



Bacteria can be used to clean sculptures without damaging the marble | Photo source [Sean Robertson on Unsplash](#)

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BACTERIA USED TO CLEAN ANCIENT ART

 ARTS & ENTERTAINMENT

The organic method has been used on frescoes, statues, and tombs

Spotted: Most people don't think of bacteria when they consider cleaning supplies. But for the Italian National Agency for New Technologies (ENEA), its library of microorganisms is an essential tool for art restoration work. Most recently, a team of scientists and restorers used three types of bacteria to clean Michelangelo's work in the Florentine Medici Chapels. In two nights, the bacteria cleaned centuries of dirt without leaving any damage or residue on the marble.

The team chose 11 strains of bacteria from the agency's store of more than 1,500 viruses, algae, bacteria, and fungi to test their effectiveness. They then prepared the three most efficient for use. Some strains of bacteria are starved so they are hungry when applied to the dirty artwork, while others are grown to enhance their cleaning capabilities. Once ready for use, the bacteria are immobilised in a gel for easy application.

Application in gel form makes the bacteria easy to clean off after they have done their work. And thanks to their very specific diets, the bacteria do not damage the artworks by eating anything other than what they should. This specificity avoids the damage to artwork caused by earlier, harsher cleaning methods.

Other bacteria-based innovations spotted by Springwise include cement-dwelling bacteria that [flag building damage](#), and 3D-printed 'living ink'.

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Takeaway:

The agency's collection of microbial biodiversity could have applications for different industries, including food, healthcare, energy, and agriculture. As researchers learn more about programming microorganisms, living versions of the Internet of Things could become a possibility – as could huge increases in the sustainability of chemical manufacturing and recycling processes. The natural world is proving fruitful in the search for solutions to today's problems, and bacteria are likely to be put to work in a broad range of future innovations .