

MEMS veteran, Matt Crowley, joins Nanusens as strategic advisor

PAIGNTON, DEVON, UK, October 27, 2023 /EINPresswire.com/ -- <u>Nanusens</u> has announced that Matt Crowley has joined the company as a strategic advisor.

Nanusens CEO, Josep Montanyà, said, "A veteran of the MEMS industry, having worked on MEMS and sensors at Sand 9, Vesper and Qualcomm, Matt's experience will be invaluable in helping Nanusens rapidly bring its MEMS-within-ASICs™ technology to market."

Matt Crowley said, "The fabless semiconductor industry has thrived for decades because it uses a single standard manufacturing process, CMOS, that allows the industry to achieve massive scale, lower cost and constantly improving performance. This dynamic does not exist in the MEMS industry which is why it takes many years and tens of millions of dollars to create a new MEMS product. Nanusens is the first MEMS company to convincingly demonstrate technology that will change this



Matt Crowley



Nanusens pressure sensor with detection circuitry (right) created within the CMOS layers of an ASIC (left)

paradigm by making MEMS directly in CMOS itself.

"When I first met Nanusens' CEO, Josep Montanyà, I was sceptical of his claim that Nanusens can make a variety of MEMS devices such as accelerometers, pressure sensors and antenna switches. As someone with 20 years of experience in MEMS, I have seen many claims that could not live up to the hype, but, as I dug into the data and asked hard questions, I became convinced that, although it has not yet been proven at scale, this technology does work. Transforming the "

Transforming the MEMS business model from one with discrete devices manufactured on dedicated lines to MEMS as a licensable IP block at major CMOS foundries will change the paradigm." *Matt Crowley* MEMS business model from one with discrete devices manufactured on dedicated lines to MEMS as a licensable IP block at major CMOS foundries will change the paradigm for a wide class of MEMS devices. It is a bold vision and I am thrilled to join Nanusens as an advisor to help make that vision a reality."

Technology backgrounder

Nanusens is the only company to have perfected the building of sensors within chips. The sensors, called MEMS or Micro Electro Mechanical Systems, are built using the standard chip manufacturing techniques, called CMOS,

that are used to build the electronic circuits on chips and at the same time as the rest of the chip circuitry. This means that chips with Nanusens embedded sensors can be made in any of the many CMOS fab in virtually unlimited numbers and with the high yields that are normal in such fabs with all the benefits of low unit costs that fab production provides.

A key new innovation by the company is development of a novel control circuit that measures the capacitance changes within the sensor to provide sensor data. Like the sensor itself, this is also a digital IP block so it can be incorporated in the floor plan of the device's control chip, or ASIC, using standard EDA tools. This pairing for sensors and control circuitry as IP is unique as no other sensor solution can be turned into an IP block and made using standard CMOS techniques within the layers of the chip structure. This also significantly reduces the complexity and bill of materials costs for an AloT device.

Nanusens has already built accelerometer sensors into an ASIC chip using this unique technology. It is developing many other different types of embedded sensors such as gyroscope, magnetometer, pressure sensor, microphone, IR imagers and gas sensor as most of these are variants on the accelerometer design. These open up many other massive markets for its embedded sensors such as smartphones, earbuds, wearables, automotive, medical equipment and aerospace, to name but a few. As a result, the company has started a Series A funding round.

About Nanusens[™] www.nanusens.com

Founded in 2014 by Dr. Josep Montanyà and Dr. Marc Llamas, Nanusens is headquartered in Paignton, Devon, England with Research and Development offices in Barcelona, Spain and Shenzen, China. It leverages the research and expertise developed by the founders' previous company, Baolab Microsystems. Nanusens is VC funded by Inveready (<u>www.inveready.com</u>), Caixa Capital Risc (<u>www.caixacapitalrisc.es/en/</u>) and Dieco Capital (<u>www.dieco-capital.com</u>), and several, ultra-high net worth investors. Nanusens has won the Disruptive Innovation of the Year and Emerging Technology Company of the Year at the 2019 TechWorks Awards and Best Campaign of the Year at the 2019 Elektra Awards.

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