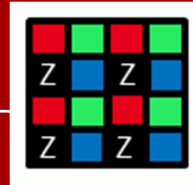




## RGB + DEPTH(Z) IMAGER AT SMALL PITCH

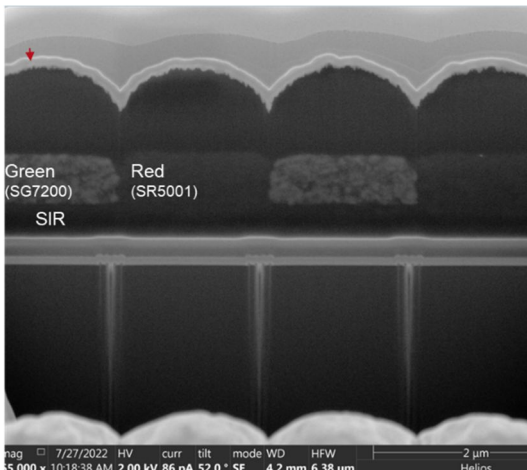


### « SELLING » STATEMENT:

Monolithic integration of depth sensing (Z) pixel in a RGB matrix, far back-end optics technology development and advanced colour and depth reconstruction and demosaicing.



Point cloud 3D image with integrated color



Vertical cut microscopy in RGBZ matrix

### KEY FEATURES

#### Demonstrated within VIZTA:

- RGBZ matrix @1.4  $\mu\text{m}$  pitch, 1.66 MPix
- 2-Tap z-pixel with IRT = 89% @125 MHz (demodulation ratio), QE=24% @ 940nm
- Pixel level infrared filtering
- Color demosaicing using Gaussian mixed mode
- Depth algorithm development using DUCSR (Depth Using Color Super Resolution with Convolutional Neural Network)

#### Still some research

- Sensitivity improvement
- Noise level
- Pixel response non-uniformity
- Improvement of optics (Microlenses and antireflective layers)

#### Many applications perspectives

- Face ID
- Security
- AR/VR
- Robotics

Contacts : Norbert Moussy | email [Norbert.moussy\[at\]cea.fr](mailto:Norbert.moussy[at]cea.fr) | [www.vizta-ecsel.eu](http://www.vizta-ecsel.eu)



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