

# 3D-printed furniture concepts from UPM biocomposite and wood

– BY DESIGN STUDENTS FROM INSTITUTE OF DESIGN, LAHTI

UPM Formi 3D material has been used for innovative furniture prototypes. The concepts were created by design students from the renowned Institute of Design, Lahti University of Applied Sciences, Finland.

The students created during summer their proposals of which two were selected to the final stage. The prototypes have been presented to the public at Habitare Design Fair in Helsinki 2019.

## Two furniture design concepts:

A futuristic living room table with a demanding constant S-shape form by **Alarik Saarinen**



An oval shaped "Milla" coffee table, a hybrid design combining wooden material and 3D printed biocomposite by **Carolina Mac-Iver**



The furniture concept tested creativity and material know-how of design students.

*“The whole table is formed out of one continuous organic shape that resemble ocean waves. Despite of the statuesque form it still maintains its functionality, making it comfortable to use. Open space inside can be used both to store and showcase items”.*

#### Designer Alarik Saarinen

*“Design process started from sketches and from idea, what kind of functionalities a good coffee table needs.*

*Design principle was to use UPM biocomposite in manufacturing. As an addition for table functionality, environmentally friendly easy delivery for end clients was taken in consideration”.*

#### Designer Carolina Mac-Iver

#### Main benefits of using UPM Formi 3D material:

##### Faster lead-times:

- The actual manufacturing process can be started quickly
- Different versions can be created rather easily

##### Cost savings

- Making demanding custom shapes with standard methods can be very expensive

##### New sustainable alternative

The biocomposite is a functional bio-based material with natural fiber reinforcement. Its carbon foot print is 50% less compared to traditional (fossil) oil-based materials.

- For users who require the most sustainable alternatives
- Biobased materials can provide a 100% circular eco-system
- UPM Formi 3D biocomposite is not only sustainable material but it has the right product properties for this purpose

*“The biocomposite by UPM opens new opportunities in the field of wood industry for various end uses, such as furniture, wall panels and casting moulds.”*

**Kai van der Puij**, Senior Lecturer, Institute of Design, Lahti University of Applied Sciences

#### Post-processing

Wood-like post-processing with a matte surface texture makes UPM Formi 3D the ideal material for any further processing needs. The material can be painted, waxed, stained, glued with wood glue and combined with wood structures.

A Finnish furniture company Juola Design has post-processed the tables.

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