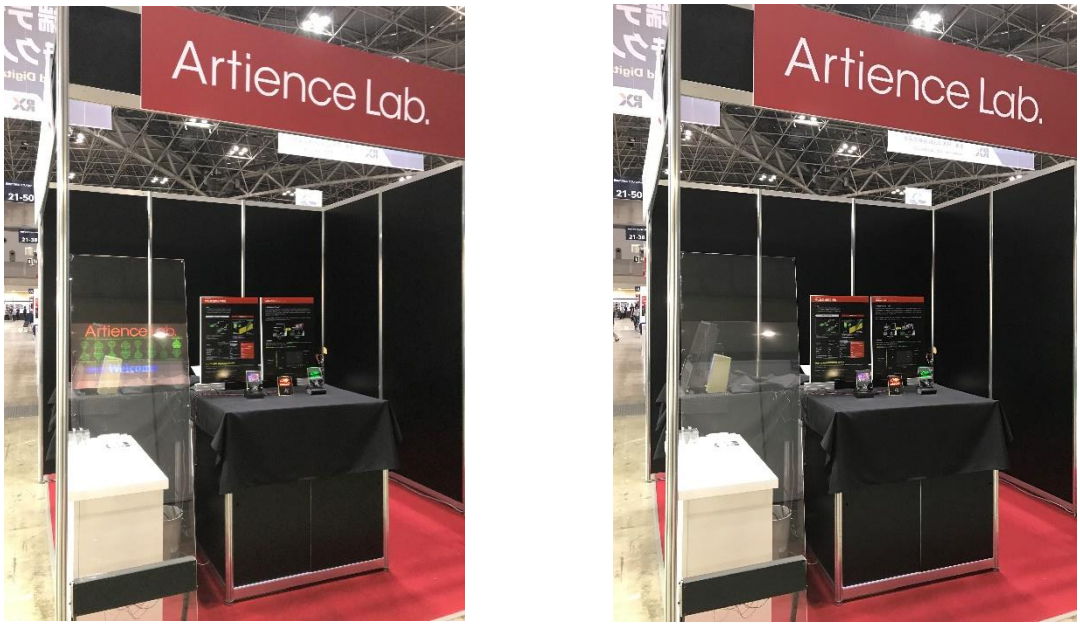
Press Release

Artience Lab Inc.
June 29, 2022

WOWGRAM®

New Applications Proposed with the “WOWGRAM Light Guide”
Displaying 3D Holograms on Transparent Light-guiding Plates
～ on exhibit at “CONTENT TOKYO Advanced Digital Technology” ～

Artience Lab Inc. (CEO: Akira Shirakura, headquartered in Mobara, Chiba Prefecture) announces the refined development of the “WOWGRAM Light Guide” that displays full color 3D holograms on transparent light-guiding plates. Composite display of 3D images placed in front of a 2D monitor display, and addition of decorative, dramatic, advertising or signage effects to existing large format acrylic or glass panels are made possible by this technology. Prototypes are scheduled to be on exhibit at “CONTENT TOKYO Advanced Digital Technology (venue: Tokyo Big Sight, June 30-July 1)”.



WOWGRAM Light Guide placed on a body size acrylic plate
(Left: With LED Lighting, Right: Without LED lighting)

Artience Lab is developing the technology involving the basic capabilities of holograms, including this technology for high image quality reproduction in the light-guided type in addition to the earlier reflective (front-illuminated) type. Up to now, the reflective type which uses illumination from the front is most prevalent, but the light-guided type which uses illumination by light propagating by total internal reflection inside the plate on which a hologram is attached makes new applications different from those of the reflective type possible. For illumination, our proprietary deflecting holographic optical element array (HoCODA) announced last year, and its refinements, is used to propagate and illuminate in an ideal manner light from an array of light sources in a light-guided construction.

By using this technology it becomes possible to display, only when needed, 3D images that appear to hover in space or to be moving, without otherwise disturbing its transparency. This enables applications such as to display warnings on the front protective glass of an automotive instrument panel only in an emergency or to display information to vehicles behind when needed, as well as to display advertisements and signage on glass windows of buildings and vehicles and to decorate the indicator panel of amusement, gaming or home electrical appliances.

In addition, as an example of application of this development, a prototype input user interface was built in view of the mounting need for contact-free user interfaces which can be operated without actually touching the touch panel of an ATM, self-check-out console or KIOSK which are operated by a great number of people at large. Items such as buttons can be displayed hovering in space over the screen by attaching a WOWGRAM Light Guide on the face of a conventional display such as an LCD monitor.

The latest samples suggestive of the potential of this technology will be on display at the CONTENT TOKYO Advanced Digital Technology show.

Artience Lab plans to move forward to develop markets and technology in various fields focusing on the hologram technologies of “WOWGRAM” and “WOWLIGHT” by continuing to introduce products that provide high customer satisfaction to the market, with adaptation to the needs of manufacturer clients as well.

WOWGRAM®

“WOWGRAM” is a realization of holographic stereogram developed by Artience Lab that is printed from motion image data of several seconds or from 3D image data. A 3D image can be perceived when a holographic stereogram is viewed with a fixed spatial relationship to the illuminating light source because different images are seen by the right and left eyes of the viewer, and further, since different images come into view when the viewer moves,

according to the movement. This is made possible because of the use of the diffractive property of light, and it also further means that different images come into view when either the light source or the viewer's eyes undergo movement.

WOWLIGHT®

"WOWLIGHT" is a technology and a device for illuminating the "WOWGRAM". The image quality of a hologram greatly depends on the condition of illumination. Viewing of the "WOWGRAM" without dependence on ambient conditions is made possible by adopting LED light sources optimized for its reproduction as well as by optimizing such parameters as the balance among the wavelengths of emission, the optical directionality and brightness, and the illuminating angle as well as the driving and control of the light source

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