
BEES
A STORY OF SURVIVAL

THE EXPERIENCE


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KEY FACTS

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Hire fees:	Upon application
Duration:	5 months +
Dimensions:	700 –1000 m2
Insurance:	All insurance costs for transport, install/deinstall and display to be covered by the host venue
Duration of install/de-install:	4 weeks install, two weeks de-install
Number of staff travelling for install/de-install:	1 x NML Build Design-Supervisor (required for 3 weeks install/ 2 weeks de-install), 3 x Design Build and Technical Team (required for 2 weeks install/ 2 weeks de-install). Host venue to cover cost of flights, accommodation, per diem and visas for a team of four
Local team requirements:	6 x Floor + Frame Build Team (required for 2 weeks install/ 1 week de-install), 4 Fabric Fix Team (required for 1 week install/ 1 week de-install), 4 Av Install Team (Required For 2 week install/ 1 week de-install)
Transport:	One way, incoming, transport to be covered by the host venue: 3 x 40ft shipping containers

EXHIBITION OVERVIEW

THE EXHIBITION

A story of 120 million years of adaptation and survival, Bees is the epic tale of these incredible creatures and their relationship to us and the natural world.

Perfectly adapted to pollinate and incredibly diverse with over 20,000 species, bees are vital to our way of life and essential to the planet's survival.

Journey with us into their world, from the tiny and fascinating anatomy of a single bee to the magic and wonder of bee colonies, to the role bees play in our lives and the threats they face.

Bees is a new exhibition from National Museums Liverpool (NML), developed through a unique partnership with the award-winning artist and sculptor Wolfgang Buttress.

THE AUDIENCE

- A wide intergenerational audience, capturing the imagination of young people and adults with a universally enriching experience
- Equally popular with arts and science audiences
- Accessible, with enhanced experiences for disabled people
- Designed to engage with, schools/education groups and local communities
- Engaging with academic and scientific professionals through a live research project

THE HARMONY OF ART + SCIENCE

Bees is a beautiful harmony of art and science which will connect with audiences in an awe-inspiring way.

Years in the making, inspired by the extensive entomology collections, scientific knowledge and creative expertise at NML and led by Wolfgang's artistic vision.

Visually stunning and immersive, Bees will be an experiential wonderland revealing new insights into their world, and an opportunity to see and experience bees as never before.

The show features a 700 –1000 m2 sculptural environment and has been designed for international tour.

EXPERIENCE A REAL-TIME CONNECTION WITH BEES

Bees features cutting edge technology, with sound and light environments that will not only provide a real time connection to bees within their nests and hives but also an ever changing picture of their activity.

AN ALARM CALL

By 2121 we may be facing the mass extinction of all insects.

The decline in bee populations is a reflection of the climate emergency and a reminder that the time for action is now.

This exhibition will engage and remind visitors that they are participants in the story of bees with a responsibility to each other and our environment.

The exhibition is an alarm call and will educate visitors on how they can help protect the natural world:

- Encouraging visitors to empathise with bees
- Educating on the importance of bees within our environment
- Connecting visitors to the natural world, creating a sense of awe and wonderment
- Envisioning a future world without bees
- Arming visitors with the tools to take action

NML X WOLFGANG BUTTRESS

A fusion of artistic vision and scientific knowledge is integral to Bees. Telling the story of these wonderous creatures through multiple disciplines: science, art, engineering and design.

Wolfgang is known internationally for creating iconic multisensory public works which harmonise art and science to connect us with nature. His work has included ‘The Hive’, located at the Royal Botanic Gardens, Kew, and ‘BEAM’ at Glastonbury Festival.

NML is an ambitious cultural institution with internationally significant collections and expertise. Committed to creating memorable experiences for visitors though innovative and iconic exhibitions, which have included ‘China's First Emperor and the Terracotta Warriors’ and ‘Double Fantasy: John & Yoko’.

THE JOURNEY

Visitor Experience	Exhibition zoning
Hints - build anticipation	1. Entrance/ Introduction
Fascinating observation - wonder	2. Anatomy of the Bee/ Visual wonder
Transition into unknown – focus	3. Tree/ Portal
Open, liberating space – senses activated: atmosphere, sound, smells	4. Bees + Flowers/ Pollination
Exploration – sense of discovery	5. The World of Bees/ Amongst the Bees
Immersive gathering together – sense of scale, high impact	6. Inside the Colony/ Life + Movement
Void – arresting, sombre	7. Bees + Us/ A World Without Bees
Sense of hope – personal mission	8. Action/ Give Bees A Chance

THE VISITOR JOURNEY

Introduction

Key message: Bees matter

Why bees matter. This will build anticipation and hint at the experiential journey ahead. From the tiny and perfect anatomy of a single bee to their importance for us all and our planet, their potential extinction will change our world for ever.

Anatomy of the Bee

Key message: Bees are amazing creatures, incredibly diverse and cleverly adapted

A fascinating insight into the beautiful anatomy of the bee, perfectly adapted to pollinate.

Exploring the immense diversity of bees with an interactive entomology wall and high-resolution 3D holographic images, which will enable visitors to view bees in awe inspiring detail.

THE VISITOR JOURNEY

Tree Portal

Key message: Ancient natural homes of bees

Trees are the ancient and natural homes of bee colonies. Using light, sound, video and scent visitors will be enveloped in the Tree Portal as they transition into the vast expanse of a digital wildflower meadow and begin a journey that will bring them closer to bees.

Bees + Flowers

Key message: Bees pollinate flowers

Bees touch the lives of us all through the act of pollination. The wildflower meadow will celebrate the incredible diversity and colour that bees bring to our natural world and how they are vital to our food supply.

Visitors will enter a vibrant multi-layered sea of projected flowers and an immersive soundscape that will reveal the scale of bees' impact on the environment and the nature of the plants that they pollinate.

THE VISITOR JOURNEY

The World of Bees

Key message: Bees are a fantastic symbol of nature

Honeycomb structures emerge around visitors as they are drawn into the world of bees and explore their secrets and behaviours.

Visitors can discover how bees see, with a UV light journey, experience how they hear, using vibration through bone conductors; and view up close and in incredible detail the fascinating social interactions of bees.

The Colony

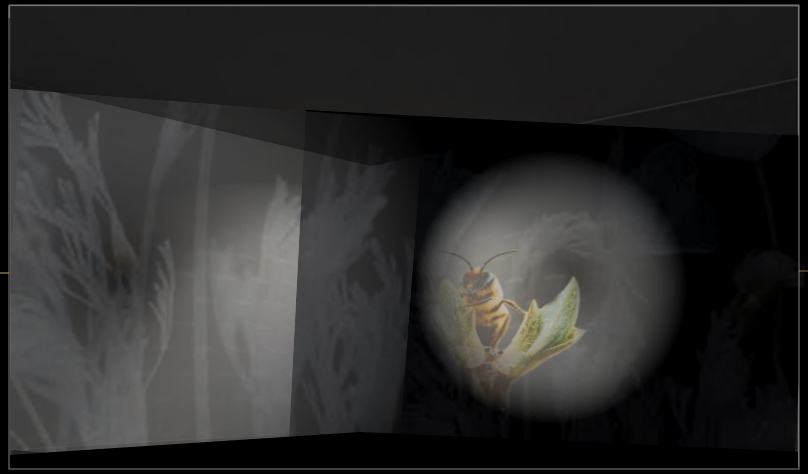
Key message: Honey + bumble bees live in colonies

Visitors converge in the colony, an all-encompassing, scaled, soundscape and visual experience that will connect to live data taken from bees.

Large projections will place visitors at the centre of the colony exploring how bees work and live together and reminding us of our collective and individual responsibilities to live in harmony with each other and our planet.

THE VISITOR JOURNEY

A World Without Bees



Key message: Imagine a world without bees

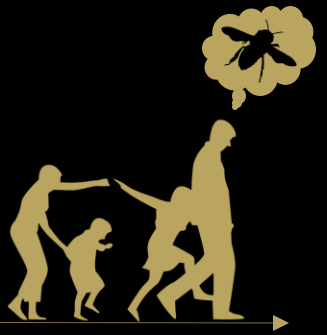
In an arresting acoustic experience, visitors enter the void, a dramatic environment which imagines a world without bees.

With the use of an anechoic chamber visitors are plunged into darkness and a discomforting acoustic vacuum as the activities and the positive impacts of bees disappear before our eyes.

We are surrounded by bees dying and the decline of our natural world, revealing a possible dystopian future caused by our own actions.

THE VISITOR JOURNEY

Give Bees A Chance



Key message: Bees are under threat and like many other species face extinction. Let's imagine a hopeful future. If we act now, we can help to make a difference.

Transporting visitors back to the current day and an imagined hopeful future beyond, we will end with the latest information on the reasons for the decrease in bee populations, what a better world could look like and how we can get there.

Explaining the impact to ecosystems, our food supply and health; the decline of bees is revealed as a reflection of the wider climate crisis and an alarm call.

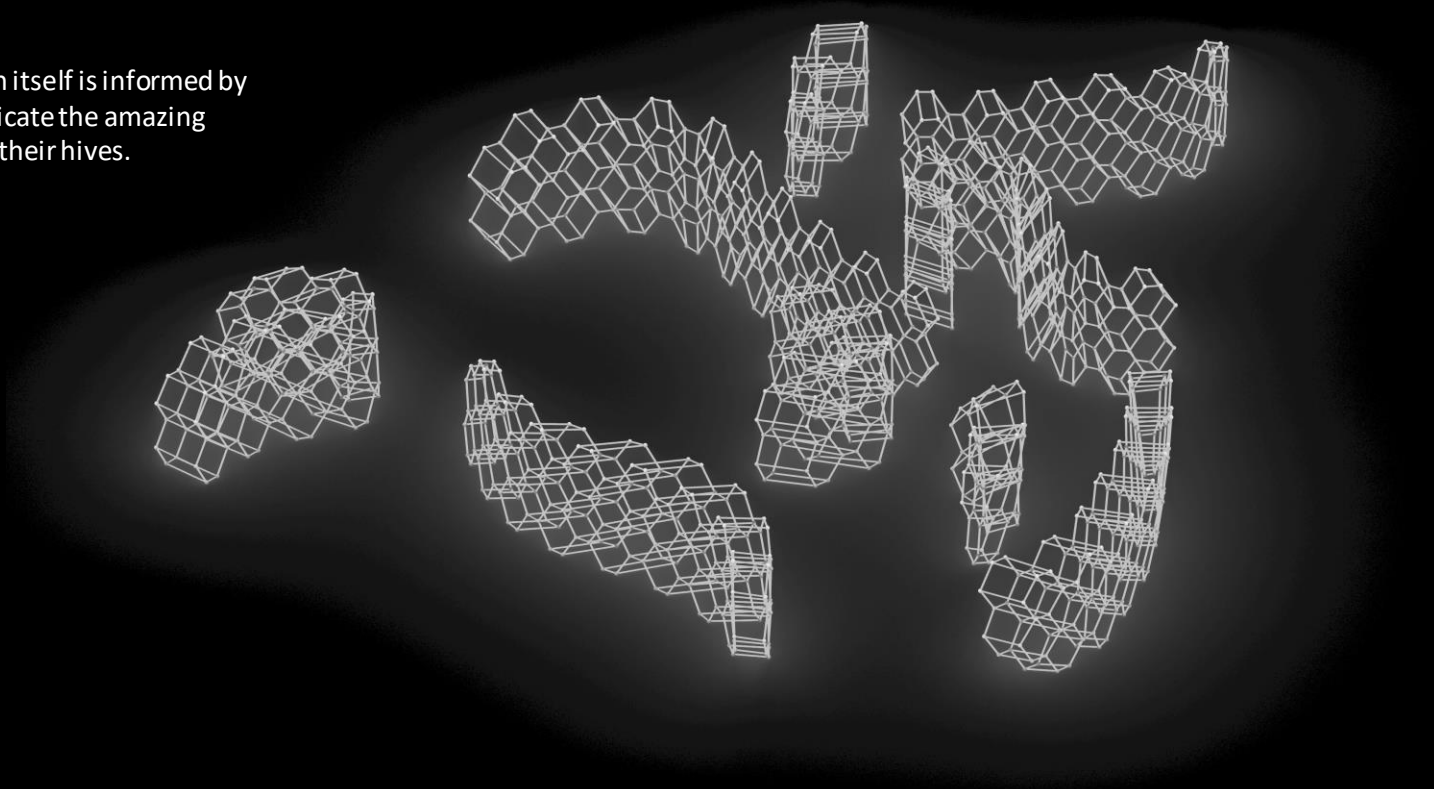
Local, national and international environmentalists and activists will present their vision of a future where bees survive and offer ideas for how we can make this our reality.

Visitors will be armed with information on how they can improve the health of bees, a reminder that together we can give bees a chance of survival and that the time for action is ultimately now.

BUILD CONCEPT

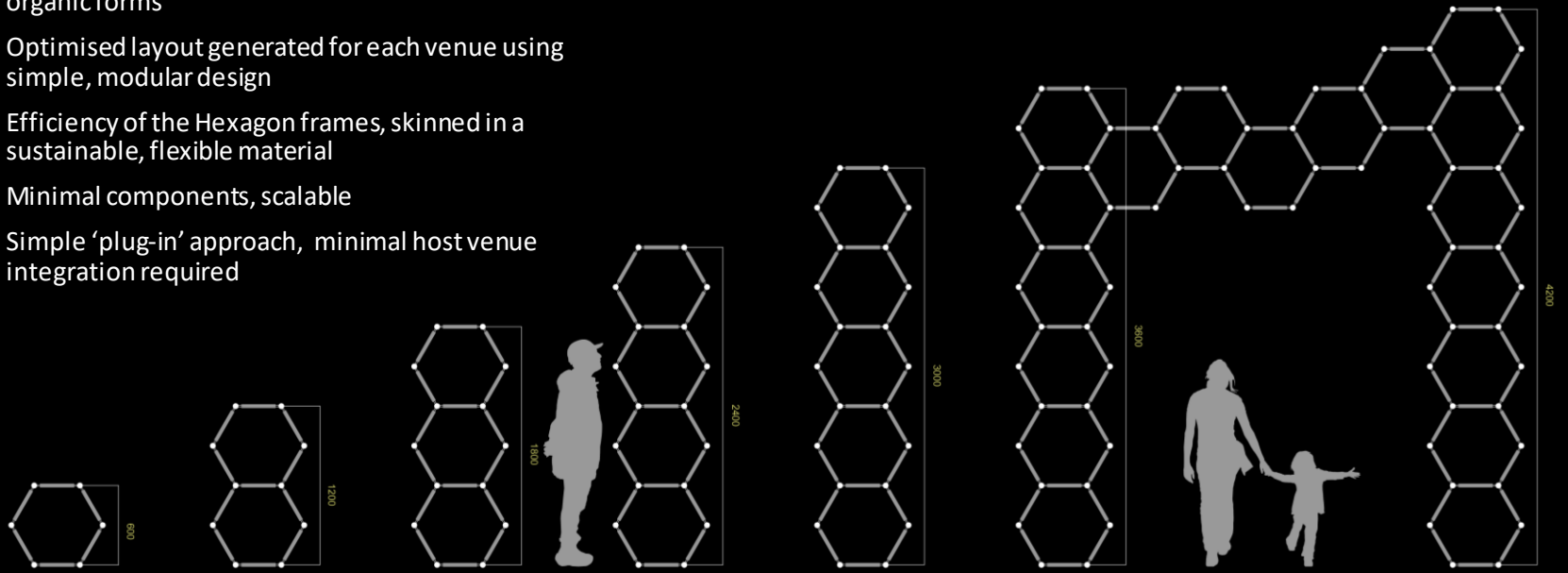
BUILD DESIGN CONCEPT

The structure of the exhibition itself is informed by bees, using algorithms to replicate the amazing structures bees create within their hives.



BUILD DESIGN CONCEPT

- Exploratory environment comprising sculptural organic forms
- Optimised layout generated for each venue using simple, modular design
- Efficiency of the Hexagon frames, skinned in a sustainable, flexible material
- Minimal components, scalable
- Simple ‘plug-in’ approach, minimal host venue integration required



FAST-BUILD FLOOR

The structure of the exhibition is fixed to a raised floor.

- Simple plinth and rail system
- Neat finishing channel to room wall perimeter
- An accessible flat floor

SUSTAINABLE BY DESIGN

Sustainable re-usable exhibition model

Turn-key, modular, scalable, replaceable component-based system, adapts to venues without requiring major infrastructure or sacrificial built interfaces. Component system can be reconfigured, re-used and efficiently transported.

Sustainable material + product selections

Recycled rubber composite structural nodes to framework.

Recycled and 100% recyclable stretch fabric material from Barrisol. Lighter for transport, 20 year lifespan and almost no waste in production.

Light, aluminium framework requires no chemical treatment and reduces transport weight.

Self-amplified, intelligent DC low-voltage distributed loudspeaker system substantially reduces power consumption and equipment.

Laser light-source projection reduces maintenance, longer life, repairable, no hazardous chemical lamp disposal and requires less electricity to run.

Light-weight RES ‘Hive’ distributed media server design reduces central equipment and cabling.

KEY VENUE INFRASTRUCTURE

VENUE INFRASTRUCTURE

(REQUIREMENTS)

POWER

Located High or Low Level

1 x 32A Single Phase

2 x 63A Three Phase

On Commando Isolators

DATA

Located High or Low Level

2 x ISP data connections on RJ45 / FX Patchbay at Primary Power Connection Point

ENVIRONMENT

Air handling ventilation (TBC)

Temperature conditioning 20-26 deg C

Maximum Noise Rating NR35

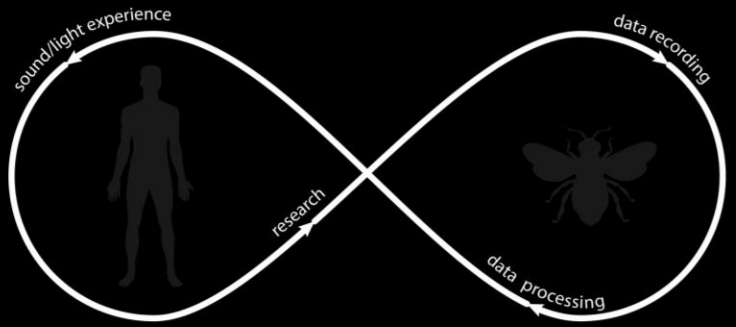
STRUCTURAL

Minimum Floor Load (TBC)

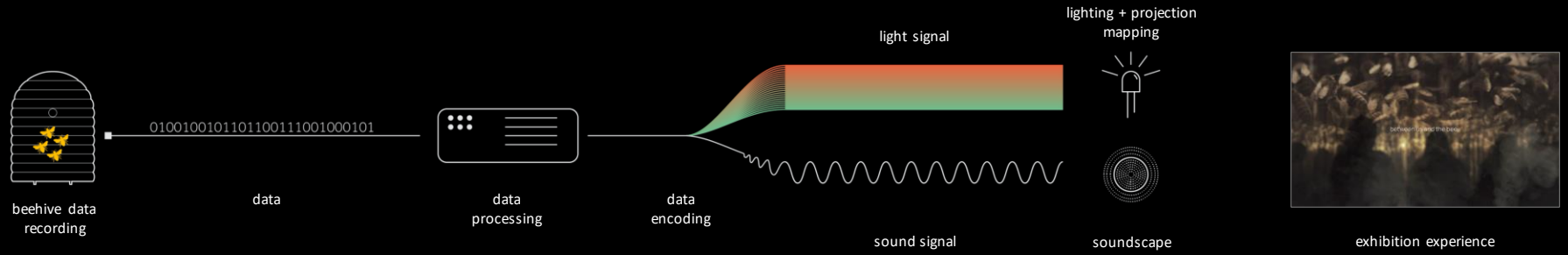
LIVE SCIENCE

LIVE DATA-DRIVEN EXPERIENCE

The soundscape and light experience within the exhibition will change in real-time, using technology which can monitor and record the activity within bee colonies. This live data will also be captured and used within an international research programme.



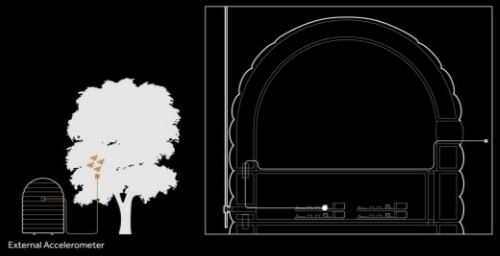
Beehives Data Processing



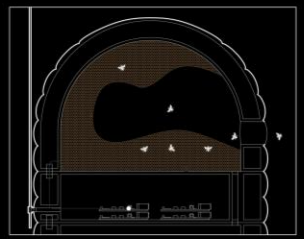
‘HIVE’ MONITOR

The live data is captured though a portable hive monitor, which can be placed in allotments, parks or community gardens.

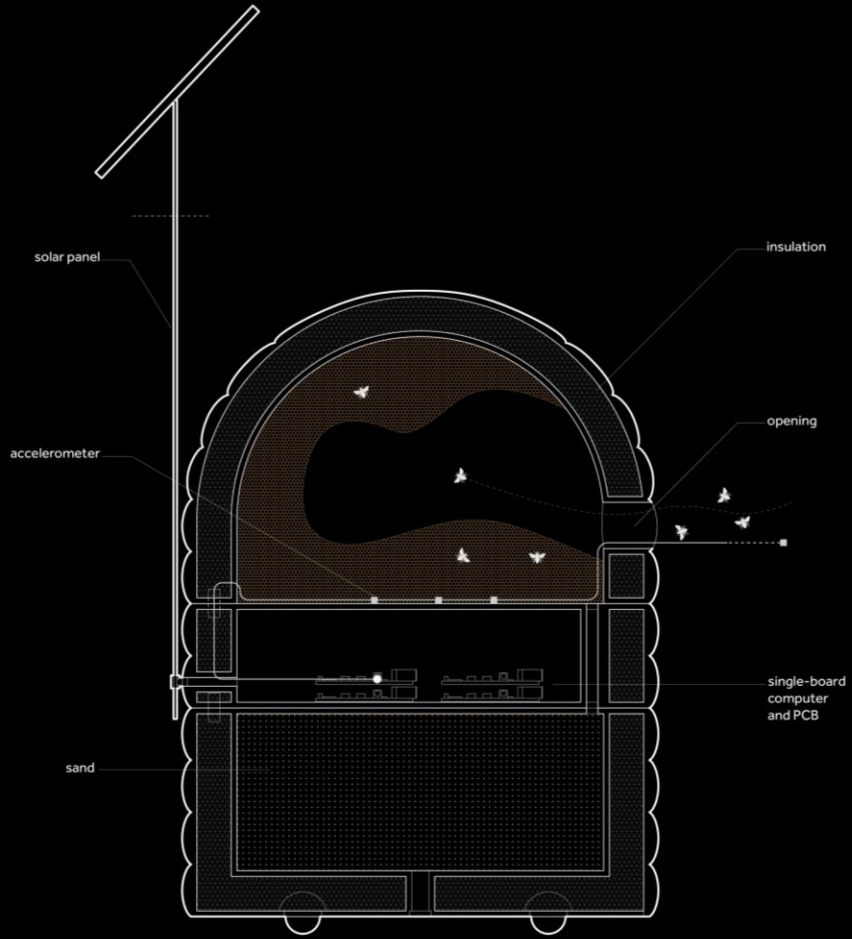
The hive monitor can be used to house a colony of bees or capture data from an external nest or hive.



External Accelerometer



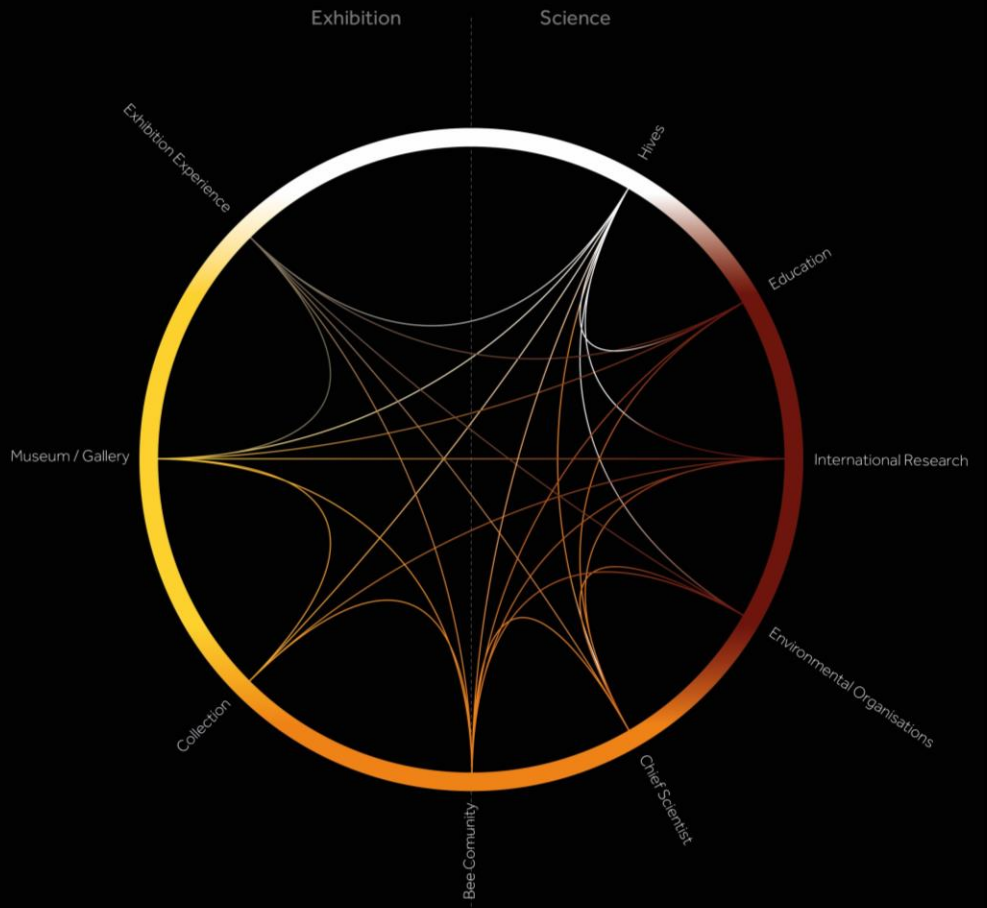
Internal Accelerometer



DATA CONNECTED COMMUNITY

The continuous recording analysing and processing of data as part of the touring exhibition's scientific and artistic process will ensure the show's legacy and further our understanding of bees around the world.

By working in cultural and scientific partnership we can discover more about ourselves, bees and the survival of our planet.



IMPACT

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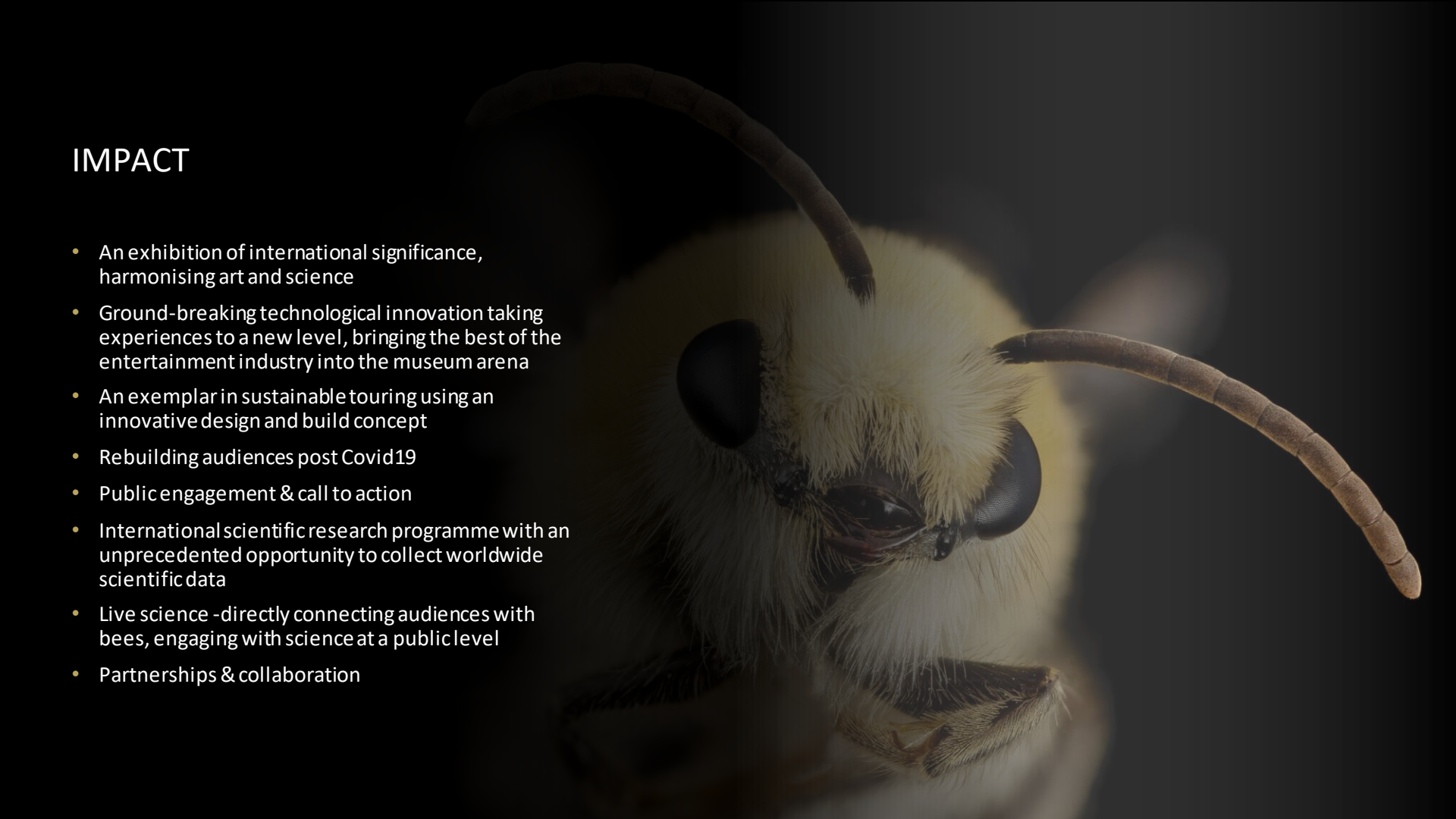
- An exhibition of international significance, harmonising art and science
- Ground-breaking technological innovation taking experiences to a new level, bringing the best of the entertainment industry into the museum arena
- An exemplar in sustainable touring using an innovative design and build concept
- Rebuilding audiences post Covid19
- Public engagement & call to action
- International scientific research programme with an unprecedented opportunity to collect worldwide scientific data
- Live science -directly connecting audiences with bees, engaging with science at a public level
- Partnerships & collaboration



TOUR LOGISTICS

EXHIBITION SCALE

THE BEE

100 m^2

TREE PORTAL

20 m^2

BEES + FLOWERS / WORLD OF BEES

300 m^2

THE COLONY

100 m^2

WORLD WITHOUT BEES

80 m^2

GIVE BEES A CHANCE

150 m^2

700 - 1000 m^2

EXHIBITION TRANSPORT REQUIREMENTS

FRAME

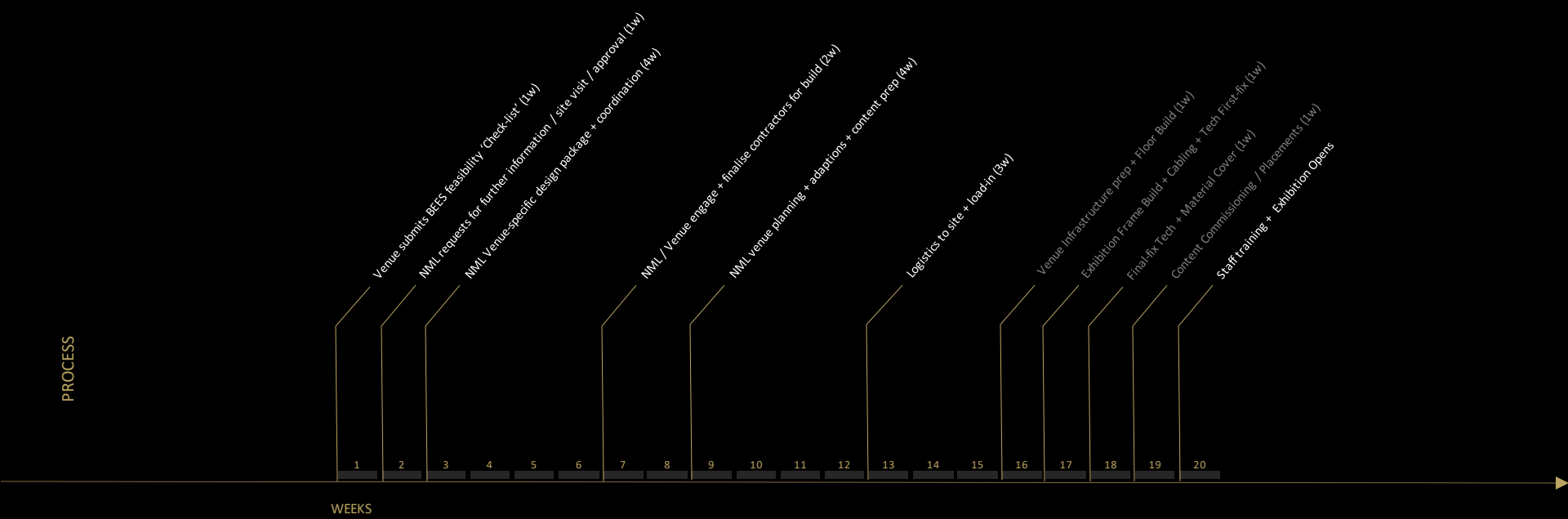
FLOOR +
CLADDING

AV + FURNITURE

3No. Standard ISO 40ft Shipping Containers

TIMESCALES

TIMESCALE



NOTE: EXHIBITION MINIMUM HIRE PERIOD 4 MONTHS

STAFF

EXHIBITION BUILD TEAM

(RECOMMENDED)

NML BUILD DESIGN- SUPERVISOR

1

(NML. – 3 weeks)

FLOOR + FRAME BUILD TEAM

6

(Local Con. – 2 weeks)

FABRIC FIX TEAM

4

(Local Barrisol Con. – 1 week)

NML BUILD DESIGN- TECH + CONTENT PREP

2

(NML– 2 weeks)

AV INSTALL TEAM - TO NML SPEC

4

(Local Con. – 2 weeks)

VENUE OPERATIONAL TEAM

(RECOMMENDED)

WELCOME / ENTRY

2

EXPLAINERS / INFO / MANAGEMENT

5

MERCHANDISE

2

TECHNOLOGY

1

(+remote support)

CLEANING

2

(morning / evening)

CONTACT

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