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

Fact Sheet

Project Information

<table>
<thead>
<tr>
<th>VIZTA</th>
<th>Funded under</th>
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| Grant agreement ID: 826600 |

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<tr>
<td>STMICROELECTRONICS</td>
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<td>CROLLES 2 SAS</td>
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| 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 Microelectronics, 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 allow 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.

Fields of science
Programme(s)

Topic(s)

Call for proposal

H2020-ECSEL-2018-1-IA-two-stage

Funding Scheme

Coordinator

STMICROELECTRONICS CROLLES 2 SAS

Address
Rue Jean Monnet 850
38920 Crolles
France

Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

EU contribution
€ 5 482 013,25

Website
Contact the organisation

Participants (26)

STMICROELECTRONICS GRENOBLE 2 SAS

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Rue Jules Horowitz 12
38000 Grenoble
France

Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

EU contribution
€ 1 274 939,24

Website
Contact the organisation

Commissariat à l’Energie Atomique et aux Energies Alternatives
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<td>III V LAB</td>
<td>France</td>
<td>€ 512 644,70</td>
<td>Route De Nozay 9 91460 Marcoussis</td>
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<td>VEONEER SWEDEN AB</td>
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<td>Luxembourg</td>
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<td>Hungary</td>
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ALTER TECHNOLOGY TUV NORD SA
Spain
EU contribution
€ 122 750
Address
Calle Tomas Alba Edison 4
41092 Sevilla
Activity type
Private for-profit entities
(excluding Higher or Secondary Education Establishments)

BCB Informatica y Control S.L.
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€ 75 165,25
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Activity type
Private for-profit entities
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KEOPSYS INDUSTRIES
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EU contribution
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Activity type
Private for-profit entities
(excluding Higher or Secondary Education Establishments)

ADVANCED AUTOMOTIVE ANTENNAS S.L
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EU contribution
€ 20 259,14
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Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Contact the organisation

QUANTEL TECHNOLOGIES
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EU contribution
€ 60 622

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Za Courtaboeuf 2 Bis Avenue
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Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Contact the organisation

IDNEO TECHNOLOGIES SAU
Spain
EU contribution
€ 84 798,51

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Cl Del Rec De Dalt 3
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08100 Mollet Del Valles

Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)

Contact the organisation

Last update: 7 February 2022
Record number: 223292

Permalink: https://cordis.europa.eu/project/id/826600

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