This document is an English translation of the original Japanese press release issued on July 15.
In case of any discrepancy, the original Japanese version shall prevail at the following URL:
https://www.siliconstudio.co.jp/news/pressreleases/2025/250715yebis4/250715yebis4.html

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Silicon Studio Launches YEBIS 4, an All-New Post-Effect Middleware Solution

Enhancing real-time CG with live-action-grade optical effects and improved development efficiency

Tokyo, Japan (July 18, 2025)–Silicon Studio Corporation–middleware and technology developer that specializes in entertainment, gaming, automotive, video, and architecture–is pleased to announce the release of **YEBIS 4**, the latest version of its advanced post-processing middleware that enables high-quality lens effects for real-time computer graphics.

Since the launch of our post-effect middleware **YEBIS** in 2006, Silicon Studio has continuously invested in research and development to deliver optical effects with live-action-level realism.
YEBIS enables photorealistic lens expressions to be added during post-processing before the final rendering stage, allowing creators to view the results in real time as they build scenes. It provides high-precision optical effects such as depth of field, bokeh, and lens flare, all of which faithfully replicate real-world camera aperture and lens characteristics in computer-generated imagery.
Following this vision, we released **YEBIS 2** in June 2012 and **YEBIS 3** in August 2014, adapting to the latest platforms and technological advancements. Over the years, YEBIS has been widely adopted in numerous AAA game titles and video productions both in Japan and worldwide.

Now, after identifying the limitations of conventional real-time rendering and pursuing practical implementations with minimal overhead, we are proud to introduce **YEBIS 4**.

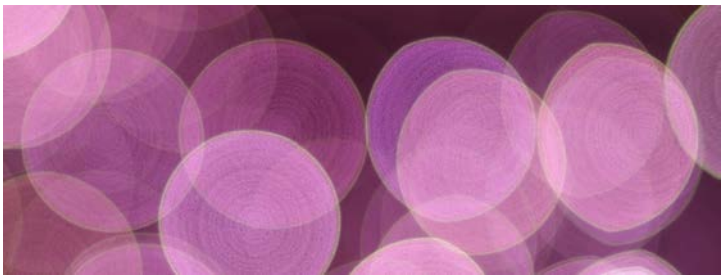
YEBIS 4 represents a major evolution in both quality and performance, thanks to optimizations for modern GPU architectures and improved algorithms. It delivers higher quality effects at no additional cost, or the same visual fidelity with significantly faster processing. In particular, optical effects such as depth of field (DoF) bokeh, lens flare, and chromatic aberration have been substantially enhanced.
New features include support for complex visual phenomena like diffraction patterns based on wave optics and "onion ring" bokeh caused by lens design and manufacturing process, enabling more lifelike representations of depth and blur.
The middleware also offers flexible tuning between quality and performance, allowing developers to apply lightweight effects during gameplay and cinematic-grade visuals during cutscenes. From a developer's perspective, development and debugging have been streamlined, with features such as multi-viewport effects at different resolutions, dynamic resolution and quality switching, effect pipeline and performance monitoring, color scopes, internal buffer previews, and chromatic aberration graphs.

For a detailed overview of features and specifications, please visit our website:
https://www.siliconstudio.co.jp/middleware/yebis/en/

Depth of Field (DoF) and Bokeh Rendering

YEBIS 4 reduces artifacts that tend to appear around edges, enabling more natural and artifact-free depth of field and bokeh expressions.

Artifact-free depth of field rendering

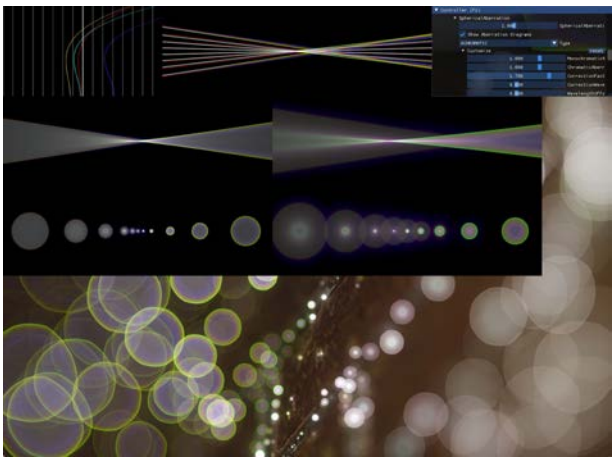


Bokeh rendered with YEBIS 4

Customizable Lens Aberrations and Bokeh Characteristics

With YEBIS 4, users can fine-tune lens aberrations and their corrections while observing how they shape the resulting bokeh. This makes it easy to create a wide range of bokeh styles, including soft blur from under-corrected spherical aberration, bubble bokeh from over-correction, and rich color fringing effects.

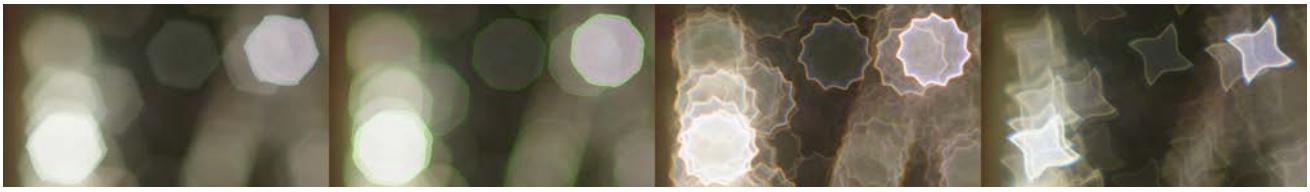
Soft background bokeh from under-corrected spherical aberration



Bubble bokeh from over-corrected spherical aberration

Aperture Shape Rendering and Customization

YEBIS 4 provides highly flexible customization by offering enhanced control over aperture shapes. Developers can adjust the number of aperture blades, the strength of circular aperture effects, the curvature of the blades, and subtle imperfections at the blade seams. This enables the expression of unique bokeh styles, such as shuriken-shaped bokeh and other creative aperture-driven effects.



Astigmatism and Swirly Bokeh

YEBIS 4 supports field curvature and astigmatism, making it possible to replicate natural bokeh distortion as well as distinctive effects like swirly bokeh.

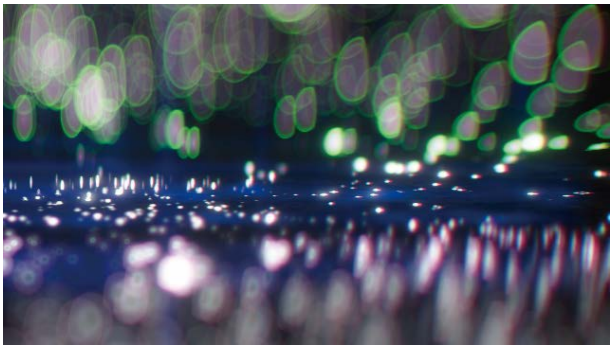
Bokeh distortion caused by astigmatism (emphasized for clarity)

Swirly bokeh rendering with astigmatism simulation

Anamorphic Lens Effects

Well-known effects like oval bokeh and horizontal lens flares alone are not enough to fully recreate the distinctive look of true anamorphic lenses. YEBIS 4 goes further, enabling the simulation of complex and unique characteristics such as astigmatism, distortion, lateral chromatic aberration, mechanical vignetting, and ghosting—capturing the nuanced look and feel of real anamorphic optics.

Representation using only common effects

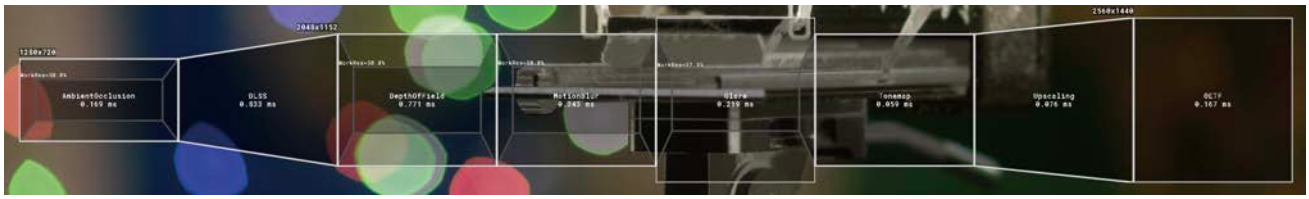


With anamorphic lens specific astigmatism, distortion, lateral chromatic aberration, mechanical vignetting, and more

Efficient Integration with Upscaling Technologies

YEBIS 4 works seamlessly with upscaling technologies such as DLSS, enabling effective application of post effects in upscaled rendering workflows. It also allows control over upscaling timing and intermediate resolution stages, enabling

fine-tuned adjustments to balance quality and performance.



About YEBIS 4

YEBIS 4 is a post-effect middleware that adds a wide range of effects—such as depth of field, lens flare, motion blur, ambient occlusion, color grading, anti-aliasing, and more—to real-time CG visuals.
It reproduces photographic bokeh effects by simulating aperture control and lens aberrations, including their correction.
Integrating YEBIS 4 into your pipeline unlocks stunning visual quality and significantly improves development efficiency for real-time content creation.
https://www.siliconstudio.co.jp/middleware/yebis/en/

Supported Platforms:
Nintendo Switch™、Nintendo Switch™ 2、PlayStation®5、Xbox Series X¦S、Windows（Direct3D 11、Direct3D 12）

Product Logo

YEBIS® 4
Advanced Optical Effects

About Silicon Studio Corporation

Silicon Studio, a Japan-based game engine and middleware company, develops and provides advanced technologies such as "YEBIS" post effects, "Enlighten" real-time global illumination, and "Mizuchi" real-time rendering to major game and entertainment production studios worldwide. These technologies have helped to bring high quality graphics to a large number of successful AAA titles.
https://www.siliconstudio.co.jp/en/