



The ability to produce continuous sheets of the fungi material could make it useful at a commercial scale | Photo source [VTT](#)

[Innovation](#) > [Science](#) > [Manufacturing technique aims to produce mushroom-based leather at scale](#)

MANUFACTURING TECHNIQUE AIMS TO PRODUCE MUSHROOM-BASED LEATHER AT SCALE

 SCIENCE

The technique relies on creating an appropriate environment that will encourage the growth of mycelium, enabling sheets of mushroom leather to be produced

Spotted: Scientists at Finland's VTT Technical Research Centre are working on the development of a leather alternative material made from fungi. The team recently were able to produce continuous sheets of the fungi material, making it useful at a commercial scale.

The new material is skin-like and holds a similar feel and strength to real leather. The mushroom leather can also be coloured and patterned.

The new method that the researchers have been refining begins by threading webs of an organic material known as mycelium, which creates a network beneath the ground from which mushrooms grow. The team at VTT have been exploring this process since 2019. However, because mycelium cultivation was limited to a planar, two-dimensional form, the researchers were unable to scale it for industrial-style production.

[The researchers have said](#) that they have been able to overcome the issue of scalability with a new patent-pending technology that relies on fermenting liquid in common bioreactors.

The new technique allows the production of continuous sheets of mushroom leather at a rate of one meter (3.3 ft) per minute, [according to NewAtlas](#). [The scientists said](#) that this

could be incorporated into industrial roll-to-roll production methods. They are already looking at exploring its application to footwear, accessories and clothing.

Written By: Katrina Lane

23rd July 2021

Website: vttresearch.com

[Download PDF](#)

Takeaway:

Whilst traditional production of leather carries both significant environmental and ethical burdens, synthetic-based vegan leather is often made from not so sustainable petroleum-based plastics or requires the use of large amounts of chemicals which take a long time to biodegrade and can also harmfully impact the planet. The production of mushroom-based leather is not only significantly more sustainable but the material can biodegrade much more ease.