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### **Nidec Instruments Develops Super-hard Plastic Fish-eye Lens Unit**

Nidec Instruments Corporation (“Nidec Instruments” or the “Company”), announced today that it has developed a super-hard plastic fish-eye lens unit equipped with a plastic lens that has similar strength to glass.



#### **Nidec Instruments’ Super-hard Plastic Fish-eye Lens Unit**

The above lens unit features:

- Newly developed super-hard plastic lens adopted as the outermost lens
- Surface hardness: Pencil hardness of 6H – 7H or above, similar to glass (industry-first)
- Fogging prevented with the use of plastic L1\*<sup>1</sup>
- Preservation temperature range: -40°C to 115°C, operating temperature range: -40°C to 105°C
- Reflectance of less than 1%

As demand for auto safety is expected to grow, camera units, used most widely in cars, will evolve to be used for autonomous driving by capturing an image from a surround view monitor. Nidec Instruments’ newly developed super-hard plastic lens unit, which is expected to be used to check the periphery of a car and monitor its interior, boasts an industry-first, glass-equivalent pencil hardness of 6H – 7H or more, with a preservation temperature range of -40°C to 115°C. So far, glass lenses have been installed in cars as, in general, automotive cameras of the same type are exposed to harsh environments in and outside cars; however, Nidec Instruments used its proprietary advanced plastic technology to successfully create lenses as hard as glass. Furthermore, the use of plastic helps keep the meniscus-shape\*<sup>2</sup> L1 lens from becoming foggy. The launch of the mass production of this latest product, which is planned to be sold in Japan, China, and elsewhere around the world, is slated to take place in China some time in the fiscal year of 2023.

In addition, the Company will contribute to the development of applied technologies, as it expects its products to help reduce the weights of drones, wearable cameras, and many other products besides automotive lenses.

Nidec Instruments stays committed to developing products with its technologies to create light, thin, short, small, high-efficiency, and highly controllable products, and proposing, at an overwhelming speed, revolutionary solutions that contribute to the evolution of cars and the world’s technology.

\*1. The lens to be placed on the lens unit’s front

\*2. A crescent shape

Website on the super-hard plastic fish-eye lens unit:

<https://www.nidec.com/jp/technology/casestudy/lensunits-for-carcamera/>

**For more details on the above product, please contact: Sales Department II of Nidec Instruments Corporation’s Sales Division. Thank you.**

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