

Materials Matter Interzum 2019

trend report

Materials Matter

New frontiers for Sustainable & Circular Design

Materials are emerging as the main drivers of innovation in both product and interior design as well as in architecture.



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New frontiers for Sustainable & Circular Design



Gumshoe a collaboration project with I Amsterdam, Explicit & Gum-tec

The global concern to promote a shift from a linear economy to a circular one is driving designers, brands and architects to re-think and re-purpose materials.

Materials have become, therefore, the number one priority in interior and product designs and as a result the main drivers of innovation.

Discarded materials, ranging from recycled plastic to marble, from food to textile, from algae to volcanic lava and many others, previously considered waste, are now turned into valuable resources.

Disruptive tools and technologies such as artificial intelligence and 3D printing are evolving as these new materials emerge with a new set of needs and possibilities.



Sublidot

Learning Curve

Innovation begins with materials. To create circular and innovative products, designers and brands are exploring all kinds of materials and placing them in the spotlight.

- 1/ Re-purpose waste:** the perception of waste is shifting, unwanted material are becoming now valuable resources. Always consider waste when designing and re-purpose it.
- 2/ Go natural:** explore the unlimited world of biomaterials such as vegetables, algae, fungus, plants, marine sediments. Innovative uses of biomaterials are paving the way to a regenerative rather than destructive design.
- 3/ Design with less materials:** with the help of ground-breaking digital technologies, such as 3D and A.I, designers are able to create products with more efficiency and less waste.
- 4/ Disruptive technology empowering materials:** explore how disruptive technologies and tools can work together with new materials to bring innovation.

Biomaterials meet 3D printing

Brands are bringing together biomaterials and 3D printing to give life to products that produce very little waste or no waste at all.

/3D Printed Floors by Aectual

The Dutch company Aectual designed sustainable 3D printed floors. They use colossal robotic 3D printers to create the frame for these floors and bioplastic made from plants to print them. Due to use of recycled and environmentally friendly materials, these floors production creates very little or no waste at all.

The floors can be tailored to fit spaces of any shape and size, and can be created in all kinds of designs – from traditional patterns to custom motifs. It is a perfect combination of how sustainability can walk hand in hand with creativity.

/3D printed Algae Glass by Studio Klarenbeek & Dros

The Dutch Studio Klarenbeek & Dros transforms living algae into bioplastic for 3D printing. The outcome is an elegant collection of 3D-printed bowls and vases. The designers believe that the algae polymer could be used to make everything from cosmetic bottles to tableware and then ultimately replace plastics made from fossil fuels such as oil.

The studio's ultimate goal is to create a biopolymer 3D printer local network: the 3D Bakery where people can 'bake' organic raw materials, just like fresh bread.



3D Printed Floors by Aectual



3D printed Algae Glass by Studio Klarenbeek & Dros

Designing with Less

Designers are challenging themselves to create ultralight and yet resistant furniture. As a result, they are designing pieces that use less materials and therefore are more sustainable.

/FIDU Technology by Zieta

The Polish company Zieta has developed a revolutionary technology named FIDU. This technology allows the creation of innovative, bionic shapes and fully recyclable objects using mass-production processes and tailored shaping methods. They have designed a line of pressure-inflated metal furniture pieces done with this technology. Zieta is currently working on implementing this technology in architecture as facade elements, and in industry as ultralight constructions.

/Stone Web - Expanding Space by Rapp + Unger

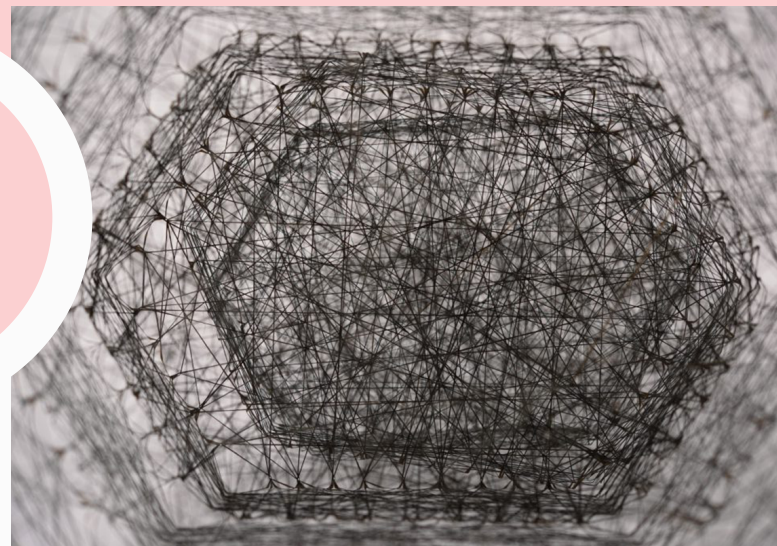
Basalt, a rock formed by cooling lava, has very valuable mechanical, chemical, and thermal properties. All these qualities have encouraged designers and companies to explore this rock and develop the eco-friendly Basalt Fibber. The Berlin-based design studio Rapp + Unger have created Stone Web, a series of crafted modules made from basalt. The modules are very light and stable and can be used for small scale applications, such as furnishings. Otherwise, when combined, they can be used for the creation of large spatial structures or urban furniture due to their scalability and production optimization.

/Concrete Panels by Butong

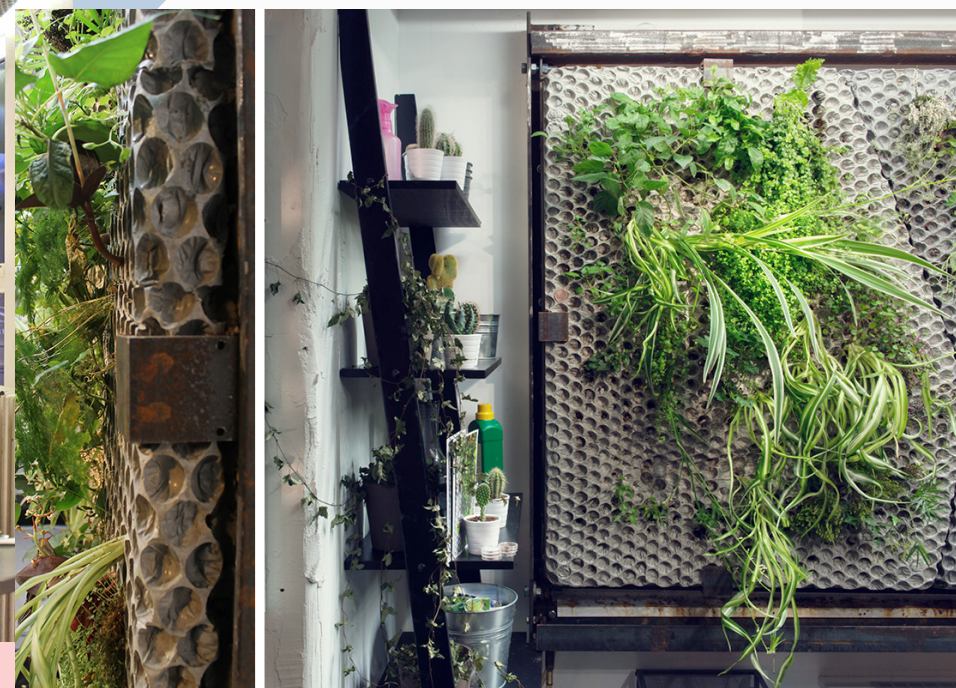
Butong, a concrete producer, showcased its concrete panels that are created by pressing a cast substance between two form-matrices with extruded cells – thus creating panels consisting of two mesh structures. The panels are suitable for architectural and interior purposes, such as ceilings or vertical gardens. Its holes can be filled with concrete, glass, or they can be unfilled, depending on the requirements. Due to its 3D-structure, the flat panels use 80% less concrete compared with solid concrete panels with the same resistance.



FIDU Technology by Zieta



Stone Web by Rapp + Unger



Concrete Panels by Butong

Turning food waste into design

Designers are currently rethinking food production methods, packaging, distribution, consumption and disposal. As a result, they have realised that they can turn food waste into beautiful and sustainable products.

/Anima Collection by Kosuke Araki

Japanese designer Kosuke Araki has created a series of tableware and vessels using daily food waste. The series, called Anima Collection, intends to make users reflect on their daily basis about consumption habits. All the products are made from carbonized vegetable waste mixed with animal glue and finished with urushi, a Japanese lacquer that historically has a close connection with food.

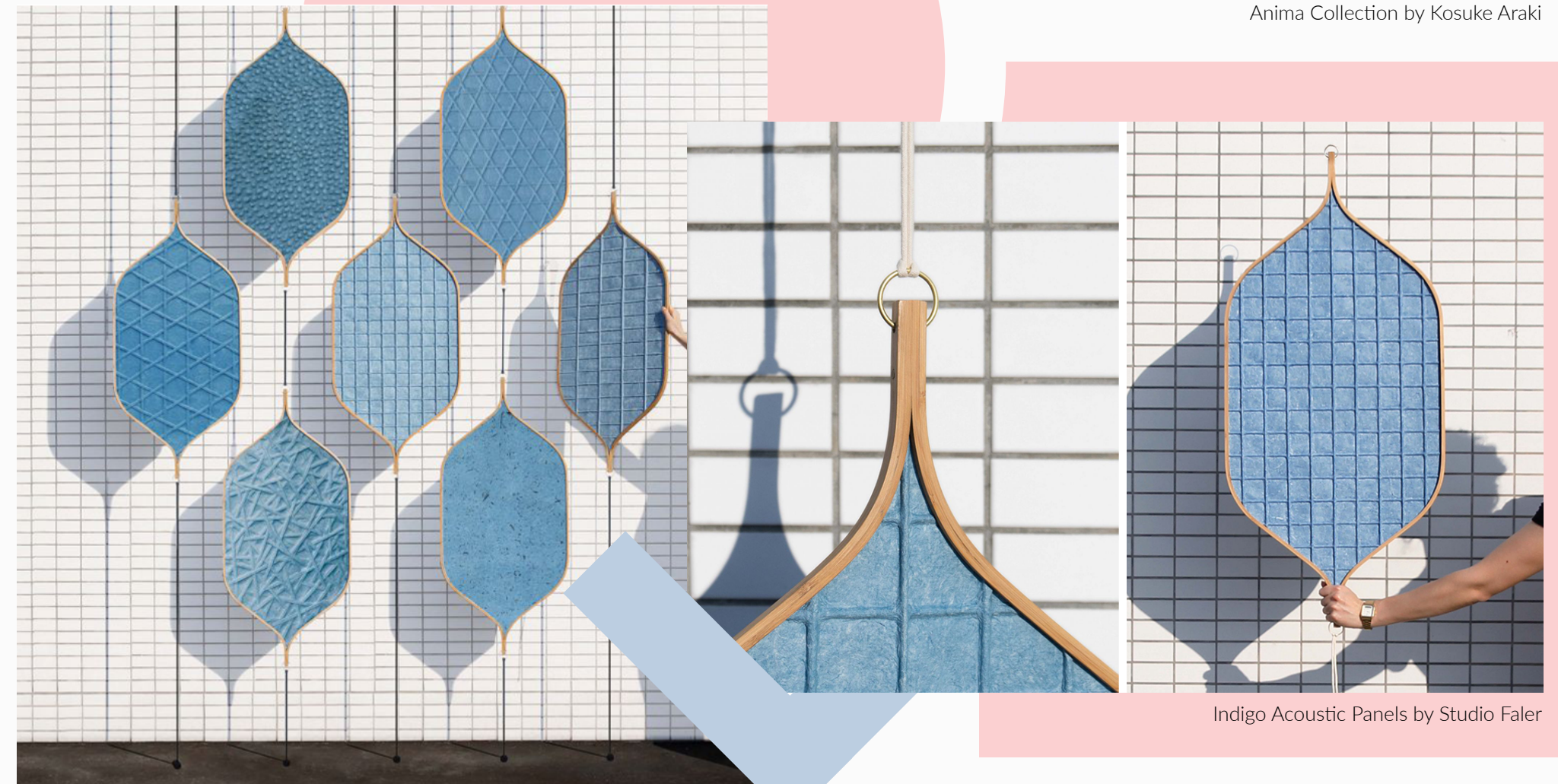
/Indigo Acoustic Panels by Studio Faler

Studio Flaer is a German design studio dedicated to create products that address key issues such as circular economy. They have designed the elegant Indigo Acoustic Panels, which draws upon Taiwanese cultural heritage. Emblematic local patterns, traditions and customs are translated into these sound-absorbing spatial structures.

The panels are made of 100 percent organic bananas and mulberry fibres, dyed with indigo plants, and framed with bended bamboos. In order to create a biological closed loop, all materials are treated to be non-toxic and biodegradable.



Anima Collection by Kosuke Araki



Indigo Acoustic Panels by Studio Faler

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