



Tourism and indoor positioning, a suitable marriage

Today's travellers demand not only information at all times, but also the ability to book, manage, and control all the aspects of their trip through their smartphone.

In airports, hotels, resorts, or transit stations, indoor location technology plays an important role in providing traveling guests with security, confidence, and control.





In 2021 we will reach 3.8 billion mobile phone users, and at least 61% of them will use these devices to search for destinations and plan their journeys. The travel industry must then focus on offering its services via the traveller's smartphone. But where do you start? What should you bear in mind if you are a company in the tourism sector? Let us take a brief look at the new challenges.

Not many years ago, when we decided to travel, the first stop was at a travel agency. We would leave full of enthusiasm and with a folder in our hands equally full of papers: plane tickets, hotel booking, timetables, schedules... That folder meant everything, and during the trip it would be our guide and safeguard.

We were in this scenario not long ago. However, everything has changed since then: our priorities when travelling are different and, above all, we have new tools at our disposal. That folder has disappeared, and, in its place, we have a powerful smartphone, a device that has allowed us to travel more freely and access all the information we need at the right time.

We are indeed living in uncertain times. The Covid 19 crisis has directly affected this economic sector, but we know that soon enough users will be ready to keep moving and will have new demands. Currently, the most important thing to do is to create a safe environment, but we must keep our eyes on a broader picture. What will happen when the health crisis ends? A large part of the measures to guarantee minimal interpersonal contact will involve your mobile phone. These tools are gradually taking hold in a customer who is already familiar with using the smartphone in their daily life, so we can expect that many of the measures designed for "the new reality" will remain with us.

Natural and cultural changes, as well as those resulting from the pandemics... it is hard to cope with all these challenges but let us take a look at them so that we can place ourselves in the new reality and make the right decisions.

A new way to travel: all the information in the palm of your hand

To understand the new scenario in which we find ourselves, we need a starting point: the traveller wants to be in the middle of the experience. They want to decide and remain in control of their journey and stay, and to achieve this level of independence and autonomy they mostly use their smartphones.

Trying to understand and anticipate this new generation of users, consulting firms and booking platforms, airlines, and hotels have analysed the market trends for the coming years. This information points us in the same direction:



smartphones and travels are irrevocably linked. But when and for what do travellers use their mobile phones? Very simple: they use their smartphones for everything travel related:

- Look for ideas for new destinations.
- Check the flight availability/fees.
- Choose accommodations.
- Organise a schedule during their stay.
- Look for information on transport.
- Use the outdoor guiding system to move around the destination.
- Get restaurant and leisure recommendations or offers.

As many as 61% of all [Travelport](#) survey participants stated they usually use an app to book a flight, and 59% of business travellers use social media to book a flight. When it comes to accommodations, everything points in the same direction: 62% of travellers say it is very important to be able to book hotels in travel apps. Given these percentages, it is not surprising that most companies in the sector (92%) believe that their mobile strategy is fundamental to their future success.

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But it is vital to understand that this cycle does not end with a simple search for information. It is not a one-way communication: the user's experiences return to the Internet via their smartphone. Travellers pour all their impressions into websites and platforms, almost in real time, becoming at the same time advisors to new travellers. This is what is known as online reputation, and all companies in this sector, from airlines to hotels, or restaurants, know that we are talking about something very serious. Criticism about poor service on a plane, difficulty in accessing services at an airport or in a hotel can significantly damage any company's brand image.

PhocusWright carried out a study for Tripadvisor in which it was found that 83% of users looking for tourist services need to check other customers' opinions to feel more secure. 80% of them are satisfied and agree with the views expressed in these portals.

The goal: to give the traveller freedom through space control

It seems clear that if travellers demand more and more autonomy, the first thing we must provide them with is the tools to move around freely. We have all experienced that peace of mind whenever we are in an unfamiliar city and we can count on the invaluable help of our GPS on our mobile phones. This system has taken a huge burden off our shoulders by telling us exactly where we are and how to get to our destination. Getting around the place,



understanding it, and making it our own means that we can relax and enjoy ourselves, or pay attention to other issues.

We have gotten used to it, but then we suddenly are left alone when we go into large indoor spaces, where GPS does not work. The situation will resonate with most readers: we can walk around huge cities, but we are unable to find our airport terminal without getting anxious. What is the shortest route? Where do I check in? How long will it take? How do I go from my hotel room to the place where a show is about to take place? And to the restaurant? Interestingly, we can manage immense places like New York using our mobile phone's GPS, but we have real problems navigating through JFK airport trying to understand confusing signs or trusting our ability to orientate ourselves.

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We know that airports can put even the most seasoned travellers to the test. Many times, the passenger is subjected to a sort of scavenger hunt in which they must pass a series of challenges in a limited time: locating the point of arrival, knowing where they must go to complete the paperwork, taking the right route to do so, waiting in queues, taking advantage of the downtime to do some last-minute shopping...

In this environment, a GPS would be just as necessary as outdoors. Having this tool on traveller's smartphones would completely change their experience. But to find out what the real user demands are, we take a look at the [2019 Global Passenger Survey](#) conducted by the International Air Transport Association (IATA) in 166 countries all over the world. As a preview: most users demand information on their mobile phones to make all their tasks more manageable.

- Users are demanding more control on their smartphones over their flight details. Airline apps are the preferred booking method.
- Over 51% of survey respondents chose mobile phones as their favourite check-in method (four more points than in 2018).
- 72% want information about their flight in real time. 39% choose SMS, a trend that has been declining since 2016, while mobile apps are gaining ground and are the preferred method of a third of the passengers.
- 83% want information on the status of their flight, and 45% on their luggage.
- 45% want to know the waiting times at the security control and 37% at customs.
- 70% of passengers are willing to share their biometric identification if it speeds up the process at the airport.

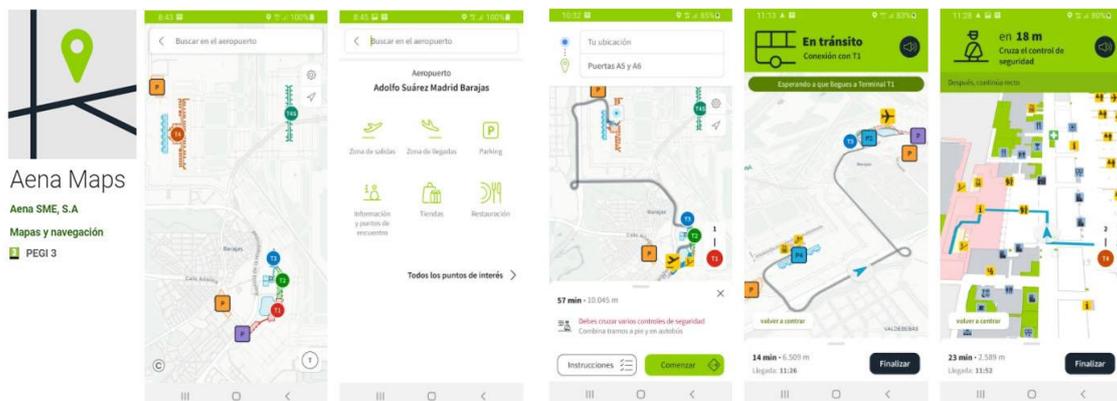


Of course, these demands are no secret, and many operators and airlines have been working on them for a long time. For instance, [Aena and Telefónica have announced AenaMaps](#), a tool that will help passengers find their way around the airport.

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This project has relied on Situm to deploy the geopositioning system at the airports and provide the necessary technological components. Our solution has been running for years in many of the most important European airports. It has given excellent results both in facilitating the airport management as well as providing the desired autonomy to the users of these spaces. [CartoDB](#), a leader in cartographic studies, has also worked on this ambitious project and has overseen the development of the location intelligence platform based on the development of maps.

What does all this mean for the passenger? The app automatically positions passengers in their location, searches, and coordinates movements on the map, guides them to a specific point, calculates the route time or distance, and displays the airport services/points of interest such as boarding gates, shops, restaurants, leisure areas, toilets..



From traveller to guest: indoor positioning to improve the journey

Airports are not the only indoor spaces where travellers may feel lost. [Large hotels](#) are the next challenge. It is not easy to get from the room to the meeting hall, the car park, restaurants, or leisure facilities. The key is how much time a guest spends trying to find their way around, for example, in a large resort, and how those down times may change their experience.

Many hotel chains have developed corporate apps based on indoor positioning systems to make the stay more comfortable for their guests. From the check-



in, the guest has access to maps that allow them to move freely around the hotel as well as the schedule with all the activities (restaurants, shows, visits...). One example is [Oasis Hotels & Resorts](#), where we have already deployed our technology to improve the experience of their Grand Oasis Cancun guests.

With more than 150,000 square metres the resort includes, in addition to the hotel facilities, swimming pools, beaches, gardens, sports areas, convention centres, dozens of restaurants... A real challenge for the new guests' sense of orientation who, thanks to indoor geopositioning, will be able to move freely around all the facilities and attend all the activities they are interested in.



This type of tool responds to a real demand from the guests. In the Phocuswright and Oracle study "[Creating the Coveted Hotel Guest Experience](#)" it is stated that 65% of guests consider it important or very important for accommodation establishments to have technological tools to improve the customer experience. Besides, the publication reveals that more and more travellers are choosing to stay in places that have platforms to organise their activities from mobile devices.

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The Covid 19 pandemic, an opportunity to emerge stronger

The pandemic has left us in a situation with no historical precedent: there has never been such a drop in the tourism sector. Certainly, the health emergency has put the entire tourist machinery up against the wall. Mobility restrictions, the shutdown of the hotel industry, and the fear of interacting with others mean that 2020 will be remembered as the year of the collapse. [Exceltur has revisited its estimates on the impact of the coronavirus pandemic](#) on the Spanish tourism sector up to 106 billion euros lost, 7.5 billion euros more than the last estimate. On a global level, the [World Travel & Tourism Council \(WTTC\)](#) has revealed that worldwide travel has fallen 65% and domestic travel has been reduced by 33%, while job losses have now reached 142.6 million.

[According to the UNWTO report](#), this crisis represents an opportunity to rethink tourism. One of its five priorities to improve the situation is "to advance in the



innovation and digital transformation of tourism." Technology will be the tool to maintain that security, both in terms of providing the traveller with autonomy (and distance), and to collect the necessary information for managers to ensure (and certify) that their facilities comply with the regulations.

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If we take a quick look at the new adjustments, smartphones are once again at the core of the whole technological development -from the most innovative technology to the ubiquitous QR codes that bring information to the user's mobile phone with no need for any contact. In many cases these are not new systems, but in the current situation, they have gained ground.

Making a technological investment at this time, when the income has plummeted, seems risky. But the truth is that taking this step is the only thing that will ensure a comeback of all kinds of activities in a solvent manner. However, before making this investment, organizations and associations make a double recommendation:

- Improvements must be economically viable, and investments must fit into the company's accounts.
- We must avoid short-sightedness. Investment and technology must be in line with the end of the crisis. Investments must be designed for the present as well as for a steadier future.

[Situm's indoor geopositioning technology](#) meets these requirements. Our system monitors the indoor occupation, both for clients and staff. It makes use of the existing infrastructure, which allows reducing the initial investment.

With this type of technology, we can face the current Covid 19 challenge, but we can also make it profitable later for the improvement of the general management (staff control, security, the study of space performance...) to increase the number of services to customers. For example, the same technology that now sends a notification to users when they are not complying with the interpersonal distance is the one that will allow sending geolocated promotions or information that you might find attractive ([geomarketing](#)).

Many commercial chains are already implementing technologies to reduce contact between customers, staff, and customers, and even between customers and the facilities. Everything goes through the mobile phone, from restaurant reservations to room service, even allowing you to call the lift without touching the buttons.

We have discussed airports and hotels, but we could extend this to any kind of indoor activity that needs to make a profitable use of the space, control the capacity, and guide its customers, or simply want to enrich the user experience.



We could talk about cruise ships. The use of space is complex (narrow corridors, cabins, different rooms, restaurants...) and requires excellent planning. Back in 2017, [MSC detected this need](#) and embraced navigation solutions so that the cruise liners could move around freely using their mobile phones.

Leisure and cultural spaces, such as museums, have assimilated geolocation based mobile services. Until recently, this type of device was forbidden in museums. However, today they are a new tool with many possibilities: for capacity control, to reduce signage, to improve the staff deployment by the management team, or to add services for visitors (for example, incorporating the audio-guide information). In these spaces, location-based systems (LBS) provide content that dynamically adapts to the user's location. These services are provided through mobile devices, and the coordinates they record are fine-tuned with GPS data to ensure a high level of accuracy. As an example, the Florence Duomo offers tourists a small location device that warns if the recommended interpersonal distance of two meters is not met.

In conclusion, the modern traveller demands that all the information is delivered to their mobile phone, allowing them to achieve a freedom that was not possible until now. In this way, it will be the indoor positioning technology what will allow them to achieve autonomy inside large spaces, the same they already enjoy outdoors thanks to GPS.

It is becoming clear that technology helps us improve management in times of pandemic when capacity control and interpersonal distance set the pace. But these systems must not stop there but rather provide added value to companies in the tourism sector in the long term, improving internal management and increasing the range of services offered to customers.