Noise Network +

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Acoustics in the Built Environment

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Sustainability Challenges

1 **Densification**

Cities bringing people into closer proximity

2 **Lightweight Construction & Refurbishment**

Reducing embodied carbon, acoustic performance, AD-E

3 **Electric Vehicles**

New high-frequency sounds, lack of warning noise

4 **Heat Pumps**

Essential for decarbonising but create new sound sources

Changing Social Expectations

Hybrid Work

Homes functioning as offices, classrooms, relaxation spaces

Health Awareness

Growing understanding of noise impacts on wellbeing

Inequitable Exposure

Disadvantaged communities bear greatest acoustic burden

Technology-Enabled Solutions

Real-time Monitoring

Adaptive responses to changing acoustic conditions

AI and Machine Learning

Pattern recognition for noise annoyance prediction

Computational Modeling

Virtual experiences to test acoustic solutions

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Acoustic Inclusion & Adaption

1

Diverse Needs

Designing for different acoustic sensitivities

2

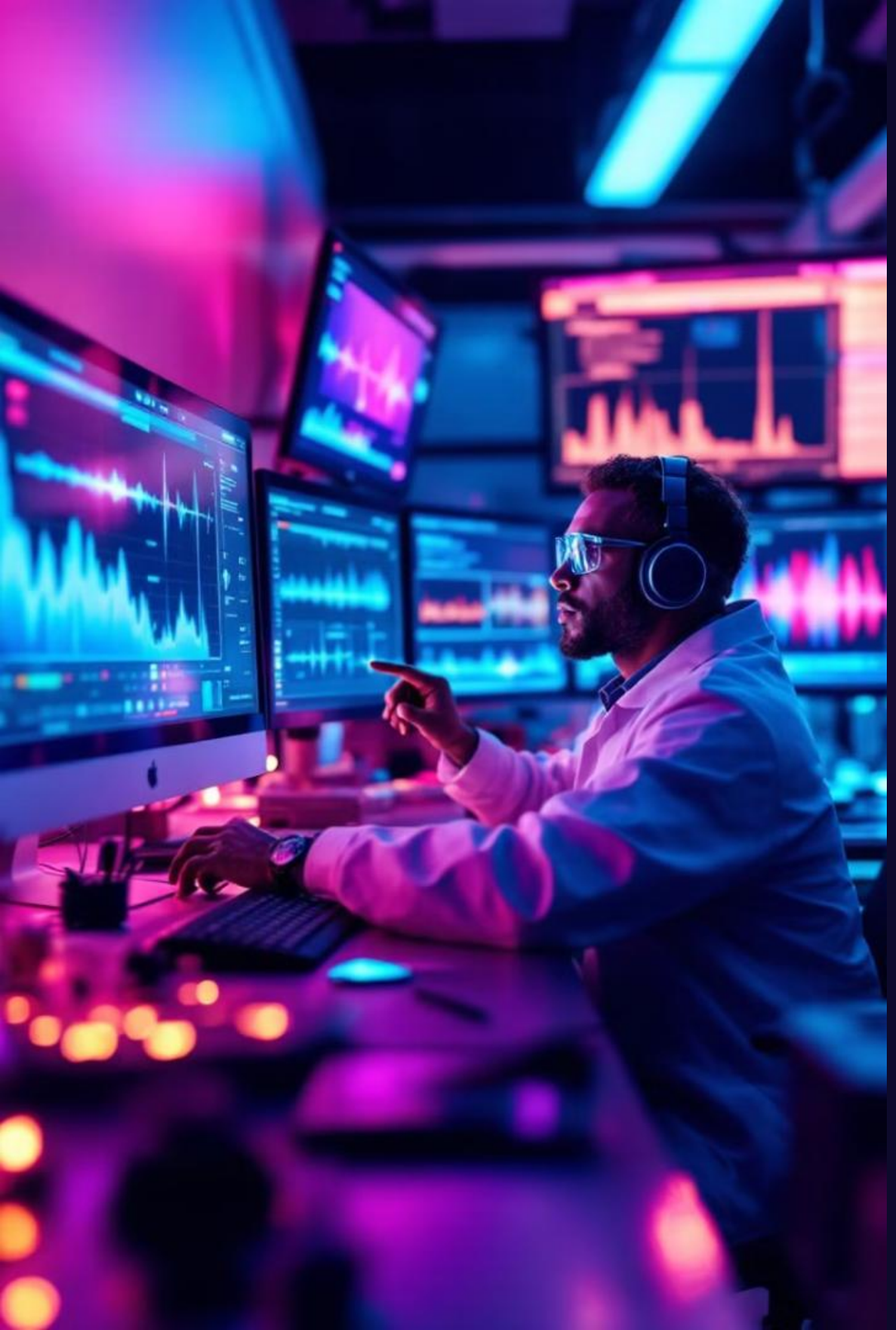
Workplaces

Homes often acoustically better than purpose-built offices

3

UK Leadership

Opportunity to lead international practice in inclusive design



Knowledge-Driven Innovation into Practice

Beyond Decibels

dBA accounts for only 1/3 of annoyance variance

Environmental Context

Views of nature can reduce perceived traffic noise

Translating Research

Turning findings into implementable design guidelines

Cross-Disciplinary Collaboration

Acousticians

Technical expertise and measurement

Health Professionals

Understanding health impacts

Policy Makers

Regulations and standards development

Social Scientists

Behavioral and community responses

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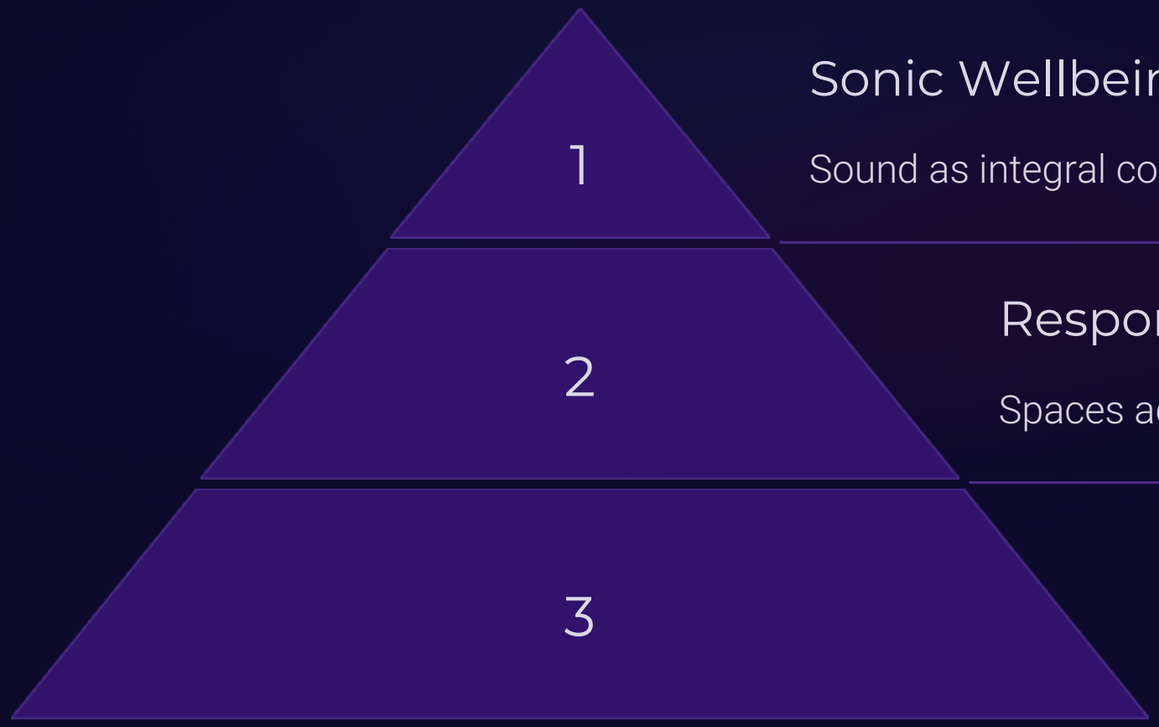

Sonic Wellbeing

Sound as integral consideration, not afterthought

Responsive & Regenerative Design

Spaces adapting and adaptable to diverse acoustic needs

Sustainable Solutions

Align and enable environmental goals

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Acoustics in the Built Environment

We shape our buildings and afterwards our buildings shape us.
Churchill, 1943

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