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| **Press release** |  **May 9, 2022** |
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New: Alvium CSI-2 cameras with GenICam for CSI-2 access

Allied Vision enables easy setup of GenICam based vision applications with CSI-2 cameras

*Stadtroda, Germany, May 9, 2022* – With the latest firmware for all Alvium cameras Allied Vision is opening up the direct GenICam access for MIPI CSI-2 cameras. Together with the GenICam for CSI-2 support functionality, Allied Vision is releasing a new version of the Software Development Kit, Vimba 6.0, with a new CSI-2 Transport Layer. The much easier GenICam for CSI-2 access now allows the use of an Alvium CSI-2 camera with the Vimba SDK and a large choice of GenICam features. With this new functionality the CSI-2 cameras combine the advantages of embedded systems (like size, weight, power consumption) and the large choice of advanced Machine Vision Standard Features.

**Easy migration**Existing GenICam based applications setup with a USB camera can now easily be migrated to CSI-2 cameras. All SFNC (Standard Features Naming Convention) features that are available with the Alvium USB3 cameras can now be used with CSI-2 cameras thanks to the GenICam for CSI access. This offers the option to use a USB camera for prototyping, and after programming the application, simply replace it with a CSI-2 camera.

Starting with a selection of Alvium 1800 C models with Sony IMX global shutter (1800 C-507, 1800 C-511, 1800 C-1236) and Starvis rolling shutter (1800 C-2050) together with the OnSemi AR0521 Sensor (1800 C-500) Allied Vision will continuously expand the number of models officially tested and validated for the use of GenICam for CSI-2.

**Embedded benefits**As CSI-2 is a very streamlined protocol CSI-2 cameras require less processing time (CPU) on the host system due to low overhead making CSI-2 cameras particularly suitable for embedded systems. Compared to a USB camera, the CPU load can be reduced by up to 70%.

Together with Allied Vision’s new Alvium CSI-2 driver 3.0.0 for NVIDIA Jetson, the user can also benefit from the Machine learning and AI capabilities of NVIDIA® Jetson™ systems. The released driver currently supports Xavier NX and AGX Xavier running NVIDIA Jetpack 4.5.1. However, a beta driver with support for the newest JetPack 4.6.1 and all NVIDIA Jetson Systems is already available on [Github](https://github.com/alliedvision/linux_nvidia_jetson/releases).

The cameras can be controlled by using Allied Vision’s Software Development Kit Vimba 6.0 or any other GenICam compliant third party software. Now, designer and developer of vision systems without or few knowledge of V4L2 can also choose CSI-2 cameras for their application. The handling of the CSI-camera with Vimba and GenICam for CSI-2 is much easier compared to the V4L2 access and the user has many more features to choose from.

**New features**The new firmware also adds new features to all 1800 C cameras using GenIcam for CSI-2 as well as all Alvium 1800 U USB3 cameras:
5x5 Convolution Filter, ADC Selection, User Sets, Timer.

The unique **convolution filter with a 5x5 matrix** includes an adaptive noise reduction mode. This filter can be used to reduce the noise in the image while keeping the corners and edges. This is especially important for applications selecting objects by edge detection. By choosing the custom convolution mode the user can define his own 5 x 5 convolution filter kernel to obtain for example a specific image deformation such as edge detection and relief effects.

With the **ADC (analog-to-digital converter) selection**, Allied Vision offers the user the possibility to operate Alvium cameras with the highest possible frame rates. By choosing the bit depth of the sensor readout (between 8 and 12 bit), the user can speed up the cameras up to twice its speed depending on the sensor. If a smaller region of interest of the image is selected, the speed can be increased even further.

Furthermore, the user can now **save different user sets** in the camera with up to 4 individual sets and one default set to restore the cameras factory settings. Depending on the application or environment, predefined user sets can then be selected. The default set which is loaded when starting the camera can also be configured individually.

Another new SNFC compliant feature of the camera, the **timer control,** opens up the possibility for the user to precisely synchronize the illumination, e.g. by a stroboscopic flash unit, and the image acquisition of the camera.

**Allied Vision company profile**For more than 30 years, Allied Vision has been helping people to reach their imaging goals. Allied Vision supplies camera technology and image capture solutions for industrial inspection, medical and scientific imaging, traffic monitoring and many more application areas in digital imaging. With a deep understanding of customers’ needs, Allied Vision finds individual solutions for every application, a practice which has made Allied Vision one of the leading camera manufacturers worldwide in the machine vision market.

The company has nine locations in Germany, Canada, the United States, Singapore and China and is represented by a network of sales partners in over 30 countries. Allied Vision is member of the TKH Group.

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