VIZTA sounds for Vision, Identification, with Z-sensing Technologies and key Applications.

Fact Sheet

Project Information

VIZTA
Grant agreement ID: 826600

Project website

Status
Ongoing project

Start date
1 May 2019

End date
31 October 2022

Funded under
H2020-EU.2.1.1.7.

Overall budget
€ 87 794 763,73

EU contribution
€ 21 342 431,13

Coordinated by
STMICROELECTRONICS
CROLLES 2 SAS
France

Project description

Innovative image sensors to drive 3D imaging forward

3D imaging has become important in industrial and consumer applications, allowing more accurate inspection of components at manufacturing sites and greater image depth for media, respectively. The EU-funded VIZTA project is developing advanced new optical sensors and laser sources for short- and long-range 3D imaging. Innovations include, amongst others, advanced time-of-flight solutions leveraging single-photon avalanche diodes, cost-effective near-infrared and RGB on-chip filters, complex RGB pixels for multimodal imaging, advanced Optical Phase Array and laser sources for LiDAR systems. Bringing together industry and academia, VIZTA
will develop six demonstrators that will find applications in diverse fields including the automotive, security, smart buildings, mobile robotics for smart cities, and industry 4.0.

Objective

VIZTA project, coordinated by ST Micrelectronics, aims at developing innovative technologies in the field of optical sensors and laser sources for short to long-range 3D-imaging and to demonstrate their value in several key applications including automotive, security, smart buildings, mobile robotics for smart cities, and industry 4.0. The key differentiating 12-inch Silicon sensing technologies developed during VIZTA are:

• Innovative SPAD and lock-in pixel for Time of Flight architecture sensors
• Unprecedented and cost-effective NIR and RGB-Z filters on-chip solutions
• Complex RGB+Z pixel architectures for multimodal 2D/3D imaging
For short-range sensors: advanced VCSEL sources including wafer-level GaAs optics and associated high speed driver

These developed differentiating technologies allows the development and validation of innovative 3D imaging sensors products with the following highly integrated prototypes demonstrators:

• High resolution (>77 000 points) time-of-flight ranging sensor module with integrated VCSEL, drivers, filters and optics.
• Very High resolution (VGA min) depth camera sensor with integrated filters and optics

For Medium and Long range sensing, VIZTA also addresses new LiDAR systems with dedicated sources, optics and sensors

Technology developments of sensors and emitters are carried out by leading semiconductor product suppliers (ST Microelectronics, Philips, III-V Lab) with the support of equipment suppliers (Amat, Semilab) and CEA Leti RTO.

VIZTA project also include the development of 6 demonstrators for key applications including automotive, security, smart buildings, mobile robotics for smart cities, and industry 4.0 with a good mix of industrial and academic partners (Ibeo, Veoneer, Ficosa, Beamagine, IEE, DFKI, UPC, Idemia, CEA-List, ISD, BCB, IDE, Eurecat).

VIZTA consortium brings together 23 partners from 9 countries in Europe: France, Germany, Spain, Greece, Luxembourg, Latvia, Sweden, Hungary, and United Kingdom.

Field of science

/natural sciences/physical sciences/optics
/engineering and technology/civil engineering/architecture engineering/architecture/smart city
Programme(s)

Topic(s)

Call for proposal
H2020-ECSEL-2018-1-IA-two-stage

Funding Scheme
ECSEL-IA - ECSEL Innovation Action

Coordinator

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Website [Contact the organisation]

Participants (25)

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<td>III-V LAB</td>
<td>France</td>
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<td>1 Avenue Augustin Fresnel, Campus Polytechnique, 91767 Palaiseau Cedex</td>
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BEAMAGINE S.L
Spain
EU contribution
€ 198 125
Address
Carre Bellesguard 16
08755 Barcelona
Activity type
Private for-profit entities
(excluding Higher or Secondary Education Establishments)

IDEMIA IDENTITY & SECURITY FRANCE
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€ 212 082,50
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STMICROELECTRONICS SA
France
EU contribution
€ 477 218
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92120 Montrouge
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STMICROELECTRONICS (RESEARCH & DEVELOPMENT) LTD
United Kingdom
EU contribution
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Spain

EU contribution

€ 105 057,65

Address

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Activity type

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QUANTEL TECHNOLOGIES

France

EU contribution

€ 60 622

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Activity type

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Contact the organisation

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