



# SUSTAINABLE OPTIMISATION IN THE LIVE MUSIC SECTOR

Good practices by RNR Producciones

Music@NEB - European Parliament, Brussels





# WHO WE ARE

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## Music venue Sala X

Since 2014, more tan 2.000 artists have played in Sala X in Seville, and more than 250.000 people have visited the venue. The venue is characterized by its strong focus on innovation and technology.

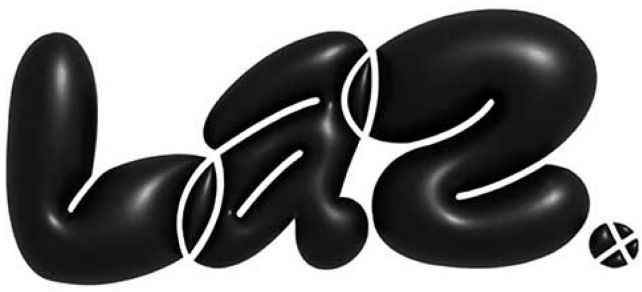
## Music venue La2

New venue specializing in supporting young artists by giving them a platform to showcase their music at the beginning of their careers.

## Other events

The organisation carries out events for all audiences in singular spaces. Examples are the festivals **Electrolunch** and **Pop CAAC**.

Members of **Reset!** and **ACCES**



# PROJECTS

**SCENERGIES** (Creative Europe) was a cooperation project, a good practice exchange and network platform for the sustainability and progress of small music venues in Europe.

**Sala X 2.0** (Ministry of Culture and Sports) was an interdisciplinary project oriented towards achieving a modern venue that makes use of digital tools, the interconnected network and new technologies.

**SmART** (Ministry of Culture and Sports) is an innovation project to create a smart sustainable model for festivals

**Optimisation and Sustainability for music venues** (Junta de Andalucía, Next Generation) is an innovation project to develop a smart platform connecting the spaces and data of the company.







# WORKING TOWARDS SMART MUSIC SPACES

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We propose a model of smart music spaces, that uses **digital tools, network interconnectivity, and new technologies to improve the sustainability** of live music production.

Our **model is composed of different elements** such as an automatic capacity counting system, low energy lighting with a remote-control LED ceiling, a self-managed ticketing platform, and other recent developments focusing on carbon neutrality, such as an external moss wall that provides both acoustic isolation and CO2 absorption.

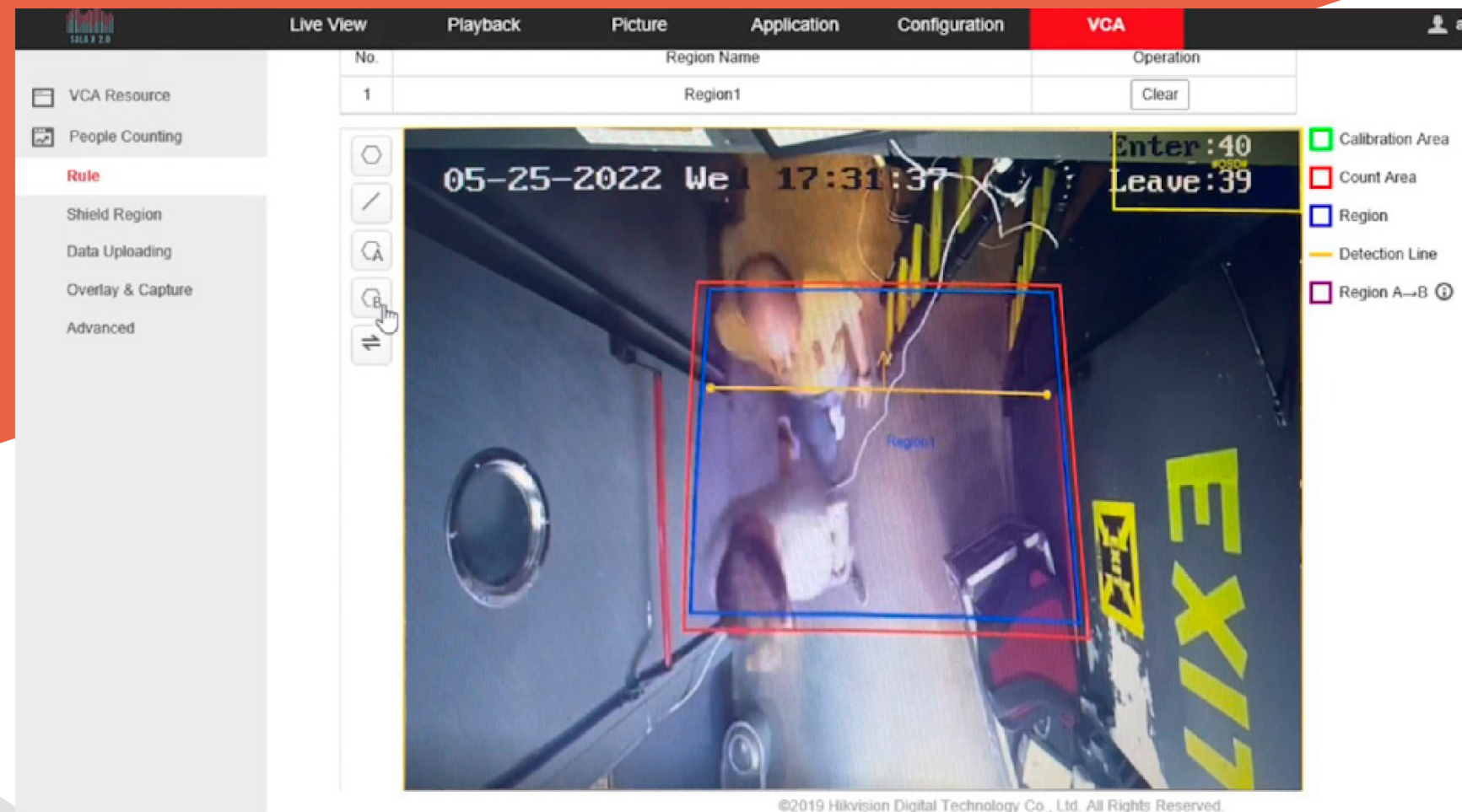




# **IMPLEMENTED ACTIONS**

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# ATTENDANCE COUNTING

Development and installation of **sensors** to count the audience capacity of the venue **in real time**.

Depth sensors, based on a **stereoscopic image** in the visible and infrared spectrum, with which **the space can be seen in 3D** in any light conditions.

Implemented during COVID-19, relevant now for **data collection and processes optimisation**.







# SMART LIGHTING

Designing and updating the **lighting system** of the venue, including:

- LED backdrop,
- LED blinders,
- ParLEDs,
- Dimmer,
- Control panel for digital lighting.

This system has **optimised energy consumption, maximized the light efficiency and reduced the heat impact** of the lighting system, as well as eliminating analogue connections and controls and facilitating the creation of a **network for the digital interconnection of the lighting equipment** of the different spaces of the venue.

Using a unique digital control software – **Resolume**.



# PIEZOELECTRIC PANELS

Installation of **acoustic energy harvesting (piezoelectric) panels** in the venue.

Sala X has a 12,000W sound system. The sound emissions generated by this system result in constant vibrations on the surfaces and materials of the infrastructure.

These panels can convert the vibrations into **reusable electricity (5V)**.

A **first in the music sector** in Andalucía.







# LIVE STREAMING

Installation of a **fixed recording system** for all concerts with online editing staff **producing the concert video live.**

**Streaming platform** for concerts and events taking place at the venue - Vackstage

Improves **accessibility** so that anyone, regardless of their location and situation, can view the concert live.





# IMMERSIVE EXPERIENCE

**Virtual tour** of the venue on the website

Experience the venue **as an audience member, a sound technician, or a musician**

Conduct **educational and training workshops**, providing an **immersive perspective** on the entire process involved in organizing a concert.



EL TOUR VIRTUAL DE SALA X ES UN PROYECTO FINANCIADO POR



GOBIERNO DE ESPAÑA

MINISTERIO DE CULTURA Y DEPORTE



Financiado por la Unión Europea  
NextGenerationEU



Plan de Recuperación, Transformación y Resiliencia





# **ONGOING ACTIONS**





# MOSS FOR CO<sub>2</sub> AND SOUND ABSORPTION

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Installation of **moss panels** on the south side facing wall of Sala X.

This panel will **absorb carbon dioxide**, as well as heavy metal particles.

It will also improve the **temperature** of the venue and provide **acoustic isolation** for the infrastructure.

Irrigated with filtered **greywater** from daily use.





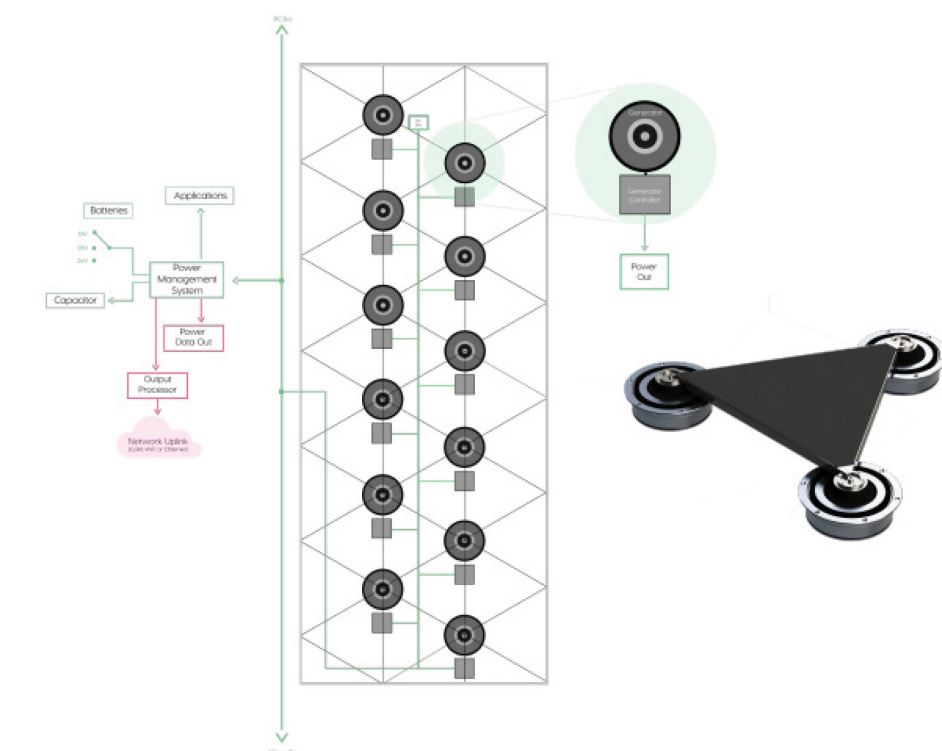


# ENERGY FLOORING

Installation of **smart surfacing** that uses the **mechanical energy generated by people's steps**.

They are smart, interactive, and **make sustainability visible**.

It will be installed in Electrolunch and other festivals, on the **dancefloor and entryway**.





# SMART PLATFORM

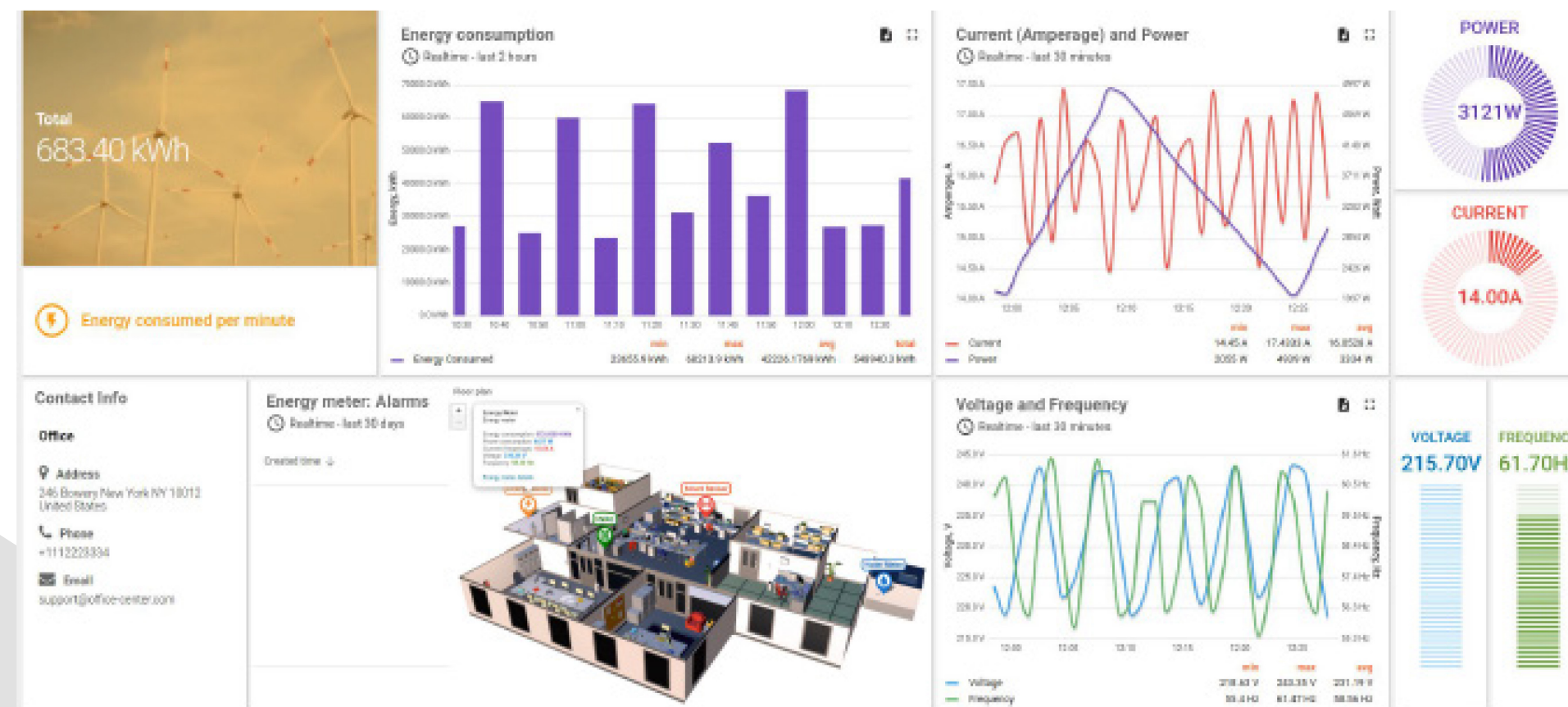
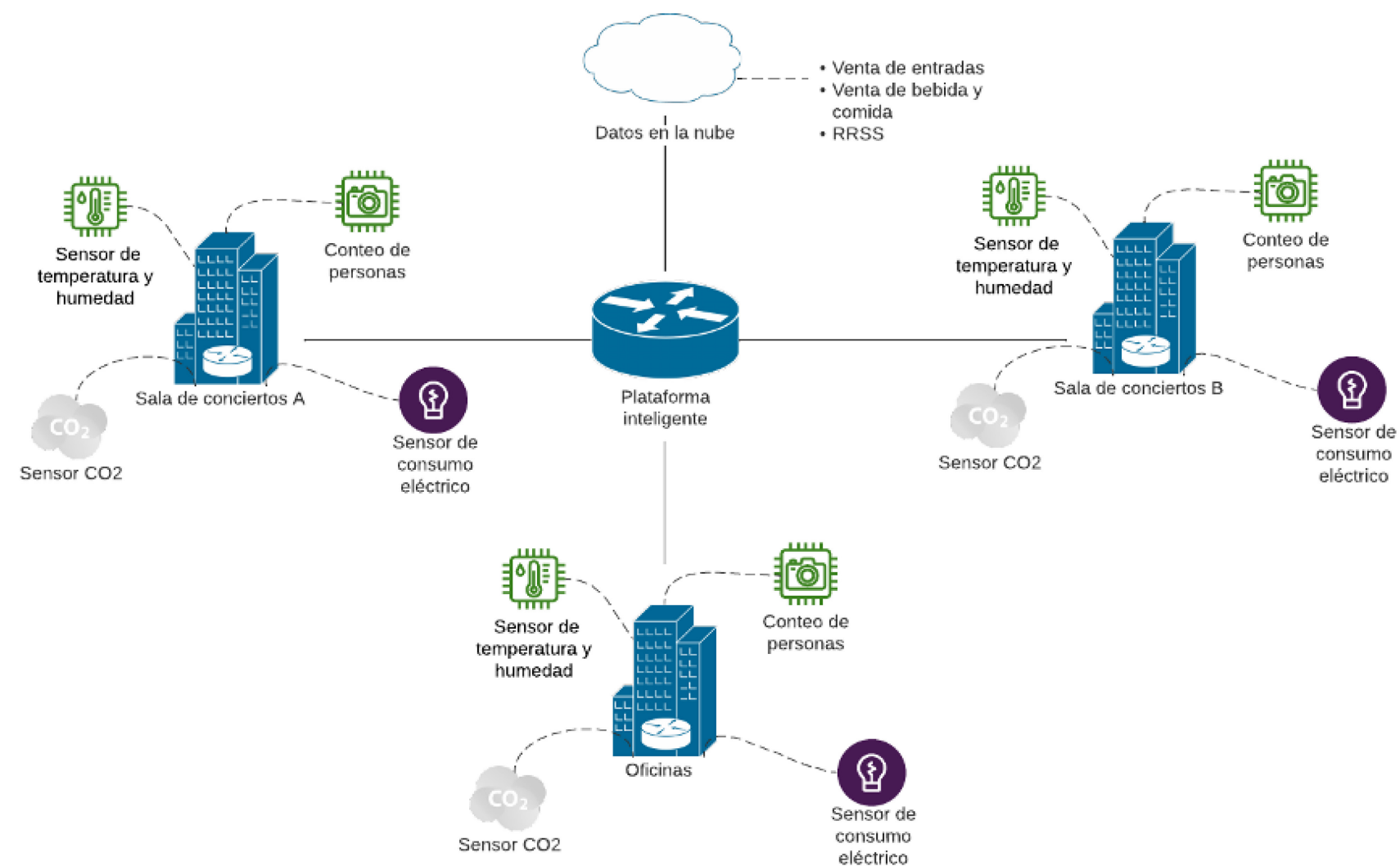
Installation of a system of **interconnected sensors** in each of the buildings of the company, as well as **automation management systems** in each space:

- Music venue 1 (Sala X)
- Music venue 2 (La 2)
- Offices
- Cloud

**Sensors** for monitored data collection of parameters such as:

- Energy consumption
- Temperature and humidity
- CO2 concentration

Development of a smart **integrated platform to connect and process the ecosystem's data**, in turn optimising the internal and external processes of the organisation.







# CONCLUSIONS

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Innovation in the live music sector →

- Optimization for **recovery of the sector** and remaining competitive
- Increase **environmental sustainability** - Greening of the music and cultural sectors
- Improved **experience for audiences**
- **Access** to culture – wellbeing
- Development and testing of models that are **transferable and scalable** – other sectors – smart music cities
- Continue to **process of innovation and research**





# Thank you!

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