

Press Release

**XXII INTERNATIONAL EXHIBITION OF LA TRIENNALE DI MILANO: EOOS WILL REPRESENT AUSTRIA**

The contribution *CIRCULAR FLOWS: The Toilet Revolution!*, funded by the Federal Chancellery of Austria and commissioned by the MAK, shows how much design can contribute to the regeneration of the world

With a high-end development at the interface between design, creativity, and environmental protection, the internationally successful design studio EOOS from Vienna (Martin Bergmann, Gernot Bohmann, and Harald Gruendl) will represent Austria at the XXII Triennale di Milano *Broken Nature: Design Takes on Human Survival* (triennale.org, brokennature.org, 1 March – 1 September 2019). As part of the installation *CIRCULAR FLOWS: The Toilet Revolution!*, EOOS will present the revolutionary prototype *Urine Trap* which minimizes the water pollution automatically caused by human urine with little effort. The stance, positioned in the field of sustainable design, directly ties in with the theme of this year's triennale *Broken Nature*. The official Austrian contribution, funded by the Federal Chancellery of Austria and commissioned by the MAK, will be curated by Marlies Wirth, MAK Curator Digital Culture and Design Collection.

Paola Antonelli, Senior Curator for Architecture and Design and Director of Research & Development at MoMA (The Museum of Modern Art) in New York and Curator of the XXII Triennale di Milano, draws attention to the role of design and architecture in understanding and repairing a world whose natural resources and regenerative capacity in 2018 were already depleted on 1 August—Earth Overshoot Day.

The *Urine Trap* by EOOS is a systemic design solution in the battle against the global nitrogen problem. It makes it possible to separate urine in a conventional flush toilet in a way that is unnoticed by users. In addition to other nutrients, urine contains some 80% of the nitrogen found in sewage: consequently, this can be removed from the wastewater stream, collected in decentralized tanks, and finally treated to be used as fertilizer.

The *Urine Trap* is based on long lasting research by Eawag, the Swiss Federal Institute of Aquatic Science and Technology, a pioneer in the field of urine separation. Since

2011, Eawag has been working on a revolutionary, entirely self-sufficient high-tech toilet for the Bill & Melinda Gates Foundation with EOOS responsible for the design of the *Blue Diversion Toilet*. Here separate piping systems for water, feces, and urine are central. After years of joint research, EOOS has now presented a further development in the form of the *Urine Trap* where urine separation can be integrated into a conventional flush toilet with little effort. Together with the Swiss ceramics manufacturer LAUFEN, EOOS has evolved the urine separation technology into a product.

While climate change as a result of carbon dioxide (CO<sub>2</sub>) emissions already enjoys considerable attention, the nitrogen problem caused by sewage and the agricultural use of fertilizers still goes largely unnoticed by the public. However, a number of leading scientists ranks the large nitrogen streams as even more threatening than climate change. In their opinion, the biochemical flow of nitrogen exceeds planetary limits, beyond which the basis of human life is endangered.

Especially in urban drainage basins, large quantities of nitrogen are introduced into rivers with the wastewater. Too much nitrogen leads to exponential algal bloom depriving coastal areas of oxygen. The result is dead zones in which higher organisms can no longer exist. The World Resources Institute lists almost sixty of these “dead zones” along the coasts of Europe. The *Urine Trap* empowers growing cities to reuse nitrogen for agriculture instead of destroying nature.

Austria's contribution to the XXII Triennale di Milano presents the *Urine Trap* embedded into a multimedia installation (by Process Studio, Vienna, with a light display by Zumtobel) visualizing the flow of nitrogen in an understandable way. A digital projection makes it possible to experience the fatal logic of the linear economy: the extensive use of industrial fertilizer, the current losses and emissions of nitrogen from wastewater treatment plants, and finally the dead zones in the oceans. A second, visionary scenario visualizes the possible repair of the nitrogen cycle supported by the usage of urine separation toilets and therefore the chance to preserve the planetary boundaries. An animation shows the utopia of an ideal river mouth: based on scientific data the actual condition of the French Seine River watershed is compared to a desirable one.

Photo material is available for download at [MAK.at/en/press](http://MAK.at/en/press).

Funding:

Federal Chancellery of Austria  
MAK – Museum for Applied Art

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Eawag – Swiss Federal Institute of Aquatic Science and Technology (Tove Larsen)  
Austrian Cultural Forum Milan  
LAUFEN  
Zumtobel



Press Data

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Exhibition Venue	La Triennale di Milano Viale Alemagna 6, 20121 Milan, Italy
Exhibition Dates	1 March – 1 September 2019
Commissioner	Christoph Thun-Hohenstein, General Director and Artistic Director, MAK
Curator	Marlies Wirth, Curator Digital Culture and Design Collection, MAK
Concept, Design, and Installation	EOOS
Animation and Graphic Design	Process Studio Vienna
<i>Urine Trap</i> Toilet Light Display	LAUFEN Zumtobel
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