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Press release

congatec, Basler and NXP present Retail Deep Learning Application

**The goal: Fully automated checkout**

**Deggendorf/Nuremberg, Germany, 26 February 2019 \* \* \*** At Embedded World 2019, congatec, Basler and NXP® Semiconductors are presenting a Retail Deep Learning Application at their respective booths. The platform is a proof-of-concept utilizing Artificial Intelligence (AI) to fully automate the retail checkout process. It was created by Basler supported by the close partnership with congatec and NXP. This solution shows the possibilities of vision for embedded applications and how they can simplify our everyday life.

Booth visitors can select what to put in their baskets, and the trained neural network then detects the products on the basis of a video stream – similar to how face recognition works – and finally the total pricing will be displayed. Systems like this open new perspective for retail applications: It makes it easy to add new products to the sales portfolio as products can easily be added to a trained neural network. Retail stores benefit from less labor costs as well as significantly improved customer experience through instant checkouts, minimized queues and 100% checkout capacity at all times, even when the shop is opened 24/7.

Ron Martine, Vice President for i.MX applications processors at NXP® Semiconductors, explains the benefits of the i.MX 8 family in this application. “Our recently launched NXP i.MX 8 applications processors are perfect candidates for these high volume applications as they support up to 2 MIPI cameras natively with a TDP of only a few watts, integrate support for neural networks as well as up to four Full HD displays, and feature safe domain separation, e.g. to securely separate payment and scanning. They offer all embedded processing capabilities required to build entire self-checkout systems based on a single silicon platform.”

Martin Danzer, Director of Product Management at congatec, highlights how congatec supports the platform in this retail application setup: “We offer these impressive i.MX 8 applications processors to customers as an application-ready embedded hardware platform on the basis of commercial off-the-shelf available Computer-on-Modules. Moreover, for large scales of self-checkout systems we supply a full service on demand, from designing customized carrier boards to cost efficiently merging modules and carrier logic in a full custom design. In a first step, customers can test the various performance variants of the BGA processors by simply switching the modules on our evaluation carrier boards as required. As a next step, we deliver the tailored embedded computing platform in a cost and space-optimized full custom design.”

Gerrit Fischer, Head of Product Market Management at Basler, is happy to have such strong partners for its embedded vision solutions: “This Retail Deep Learning Application is based on our new Embedded Vision Kit and shows how the strategic partnerships with congatec and NXP support us in building the best embedded vision solutions for our customers. With Basler Embedded Vision becomes easy: Be it with our easy-to-integrate Embedded Vision Kits that offer an excellence base for solutions in many different fields our with our services that support you on the whole way from the product idea to the final solution.”

The Retail Deep Learning Application shown at the embedded world booths of congatec (hall 1, stand 358), Basler (hall 2, stand 550) and NXP® Semiconductors (hall 4A, stand 220) is based on a Basler Embedded Vision Kit consisting of an NXP i.MX 8QuadMax SoC mounted on the conga-SMX8 SMARC 2.0 Computer-on-Module from congatec, a SMARC 2.0 carrier board and Basler’s dart BCON for MIPI 13 MP camera module. The Embedded Vision Kit will be available starting this summer from Basler.

**About congatec**congatec is a leading supplier of industrial computer modules using the standard form factors COM Express, Qseven and SMARC as well as single board computers and customizing services. congatec’s products can be used in a variety of industries and applications, such as industrial automation, medical, entertainment, transportation, telecommunication, test & measurement and point-of-sale. Core knowledge and technical know-how includes unique extended BIOS features as well as comprehensive driver and board support packages. Following the design-in phase, customers are given support via extensive product lifecycle management. The company’s products are manufactured by specialist service providers in accordance with modern quality standards. Headquartered in Deggendorf, Germany, congatec currently has entities in USA, Taiwan, China, Japan and Australia as well as United Kingdom, France, and the Czech Republic. More information is available on our website at [www.congatec.com](http://www.congatec.com) or via [Facebook](http://www.facebook.com/Congatec), [Twitter](https://mobile.twitter.com/congatecAG) and [YouTube](http://www.youtube.com/congatecAE).

**About Basler**

Basler is a leading manufacturer of high-quality cameras and camera accessories for industry, medicine, traffic and a variety of other markets. The company’s product portfolio encompasses area scan and line scan cameras in compact housing dimensions, camera modules in board level variants for embedded solutions, and 3D cameras. The catalog is rounded off by the user-friendly pylon SDK plus a broad spectrum of accessories, including several developed specially for Basler and optimally harmonized for their cameras. Basler has three decades of experience in computer vision. The company is home to approximately 600 employees at its headquarters in Ahrensburg, Germany, and at its subsidiaries and sales offices in Europe, Asia, and North America.

**About NXP Semiconductors**

NXP Semiconductors enables secure connections and infrastructure for a smarter world, advancing solutions that make lives easier, better and safer. As the world leader in secure connectivity solutions for embedded applications, NXP is driving innovation in the secure connected vehicle, end-to-end security and privacy and smart connected solutions markets. Built on more than 60 years of combined experience and expertise, the company has 30,000 employees in more than 30 countries and posted revenue of $9.41 billion in 2018.

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