Designed by Empa:

as quiet as a mouse

From mind-numbing clanging to booming building sites – there is no end of sound vibrations that we could really do without. A damping material that is both lightweight and sturdy could make life a lot easier. With this in mind, researchers from Empa have succeeded in producing crystals that are capable of cushioning the irksome noise and vibrations. The next step is to tailor the 3D-printed phononic crystals for use in practice.

Empa’s current Designer-in-residence, Christian Lauchenauer, has now teamed up with materials researchers and acoustics experts to sound out the first potential industrial applications. Lauchenauer presented crystalline components for vibration-free microscope feet at the first “Design Biennale Zurich” in September. He also used the crystals to develop partitions for offices, which reveals another advantage of phononic crystals over conventional sound-absorbing materials: as the new material does not need any soft insulating layers, it can be used as a load-bearing structure.