

ENHANCE YOUR
MUSEUM VISITOR
EXPERIENCE

with LinkRay from Panasonic

SEEING
RED

70 YEA

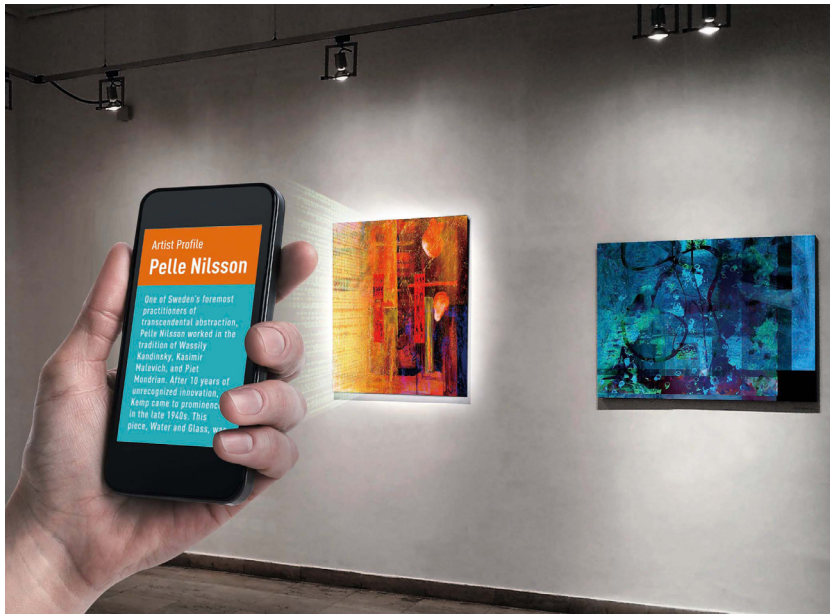
Founded by Enzo Ferrari in
and top performance on and
Ferrari has recorded over 5,0
intent to build and campaign
road-going variants that are n
all time. The firm's deep-root
time when Rosso Corsa ("raci
teams regardless of manufact
bear his name today belong to
painting its cars Rosso Corsa,

What is LinkRay?

Panasonic has developed the most advanced content delivery service for museums to date, using visible light communication. LinkRay uses LED light to link mobile devices to content in spotlights, museum showcases, flat panel displays and projectors.

Museum visitors access the exact information they want, exactly when they want it, just by pointing their mobile device towards the information source. Using this technology provides many opportunities to provide an extra dimension to your visitor experience: people can explore your collections in exciting new ways and you can create exhibits that are even more memorable and impactful.

Intuitive and easy to use



How do you use LinkRay?

Step 1.

Aim your mobile device at a light which has the LinkRay feature.



Step 2.

Automatically receive content on your mobile device.



LinkRay as a catalyst

“The museum is the stage; the artifacts are the actors and LinkRay is the tool that brings this memorable experience alive.”

LinkRay can be used together with many different applications to transform your museum exhibits and installations. It is the perfect tool to spark imagination into life and deliver a more immersive visitor experience, whatever the subject matter.

LinkRay as a lighting solution

“Visit. Experience. Engage.”

You can use LED lights fitted with a LinkRay modulator as an information source for your visitors. Without changing the original ambience of the exhibition, you can add value to your visitors' experience by adding information to each artefact that will be delivered at the speed of light when a visitor points their mobile device at it. You no longer need to install information labels: visitors can enjoy the exhibit as it is.

LinkRay as a signage solution


When visitors come to the Museum you want to give them as much information as possible. Using professional projectors and displays in combination with the LinkRay transmitters you can easily deliver personalised messages and increase marketing touch points to keep visitors informed about your latest events and promotions.

LinkRay Package


The package consists of Transmitter Hardware and Software Licenses.

LinkRay Hardware


Digital Signage




Projector




Signboard




Spotlight



Showcase



Modulator




LinkRay Services License

LinkRay App SDK

SDK

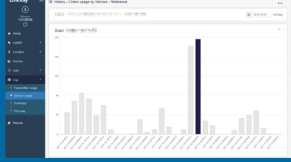
SDK Integration Custom made to customer app

LinkRay Web-API


Web-API

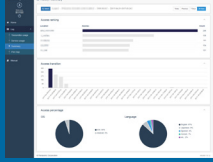
Web-API for consumer console

LinkRay Management Platform



Portal to manage LinkRay ID and contents

LinkRay Analytics



Vizualization of data collected from the system. Eg. Device and language usage

LinkRay compatible equipment

Projectors

We have 6 durable projectors available to choose from that offer high brightness up to 7 500 lumens.

| | PT-MZ770 | PT-MW730 | PT-MZ670 | PT-MZ570 | PT-MZ630 | PT-MW530 |
|-------------------|-----------------|----------|--------------|--------------|--------------|--------------|
| Brightness | 7 500 lumens | | 6 500 lumens | 5 500 lumens | 6 500 lumens | 5 500 lumens |
| Resolution | WUXGA | WXGA | WUXGA | | WXGA | |
| Technology | Laser Projector | | | | | |

Displays

We have two different series of displays that offer high brightness and strong reliability to provide continuous 24/7 operation.

| | SF1H Series | SF2H Series |
|-------------------------------|-----------------------|-------------|
| Available screen sizes | 42", 49", 55" | 80", 70" |
| Brightness | 700 cd/m ² | |
| Panel Type | VA/E-LED | IPS E-LED |

Transmitters

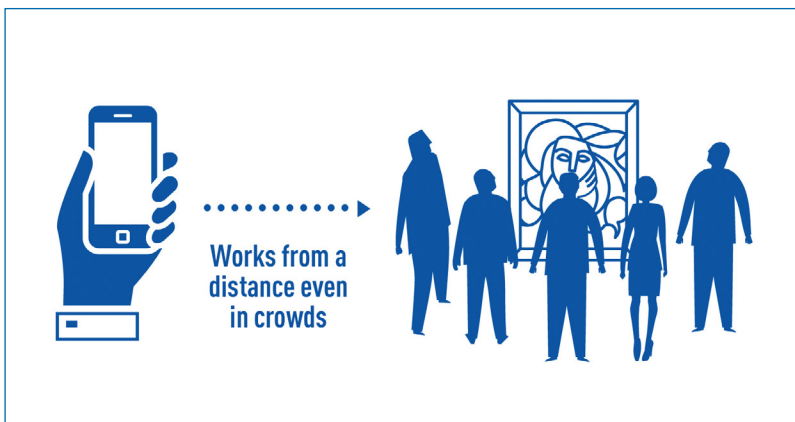
We have five available transmitters that transmit the digital content to mobile devices using LED light.

| | XC-ALS01W-1 (Fixed ID modulator) | AL-A001GL (Variable ID modulator) | NOTN70101 (Fixed ID Modulator) | ECXi 700.293 (Constant current module) | ECXi 700.294 (Constant current module) |
|------------------------------------|---|---|-----------------------------------|---|---|
| Number of light IDs emitted | 1 | Unlimited | 1 | 1 | 1 |
| Compatible LED light source | Constant voltage LED 5V, 7W or lower | Constant Voltage LED 12V or 24V, up to 50 W | 12V/24V; Max 60W | 350/500/700mA, 30-53V (recommended VS LUGA Modules Gen.6 or higher) | 350/500/700mA, 14-34V (recommended VS LUGA Modules Gen.6 or higher) |
| Dimensions | 66x30x10mm, 15g | 148x43x33mm, 200g | 182mm x 40mm x 22.5mm; 175g | 123,4x79,4x32,6mm | 103,6x67,6x31mm |
| Typical usage | Ideal for smaller LED sign panels from A5 to A3 sizes | Ideal for large LED sign panels from A3 to A0 sizes | Signboard, Showcase | LED spots, LED luminaire (constant current) | LED spots, LED luminaire (constant current) |

The benefits of LinkRay

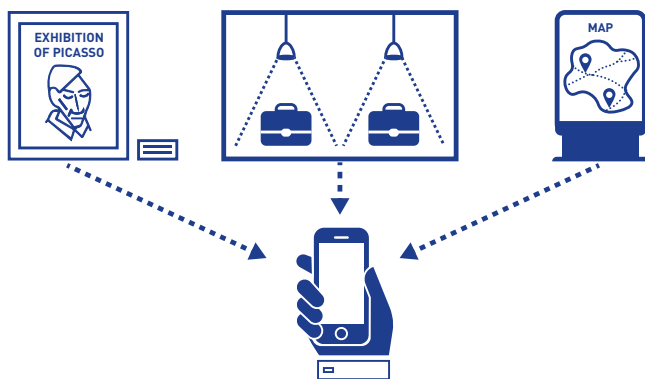
Give visitors information wherever they are, in any language.

Visitors can easily access information about individual exhibits wherever they are, in their native language, according to their language preferences. They can receive the content they need just by pointing the mobile device towards the light source. It doesn't matter whether they are standing near the light source, some distance away from it, or even standing in a crowd.



A world of content at your fingertips

It doesn't matter whether you want your content to be practical, commercial or immersive. You can create any kind of content and distribute it via the LinkRay platform, whatever language or customisation you want to display.



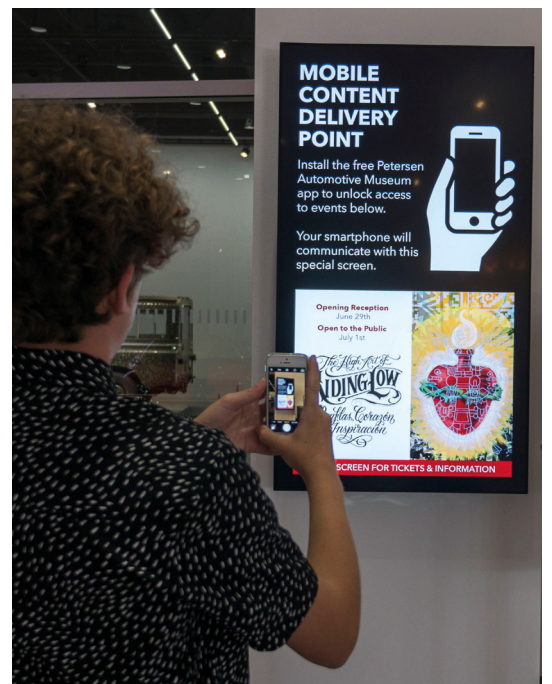
Part of the ambience

Panasonic is developing a range of LinkRay transmitters including digital signage, projectors, display showcases, spotlights and customised lighting. We have the equipment to integrate perfectly into your environment.



Access and analyse key visitor data

Do you want to see how many visitors viewed your exhibit? Or discover which artefact was scanned most often by visitors? With LinkRay you can extract and analyse all possible facts and figures captured by the LinkRay application, giving you vital insights into which exhibits are the most popular and how to design installations that will maximise visitor numbers in the future. This is presented to you in your management portal.



An investment that pays for itself and generates income

Enabling LinkRay requires a combination of light sources, a management portal and developed content that is made available on a content platform for your visitors. However, this is a cost that can be easily calculated based on your needs.

How will you earn the money back? Well, for starters, you will make significant cost savings. You won't have to print brochures or leaflets anymore, and you can reduce staff costs spent on providing information. Using digital signage with LinkRay could also help generate revenue by offering fundraising and sponsorship packages (e.g. membership, special exhibitions and events). This can also help you to increase advertisement touch points, enabling visitors to easily access information and take it away with them.

The opportunity is to use LinkRay as an asset for developing your museum commercially. You can use it either as an information tool; a direct marketing tool for promoting activities and events; or to create the ultimate visitor experience, providing unforgettable memories for your target audience.



York Art Gallery

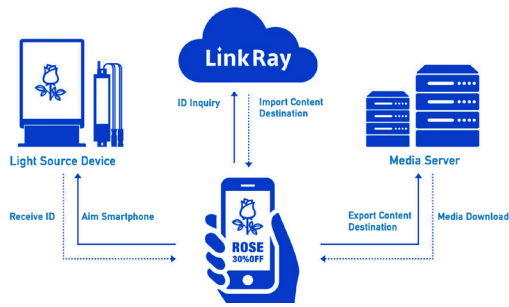
Collaboration with ClickNetherfield

Panasonic is collaborating with ClickNetherfield to create a range of LinkRay-enabled showcases.

ClickNetherfield is one of the top manufacturers of museum showcases in the world, with technical capability and project management skills unparalleled in the industry. The company has over 50 years' experience in designing and manufacturing high quality showcases for the museum and heritage sectors and a reputation for innovative engineering and quality, resulting in the completion of well over 5,000 projects in over 40 countries worldwide.



LinkRay System Configuration



Supported operating systems and devices

Panasonic provides a dedicated LinkRay solution app for iOS/ Android. Users can download it to supported smartphones and tablets for free. Panasonic also provides an SDK (software development kit) that enables collaboration with third party app developers.

Supported operating systems

Most iOS 8.0 systems & later

iPhone 5 / iPhone 5c / iPhone 5s / iPhone 6 / iPhone 6 Plus / iPhone 6s / iPhone 6s Plus / iPhone SE / iPhone 7 / iPhone 7 Plus / iPhone 8 / iPhone 8 Plus / iPhone X / iPad 5th generation / iPad Air / iPad Air 2 / iPad mini 2 / iPad mini 3 / iPad mini 4 / iPad Pro 9.7inch / iPad Pro 10.5inch / iPad Pro 12.9inch / iPad Pro 12.9inch (2nd generation) / iPod touch 5th generation (Supports only devices that have a back camera) / iPod touch 6th generation



Most Android 5.0 & later

Nexus 5 / Nexus 5X / Nexus 6P / Nexus 6 / Nexus 9 / Google PIXEL / PIXEL XL / SamsungGalaxy Note 5 / Galaxy S6 edge / Galaxy S6 edge plus / Galaxy S6 / Galaxy S6 Active / Galaxy S7 edge / Galaxy S7 / Galaxy S8 / Galaxy S8+ / Galaxy Note 8 / HTC HTC 10 (HTC_M10h) / HTC 10 Verizon (HTC6545LWW) / HTC U11 / Android One X2 / SonyXperia X Compact / Xperia X performance / Xperia Z5 / Xperia Z5 Compact / Xperia Z5 Premium / Xperia XZ / Xperia X / Xperia XZs / Xperia XZ1 / ASUSZenFone 3 Deluxe (ZS550KL) / ZenFone 3 (ZE520KL, ZE552KL) / ZenFone 3 Laser (ZC551KL) / ZenFone 3 Ultra (ZU680KL) / ZenFone Zoom S / MotorolaMoto Z / LGLG G Flex 2 / G4 / G5 / LGV 10 / LGV34 / V20 / Stylus 2 PLUS / V30+ L-01K / NVIDIASHIELD Tablet K1 / SHIELD Tablet / OnePlusOnePlus 2 / OnePlus 3 / OnePlus 3T / SHARPSTARWARS mobile / Android One S1 / AQUOS R / AQUOS ea / Android One X1 / AQUOS PAD SH-05G / AQUOS R compact/ AQUOS sense / Android One S3 / VAI0VAIO Phone A / ZTEMONO / PanasonicFZ-A2mk1 / FZ-B2mk2



User rights:

User rights for LinkRay are fee-based. The charges raised can vary.

To find out more, please contact Panasonic Systems Communications Company Europe

Hagenauer Straße 43, 65203 Wiesbaden, Germany
+44 (0) 2070226530

<https://business.panasonic.co.uk/visual-system/contact-us>

Typical applications

- Retail: Marketing vouchers and product information available
- Advertising
- Exhibitions and museums: access to apps to improve information in cultural facilities
- Gastronomy
- Transportation, public transport networks
 - Map apps or timetables for tourists
 - Traffic reports in real time
- Support for travellers in any language



- Increase motivation to buy by offering additional information or discounts



- Increase market effectivity by making customer information visible



Panasonic
BUSINESS