

SENSATION new technologies and building blocks for machine vision and Ultra-HDTV broadcast

A project within the EUREKA PENTA programme

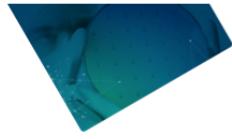
Paris, November 8, 2018 – SENSATION, a project within the EUREKA PENTA Cluster managed by AENEAS Industry Association, is developing innovative image capture, transmission and processing technologies for high-end Machine Vision and Broadcast applications. The project focuses on key requirements common to all professional vision-based applications namely: higher spatial resolution, higher temporal resolution (frame-rate), wider colour gamut, higher dynamic range and improved image quality.

Image capture, processing and transmission technologies are used in numerous applications from manufacturing to healthcare, security, automotive, digital entertainment (TV broadcast, digital cinema, gaming) and even agriculture. Moreover, while machine vision for industrial production processes and broadcast are extremely different markets, the technical challenges are fundamentally the same. By collaborating on key building blocks, the partners in the SENSATION project are sharing knowledge and opening the way to creating standards relevant to both application areas.

Machine vision is an important technology for modern production processes, with manufacturers looking for solutions for ever-more demanding inspection tasks to improve product quality and increase productivity. This calls for small pixel, high resolution sensors that can perform high quality inspection at high speeds. To meet these requirements, along with faster image processing and lower costs, SENSATION is working on the next generation of CMOS (Complementary Metal Oxide Semiconductor) image sensors with higher data rates, smaller pixels with global shutter capability and high dynamic range, as well as serial I/O to allow for easier interfacing and power reduction. It is also developing embedded systems that can process image data faster than the current systems which rely on external PCs, as well as on faster transmission of data to centralized vision systems.

In the broadcast market, demand is being driven by the migration from HDTV to ultra HDTV (UHDTV). The UHDTV standard supports 4K and 8K resolutions, 12 bits per pixel (compared to 10 bits in HDTV), a wider colour gamut and an increased dynamic range. Meeting the standard calls for improvements in all aspects of image capture and processing. Although new, UHDTV is already attracting attention particularly for live events and sports broadcasting. Japan is one of the first countries to roll out UHDTV and part of the Olympic Games 2020 in Japan will be broadcast in 8K.

The SENSATION project brings together key European players with proven track records in the imaging industry including R&D institutes specialised in image sensor technologies, image sensor designs and video processing; fabless design houses; a semiconductor manufacturer; image compression experts and system integrators. Through this collaboration the partners can speed innovation, drive standardisation and strengthen Europe's ability to compete in global markets for image capture, processing and transmission.



About the PENTA programme (managed by the AENEAS Industry Association)

PENTA is a EUREKA cluster whose purpose is to catalyse research, development and innovation in areas of micro and nanoelectronics enabled systems and applications - where there is shared national and industrial interest. Based on the Electronic Components & Systems (ECS) Strategic Research Agenda (SRA) key areas and essential capabilities, PENTA programme contributes to the development of electronic solutions with the opportunity for rapid competitive exploitation and a strong impact on European societal challenges. The PENTA project team is supporting SMEs, large corporations, research organisations and universities by facilitating access to funding, fostering collaborative work and creating consortia.

PENTA is managed by AENEAS.

About PENTA: <http://www.penta-eureka.eu>

About AENEAS: <https://aeneas-office.org>

About SENSATION

SENSATION is a RD&I project consortium involving 6 partners from 2 countries. The project partners are: Adimec Advanced Image Systems BV (Project leader), Caeleste CVBA, intoPIX, ON Semiconductor Belgium, Delft University of Technology and Grass Valley Nederland BV. National funding support is provided by Belgium (Flanders region) and The Netherlands.

About SENSATION: <https://www.project-sensation.eu>

