

Free from cables -L5G for Entertainment-

Tetsuya Fukuhara

About Me



Tetsuya Fukuhara

General Manager of Innovation Strategy
NHK ENTERPRISES, INC.

“After working as a TV program director, I'm currently involved in UX development utilizing advanced technologies such as video and audio. In recent years, I have been experimenting with the creation of spatial experiences using 8K and other high-resolution video and stereoscopic sound.”





Business



Industry

Agriculture



CONFIDENTIAL

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Entertainment

A high-angle, wide shot of a large indoor arena during a performance. The stage is illuminated with bright yellow and white spotlights, and a blue laser grid is projected onto the stage floor. Several performers in white outfits are visible on the stage. The audience is seated in the foreground, and the arena's ceiling is visible with various lighting fixtures and beams.

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Entertainment

Free from cables

for Future Video Direction

for Reduction of production costs

Case1

Venue

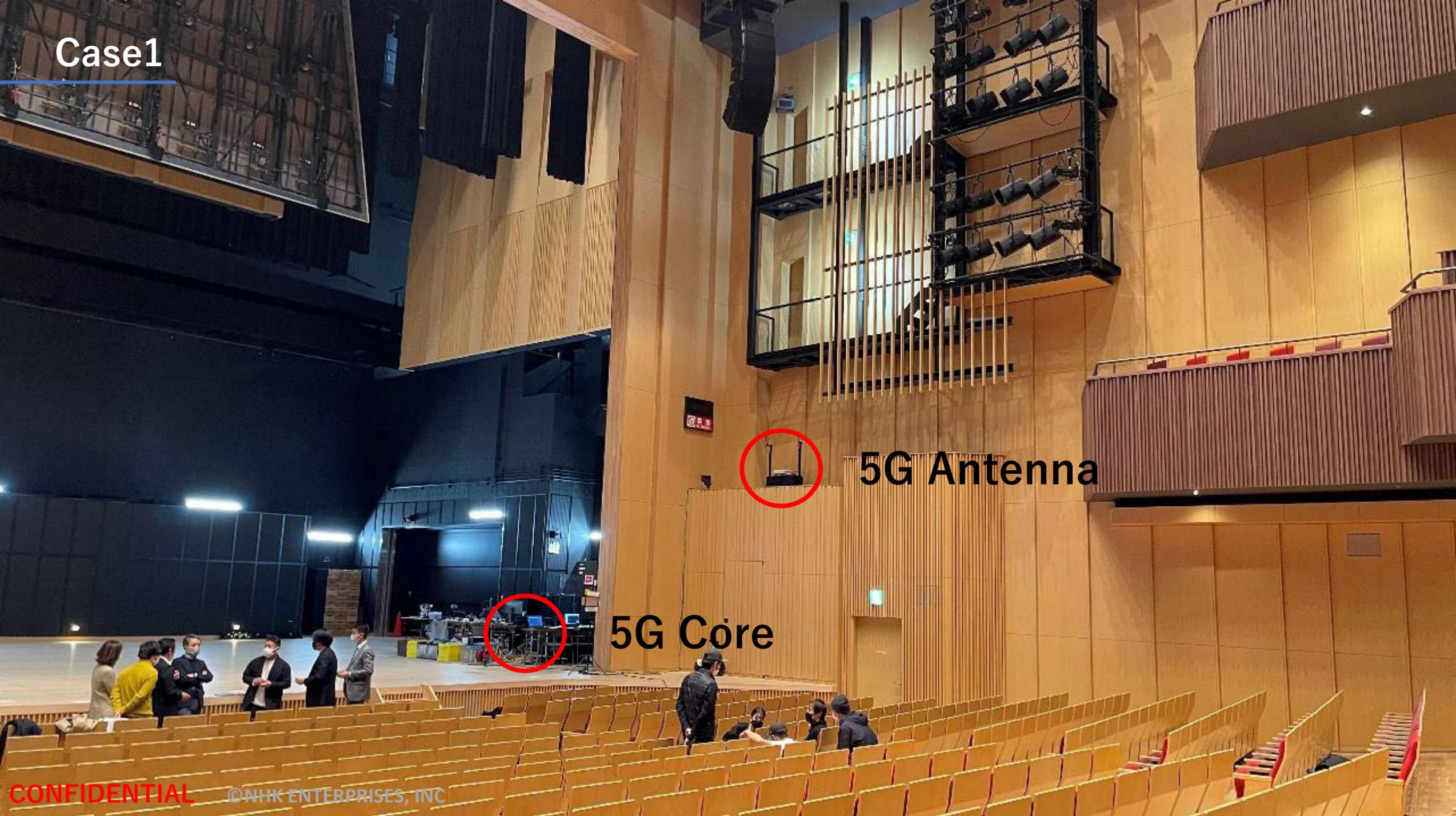
Concert hall



SHIBUYA LINE CUBE

(<https://theatre-workshop.co.jp/works/kanto/line-cube-shibuya>)

Case1



5G Antenna



5G Core

Case1

Free from cables



Agito Radio-controlled camera car

Case1

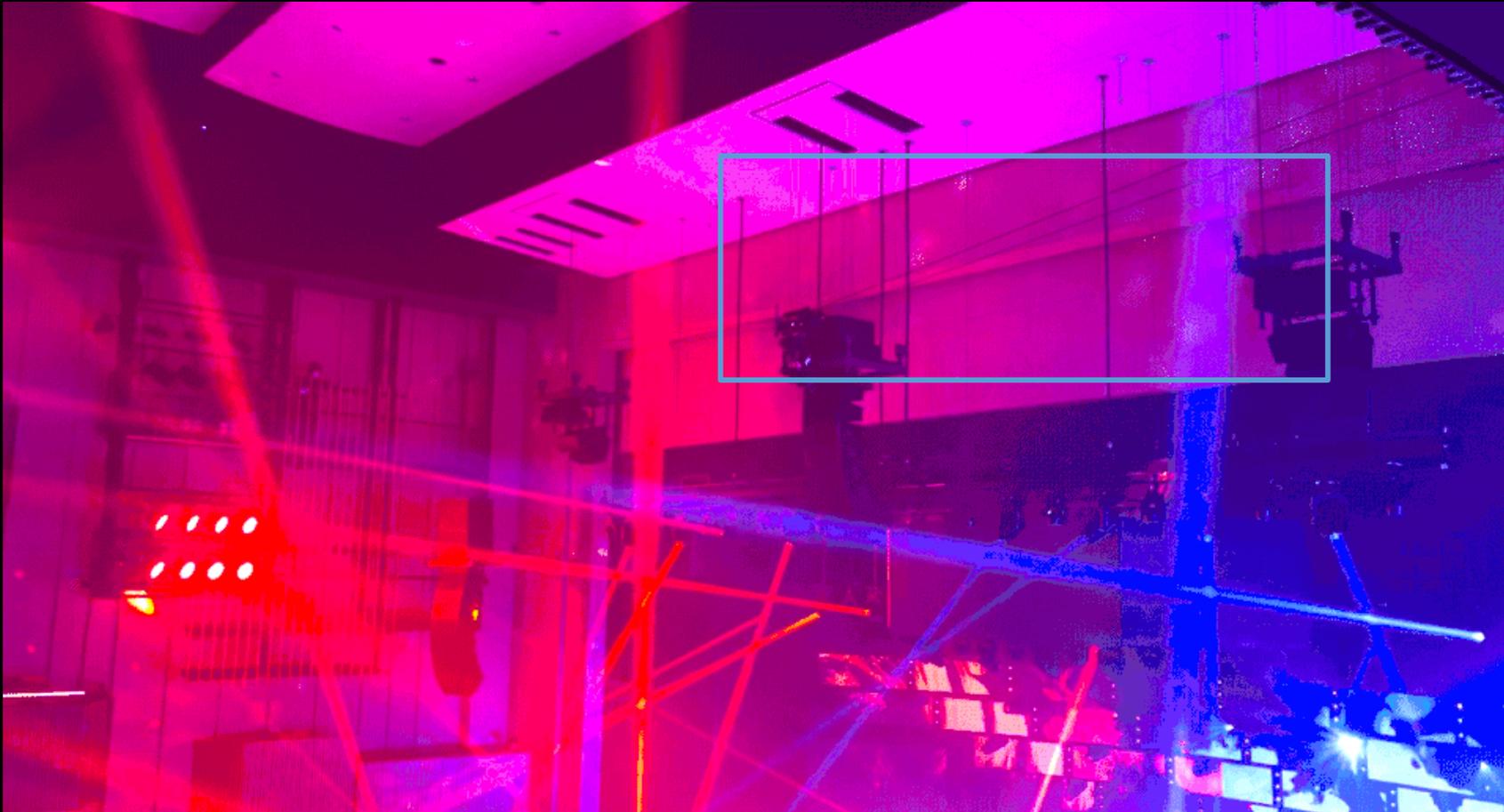
Free from cables



Agito Radio-controlled camera

Case1

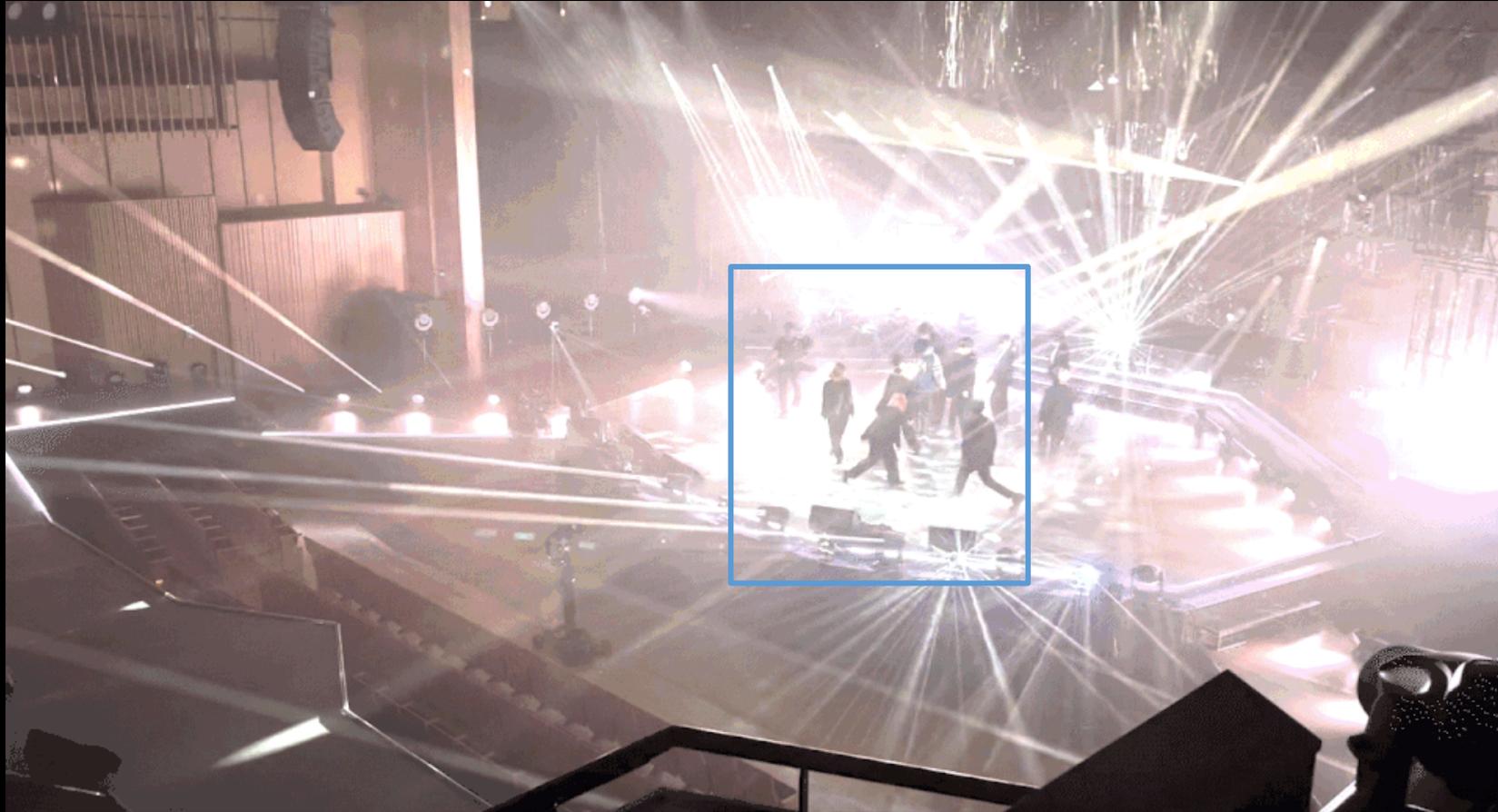
Free from cables



Defy Rope cam

Case1

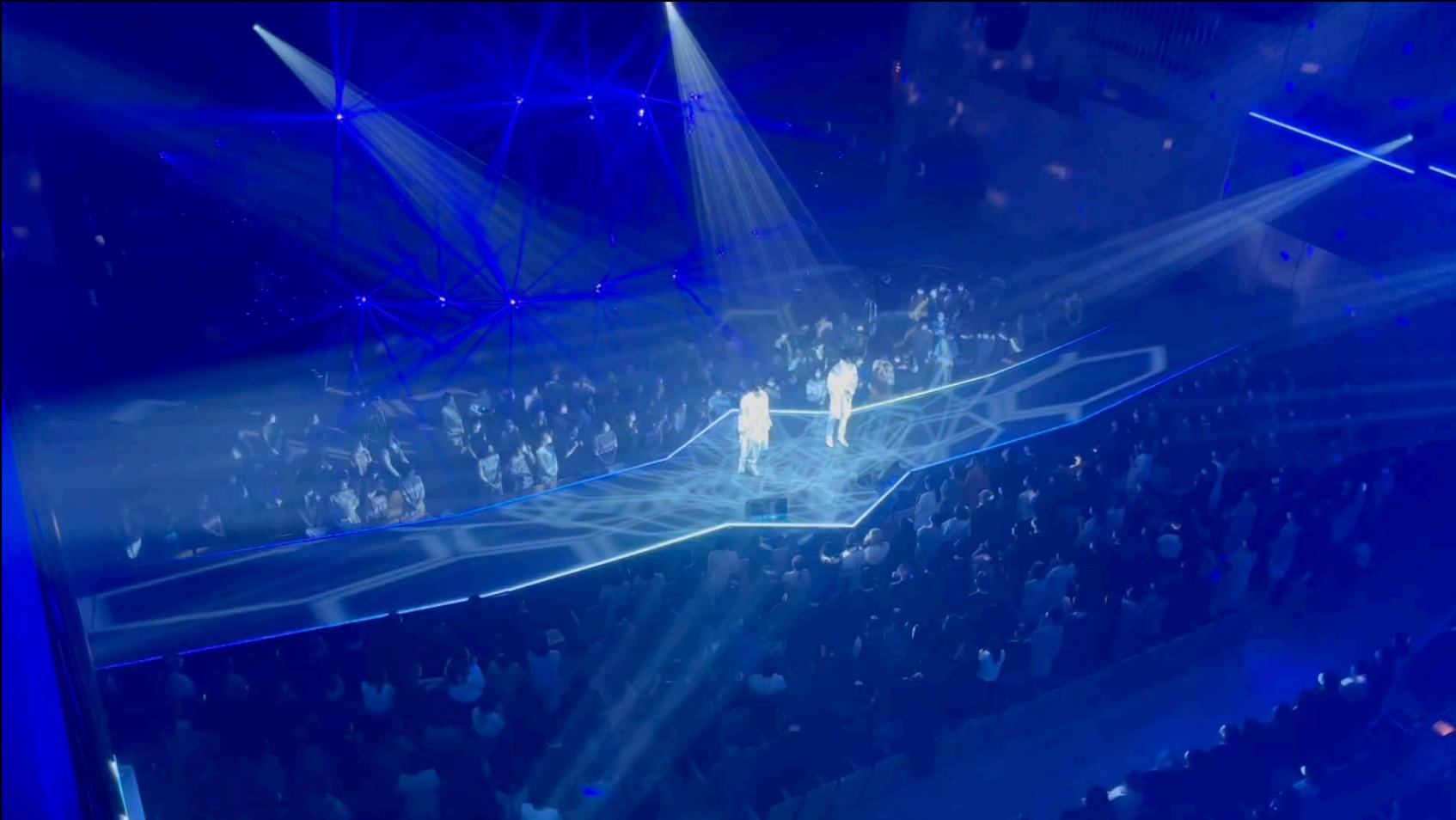
Free from cables



Trinity cam

Case1

Live Stage / Live Streaming



Results -Validation

interview

“I felt that there was potential for innovative expansion of the range of visual expression.”

“I think it would allow for a photographic technique that is in line with global trends.”

“I think that's reason enough to choose the venue.”

“Increased attractiveness of content directly contributes to higher viewer ratings, which leads to higher revenues.”

“Improving content value is a challenge facing the industry and the need is great.”

“With this system in place, we can very much expect to differentiate ourselves from other facilities.”

“If it is put to practical use, I would consider introducing it.”

Results -Validation

survey

By making the camera cable-less. . .

- Filming of places inaccessible to humans
- Flexible camerawork using drones
- Camera work that allows the viewer to feel closer to the performers
- The feeling of standing on the stage together
- Perspectives from the performers
- A point of view from the center of the stage
- Images from a camera that the performers are unaware of
- The camera is used to capture images of the audience from behind the performers
- Dancers filming dancers
- Interactive, so that the viewer can switch the camera work he/she wants to see
- Athletes' point of view

A futuristic stage with blue and white laser lights and a network overlay.

Entertainment

Free from cables

for Future Video Direction

for Reduction of production costs

for Creating new contents

Case2

Venue

Drama open sets

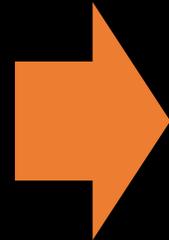


“Warp Station EDO” in Tsukuba Mirai city

Case2

A two-and-a-half dimensional musical

“Nintama Rantaro” 「忍たま乱太郎」



indoors stage

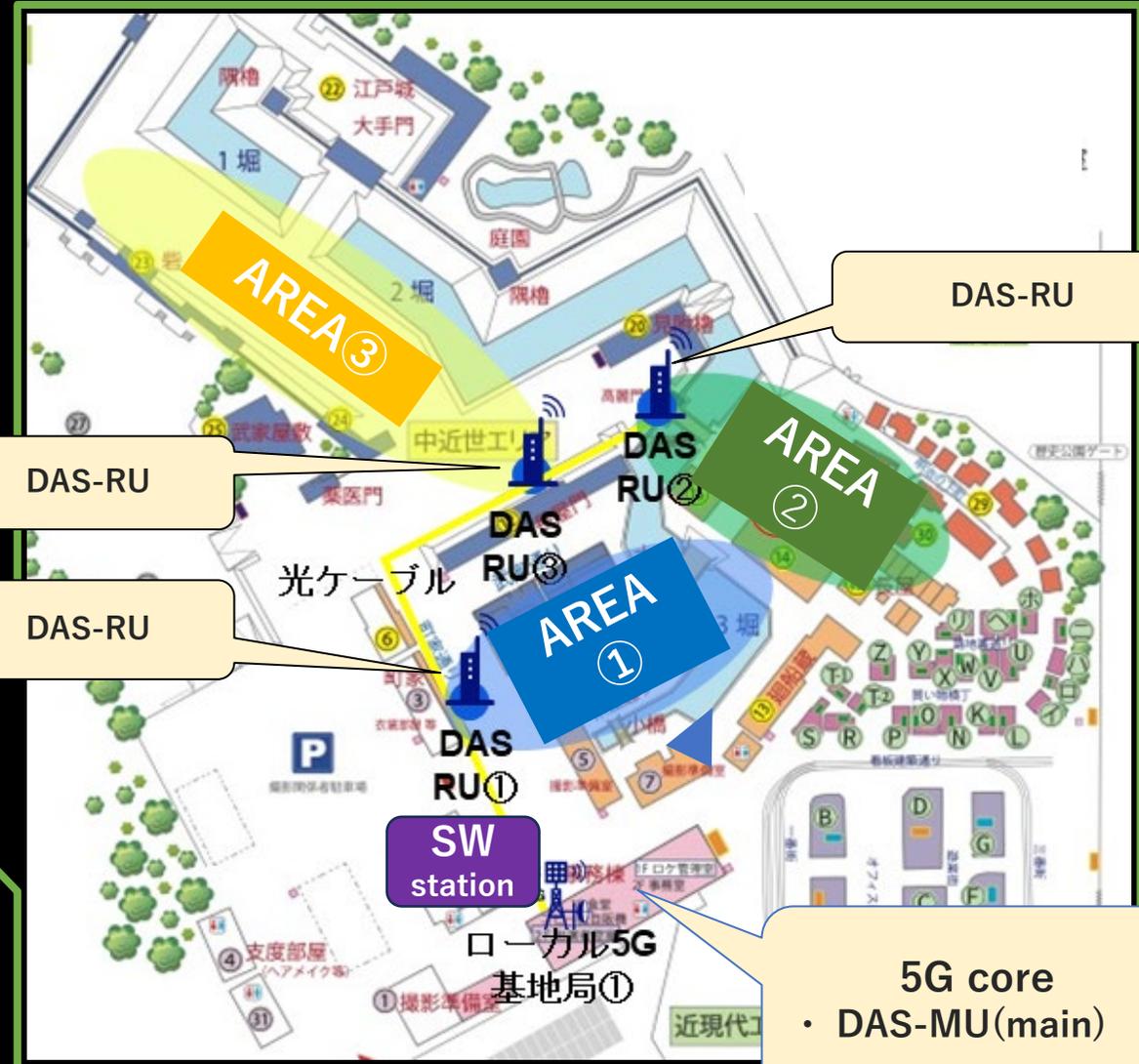
outdoors

Case2

Layout

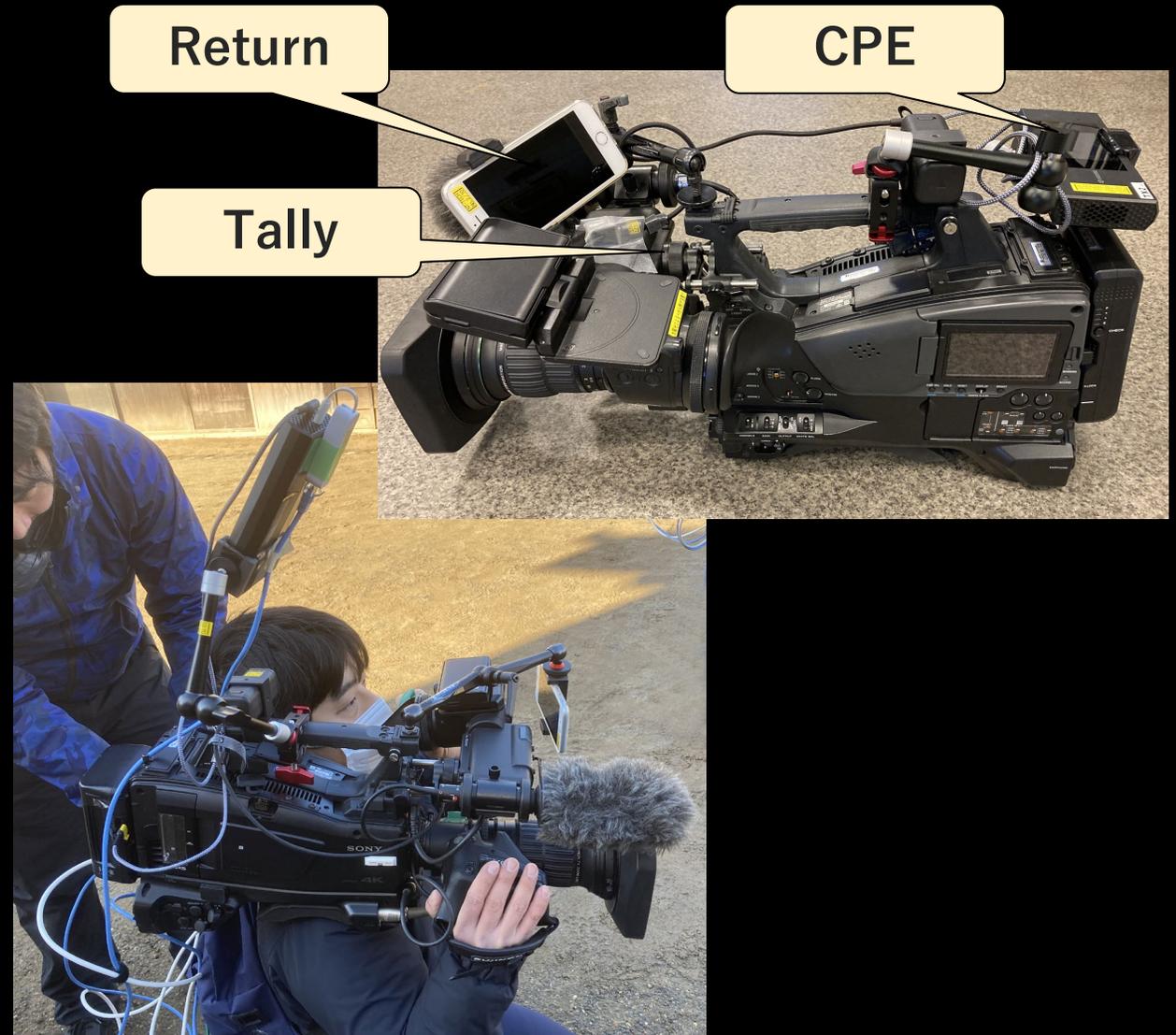
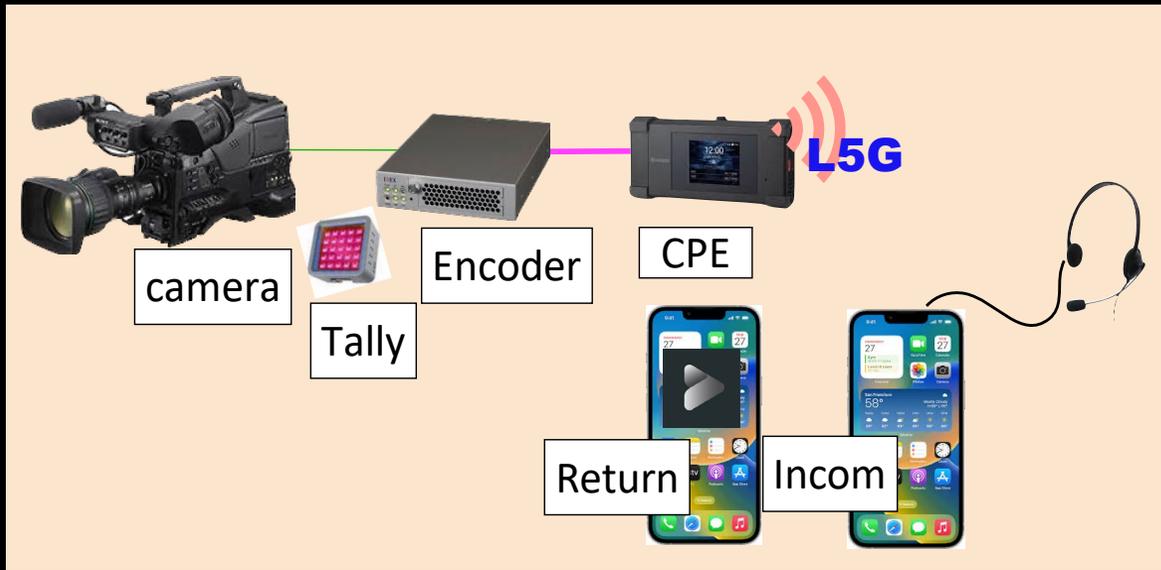


拡大



Case2

Camera system for free from cables



Case2

Free from cables



Case2

Free from cables



Case2

Shooting zone



2 Handy cameras

Multi angle



Crane camera



2 Handy cameras

Contents type 1

LIVE

Live streaming



Story A



Story B



Case2

Contents type 2

LIVE

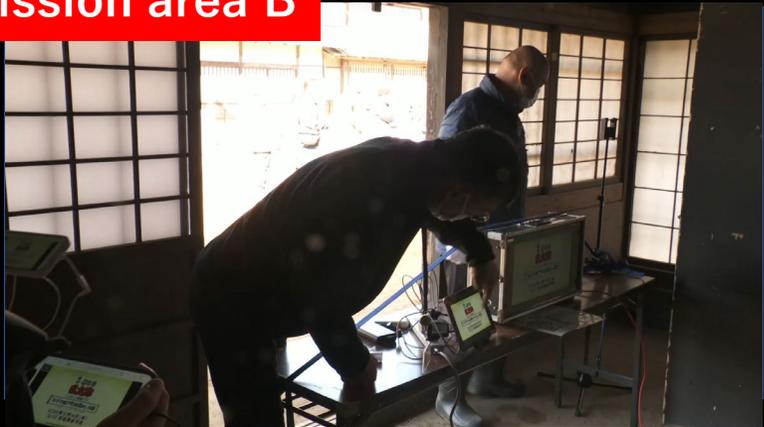
User experience –live event–



Admission area A



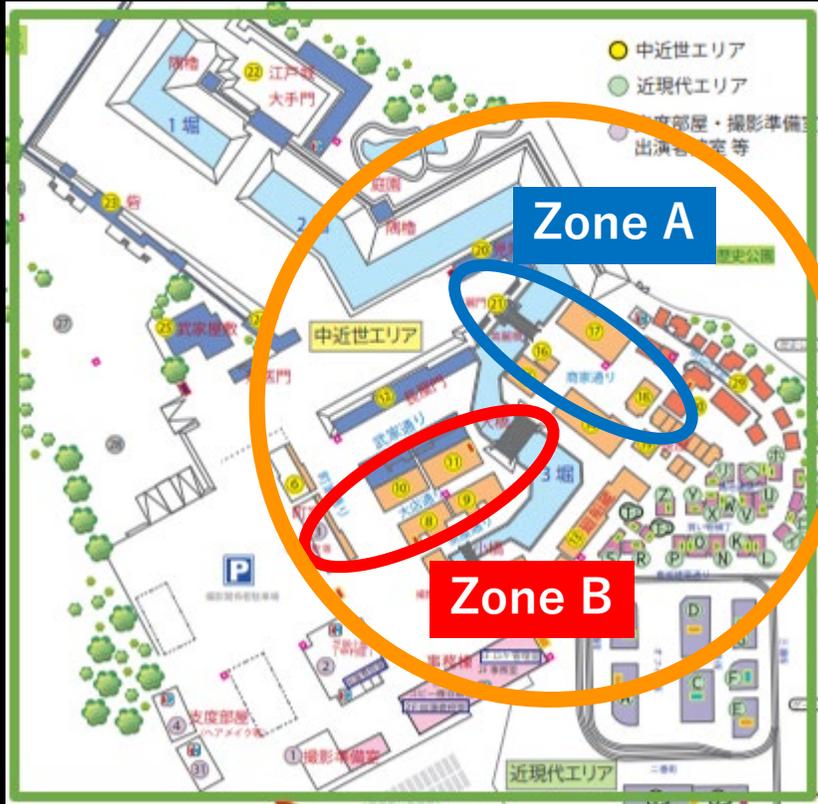
Admission area B



Case2

Contents type 3

Archive



Streaming / DVD / Blu-ray



Future Issues

Expansion for uplink throughput

Development of portable local 5G systems

Creating other use cases for this cable-less systems



Sports Live Production



Studio Production



Drama Production



Event Production

Beyond The Frame

Event Production

12K
VR

Future Museum

高精細3Dスキャニングデータによるコントローラで
高解像度3DCGモデル映像をリアルタイムで観覧します

3DCGシミュレーション映像



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