



ProViu® ASL360 – improved awareness and confidence thanks to virtual all-round vision



A modern glass skyscraper with a grid of windows. A green line graph is overlaid on the image, starting from the bottom left and trending upwards towards the top right. The word 'Vision' is written in a large, white, sans-serif font across the middle of the image. The word 'Efficiency' is written in a large, white, sans-serif font across the bottom of the image. The background shows the building's reflection on a lower glass section and a paved area with some spherical bollards in the distance.

Vision

Efficiency

Increased Driver Assistance & Improved Virtual Vision.

Human error while driving is the most common cause of personal injury vehicular accidents.

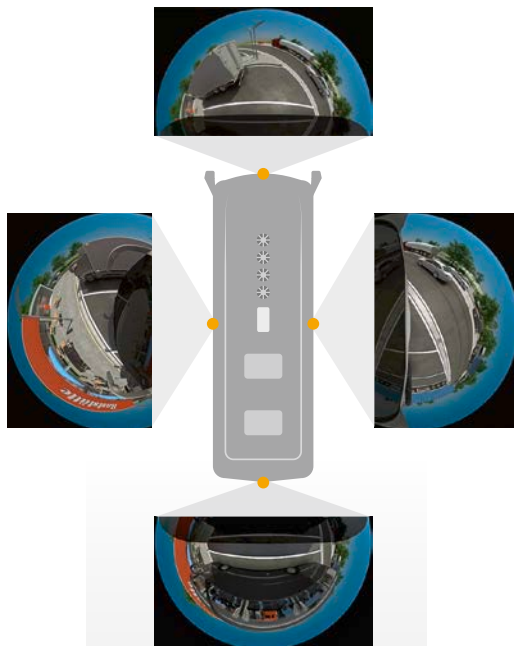
ProViu®ASL360 has been developed with this in mind and assists in risk reduction of avoidable accidents. Four cameras stitched together provide a virtually 360° all-round view, reducing blind spots and helping to display pedestrians and other obstacles.

ProViu®ASL360 enables the user to see obstacles that may not usually appear in direct vision or mirrors, thus helping to improve driver awareness. Ultimately, this helps increase efficiency via shorter turnarounds and downtimes, lower repair and damage costs and a reduced accident risk. ProViu®ASL360 can also greatly assist with vehicle operation in difficult situations such as dense city traffic, narrow loading areas, cluttered factory yards and at busy building sites.

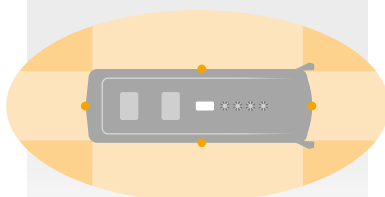
Retrofitting Awareness.

With its market leading surround-view monitoring function, ProViu®ASL360 helps provide higher levels of awareness and confidence while operating commercial, industrial and special purpose vehicles. ProViu®ASL360 can produce an expanded view of the vehicle's surroundings – in clear detail and in real time.

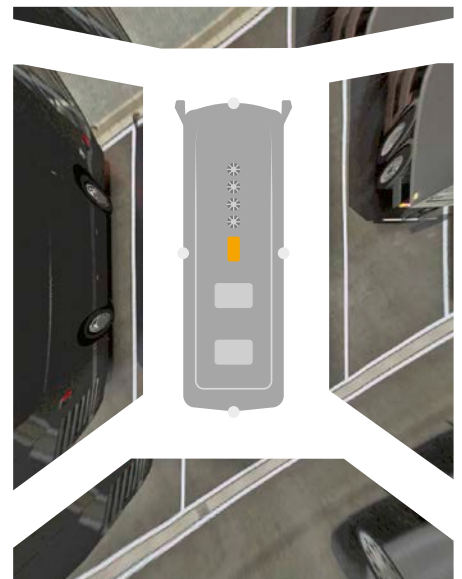
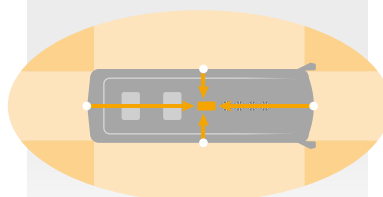
Functional principle



Installed cameras enable the driver to see virtually 360° around the vehicle.



The recorded images are transmitted to the control unit.



The transmitted images are adjusted perspectively and consolidated to create a preview.

In most commercial and industrial vehicle operations blind spots quickly can become a life-threatening problem. ProViu®ASL360 helps reduce these dangerous blind spots. Formerly, Continental produced surround view systems solely for OEM, but now has this retrofittable ProViu®ASL360 variant within its product offerings.

Instead of single "point and look" cameras, ProViu®ASL360 can integrate all the individual functions into one bird's-eye view image.

This makes the 360° camera an indispensable feature for commercial and industrial applications. The surround view function assists the driver or operator in recognizing a potentially dangerous traffic or pathway situation immediately. This is made possible by two to six 180° plus cameras, located in strategic positions around the vehicle. The ProViu®ASL360 Electronic Control Unit (ECU) then merges these images and/or selected views and displays them in a useful format on a screen in the cab (separately available). Retrofitting of vehicles can also be performed at authorized workshops equipped for this purpose.

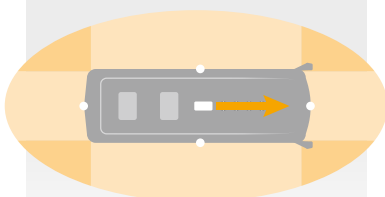
Driver assistance of the future

- Full retrofit and/or factory fit advanced surround view solution for commercial, industrial and special purpose vehicles
- Proven design and technology
- User-friendly, intuitive operation



The preview is transmitted to the display in the driver's cab.

The view can be configured individually to show a view that is tailored to the driver's needs.



ProViu®ASL360 – Features.

ProViu®ASL360 is highly customizable and versatile, making it an indispensable feature for today's traffic conditions.

Unlike CCTV and other mostly reactive monitoring systems, the ProViu®ASL360 is a passive, proactive system. The Surround View Driver Assistance uses four wide-angle, fish-eye cameras with genuine real time delivery at 30 fps. The four super fish-eye images of the cameras are processed and stitched together to provide virtually a 360°, bird's-eye view of the vehicle surroundings. This helps to eliminate blind spots in different traffic situations where precise maneuvering is a must. We have used techniques from our OEM work to provide accurate merging, "alpha" blending and grading as a standard feature.

The system has the added advantage of a flexible software tool chain with multiple displays and screens, configuration, and custom user interface. Light/ dark balance is achieved by the automatic balancing of the whole image on the screen, reducing the differential between the images. The ProViu®ASL360 is a secure system – and as in our automotive systems, we have designed the system to operate without

frozen frames up to the point of output, so the system is self-monitoring. The ProViu®ASL360 is built to our automotive standards, which are universally acknowledged to be extremely high.

We also have added configurable image stitching, so you can change the position and shape of the join between two camera images to give you the least impact on a particular surround view. For example if two cameras can see one piece of ground, then you can move the join around in that area. We believe that flexibility is a must – and the ProViu®ASL360's software is configurable: you can increase or reduce the blended areas, control the system via opto-isolated inputs (e.g. automatic reverse or front views depending on driver action, the situation and tacho-related speed inputs). Continental is a recognized industry leader in vision research for OEM automotive entities. As far as support is concerned, we will be ready to help you and the end user if a change in the operation is requested.

Advantages at a glance

- | | | |
|---|---|---|
| – Passive system | – Accuracy – and a flexible software tool chain, with multiple displays and screens, configuration, custom user interface and much more | – Cutting-edge technology – Continental is an industry leader |
| – Reduced blind spots – because four wide-angle fish-eye cameras create four 180° plus images, which the system then combines, stitches, blends and grades to produce a virtually all-round view from above the vehicle | – Reliability – self-monitoring system | – Support – fast, efficient support if system changes are requested |
| – Fast, real-time image delivery – 30 fps | – Customizable view – just move the joins between the images to suit the current vehicle location | |

ProViu®ASL360 – the hardware.

The hardware in any monitoring system must have cutting-edge technology. It must also be durable and of course reliable. ProViu®ASL360 has proven to be capable of surviving in harsh conditions.

Camera



- 4 x ASL360 CM02 cameras
- 180° plus lenses
- Horizontal viewing angle
- 'Intelligent camera' (software driven, light balance etc.)
- Robust IP 69K rating

Electronic Control Unit



- 4 - 6 real time 30 fps inputs
- Multiple real time 30 fps outputs
- Normal voltage 12 - 24 V /
Operating voltage 9 - 32 V
- Operating temperature -40 to +85 °C
(-40 to +185 °F)
- Designed for factory or retrofit applications
- EMC (Electromagnetic Compatibility)
in conformance with CE, ECE-R10
(E11 label), FCC

ProViu®ASL360 – Example applications.

School, city and trip buses.

Improving the awareness and field of vision of a bus driver is vital – and that is why having a virtually 360° view of what's happening around a bus is a must.

City bus*



Trip bus*



Mobile cranes, excavators and construction vehicles.

ProViu®ASL360 gives operators an enhanced view of areas that would normally be difficult to negotiate – this means better, more efficient maneuvering and precise positioning for loading and unloading, saving both time and money.

Mobile crane*



Excavator*



Construction vehicle*



Tractors and combine harvesters.

Precision and accuracy are important factors for these vehicles. With an enhanced view, operators can work and maneuver faster and better.

Tractor*



Combine harvester*



* simulated images

General trucks, garbage trucks and delivery vehicles.

An enhanced view allows more efficient maneuvering and precise positioning for loading and unloading, saving both time and money.

General truck*



Garbage truck*



Delivery vehicle*



Continental Trading GmbH
Continental Automotive GmbH
Sodener Straße 9
65824 Schwalbach am Taunus
Germany
Tel. +49 6196 87-0
www.continental-corporation.com

WARNING!

Distraction can cause fatal or serious accidents. Always concentrate on driving and pathway conditions. Always use your mirrors and obey traffic safety laws. Other dangers exist outside the cameras' view. Objects may be closer than they appear. Fully read and understand the Installation and User's Guides before installation and operation.

Legal notice

The information provided in this brochure contains only general descriptions or performance characteristics, which do not always apply as described in case of actual use or which may change as a result of further development of the products. This information is merely a technical description of the product. This information is not meant or intended to be a special guarantee for a particular quality or particular durability. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract. We reserve the right to make changes in availability as well as technical changes without prior notice.