





# **Immersive Live Experience (ILE) services and standardization activities**

*July 2018*

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# What is ILE

Even if you are not there,  
to attend live sport games remotely;

- Soccer(football),
  - Rugby,
  - Olympic games,
- and to enjoy cultural events at viewing site;

- Operas
- Music concerts
- Kabuki



Public viewing/Live viewing



- ✓ The need of high-realistic public viewing must be increased more and more.
- ✓ Enabling you to feel as if you are there, no matter where you actually are.



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# Immersive Live Experience (ILE) Services



# Concept of Kirari! project

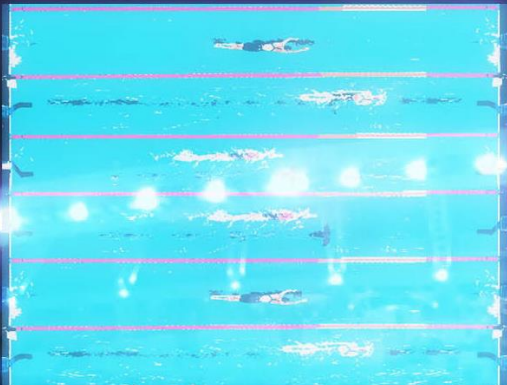
Feeling as if they are experiencing the atmosphere of the sporting venue, wherever they are



Transmission “Reality”  
such as “speed”,  
“height” and “power”,  
to all over the world







  
**JPN**  
**46.22**  
95M



 Kirari! : docomo's TV AD (vision)



# Karate live streaming by Kirari!



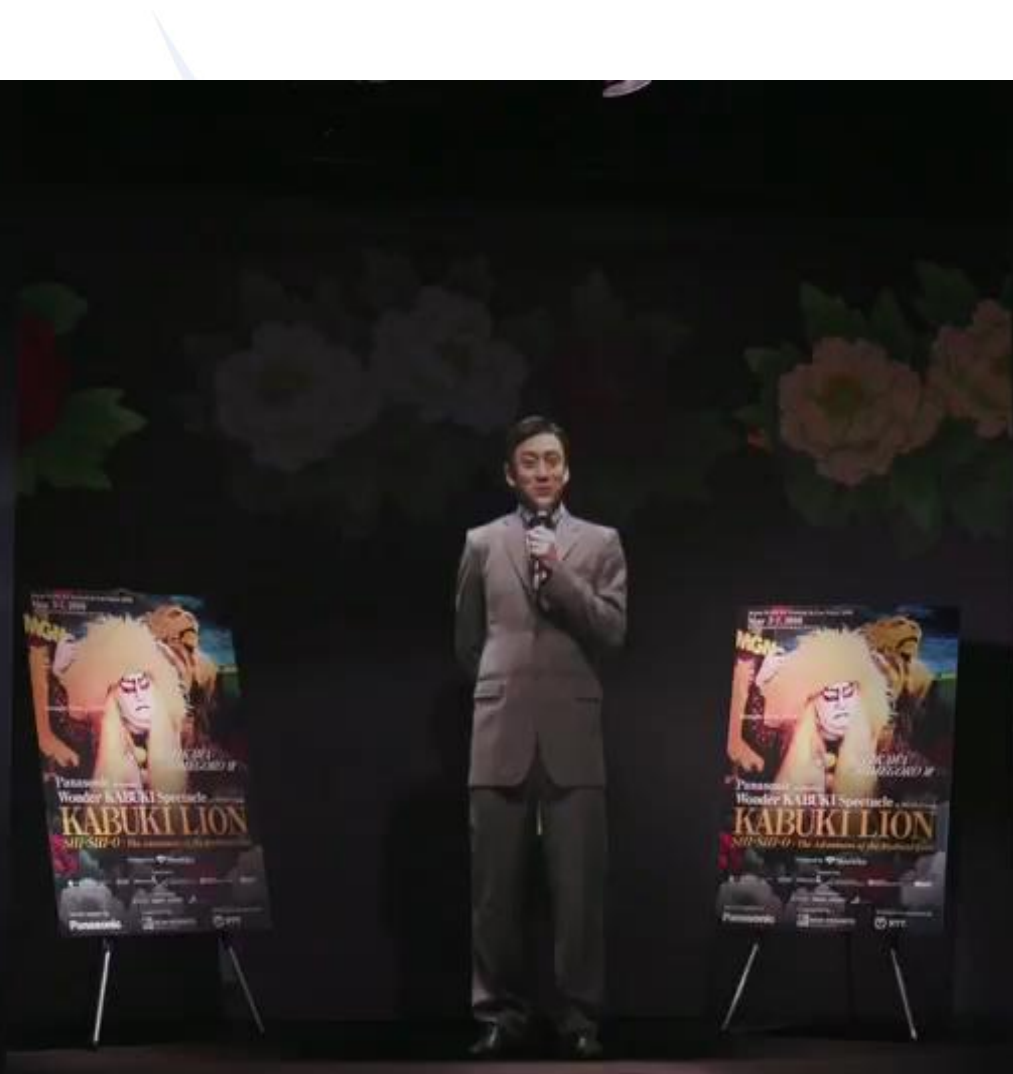


 Judo live streaming by Kirari!



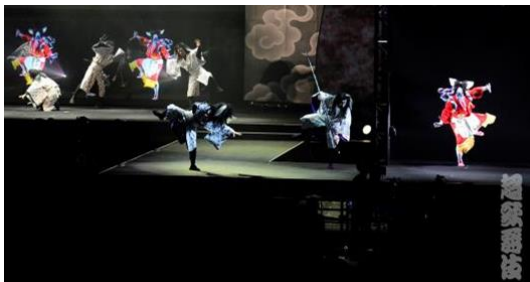
# Kabuki live streaming by Kirari!

# Kabuki live streaming by Kirari!





# Kabuki trials



出典：NTT株式会社ニュースリリース（2016年4月19日、2016年9月20日、2018年1月29日）、TOPICS（2016年7月4日、2017年2月1日）

出典：歌舞伎美人（2017年4月30日、2017年5月11日）

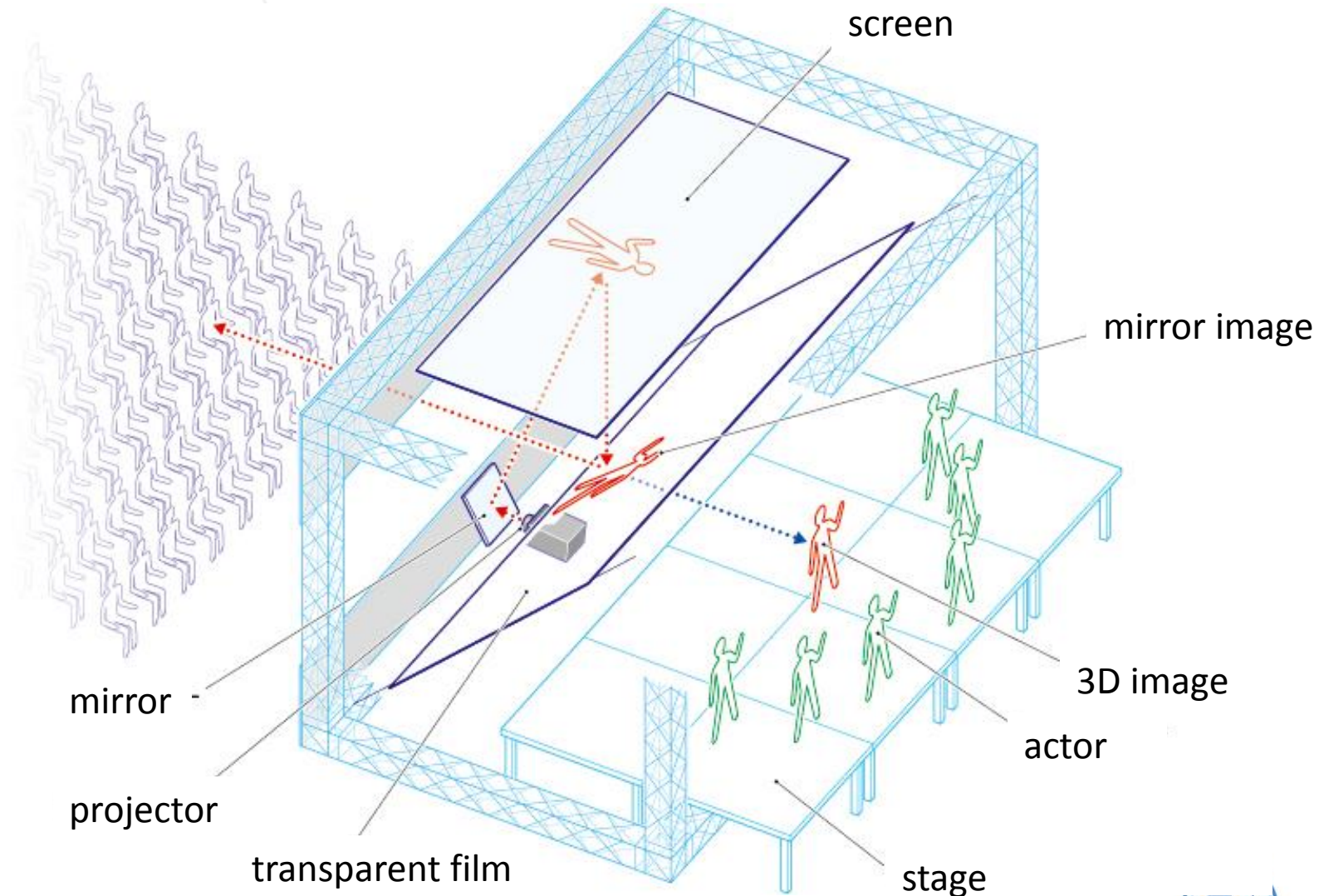




**DJ live streaming by Kirari!**

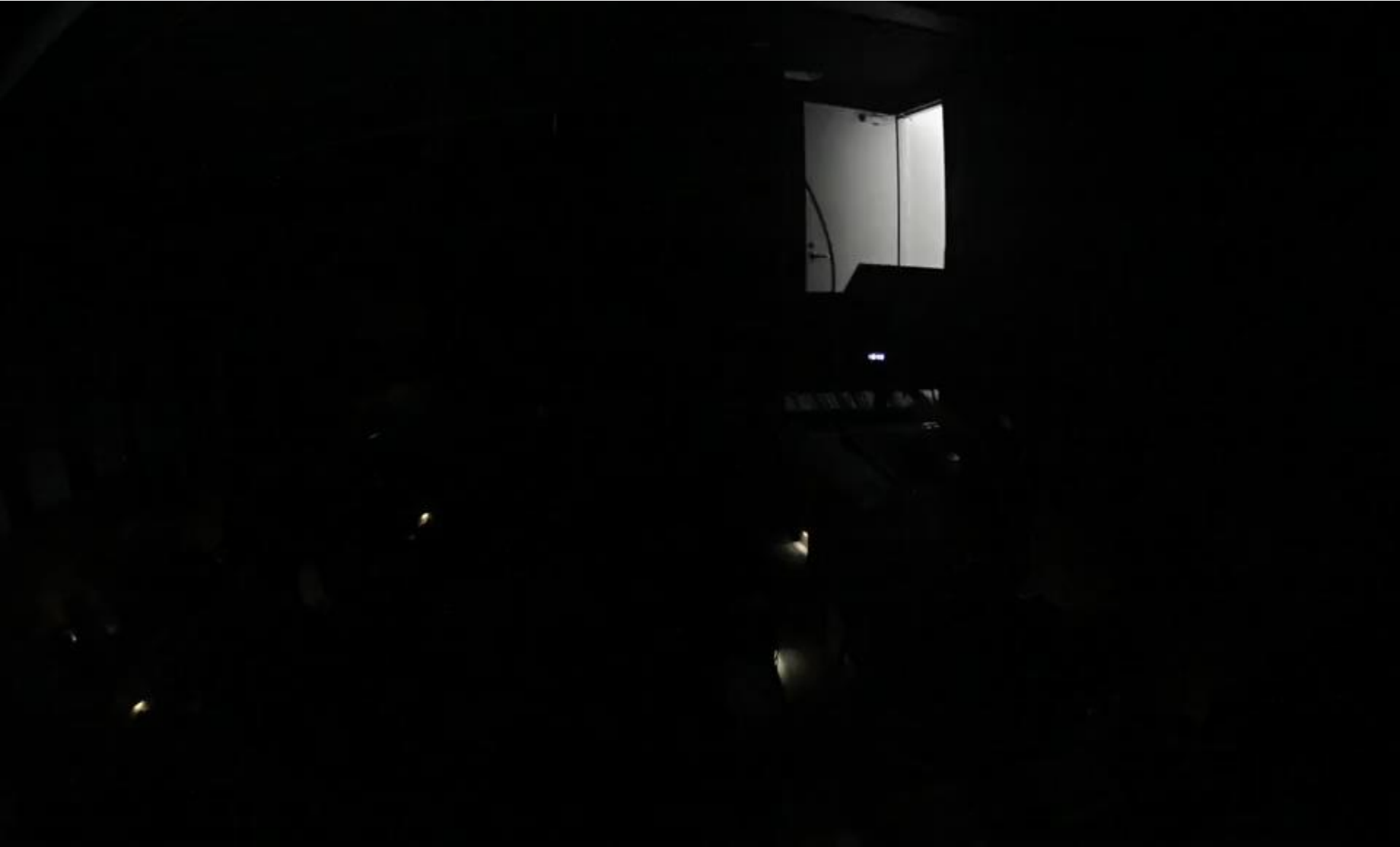


# Pseudo 3D stage system





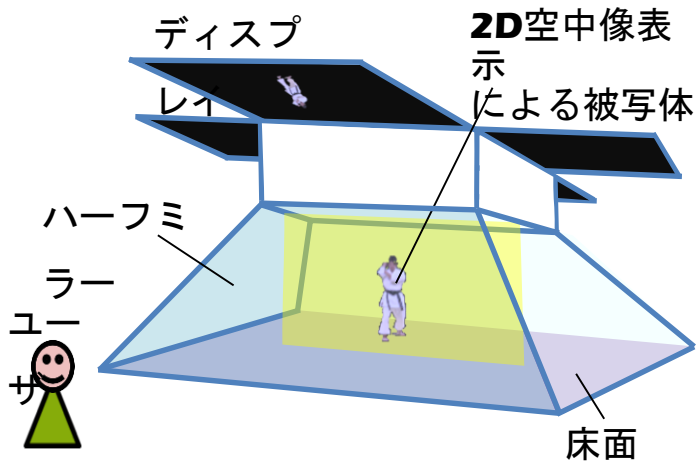
# Pseudo 3D stage system



# Kirari!'s processing

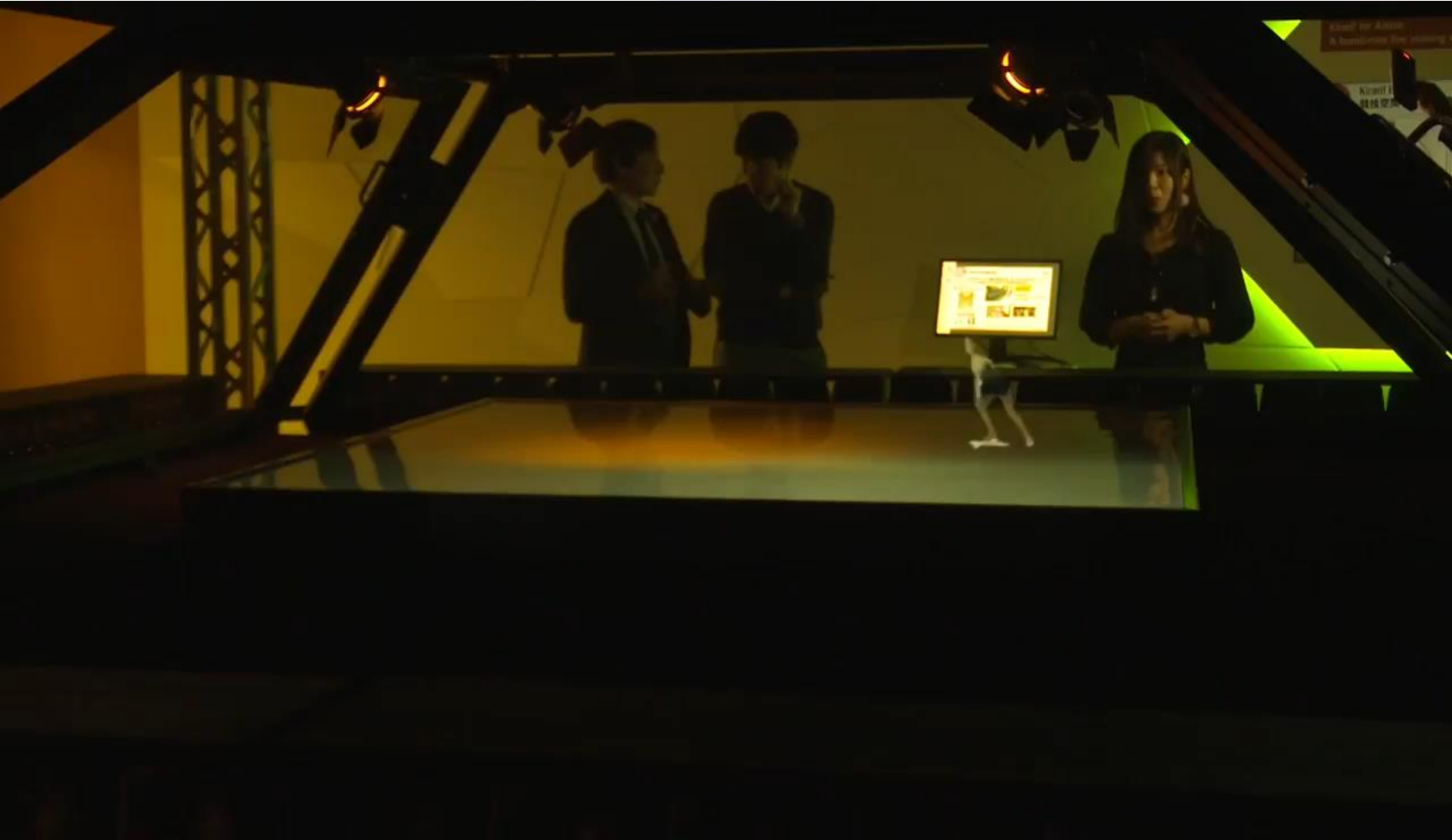


# Kirari! for Arena





# Kirari! for Arena





# ILE Standardization Activities



# Current Q8 (ILE) work

- Started from September 2016
  - Management
    - Rapporteur: Hideo IMANAKA (NTT)
    - Associate rapporteur: Hoerim CHOI (KT)
  - Meetings: 7 times
  - 3 Workshops on ILE (MPEG, EBU, DVB, etc)
- Work items of Q8
  - Not published any ITU-T Recommendation related to ILE yet
  - Current work
    - H.ILE-SS: Service Scenario of ILE, including use cases
    - H.ILE-Req: High-level requirements of ILE
    - H.ILE-FW: Functional framework of ILE
    - H.ILE-MMT: MMT profiles for ILE services



# Definition of ILE

Q8/16 defined ILE, found in H.ILE-Reqs.

**Immersive Live Experience (ILE):** A shared viewing experience which stimulates emotions within audiences at both the event site and remote sites, as if the ones at remote sites wandered into substantial event site and watched actual events in front of them, from high-realistic sensations brought by a combination of multimedia technologies such as sensorial information acquisition, media processing, media transport, media synchronization and media presentation.

# Service Scenarios(H.ILE-SS)

## Immersive Live Experience Use Cases

### Live Sports Scenario

Sports continue to sustain popularity among other contents and present a great opportunity to harness technologies available to further enhance the experience for spectators

### Entertainment Scenario

Music concerts or theatrical plays require live experience on stage where actors perform to appeal to their audiences and there are ways to reproduce the similar or better experience without actors on stage

### Telepresence Scenario

Figure, either a person or an object, could be transported in real time to remote places as a whole for informative purposes.



Categorization for use cases of Immersive Live Experience is not limited to above scenarios and more classification should be further studied.

# Requirements(H.ILE-Reqs)

No	Mandatory	High level requirements	Places
1	Recommend	Display real sized objects on various terminals	Viewing sites
2	Require	Reproduce sound direction	Viewing sites
3	Recommend	Reconstruct suitable atmosphere by SE	Viewing sites
4	Require	Reconstruct spatial environment	Viewing sites
5	Require	Synchronous media representation	Viewing sites
6	Option	Augmented information attachment	Viewing sites
7	Require	Extract object information	Source site
8	Recommend	Capture spatial information	Source site
9	Require	Synchronous media transport	Transport
10	Option	Store synchronous data	Application
11	Require	Media processing for reconstruction virtual field	Application
12	Recommend	Auditory lateralization	Viewing sites
13	Option	Video stitching	Viewing sites

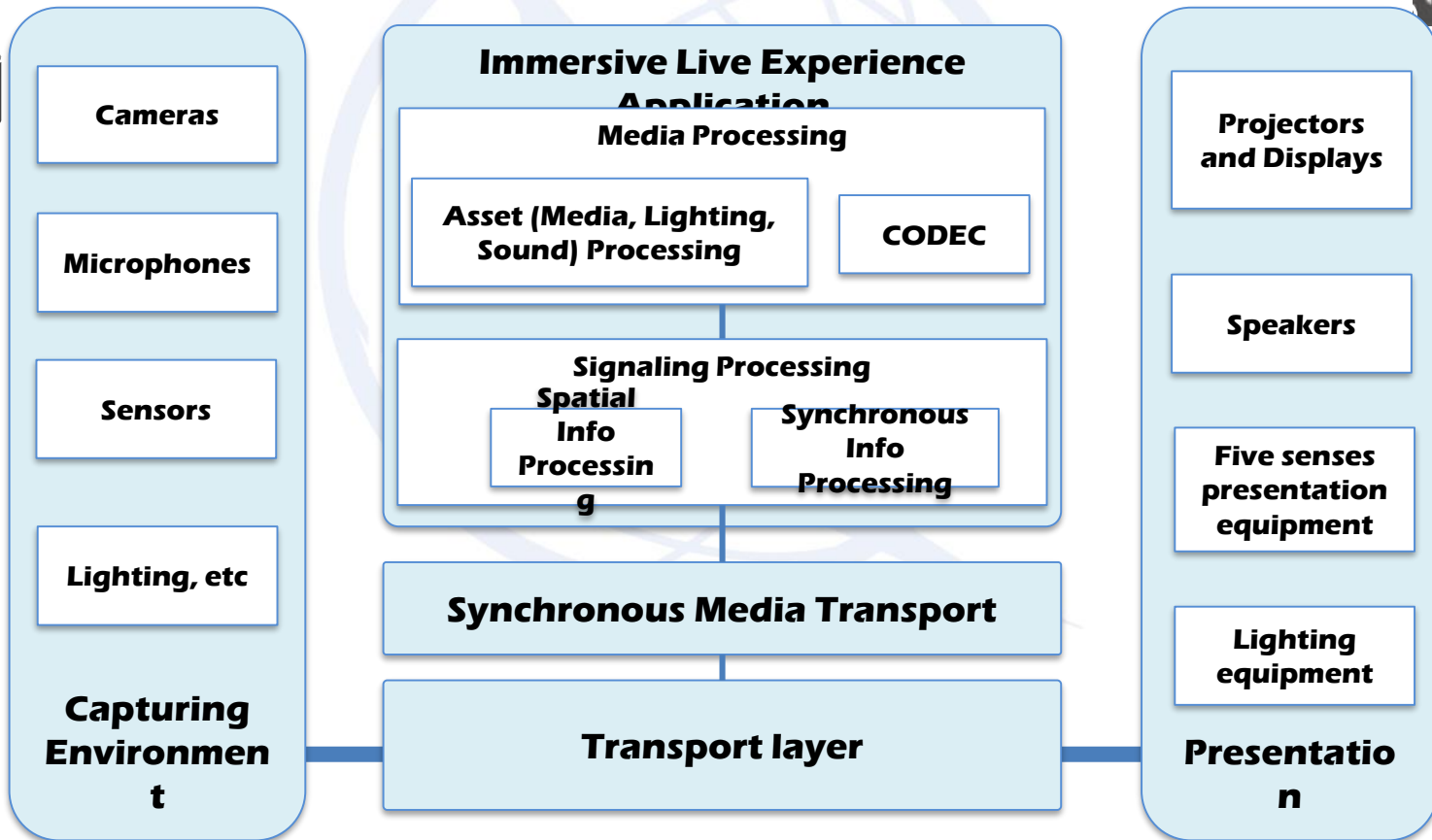
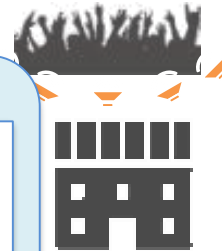
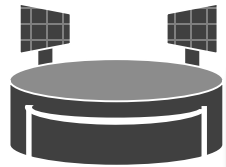




# Architectural Framework(H.ILE-FW)

**Source Sites  
(Stadiums, Halls, etc)**

**Viewing Sites  
(Halls, Theaters, etc)**



# Future work and plan

- 3 draft Recommendations; **H.ILE-SS**, **H.ILE.Reqs** and **H.ILE-FW**, plan to be consented in this SG16 meeting
- Continue work on MMT profiles for ILE
- Presentation included 3D projection and auditory lateralization, interfaces and etc are future work
- 4<sup>th</sup> Mini-workshop on ILE
- Further collaboration with MPEG, DVB, EBU, and other standard development organizations
- Further relation with stakeholders, such as broadcasters, event promoters and telecom operators