Airport Experience of the Future

- Ideas for Post-Covid Travel
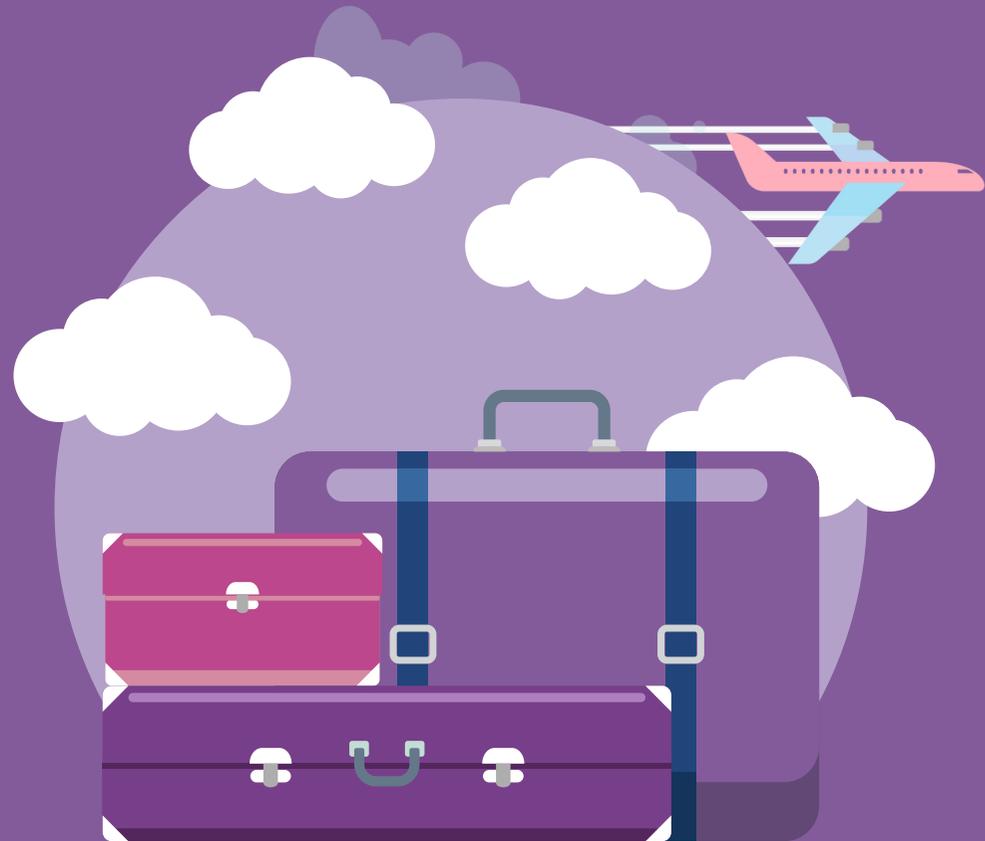
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Airport Experience of the Future

- Ideas for Post-Covid Travel

Corona crisis has changed the consumer expectations and the means of travelling. Airports need to adapt to the 'new normal' to assure the travellers that travelling can be safe and smooth.

This has led the airports around the world looking for ways to implement innovations, that will improve both the safety and traveller experience.

We collected promising new ideas to aid in the fight against viruses. Hopefully these insights will help you and your company to develop an airport experience of the future!

Are you ready to hop-on aboard?

Peppi Borgeström & Elina MoreiraKares
Helsinki 31.5.2021

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Cleanliness

Maintaining a high level of overall cleanliness is a must for international travel hubs such as airports. Innovations displayed in this chapter have harnessed technology like UV and other lights to aid in the fight against germs on surfaces and in critical contamination points like in security checks. Disinfection has never been easier as most of these automated solutions eliminate a minimum 98% of germs and many can be implemented into existing fixtures and systems.

Nanocoating by Nanoksi Finland

Nanoksi Finland won the **Aviation X Lab Accelerate Traveller Wellbeing Challenge** in 2021. The challenge was organized by Aviation X Lab, an initiative of five airline giants.

Nanoksi's sprayable disinfectant keeps surfaces coronavirus-free for up to a year. Photocatalytic Coating kills viruses, bacteria, VOC and mould spores.

Photocatalysis speeds a chemical process by exposure to light and wipes out 98 per cent of microbes within two hours. It keeps working for 12 months as long as it's exposed to some source of light.

By guaranteeing the safety of surfaces, we ensure cleanliness. We leave behind an invisible layer of protection that has a significant impact on society and human wellbeing. - Nanoksi Finland
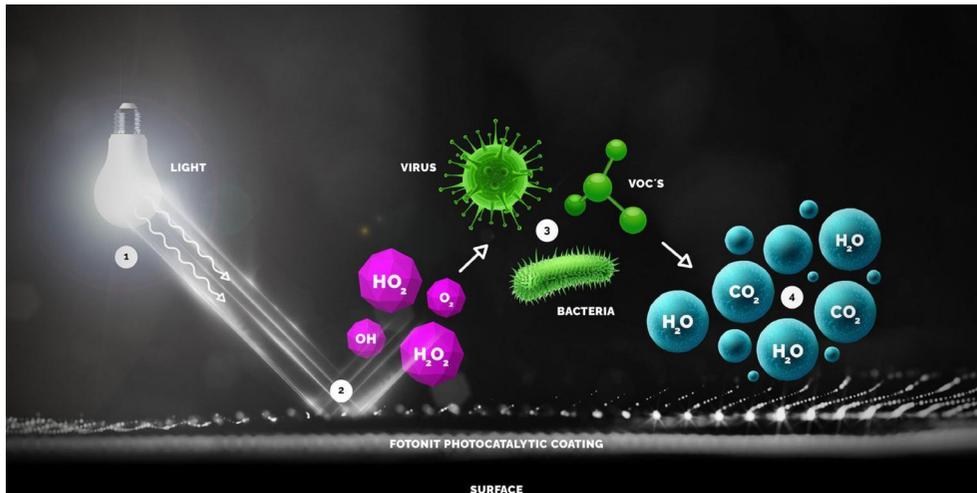
Photo: Nanoksi Finland

Photo: CLeantTech

Disinfection Booths

CLeanTech is a full-body disinfection booth in **Hong Kong International Airport**, that takes 40 seconds to kill any germs found on clothing or body.

In addition, the airport is implementing cleaning robots, temperature checks, and antimicrobial coating on handles, seats, check-in counters, elevator buttons, baggage trolleys etc. to fight all germs and secure the safety of all.

The disinfectant booths and robots keeping Hong Kong Airport safe
https://www.youtube.com/watch?v=CBziWP3FoEI

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Antimicrobial Light

Vyv's patented antimicrobial LED light technology harnesses microbial killing power from within the visible light spectrum. Vyv is not a UV light, which kills bacteria by harming DNA, but it works within the visible light spectrum destroying germs and making surfaces unhospitable 24 hours a day. It's not an alternative for all other cleaning procedures, but it provides a layer of continuous antimicrobial action and an added level of risk mitigation. The solution can be manufactured into traditional LED lighting fixtures. It has been used in a range of industries including agriculture, athletics, aviation, education, food and beverage manufacturing, restaurants and food preparation, acute and long-term healthcare, hospitality, maritime, pharmaceutical and biotech manufacturing, real estate, among others.

Vyv lights are available for installation in airlines and airports. On the ground, Vyv can be used to clean inflight catering service areas and in airport terminals. Vyv is now becoming a fixture in restrooms, ticket counters, restaurants and gathering areas.

In-store Sanitizing Billboards

Terraboost's hand-sanitizing billboards can be placed to airports, stores, malls etc. Terraboost operates in the United States and the company claims that its billboards gain 200 million daily visitors.

"It's a win-win for everyone involved: the retailer, the advertiser, and the consumer who benefits from using the wipes." - Brian Morrison, CEO, Terraboost Media

Sanitising Mats

Installing sanitising mats in strategic locations prevents the spreading of germs. Floors are like superhighways for micro-organisms that can hitch a ride in shoes, trolleys or bag wheels and spread in large areas. Mostly, the contamination happens through secondary contact when a person handles their bag (latest when lifting a carry-on to the overhead bins in an aeroplane) or drops something on the floor. **Grizzly Sanitizing Mats** and **SaniStride** low profile mats are designed for public spaces and are 100% accessible for wheelchairs and carts.

Patho3Gen Solutions shoe disinfection solution uses patented UVZone technology, which is promised to eliminate 98,5% of the germs in 6 seconds, while the percentage growing over 99,9% if sanitation lasts 10 seconds. Though, this step-in solution isn't 100% accessible.

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Luggage Disinfection Unit

Luggage might potentially transport germs in or out of an airport through contamination. Passengers might also feel insecure when picking their belongings from the baggage claim as they don't know how hygienic the baggage handling processes are, especially when the germs can spread through the air. To fight this problem, **SaniPass** introduced a tunnel system, similar to X-ray machines used for passenger suitcases, that has been modified for the disinfection of luggage.

SaniPass FA73 Promotional Video (Youtube)
https://www.youtube.com/watch?v=g0PoTOFuOo8&feature=youtu.be

UV Light Tray Disinfection

Incheon International Airport in South Korea recently implemented a new **advanced baggage screening system**, that provides more detailed on-screen inspections. This improves the customer experience in the security touchpoint both in the sense of safety and efficiency. Now customers don't have to unpack liquids or electronics from their carry-on's.

The technology is combined with a sanitation solution provided by Smiths Detection. Their **UV light tray disinfection kit** eliminates 99.9% of germs such as coronaviruses from trays and it can be retrofitted into existing automated tray handling systems.

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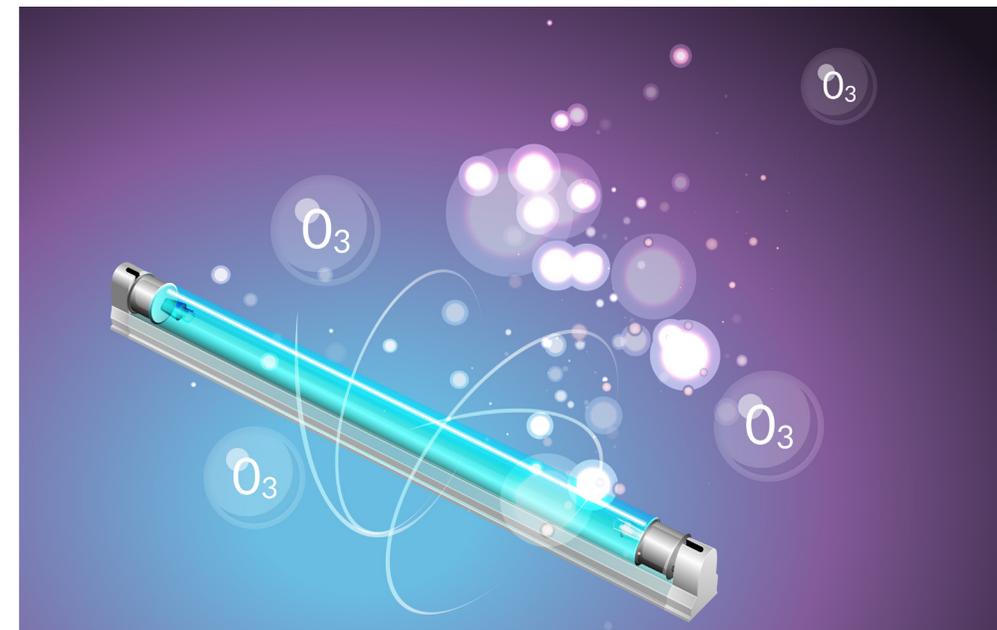
Airport Safety

Safety in the airports is now increased with automated solutions that reduce contacts and help the passengers plan their route with real-time occupancy rate systems, which also help in monitoring and managing the crowds. Touchless and contactless travel is also enhanced with new technological innovations, that make security checks faster and easier while limiting human interaction to a minimum, and with the help of robotics and sensors armed to detect viruses. As the need for human contact is not completely forgotten, wellness ambassadors are being employed to increase the feeling of safety and enhance stress-free travel experiences.

KONIKU Security Applications

Airline company Airbus has joint forces with a start-up company **Koniku** to include sensors that are able to smell hazardous materials to planes and airports. The technology is inspired by dog's nose. It works much like the security dogs, but can be scalable and don't need years of training.

Due to the COVID-19 outbreak, the technology, which was originally designed for contactless and automated detection, is now being adapted to detect biological hazards – such as viruses. **Read more on Airbus**

Photos: Koniku

Touchless Airport Security Screenings

Hamad International Airport (HIA) implemented touchless technology to reduce human contact and enhance the customer experience in security checkpoints. The C2 security screening technology allows passengers to keep electronic devices such as laptops, tablets, digital cameras, and other devices, in their hand luggage while crossing security checkpoints. It's not just faster and safer but it also decreases cross-contamination among passenger carry-on bags and personal belongings while reducing queuing times and limiting interaction.

Smart Anti-Epidemic Robots

UNDP Accelerator Lab partnered up with the government of Rwanda to utilise robots in the fight against COVID. Five Smart Anti- Epidemic Robots, provided by **Zorabots**, work in two COVID-19 treatment centres, and at the Kigali International Airport. The robots can screen temperatures between 50 to 150 people per minute, capture data (video & audial), and notify officers on duty about detected abnormalities. The robots can also detect maskless people and note them.

Photo: WHO Rwanda

84 % of travellers say that technology would increase their confidence to travel in the next 12 months. **(Amadeus Rethink Travel Survey 2020)**

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Touchless Travel

Norwegian airports are going touchless for the domestic travel. Travellers can check their bags, go through security and board touchless and without interaction. Travellers can check into their flight remotely and receive a bar code, which also acts as a coupon to print the bag tags. **Read more on Future Travel Experience**

74%
of consumers feel that companies using touchless technologies are caring towards their customers. *(Appnovation 2021)*

Photo: Etihad Airways

Wellness Ambassadors

Etihad Airways introduced in-flight **Wellness Ambassadors** to create a stress-free travel experience for the confusing time. Travelling is not just something people wait, it might be scary and cause distress and guilt. Trained Wellness Ambassadors will provide travellers information about high cleanliness standards, health, culinary hygiene, health screening and general information about the flight and destination.

Etihad will introduce Wellness Ambassadors at Abu Dhabi International Airport as well. **Read more on Luxury Launches**

"We must guarantee our guests that they can travel assured in the knowledge that we have every aspect of their journey with us covered, while still providing a top-quality travel experience.The Wellness Ambassadors will play an important role in delivering this. For us it is not simply about dealing with a new normal - this level of genuine and innovative customer care has always been part of Etihad's DNA since our inception."

- Tony Douglas, Group Chief Executive Officer, Etihad Aviation Group

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Photo: Pacer Wavemaker (Youtube)

Virtual Customer Service

Agent on Demand platform gives travellers fast access to information and assistance at United's U.S. hubs. Traveller scans a QR-code in the airport and is connected to an agent by phone, chat or video. Agent can answer any questions the traveller would normally ask from the gate agent e.g. seat assignments, upgrades, flight status, rebooking and more.

Agent on Demand includes a translation functionality and traveller can contact the agent in over 100 languages.

This platform makes information services contactless and accessible.

Moving Digital Boarding Carpet

Blue Carpet by Brazilian Azul Airlines uses **PACER Wavemaker** system, that automatically generates groups of the travellers based on their seat number. Blue Carpet reflects the groups onto the floor and indicates when is the right time to board. The projectors create a colourful virtual carpet, which invites travellers to get positioned in the queue.

Wavemaker claims on their site, that it can reduce boarding time by 60% while enabling social distancing. During the pandemic travellers are summoned in four meters away from each other. This innovation allows the travellers to board safely and hazzle-free. Different traveller groups don't have to conflict with each other.

Watch the video from the link below and see how Blue Carpet works in practice.

Boarding Reinvented - Blue Carpet (Youtube)
https://www.youtube.com/watch?v=nNCWLNrK-40

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Automated Biometric Boarding

[NEC Corporation](#) (Japanese IT company) and [SITA](#) teamed up to build more secure and automated tech solution for a faster and safer low-touch airport experience. The tech allows customers to use their phones for each step of the journey (check-in, drop off luggage, pass through security and immigration, boarding) via digital identification based on biometrics and AI.

The key touchpoints will automatically recognise the passenger, reducing the effort and contact. In addition, it offers customisation based on the age and gender of the traveller and seamless payments. **[Read more on SITA](#)**

Photo: Nec / SITA

Automated Occupancy Monitoring System

Besides helping businesses to maintain a safe environment occupancy vice, the technology can play a huge role in making the customers and staff feel safe and confident.

[Philips Professional Display Solutions](#) has announced a series of brand-new queue management and people counting signage solutions designed exclusively to help public settings to monitor and manage occupancy. The system delivers real-time information to management and on a display for customers– alerting them when it's unsafe to enter – via a simple traffic light system. Powered by Android, the digital signage and professional display solutions provide potentially unlimited opportunities for its partners. The flexible and secure Android SoC is open to partners and developers to add and integrate their own API/ software features.

[FootfallCam](#) delivers a similar solution that also helps customers with pre-planning as they can track real-time occupancy rates through a company website.

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Traveller's Personal Safety

Adapting software solutions like digital health passes help passengers to stay up to date with requirements while keeping their necessary health documents stored in one place easily within their reach. These contactless methods also make it effortless and safe to supervise that everyone fulfils the requirements in order to enter the space. Also, by making the following safety measures easy for the passengers by providing contactless solutions and easy access to safety gear, the overall safety, and the feeling of safety is enhanced.

Personal Safety Travel Kits

Albéa Travel Designer's Travel&StaySafe -kit includes the new essentials: mask, gloves, hydro-alcoholic gel and more. The contents of the kits can be customized to suit the needs of various places eg. including KN95, FFP2 and surgical type 1 masks. The safety kit makes it easy to follow the safety and health regulations by providing all the new essentials in one package. Safety kits will be sold safety travel kits sold at airports, taxi hubs, car rentals, public transportation stations etc.

See also: **SafeTravelsKit**

Protective Gear Vending Machine

Zurich Airport and Brussels train station offer **Safety Stations** -vending machines that are designed to supply essentials such as face mask and sanitiser. This enables customers to purchase safety gear 24/7. The contactless payment option also minimises physical contact and contamination.

Rapid Testing

Many airports started opening travelling with the option of rapid Covid testing. For example, Birmingham Airport launched **Rapid Covid testing** in collaboration with **ExpressTest**.

Travel Jumpsuit

Bioromper is a unisex full-body garment that is made with a blend of recycled fabrics. Antimicrobial silver ion treatment suppresses the growth of micro organs and makes travelling more hygienic.

Photo: Bioromper

Photos: Aviointerior & PlanBay

Social Distancing On-Board

PlanBay is a seat divider designed for the otherwise tight economy class. The kit is removable and it can be applied to the empty middle seat on the seat row. The shield is transparent and therefore the crew can maintain a direct view control. The shield minimizes the risk of breath propagation.

Aviointerior has also designed new post-COVID-19 aeroplane seats. Their **Glassafe** product can be applied to existing individual seats in the economy class.

Another design from Aviointerior is **Janus**, where the centre seat is in a reversed position. This design allows maximum isolation between travellers next to each other. All the seats are surrounded on three sides by a high shield. All travellers have their own isolated space, even from the people walking on the aisle. **Read more on Aviointerior**

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Health Passes

The purpose of the Digital Health Passes is to help organizations return to providing services in physical venues – like in flights. Each organization can set their own criteria, e.g. COVID-19 test results or temperature scans.

CLEAR developed a biometric ID service that allows travellers to flow smoothly through the airport. The company invented a new ID technology that features COVID-19 screenings entitled 'Health Pass.'.

The app is touchless, users verify their identity with biometric technology on their phone. They answer health questions and upload COVID-19 test results. A CLEAR kiosk at the venue touchless measures the temperature of a customer and integrates the result into the Health Pass.

> *"Once a member verifies their health and identity with their face or QR code, you decide whether they enter your venue." – CLEAR*

CLEAR Health Pass Video
https://www.youtube.com/watch?v=7FouQAgpGiQ

IBM's Digital Health Pass uses blockchain technology. Digital Health Pass is designed to enable businesses to verify health credentials for employees, customers, fans and travellers entering their site based on their criteria.

CommonPass – Digital health passport allows travellers to securely store and share their test results while providing a standardized format for the test results and vaccination records. CommonPass is an application for smartphones and it's a

collaboration of The Commons Project, The World Economic Forum and a broad coalition of public and private partners. The platform assesses whether the individual's lab test results or vaccination records (1) come from a trusted source, and (2) satisfy the health screening requirements of the country they want to enter.

See also: **ICC AOKpass**

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Food and Beverage Services

Travellers are often in a hurry, and don't have time to explore the entire food offer at the airport. The busiest travellers desire food that is quick and easy. Post-pandemic services must take hygiene and space into account - queues must be avoided and shopping made easy. Touchless is a key theme in food and beverage services as well when creating a safe customer experience.

Photo: Sestra Systems

Touchless Drink Dispenser

TapWise Touchless is a smart cloud-connected dispenser from US-based company Sestra Systems. Implementing TapWise can increase beverage sales points in the airports and create distance between the salesperson and the customer. The dispenser uses a sensor to detect and analyse objects and movement in 3D. The sensor can distinguish pour requests from other movements.

"Touchless dispensing will be a key component to the future of the industry and for all of our customers, from hotels to bars to sports arenas."
– Lev Volftsun, Sestra CEO

Robotic Barista

Cafe X is operating in two airports, San Francisco International and San Jose International. These cafes are purpose-built to address the pain of the typical airport coffee experience.

A robotic barista manages more than 10 orders simultaneously within minutes – and always gets them right. Instead of typical machine-made coffee, this robot can create a variety of speciality coffees, teas and other drinks. The offering is up-to-date with choices of organic and oat milk and Instagram-famous pastries. In addition to all of this, the robot barista entertains with dancing.

The New Robotic Coffee Bar
https://www.youtube.com/watch?v=llkr7a_3Y7s

38% of travellers would like technology to reduce queues and congestion in public spaces when thinking about travel.
(Amadeus Travel Survey 2020)

Photos: Cafe X (Youtube)

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Airport Mobile Ordering

[Grab](#) is a mobile ordering app, specifically designed for airports. It is convenient for hungry travellers to find their favourite food spots and to reduce the queues. Traveller chooses the food or shopping's with their phone and picks it up without having to ponder at the site. The application includes offers and is a win-win for both the customer and the companies.

1.Pick a restaurant at the airport. 2. Order food from your phone. 3.Walk right up and grab your food.

Grab offers turn-by-turn directions for the airport to reduce the risk of getting lost before their flight.

Due to COVID-19, Grab's sphere of locations has expanded from the US and it is now operating in various airports around the globe, including Helsinki-Vantaa (FI), London Gatwick (UK), Perth International (AU) and Dubai International (AE).

Read more on Trendhunter

BONUS: KitKat Delayed Flight Machine

Delightful idea on how to transform an unpleasant situation – delayed flight – into a positive customer experience. Customer with a delayed flight receives a free chocolate bar when they scan the boarding pass.

KitKat / Delayed Flight Machine
https://www.youtube.com/watch?v=wkmfCK8sNxI

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Safe Shopping

Travelling has declined dramatically and airport shops were left without any customers. For the airport retailers it is important that the travellers don't just pass through the airport but explore the unique offering of the airport. We searched examples of creative solutions on how to make the shopping experience safer and more comfortable for the post-pandemic traveller. Are the airport retailers ready to respond to consumers' changed consumption habits when the travelling opens up?

Touch-Free Interfaces

Touch screens have been a handy way of using public devices, such as ticket booths and info maps. COVID-19 made people aware of the bacteria the screens accumulate. Consumers are less likely to interact with devices they do not feel comfortable with.

Ultraleap offers world-leading hand tracking technology. Tech can be used to transform interfaces more hygienic. Interfaces respond to haptics and hand gestures instead of touch. Ultraleap's TouchFree application can be installed invisibly on top of existing touchscreens.

Ultraleap has also created a technology that creates a virtual touch. Haptic technology uses ultrasound waves to form tactile sensations in mid-air to generate a sense of touch. This can take the virtual experience to the next level.

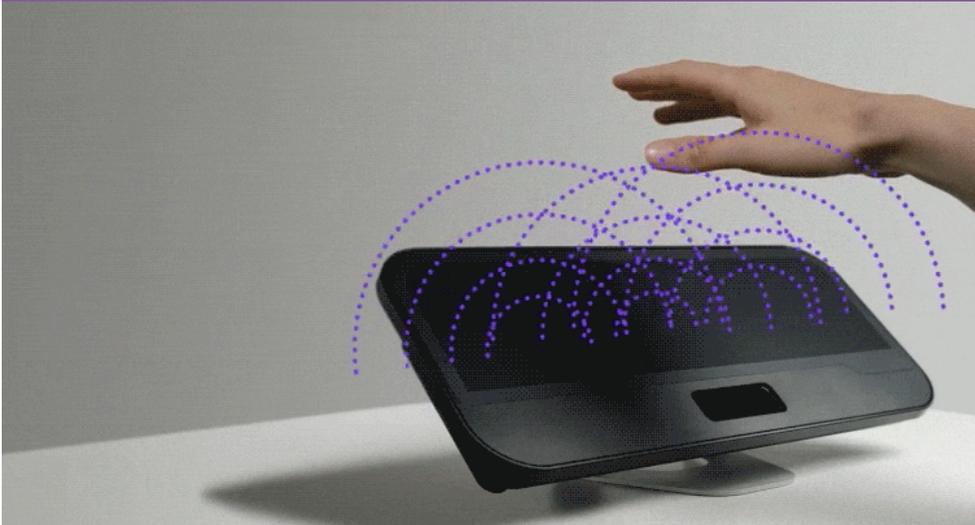Ultraleap partners with various industry-leading companies, including *Varjo*, *Nike* and *Intel*.

Photo: Ultraleap

Contactless shopping experience

Amazon's Just Walk Out technology is expanding to retailers in airports. The technology allows customers to enter the store just by showing a credit card and walking out once they've picked up what they came for. The technology behind it is a mix of computer vision, sensor technology and AI, that recognises what the customer picks up, or puts back, to the shelves. Once the customer leaves the store, their credit card is charged, and receipt mailed - no amazon accounts or app installations needed. The technology reduces contact with people and makes shopping faster and safer.

Other companies offering similar systems; Grabango, Standard Cognition, Trigo, Zippin

Amazon's Just Walk Out
https://www.youtube.com/watch?v=jOF6CE2bG_8

XOVIS Passenger Tracking System (PTS) for airports

XOVIS's PTS solutions are ideal for tracking and managing passenger flow. The system helps operations at airports by supporting everyone involved make the best decisions efficiently and effectively. They are based on a combination of 3D sensors and the Xovis Suite software.

Sensors track the passenger coordinates, based on which the software calculates and visualizes KPI's (e.g. waiting times or passenger volumes) in real-time.

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Photo: LO´real Finance

New Beauty Technology

New beauty technology not just makes shopping safer, it can also enhance customer experience and engagement. Augmented Reality (AR) allows customers to try on new products without touching them. New try-on technology helps in building a safe and seamless shopping experience.

Hamad International Airport launched **Lancôme and YSL Beauté Cafés** that offer a COVID-safe shopping experience. Both beauty brands are owned by L'Oreal and use L'Oreals advanced beauty technology. Lancôme Café showcases Shade Finder, a tech tool for trying foundations. Shade Finder measures skin tone. It can identify 22,500 shades and recommend the right shades from Lancôme's foundation collection. YSL is introducing Modiface with which travellers can virtually try on make-up products. The technology uses AR and AI (Artificial Intelligence) to create an immersive virtual try-on. **Read more on Forbes**

Omnichannel shopping

Auckland Airport adopted omnichannel e-commerce to the heart of its COVID-19 sales strategy. Auckland Airport created an online multi-retailer shopping channel, The Mall, in cooperation with **AOE**.

The Mall provides international travellers a seamless shopping experience and a channel to purchase retail products and services at any stage of their travel journey with their phone.
Read more on Future Travel Excellence

OMNICHANNEL

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Scented Billboard

Advertisement company Havas's agency HOY BUE and ATMA created a **billboard taster.** This interactive billboard is applied to the shopping malls in Argentina. The billboard's posters emanate the smell of the subject in the advertisement, such as coffee, toast etc. If the person doesn't notice the smell, they are advised to contact the local health ministration immediately via WhatsApp.

Photo: ATMA

Other Airport Functions

Contactless Airport Parking

Raleigh-Durham International Airport claims to be 'touchless to the terminal when you book online. The airport has a contactless parking space parking space in which the entrance gate operates by showcasing a QR-code. Once a driver is leaving, the gate automatically opens by recognizing the car's license plate. The airport parking area has credit card scanners at every entry and exit lane that allow guests to pay with mobile apps. Pay-on-foot kiosks allow guests to pay with smartphones and watches.

The Manser Practice Touchless Hotel Design

UK-based architecture studio, Manser Practice envisioned what a post-pandemic hotel could look like. Customers cherish assured cleanliness, which causes troubles for AirBnb's. Most accommodation providers need to rethink their cleanliness standards and customer service. **Read more on Dezeen**

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