

Real time 3D camera Fusion of high-resolution color and 3D cameras



VD55H1
iToF sensor



KEA camera
RGB & depth fusion



The ecosystem



The use cases





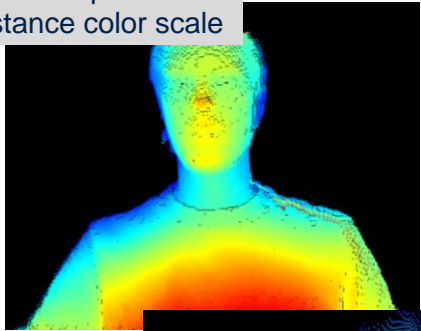
Scan me if you
want to know more

VD55H1

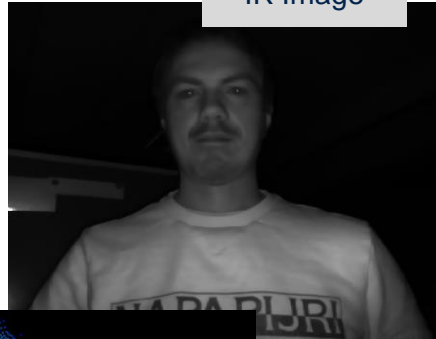
Up to 0.5 Mp iToF sensor

**Low noise 0.5 Mp indirect ToF sensor die BSI stacked technology
(65 / 40 nm)**

Depth
Distance color scale



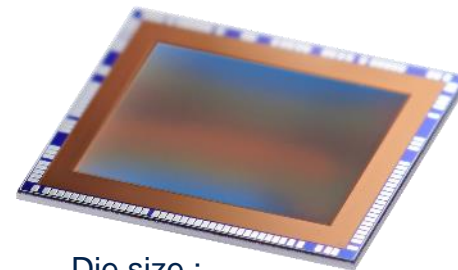
IR Image



IR Image + Depth
Target at 0.5m

focus on face

VD55H1 provides best in class depth performances, with low power consumption and compact die. Fully aligned IR frame, allows to add further information about the scene



Die size :
4.5 x 4.9 mm

Advantages include

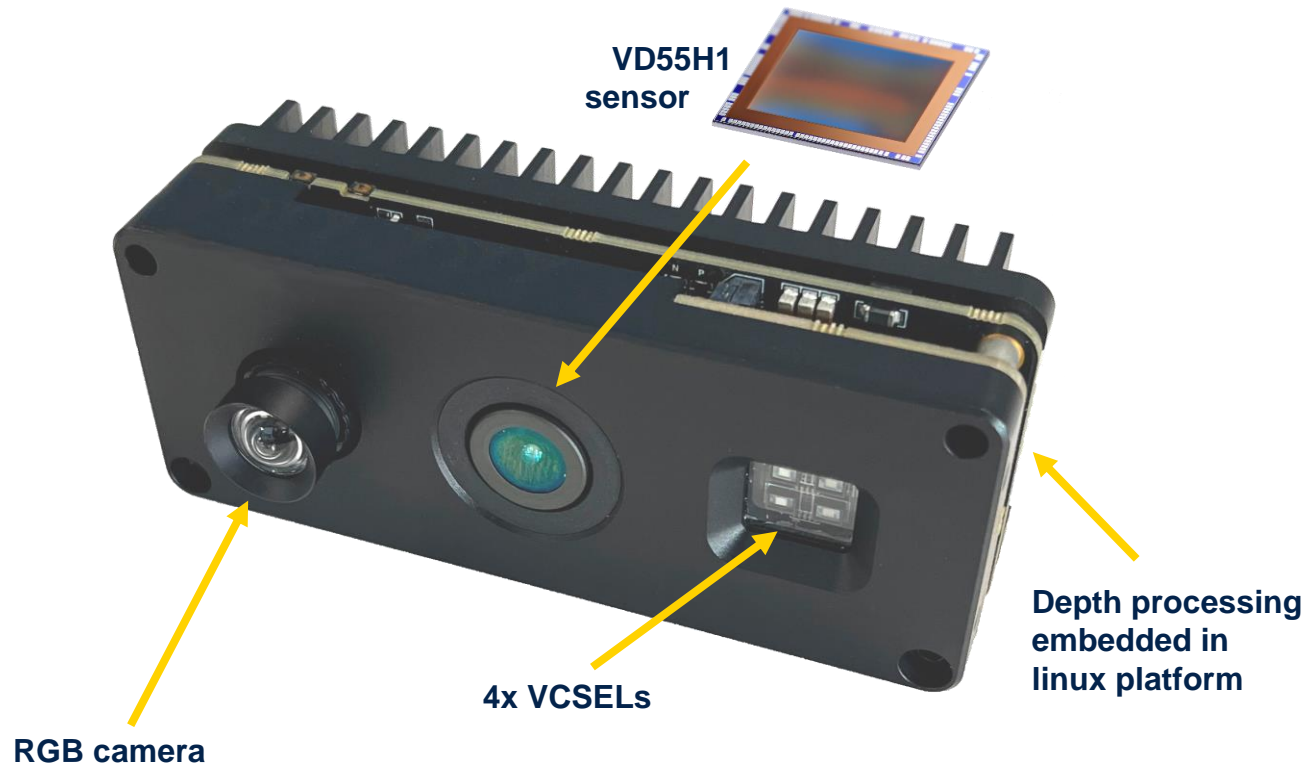
- 4.6 μm pixel size
- Up to 60 fps (full resolution)
- 200 MHz iToF operation with 85% DMC
- Patented architecture for smart iToF modulation
- Rx sensor power from 80mW



KEA camera by Chronoptics

RGB and depth fusion

Fusion of 2 Mp RGB and VD55H1 0.5 Mp depth sensors provides real time and high-quality 3D environment virtual reconstruction



Components

- VD55H1 SVGA iToF sensor
- 4x VCSELs (12W & 24W optical power)
- 2Mp RGB camera
- Industrial grade processor option

Advantages include

- FoV 110°x90° (70°x60° option)
- Up to 10 meter ranging with high precision
- Up to 20 fps in full resolution dual frequency
- USB3.0 and GigE interface
- Optional WiFi interface

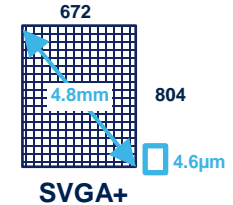
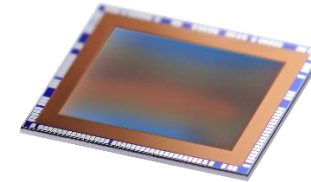
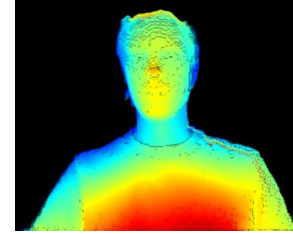
By courtesy of Chronoptics:



ST solutions and partner ecosystems

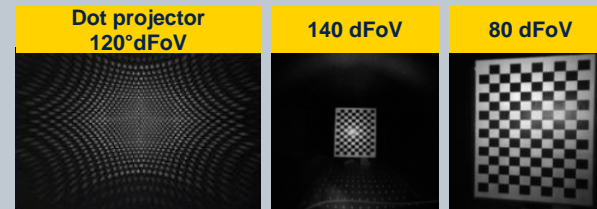
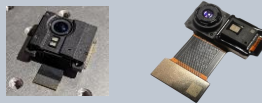


iToF camera sensor

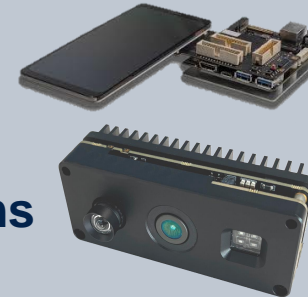


Components integrators

Camera module Integrators



Android & Linux platforms



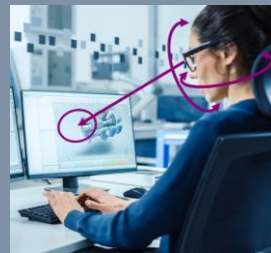
Complete solution

- 3D + RGB cameras & processing all-in-one
- Customizable solution
- Driver development and integration services

Application developers

User tracking

Fast and accurate head position and gaze orientation



Real-time 3D content

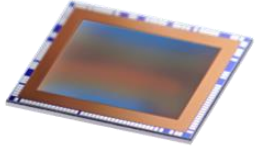
Color and depth extraction for video-conferencing and object reconstruction



Face identification

Bank level security face authentication





VD55H1 | Real time 3D content

3D sensor creates real time content



RGB + D flow provides a real time and realistic 3D model of the environment up to 10m

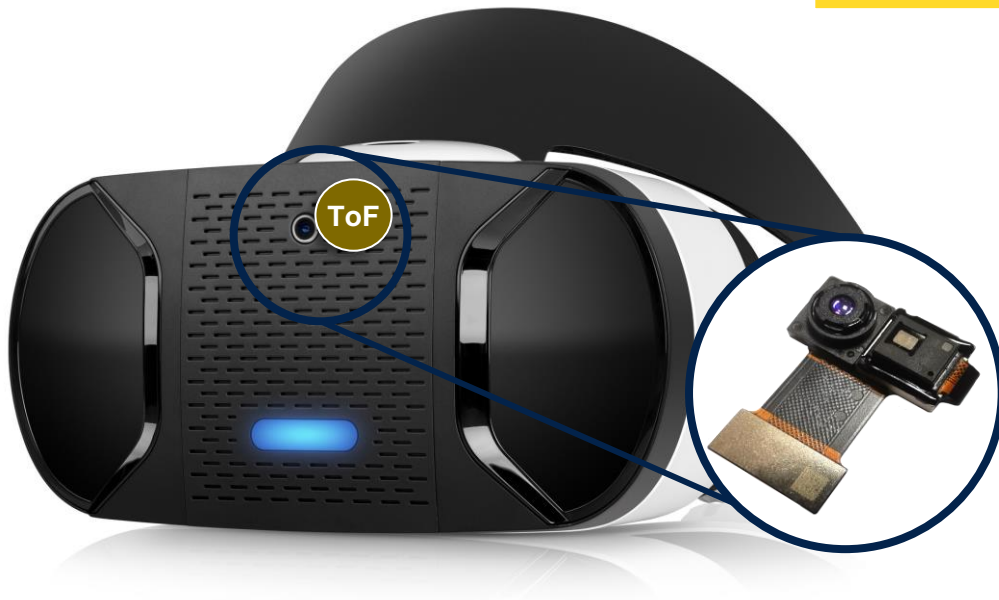
Good accuracy and low latency provide a natural user experience

High resolution iToF provides a good balance between performances and postprocessing effort

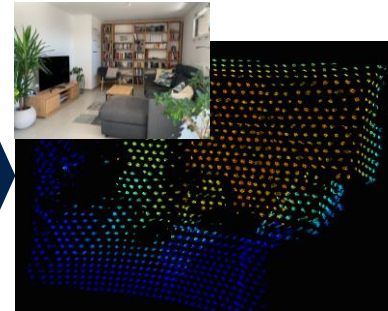
VD55H1 | World facing AR / VR

VD55H1: the best partner to enable real-time 3D content creation and natural and safe interaction with the virtual world.

Get a single-sensor solution for 3D reconstruction, object occlusion and hands modeling

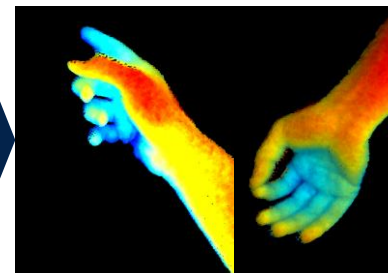


Low resolution



Room mapping
SLAM
3D audio management
Dot or SW binning solutions

High resolution



Hand modeling & gesture
Occlusion management
Avatar creation
3D content creation

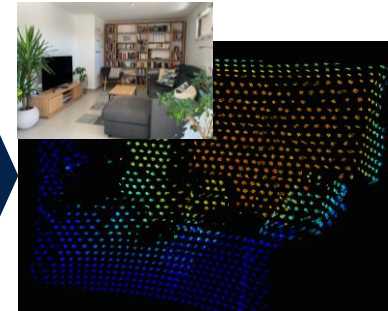
VD55H1 | Robotics

VD55H1: the best partner to enable robot navigation and natural and safe interaction with the real world and humans.

Get a single-sensor solution for room mapping, room occupancy, obstacle avoidance, clearance detection and human interfacing

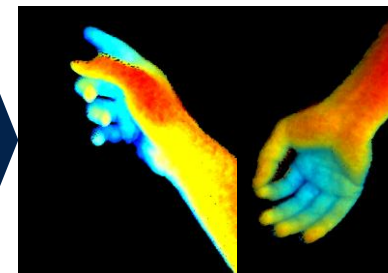


Low resolution



Room mapping
Room occupancy
Robust to ambient light and MPI
Dot or binning solutions supported

High resolution



Obstacle avoidance
Human interfacing
Low noise pixels
Perfect for wide FoV

VD55H1 | Smart building

VD55H1: enabler for building's energy optimization, safety and intrusion alert applications



Distance ranging up to 20 m and wide FoV solutions allow to monitor human presence with one single sensor

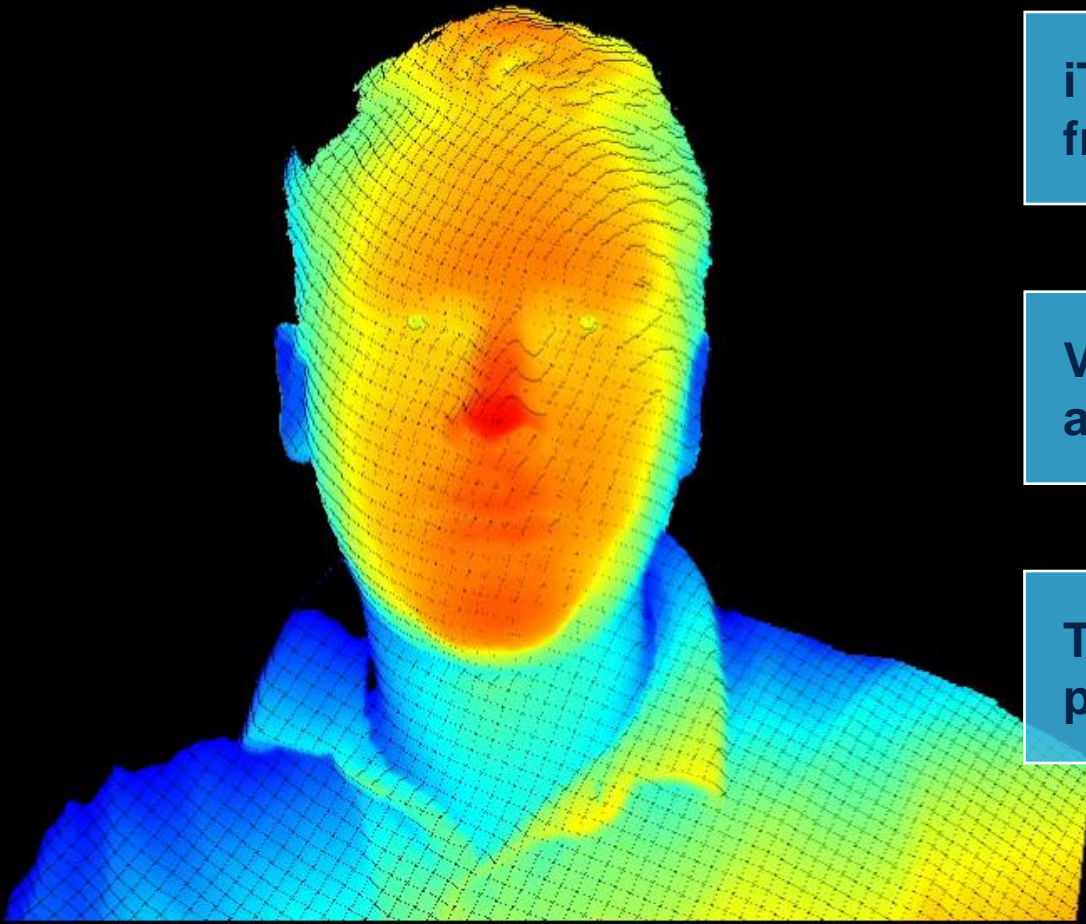
Fast frame acquisition allows real time activity monitoring for reactive smart home applications

If required by the application, privacy compliant modes are possible, using dot or structured light illuminators



VD55H1 | Smart building

VD55H1: the best partner to enable fast and accurate face recognition for secure authentication and access control



iToF sensor provides at the same time IR frame and depth frame for multi-technique authentication

Very low noise pixels and high resolution enable fast and accurate face recognition

The straightforward path toward a password-free professional life!

