

AIRSHIP.01

a hybrid prototype

BREATHE EARTH COLLECTIVE

Das Airship.01 landet in Wien!

Airship.01 is landing in Vienna!

Das Airship.01 ist eine mobile Klimains-tallation, welche die Beziehungen von Ökologie, Technologie und Architek-tur auf neue Art erfahrbar macht. Es reinigt die Luft, kühlt den Stadtraum und produziert frischen Sauerstoff für seine BesucherInnen. Die Installation Airship.01 – Kulturwald wurde im Jahr 2016 vom interdisziplinären Designteam Breathe Earth Collective, in Folge des preisgekrönten österreichischen Expo Pavillons Breathe.Austria in Mailand 2015, im Auftrag der Österreich Werbung entworfen und umgesetzt. Seit 2016 war das Airship.01 bereits in Rom, Mailand, Padua, Bordeaux und Tulln zu Gast. Die aktuelle Ausstellung im Museums-Quartier in Wien wurde von Breathe Earth Collective und Green4Cities in Zusammenarbeit mit dem Museums-Quartier, der Österreich Werbung und der Stadt Wien initiiert und umgesetzt.

Über den Sommer 2019 wird das Airship.01 ebenfalls als UNIC Communication Lab genutzt. Die „UNIC – Urban Natural Innovation Capital“ ist ein von der Wiener Wirtschaftsagentur gefördertes Kommuni-kationsprojekt, welches mit einer interna-tionalen Konferenz im März 2020 seinen Höhepunkt erreicht. Als Showcase für grüne Infrastruktur finden im Airship.01 Fachführungen und Diskussionsveran-staltungen statt, die über ein gesundes Mikroklima in der Stadt informieren und interessante Akteure vernetzen.

Regelmäßige Führungen und Diskussionsver-anstaltungen werden kostenfrei angeboten.
Termine: 26.6 / 10.7 / 24.7 / 7.8 / 21.8 / 4.9 / 11.9

Vielen Dank an die Partner für die Unterstützung:



Airship.01 is a mobile microclimate installation which makes the relationships between ecology, technology and architecture in a new way tangible. It cleans the air, produces fresh oxygen and cools the urban surroundings. Thus visitors are invited to relax and take a deep breath. The installation Airship.01 - Kulturwald was designed and implemented in 2016 by the interdisciplinary design team Breathe Earth Collective as a follow up of the award-winning Expo pavilion Breathe. Austria in Milan 2015 on behalf of the Austrian National Tourist Office Since 2016, the Airship.01 has already been exhibited in Rome, Milan, Padua, Bordeaux, Tulln.

The exhibition in the MuseumsQuartier was initiated and implemented by Breathe Earth Collective and Green4Cities in collaboration with the MuseumsQuartier, Austrian National Tourist Office and City of Vienna.

During the summer the Airship.01 sphere also becomes the UNIC Communication Lab. The „UNIC - Vienna Natural Capital for Urban Innovation“ is a one-year communication project funded by the Vienna Business Agency, which reaches its peak with an international conference in March 2020. As a showcase for green infrastructure, various specialist tours and discussion events about the relevance of healthy micro climates in cities are taking place in the Airship.01.

Regular guided tours and discussions are offered for free.
Dates: 26.6 / 10.7 / 24.7 / 7.8 / 21.8 / 4.9 / 11.9

Many thanks for the support:



BREATHE.EARTH.COLLECTIVE

Airship.01 - Kulturwald

Airship.01 - Cultural forest

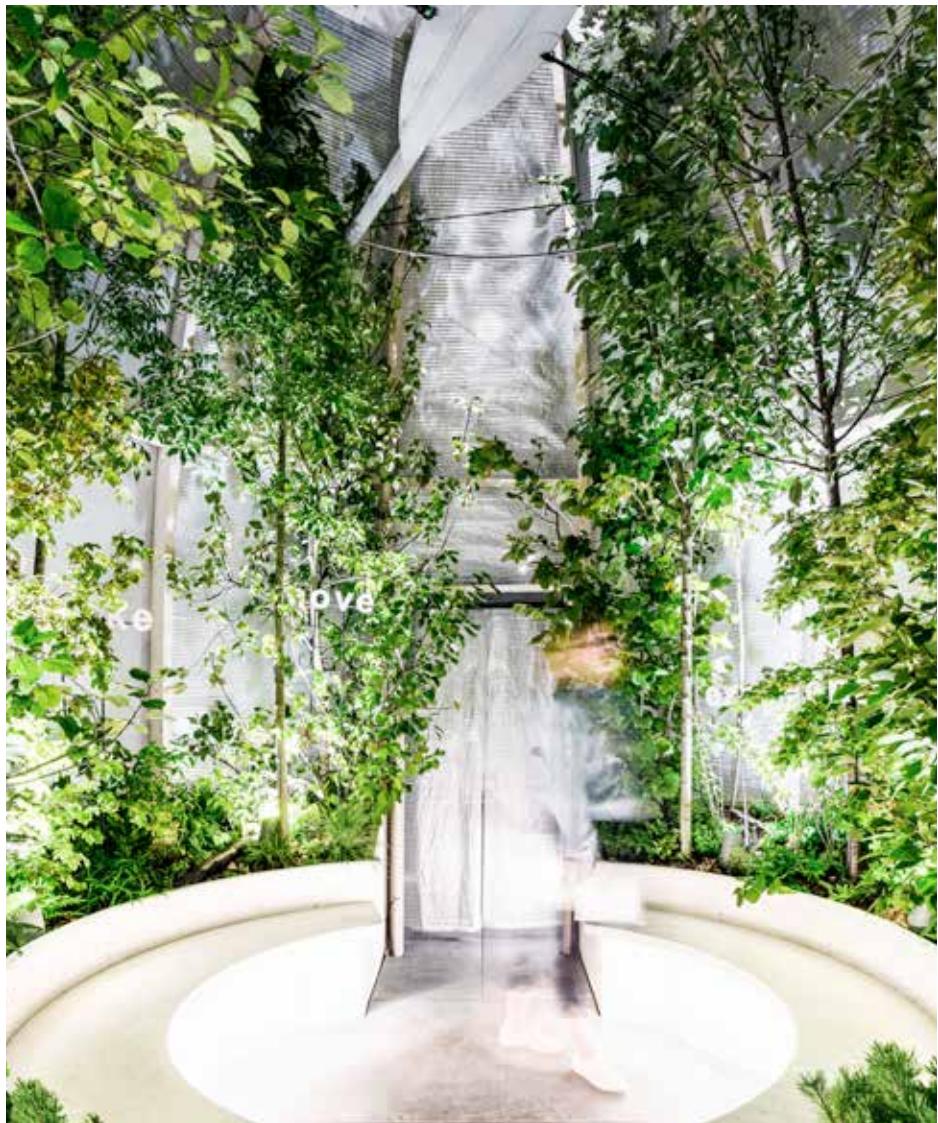
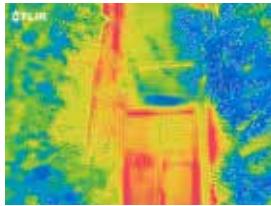
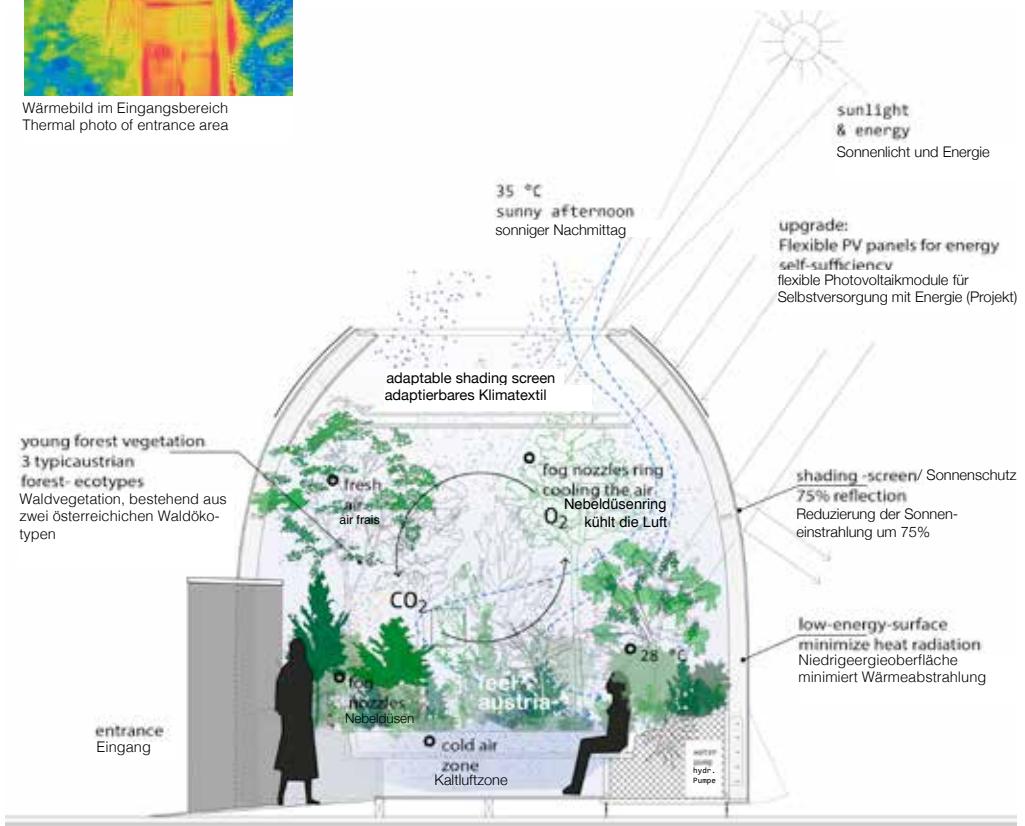


Photo (c) Simon Oberhofer



Wärmebild im Eingangsbereich
Thermal photo of entrance area



credits: Breathe Earth Collective

Klima- und Energiekonzept
climate and energy concept

Eine Waldoase zum Abkühlen.

A forest oasis to refresh.

Airship.01 ist eine mobile Mikroklimainstallation, welche aktiv mit seiner Umgebung in Verbindung steht: es reinigt die Luft, kühlt den Stadtraum und produziert frischen Sauerstoff für seine BesucherInnen.

Eine Choreographie aus intelligenter Leichtbaukonstruktion, modularer Verschattung, Ventilatoren und Sprühnebelsystemen unterstützt die Pflanzen bei der Evapotranspiration, um die Stadt nachhaltig zu kühlen. Die Architektur des Airship.01 ist ein kreisförmiges Waldstück mit einem Durchmesser von etwa fünf Metern. Durch das große Raumvolumen und die Höhe des Raums fällt die durch Evapotranspiration der Pflanzen gekühlte Luft langsam nach unten und sammelt sich im Sitzbereich der BesucherInnen. Dies ist ähnlich dem Prinzip eines Kaltluftsees. Auf diese Weise werden die Eigenschaften der Luft im Zusammenspiel mit den Waldbäumen und rund 300 Stauden spürbar gemacht, um für eine natürliche Erfrischung und ein einzigartiges sinnliches Erlebnis mitten in der Stadt zu sorgen.

Nachts wirkt die Hülle transparent und die Blätter des Waldes werden an der Oberfläche sichtbar. Tagsüber wird die Sonneneinstrahlung zu 79% von der klimaaktiven Membran reflektiert.

Das Airship.01 kann innerhalb von zwei Tagen an jedem Ort auf- und abgebaut werden. Für Breathe Earth Collective ist das Airship.01 ein Prototyp, um neue Visionen und Prinzipien zur Gestaltung

mit Natur und Klima im Sinne von hybriden Architekturen im urbanen Kontext zu erproben und in Folge langfristig in permanenten Projekten zu realisieren.

Standort: Padua, Rom, Mailand, Bordeaux, Tulln, Wien

Jahr: 2016-2019 fortlaufend

Größe: 35 m²

Auftraggeber/Eigentümer: Österreich Werbung

Idee und Design: Breathe Earth Collective

BeraterInnen:

Advanced Energy Consulting DI Sebastian Sautter / Graz & Matthias Rudolph / Stuttgart

Baubüro, Dr. Ing. Klaus Plattner, Italy

Mit Unterstützung durch:

Ludwig Svensson BV

Österreichische Bundesforeste

XAL GmbH

Raintime GmbH

Airship.01 is a mobile microclimate installation, which actively interacts with its direct environment: it cleans the air, produces fresh oxygen and cools the urban surroundings. Thus visitors are invited to relax and take a deep breath in the healthy and lush forest atmosphere. The circular timber installation is an innovative model on how to design with plants and natural cooling devices. Equipped with technical tools, such as ventilation and spray-fog climate system, a natural forest microclimate enfolds within the shiny climate membrane.

Through the large volume of the sphere and the evapotranspiration of the trees, the air is cooling slowly and is falling down to the lower areas, where visitors are sitting. – This is similar to a ‘cold air lake’ phenomenon, which happens in mountain valleys.

At night the translucent membrane has a shiny appearance and trees, shrubs or leaves of the forest inside become visible on the surface. During the day the sun is reflected through the metallic membrane. Through the complex interplay of architecture and nature a unique sensual experience is created. Airship 01 works completely independently and can be reassembled at any other place within two days.

For the designers this installation is a hybrid prototype, which presents a new way of testing principles of designing with nature and climate in the urban context. Thus the Airship project is to be seen as an experimental set up

to gain new insights and knowledge, which subsequently becomes applied in permanent projects.

Location: Padua, Rome, Milano, Bordeaux, Tulln, Vienna

Year: 2016-2019 continuously

Size: 35 m²

Principal: Austrian National Tourist Office

Idea and Design: Breathe Earth Collective

Consultants:

Advanced Energy Consulting DI Sebastian Sautter / Graz & Matthias Rudolph / Stuttgart
Baubüro, Dr. Ing. Klaus Plattner, Italy

Supported by:

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Österreichische Bundesforeste

XAL GmbH

Raintime GmbH

Innovationen für ein kühles und gesundes Stadtklima!

Innovations for a cool and healthy climate in our cities!



Umgebungstemp. 32 °C
Ambient temp. 32 °C

neighbours engaging for a healthy climate & environment in their city
Nachbarn, die sich für ein gesundes Klima und eine gesunde Umgebung in ihrer Stadt einsetzen

open sky window - a typological reference to the Pantheon in Rome
open sky window - ein typologischer Verweis auf das Pantheon in Rom

adaptable climate screen
adaptierbares Klimatextil

low-E membrane reflects
79% of solar radiation
Low-E Membran
reflektiert 79% Sonneneinstrahlung

come & breathe in
komm und atme ein

experience the fresh climate
Erlebe das erfrischende Klima
27°C

a micro forest in the city
made from 12 mid size trees and more than 200 perennials
ein Mikrowald in der Stadt
bestehend aus 12 mittelgroßen Bäumen und mehr als 200 Stauden

Bisherige Stationen.

Stations up to now.



Airship.01 in Rome 2016, Photo (c) : Simon Oberhofer (#01/#03) Michele Novaga (,02)



#01: Piazza Cavour, Padua 2016



#02: Corso Venezia, Parco Indro Montanelli, Milano 2016



#03: Piazza san Silvestro , Rome 2016



#04: Bordeaux 2017 at the biennial AGORA



#05:Tulln at Green Art Festival 2018



#06: Schlingermarkt in Vienna, Tröpfelbad 2.0

Die Geschichte: Breathe.Austria

Österreichischer Expo-Pavillon in Mailand 2015.

The story: Breathe.Austria

Austrian Expo Pavilion in Milano 2015.

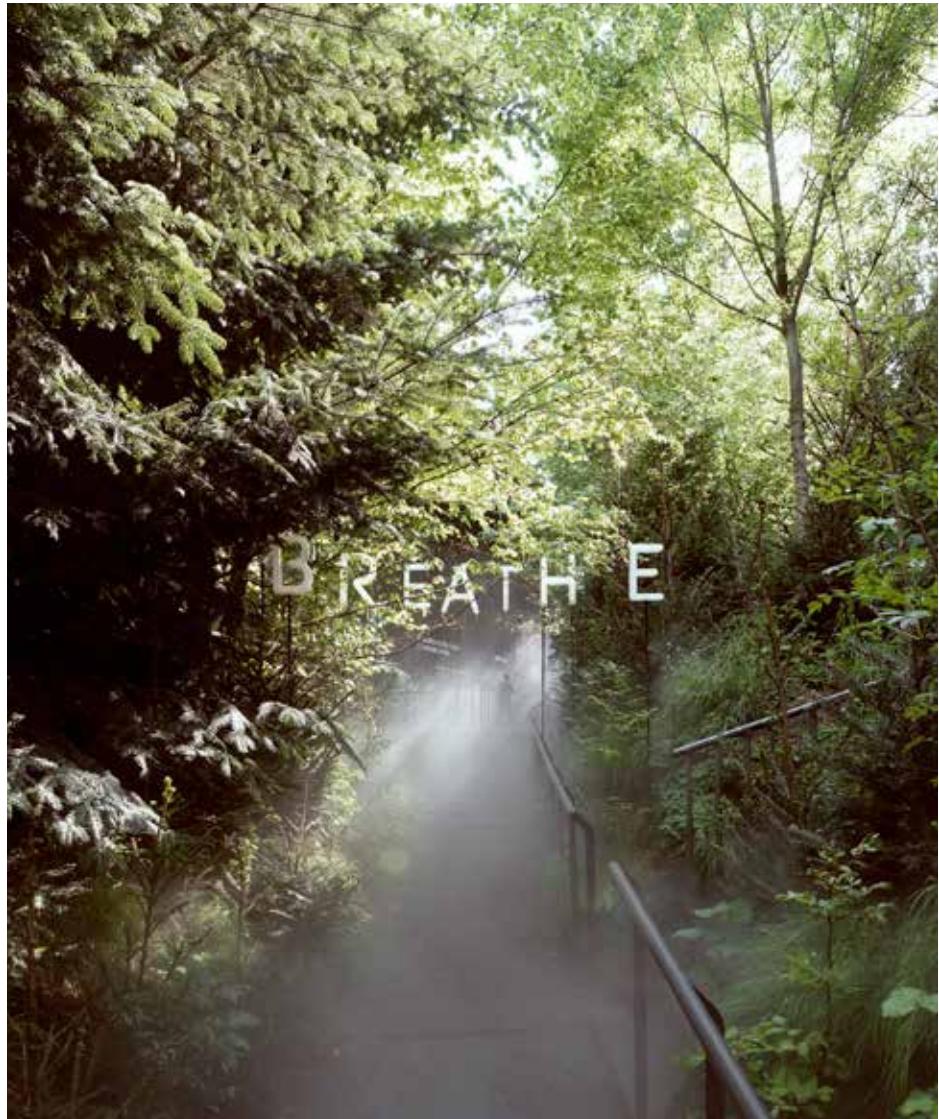
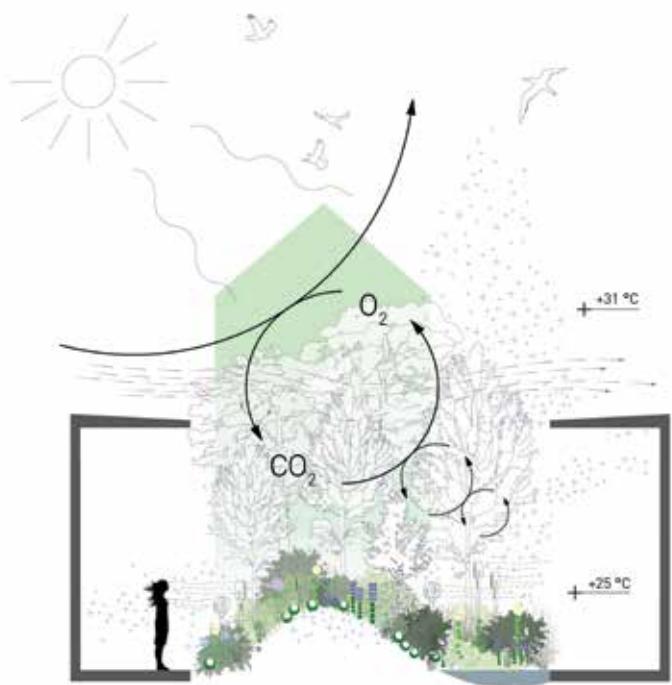


Photo (c) Simon Oberhofer



Konzept / concept

„A pavilion that performs like a forest“

Ein Luftkraftwerk.

Breathe.Austria, Expo-Pavillon in Mailand 2015

A climate machine.

Breathe.Austria, Expo Pavilion in Milano 2015

LUFT - diese wichtige Ressource und Nahrungsquelle Nummer 1 stand im Mittelpunkt des Pavillon Breathe. Austria, der österreichische Beitrag zur Weltausstellung Expo 2015.

Alle Orte dieser Erde sind durch Luft, Klima und Atmosphäre verbunden. Die Luft liefert Nahrung und dient als Informationsträger, Energieerzeuger und Ressource.

Breathe.Austria widmete sich daher thematisch der natürlichen und technischen Kompetenz Österreichs - und auch dem zukünftigen Umgang mit dem weltweit lebenswichtigen Ressourcen Luft und Klima. In Zeiten herausfordernder Umweltprobleme wie der globalen Erwärmung vereint der Pavillon Architektur und Umwelt in einem integralen Beitrag.

Mit der Bepflanzung eines zentralen 560 m² Stück Waldes im Hof wird ein kühles Waldklima für die BesucherInnen spürbar und zugleich die Nebenräume natürlich gekühlt. - Ohne Klimaanlage. Der Hof wurde mit 12 Waldökotypen von Moosen und Sträuchern bis hin zu hoch aufragenden 12-Meter-Bäumen bepflanzt. Mit einer Gesamtblattoberfläche oder Verdunstungsoberfläche von rd. 43.200 m² wurde stündlich genug frische Luft für rund 1.800 Besucher produziert. Der Pavillon wurde zum Photosynthesekollektor, der zur globalen Sauerstoffproduktion beiträgt und die

Umgebung natürlich kühlt.

In Folge wurde die Airship Serie als experimentelle Prototypen zur Gestaltung mit Klima und Architektur entwickelt.

Standort: Mailand, Italien

Jahr: 2013 - 2015

Größe: 2.000m²

Auftraggeber: Wirtschaftskammer, WKO

Team: team.breathe.austria

Idee und Konzept:

Agency in Biosphere – Markus Jeschaunig

Hohenstein Architektur – Karlheinz Boiger

LANDLAB, i.a&l, TU-Graz – Andreas Go-

ritschig und Bernhard König

Lendlabor Graz – Anna Resch und Lisa Maria

Enzenhofer

terrain: architekten und landschaftsarchitek-

ten BDA – Klaus K. Loenhart

und

Maren Richter

Engelmann Peters Ingenieure – Stefan Peters

transsolar – Wolfgang Kessling

BOKU Wien IBLB – Bernhard Scharf

AIR – this critical resource and number 1 source of nourishment takes center stage in breathe.austria' contribution to Expo 2015.

The vast expanses of the earth are united by air, climate, and atmosphere. These qualities provide nourishment and serve as information carrier, energy producer, and resource. Breathe.austria, the Austrian pavilion at Expo 2015, thus sets out to thematically probe the natural and technical competency of Austria – as well as future explorative issues in dealing with the globally vital nourishment of air and climate. Highly relevant in times of challenging environmental issues like global warming, breathe.austria unites architecture and the environment to create an integral contribution.

Planting a grove of trees to create 560 m² of forest, breathe.austria took an exemplary approach – multifaceted and sensory in equal measure – to focusing on our relationship with the environment and climate. Breathe.austria's entire floor area was densely planted with 12 forest ecotypes, ranging from mosses and shrubs to towering 12-metre trees. It featured an overall leaf surface area or evaporation surface of ca. 43,200 m² and thus generating enough fresh air each hour for meeting the needs of 1,800 visitors – essentially making it a photosynthesis collector that contributes to global oxygen production. As a consequence the Airship series was

developed as experimental research prototypes which interlink nature, architecture and climate in a new way.

Location: Milan, Italy

Year: 2013 - 2015

Size: 2.000m²

Principal: Austrian Federal Chamber of Commerce, Expo Austria office

Team: team.breathe.austria

idea & concept team:

Agency in Biosphere – Markus Jeschaunig
Hoheninn Architektur – Karlheinz Boiger
LANDLAB, La&L, TU-Graz – Andreas Goeritschnig and Bernhard König
Lendlabor Graz – Anna Resch and Lisa Maria Enzenhofer

terrain: architekten und landschaftsarchitekten BDA – Klaus K. Loehnert

and

Maren Richter

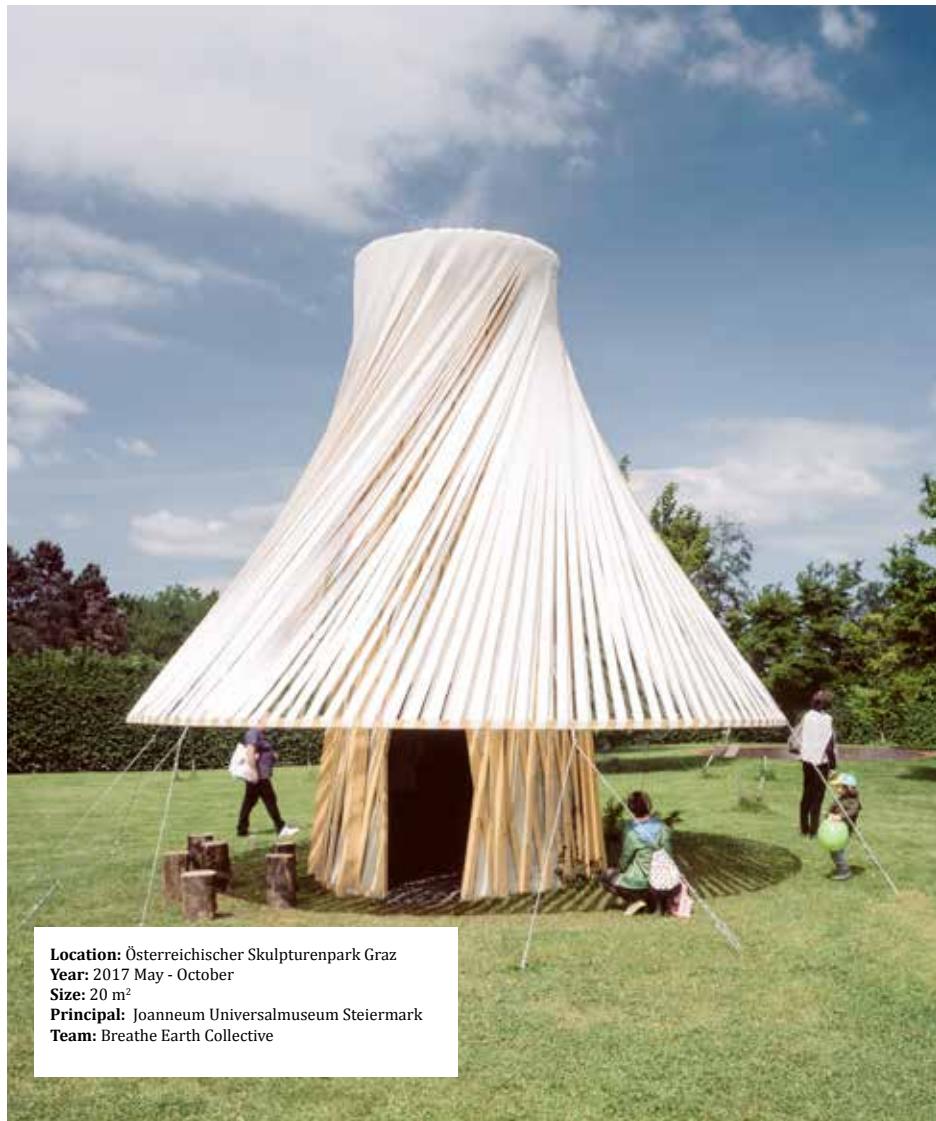
Engelmann Peters Ingenieure – Stefan Peters
transsolar – Wolfgang Kessling
BOKU Wien IBLB – Bernhard Scharf

Airship.02 - Evapotree

Vertikale Moos-Skulptur

Airship02: Evapotree

Vertical moss-sculpture



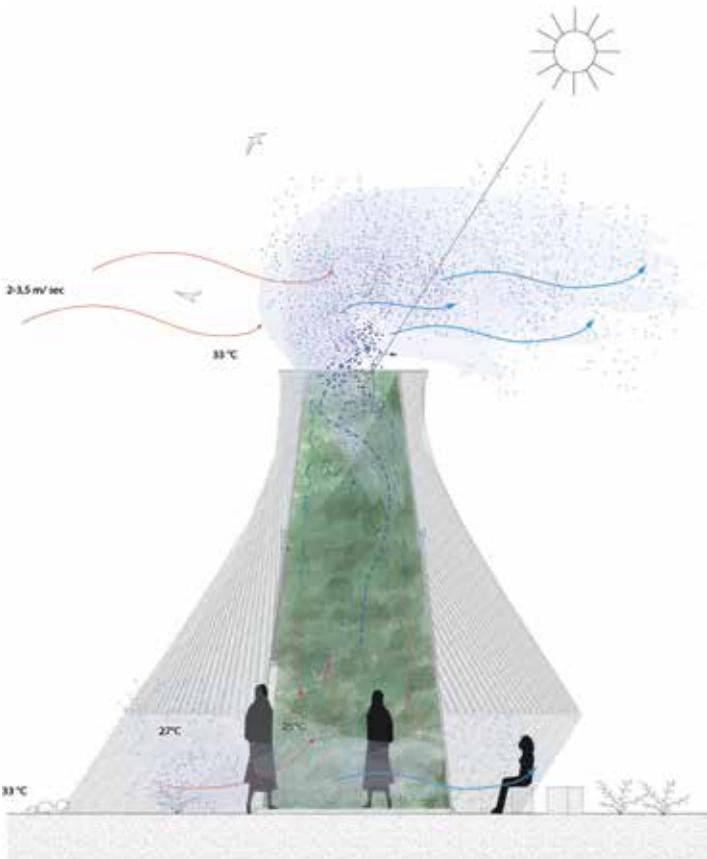
Location: Österreichischer Skulpturenpark Graz

Year: 2017 May - October

Size: 20 m²

Principal: Joanneum Universal Museum Steiermark

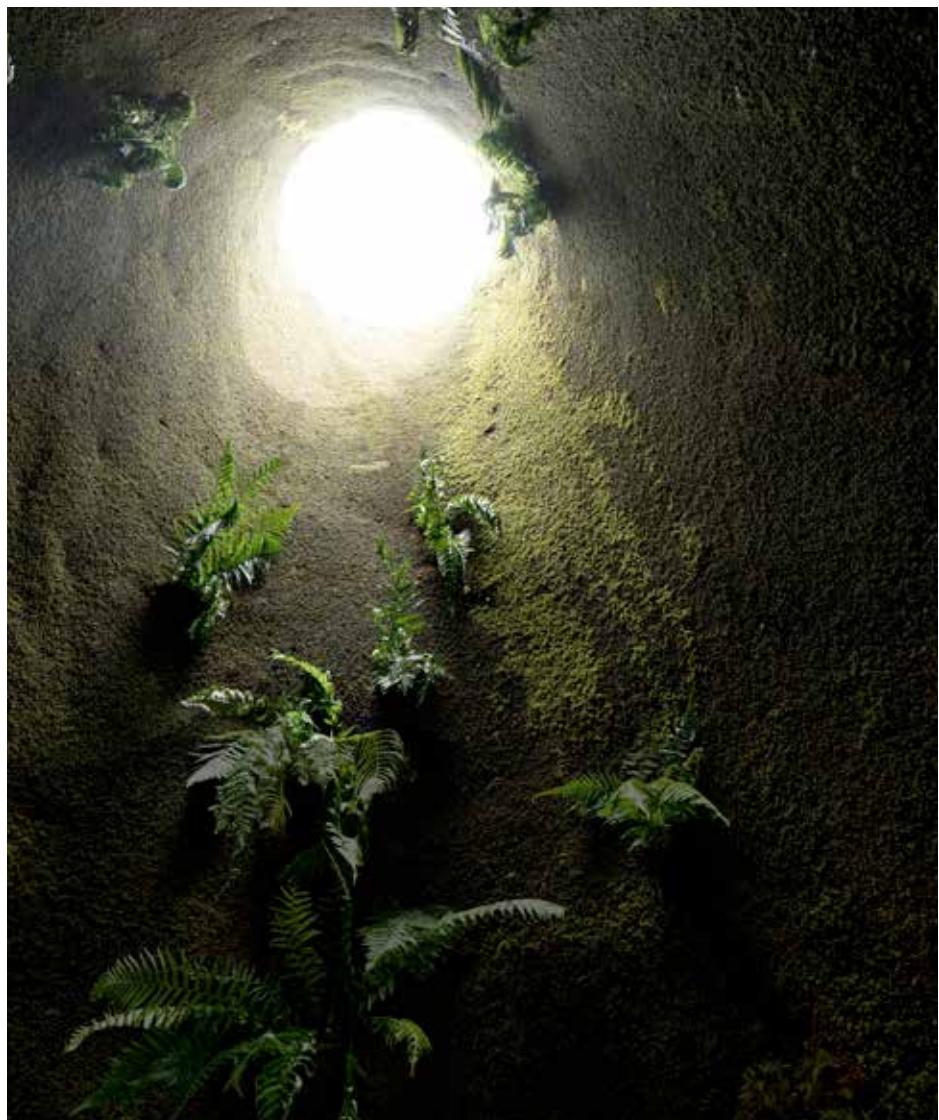
Team: Breathe Earth Collective



A bath in fresh air ...

The Breathe Earth Collective was invited to develop an installation on the subject of climate, air and landscape as part of the Artist-in-Residence program of the Austrian Sculpture Park in Graz in order to nourish, expand and question the dialogue with nature. The result of this artistic exploration is another prototype called „Airship.02: Evapotree“, which investigates the cooling and purification of urban air in more detail. Moos as a performative micro-landscape

is at the center of the work and spans an atmospheric space to breathe. The visitors become part of the choreography and are at the center of the interaction between technical components and the natural processes brought about by the moss and the environment. The result is a fine dust filtering, cooling and oxygen producing inventory for the future of cities.



Airship.02 - Evapotree, 2017 All photos on this page: (c) Simon Oberhofer



BREATHE.EARTH.COLLECTIVE

Airship.03 - Luftbrunnen

Gesunde Waldessenzen als Stadtmöbel.

Airship03: fountain of air'



Location: Milano

Year: 2018

Size: 30 m²

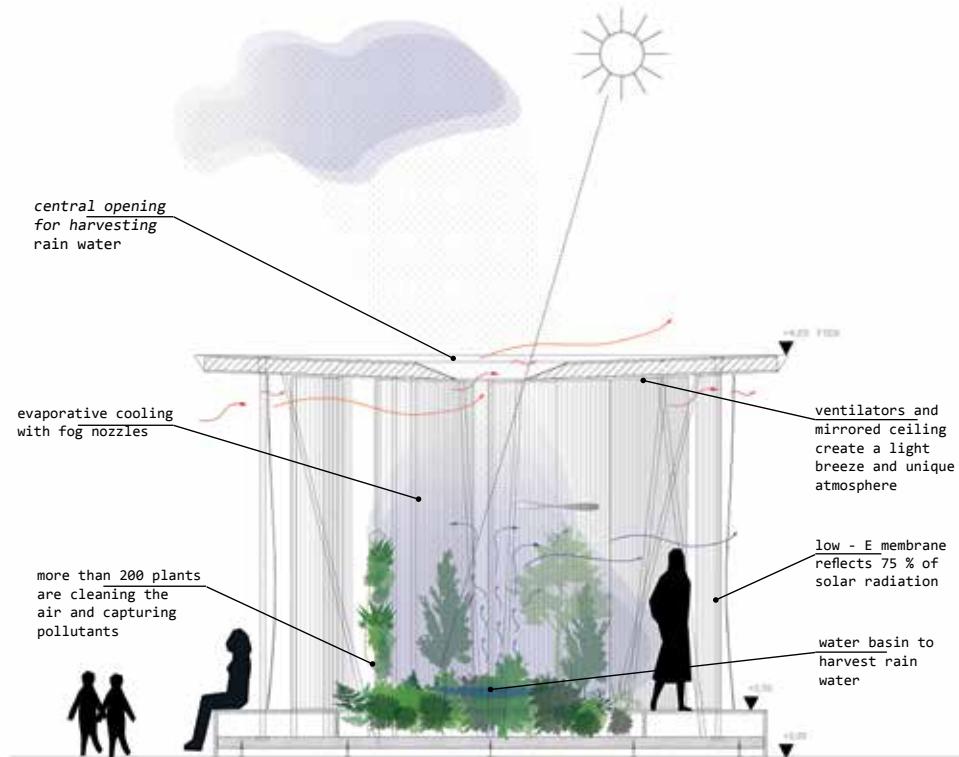
Principal: Österreich Werbung

Concept, Architecture and landscape

design by Breathe Earth Collective

Structural engineering by Kelse, Turin

Realisation with Tschabitscher Holzbau

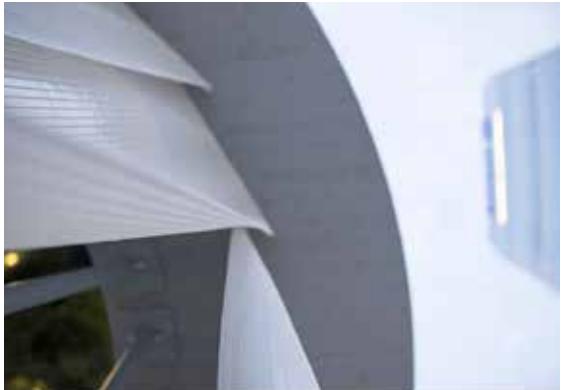


Airship.03 stems from the Austrian booth in Expo Milan 2015: a green area that has withdrawn curiosity, enjoyed, and freshened up the audience during the hottest days, witnessing the tight link between Austria and its nature and environment. Airship.03 is a temporary climate-landscape installation inviting visitors to plunge into a deep breathing experience. As a thick, humid and perfumed forest, it offers a significant improvement to the quality of air. Thanks to ventilation and water vaporizing technology, the perceived inner temperature decreases up till 5 degrees compared to the outside. Moss, fern and lichen have a major role. Being little eye-catching

by nature, they are important for the ecosystem because they neutralize carbon dioxide and produce oxygen. The central water basin and the overhead breach to the sky act like a sort of clearing in the city centre.

The installation interacts directly with the surrounding environment: during the hot, dry days Airship.03 becomes a refreshing oasis. During rainy days, water is collected on the roof and cleaned and absorbed in the central basin. In this way the installation becomes an active part in the urban space by moderating the microclimate and it provides with a refreshing break both in sunny and rainy days.

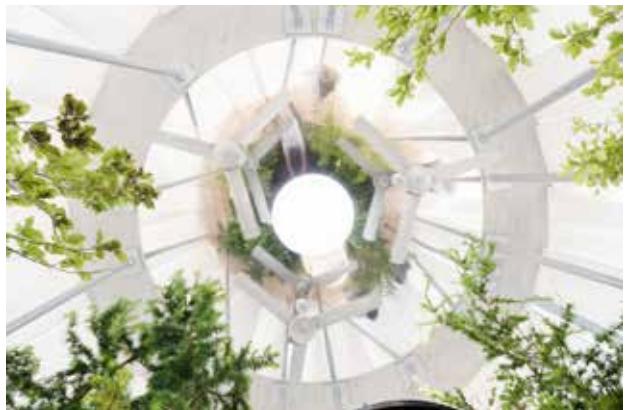




The low-emission textile membrane can be opened according sun and wind directions



Three main essences of the forest, lichens, mosses and pinus cembra are captured in the breathing platforms to encourage an olfactory experience



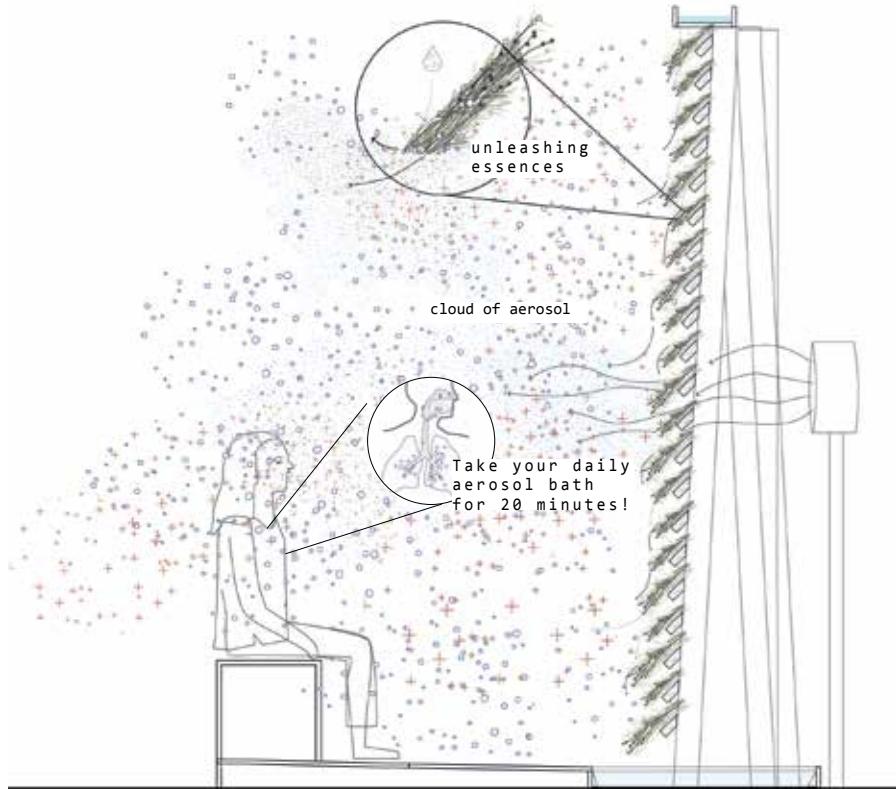
The mirror on the ceiling extends the size of the forest and provides a different perspective of the forest.
All images this page: Simon Oberhofer

Aerosol

Luftbad - salzhaltiger Atemraum

Aerosol

Airbath - saline breathing space



Aerosol Installation, sectional drawing

Location: Melbourne

Year: 2018

Size: 4 x 5 x 1 m

Principal: RMIT Gallery, Melbourne (AU)

Exhibition: Dynamics of Air

Concept and design by Breathe Earth

Collective

Curators: Malte Wagenfeld, Jane Burry

Plant consultant: Solomit, Melbourne



Aerosol installation, RMIT Gallery, Melbourne, September 2018



Field trip: salt harvesting at pink lakes (AU)

The quality of air.

The "Aerosol installation" at RMIT Gallery in Melbourne, investigates evaporation processes and traditional concepts of conditioning air with natural essences and aerosols. Inspired by the so called 'Graduation Tower' typologies (developed during the 18th century in salt mining regions in Central Europe for salt production) the installation invites visitors to experience a vernacular health and wellbeing practice. Aerosol thus invites visitors to smell, experience and inhale the breathable saline aerosols and ethereal oils with their own body. The Aerosol

installation wall is filled with bundles of the native '*Melaleuca uncinata*' shrub (a local Australian plant). Through the dripping of saline water, ethereal oils and essences are vaporising and unleashed to the air in the gallery. Simply by being in the gallery space, everybody is inhaling the aerosols, which activate the lungs for higher blood circulation and clean off the mucous membrane.

Wir pflanzen Luft.

Crowd foresting Aktion

We plant air.

Crowd foresting activity



Location: Graz Austria, Joanneum Viertel

Year: 2016, May - October

Size: 50 m²

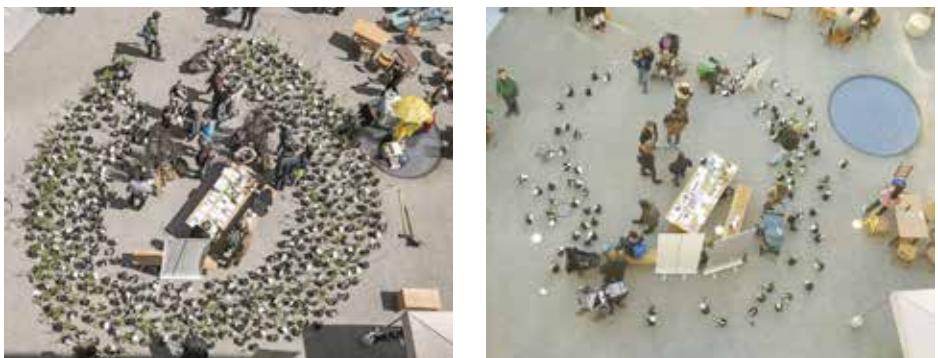
Principal: Joanneum Museum Graz

Team: Breathe Earth Collective

Lisa Maria Enzenhofer, Andreas Goritschnig,

Markus Jeschaunig, Bernhard König,

Karlheinz Boiger



All photos (c) Sabine Hoffmann

Crowd foresting

tree care - GrazerInnen become climate actors
 Tree seedlings of endangered regional trees and shrub species were given away to visitors at the event 'Umweltzirkus' 2016, which deals with environmental challenges through artistic encounters.

With this event more than 700 trees were given away to new care takers following 3 rules:
 1) trees shall be planted in the city of Graz

- 2) each 'tree godfather' shall ensure to take care of the small seedling to become a future tree
- 3) sharing the new location with the collective to create a new mapping of the crowd forestry

Within only one day more than 700 new trees were planted in Graz and surroundings, which will then make a valuable contribution to climate and air as important resources over many years of their lives!

Aufforsten im Wald

Neues Zentrum für die tschechische Forstverwaltung

Afforestation in the forest

New headquarter for czech forestry



Location: Hradec Kralove, Czech Republic

Year: 2016 - ongoing

Size: 2.500m²

Principal: Lesy České republiky, s. p.

Team:

Chybík+Krištof Architects & Urban Designers with
K4, Ivo and Jan Stolek, Tomáš Babka and Breathe
Earth Collective (Lisa Maria Enzenhofer and
Bernhard König)



Future office

Imagine the work place of the future?

„The best thing would be if you could just sit in the forest with your laptop. With its peace, freshness and good air, the forest is just the place to work.“

The project for the new head office of the Czech Forestry Authority was developed together with the office CHYBÍK + KRISTOF Architects & Urban Designers for an international competition. The focus was on the question of the future of the office workplace. Our winning project envisages a two-storey structure in wood on the edge of an existing forest area. The floor plan consists of five fingers, between each of which forest courtyards will emerge. The forest thus becomes an ubiquitous connecting and communicative element between inside and outside. According to the jury, the project is characterized above all by its open and public character, which also best meets the requirements of a future public

institution.

The landscape vision - an integral part of the design is the landscape and vegetation concept, which aims to activate the external landscape and make it visible in the interior of the building. The yards between the individual office fingers are therefore designed with different local forest ecotypes that represent the diversity of the Czech forest landscape. Different soils and rocks are introduced, shading and intensive shrub and perennial layers are provided in order to be able to experience a differentiated forest landscape right from the start. Over the next 20 years, the different forest ecotypes will evolve successively. The central entrance area is planned as a park and arboretum with large trees and technical installations for adiabatic cooling. Further an explorative circular walk will provide visitors a learning and sensual experience of the new headquarter and the forest landscapes.

Breathe Earth Collective



ABOUT

Breathe Earth Collective was founded after their successful realization of the Austrian Pavilion at the Expo 2015 in Milan. The collective works as an open network of different designers and function as think- and do-tank for experimenting and designing ecosystems, which integrate plants, air and architecture. Air and climate as media and source of life is central for the works of Breathe Earth Collective. The collective works in a transdisciplinary manner and uses flat hierarchies to make it possible to deal with complex content, an approach reflecting the fact that each of the members also runs their own specialized businesses. Their diverse backgrounds feeds the group's inventive talent.

TEAM MEMBERS (from left to right)

Karlheinz Boiger (Hohensinn Architektur) **Lisa Maria Enzenhofer** (ecosphere.institute / Green4Cities), **Markus Jeschaunig** (Agency in Biosphere), **Andreas Goritschnig** (Studio AG), **Bernhard König** (ecosphere.institute/Green4Cities)

AWARDS

- 2015 - **Best Pavilion at Expo Milan** for Breathe Austria, Social Media Award
- 2015 - Towards a sustainable Expo Award for Breathe Austria in the category Design and Materials, awarded by Italian Ministry of the Environment, Land and Sea and Expo
- 2015 - **Breathe Austria Award for Best Interior and Exhibition Design** at Expo 2015 Milano; BIE Bureau International des Expositions France
- 2015 - **Shenzhen Grand Design Award for Young Talents**, awarded by Shenzhen City of Design Promotion Association
- 2016 - **Environmental Award**, City of Graz, Austria
- 2017 - **1st prize for competition: New Administrative Center of Czech Forests** in Hradec Králové,
- 2018 - **Outstanding artist award - for experimental tendencies in architecture** received by the Arts and Culture Division of the Federal Chancellery of Austria
- 2018 - **Special Recognition at LAKA Award**: Design that educates in the category Universal Design for Airship Series.

BREATHE EARTH COLLECTIVE

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