

APPLAUSE



# APPLAUSE

Advanced packaging for photonics, optics and electronics for low cost manufacturing in Europe

ECSEL project in brief

ECSEL Call 2018

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## APPLAUSE – Project Overview

- ◀ APPLAUSE will build **European expertise in advanced packaging and assembly** to develop new tools, methods and processes for **high volume manufacturing (HVM)**
- ◀ The Project focuses on **advanced optics, photonics and electronics packaging for multimodal sensing systems**. HVM is enabled by strong contribution of testing, process control and **manufacturing equipment R&D**
- ◀ The project develops **key technology building blocks** with new tools and manufacturing methods
- ◀ These technology blocks feed to **six industrial use cases**:
  - Ambient light sensor for mobile and wearable applications (ams)
  - Thermal IR sensor for automotive and surveillance applications (IDEAS)
  - High speed datacom transceivers (DustPhotonics)
  - Flexible patch for cardiac monitoring (Precordior)
  - Miniaturized invasive cardiac sensors (Cardiaccs)
  - Optical humidity measurement modules (Vaisala)



# APPLAUSE's objectives

## Strategic objectives

- ◀ Developing **new tools, methods and processes for automated mass manufacturing and advanced packaging** for semiconductor, optics and photonics industry
- ◀ Bringing **advanced packaging and automated mass manufacturing concepts to optics and photonics** via six industrial Use Cases
- ◀ Increasing the **competitiveness and global market share of European semiconductor industry**, especially the manufacturing equipment and packaging and assembly industry

## Operational objectives

- ◀ Development of **new or modified packaging process equipment and processes** addressing current limitations of advanced packaging for optics
- ◀ **Advanced integration concepts for the Datacom, medical, automotive and industrial markets**
- ◀ Development of **test concepts and test equipment platforms and failure analysis** to combine the reduced device size and the tightening alignment specifications
- ◀ **Proof of high volume, low cost manufacturing capabilities for optics**



## European value chain with 31 partners from 11 countries

European electronics packaging companies representing widely the different value chain levels related to advanced packaging and smart system integration form the APPLAUSE consortium and supply chain

### Large Enterprises



Besil

DISCO



Kiru · Kezuru · Migaku Technologies



ECSEL JU

### SMEs



everon™

Precordior®



NUROMEDIA



RoodMicrotec

### RTOs



INSTITUTE OF ELECTRONICS AND COMPUTER SCIENCE



University of South-Eastern Norway

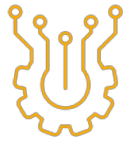


Aalto University School of Electrical Engineering



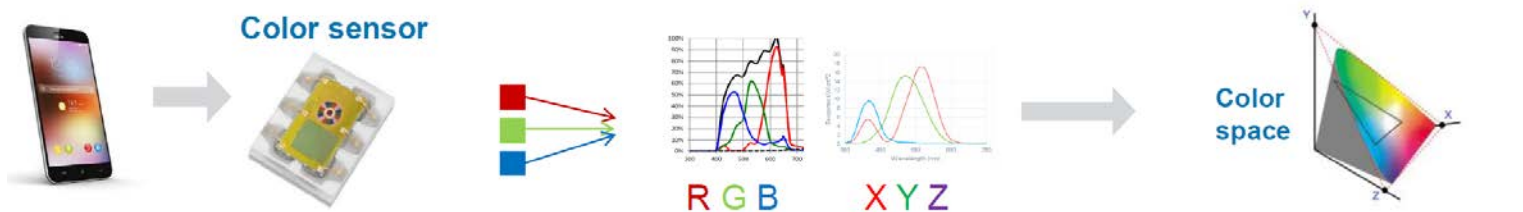
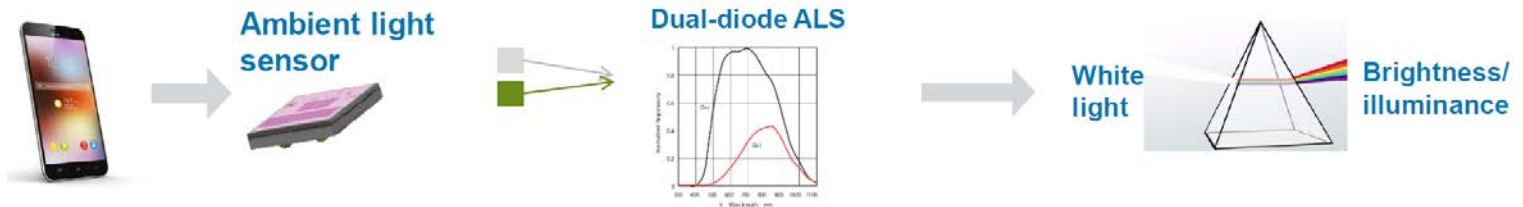
UNIVERSITY OF TURKU





# Use Case 1: Substantially smaller 3D integrated ambient light sensor for mobile and wearable applications AMS (AT)

- AMS (AT)
- BESl (NL)
- FhG ENAS (DE)
- PacTech (DE)
- APC (NL)
- Disco (DE)
- ICOS (BE)
- RoodMicrotec (DE)
- Afore (FI)
- EVG (AT)
- imec (BE)
- Semilab (HU)
- BESl (AT)
- 
- JSR (BE)
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*Thanks for your attention!*

- ◀ *For any question on the project you can reach us at [info@applause-ecsel.eu](mailto:info@applause-ecsel.eu)*
- ◀ *For updates follow us on LinkedIn: <https://www.linkedin.com/company/applause-ecsel-project/>*