

産  
業

Industry



# イノベーションのDNA

伝統から先端まで、なぜ京都には多様な産業が集まっているのでしょうか。

その秘密は、京都ならではの伝統が革新を生むしくみにあります。

未来へと続く、イノベーションの軌跡をご覧ください。

## The DNA of Innovation

From tradition through to cutting-edge technology—what makes Kyoto a hub for such a wide range of industries?

The secret lies in how Kyoto's unique traditions foster innovation.

Follow the trajectory of this never-ending process.

### 1 立命館大学ゲーム研究センター (RCGS)

Ritsumeikan Center for Game Studies: RCGS

### 2 株式会社島津製作所

Shimadzu Corporation

# 1-1

## The Art of Creating Play

### Edo-Period Card Games

Hyakunin Isshu karuta cards originated in the early Edo period, and Musashino--the prototype of today's Hanafuda playing cards--is believed to have been created around the Meiwa era (1764 to 1772) in the mid-Edo period. Hanafuda cards originally went by other names, such as Hanaawase Karuta.

### The Crafting of Hanafuda Cards

By the late Meiji period, Hanafuda cards were being handcrafted by artisans using a traditional stencil printing technique called kappazuri, which demanded the utmost precision and skill.

### Woodblocks Used in Production

The Hanafuda woodblocks on display are the oldest of their kind in the collection of Nintendo Co., Ltd. (founded in 1889), and date back to the Meiji period (circa 1891). Please take a moment to admire the intricate illustrations of that era.

# 1-2

## Breathing Life into Dolls

### Kyoto—Where Games Thrive

Records show that emperors and nobles in Heian-period Kyoto enjoyed a variety of games, including go (a board game with black and white stones), Sugoroku (a board game), and poetry contests.

### Human-shaped Dolls as Substitutes

Japanese people have been crafting dolls since ancient times. Some of these dolls were designed as stand-ins meant to absorb impurities and take on misfortunes on behalf of humans, an example of which is known as “amagatsu,” crafted to serve this purpose for children.

### Dolls as Playmates

The Tale of Genji (written by Murasaki Shikibu in the Heian period) includes descriptions of children playing with dolls known as hiina. The Genji Monogatari Eshikishijo—a set of 54 illustrated scenes from The Tale of Genji (painted by Tosa Mitsuyoshi during the Momoyama period)—also shows that dolls have been one of the popular toy since ancient times.



Amagatsu dolls in the Edo period  
Source: ColBase



Genji Monogatari Eshikishijo Momijiga  
Source: ColBase

# 1-3

## Breathing Life into Characters

### **The Origin of Video Games**

Japan's first domestically produced video game was released in 1975. Among the early developments in Japan's video game industry, the Family Computer (Famicom) system—known internationally as the Nintendo Entertainment System (NES)—was released in 1983. It gained widespread popularity both in Japan and around the world.

### **The Spread of Gaming Culture**

Players sometimes took notes as they discovered strategies and hidden tricks. The release of various game-related books and magazines further fueled the growing popularity of gaming as a pastime.

### **Dash and Jump at the Press of a Button**

Racing freely across the screen, it was as if a doll had come to life—offering players the revolutionary experience of controlling a character that felt like an extension of themselves.

# 1-4

## The Ongoing Evolution of Gaming

### **The Release of a New Game Console**

It has been nearly 40 years since video games started gaining traction in Japan. The Nintendo Switch 2 system launched on June 5, 2025—marking a new chapter in the ongoing history of gaming.

### **A Leveled-up Game Console**

The console features a larger, more vibrant, and smoother screen, and offers three ways to play: TV mode, Tabletop mode, and Handheld mode.

### **Leveled-Up Gameplay**

The new controller includes mouse functionality, and the addition of a game chat feature also enables players to interact with others remotely and even share their gameplay screen in real time. As game consoles continue to evolve, so too does the way people play.

# 1-5

## The Next-generation of Games

### New Ways of Gaming

Bunbun! Hunter is a student-created work that blends bunbun koma (a type of traditional handmade toy) with modern digital technology. This is an example of how games are being reimagined and passed on to future generations.

### Gaming Continues to Thrive in Kyoto

The Ritsumeikan Center for Game Studies, established in 2011, is Japan's only academic institution dedicated to game studies. Kyoto Prefecture also supports the future of gaming through initiatives such as BitSummit and the Kyoto Digital Amusement Award. Video games continue to establish themselves a new chapter in the ever-evolving history of play.



Creator

Ryogo Nagao (asobi-lab, Graduate School of Image Arts and Sciences, Ritsumeikan University)

Year of creation: 2022

## List of Exhibition Collaborators

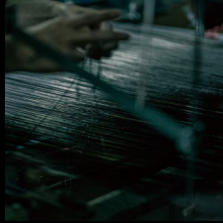
Planning	Ritsumeikan Center for Game Studies: RCGS Ritsumeikan University, 56-1 Toji-in Kitamachi, Kita-ku, Kyoto, Japan, 603-8577 "Captions courtesy of the RCGS."
Planning Director	Shuji Watanabe (College of Image Arts and Sciences, Ritsumeikan University. Professor)
Main Curator	Hitomi Mohri (College of Image Arts and Sciences, Ritsumeikan University. Lecturer)
Material/Image Contributor and Collaborator	Nintendo Co., Ltd.
Exhibition Planning Collaborators	Shosaku Takeda (College of Image Arts and Sciences, Ritsumeikan University. Professor) Ayane Hasegawa (Graduate School of Human Science, Ritsumeikan University. Doctoral Student) Suqing Yuan (Graduate School of Image Arts, Ritsumeikan University. Master's Program)
Collaborators	Takaaki Kaneko (Faculty of Humanities, Kyoto University of Advanced Science. Associate Professor) Ryogo Nagao (Graduate School of Image Arts, Ritsumeikan University. Master's Program. asobi-lab)





Exhibit 2

1



## Nishijin-ori

A luxurious silk textile produced in Kyoto's Nishijin district for over 1,000 years. Skilled artisans weave intricate patterns, renowned as the pinnacle of Japanese textile art.



## Nishijin yakihaku

A decorative technique that alters the color and pattern of silver metal leaf through heat. Used in Kyoto crafts, it creates depth and subtle fluctuation through the unpredictability of burning—material that carries the trace of time.



## Kintsugi

A unique craft technique where broken pottery is repaired with lacquer and decorated with powdered gold, silver, or platinum. It transforms imperfections into new aesthetic value.

Exhibit 2

2



## Kyo-Shippō (Kyoto Cloisonné)

This traditional enamel craft involves decorating a metal base with colored glass enamels, creating vivid and intricate patterns renowned for their translucent beauty.

## Kyo-shikki (Kyoto Lacquerware)

Fine lacquerware from Kyoto known for its elegant finishing, detailed craftsmanship, and delicate decorations such as maki-e (gold lacquer painting) and raden (mother-of-pearl inlay).

Exhibit 2

3



## Tsuiki (Metal Hammering)

A traditional metalworking technique where artisans hammer metal sheets into three-dimensional forms, creating uniquely textured items with timeless beauty.



## Kyo-Kumihimo (Kyoto Braided Cords)

A colorful cord-making tradition using silk threads intricately braided by hand. Originally used as obi accessories for kimono, it now extends to contemporary fashion accessories.



## Kyo-Yuzen

A celebrated Kyoto dyeing technique from the Edo period. Artisans hand-paint or stencil intricate patterns onto silk, creating elegant kimono designs prized in Japanese culture.

Exhibit 2

4



## Raden (Mother-of-Pearl Inlay)

A traditional Kyoto craft that embeds mother-of-pearl into lacquer or wood. Its surface shimmers with changing light, appearing more like a phenomenon than a material.

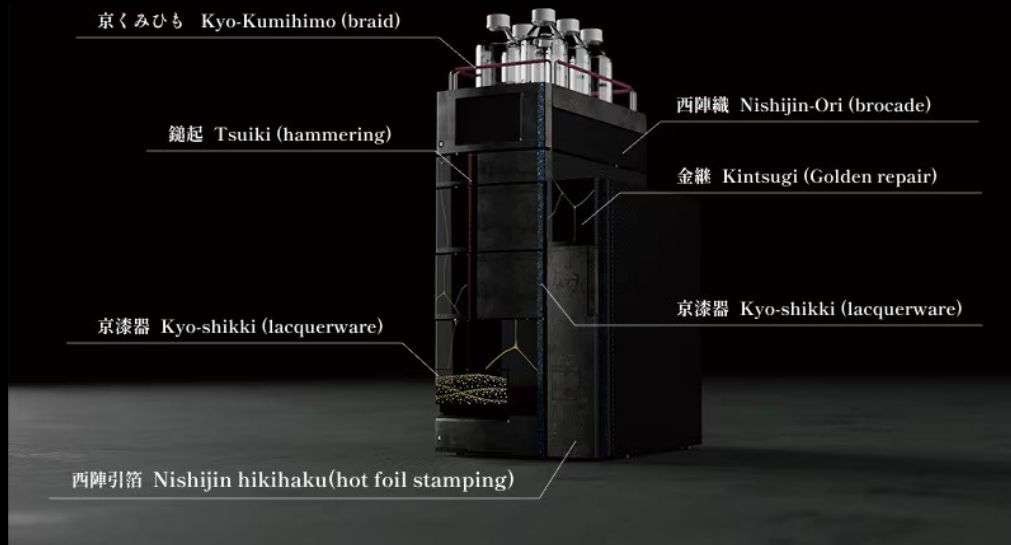


## Kyoji (Mounting Specialist)

Expert craftspeople who mount and restore scroll paintings, sliding doors, and folding screens. Their precise techniques preserve artwork and cultural heritage for future generations.

Exhibit 2

5



## Liquid Chromatograph

This instrument separates and analyzes liquid mixtures across chemistry, pharmaceuticals, environmental testing, and food analysis. Decorated with fluid-inspired patterns using lacquer and metal foil, its design evolves beautifully over time. Incorporating the traditional kintsugi repair technique, each repair enhances its aesthetic and emotional value, fostering trust and long-term attachment through craftsmanship.

## Exhibit 2

# 6

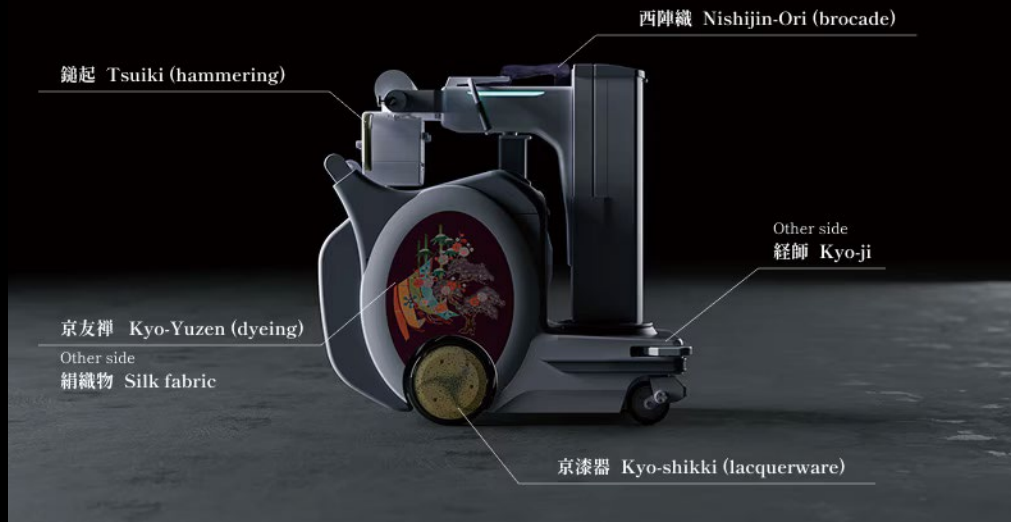


### Gas Chromatograph

Used for analyzing gases and volatile liquids, this instrument serves fields like chemistry, pharmaceuticals, environmental studies, petroleum, and food analysis. Featuring AI-generated patterns woven with Nishijin-ori silk on the front panel and handcrafted Tsuiki metalwork handles, it also utilizes baked lacquer and oxidizing metal foils. This design gains deeper, richer colors with time, creating lasting value and elegance.

# Exhibit 2

# 7



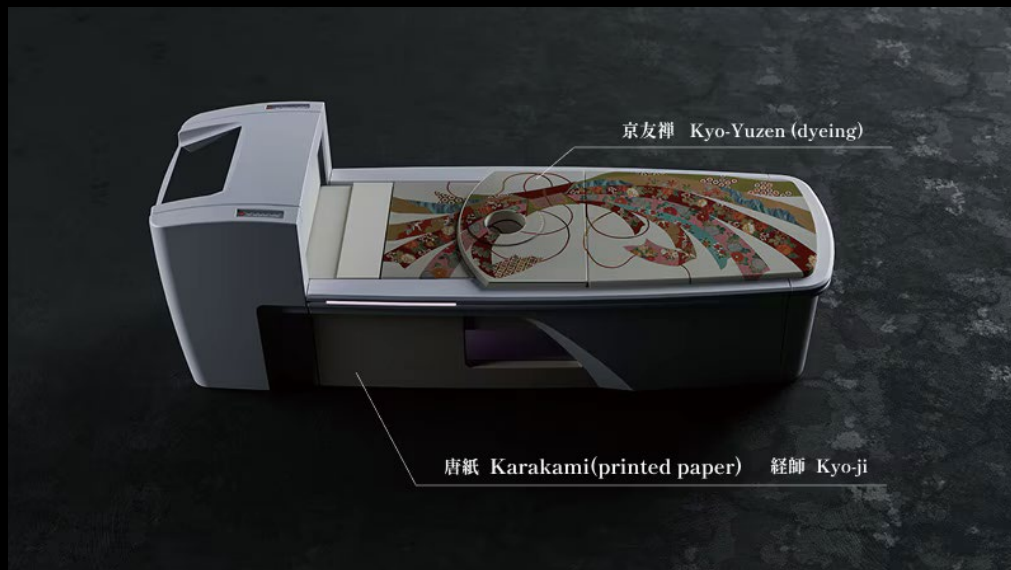
## Mobile X-ray Imaging Device

Designed for flexibility and patient comfort in medical imaging, this portable X-ray system suits hospitals and clinics alike. Its custom decoration includes Kyoto yuzen dyeing patterns representing the four seasons, complemented by Shimadzu's original karakami paper pattern depicting morning mist on Mt. Hiei. These materials evoke the charm and warmth of bespoke craftsmanship.



## Exhibit 2

# 8



### Positron Emission Tomography (PET) System

Specialized for high-resolution head and breast imaging, this PET system provides patient-friendly, painless scans, ideal for breast cancer screenings and Alzheimer's evaluations. Enhanced with custom Kyoto yuzen dyeing patterns, the system blends precise medical technology with the elegance and sensitivity of traditional craftsmanship, marking significant milestones in patients' lives.

# Credit

## Team Waza to Waza

[Shimadzu Design]

Jun Kawai

Ryo Takegawa

Natsuno Ommori

Taka Katada

[Shinkogei Kenkyukai]

Hyakutaro Oiri

Haruhide Yoshida

## Traditional Artisan

Nishijin-Ori: Fukuoka Weaving Co., Ltd.

Nishijin hikihaku: Naoki Nishimura [Nishimura Shouten]

Kintsugi: Banura Hajime

Kyo-shippo: Hiromi Nomura [Hiromi-Art]

Kyo-shikki: Yutaro Shimode [Shimode Makie-Studio]

Tsuiki: Biho Asano [Asano Biho Tsuiki koubou]

Kyo-Kumihimo: Showen Kumihimo

Kyo-Yuzen: Nobukazu Kimura [Kimurasenshow]

Silk fabric: ITOKO Co.,Ltd.

Kyoji: Hyakutaro Oiri



Shimadzu Crafttech Website

## **A Spatial Design Covered in Kyo-Kawara “Kimono Tiles” & Featuring Non-Verbal Expression through Images and Music**

This experience enables visitors to deeply engage with Kyoto’s future and past through a minimalist and serene environment unified by original Kyo-Kawara “Kimono Tiles.”

Non-verbal images and audio are also integrated in harmony with the environment, expressing its multifaceted appeal.

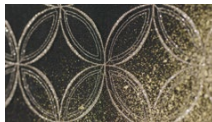


## Video introduction



### Mulberry Fields

Location: Kyotango-City (Kyotango-City)  
Cooperator: Santoku



### Silk Glass

Location: Studio  
Cooperator: ITOKO Co.,Ltd.



### Silk Cocoons

Location: Studio  
Cooperator: Tango Textile Industrial Association



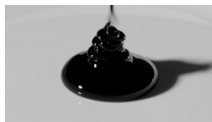
### Kyoto Black Montsuki (Crest) Dyeing

Location: Kyoto Montsuki Inc. (Nakagyou-ku, Kyoto-City)  
Cooperator: Kyoto Montsuki Inc.



### Machine-woven Textiles

Location: Kojima Orimono Co., Ltd.  
(Kizugawa-City)  
Cooperator: Kojima Orimono Co., Ltd.



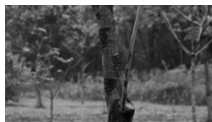
### Dripping Lacquer

Location: Studio



### Wisteria Thread

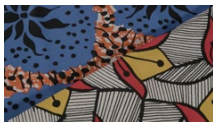
Location: The Fuji-ori Folk and Community Center  
(Miyazu-City)  
Cooperator: The Association for Preservation  
of Tango Fuji-ori



### Lacquer-tapping

Location: Yakuno-cho, Fukuchiyama-City (Fukuchiyama-City)  
Cooperator: Tanba Urushi

## Video introduction



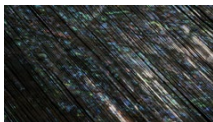
### African-print Fabric

Location: Studio  
Cooperator: AFRIKA DOGS Inc.



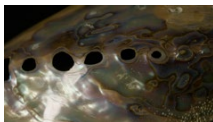
### AFRIKA DOGS Inc.

Location: AFRIKA DOGS  
(Shimogyo-ku, Kyoto-City)  
Cooperator: AFRIKA DOGS Inc.



### Mother-of-pearl Woven Thread

Location: Studio  
Cooperator: Tamiya Raden Ltd.



### Sparkling Seashell

Location: Studio  
Cooperator: Tamiya Raden Ltd.



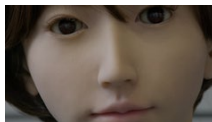
### Kyogawara (Kyoto Roof Tiles)

Location: Kyogawara Co., Ltd.  
Asada Kawara Factory  
(Fushimi-ku, Kyoto-City)  
Cooperator: Kyogawara Co., Ltd.  
Asada Kawara Factory



### Sahari Orin (Japanese Singing Bowl)

Location: Nanjo Kobo Ltd. (Uji-City)  
Cooperator: Nanjo Kobo Ltd.



### Erica

Location: Advanced Telecommunications Research Institute International  
Deep Interaction Laboratory Group  
Hiroshi Ishiguro Laboratories (Seika-cho)  
Cooperator: Advanced Telecommunications Research Institute International  
Deep Interaction Laboratory Group  
(JST ERATO ISHIGURO Symbiotic Human-Robot Interaction Project)  
(JST Moonshot R&D Goal 1 Avatar Symbiotic Society Project)



### Harmony between Humans and Machines

Location: OMRON COMMUNICATION PLAZA  
(Shimogyo-ku, Kyoto-City)  
Cooperator: OMRON Corporation

## Video introduction



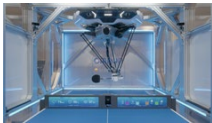
### Sensing Technology

Location: OMRON COMMUNICATION PLAZA  
(Shimogyo-ku, Kyoto-City)  
Cooperator: OMRON Corporation



### Microbial Culture System Converting GHGs into Resources

Location: Symbiobe Inc.  
(NishiKyo-ku, Kyoto-City)  
Cooperator: Symbiobe Inc.



### Table Tennis Robot "FORPHEUS"

Location: OMRON COMMUNICATION PLAZA  
(Shimogyo-ku, Kyoto-City)  
Cooperator: OMRON Corporation



### X-ray Generator

Location: Shimadzu Foundation Memorial Museum  
(Nakagyo-ku, Kyoto-City)  
Cooperator: Shimadzu Corporation



### Chest X-ray Taken with the DIANA X-ray System

Location: Shimadzu Foundation Memorial Museum  
(Nakagyo-ku, Kyoto-City)  
Cooperator: Shimadzu Corporation

## The Concept of Jun'on Haikai

**Jun'on Haikai is a collection of the sounds of present-day Kyoto Prefecture, in combination with sounds documented in historical records and other sources, that has been enhanced with other compositions to create a unique soundscape.**

In 1996, the Ministry of the Environment (known as the Environment Agency at the time) designated the “100 Soundscapes of Japan”—a collection of sounds recognized for their particular significance in maintaining Japan’s unique acoustic environment. The Ministry accepted submissions of a broad range of environments (soundscapes) featuring sounds that communities across the country cherish as local symbols and wish to preserve for future generations. Nearly 30 years have passed since then, and it is time to revisit the sounds of Kyoto Prefecture. Today, we are witnessing the acceleration of global warming and the seasons are gradually blending together. Under these circumstances, mountains, forests, and other elements of nature are becoming more important and precious than ever. Kyoto Prefecture is blessed with a rich natural environment, where beautiful sounds can still be found. Field recordings have been made to preserve them, with the hope that no more of the environment will be lost. This collection also contains newly recorded sounds beyond those already recognized in the previously mentioned “100 Soundscapes of Japan.”

Works of literature also contain many descriptions of sounds. Before the invention of recording technology, people had been preserving sounds through verbal descriptions since ancient times. Preserving sounds through language in this way is also a form of field recording.

# Field Recording List

**Part-1** Rurikei stream (Nantan City) Wharf (Ine Town) Maizuru Port (Maizuru City) Miyazu Bay (Miyazu City) Iwashimizu Hachimangu Shrine (Yawata City)

**Part-2** Kyoto Imperial Palace gravel (Kyoto City) Kiyomizu Temple (Kyoto City) Deer (Kyoto City) Mount Oe (Fukuchiyama City) Chirimen Kaido Tenmangu Shrine (Yosano Town)

**Part-3** Kotohiki Beach (Kyotango City) Kototaki Falls (Kyotamba Town) Uji River (Uji City) Shinpukuji Temple water harp (Kameoka City) Myoshinji Temple (Taizo-in) water harp (Kyoto City)

**Part-4** Ayabe-Ohashi Bridge, Yura River (Ayabe City) Minoyama Bamboo Grove (Yawata City) Koshoji Temple (Uji City) Kosei Water Park (Kameoka City) Shisendo Temple Deer Dance (Kyoto City) Gokonomiya Shrine (Kyoto City) Thunderstorm (Kyoto City)

## Written Description Field Recordings List

Ohara, The Tale of the Heike: The sounds of bells, deer, and insects

Nonomiya, The Tale of Genji: The sounds of insects, wind through the pine trees, and court music instruments

Uji, Man' yoshu, two poems (1699 and 1700) composed on the Uji River: the sounds of geese and the river

Hojoji Temple, Eiga Monogatari, Vol. 17, Omugaku: Court music performances

Tango, Tango no Kuni Fudoki: Voices lamenting lost works and singing

Fukuchiyama, Oeyama Ekotoba: The sounds of thunder and ritual music

Iwashimizu Hachimangu Shrine, Noh Playwright Zeami, Yumiyawata &

Hojogawa: Mysterious music and the sounds of nighttime ritual music

Hoshoji Temple, Ben no Naishi Nikki: The sounds of sarugaku theater performances in the back of the temple and bells

Junichiro Tanizaki, Senkantei, Yume no Ukihashi: The sounds of bamboo tubes filling with water and clacking against stone

Kotohiki Beach, Kiuchi Sekitei, Unkonshi: The sounds of the sandy beach

Kagero Nikki: The sounds of carts

Rakuyo Dengakuki: The sounds of a grand ritual music performance held in the Eicho era

Composition & Arrangement: Marihiko Hara

Guitar: PolarM

Field Recording Assistance: Masumi Muranaka

Research Assistance: Rurihiko Hara

Sound Design: Raku Nakahara (KARABINERinc.)

/ Ohshiro Sound Office Inc.

Production: MHStudioInc. / TSUYURI



空間デザイン協力	Space design cooperation
Sandwich	Sandwich
京瓦タイル「キモノタイル」製作協力	Kyoto tile "Kimono tile" production cooperation
株式会社京瓦 浅田製瓦工場	ASADA KAWARA FACTORY
テーマ映像制作	Theme video production
株式会社 青空	AOZORA,LTD
テーマ音楽制作	Theme music production
原 摩利彦	Marihiko Hara

大阪・関西万博きょうと推進委員会