



AZILPIX STUDIO.ONE

ULTRA HIGH-RES VIRTUAL CAMERA SYSTEM

About AZilPix

AZilPix is a spin-off of the university of Hasselt and iMinds (now IMEC), resulting out of 15 years of experience in research and development. AZilPix was founded in December 2015 by Jan Looijmans (former VP EMEA of Grass Valley), Philippe Bekaert (professor at the university of Hasselt), Michel de Wolf (former CTO of EVS) and Arjan Akkermans.

In 2016 AZilPix introduced a new video capturing concept to the market, called Studio.One. Studio.One is a revolutionary new way of capturing events. Ultra high-res cameras (4K and 8K), equipped with wide-angle lenses, capture everything. During post-production the camera pan, tilt and zoom can be altered. This makes it possible to capture and edit complex events, such as musical or sports events, with just a single operator.

The high-res cameras can be equipped with photography style lenses, including fish-eye lenses to capture a very wide field of view. With intelligent algorithms the lens distortions are corrected and custom cascades and crops can be generated real time live or during post production.

Equipped with a unique extreme fish eye lens, matching the camera sensor size and resolution, AZilPix Studio.One provides up to 12K extreme high resolution absolutely seamless 360 video. Being a single-lens solution, stitching issues are avoided. Not only, Studio.One is surpassing by far the best VR video qualities currently supported on internet: Studio.One is the only 360 video capture system truly suited for TV broadcasting.

With AZilPix it is possible to capture everything during events like sports, concerts, talk shows, medical procedures, conventions and public performances, without missing anything.



The next generation capture system

Video production is a costly process. A sizable team of cameramen frame perfect shots from multiple vantage points, while a director at the end of the chain selects only a single view to dispatch at any time.

AZiPiX Studio.One is a unique and balanced combination of nonintrusive cameras and IT hardware and software, making capturing an event from multiple vantage points practical, using ultra-high resolution cameras equipped with wide-angle lenses. Everything is captured - nothing is missed. Software based pan-tilt-zoom-rotate "virtual camera" cut-outs allow to reverse the order of framing a perfect shot and view angle selection, rendering video production less labor intensive. Studio.One allows events such as music festivals, sports events, conferences, church services and surgical operations to be captured with as few as one single operator. It enables simultaneous conventional and VR video production.

Whether it be for entertainment, information, documentation, education or training, if the audience is in the hundreds up to tens of thousands or more, AZiPiX Studio.One allows you to provide a professional video capture service. As if you had a full OB Van at your disposal, but without the crew, multi camera OB truck or the costs.

Azilpix studio.One key features

- Ultra high-res (4K and 8K) nonintrusive cameras with wide-angle or full 360° lenses
- Pan-Tilt-Zoom views during or after capturing the event
- Server processes the camera feeds to output video, live and real-time
- Usable for live as well as post productions
- Several virtual feeds per physical camera possible
- Multiple simultaneous synchronized outputs
- Multiple-camera capture with just a single operator
- IP-broadcast and VR compatible
- Easy and intuitive interface and web based setup
- SKAARHOJ universal broadcasting control panel support
- Real time image processing, e.g. noise reduction, detail enhancements and ASC CDL compatible shading
- On-screen metering tools like a waveform and a vector scope
- Short-depth 4RU server to facilitate up to 6 cameras
- Multi-channel h264/hevc live streaming
- Multiple Newtek NDI outputs
- Multi-channel audio input and output





Ultra high-res video capture

Up to six 12-megapixel or two 48-megapixel nonintrusive cameras with wide-angle, fish eye or full 360° lenses per server capture an event completely from multiple angles.



Virtual camera concept

The Studio.One server computes multiple simultaneous rectified or panoramic virtual cameras from any input camera in real time live or in post-production. Pan-tilt-roll-zoom each virtual camera as if it was 360° video.



Low operation cost

No need to follow the action all the time when capturing an event: everything is captured anyway. As a result, only a single operator can capture complex events. Post-production is a single person job as well. H264/hevc multi-channel live streaming is integrated in the system.



Intuitive and powerful

Studio.One operation is easy to learn, intuitive and stimulates creativity. Setup is performed by means of a web interface. For live operation, the SKAARHOJ universal broadcast control panels are used. Create a unique visual language by framing in post-production.



360° and panoramic video

Single-lens seamless 6.4K or 12.4K 360 video, for 24/7 live broadcasting. Studio.One allows simultaneous live VR & conventional video production with a single system, crew and workflow. "Single lens" means: no stitching parameters or artefacts. Image quality satisfies TV broadcasting standards.

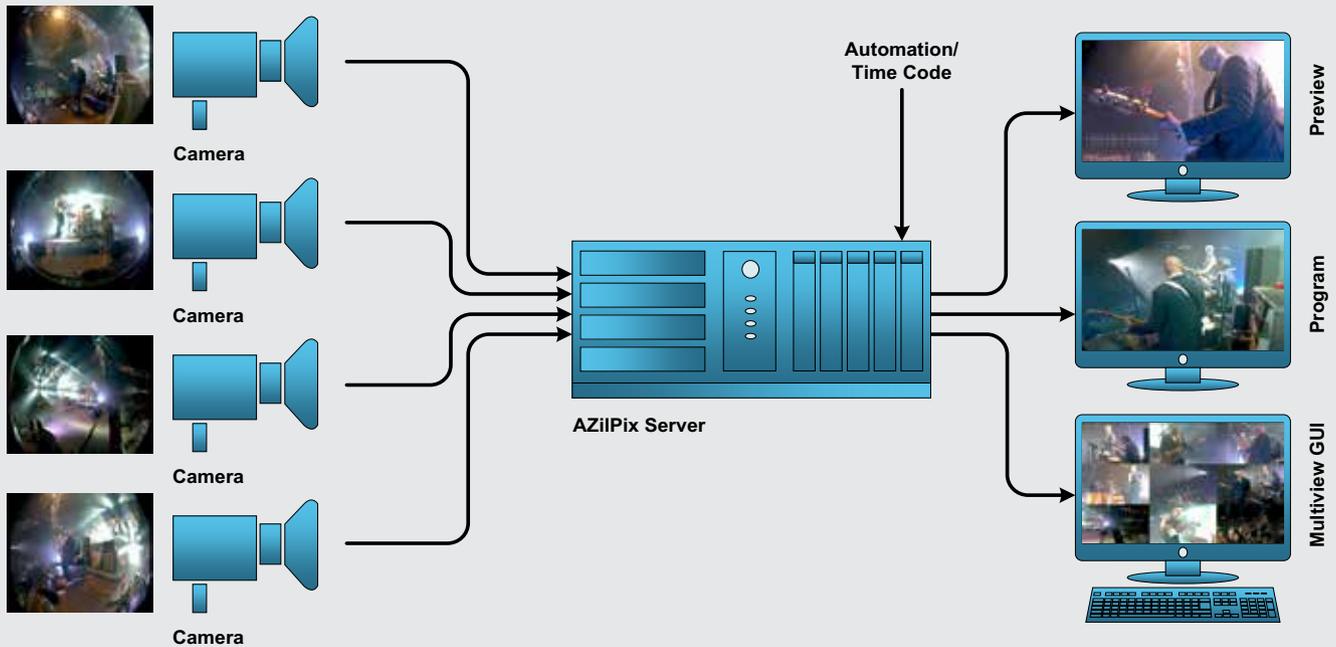


Take control

Studio.One is an open system with well-documented APIs, made to integrate in your production environment. It can be controlled remotely if operator access to the event site is undesirable, e.g. medical surgery operations.

Simple system setup

An AZiPiX Studio. One system consists of multiple cameras and one or more servers with screens. Up to 6 cameras can be captured per server. One screen will show the mosaic GUI, which controls the virtual camera views, capturing and outputs. More screens can be added to show program output and preview output. To make sure all camera feeds and audio feeds are in sync, time code is provided to or by the server.



Camera features

- Two camera models: 4K and 8K
- up to 4096 x 2880 (4K) or 7920x6004 (8K) pixels resolution
- APS-C (4K) or full-frame (8K) sensor size
- Progressive, global shutter
- 12 stop dynamic range
- 10 bits per pixel, raw pixel data
- Precise color calibration
- 3mm thick anodized aluminum body of 86x86x 112mm
- Video, camera control, sync and power over standard 6Gb/s-SDI coax cable with BNC connector
- 25, 30, 50, 60 or higher fps (up to 180), depending on link configuration, cable type and length, and resolution settings. Multiple links per camera for higher bandwidth or cable lengths.
- Lens power and control (iris and focus) over Ethernet (Neutrik etherCON)
- HQ photography lens, e.g. Canon EF L-Series
- Calibrated distortion and vignetting
- Active lens adaptor, enabling remote control of the lens iris and focus over Ethernet via the camera
- Adjustable back focal distance



Applications

The AZilPix Studio.One system will enable you to deliver professional registration of events that otherwise would have been skipped because of the costs involved with sending a multi-camera truck including the crew. In conventional camera productions the addition of the Studio.One system also increases the immersive experience of those first tier events by enabling nonintrusive close camera positions. The single-person-operated Studio.One virtual camera system has, amongst other examples, been used at:



Regional sports

Registration of local sport events is a perfect application for the Studio.One system. An entire game can be covered by a crew of only 1 or 2 members. The action can be captured with 3 or 4 static wide-angle high res cameras. Adding a camera with a zoom lens on a pan-tilt unit for close up views will provide more immersive action shots.



Talk shows and interviews

Shows where a few people are having a debate or are being interviewed on location or in a studio. Studio.One will capture every detail where a manual camera might have missed certain actions. A single Studio.One camera allows to create close-ups of multiple speakers individually, to see non-verbal reactions, and to make a great total shot. Use additional cameras for a richer experience at virtually no additional operation costs.



Conventions

Capturing conventions is usually very labor intensive. During the presentations you need to actively follow the speaker's movements with your cameras. With Studio.One you simply capture the entire floor from multiple angles, enabling a more expressive live production requiring only a single operator to setup and operate. Creating pans, tils, rotates and zooms can be deferred to post-production.



Concerts and festivals

Whether it is a small concert or a huge festival, Studio.One fits every application when it comes to registering live performances. Everything is captured, nothing is missed, so even the most unlikely events in small corners can be put on screen. Usually only a small percentage of the footage is broadcasted. AZilPix allows you to focus on this small percentage, instead of continuously spending time cascading every shot.



Recitations and performances

Whether to preserve the message from houses of worship, or to register performances before the last curtain falls, Studio.One provides the solution for registration and production of such precious events. A more permanent installation will even enable you to create professional video productions and highlights of all performances on your stage and all the services from your Holy Place.



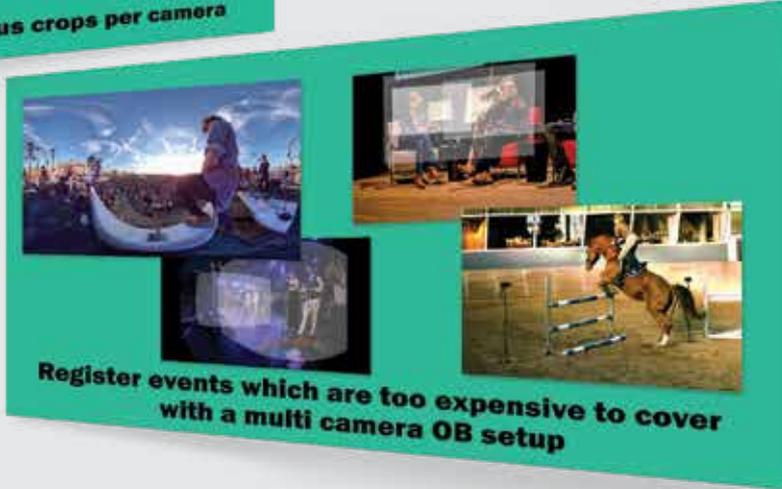
Ultra high res wide angle, fish eye and 360° video to HD non-distorted shots, in real time



Easy 1-man operation with intelligent software



Multiple shots with various crops per camera



Register events which are too expensive to cover with a multi camera OB setup

www.azilpix.com



Contract information

Address Duinhei 13
 5685 EZ Best
 The Netherlands

Email info@azilpix.com

Sales Philippe Van Walle
Phone +32 475 241015
Email Philippe.VanWalle@azilpix.com

CEO Jan Looijmans
Phone +31 6 53242855
Email Jan.Looijmans@azilpix.com

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