Kyoto is a city of culture, art and technology. At the Ide Laboratory of the Graduate School of Engineering, the state-of-the-art imaging technologies are utilized for scientific recording of cultural heritages assets in Kyoto and around the globe. The ultra-high precision scanner system for cultural assets digitizes large artworks such as Japanese folding screens (byobu), wall paintings, precious old design maps of important historical buildings and world heritage industrial design plans. It is distinct in its high dimensional and color reproduction accuracy. These system are of high demand at the Japanese great disaster areas where some invaluable artifacts of were affected, and even were destroyed.

The reproduction of the painting on the front page of this booklet is from a scene of a pair of folding screens “byobu” of Tokyo National Museum. The Ujibashi Byobu showing four seasons near the Uji Bridge of Uji city, Kyoto Prefecture. The byobu is estimated to be about 400 years old painted on gold layers. It is an important relief of that era showing the artisans skill in working with gold material. The scanning was done using ultra high resolution three color, multispectral, and polarized light techniques.

In 2013, we collaborated with several national and international institutes, to scientifically record important cultural heritage, to digitize on-site and record in microscopic level. We carried out projects in China (Inner Mongolia, Hong Kong), United states, as well as more than 5 sites in Japan, to establish a global basis of collaboration to preserve, utilize and pass down to the next generation the world’s cultural resources. We hope that this technology from Kyoto will act as a catalyst in encouraging a renewed global discussion and interest on culture.

A small part of the Byobu is shown here. It is an example of how polarized imaging can be used to study gold features and other shiny surfaces. The three images shown depict images containing different levels of reflection. The first is an image showing only the diffused reflection, the second shows only the specular reflection and the third is a composite image with both types of reflection.