IBC ACCELERATOR PROGRAMME

‘BEING THERE’

IMMERSIVE AUDIO AND SOUND IMAGERY

2021

Enhancing the sense of presence with immersive audio & sound imagery
WHY? – THE INITIAL PROJECT CHALLENGE

• We all miss *Being There* in that magical moment when an artist’s intent is felt by a live audience.
• Immersive audio also benefits spoken word.
• How to bring a deeper sense of *Being There with A/V* recording styles and post-production techniques using cutting edge software?
• Constraint: simplification for light weight production suitable for live events.
• Constraint: end users should not require specific kit.
OBJECTIVES: IMMERSIVE AUDIO & SOUND IMAGERY

- Focus on high quality audio & visual aesthetics.
- Explore use cases with acoustic classical instruments, 360° VR cameras and voice actors.
- For music, the audio mix was no longer fixed.
- Binaural, spatial and room simulation via cutting-edge software braud.io
- Explore 6DoF with Magic Beans.
- Multi-POV Omnilive video output, for responsive audience immersivity.
- Only used existing technology deployable in 2022.
## PROJECT CO-CHAMPIONS

### Vision, project lead, innovation practitioner

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<tr>
<th>Ben Schwarz</th>
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### Austrian Broadcaster - Senior audio engineer

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<th>Karl Petermichl</th>
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### British Broadcaster - Audio innovation expert

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<th>Nathan Freeman</th>
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### Professional film studios & end-to-end A/V production

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<th>Tom Witkowski</th>
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### Arts & Culture / special interest multi-media platform

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<th>Vincent Charley</th>
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### Academia, signal processing & spatial audio expertise

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<th>Zoran Cvetkovic, Enzo De Sena</th>
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### Spoken word production, part of Amazon

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<th>Ben Chapman</th>
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### Professor of audio and music engineering

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<th>Marcela Rada</th>
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### Spoken word production, part of Amazon

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<th>Jonathan Wyner</th>
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PROJECT PARTICIPANTS

Multi-cam output / audience platform solution

Audio engineering + 6DOF

Cyril Zajac  Omnilive

Jon Olive  Magic Beans
Gareth Llewellyn
THREE WORKSTREAMS FOR SPATIALIZED STEREO AUDIO

Live Music: where the audio mix follows the images, with multicam visual output

360VR: filming a live performance in 360°, with spatialised audio for an even more immersive experience

Spoken Word: exploring frictionless content dramatization with spatialised audio
WORKSTREAM 1: ACOUSTIC RECORDING OF CLASSICAL MUSIC

Real-world light-weight production
• 4K iPhone cameras
• 1+ mic per musician + stereo pair
• multicam with specific binaural mix per cam
• fixed stereo mix for comparison

Some learnings
• “I felt as if I was in the room with the musicians”
• The Wow! Effect too small for some, too great for others
• Still to determine effect of multicam output
• Some camera movements don’t work
• Lack of audience was a drawback
WORKSTREAM 2: ADDING 360VR CAMERA(S) TO WORKSTREAM 1

360 Shoot in parallel with the above

• Just one 360VR camera.
• An ambisonic mic was used, but not processed yet
• Spot mics used in post to creating a “pre-navigated” 2D rendition of 360 feed with “even more immersive audio” using binaural.
• 360 file is available on Vimeo for users to control orientation, but not part of project.
• Ideally have at least one cam amongst the musicians and one in the the audience
WORKSTREAM 3: EXPLORING SPOKEN WORD WITH IMMERSIVE AUDIO

- Audible commissioned and produced enhanced audio drama.
- Post production explored binaural and seamless spatialized sound
- ‘Real’ environments bringing physical spatial characteristics to life.
- The artistic intent drove the creative process.
- Recording occurred at Twickenham Studios in October 2021
- Omnilive platform used to explore creative “branching” storytelling.
# PROJECT 2021 TIMELINE

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<th>Month</th>
<th>March</th>
<th>April</th>
<th>June</th>
<th>July</th>
<th>August</th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
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<tbody>
<tr>
<td>Activity</td>
<td>Recruit initial team</td>
<td>Ideation phase 1</td>
<td>Project planning</td>
<td>Shoot, record</td>
<td>Post Production</td>
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- **March**: Recruit initial team
- **April**: Ideation phase 1
- **June**: Project planning
- **July**: Shoot, record
- **August**: Post Production
- **September**: IBC Preview progress report
- **October**: Deliver Final POC session
- **November**: IBC Virtual Showcase
THANK YOU

For Being There

Ben Schwarz, Co-Champion & Project Lead

accelerators@ibc.org