Press

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OSRAM invests in Autonomous Driving AI Start-up Recogni

- Recogni successfully raises its financing round with a volume of $25 million
- Besides OSRAM's Venture Capital arm Fluxunit, BMW iVentures, Toyota AI Ventures, Faurecia, GreatPoint Ventures and other investors partake in the round
- Recogni develops high-performance, low-power AI processing for autonomous vehicles

Fluxunit, OSRAM's Venture Capital arm joins leading VC funds well as automotive OEMs and Tier-1 suppliers in the financing round of Recogni. The Silicon Valley start-up with subsidiary in Munich develops a vision-oriented artificial intelligence (AI) platform for autonomous vehicles, which allows the processing of sensor data from LIDAR[1], camera and RADAR systems in real-time and at low power consumption. Besides Fluxunit, GreatPoint Ventures, Toyota AI Ventures, BMW iVentures, Faurecia, DNS Capital, amongst others partake in the $25 million financing round.

As the automotive industry is transitioning to autonomous vehicles, a network of computers is needed to drive these vehicles efficiently on a limited energy budget. While these AI systems are trained offline, they need to process the sensor data in real-time in the vehicle. Today, autonomous vehicles have hit the processing efficiency wall and are unable to transition to the next level of autonomy and beyond. Recogni is focused on creating high-performance and low-power AI processing to help make autonomous vehicles a reality.

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[1] Light Detection and Ranging, a sensor based on infrared light for 3D machine vision that can be used to detect distances amongst other things

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Founded in 2018 and headquartered in San Jose, California, the company is positioning itself to revolutionize the processing of sensor data for Level 2+ autonomous vehicles. Using a Vision Cognition Processor, Recogni will solve the problem of running perception algorithms in the vehicle in real-time and at low power consumption. The company's founders possess deep industry experience in system design, AI, vision, and custom silicon design.

"We see a huge opportunity here to truly achieve the goal of full vehicle autonomy with the Recogni platform," said Ashok Krishnamurthi, Managing Partner at GreatPoint Ventures. "While scoping the market, we realized that most of the neural network accelerator technologies are either optimized for performance or power – none are optimized for both. We believe that the Recogni platform is orders of magnitude superior to anything we have seen. Further, this is a team we've known for years and have backed in the past. They are the right group to not only develop this promising technology but also get it into the hands of the auto OEMs."

 "We truly believe in sensor fusion based on camera, RADAR, and LIDAR, but the computational requirements for processing the flood of data in real time and running perception algorithms on the edge remain one of the critical bottlenecks in autonomous driving today", explains Sebastian Stamm, Investment Manager at Fluxunit – OSRAM Ventures. "Recogni solves this problem with a unique and disruptive approach – we are proud to back this team of world-class IC- and system developers as well as automotive AI experts."

Recogni plans to use the funds to deliver the most capable perception system to enable state of the art sensor fusion of visual and depth sensor data while continuing to grow its top-tier engineering team. Recogni is currently in discussions with multiple auto manufacturers, to provide them with the full suite of enabling technology from modules to the software.

"The issues within the Level 2+, 3, 4 and 5 autonomy ecosystem range from capturing/generating training data to inferring in real-time. These vehicles need

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datacenter class performance while consuming minuscule amounts of power," said RK Anand, CEO of Recogni. "Leveraging our background in machine learning, computer vision, silicon, and system design, we are engineering a fundamentally new system that benefits the auto industry with very high efficiency at the lowest power consumption."

The investment in Recogni underlines OSRAM's transition from a lighting company towards a high-tech photonics company in various future applications such as autonomous driving. Via its venture arm Fluxunit, OSRAM will contribute their extensive know-how in semiconductors for lighting as well as sensing applications in the automotive industry.

Perception algorithms remain a bottleneck for autonomous vehicles due to the enormous computational power required

PRESS CONTACT FLUXUNIT
Sebastian Stamm
Tel.: + 49 89 6213 2277
E-Mail: sebastian.stamm@fluxunit.de

PRESS CONTACT OSRAM
Sabrina Martin
Tel. +49 896213 5466
E-Mail: s.martin@osram.com

PRESS CONTACT RECOGNI
Germany
Hans Juergen Croissant
Tel.: +49 1637013035
E-Mail: hjc@iuvo-cv.de

US
Lori Bertelli
Tel.:+1 (916) 216-2968
E-Mai:l lori@280blue.com

ABOUT OSRAM
OSRAM, based in Munich, is a leading global high-tech company with a history dating back more than 110 years. Primarily focused on semiconductor-based technologies, our products are used in highly diverse applications ranging from virtual reality to autonomous driving and from smartphones to smart and connected lighting solutions in buildings and cities. OSRAM uses the endless possibilities of light to improve the quality of life for individuals and communities. OSRAM's innovations enable people all over the world not only to see better, but also to communicate, travel, work and live better. OSRAM has approximately 26,200 employees worldwide as of end of fiscal 2018 (September 30) and generated revenue of more than 3.8 billion euros from continuing activities. The company is listed on the stock exchanges in Frankfurt and Munich (ISIN: DE000LED4000; WKN: LED 400; trading symbol: OSR). Additional information can be found at www.osram.com.

ABOUT FLUXUNIT
Fluxunit is the independent venture capital arm of OSRAM. Building on OSRAM's leading market position, Fluxunit invests in deep-tech start-ups, which reach beyond OSRAM's core business and have the potential to disrupt and innovate existing technologies and business models. Fluxunit's goal is to offer start-ups not only capital, but also access to OSRAM's resources and global network as a high-tech corporation in order to foster and accelerate their development. Find out more about Fluxunit at www.fluxunit.de.

ABOUT RECOGNI
Recogni's mission is to design a vision-oriented artificial intelligence system from the ground up. The system will deliver unprecedented inference performance at more than 500x better power efficiency compared to other solutions, enabling novel edge processing. The company is headquartered in San Jose, Calif. with operations in Munich, Germany and is backed by leading venture capital firms includ-ing GreatPoint Ventures with participation from Fluxunit – OSRAM Ventures, Toyota AI Ventures, BMW iVentures, Faurecia, DNS Capital and others. For more information, visit www.recogni.com.

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