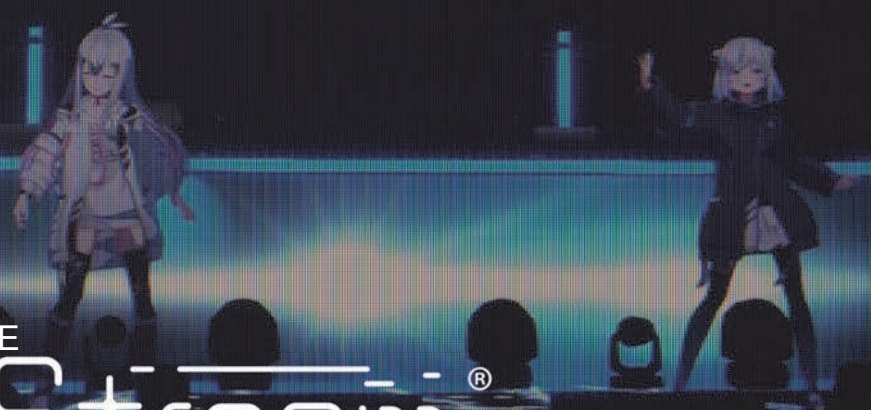


Matrix Stream

NTT QONOQ,INC.

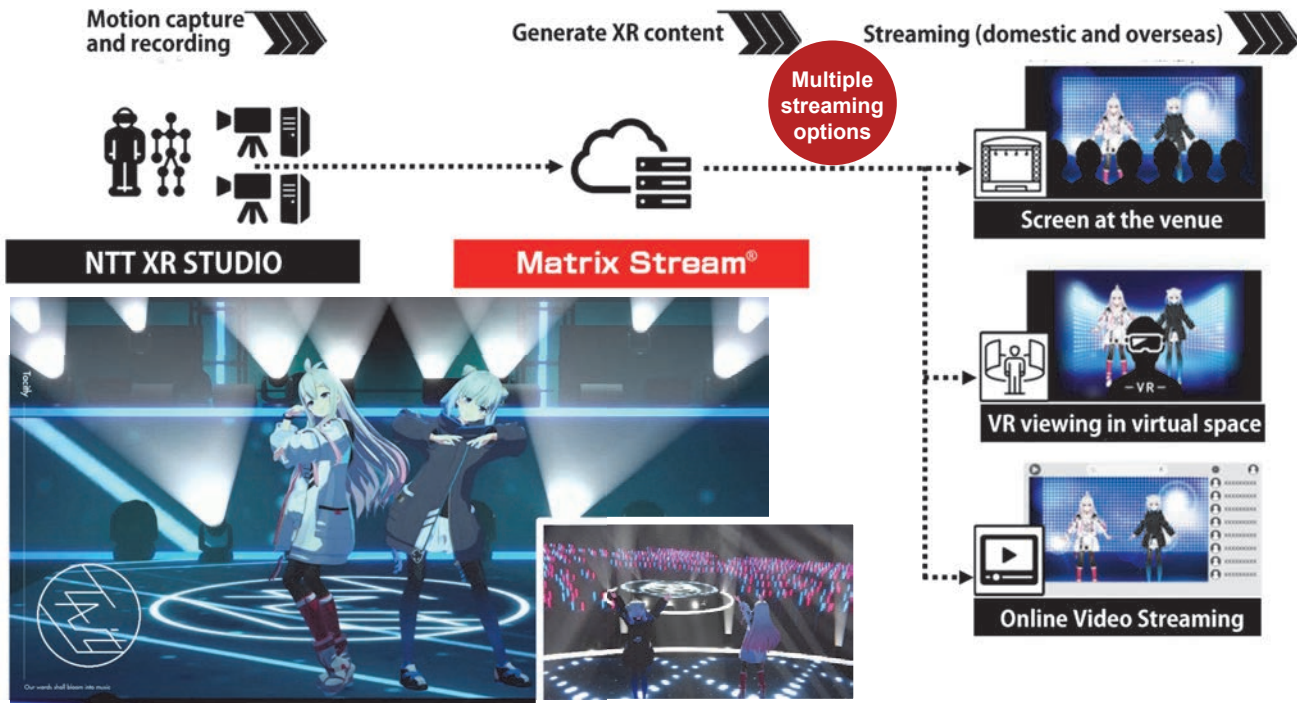


NTT QONOQ XR LIVE ENGINE

Matrix Stream[®]

How Matrix Stream Works

We offer a variety of delivery methods to meet the diverse needs of IP holders.



Exceptional usage and functionality

Live programs



Live concerts



Music videos



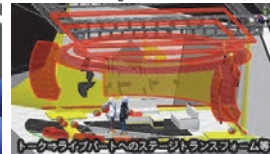
Real-time control of virtual space and characters, plus precise synchronization of production timelines and concert music lists



Multi-camera rendering (up to 8)



Stage transformations



Realistic human expressions in CG

Props and switching

Rich development and implementation

Custom shaders with the look and feel of modern animation expressions

Matrix Stream not only offers the high versatility and productivity characteristic of 3D models, it also achieve more natural 3D models for dynamic performances at concerts and other events. In addition, Matrix Stream facilitates seamless collaboration between diverse virtual characters.



Shaders control normals for semiautomatic processing of shadow shapes and minimize the model-creation workload by not editing normals in data (the usual method for reducing unnatural shadows in ordinary cell-look models).



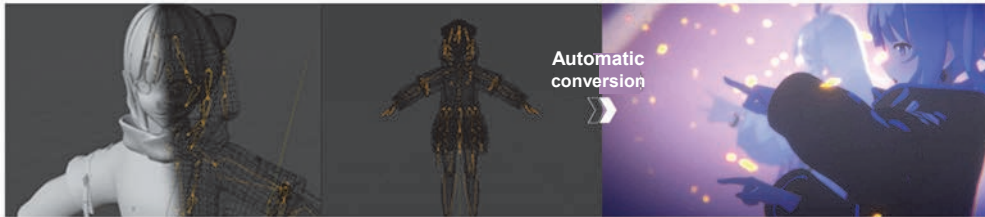
Dynamic subtraction of color and detail in areas far from the camera angle for creating natural-looking, non-uniform visuals.



High efficiency and reduced setup costs

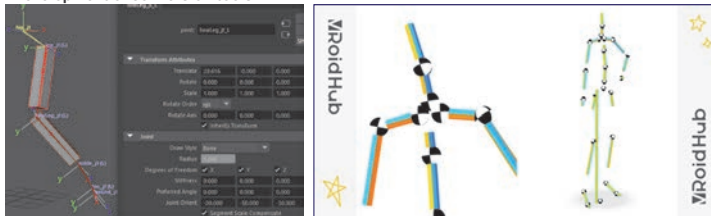
Avatar specifications, such as bone structure and facial assets, are used as standards to minimize costs and smooth the process for introducing related character structures. Characters with different structures can be introduced more reliably than ever before.

Dedicated bones and rigs



Matrix Stream's base 3D model, Tacity, is being standardized and tested with various 3D models to help reduce character development costs and make workflow highly efficient.

Development of conversion tools

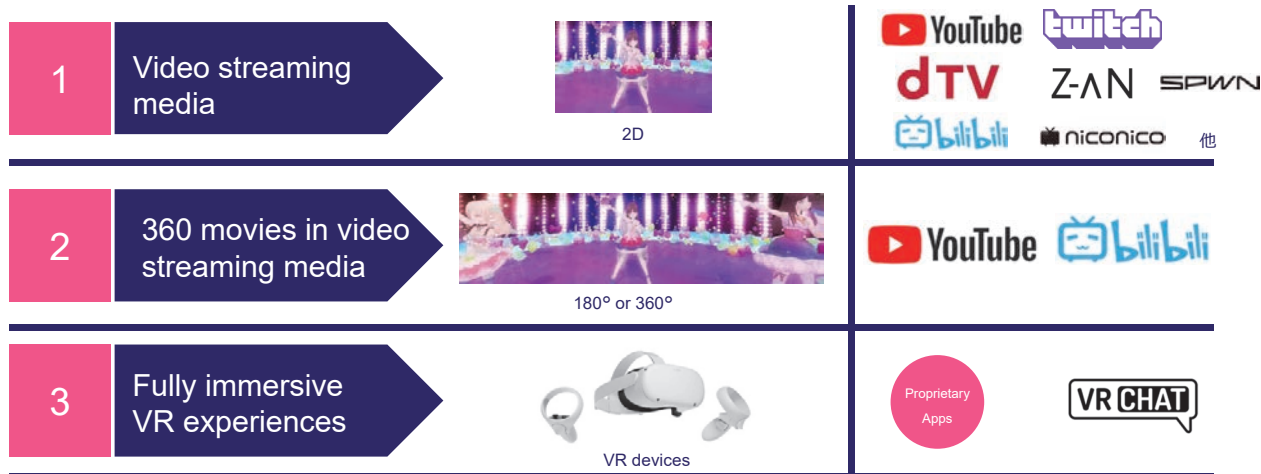


Tools are being developed to convert 3D models for seamless use with Matrix Stream and Vrchat.

MRoid
powered by pixiv

Specific delivery platform linkages

Make your characters shine



Expanded possibilities for characters leading to increased revenue

Matrix Stream and metaverse linkage

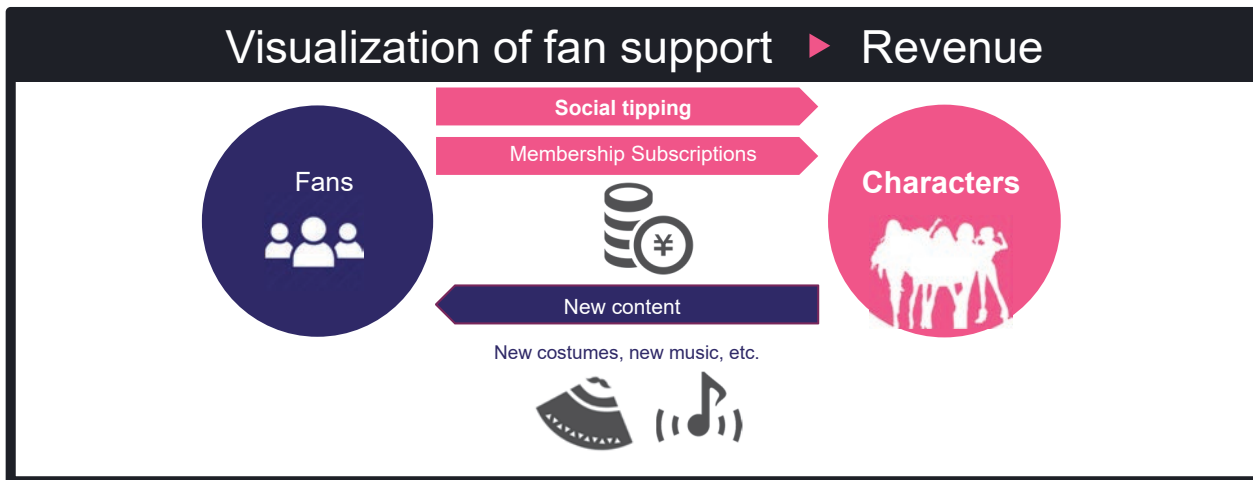
As an enabler of live entertainment performed on other companies' platforms, rather than its own platform, Matrix Stream combined with metaverse linkage offers many advantages, including delegation of personal-information handling, server costs, and platform-based payments, for virtual concerts in diverse locations.

- 1 Transplant character's worldview through shared set of backgrounds and avatars in virtual space
- 2 Live performances by virtual characters in metaverse space, monetized through ticket sales



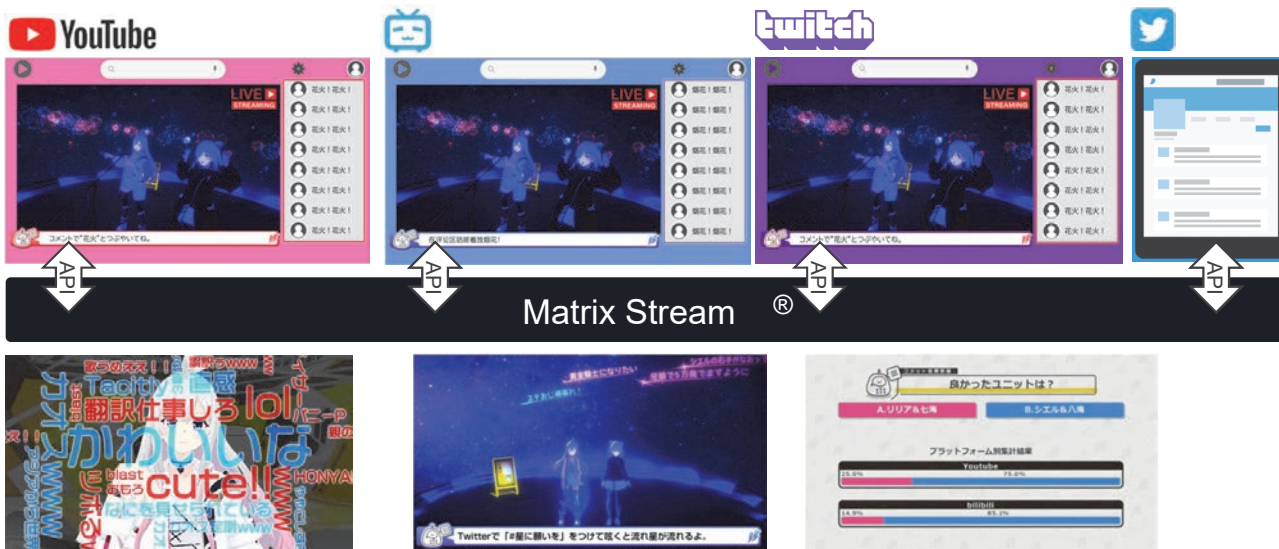
Interaction with participating fans (1)

Matrix Stream enables social tipping as well as communication with fans during real-time virtual concerts and programs. Live performances are not only graphically beautiful, they also become experiences where users can support their favorite characters in real time, thereby enhancing monetization.



Interaction with participating fans (2)

Fan comments from YouTube, bilibili and other streaming platforms can be shown on-screen at venues and during live-streaming video. The possibilities for interaction between fans and performers is richly varied, paving the way for unique live-streaming content.

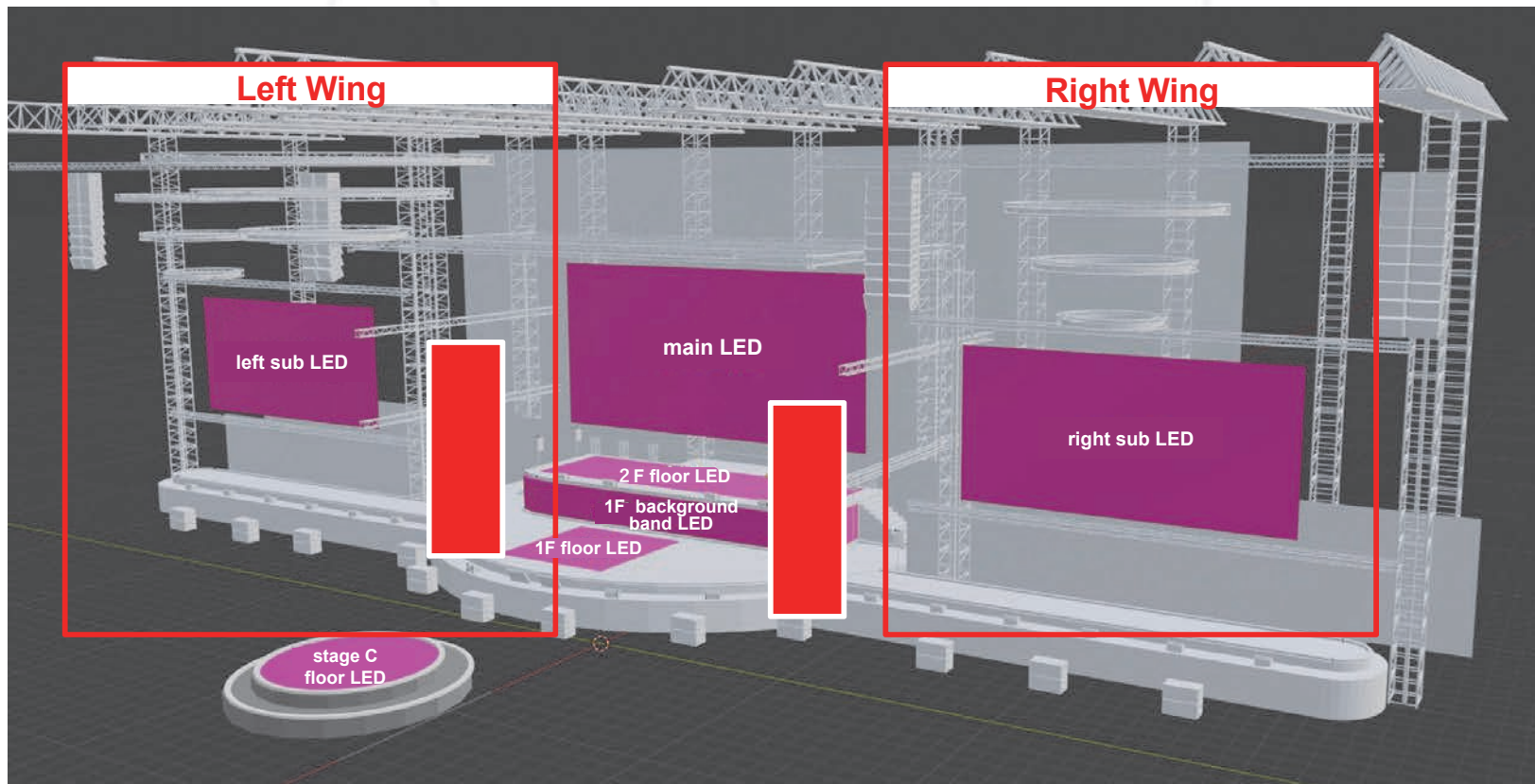


Real and virtual stage interlocking

DMX512 for concert halls also can be used to synchronize lighting in VR spaces for high-level fusion of real and virtual venues.



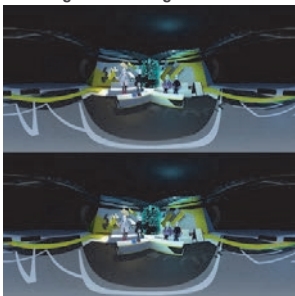
Stage designing



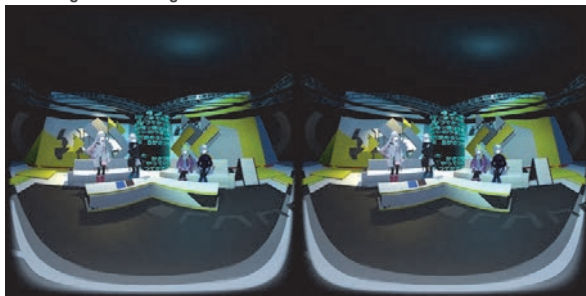
Integration with diverse streaming

Real-time rendering of 360-degree video is possible in multiple formats, including YouTube360 and 4K360, or even stream in 180-degree video if required.

360-degree streaming screen



180-degree streaming screen



Output resolution list

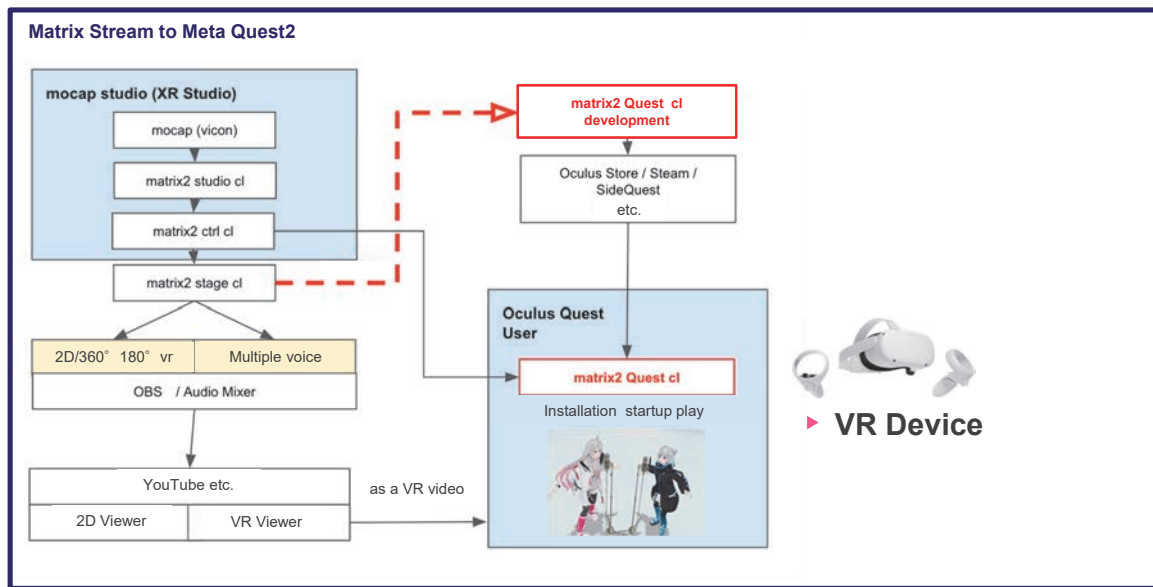
パノラマカメラ出力 画角	パノラマカメラ出力 画角
360°ステレオ	8K HD (7680 × 7680)
360°モノ	8K HD (7680 × 3840)
180°ステレオ	4K HD (3840 × 3840)
180°モノ	4K HD (3840 × 1920)
	HD (1920 × 1920)
	HD (1920 × 960)
	カスタム解像度
	Enter * Enter

Supported video-streaming platforms



Fully immersive live experiences

The 6DoF VR concerts are possible on YouTube with the Meta Quest2 prototype. Assets, stored on the app side to save bandwidth, are distributed to special Oculus Lab (Side Quest) users.



NTT
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