



JORNADA:

OPORTUNIDADES A LA FINANCIACIÓN DE LAS INDUSTRIAS CULTURALES Y CREATIVAS

Fecha: Martes, 27 noviembre
Lugar: Auditorio del Ministerio de Cultura y Deporte
San Marcos 40, Madrid

Las ICCs: H2020. Casos de Éxito

BINCI: Binaural tools for creative industries



eurecat
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Public Programmes



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 732130

Born out of the integration of six R&D organisations
Eurecat is the main Technology Centre in Catalonia.

Figures

- 600 professionals
- 60 M€ revenues
- +1,000 customers
- 8 spin-off companies
- 73 patents
- +160 R&D projects

INDUSTRIAL TECHNOLOGY AREA

Autonomous & Industrial Robotics

Composites

Functional Printing & Embedded Devices

Functional Textile

Metallic and Ceramic Materials

New Manufacturing Processes

Plastic Materials

Process Modelling & Simulation

Product Innovation and Development

Sustainability

BIOTECHNOLOGY AREA

Nutrition and Health

Omic Sciences

DIGITAL TECHNOLOGY AREA

Audiovisual Technologies

Big Data

Data Mining

Digital Humanities

E-Health

IT- Security

Smart Management Systems

FOR WHOM? SECTORS

FOOD AND NUTRITION

PUBLIC SECTOR

ENERGY AND RESOURCES

AUTOMOTIVE

PERSONALITY

RAILWAY

INDUSTRIAL SYSTEMS AND PROCESSES

CULTURAL AND CREATIVE INDUSTRIES

TEXTILE

HEALTH

CONSTRUCTION

COMMERCE

FINANCE AND INSURANCE

INFORMATION AND COMMUNICATIONS TECHNOLOGIES

BIOTECHNOLOGY

TRAINING

SPORTS

TOURISM

CONSULTANCY

RESEARCH AND INNOVATION



Providing Binaural Tools for the EU creative industries

Develop an integrated **SW & HW solution** to ease the production, postproduction and distribution of **3D audio content** meant to be experienced by the consumers through **headphones**.

For increasing the competitiveness of the European creative industries and fostering exchanges between creative SMEs and providers of innovative ICT solutions.



MUSIC



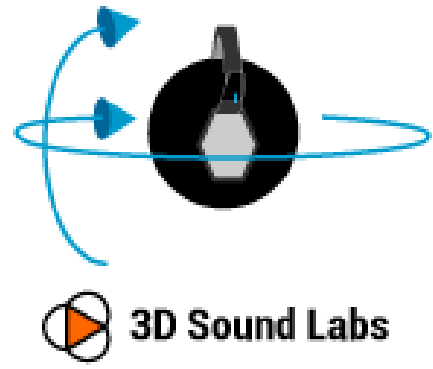
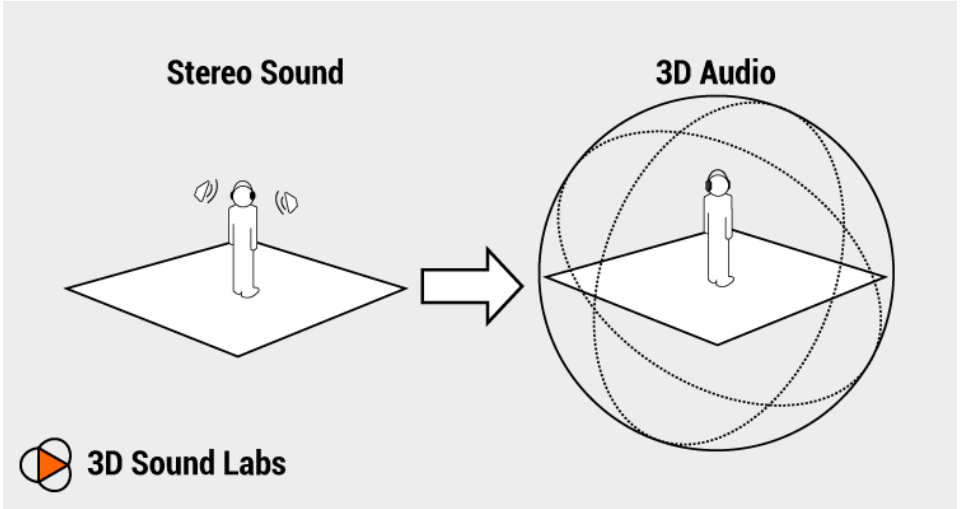
MOVIES



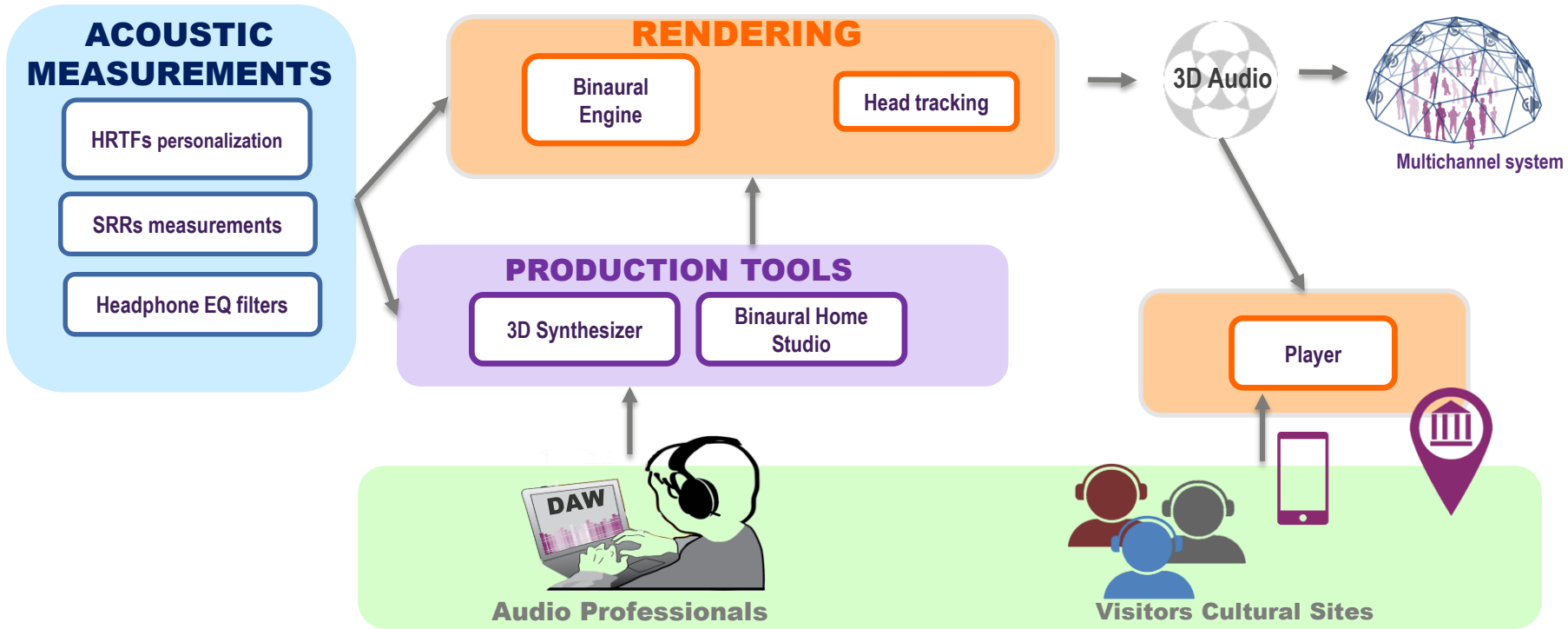
CINEMATIC VR



binci 3D audio – Binaural audio

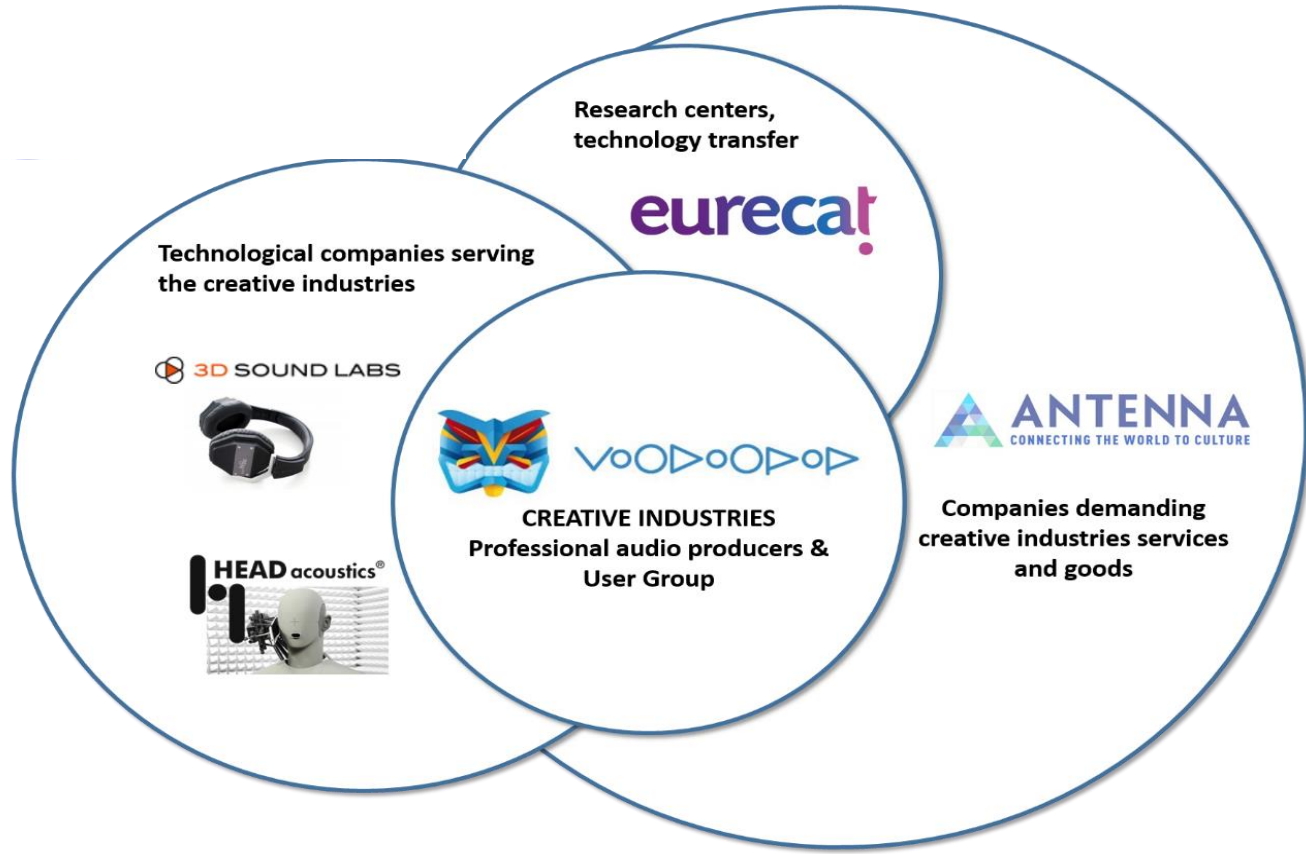


binci BINCI: PUSHING AND PULLING THE DEMAND OF BINAURAL CONTENT



DEMONSTRATIONS

binci WHO: The Consortium



binci BINCI User Group and stakeholders



VPOP

USER Group

Sound designers, audio producers, artists

- >60 professionals involved
- > 32 full surveys collected



ANT

Experimental productions

Fundació Joan Miró
*  Barcelona

 **DIE PINAKOTHEKEN**



HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA

binci Acoustic measurements

HRTFs measurements & HRTF individualization tool



binci
HRTF Personalization Tool

Player

Head Depth Limit: 15.20 | Head Depth Limit: 20.00

Apply

Personalization

Step 1. Enter head dimensions and press apply

Step 2. Choose one of the three suggested HRTFs by listening to the different sound scenarios

1 2 3 4 5

Step 3. Using a headtracker and small head movements fine adjust your ITD until you achieve maximum source stability

ITD Adjustment: 1.00

Generate File

Settings

Changes take effect on apply

Calculate ITD Use ITD from file

Use HRTF: HEAD_HRTF_Make_sofs

Client Address: jHEADacoustics/Traideo/Alphum

Use headtracker azimuth (refreshes every 0.05s): 0

Freq: 4000 Gain: 0 Bands: 2

SRR acquisition method and dataset (OPEN)



EQ filters



binci Production tools

DAW plugins: Binaural Home Studio

SFÉAR
Choreographer

Loop on/off: X
Start/Stop: X

Quantize: X 4/1 Speed 2 Times

Save movement: 10 new_mov

azimuth elevation

Load movement: 10. new_mov

Import/export set ▼

Stereo Track

SFÉAR
Panner Stereo

Azimuth Elevation Size Spread Spin

0.00 -116.34 0.00 0.00 0.00

New Stereo Source Name
3/4 Channel

Color

Sfear Panner Stereo

Audio 1

SFÉAR
Panner Ambisonic

Horizontal Vertical Spin

0.00 0.00 0.00

New Ambisonic Sou Name
10/11/12/13 Channel

fear Panner Ambisoni

Sfear Visualizer

Chorus -40.7
Flute -23.8
Bass -4.8
Vocals -25.6
Guitar -44.8
Drums -37.9

Drums Vocals Chorus
Guitar Bass

Flute

- Panners
- Ambisonics
- Modulation
- Master
- 3D Reverb
- Spectral Panner
- Choreographer

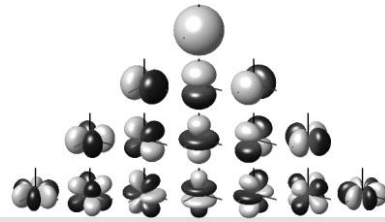
GROUPS
Clip 0

3D Synthesizer

_binci_3dsynth (presentation)

RPMS Azimuth	RRMS X Rotation
> 10. Hz > 0. ⓪	> -167 Hz > 0. ⓪
RPMS Elevation	RRMS Y Rotation
> 76.3 Hz > 0. ⓪	> 2. Hz > 0.1 ⓪
	RRMS Z Rotation
	> 170. Hz > 0. ⓪

binci Rendering



Cross-platform Binaural Engine

Ambisonics based

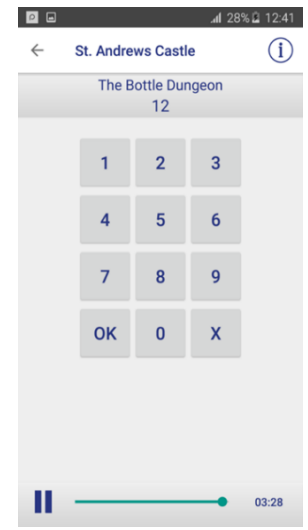
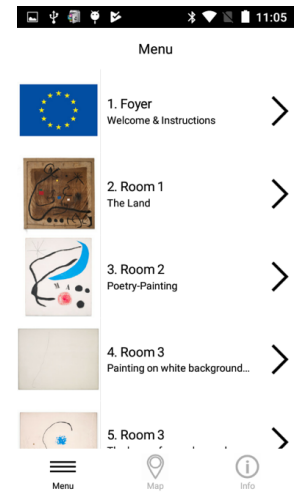
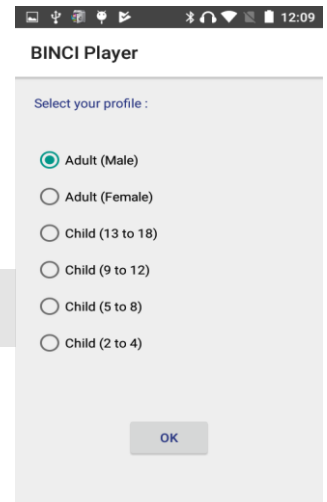
Scalable

CPU efficient



Binaural player

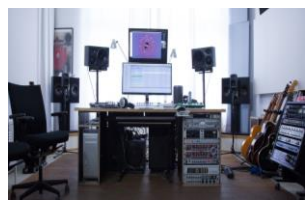
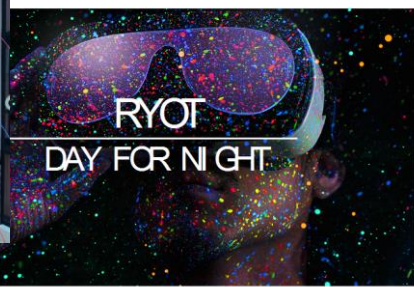
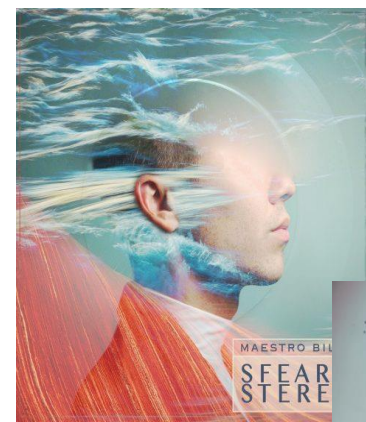
Headtracking device and firmware



binci Demonstration and validation

BINCI validated in real productions through 12 BINCI User Group projects

- Relevant feedback gathered used for improvement of tools and for future benchmarking
- Demonstrated usefulness and low-learning curve of BINCI for different applications



[DEMOS available](#)

binci Demonstration and validation

BINCI validated for the creation of new cultural experiences in 3D audio

- 3D audio tours deployed to more than 1200 visitors
- 3D audio proven to have an impact on creative storytelling in cultural institutions [*DEMOS available*](#)



The Real Space: *Immersion*

Fundació Joan Miró
 Barcelona



Augmented Auality

 **DIE PINAKOTHEKEN**



The Invisible Space: *Virtual Auality*

 HISTORIC ENVIRONMENT SCOTLAND
 ÀRAINNEACHD EACHDRAIDHEIL ALBA
 **eurecat**

binci More info



www.binci.eu

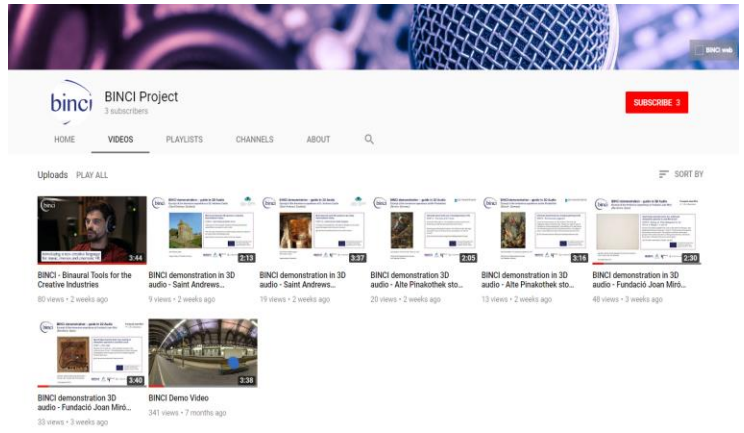


Providing Tools for the European Creative SMEs

BINCI main objective is to develop an integrated software and hardware solution to ease the production, postproduction and distribution of 3D audio content meant to be experienced by consumers through headphones.



YouTube Videos and demonstrations



... and follow



<https://sfear.com>



Gracias

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