

The HikariIA project

Guimet National Museum of Asian Arts x Teklia
2023–2026



Felice BEATO, Tōkaidō, 1863–77. Colorized albumen print, AP11360.



KŌZABURŌ Tamamura, Geisha playing the *shamisen*, early 1890s. Colorized albumen print, AP15928.

HikariIA¹ is a three-year research project (October 2023–October 2026) at the intersection of art history and computer science. Led by the Guimet National Museum of Asian Arts (Paris) in partnership with the private company Teklia and partly funded by the Caisse des Dépôts et Consignations within the national “France 2030” investment plan, its objective is threefold:

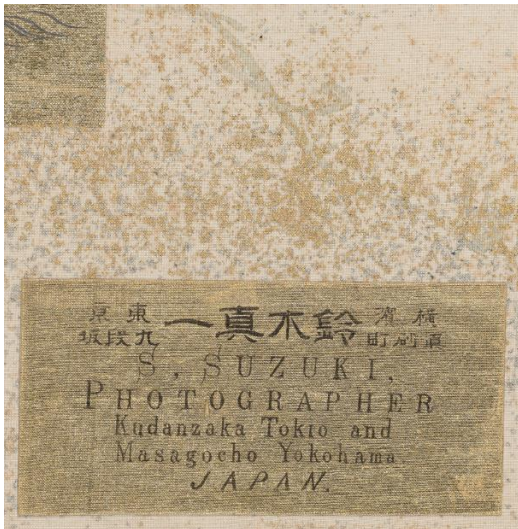
- Conserve the Joseph Dubois collection of early photography of Japan.
- Develop new tools for photo-historical research and the conservation of photographic material by improving the automated indexation of historical photographs.
- Further current knowledge on photography in Japan during the Bakumatsu and Meiji eras (1853–1912).

¹ From *hikari* 光 (Japanese for light), and *intelligence artificielle (IA)* (French for AI).

Phase 1: Conservation and digitization (2023–24)

At the heart of the HikariA project is Joseph Dubois's collection of early photography of Japan, started in the 1970s and acquired by the Guimet Museum fifteen years ago thanks to the French Ministry of Culture's "Fonds du patrimoine". Numbering around 19 000 photographs, for the most part mounted on the pages of 284 albums, the Dubois collection offers a broad overview of commercial photographic productions in Japan during the Bakumatsu and Meiji eras, whether in terms of materials, techniques, styles, subject matters, or price ranges.

The Dubois collection has been the object of conservation, digitization, and publication campaigns in the past.² Its extent, however, has made it difficult to implement a global treatment until now. The HikariA project will start by conserving and digitizing not only the Dubois collection but the rest of the Guimet Museum's holdings of early photography in Japan as well, adding another 2 000 photographs to the project.



SUZUKI Shin'ichi II & ODA Kyōsai, cover page, c. 1890. Pigments on silk, album AP18222.



Unidentified artist, cover, c. 1890. Lacquer and ivory on wood, album 069, Dubois collection.

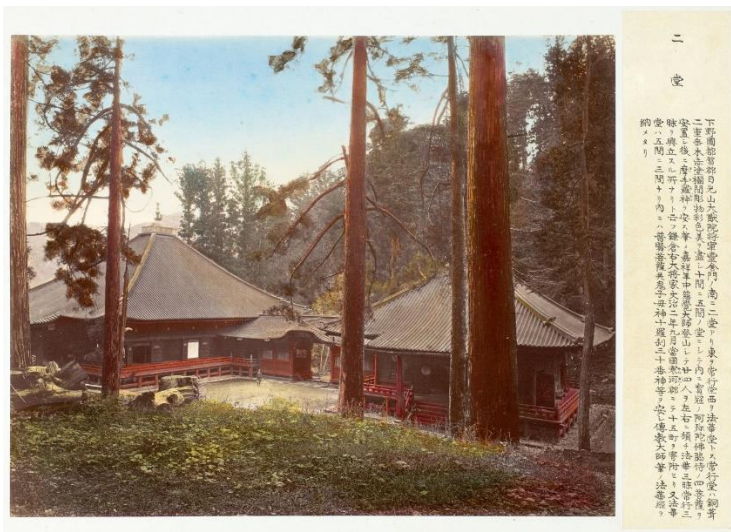
Phase 2: Development of a specific computer vision application (2024–25)

The image files and metadata produced during the digitization phase will be entrusted to the museum's partner Teklia, a French company specialising in the development of computer vision applications. This data will enable Teklia to train deep learning algorithms (also known as artificial intelligence) to recognize and accurately name iconographical elements in the photographs: landmarks, places, architectures, settings, types of scenes, clothing, objects, and people.

² Thanks to a partnership with Nagasaki University 長崎大学 and funding from the Fondation Franco-Japonaise Sasakawa 笹川日仏財団, and including the online publication coordinated by Jérôme Ghesquière, 'Japon, albums de photographies anciennes', 2011–18, URL: <https://guimet-photo-japon.fr/>.

The application will also be trained to identify recurring photographs and similar compositions in the corpus, map the colours applied to some prints, as well as potential patterns in image sequences. Crossed with the metadata already available (materials, authors, dates, and provenances), this operation will generate detailed statistical analysis of the iconography of these collections.

Moreover, Teklia will develop an online exploration platform where the image files, metadata and data provided by the newly trained models will be made freely available to the public and fully searchable through different interfaces including keyword search, image search, statistical analysis, and cluster visualization.



SAEGUSA Moritomi, Futatsu-dō, Nikkō, 1879. Colorized albumen print, AP15644.



Apollinaire LE BAS, *Daimyō* in war gear drawing a bow, 1864–65. Albumen print, AP21942.

Phase 3: Photo-historical research (2025–26)

During the third and last phase of the HikarIA project, the data acquired and the tools developed at previous stages will be mobilized at the Guimet Museum, with the help of associated scholars, to further research on the history of commercial photography in Japan before 1912. This will include the attribution of photographs by association, a better understanding of the economic structures of these productions, its aesthetic evolution, and its various circulations (painters, sitters, photographs).

These new elements will allow for a broader reflection on the dissemination of images, mutual aesthetic influence between Europe and East Asia in the nineteenth century, the emergence of Western paradigms about Japan (cultural, social and gender-based) and touristic practices at the dawn of globalization. The HikarIA project will therefore open new horizons for research of the historical, aesthetic, economic and social significance of these collections.

After the HikarIA project

HikarIA is primarily a technological and art historical research project but it is essential that its results are shared with the widest audience possible. While the basic data will be available on the online platform, the results of additional research are set to find their place in future productions from the Guimet Museum that may include an exhibition, a catalogue, and an online publication.

Ongoing reflections and results will also be shared during the project in future articles, interventions at international conferences, and at annual symposia organized at the Guimet Museum in the Autumn of 2024, 2025 and 2026.



Raimund von STILLFRIED-RATENICZ, *Rikishi* (wrestlers) and *gyōji* (referee) posing in the studio, 1877–80. Colorized albumen print, AP11340.



SŌTA Ichida, Young woman in a *jinriksha* and man wearing a *mino* posing in the studio, 1870–74. Albumen print, AP10545.

Methodological challenges

Beyond technical aspects, HikarIA also faces methodological challenges that must be addressed for the project to come to fruition.

Ensuring the statistical representativity of the corpus is the most visible challenge. The Guimet Museum collection of early photography in Japan is of international significance but it cannot stand for the entirety of commercial productions at that time. Training computer vision algorithms on a broader corpus would ensure better results and yield more precise statistical data. Moreover, including additional photographic material on the online exploration platform would enable connections with international collections automatically and provide a precious global research tool for historians. Therefore, one goal of the HikarIA project is to include other photography collections worldwide to the initial corpus through the International Image Interoperability Framework (IIIF). Not only will this result in a more

representative corpus and improved accessibility to the associated collections, but it will also spark multiple opportunities for future institutional partnerships.

Another crucial issue is linked to the accessibility of the online platform and future productions stemming from the HikarIA project. Computer vision models are trained with controlled vocabularies that are unsuited to the description of historical images and often unable to name artifacts from East Asia accurately. Therefore, it will be essential to develop a trilingual vocabulary adapted to the Bakumatsu and Meiji eras, in English, French and Japanese. With this goal in mind, the Guimet Museum is currently looking for ways to involve Japanese historians, translators, and digital humanities specialists in the project.

The third and final methodological challenge is the very nature of the iconography. Indeed, commercial photographs from the Meiji era are highly performative. The dominant style during that time, often called Yokohama-Shashin 横浜写真, presented an idealised image of Japan chiefly aimed at foreigners. Photographers staged scenes in front of the camera to create picturesque and often artificial visions of traditional Japan even as the country was undergoing rapid transformation under the Meiji Government. Hence, the HikarIA project will not consider these images as illustrations of Meiji Japan but as a feature of the dawn of globalization, a cultural interface that framed Japanese culture for commercial purposes and has had a strong influence on the formation of ideas about Japan in the West. In order to develop a relevant methodology to address these representational issues, the project would greatly benefit from the input of international – in particular Japanese – scholars and will seek it actively.

Édouard de SAINT-OURS

Musée Guimet, Curator of photography
edouard.desaintours@guimet.fr

Soutenu
par

