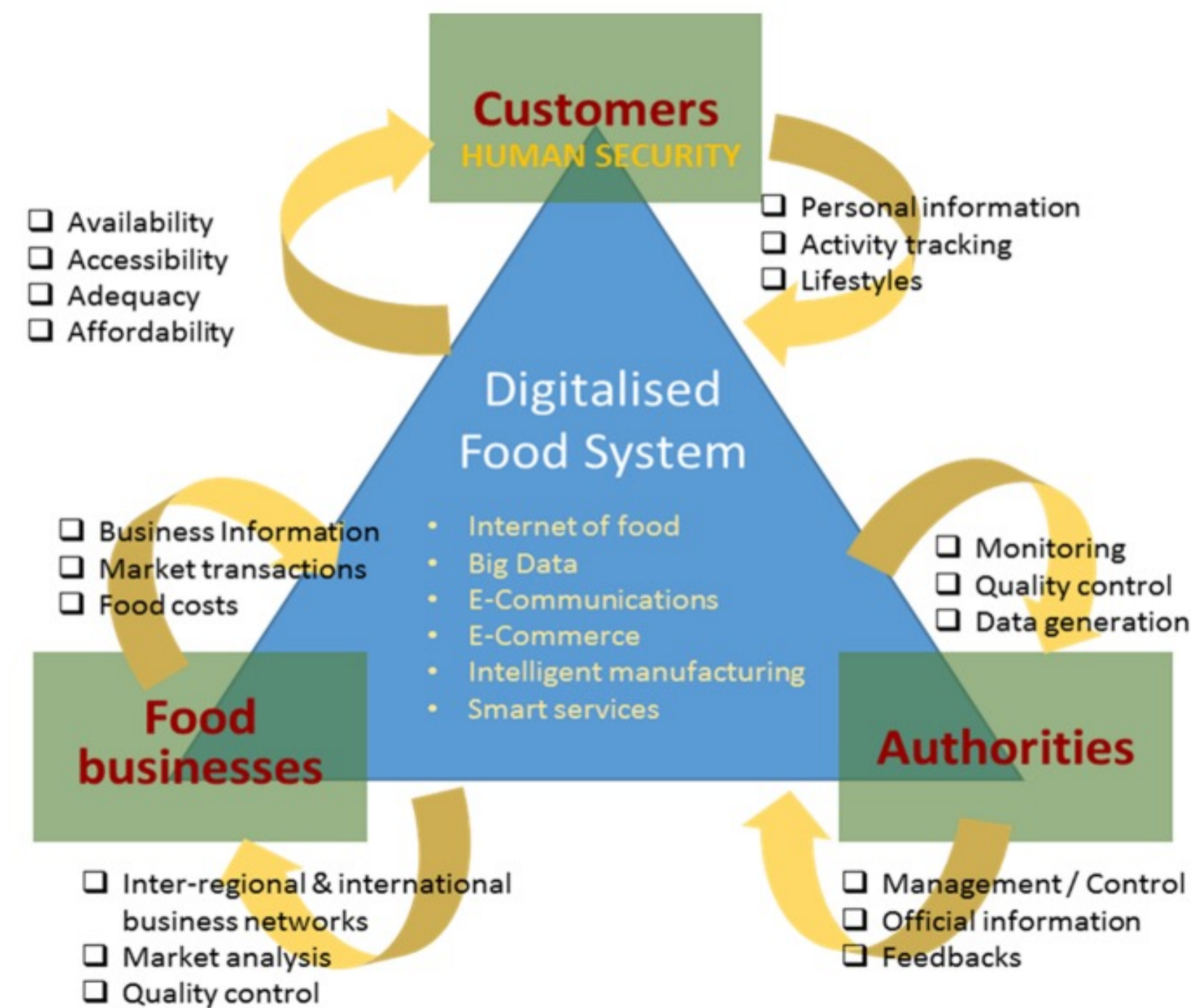


Figure 1 An overlapping relationship within a digitalized food system (Raheem, 2019)





INTRODUCTION.

Recently, this has started to have greater implications in gastronomy and tourism, which helps the development of faster and more transparent services, and through which traditional ways of food supply can be added.

The digital period in which we live generates more and more opportunities for the entrepreneurial environment, by digital solutions that can activate resources that before were not directly related to food and tourism.

In order to realize how digitalization can be used in the transformation of gastronomic tourism, the main attention must be directed towards understanding the properties of digitization within the perspective of the data used, infrastructure, communication channels and digital products. This allows the correct understanding of the changes that digitization brings to tourism and the delivery of tourist services and experiences.



The correct questions that can be asked about the influence of technology in gastronomic tourism are how it is done, when it is implemented and how it changes the relationship between business and consumption.



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UNIT 1

How to digitalize and promote the identity of cultural heritage rural gastronomy.

In this unit, you will learn about the digitalization process and how, through this process, you can promote the cultural heritage of your rural gastronomy.

The creation, in 2010, of the UNESCO's Intangible Cultural Heritage list have started the focus on food and culinary cultures as identity markers and on how the gastronomy can foster the economic, political, and social empowerment of local communities (Zocchi, Corvo, 2021).

This phenomenon is called by some experts "**heritage turn**", this term is defining the link between the identity crisis and how food is filling a heritage gap by promoting the local agriculture resources and food tourism.

When talking about sustainability, the food system is one of the key aspects to be taken into account. The current discussion explores more and more how the heritage enhance the sustainability of the food system and how the local communities are contributing to safeguarding the traditional food resources and what tools do they need to preserve this type of heritage.



Did you know
that...?



Food heritagization "**refers to the transformation of food, places and practices into cultural heritage as values attached to them, essentially describing heritage as a process**"

(Sjöholm J, 2016).



UNIT 1

How to digitalize and
promote the identity
of cultural heritage
rural gastronomy.

In the area of cultural food heritage, each community can be distinguished by its knowledge gained over time. This knowledge results from the interaction with the environment and living conditions, many of them with a proven scientific basis (Bergflødt et al. 2012). It is transmitted from generation to generation and represents the result of a historical process referring to the use of resources. In this way, the rediscovery of those resources includes the idea of progress (Cannarella and Piccioni 2011, Handayani and Prawito 2009).

In recent years, the digital transformation has generally changed the demand and supply, offering increasing interaction and the internet has become a crucial marketing tool.

Digitalization has changed the way people interact with each other, but at the same time is a process that added value to the challenges of services innovations.





UNIT 1

How to digitalize and promote the identity of cultural heritage rural gastronomy.

The digital properties that include helpful elements to enhance the gastronomic heritage are as it follows:

- The programmability and self-referential nature of the data, which offers increased automation potential;
- Digital connectivity (wireless, wired, satellite technologies), the infrastructure that is the engine of communication and mobility;
- Omnipresence, so that through technology we can be present in several places at once, and the services can be accessed from any place, from any device, almost at any time;
- Digital modularity, which allows the reconfiguration of elements along industries and the value chain to lead to new business models that are as sustainable as possible;
- Digital visibility, especially through social media that transforms communication, socialization and the power of information distribution;
- Personalization, so that the experimenter has the possibility to tailor his products and services according to his own preferences and values through digital features.

Remember:



The digitization of gastronomic tourism aims to promote the gastronomic heritage by providing to visitors' authentic experiences, using new technologies . So before applying digital elements, it is important to know the motivation of visitors/tourists towards culinary experiences.





UNIT 1

How to digitalize and
promote the identity
of cultural heritage
rural gastronomy.

In order to explain tourists' behavior to taste local food and beverages, Kim and Eves developed a motivational scale composed of five motivational dimensions, generated by 26 items. The five motivational dimensions were cultural experience, excitement, interpersonal relation, sensory appeal and health concern.

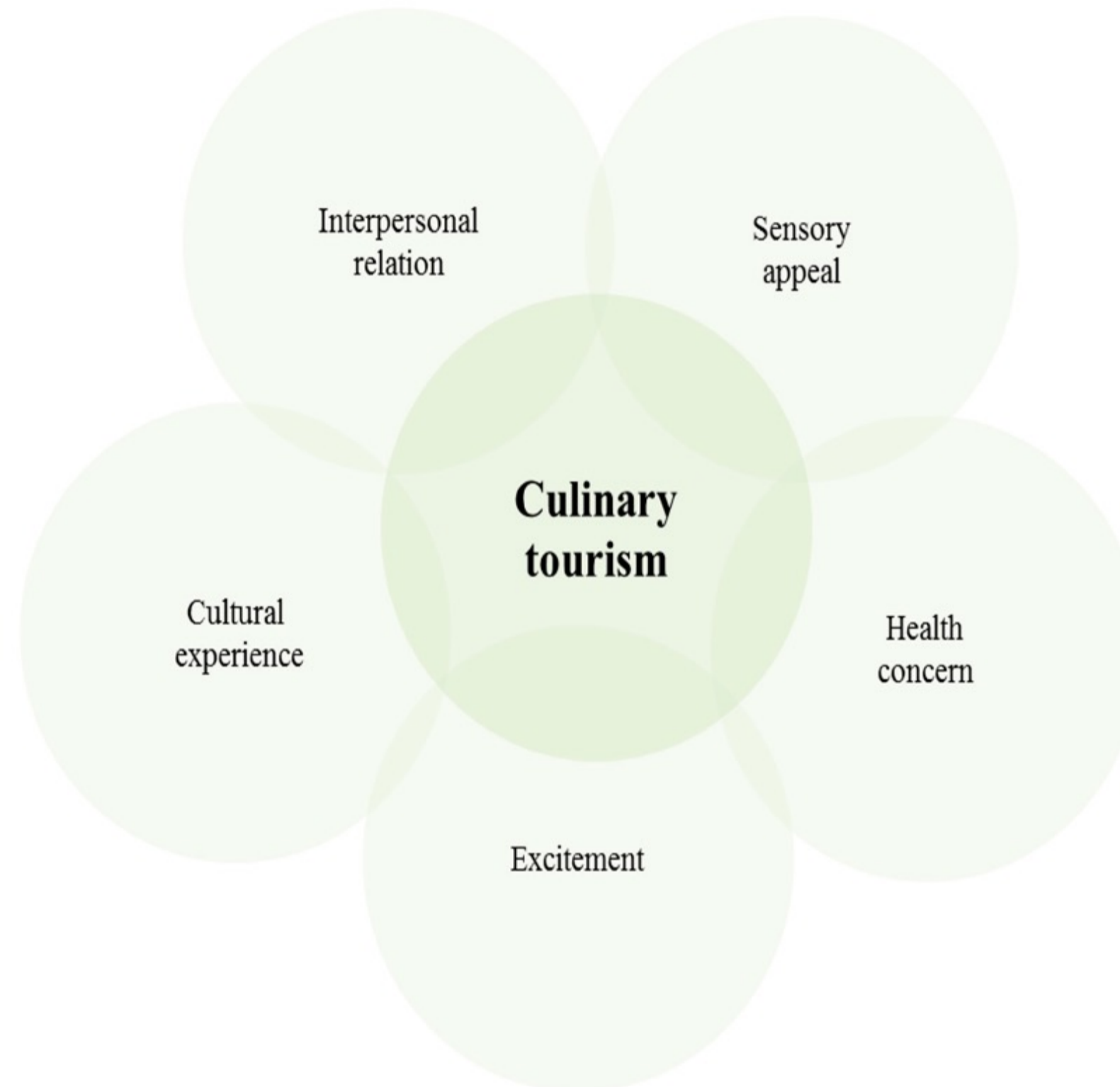


Figure 2 The five motivational factors of Kim and Eves' motivational scale (Kim, 2012)





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UNIT 1

How to digitalize and promote the identity of cultural heritage rural gastronomy.

In particular, **cultural experience** is associated to the tourists' desire to experience different cultures, since experiencing new foods and dishes means also experiencing new cultures.

Excitement dimension is related to the need to practice exciting experiences during holiday, also associated with the need to escape from routine.

The third dimension identified was **interpersonal relation**, which is seen as a desire to meet new people, spend time with friends and family and get away from routine relationship.

Culinary tourism is also seen as a sensory experience. **Sensory appeal** is, in fact, the fourth dimension and it is related to the sensory characteristics of food that can play an important role in culinary tourist' choices.

Health concerns is the fifth motivational dimension affecting local food and beverages consumption in touristic destinations.



UNIT 1

How to digitalize and promote the identity of cultural heritage rural gastronomy.

Unit 1

Self-correction questions

Please, indicate the correct answer

QUESTION 1

What is gastronomy tourism?

- a) It's when tourists visit a place in order to eat local food.
- b) It's the type of tourism which promotes the local cuisine of a place.
- c) The type of tourism which is characterized by the visitors' experience linked with food and related products and activities while traveling, including authentic, traditional, and / or innovative culinary experience.
- d) It's the type of tourism where tourists stay in places which produce local food.

QUESTION 2

What is the aim of the digitization of gastronomic tourism?

- a) The aim of this type of tourism is to make the gastronomy of rural places become more famous to tourists with the support of digital sources.
- b) The promotion of the gastronomic heritage by providing to visitors' authentic experiences, using new technologies.
- c) To make tourists and, especially, rural natives become more familiar with the use of digital media.
- d) None of the above statements is correct.

QUESTION 3

What is essential in order to enhance the gastronomic heritage through digital sources?

- a) Digital connectivity.
- b) Digital visibility.
- c) Personalization.
- d) All the above.

QUESTION 4

Experiencing new food and dishes can be attributed to cultural experience.

- a) True
- b) False

LINKS OF INTEREST



<https://www.youtube.com/watch?v=tqJRC0IHN5o>



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UNIT 2

The development of digital marketing skills among the stakeholders.

In this short unit, we will look at the digital marketing skills that stakeholders need to develop.

Marketing competencies and investments are necessary to highlight heritage products.

Heritage producers, particularly if they are smaller size, find it difficult to adopt heritage-sensitive marketing strategies





UNIT 2

The development of
digital marketing skills
among the stakeholders

Typical challenges are as it follows:

- Lack of digital competencies;
- Insufficient funds allocated to market investments;
- Digital divide issues that prevent access to digital opportunities;
- Perception of digital technologies as useful for larger enterprises but not for small producers or artisanal food products;
- Ideological preclusions to the adoption of marketing understood as a 'capitalistic' management philosophy and set of techniques aiming to stimulate over-consumption.

Heritage producers, and their collective organizations, should therefore:

- Invest to develop their digital skills. This can happen through the formal training, opportunities offered by learning institutions or other relevant actors;
- Develop their online presence. Social media have a very little barriers to entry and can be set up at virtual no cost. The other advantage is that they can often generate user-generated content and word-of-mouth, particularly if consumers are stimulated to do so. Online presence constitutes a valuable individual marketing investment that producers can employ for their heritage storytelling;
- Adopt ingredient branding strategies, a promotional approach where producers of raw materials or intermediate products advertise directly to consumers so that consumers will perceive end products incorporating these ingredients as of high quality.





UNIT 2

The development of
digital marketing skills
among the stakeholders

Unit 2

Self-correction questions

Please, indicate the correct answer

QUESTION 1

Marketing competencies and investments are necessary to highlight heritage products

- a) True
- b) False

QUESTION 2

All heritage producers can adopt a heritage-sensitive marketing strategy.

- a) True
- b) False

QUESTION 3

What are the challenges when it comes to the development of digital marketing competences?

- a) Lack of digital skills
- b) No expertise in marketing skills
- c) Lack of sufficient investments
- d) All the above.

QUESTION 4

What should heritage producers do in order to develop their digital marketing skills?

- a) Invest on digital marketing training courses
- b) They can't do something because it is difficult to invest on both digital and marketing competences since they lack both – it is going to take a lot of time
- c) Get familiar with the use of social media
- d) Adopt an ingredient brand strategy

LINKS OF INTEREST



<https://www.youtube.com/watch?v=bixR-KIJKYM>



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UNIT 3

Communicate heritage through digital and experiential storytelling.

In this unit we are going to learn how we can communicate our heritage through digital and experiential storytelling.

Storytelling is an effective promotional tool to connect with consumers. Digital storytelling, in particular, is a cost-effective way to engage with online publics and followers and permits to engage with the younger generations of **“digital natives”**. It also allows the possibility to use consumer-generated stories and content for promotional reasons.





Typical challenges and difficulties in mediated storytelling areas as follows:

- Digital storytelling requires the production of high-quality media content and local stakeholders often lack the time and skills to produce a high-quality content with a storytelling logic;
- Professionals from outside areas might have limited awareness of an area's food heritage;
- Local producers often do not establish websites and social media channels or do not have the skills and time to animate the latter with continuity or react quickly to consumer online interactions.

Local producers should therefore:

- Adopt a narrative approach to labelling;
- Upgrade their digital promotion and storytelling skills and investments. They should establish a social media presence to share in a favorable manner the online conversation about their products. When dealing with a non-local experts in these fields, they should feed them enough information on the local culture and traditions, and ensure that messages diffused to tourists and non-local clients remain authentic and culturally resonant with locals;
- Carefully design opportunities for the creation of user-generated content. The local producers could assess all existing touchpoint with consumers in terms of visual opportunity they for **“Instagrammable”** moments or create new ones with this logic. To benefit from user-generated content, heritage producers should also communicate their official social media and preferred hashtags.





Transition from cultural heritage to digital heritage.

Transforming cultural heritage into digital heritage and preserving it and making it sustainable by conveying it to future generations, are of great importance for the economic development.

Digital heritage is composed of by computer-based materials with a lasting value that should be preserved for future generations. In fact, while the digitization of cultural heritage ensures the preservation of original documents and materials, it enables equal access to this heritage by everyone. Digitization prevents especially rare written works, pictures, video–audio recordings and documents from abrasion and being lost, and also makes an important contribution to cultural tourism by enabling visitors to access these materials at any time and place.



The technological infrastructure should be developed first to prevent possible deficiencies in terms of technology, internet, and management when transferring cultural elements to digital environment.



Transition from cultural heritage to digital heritage.

Digitization makes it easy for the potential guests to access information in choosing destination and product.

This is because contemporary tourists also want to experience heritage in the context of creative tourism. The creative tourism mentioned here “is the type of tourism that provides the visitors with the opportunity to develop their creative potentials through active participation in courses and learning experiences which are a characteristic of the holiday destination they are visiting”. Experiencing the intangible cultural heritage of the country, such as cuisine, music, social life, etc., which are digitized and can be seen over the internet to ensure the preservation and sustainability of cultural tourism, is a preference for many tourists.





UNIT 3

Communicate
heritage through
digital and experiential
storytelling.

Unit 3

Self-correction questions

Please, indicate the correct answer

QUESTION 1

Digital storytelling is a cost-effective way to engage with online publics and followers and permits to engage with the younger generations of 'digital natives'.

- a) True
- b) False

QUESTION 2

What is digital heritage?

- a) All the digital tools, such as computers, tablets etc.
- b) It is composed of by computer-based materials with a lasting value that should be preserved for future generations
- c) Old digital sources which have a great cost-value
- d) There is no such thing.

QUESTION 3

What is creative tourism?

- a) It's the type of tourism in which you participate in art events that enhance your creativity.
- b) It provides the opportunity to develop your creativity through active participation in courses and learning experiences which are a characteristic of a holiday destination.
- c) It's the type of tourism that artists choose to do
- d) None of the above

QUESTION 4

Digitization makes it easy for the potential guests to access information in choosing destination and product.

- a) True
- b) False

LINKS OF INTEREST



[https://www.youtube.com/watch?v=3x77U2U8U](https://www.youtube.com/watch?v=3x77U2U8URQ)

[RQ](https://www.youtube.com/watch?v=3x77U2U8URQ)



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UNIT 4

Identification and digitalization of Ethno-diversity and Biodiversity in Rural Areas.

In this unit, you will get to know how you can identify the ethno-diversity and the biodiversity in your rural area in order to digitalize them.

In international policy circles it is increasingly recognized that the conservation of biological diversity is integrally related to the preservation of cultural diversity and that local communities hold traditional ecological knowledge of great potential value and importance in global efforts to achieve sustainable development objectives and this is how digital technologies have a significant role in facilitating the preservation of this cultural diversity.



Did you know that...?



Digital technology is widely used for biodiversity preservation purposes and many state and NGO initiatives are underway to develop electronic storage and communications media.





As rural communities experience shrinking populations, those who remain face a host of social and economic issues. But by increasing their access to technology, some of these problems can be alleviated and vulnerable communities protected.

Rural digitalization involves using advanced digital technologies to strengthen the economic and social fabric of rural populations, ultimately providing them with more opportunities to lead connected lives. These technologies take many forms — from agricultural innovations to solar-powered lighting systems — yet they all address the same bottom line: People shouldn't be moving from the countryside out of necessity. Many families have cultural and historical connections to their rural locations, and digitalization ensures they can remain there without compromising their quality of life.

Did you know that...?



In the E.U., the implementation of the world's largest research and innovation programs — Horizon 2020 — resulted in many projects that aim to secure European global competitiveness. For example, DESIRA has focused specifically on assessing the impacts of digitalization, laying out seven guiding principles to aid Europe in achieving rural digitalization by 2040. Among these principles is the implementation of policies promoting digital inclusion. In the process of rural digitization, some rural areas could be left out, resulting in a growing digital divide and uneven development. To prevent this, DESIRA affirms that European governments are responsible for ensuring people aren't disadvantaged based on their location, which governments should universally adopt when it comes to rural digitalization.





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UNIT 4
Identification and digitalization of Ethno-diversity and Biodiversity in Rural Areas.

Alongside improving rural infrastructure, using renewable energy resources, and incorporating communication technology in agricultural industries, digitalization especially provides better opportunities for young girls. Improving women's educational opportunities through school digitalization is perhaps one of the best methods of empowering girls, as it provides them with new, refreshing perspectives on the world they live in.

Digital solutions have already proven to be extremely useful in monitoring biodiversity worldwide for decades. Going forward, technologies such as artificial intelligence (AI) and the Internet of things can further improve the data management needed for monitoring, decision-making and law enforcement. They can also help green human activities, raise awareness about biodiversity-related challenges and encourage citizens to support necessary measures



Biodiversity is deteriorating rapidly in Europe and across the globe. There is, however, enormous untapped potential in the use of data and digital solutions to protect our natural resources.





UNIT 4

Identification and digitalization of Ethno-diversity and Biodiversity in Rural Areas.

Unit 4

Self-correction questions

Please, indicate the correct answer

QUESTION 1

Improving women's educational opportunities through school digitalization is one of the best methods of empowering girls.

- a) True
- b) False

QUESTION 2

What are the advantages of rural digitalization?

- a) There are no real disadvantages; digitalization will affect rural tourism as more people will move from their home place
- b) It strengthens the economic and social fabric of rural populations
- c) It makes local people become more digitally fluent
- d) It installs renewable energy resources

QUESTION 3

How new technologies help in the preservation of the biodiversity?

- a) They raise awareness about the challenges of biodiversity
- b) They encourage citizens to support necessary measures
- c) They encourage green human activities
- d) All the above

QUESTION 4

Digitalization should ensure that rural people can remain in their hometown without compromising their quality of life

- a) True
- b) False

LINKS OF INTEREST



<https://www.youtube.com/watch?v=KBSOoQWhfzk>



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UNIT 5

The Role of Intelligent Digital Platforms.

As you have seen in previous sections, digital technologies play an important role in our days and, especially, when it comes to business.

In this unit, you will learn about the role of intelligent digital platforms.





The digital platforms are a facilitator between the consumers who want a personalized experience and the local initiatives by exchanging information, giving visibility, promoting the gastronomic resources, sharing data, generating economic benefits for local entrepreneurs, integrating digital technologies in the organizational context, enabling real-time database updates and valuing creation factor.

The Intelligent Digital Platforms are able to:

- Articulates the innovation propellers;
- Provides specialized information;
- Enhance the visibility of gastronomic resources;
- Absorbs and designs experiences;
- Articulates the actors of rural communities.

Innovation aspects	Usability and functions
Community	<ol style="list-style-type: none"> 1. Enhance of rural 2. Marketing of gastronomic services 3. Management of business formation 4. Direct communication with the visitors
Use for visitors	<ol style="list-style-type: none"> 1. Centralizes information 2. Direct communication with the rural community 3. Initial experience through the platform 4. Visibility over the gastronomic resources and services

Remember: *To create a database of recipes, the framework used should be similar to that of an intelligent digital platform.*



Figure 3 Usability and main functions of an Intelligent Digital Platform





Key areas of an Intelligence Digital Platform

- a) Value proposition:** This is how a geographical area brings out its cultural and gastronomic identity. The value proposition is based on offering comprehensive services by taking care of the environment and respecting cultural diversity.
- b) Key partners:** creating network of reliable and efficient partners. An extensive list of elements must be considered during the process of choosing strategic partners, such as linking to the value proposition, selection criteria, and developing a win-win relationship.
- c) Key resources:** primarily the tools to put the key activities into practice such as internet access, use of mobile apps or travel planners. The information would be stored in a data base so that data analysis can be carried out later for strategic planning
- d) Visitors Relationship:** a community is established around its products and services, and this helps to provide personalized experiences by the platform and social media.
- e) Channels:** elements that define how the heritage promoted will reach the visitors and convey the value propositions broadly and efficiently.
- f) Visitors Segments:** the target visitor segment is determined based on information obtained from studies, based on demographic parameters, activities, social class, lifestyle etc. The platform will be integrated by the local actors where the potential visitors are identified.



Key areas of an Intelligence Digital Platform

Key partners	Key activities	Key resources
<ul style="list-style-type: none"> ▪ Local entrepreneurs (craftsmen, farmers, owner of accommodation units, cooks etc.) ▪ External companies (travel agencies, tourism boards, marketing companies etc.) ▪ Transport companies ▪ Community managers ▪ Digital influencers ▪ Service providers ▪ Local governments / authorities ▪ Cultural institutions / NGOs <ul style="list-style-type: none"> ▪ Researchers 	<ul style="list-style-type: none"> ▪ Web development and management; ▪ Promotion on platform services; ▪ Promotion on social media; ▪ Cultural and heritage marketing; ▪ Local stakeholders training in the digital use; <ul style="list-style-type: none"> ▪ Acquire advertisers. 	<ul style="list-style-type: none"> ▪ Internet access; ▪ Mobile apps; ▪ Cooperation of direct and indirect actors.
Visitors' relationships	Channels	Visitors' segments
<ul style="list-style-type: none"> ▪ Online via the platform ▪ Online via social media 	<ul style="list-style-type: none"> ▪ Social media ▪ Conventional cultural and tourism organizations <ul style="list-style-type: none"> ▪ Digital marketing 	<ul style="list-style-type: none"> ▪ Visitors interested in gastronomic tourism, eco-tourism, cultural tourism, agrotourism, sustainable tourism and experiential tourism; ▪ Travel agencies; ▪ Tourism boards; <ul style="list-style-type: none"> ▪ NGOs.

Figure 4 Examples of key areas of an IDP





Self-correction questions

Please, indicate the correct answer

QUESTION 1

The value proposition is based on offering comprehensive services by taking care of the environment and respecting cultural diversity.

- a) True
- b) False

QUESTION 2

The digital platforms are a facilitator between the consumers who want a personalized experience and the local initiatives by exchanging and sharing information.

- a) True
- b) False

QUESTION 3

What is the function of Intelligent Digital Platforms in rural tourism?

- a) They provide specialized information
- b) They articulate the actors of rural communities
- c) They help in the design of new experiences
- d) A and C.

QUESTION 4

An extensive list of elements must be considered during the process of choosing strategic partners, such as linking to the value proposition, selection criteria, and developing a win-win relationship

- a) True
- b) False

LINKS OF INTEREST



<https://www.youtube.com/watch?v=n6b6Uw1YpzY>



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Conclusion.



UNIT 6

How to create Data base of national and European recipe inventory.

In this unit, you will learn how you can create a database for the development of a national and European recipe inventory.

Preserving ethnic and cultural diversity in general becomes a great challenge nowadays similar to the task of preserving the biological diversity of our planet. The endangering factors include even the spread of digital media that is unlikely to make allowances for local traditions.

The many combinations of tastes, aromas, techniques, as well as historical, religious, and cultural allusions incrementally form the heritage with references in literature, folklore, music - all that makes national cuisines unique and interconnected with other areas of human activities.



Fabio Parasecoli rightly applies a concept of 'signifying networks' to national cuisines: "Each element in a culinary tradition is thus also part of several interconnected networks of meaning, practices, concepts and ideals; the full extent of its meaning and value cannot be grasped without analyzing its interaction with other apparently unrelated domains. We can define these networks as "signifying" because they help us make sense of reality, allowing us to comprehend our cultural environment and to act within its rules and boundaries" (Parasecoli, 2005).





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UNIT 6

How to create Data
base of national and
European recipe
inventory.

As the world becomes smaller in terms of travelling and communication, we get a lot of opportunities to discover new cultural dimensions to ourselves. One can tell quite a lot about a national group just by trying its famous dishes. Foreign visitors are often quite keen to try local cuisine but might find it risky unless enough explanatory information is provided. Sharing cooking recipes not only encompasses a list of plain ingredients and cooking directions but also the environment where food products grow. National cuisines involve a big number of factors that make the dishes special, including specific ways of whole food processing, the use of utensils, applying cooking techniques etc. Thus, the use case of digitizing cuisine is quite instructive for understanding the principles of present-day cross-cultural knowledge exchange.

Today's big challenge is to encode this information into a proper digital form so that the data exchange can open doors to foreign tourists, boost economic ties, and bring cross-cultural communication to a much higher level. Many digitizing projects are built around an idea of using some kind of foundational ontology that can be extended by knowledge engineers in a particular specific field of expertise. We shall consider the use-case of applying these tools to digitizing the national cuisines.





An example of a successful project is RecipeBD (<https://cosylab.iiitd.edu.in/recipebd>) which is a structured compilation of recipes, ingredients and nutrition profiles interlinked with flavor profiles and health associations. The repertoire comprises of meticulous integration of 118 171 recipes from cuisines across the globe (6 continents, 26 geocultural regions and 74 countries), cooked using 268 processes (heat, cook, boil, simmer, bake, etc.), by blending over 20 262 diverse ingredients, which are further linked to their flavor molecules (FlavorDB), nutritional profiles (US Department of Agriculture) and empirical records of disease associations obtained from MEDLINE (DietRx). This resource is aimed at facilitating scientific explorations of the culinary space (recipe, ingredient, cooking processes/techniques, dietary styles, etc.) linked to taste (flavor profile) and health (nutrition and disease associations) attributes seeking for divergent applications.

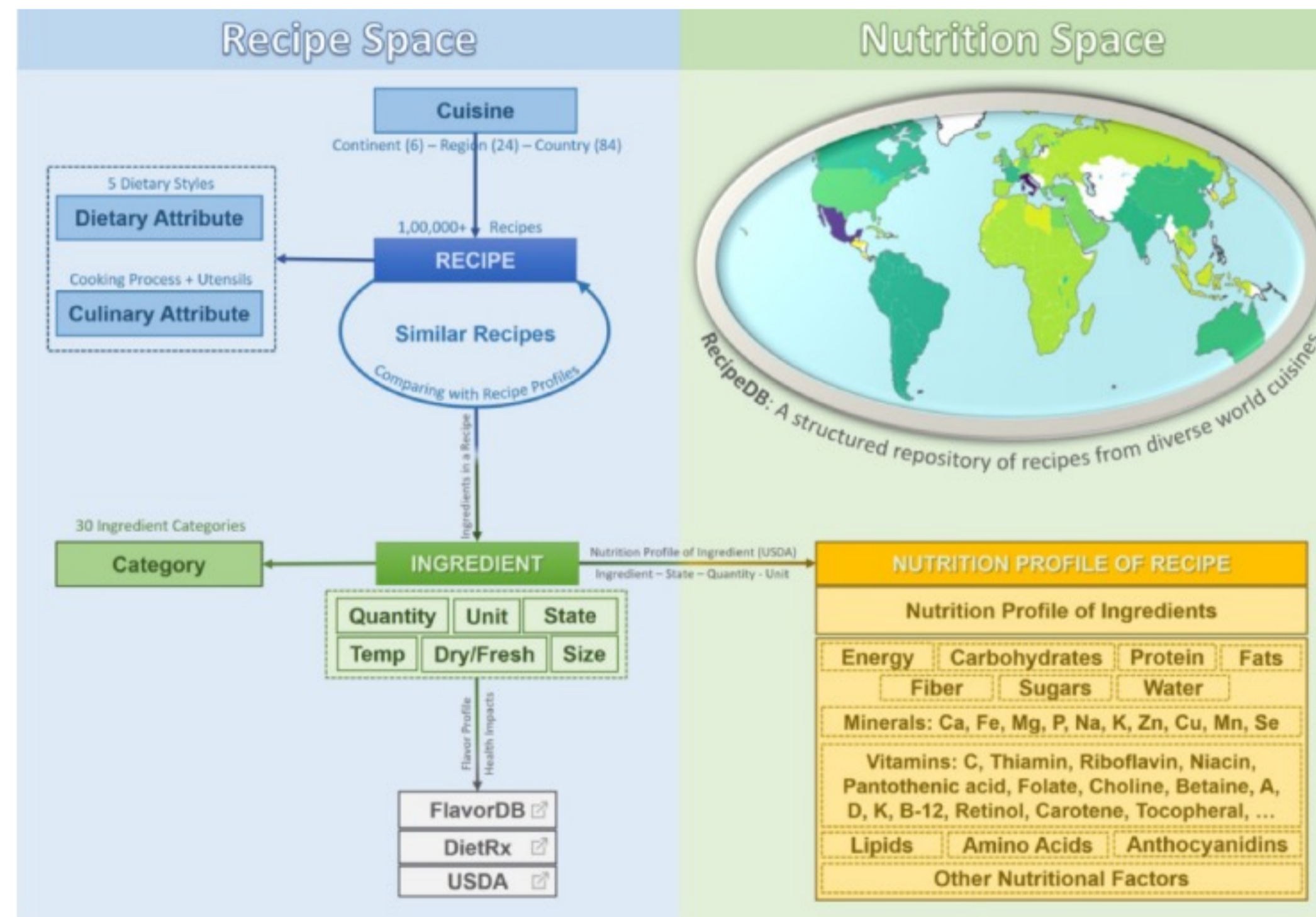


Figure 5 The structure of RecipeDB database



Steps to create a database as a resource for exploring recipes.

1. Database overview

This steps includes the classification of the recipes into cuisines by geocultural regions, mappings and labeling with different characteristics (dietary styles, cooking processes etc.). It is essential to offer a user-friendly interface for querying and browsing recipes. Interactive data vizualizations and interlinked search options can be provided to retrieve relevant information.

2. Data compilation

It is indicated to review many recipe repositories as a potential source of data, based on uniformity in structure and availability of geocultural mapping and number. This information can be then divided in multiple parts (ingredients data, cooking instructions data, geocultural mapping data etc.)

While constructing the dataset, information should be required in a structured format by constructing the dataset, tagging each word in every phrase by target, using representation vectors and clustering which means basically identifying unique representation vectors to increase the diversity of the database.

Following this step, we can also create models to “train” the database to get interferences for all the recipes in the database.

Every recipe can be mapped to its geocultural correlate at different levels of hierarchy (ex: country, macro-region, region, sub-region etc.) and this level mapping can be done based on culinary / cultural similarities.

3. Database architecture and web interface

The database should facilitate easy comprehension and navigation of complex interrelations among the cuisines, ingredients, processing methods, cultural and heritage information, and their categories.

Interactive data visualization and wide variety of user-friendly searches provide quick access to the desired information.





FLAVOURS of EUROPE

UNIT 6
How to create Data base of national and European recipe inventory.

1 A circular chord diagram showing the relationships between various food categories. A central vertical list of categories includes: Address, Bakery, Beverage, Beverage-Alcoholic, Cereal, Condiment, Dairy, Dish, Essential Oil, Fish, Flosser, Fruit, Fungus, Herb, Legume, Malt, Meat, Nuts and Seeds, Plant, Plant Derivative, Seafood, Spice, and Vegetable. Lines connect these categories to numerous specific items around the perimeter of the diagram.

2 A screenshot of the RecipeDB website showing a search result for 'Tomato'. It includes a photo of tomatoes, a list of links for 'Ingredient Category', 'Health Impacts of Tomatoes from Health', 'Flavor Profile of Tomatoes from FlavorDB', and 'Wikipedia Link to Tomatoes'. Below is a table of nutritional information per 100g for common forms of tomato.

Form	Calories	Energy (kJ)	Carbohydrate (g)	Protein (g)	Total Lipid (fat) (g)	Salt Profile
Marinated Tomato	1	23	5.10	1.20	0.20	UF
Cooked Tomato	1	23	5.10	1.20	0.20	UF
Steep for Roasted Tomato	1	23	5.10	1.20	0.20	UF
Water-Flavored Cooked Tomato	1	23	5.10	1.20	0.20	UF

3 A box titled '10 Most frequently used ingredients of 'Vegetable' category' showing images of Red Bell Pepper, Tomato Paste, Onion, and Tomato.

4 A 'Recipe of the day' section featuring a photo of 'Hibiscus & Sumac Prawns from Hibiscus' on a blue plate.

5 A search interface with filters for 'Cuisine', 'Ingredient', 'Category', 'Region', 'Country', and 'Recipe Title'. A 'SUBMIT' button is at the bottom.

6 A screenshot of the search results for 'Showing All Recipes From Indonesian Cuisine'. It displays a table with columns for Recipe Title, Region, Country, Servings, Volume (ml), Cooking Time, and Recipe.

Recipe Title	Region	Country	Servings	Volume (ml)	Cooking Time	Recipe
Red Shrimp	Indonesian Cuisine	Indonesia	4	1000	2000	View Recipe
Red Shrimp (Prawns)	Indonesian Cuisine	Indonesia	4	1000	2000	View Recipe
Red Shrimp (Prawns)	Indonesian Cuisine	Indonesia	4	1000	2000	View Recipe
Indonesian Fried Rice	Indonesian Cuisine	Indonesia	4	1000	1500	View Recipe
Red Shrimp (Prawns)	Indonesian Cuisine	Indonesia	4	1000	2000	View Recipe
Red Shrimp (Prawns)	Indonesian Cuisine	Indonesia	4	1000	2000	View Recipe
Red Shrimp (Prawns)	Indonesian Cuisine	Indonesia	4	1000	2000	View Recipe
Red Shrimp (Prawns)	Indonesian Cuisine	Indonesia	4	1000	2000	View Recipe
Red Shrimp (Prawns)	Indonesian Cuisine	Indonesia	4	1000	2000	View Recipe
Red Shrimp (Prawns)	Indonesian Cuisine	Indonesia	4	1000	2000	View Recipe

7 A screenshot of the search results for 'By cooking processes, top 50 recipes similar to: IndoCook's Indonesian-Style Ketchup'. It displays a table with columns for Recipe Title, Region, Country, and Similarity Index.

Recipe Title	Region	Country	Similarity Index
Vegetarian 'Soft' Sauce for Asian Cooking	Southeast Asian	Vietnam	0.71
Cucumber Storage Sauce	Southeast Asian	Vietnam	0.68
Salt Brine	Southeast Asian	Indonesia	0.66
Spicy Sweet Rice Balls	Southeast Asian	Philippines	0.64
Sweet Mango (Sweet Soy) Sauce	Southeast Asian	Indonesia	0.63
Andalus Chicken With Ginger	Southeast Asian	Philippines	0.62
Andalus Chicken With Ginger	Southeast Asian	Philippines	0.62
Chicken Andalus In Coconut Milk	Southeast Asian	Philippines	0.62

8 A world map showing the geographical distribution of recipes, with a focus on Southeast Asia.

9 A screenshot of the search results for 'Showing All Recipes From Indonesian Cuisine' with a table listing various recipes and their details.

10 A screenshot of the search results for 'Showing All Recipes From Indonesian Cuisine' with a table listing various recipes and their details.

11 A screenshot of the search results for 'By cooking processes, top 50 recipes similar to: IndoCook's Indonesian-Style Ketchup' with a table listing various recipes and their similarity indices.

12 A world map showing the geographical distribution of recipes, with a focus on Southeast Asia.

Figure 6 Schematic of RecipeDB user interface highlighting features for searching and navigation of data





UNIT 6

How to create Data
base of national and
European recipe
inventory.

4. Use cases

This step is more empirical, and it illustrates the utility of a recipes database for various applications.

The users have the possibility to search for recipes by the cuisine at the level of regions of a country. Each field can be powered with a single letter autosuggest to enable an uninitiated users. Clicking on a recipe name can yield a page with structural details of the recipe and 'more info' or others pop-up pages can provide different information or intersecting facts behind the recipe.

By creating a recipe database there is a possibility to develop complex queries with advanced search. The advanced search enables creating nuanced queries using the individual query elements (cuisine, recipe title, ingredient used/not used, cooking processes and utensils used and macronutrients).





UNIT 6

How to create Data
base of national and
European recipe
inventory.

Food is a complex subject interwoven with traditional cooking practices (recipes), flavor, nutrition and health. A database of national and European recipe inventory can be a data-driven perspective of the food puzzle.

This kind of data base have the power to provide a structured repositories of diverse recipes to integrate cultural, culinary and nutritional aspects. By creating a curated and structured culinary knowledgebase, a database enables open-ended explorations.

The data gathered a potent source for the analysis of 'identity' of cuisine in measurable parameters, similarity among cuisines, quintessential patterns in cuisines, among others, apart from being an excellent resource for asking queries. Thus, the database provides a quantified resource of the culinary heritage through a structured repository of recipes.

Remember:



Other than improving the quantity of the data, there is much scope for improving the quality of the recipes data. Compilation of generic traditional recipes is one among the key future directions.



UNIT 6

How to create Data
base of national and
European recipe
inventory.

Unit 6

Self-correction questions

Please, indicate the correct answer

QUESTION 1

Is the preservation of the ethnic and cultural diversity an important issue?

- a) Yes, it is
- b) No, it isn't

QUESTION 2

It is not highly important to provide explanatory information to foreign visitors in databases about the local cuisine since they can find it easily on the Internet.

- a) True
- b) False

QUESTION 3

What are the steps in order to create a database as a resource for the exploration of recipes?

- a) Data compilation – Data overview – Database architecture and web interface – Using cases
- b) Data overview – Data compilation – Database architecture and web interface – Using cases
- c) Database architecture and web interface – Data compilation – Using cases – Data overview
- d) Data overview – Data compilation – Using cases – Database architecture and web

interface.

QUESTION 4

By creating a curated and structured culinary knowledgebase, a database enables open-ended explorations.

- a) True
- b) False

LINKS OF INTEREST



<https://www.youtube.com/watch?v=H2aM5yKgJY0>



UNITS

Introduction.

1. How to digitalize and promote the identity of cultural heritage rural gastronomy.
2. The development of digital marketing skills among the stakeholders.
3. Communicate heritage through digital and experiential storytelling.
4. Identification and digitalization of Ethno-diversity and Biodiversity in Rural Areas.
5. The Role of Intelligent Digital Platforms.
6. How to create Data base of national and European recipe inventory.
7. How to digitalize a rural gastronomic business.

Conclusion.

UNIT 7

How to digitalize a rural gastronomic business.

In this unit we will deal with the digitalization of your rural gastronomic business.

New approaches to enhance innovation and invention within rural businesses are required in the contemporary world of business, and a broad knowledge and understanding of digital technology, how it can be used, when it can be used, where it can be used and why it is used, by rural entrepreneurs should be properly defined in order to achieve this. Promotional marketing strategies using digital technology should be a central issue, and their benefit should be better understood by business owners and managers worldwide. Access to global markets, efficient distribution of products and higher brand awareness can also provide competitive advantage and ensure effective business communication.





UNIT 7

How to digitalize a rural gastronomic business.

Primary concepts in entrepreneurial practice involve independence, innovation, decision making, forecasting, implementation and achieving success. However, rural entrepreneurship needs to be better developed to improve its broader economic participation. A transformation in how rural entrepreneurship is practiced could attract greater business success, but effective economic activities can only be achieved by the digitalization of rural entrepreneurship . Digitalization can be described in terms of the infrastructural processes associated with digital technologies, in which analogue information is transcribed to digital form and applied in broader social and institutional contexts.

The importance of digitalization is not restricted to products, services and manufacturing processes, but includes a broad spectrum of competencies, including marketing, business networking, promotional mix, product distribution, supply chain management, access to international markets and the management of growth to achieve competitive advantage. Digitalization of all business processes is possible, and the outsourcing of certain services, or a shortage of human capital available to rural businesses, can thereby be easily surmounted, since digitalization can be used to positively enable new start-ups and potential young entrepreneurs willing to operate in rural environments in this way.

Did you know that...?



Few investigations have been performed into how digitalization could improve the survival and development of rural enterprises, which has resulted in a lack of knowledge and understanding of its relationship with improving the success of rural industries. Knowledge concerning the benefits of digitalizing rural businesses, and how this can improve business operation capacities, remains mostly assumptive amongst professionals and policymakers.

Much evidence from an international perspective exists, however, to indicate that small business, which is generally found in rural areas, plays a crucial role in the creation of a variety of different economies.





Drivers of rural entrepreneurship digitalization.

1. Technological development

In order to achieve community development opportunities, academic improvements, social change and political and entrepreneurial growth, governments should prioritize the installation of fiber optic technologies, thereby making broadband connectivity accessible to rural communities. The provision of fiber optic connectivity to all residences in rural areas would not only cater for household communication but allow for the digitization of rural business initiatives. It is believed that through strategic private sector partnership alliances, the public sector and governments of both developed and developing countries are enabling to create digital infrastructures that will ensure the digitalization of all rural areas.

2. Socio-economic factors

Socio-economic factors are core aspects influencing entrepreneurial behavior and the operation of businesses. Economic growth is a function of both growth in resources and the rate of technological change, with land, labor, capital and entrepreneurship being resources in the factors of production. Economists, who have studied the effects of these resources or inputs in identifying the causes of economic growth, recognize the growth of entrepreneurship as their primary source. A primary contribution to the economic growth of all nations is that made by the entrepreneurial factor, because it is entrepreneurs who contribute methods for achieving specific objectives, which include those innovations responsible for technological progress. It is therefore not an increase in the quantity of the other inputs that fosters economic development, but rather the efforts of entrepreneurs, who assume the risks for innovation, and organize and co-ordinate all business inputs.

3. Barriers to rural entrepreneurship digitalization

Rural entrepreneurship is faced with the challenges of financial shortages, deficiencies in networking, electricity, equipment, marketing, small and distant markets, poor transport systems and corruption. In many countries, meagre infrastructural facilities, poor access to technology and a lack of broadband connectivity and serviceable roads are major developmental challenges.





UNIT 7

How to digitalize a
rural gastronomic
business.

Drivers of rural entrepreneurship digitalization.

4. Rural entrepreneurial resources

SME owners/managers themselves lack the necessary skills and capabilities required for business start-ups and operations, and with rural enterprises characterized by many difficult factors, such as limited resources, their small sizes and scattered and remote locations, the transaction costs for rural activities are high, which is largely the result of the time required to ensure that business standards are met. Rural enterprises face risks that range from managing the power imbalances they experience compared to larger businesses, to buyers that can influence terms, conditions and standard requirements for making sales. In addition, rural enterprises have limited access to current market information, mainly due to weak transport and communication infrastructures, specifically in rural environments, which makes it extremely difficult for such enterprises to participate in high-value markets.

5. Institutional challenges to rural entrepreneurship

The unleashing of entrepreneurship requires an environment that enables entrepreneurs to create, operate, manage and, if necessary, close businesses, within a context where compliance with the rule of law governing disclosure, licensing and registration procedures and the protection of physical and intellectual property are guaranteed. The existing regulatory environment should encourage people to launch their own businesses, attempt new business ideas and to take calculated risks, while keeping administrative burdens to the minimum required to support sustainable public policy and development objectives.





UNIT 7

How to digitalize a rural gastronomic business.

Unit 7

Self-correction questions

Please, indicate the correct answer

QUESTION 1

A transformation in how rural entrepreneurship is practiced could attract greater business success through the digitalization of rural entrepreneurship

- a) True
- b) False

QUESTION 2

The importance of digitalization is only restricted to products, services and manufacturing processes.

- a) True
- b) False

QUESTION 3

Small businesses play an important role in the creation of a variety of economies.

- a) True
- a) False

QUESTION 4

Which are the barriers when it comes to rural entrepreneurship?

- a) Lack of financial support
- b) Poor access to technology and market information
- c) High transaction costs
- d) All the above

LINKS OF INTEREST



<https://www.youtube.com/watch?v=K2fuyrNUoHI>

UNITS

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Conclusion.



CONCLUSION

The digitization of the economy brings with it the development of new business models and new forms of social and business organization. The companies and inhabitants in rural areas must get ready and plan to be able to reap the benefits of the opportunities provided by digitization, in order to enable inclusive development and an improvement in the inhabitants' quality of life.

The implementation of technology in the cultural heritage sphere can reinforce visitor experiences, enhancing both memories and a sense of belonging. The enhanced memory of one's heritage visit may contribute to an increased awareness of the past and translate into the desire to interact with heritage in sustainable ways. Thus, it is crucial to consider the growing role that technology plays in the cultural sector, technology now being recognized as one of the essential components of the cultural experience.

In recent years, innovative and fascinating technological applications within the cultural heritage sector have emerged. This phenomenon has determined a rapid and substantial change in the practices of utilization, supply, and conservation of cultural heritage present a twofold classification of macro-categories of technology that can be observed within the cultural sector: online technologies that focus on website use and mobile applications, and on-site technologies, such as guided tours and devices that enhance the visit (ex. audio guides, GPS locators and mobile apps). Many of these technologies have enriched the experience and made information more accessible to different visitor segments. Through new communication technologies, additional information can be shared with visitors, thereby becoming a focal point of added value to the heritage experience.

