

# PRESS RELEASE



BERLIN, September 16, 2014

**Responsible:**

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## Bean Counting in Real-Time

Sorting and Grading with GigE Vision®



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Kithara Software, specialist in the field of real-time for Windows, in cooperation with US-based company VMEK, has announced the successful application of a real-time system for sorting, grading and quality assurance of bulk material. These machines are able to capture agricultural products such as peas, beans, nuts, rice or corn and sort them out in real-time.

With the modular function library »RealTime Suite« the German software developer supports a concept that combines the Kithara real-time environment with camera-based systems for sorting and grading as well as enabling automated control of these machines via integration into EtherCAT® topologies.

“It’s not a virtual machine but an extension of Windows running in parallel for real-time image processing and EtherCAT for real-time downstream automation control,” explains Kent Lovvorn, director of business development in North America at Kithara Software.

The “VMEK Metrix Analytic Sorter“ captures measure, color or texture of individual objects at a fall rate of 4 m/s with a camera running the Kithara GigE Vision® driver. The objects are then analyzed in real-time in terms of specific criteria with OpenCV or Halcon and sorted out while still in the air. Using a single camera, this allows for 2 tons of respective agricultural products per hour to be precisely checked and graded according to size, ripeness, possible impurities and, using volumetric calculations, even weight.

Applying this concept, sorting machines are able to reach exceptional levels of precision as well as throughput efficiency, whereas GigE Vision and EtherCAT allow for cost-effective implementation due to the utilization of standardized Ethernet hardware. Additionally, Kithara Software is nearing the completion of real-time capabilities for another popular standard, USB3 Vision®.

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### **About Kithara Software GmbH**

Kithara Software is a specialist for real-time solutions, especially for the Windows® operating systems family. The real-time extension RealTime Suite is a comprehensive system library for hardware dependent programming, communication, automation and image processing in real-time. The software is an easy-to-use and powerful technical basis for advanced applications in robotics, image processing, measurement and control engineering as well as automation. It is the key element in machine building, for testing rigs and other specialized applications. Kithara Software has a subsidiary in the USA as well as a representation in China and supports global companies in their innovative projects.

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- 1.826 Characters (incl. spaces)
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