

# DepthIQ™

## 3D sensing made easy

### Single-sensor 3D that's small, flexible & scalable

DepthIQ delivers unparalleled 3D depth inside the smallest packaging for any device. Combining patented Transmissive Diffraction Mask (TDM) technology with low-compute image processing, DepthIQ converts any 2D image sensor into an advanced 3D sensing device with reduced cost, footprint, and power requirements. DepthIQ is highly customizable and supports a wide variety of lenses to suit the final application.



High Quality 2D

and

High Resolution Depth Map



### How DepthIQ works

DepthIQ supports rich, vision-based applications by generating high-quality 2D image and 3D data without impacting your image pipeline or packaging.

#### ✓ Simple & scalable

DepthIQ is easy to integrate, and calibrate, using standard semiconductor technology to enable streamlined mass production at lower costs.

#### ✓ Lower hardware costs

DepthIQ uses a single passive sensor with no extra components or need for illumination – meaning no packaging changes from a typical 2D camera.

#### ✓ No blind spots

With the support of wide field-of-view and the absence of stereoscopic occlusions, DepthIQ provides the best coverage for the interactive zone of 3D.



*Traditional short-range stereo products usually require high computation resources, bulky modules and are limited by short-range blind zone occlusions. AIRY3D's proposition is bringing significant value, resulting in a more compact imaging module going beyond these limitations. In addition, it is ensuring better immunity performance versus ambient light that affects near-infrared time-of-flight technology."*

#### Florian Domengie

Senior Technology and Market Analyst,  
Yole Intelligence, part of Yole Group



# Target applications



## Automotive

- In-cabin monitoring
- Smart access
- Back-up camera and outdoor sensing



## Industrial & robotics

- Autonomous navigation & obstacle avoidance
- Scanning
- Picking & place



## Laptop manufacturers

- Face recognition
- Gesture control
- Smart background blur

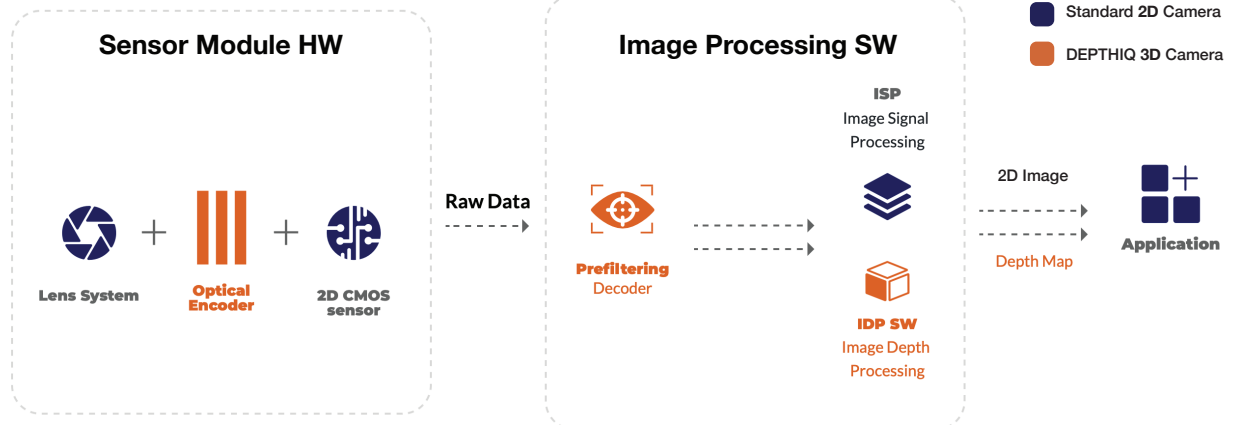


Standard Camera

and



DepthIQ Camera



### Transmissive diffraction mask

The TDM is a few microns-thick optical layer added on top of image sensors to encode depth information in the light while preserving high-quality 2D images.

### Standard manufacturing process

The TDM is applied on the sensor prior to final delivery, using standard CMOS mass-production processes.

### Minimal components

DepthIQ requires no special optics and minimizes the number of components and manufacturing complexity – leading to reduced costs, streamlined integration, and improved reliability.

### Pre-filtering Decoder

This lightweight software separates the encoded data from the full-resolution raw image, feeding 2D images to an Image Signal Processor (ISP) and depth information to AIRY3D's Image Depth Processing (IDP) software.

### Low-compute, low-latency IDP

The Image Depth Processing software generates high-resolution and high-frame-rate depth maps and point clouds inherently synchronized with the 2D image.

### Embedded ready

DepthIQ is available as a Software Development kit (SDK), optimized and supported by leading System-on-Chip (SoC) and embedded platforms.

Get the latest product information and demo videos.



Accelerate your way to 3D

Email [info@airy3d.com](mailto:info@airy3d.com) to receive a personalized demonstration of DepthIQ in action.

+1.514.495.5271  
[airy3d.com](http://airy3d.com)