Expo-Tech

2024

Guidelines for Application

International Trade Administration

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Introduction

The International Trade Administration (TITA) of the Ministry of Economic Affairs (MOEA) promotes the "Expo-Tech Digital Exhibition Pilot Program," which applies innovative technologies like AI, IoT, and advanced displays to develop multiple service plans for digital exhibitions. These plans are designed to address the needs for organizing exhibitions, as well as help Taiwanese exhibition organizers improve operational efficiency, while enhancing the value of exhibitions, and thus achieve the transformation goals of both digitalization and sustainability.

These guidelines provide 13 service plans that target different aspects of exhibition preparation, operation support, reception services, and in-exhibition services, as well as illustrate the features, benefits, application scenarios, and related software and hardware costs for each service plan. They also serve as a reference for Taiwanese exhibition venues, organizers, and exhibitors in organizing or participating in exhibitions, while maximizing the preparation efficacy and value of such events.

Overview of Service Plans

These guidelines present 13 digital exhibition service plans that cover three main processes for the management of exhibitions: event preparation and operation support, reception services, and exhibition visitor services. Each main process is further divided into one or more detailed sub-processes based on the objectives of the plans.

Preparation and Operation Support	**Operation Digitalization**	Use platform systems and digital tools to provide the necessary event preparation and support services to exhibition organizers, enabling them to efficiently plan and prepare exhibitions while conserving labor.
Reception Services	**Reception and Guidance**	Use AI, IoT, and other technologies to assist organizers in providing necessary reception or guidance services to exhibition visitors.
Exhibition Visitor Services	**Remote Interaction**	se AI, IoT, automation, and other technologies to deliver a realistic exhibition experience to remote online visitors through the Internet.
	Visitor Trajectory Tracking	Use AI, IoT, and other technologies to automatically and very accurately detect and count the flow of people entering and exiting exhibition halls, venues, or booths.
	Physical and Virtual Object Interaction	Use AI, IoT, advanced display techniques, and other technologies that allow visitors to experience immersive interactions with exhibits and manufacturing production lines through digital tools.
	Green Exhibition Applications	Use IoT, energy conservation display devices, and other technologies rather than single-use advertising materials or high-power display devices to present more enriched information at exhibition events.

List of Service Plans for These Guidelines

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Preparation and Operation Support

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Single Registration Entrance for Exhibitors and Visitors

Preparation and Operation Support

02 - Operation Digitalization -
Buyer Trajectory Analysis

Reception Services

03 - Reception and Guidance -
Digital Exhibition Floor Plans and Guidance

Reception Services

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Accurate Venue Positioning and Navigation

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Exhibition Visitor Services

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720° Panoramic Online Booths

Exhibition Visitor Services

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Exhibition Visitor Services

08 - Remote Interaction -
Holographic Inter Remote Visitors

Exhibition Visitor Services

09 - Visitor Trajectory T
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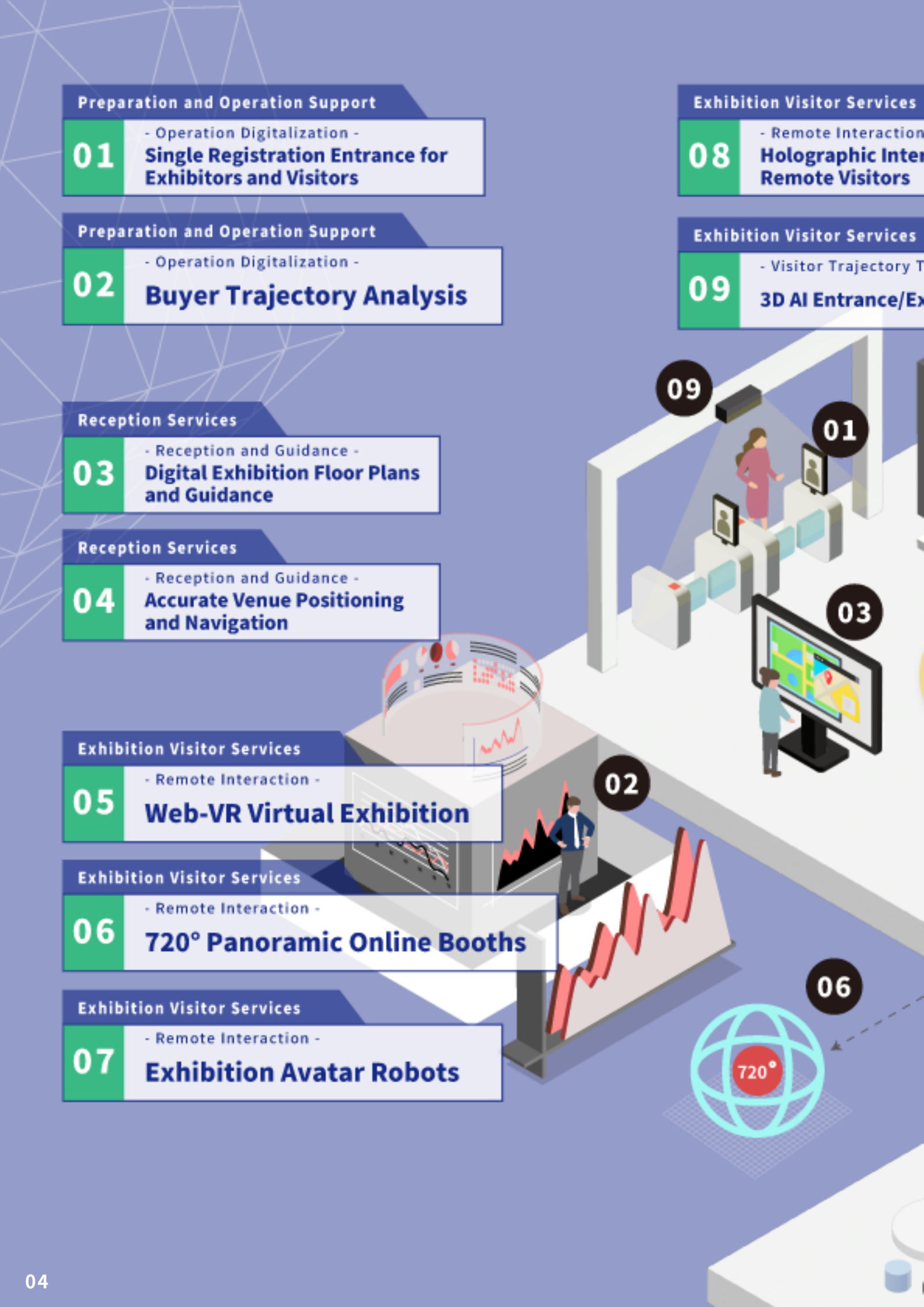

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Exhibition Visitor Services

10 - Physical/Virtual Object Interaction -
Autostereoscopic Interactive Experience

Exhibition Visitor Services

11 - Physical/Virtual Object Interaction -
XR Extended Reality for Factory Areas

Exhibition Visitor Services

12 - Physical/Virtual Object Interaction -
3D Holographic Object Projection

Exhibition Visitor Services

13 - Physical/Virtual Object Interaction -
Electronic Paper Digital Posters

Description Contents for Each Page of Service Plans

To help exhibition organizers better understand the digital exhibition service solutions developed by the EXPO-TECH program, this guidebook suggests the types of exhibition organizers suitable for implementing the 13 service plans outlined here. This guidebook also describes the functional characteristics, benefits, user scenarios, required software and hardware, and cost considerations of each service solution.

Functions

Describes the main functional features and characteristics of each service plan.

Benefits

Describes the potential benefits each plan can bring to exhibition organizers.

User Scenarios

The guidelines describe the scenarios and processes for different roles - exhibition venues, organizers, exhibitors, and visitors - to implement the target plan at different stages of an exhibition: pre-event, during the event, and post-event. This enables the organizers to understand the operations, information provided, and resources required to implement the plan before introducing it.

Required Software/ Hardware

Describes the software and hardware needed for each service plan.

Costs

Describes the potential benefits each solution can bring to exhibition organizers.

- Operation Digitalization -

01 Single Registration Entrance for Exhibitors/Visitors

Venue
Organizer
Exhibitor

Provide a system for exhibitors and visitors to register for the exhibition, allowing venues, organizers, and exhibitors to acquire necessary visitor data.

Description of Functions

- Organizers can use mobile and desktop interfaces on the cloud-based system to set up registration procedures and surveys for collection and analysis of behavioral data about exhibitors and visitors.
- Exhibitors can edit their exhibition information on the cloud system. Visitors can register online to obtain a QR code that serves as a digital business card with personal information and a check-in credential for quick access to exhibition venues and forums.
- Exhibitors and visitors can scan each other's QR codes to exchange digital information.

https://reurl.cc/ZeVKjA

Description of Benefits

- Once registered, visitors can sign up for entry and exhibition activities without re-entering registration information and exchange digital business cards with exhibitors.
- Organizers (venue administrators) and exhibitors can use backend data to monitor visitor behavior and exhibition performance to optimize marketing strategies.

Implementation Guidelines

	Venue	Organizer	Exhibitor	Visitor
Pre-event	• This system can be introduced by venues and made available for organizer rental. • Exhibition details can be set, including event dates, registration period, required registration information, activity sessions, and check-in control points. • The numbers and serial numbers of exhibition booths can be set, exhibitor accounts can be approved, and editing permissions can be granted.		Access the exhibitor-specific page in the system to upload and edit exhibition information.	Log in to the designated page to upload business card information for exchange.
During event	• At each check-in control point, visitor QR codes can be scanned to authorize entry into the exhibition, activities, etc. • System-generated reports can be used to monitor visitor counts, visitor backgrounds, and preferences.		Open the digital business cards and scan interface to read the QR codes of visitors arriving at booths.	Use the QR code at check-in control points (exhibition and activity entrances) for quick check-in. Use the business card scanning function on mobile phones to scan exhibitor QR codes to retrieve business cards and downloadable information.
Post-event	Entry and exit data collected at control points can be analyzed, including visitor counts, booth preferences, and exhibition and activity attendance rates.	Analyze and organize digital business card information for booth visitors and event registration and attendance data.		Query or download information on booths that visitors exchange during a specific exhibition.

Required Software/Hardware

- Mobile devices with a camera for QR Code scanning, including phones or tablets.
- (Optional) Printer for exhibitor/visitor badges

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Costs

- Rental and usage fees for cloud systems
- Rental or purchase costs for mobile tablets at check-in points
- Rental or purchase costs for exhibitor/visitor badge printers

02 Buyer Trajectory Analysis

Venue
Organizer
Exhibitor

Provide exhibitors with customized online and digital services in various standard formats and services

Description of Functions

- The buyer trajectory analysis requires the integration of multiple digital tools, including basic and advanced functions:
  - Basic: Standard web page for exhibitor information, online product catalog, visitor (buyer/customer) surveys, e-newsletter formats, and sending systems.
  - Generate visitor preference analysis charts, keyword advertising suggestions, and target lists for e-newsletter distribution based on visitor behavior and survey results.

https://reurl.cc/mMMV59

Description of Benefits

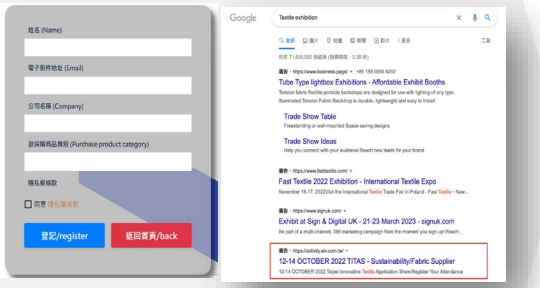
- For exhibitors'online marketing needs, offer standard web pages for quick launch to reduce preparation costs.
- Based on collected exhibition visitor data and behavior information, provide potential client lists and keyword ad suggestions to reduce ad costs and improve ad effectiveness.

Implementation Guidelines

Venue | Organizer | Exhibitor | Visitor

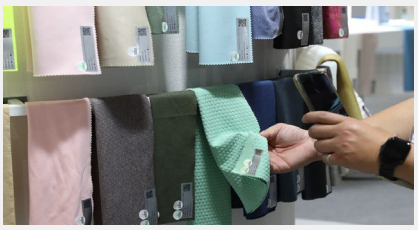
Pre-event

- Offer exhibitors with standard online surveys and digital product catalogs to register and fill in information.
- Collect exhibitor information and business keywords as a basis for online advertising.
- Integrate survey results and advertising keywords to distribute online ads, digital catalogs, and e-newsletters to visitors (potential clients)



During event

Create QR Codes for exhibition booth or product introduction, which exhibitors can print as stickers or displays to collect data on visitor frequency and preferences for exhibits.

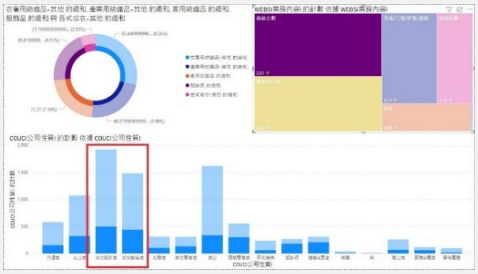


Complete exhibition surveys to provide preference information and opinions about the exhibition and receive exhibitor and product information (e-newsletters and keyword ads) tailored to personal interests.

Scan QR codes with mobile phones to get more information on exhibitors or products.

Post-event

Based on digital catalog downloads, ad placements, survey results, and e-newsletter distribution data, establish visitor preference data and behavioral analysis charts, marking products or services of interest to visitors for organizer and exhibitor reference.



Required Software/Hardware

- Create product images and text for survey web pages and online product catalogs.
- For product online catalog exposure, post the web link for the product online catalog in the e-newsletter and send it.
- Use QR code stickers and printers in the exhibition.

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Costs

- Usage fees for services selected based on requirements (e.g., survey web page service, e-newsletter integration, product catalog service, data integration/preference analysis service).
- Digital ad placement fees.

03 Digital Exhibition Floor Plans and Guidance

Venue
Organizer
Exhibitor

Combine with an online exhibition floor plan so visitors can look up booth locations and exhibitor information and generate guided routes.

Description of Functions

- After establishing the online exhibition map, organizers can allow visitors to use large touchscreen digital displays located at fixed points in the venue to find information, including booth numbers, locations, and descriptions. Visitors can also see recommended lists of exhibitors with similar products or services.
- Visitors can scan location QR codes throughout the venue with smart mobile devices to open a digital map and look up exhibitor information, with suggested routes from the current location to the targeted booth.

https://reurl.cc/DjjR2E

Description of Benefits

- Visitors can utilize this plan with digital displays or smart devices, thereby reducing the usage of paper maps.
- Organizers can use the collected query data to analyze visitor preferences within the exhibition.

Implementation Guidelines

Venue	Organizer	Exhibitor	Visitor

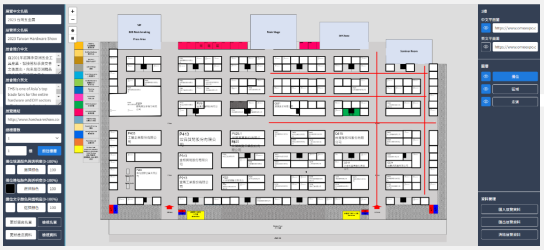
Pre-event

Install digital touch-screens at selected points; or set up a QR code at the exhibition venue in advance for visitors to scan and locate using their smart mobile devices

- Upload the venue floor plan and set booth numbers, shapes, and sizes.
- Collect information on exhibitors, exhibits, and booth details.
- Set the locations of touchscreens and QR code positioning points.
- Integration with the official exhibition website is also available, allowing online visitors to access the venue floor plan.

Upload exhibitor data.

During event



- Route Search: Within the venue, use digital touchscreens to operate the digital map and locate desired booths. After setting a destination, a suggested route map will be generated.
- Booth Search: Visitors can search for booths using phonetic alphabets, such as the Mandarin phonetic symbol for the first word of the exhibitor's Chinese name or the first alphabetic letter of its English name. In addition to specific searches, a recommended list of exhibitors offering similar products or services will also be available.

Post-event

Analyze searched data within the system to understand visitor preferences for the types of booths they looked up and visited.

Required Software/Hardware

- Cloud system rental: To create the online venue map, set up exhibitor information, and collect searched data. The system should go online one month before the exhibition and be kept open for at least half a month during and after the event for visitors and organizers to access.
- (Optional) Digital touch screens: Screens of 86 inches or larger are recommended. Touch screens may be self-provided according to specifications or rented from the venue.

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- Rental and usage fees for cloud systems
- Rental, purchase, and transportation fees for digital touch-screens
- Power and internet cable usage fees

04 Accurate Venue Positioning and Navigation

Venue
Organizer
Exhibitor

The online venue floor plan and accurate positioning and navigation functions allow visitors to locate exhibitors and access dynamic navigation.

Description of Functions

- The full venue map, established with UWB (Ultra-Wideband) or BLE (Bluetooth Low Energy) small base stations, enables visitors to search for exhibitors within the venue and get precise navigation advice.
- Exhibitors can register various products and promotional information on the online map platform. When visitors enter the venue, the platform can activate relevant information based on their location.

https://reurl.cc/GjjW7Z

Description of Benefits

- This full venue map established with UWB or BLE small base stations provides accurate navigation and optimizes visitor movement routes.
- Exhibitors can push product information based on visitors' locations, enhancing exhibition effectiveness and engaging potential clients.

Implementation Guidelines

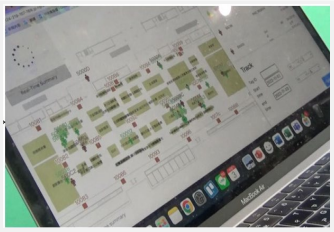
Venue | Organizer | Exhibitor | Visitor

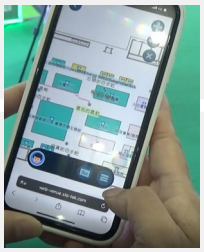
Pre-event

- Evaluate and determine the best locations in the venue to install base stations to maximize signal coverage. Install UWB or BLE small base stations at planned locations.
- Based on the base station coverage area, incorporate actual terrain and layout along with uploaded exhibitor information to establish the online venue map.
- Upload booth promotional information to the online venue map platform.

Log in to the exhibitor management interface on the platform to upload company information, booth numbers, product categories, etc. that the system integrates with navigation.

During event





For temporary promotional information, exhibitors can update their information through the exhibitor interface and activate updates to on-site visitors in real time.

· Visitors can the QR code at various positioning points to open the digital venue map app.

· After identity verification, visitors can access the online venue map, activate the navigation function, and select or search for target booths to start navigation.

· During navigation, visitors can receive promotional and event information from various exhibitors as they pass each booth

Post-event

Using the platform, organizers and exhibitors can analyze common visitor paths and statistics (such as main routes, visit rates for each booth, etc.) to evaluate the effectiveness of booth information and promotions that attract visitors, providing references for organizers and exhibitors to plan future marketing strategies.

Required Software/Hardware

- Based on environmental conditions, install fixed or mobile UWB base stations within the venue and provide power and internet connectivity.
- Staff and visitors should carry UWB smart cards to connect with UWB base stations for connection and positioning.
- With the online map platform, the real-time location, historical movement paths, and duration of UWB smart cards, can be monitored.

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Costs

- Purchase/rental and installation costs for UWB/Bluetooth base stations
- Purchase/rental fees for USB/Bluetooth cards
- Management platform usage fee

05 Web-VR Virtual Exhibition

Venue
Organizer
Exhibitor

Provides visitors with an immersive experience by allowing them to enter a virtual exhibition hall via web browsing or VR headsets.

Description of Functions

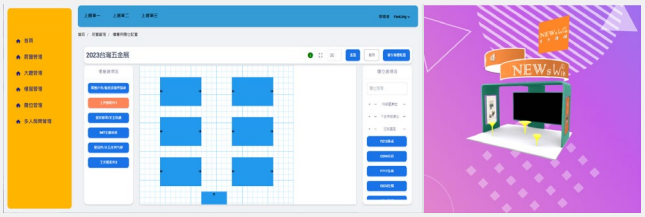
- Exhibitors can set up a customized virtual booth on a cloud-based platform to showcase various product information.
- Visitors may explore the immersive 3D exhibition space using a VR headset for a first-person perspective. They can listen to guided tours, view 3D product models, and interact with other attendees. Visitors can also connect to the virtual exhibition hall through the internet for a diverse viewing experience.

https://reurl.cc/Ejj39K

Description of Benefits

- Using the cloud-based exhibition space, exhibitors can present detailed product information that might be challenging to showcase in a physical space, thereby allowing potential clients who cannot attend the exhibition in- person to view products in virtual booths.
- The online exhibition can run longer than the physical event to advance or extend exposure to potential buyers.

Implementation Guidelines

	Organizer	Exhibitor	Visitor
Pre-event	• Establish a virtual exhibition on a cloud platform, including main visuals and booth styles. • Promote online and physical exhibitions simultaneously to increase overall visitor traffic.	Use the exhibition platform to upload product images, texts, multimedia, and other materials to the booth.	
During event		Have staff stationed at booths to interact with online visitors.	• Use a VR headset to enter a virtual booth for a first-person perspective to browse product information, listen to the product description, or view its 3D model. • Connect to the organizers' cloud exhibition space from mobile devices or computers to browse product details and information.
			
Post-event	Analyze visitor behavior data (e.g., visit frequency, duration, and page clicks) to get information about preferences and combine it with physical event attendance to assess exhibition performance and product popularity for the formulation of future marketing strategies.		

Required Software/Hardware

- Prepare cloud exhibition platform server and computing resources.
- Create necessary digital materials for the virtual space:
  - Images: mainly JPG or PNG.
  - Videos: mainly MP4.
  - 3D models: mainly GLB.
- (Optional) Prepare VR headsets for hands-on experience at physical events (require computers, screens, power, and the internet on-site).

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Costs

- Rental and usage fees for the cloud exhibition platform
- Digital material creation costs
- VR device rental or purchase fees
- Computer and screen rental or purchase fees
- Usage fees for on-site power and internet

06 720-Degree Panoramic Online Booths

Venue
Organizer
Exhibitor

Use panoramic photography to capture the physical booth and showcase it online as a 720-degree viewable virtual exhibition avatar.

Description of Functions

- Capture every angle of the booth using 720-degree panoramic techniques and high-resolution photography techniques. Add various interactive materials according to the corresponding booth location or the exhibits that need to be promoted.
- Set up an optimal visitor route and design a virtual booth that allows viewers to freely rotate in 720 degrees and explore on a computer or mobile device anytime and anywhere.
- The panoramic booth can integrate texts, images, videos, 3D models, and other digital media to provide visitors with more exhibitor and exhibition information.

https://reurl.cc/QRRzE9

Description of Benefits

- Visitors can access the virtual booth through the internet to explore the details of each booth and experience the atmosphere of the exhibition without time or location constraints.
- Online visitors can view various exhibition materials (e.g., videos, 3D models) to gain deeper insights into exhibitors and exhibits.
- Extend the exhibition to allow more visitors to participate virtually.

Implementation Guidelines

Pre-event

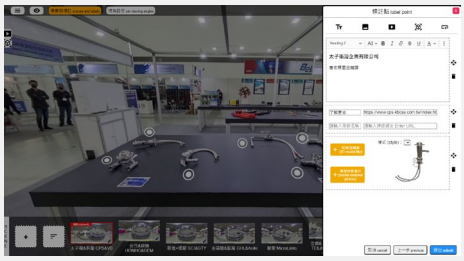
Organizer

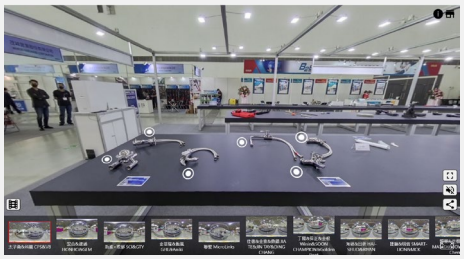
- Discuss with exhibitors, collect interactive materials, and design the viewing route of the panoramic interactive exhibition.
- After setting up the on-site booth, conduct a photo session before the official opening.
- Create an interactive virtual exhibition on the system, import digital materials, such as images and videos, add interactive items, and set the display content.
- Share the link for the virtual panoramic booth via websites, social media platforms, and digital media to attract online visitors.

During event

Organizer

Adjust display content as needed in the backend management platform and publish updates in real time.





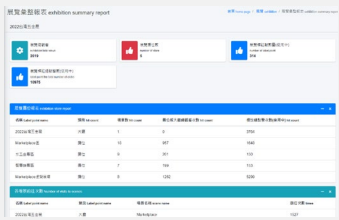
Visitor

- Access the link for the panoramic virtual booth on a mobile phone or computer to begin exploration of booth.
- Share the link with others to invite them to view the exhibition.

Post-event

Organizer

Analyze online visitor preferences through the number of views for each scene and digital material in the panoramic booth for future marketing and exhibition strategies



Required Software/Hardware

- Use 720-degree panoramic photography equipment to capture the exhibition.
- Set up and manage the content of the panoramic virtual booth through the panoramic interactive booth management platform.
- Create digital materials for the panoramic booth:
  - Images: mainly JPG or PNG.
  - Videos: mainly MP4.
  - 3D models: mainly GLB

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Costs

- Usage fees for the panoramic virtual booth management platform
- Rental or purchase costs for 720-degree panoramic photography equipment
- Personnel fees for panoramic booth photography
- Personnel fees for uploading digital data for the panoramic booth
- Digital material creation costs

07 Exhibition Avatar Robots

Venue
Organizer
Exhibitor

Enable remote visitors to experience the exhibition via mobile robots in the venue and even participate in events or meetings

Description of Functions

- Remote visitors can explore the exhibition online through the camera of mobile robots controlled by a remote system (one-person-one-robot mode).
- Through remote control, remote visitors can use robots equipped with cameras, audio equipment, and microphones to view exhibits, listen to presentations, participate in meetings, and even communicate with exhibitors.

https://reurl.cc/6vvrqV

Description of Benefits

- Remote visitors can connect to the robot's interface to access the exhibition seamlessly.
- This provides an optimal experience for those unable to attend or with specific needs, increasing participation rates and exposure for exhibitors to target audiences.

Implementation Guidelines

Pre-event

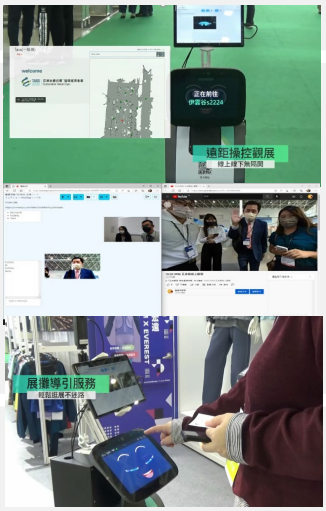
Venue

- Assess the robot's movement range within the venue and identify locations for charging stations.
- Introduce robots for rental to organizers and exhibitors.

Organizer

- Provide service information to exhibitors and visitors to promote the service and gather their interest in participation.
- After venue decoration, scan the exhibition hall to create a map and import it with exhibitor information into the robot's database.
- Set up exhibition booth information (e.g., booth names, docking points) on the platform.
- For scheduled live tours, set up tour routes and schedules in advance.

During event



Exhibitor

Upload exhibitor details using the organizer's digital venue map to get booth numbers, locations, and dimensions.

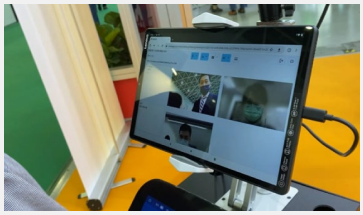
Visitor

- Upload exhibition and event details to the online platform and import them into the robot's database.
- Promote and invite visitors who cannot attend the exhibition to use exhibition robots, and introduce products and conduct business with them.

Follow the user instructions to remotely control exhibition robots through the online interface to visit the exhibition, listen to product presentations, participate in meetings, and interact with other attendees.

Post-event

Analyze visitor usage records, walking routes, types of exhibitors visited, and duration of visit to understand visitor preferences.



Required Software/Hardware

- Based on the scale of the exhibition, prepare exhibition robots, provide charging stations, and ensure network access for robot use.
- Introduce an online robot management platform and video conferencing system.
- Equip robots with communication and AV equipment.
- (Optional) Install panoramic cameras for live broadcasting.
- Prepare a stable wireless network for robot connectivity at the venue

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Costs

- Rental and usage fees for robot dispatch and online management platform
- Purchase or rental costs of robots
- Power and internet usage fees
- Purchase or rental costs of panoramic cameras

08 Holographic Interaction for Remote Participants

Venue
Organizer
Exhibitor

Use 3D projection and live streaming to 3-dimensionally display remote exhibits or interactive content in a holographic box at specific locations in the venue.

Description of Functions

- The images of demonstrations or interactive presentations recorded in a remote studio (offsite) can be presented in a 3D holographic fashion in remote locations (on-site) under a stable network environment.
- Recorders can interact with remote participants and exhibition visitors through a two-way communication video interface.

https://reurl.cc/OMM9Rg

Description of Benefits

- Remote participants can communicate face-to-face and interact with attendees on-site through holographic projections.
- Expand exhibition engagement, increasing participation and immersion in conferences, seminars, and product launches to enhance user experience.

Implementation Guidelines

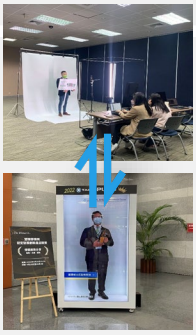
Pre-event

Venue
- Select appropriate locations within the venue to install holographic display equipment.
- Establish a high-speed and stable two-way network between the exhibition venue and the studio.

Organizer
Coordinate with interactive content providers to determine video content and streaming schedules.

Exhibitor
Collaborate with the organizer on holographic content, identify demonstration personnel and program details, and provide exhibitor product information as themes or subjects for interactive content.

During event



- During live-streaming events, transmit video filmed in the recording studio to the holographic boxes at the exhibition venue.
- Hosts can be assigned to guide on-site visitors in interacting with remote participants.

- Play holographic programs to attract visitors; relevant exhibitors can further introduce their products or services to increase business opportunities.
- Online exhibitors can also discuss business with on-site visitors through holographic boxes.

- View holographic content on holographic display equipment in the venue.
- Use the video equipment on the holographic box to observe, communicate, and interact with remote hosts and demonstrators.

Post-event

Analyze data such as the number of participants in different event sessions to understand visitor preferences.

Required Software/Hardware

- Set up software and hardware equipment in the recording studio at suitable locations.
- Install holographic projection display boxes within the venue.
- Provide the necessary power and network infrastructure.
- (Optional) Mount cameras, microphones, and speakers to the holographic projection boxes for enhanced on-site interactivity.

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Costs

- Setup, rental, and usage fees for the recording and streaming platform system
- Rental, purchase, and transportation fees for holographic boxes
- Power and internet cable usage fees
- Rental, purchase, and transportation fees for additional video equipment

09 3D AI Entrance/Exit Visitor Counting

Venue
Organizer
Exhibitor

Install network cameras that automatically detect and count moving people at exhibition entrances for accurate visitor statistics.

Description of Functions

- Set up webcams that can accurately detect and count people (with 3D depth-sensing, simulated stereoscopic vision, and bidirectional counting functions) at venue entry points to monitor crowds.
- The detected data can be linked with other functions (e.g., the capacity control system) to trigger capacity control alerts when needed.

https://reurl.cc/0vv7kk

Description of Benefits

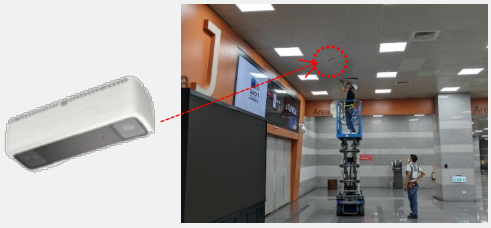
- Simple installation and automatic operation eliminate the need for additional personnel to count manually.
- Data on entry and exit counts at each entrance and venue occupancy can be monitored anytime.

Implementation Guidelines

Venue | Organizer | Exhibitor

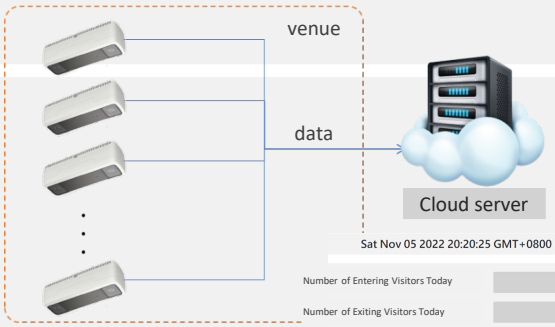
Pre-event

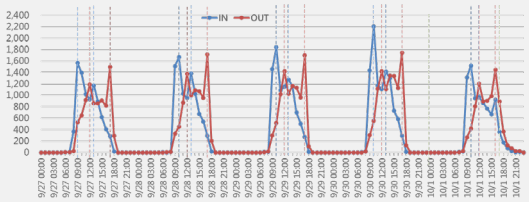
- Aside from the venue entrances and exits, determine other doorways to events or specific exhibition areas that require visitor detection and calculation.
- Install cameras at designated entrances and exits and test the connections with the host.
- Configure activation times for each entrance/exit detection camera on the host.



During event

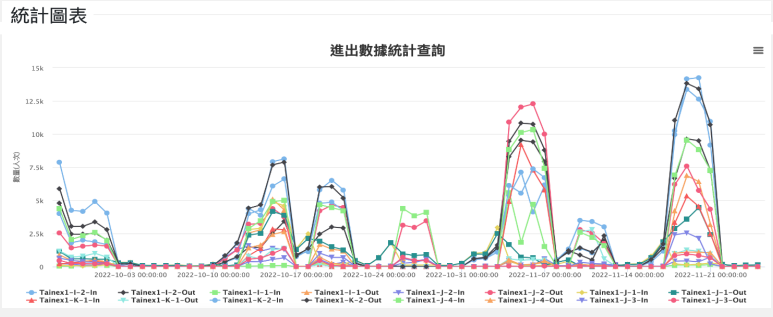
During the exhibition, the frontend server continuously uploads detection data from each camera to the backend cloud platform. Exhibitors, organizers, and venue staff can obtain accounts and passwords to access the backend platform and get the data.





Post-event

Generate time-sequenced charts for entry/exit counts and integrate and analyze them to provide references for route planning, staffing deployment, and activity design for future events.



Required Software/Hardware

- Webcams: Install them above the detection area (at a height of 2.2 to 6 meters)
- and connect power and network cables (with usage costs).
- Equipment installation: For each entrance, install one camera; if the doorway is too wide, install two, each covering a designated detection area.
- Data collection: Place a small processing server near the detection area to receive camera data and upload it to the cloud platform.

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Costs

- Rental or purchase fees of webcams and servers
- Installation and removal fees for on-site equipment
- Power and internet cable usage fees
- Cloud platform usage fees

10 Autostereoscopic 3D Interactive Experiences in the Exhibition Hall

Venue
Organizer
Exhibitor

Utilize AI technology that can recognize human motion and large LED screens to display digital designs with a 3D visual effect.

Description of Functions

- Use AI-based pose recognition technology to detect human postures and movements and activate pre-designed interactive content to create a more intuitive, natural, and engaging experience, thereby enhancing user interaction and efficiency.
- Combine a large LED display screen (preferably L-shaped) with autostereoscopic 3D digital design (using human eye parallax and perspective principles to give visitors a stereoscopic illusion) to provide visitors with a direct, natural, and enjoyable viewing experience.

https://reurl.cc/7005L1

Description of Benefits

- Use autostereoscopic 3D and AI pose-recognition technologies to deliver highly interactive and visually captivating marketing content within a compact space.
- Minimize single-use decorations and boost popularity and foot traffic for exhibitors and exhibitions.

Implementation Guidelines

Pre-event

Venue

- Strategically plan the position, angle, and size of interactive screens based on visitor gathering points and likely viewing angles to achieve an optimal 3D effect.
- Install large LED screens in the exhibition venue or hall.
- Set up cameras to capture visitors' body postures and hand movements.

Organizer

- Design and create autostereoscopic 3D digital content.
- Use a backend management platform to adjust digital content on the on-site autostereoscopic 3D screens.
- Design interactive gesture scripts and scenarios for visitors according to the digital content.

During event

Venue

Arrange guides to encourage interaction or showcase physical exhibits to enhance the viewing experience.

Visitor

Make specific gestures according to the prompts to trigger changes in the digital content.

Post-event

Analyze user interaction and operation data the system collected to further understand visitor preferences.

Required Software/Hardware

- Autostereoscopic 3D screens: Screens can be rented from the venue or equipment provider, or self-prepared. The screens should be at least 80 inches, preferably in a protruding L-shaped configuration for optimal viewing experience, and connected to a power source.
- Digital content creation: When creating autostereoscopic 3D digital content, consider diverse viewing angles, shadow depth, and color contrast to ensure a clear and effective 3D presentation.
- A small computer must be installed on-site to connect to the autostereoscopic 3D screen for content display.

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Costs

- Rental, purchase, and transportation fees for autostereoscopic 3D screens.
- On-site computer rental or purchase fees
- On-site installation and removal fees
- Power line usage fees
- Digital content creation fees

11 XR Extended Reality for Factory Areas

Venue
Organizer
Exhibitor

Film a 720-degree dynamic video of the factory site and display it on a multi-screen setup at the exhibition to allow visitors to enjoy an immersive experience through XR technology.

Description of Functions

- Record video using 720-degree panoramic cameras to capture spaces and information that cannot be physically brought to the exhibition, such as factory facilities or production environments. Conduct post-production and add interactive information (e.g., text or voice descriptions) to create an XR interactive video.
- The XR interactive video can be showcased on large screens at the exhibition (recommended with at least three 55-inch or bigger screens arranged in a fan shape) for visitors to view and experience.

https://reurl.cc/kOyrbq

Description of Benefits

- Experiences that visitors can only enjoy through on-site visits, such as visits to factories and production lines, are presented through XR immersive experiences at the exhibition.
- Visitors can effectively understand exhibitors'capabilities, thereby increasing the chances for business cooperation and capturing potential clients' interest.

Implementation Guidelines

Venue	Organizer	Exhibitor	Visitor

Pre-event

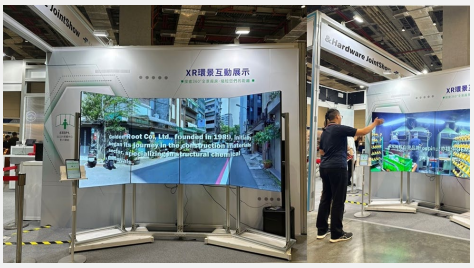
Venue

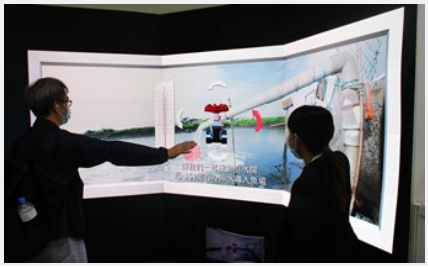
Determine appropriate locations and dimensions for XR screens within the exhibition venue and install them.

Organizer

- Collaborate with exhibitors to determine filming content, highlight key points, and film dynamic and static panoramic videos on-site (e.g., factory locations) as materials for the XR interactive experience.
- Incorporate relevant information about the filming locations, such as images, texts, and audio, into the video to create the XR interactive experience.
- Enhance visitor interaction by integrating gesture recognition technology according to the video content.

During event





Organizer

During the exhibition, use the XR interactive system to allow visitors to directly experience the exhibition highlights and arrange staff for explanations.

Visitor

- Watch the 720-degree panoramic video of exhibitors' locations on a multi-screen display or panoramic booth through the XR interactive experience system at the exhibition.
- Learn more about the exhibition or exhibitors by interacting with and exploring the system.

Post-event

Organizer

Analyze collected user interaction and operation data to understand visitor preferences and specific details about exhibitors of interest.

Required Software/Hardware

- Operate 720-degree panoramic filming equipment to record images and videos of factories or display rooms.
- Design and produce digital materials and interactive experiences.
- Set up multiple large (55-inch or greater) thin-bezel digital displays on-site to create an XR experience area.
- Utilize the XR panoramic video platform for the visitors to operate.
- (Optional) A gesture recognition system can also be integrated to provide an interactive service.

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Costs

- Usage fees for the XR panoramic video platform
- Rental, purchase, assembly, and transportation fees for large thin-bezel digital displays
- Power usage fees

12 3D Holographic Object Projection

Venue
Organizer
Exhibitor

Present digital 3D models of exhibit items in a holographic projection box at the exhibition, allowing visitors to manipulate and observe.

Description of Functions

- Visitors can interact with virtual exhibits in real time using holographic boxes, which provide 3D models of the objects.
- The box's surface features a transparent touchscreen, enabling the overlay of informational texts and images on actual products within the box to provide a more engaging way for visitors to learn about product details.
- In addition to touch interaction, computer vision and AI gesture recognition technologies can also be used to allow visitors to interact with the exhibits contact-free for better safety.

https://reurl.cc/ezyLlm

Description of Benefits

- Allow visitors to observe exhibit details clearly in a contact-free manner, providing a more comprehensive exhibition experience.
- Enhance exhibit visibility and engagement through digital interaction to boost sales.

Implementation Guidelines

Venue	Organizer	Exhibitor	Visitor

Pre-event

Place the holographic box in exhibition halls, venues, or booths, as planned by roles (exhibition hall, curator, or exhibitor) to ensure accessibility, safety, and suitability of the interactive environment.

- Organizers and exhibitors determine the product content to be displayed and design interactive and display content to highlight product features.
- Gather a list of products for modeling and generate realistic 3D models using modeling technology.
- Import 3D models into the interactive system and enhance visibility through in-box display devices.

During event

Set up instructional signs and arrange personnel on-site to guide visitors and ensure smooth interactive experiences.

Stand in front of the holographic box and follow instructions to manipulate virtual exhibits using gestures (zoom, pan, switch, rotate, etc.), viewing different parts and details from multiple angles while viewing relevant product information displayed on the screen.

Post-event

Analyze exhibition preferences based on data, such as clicks, views, and duration for each model or information.

Required Software/Hardware

- Configure the required number of holographic boxes and set up power and high-speed internet.
- Prepare exhibit 3D models in GLB format at a height of 150 cm to ensure realistic color and texture presentation. Colors should be at least 24-bit true color, and texture resolution should be 1 mm or finer for the most realistic visual experience.
- Use the object holographic interaction system to play digital content and execute gesture recognition commands.

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Costs

- Rental and usage fees for the platform
- Rental, purchase, and transportation fees for holographic boxes
- 3D model and digital material creation costs
- Power and internet usage fees

13 Electronic Paper Digital Posters

Venue
Organizer
Exhibitor

Use e-papers, which display digital images and texts in a low power-consuming and reflective manner, to replace traditional posters and printed materials in exhibitions.

Description of Functions

- · By using e-papers that do not require constant power to display content, traditional exhibition materials of various sizes, from small signage and visitor badges to wall poster and LED display screens created through splicing, can be replaced.
- · The establishment of e-paper display areas requires prior planning for placement, stands, and power lines. The content to be displayed should be designed based on the e-paper resolution and uploaded to the management platform by the provider (e.g., the organizer or exhibitor). During the exhibition, the platform can automatically change the content based on a preset schedule.

https://reurl.cc/LWly39

Description of Benefits

- E-paper only requires power when changing the display content, and when displaying the same content for a long time, it consumes no additional power, demonstrating its energy efficiency.
- Remote connectivity can be utilized to update content at specified times, meeting the real-time flexibility needs for frequently updated information in the exhibition.

Implementation Guidelines

Venue | Organizer | Exhibitor

Pre-event

- Select the installation location, format, and required size of the e-paper digital posters for the manufacturer.
- As e-paper does not reflect light, if the chosen location has insufficient natural light, it is recommended that external light sources be added.
- Create the content to be displayed and upload it to the management platform, then set the display sequence and timing.

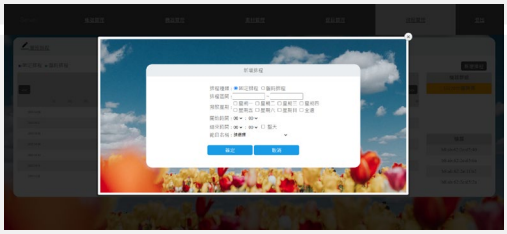


During event

- Based on the preset content and rotation schedule, activate the e-paper to display content as scheduled.
- Adjust the content as needed during the exhibition and publish updates instantly through the management platform.

Post-event

After removing the e-paper posters, the content should be cleared via the management platform to prevent any residual electronic ink on the e-paper, thereby maintaining the quality for future use.



Required Software/Hardware

- Purchase the required e-paper specifications and quantity, and plan the display method.
- Create digital content for e-paper posters (in JPG or PNG format) and upload it to the e-paper content management platform for configuration.
- If content needs to be changed multiple times every day, connect power lines and internet cables; if changed only once a day, portable power can be used, or the power line can be removed after changing the content.

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Costs

- E-paper product rental/purchase cost
- Installation fees for e-paper products (or rental/purchase cost of mobile display stands)
- Power line and internet usage fees Display content creation costs

EXPO – TECH
Guidelines for Application

Guiding Organization: 經濟部國際貿易署 International Trade Administration

Implementing Organization: 工業技術研究院 Industrial Technology Research Institute