CALMFLOOR | SECTOR FOCUS

LABS & TECHNOLOGY FLOORS

Floor Vibration: The hidden risk to research integrity, equipment performance & growth

THE CHALLENGE

Modern laboratory and technology environments are evolving rapidly.
Incubator labs. R&D facilities. Clean tech production. Semiconductor prototyping. Life sciences scale-ups. Robotics and precision manufacturing.
Many of these businesses begin life in refurbished office buildings or repurposed commercial space - because speed, flexibility and cost matter.

But there is a problem.

Buildings designed for office occupancy often **underperform when exposed to sensitive laboratory equipment, precision instruments, and dynamic operational loads.**
What works perfectly as a workspace can fail as a lab.
And the consequences are not just discomfort - they are operational, financial and reputational.

WHAT LAB & TECH TENANTS EXPERIENCE

- Equipment error messages and calibration drift
- Failed or inconsistent test results
- Reduced imaging resolution or microscope instability
- Sensitive processes requiring repetition
- Staff losing confidence in results
- Delays to trials, validation or certification
- Concern from investors or funding partners

In high-growth environments, time is everything.
When vibration interferes with output, the cost is exponential.

THE COMMERCIAL REALITY

For early-stage and scaling technology companies:

- Capital must be focused on **talent and equipment**
- Investors expect rapid technical validation
- Grant funding milestones must be achieved
- Regulatory programmes have fixed timelines

When vibration forces structural remediation, businesses face:

- Unplanned CapEx into a temporary building
- Reduced equipment budgets
- Hiring delays
- Slower route to commercialisation

In some cases, the structure - not the science - becomes the constraint on growth.

TRADITIONAL REMEDIATION (THE OLD WAY)

Option A: Structural Stiffening
Reinforcing the floor with additional steel, concrete, or secondary framing.

Typical outcomes:

- Major structural intervention
- Long design and approval process
- Strip-out of finishes and services
- High embodied carbon
- High capital cost
- Limited flexibility if layouts change

The space may perform well afterwards - but at the cost of time, capital, and sustainability credentials.
For incubator or 3–5 year occupation strategies, this investment is rarely rational.

Option B: Stiffening + Passive Tuned Mass Dampers (TMD)
Installing passive dampers tuned to a measured dominant frequency.

Typical limitations:

- Designed for a specific vibration profile
- Controls a single dominant frequency
- Performance can shift if lab layout changes
- Structural enabling works still required
- Limited adaptability as equipment evolves

Growing companies rarely have static layouts.
Lab environments change. Equipment moves. Loads evolve.
Passive systems do not adapt.

NOW THERE IS ANOTHER WAY!

THE MODERN ALTERNATIVE: CALMFLOOR ACTIVE MASS DAMPING (AMD)

Targeted. Adaptive. Commercially Intelligent.

CALMFLOOR Active Mass Damping technology delivers vibration control without structural rebuild.
Rather than over-engineering the entire floor, CALMFLOOR focuses control **only where it is needed**.

HOW IT WORKS:

- Compact 67kg/ 148lb AMD delivers the control.
- Installed directly to structural beams, or below/ above the floor.
- Fixed using just 4 bolts- 'Bolt in/ Bolt out'
- 5 amp power supply
- Cat 5e/6 ethernet connection
- No major structural modification

Real-world, on-site testing shows that a single 67kg (148lb) CALMFLOOR AMD outperforms a 1,500kg (3,307lb) traditional Tuned Mass Damper - using 95% less steel mass, with corresponding reductions in embodied carbon!

Laboratories & Technology Floors

CALMFLOOR AMD units can be:

- Installed discreetly beneath floors
- Concealed within fixed joinery/ furniture or service zones above
- Positioned to protect critical equipment areas
- Relocated or added as layouts evolve

And unlike passive systems, it:

- Detects vibration in real time
- Counteracts multiple frequencies simultaneously
- Adapts as structural behaviour changes
- Maintains performance as labs grow

COMMERCIAL FLEXIBILITY FOR GROWING BUSINESSES

For incubators, start-ups and scale-ups:

CALMFLOOR offers rolling commercial options requiring as little as **10% upfront**, with low monthly payments.
This means:

- CapEx remains focused on equipment and talent
- Vibration control can sit within OpEx
- Performance is delivered immediately
- The system can be decommissioned and removed if relocating
- The building returns to its original condition.
- No stranded capital
- No structural over-investment.

FOR LONG-TERM LAB & TECHNOLOGY ASSETS

Where permanent upgrade is required, CALMFLOOR offers:

- **25% upfront** on 3 or 5- year plans
- Ownership transfer at end of term
- Or outright purchase where CapEx allows

Compared to traditional stiffening:

- Lower total cost
- Faster programme
- Minimal disruption
- Significantly lower embodied carbon
- No loss of usable space

In many cases, original office floors can achieve laboratory-grade performance - without rebuilding the structure.

TRADITIONAL VS CALMFLOOR (AT A GLANCE)

	Structural stiffening	Stiffening & TMDs	CALMFLOOR AMD
Program Timeline	Long	Long	**Short**
Structural intervention	Major	Major	**None**
Disruption	High	High	**Low**
Multi-frequency control	No	Limited	**Yes**
Adapts to layout changes	No	No	**Yes**
Embodied carbon	High	High	**Low**
Relocatable	No	No	**Yes**
Commercial flexibility	No	No	**Yes**

VALUE DELIVERED

For Lab & Technology Tenants

- Protects research integrity and test validity
- Supports precision equipment performance
- Enables faster route to commercialisation
- Preserves capital for core innovation
- Scales as operations grow

For Owners & Asset Managers

- Converts office stock into lab-capable space
- Enhances asset attractiveness to life science and tech occupiers
- Avoids carbon-heavy structural works
- Protects rental value and occupancy
- Provides measurable vibration performance reporting through CALM Connect

SUMMARY

Laboratory and technology environments demand stability.
Traditional structural solutions are slow, invasive, carbon-intensive and capital heavy.
CALMFLOOR provides a smarter route:

✓ Fast deployment.
✓ Adaptive multi-frequency control.
✓ Commercial flexibility.
✓ Lower embodied carbon.
✓ Measurable performance.

A practical solution for growing science and technology businesses - and for the owners who support them.

YOUR NEXT STEPS

An initial vibration assessment can quickly establish:

- Severity of the problem across the floor
- Required unit quantity
- Budget range & options
- Deployment programme

TAKE THAT NEXT STEP TODAY

Contact us at **enquiries@calmfloor.com**
Visit our website **calmfloor.com**
Or through the CALMFLOOR Global Partner Network to find out more.

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