Travel report: Biobased economy in Europe

Biodiversity Building –project

Inari Virkkala, Y-Foundation
Including pictures by Tuuli Kassi, Ethica

July 2022

Biodiversity Building
Travel report, july 2022

- Travel report from visiting European reference projects for the Y-Foundation Biodiversity Building -project in the summer 2022.
- Trip was made by train in July 2022 by Inari Virkkala
- Presentation also includes pictures from Tuuli Kassi's visit to Floriade Expo 2022 in the Netherlands

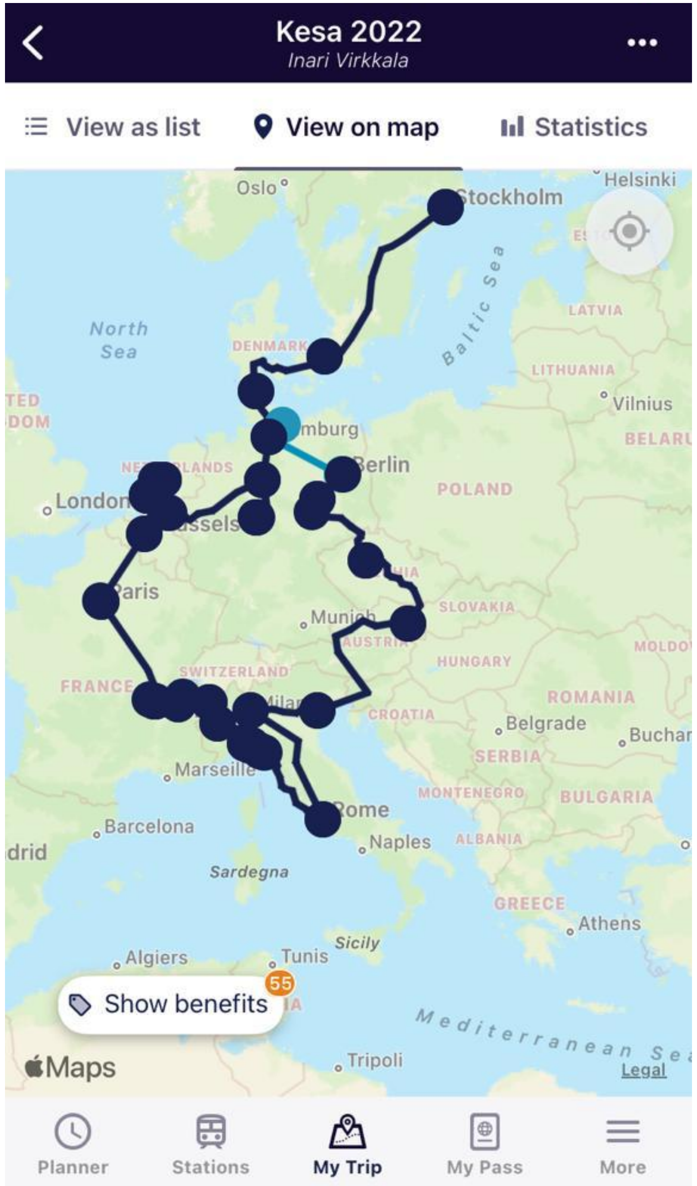
- Netherlands
  - Floriade Fair Pavillions2022 https://floriade.com/en/
  - Venlo City Hall
  - Eindhoven Medina
  - Eindhoven Trudo Tower
  - Eindhoven 3D printed house
  - Amsterdam Jakarta Hotel
  - Rotterdam Floating Office

- France
  - Paris Wood buildings
  - Paris Biodiversity examples
  - Lyon Confluence Rammed Earth Building

- Turin, Italy
  - 25 Verde, Turin
  - Lingotto rooftop park

- Wien, Austria
  - Wien IBA exhibition
  - Gleis 21 wood-hybrid building
  - Hundertwasser projects

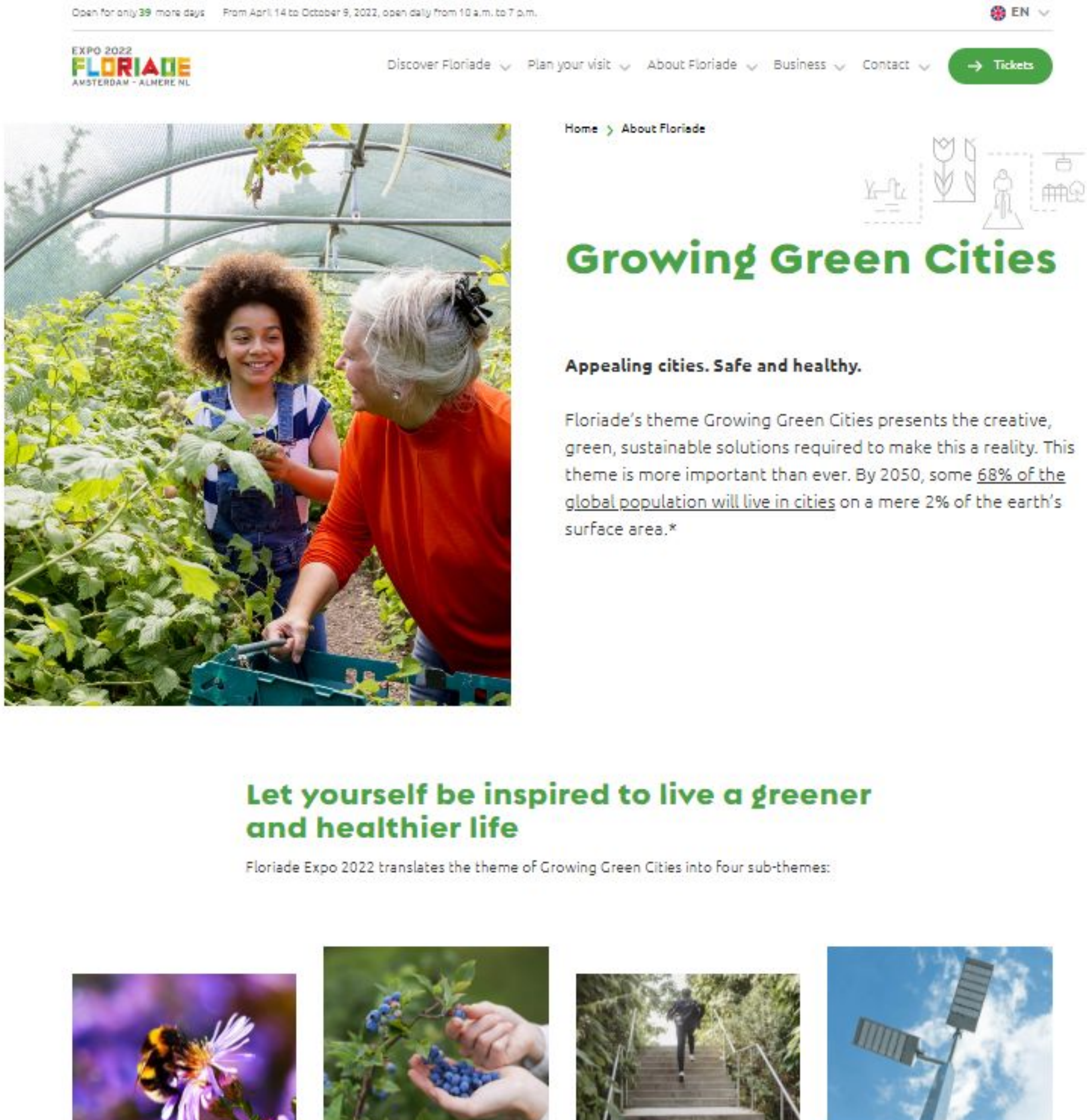
- Berlin, Germany
  - Köpernicker Strasse Green pioneers- building
  - Dorte Mandrup –exhibition
  - Vattenfall Gardens



Travelled route in the summer 2022 by Inari Virkkala

Floriade Fair

- https://floriade.com/en/about-floriade/growing-green-cities/



Kuvat: Tuuli Kassi

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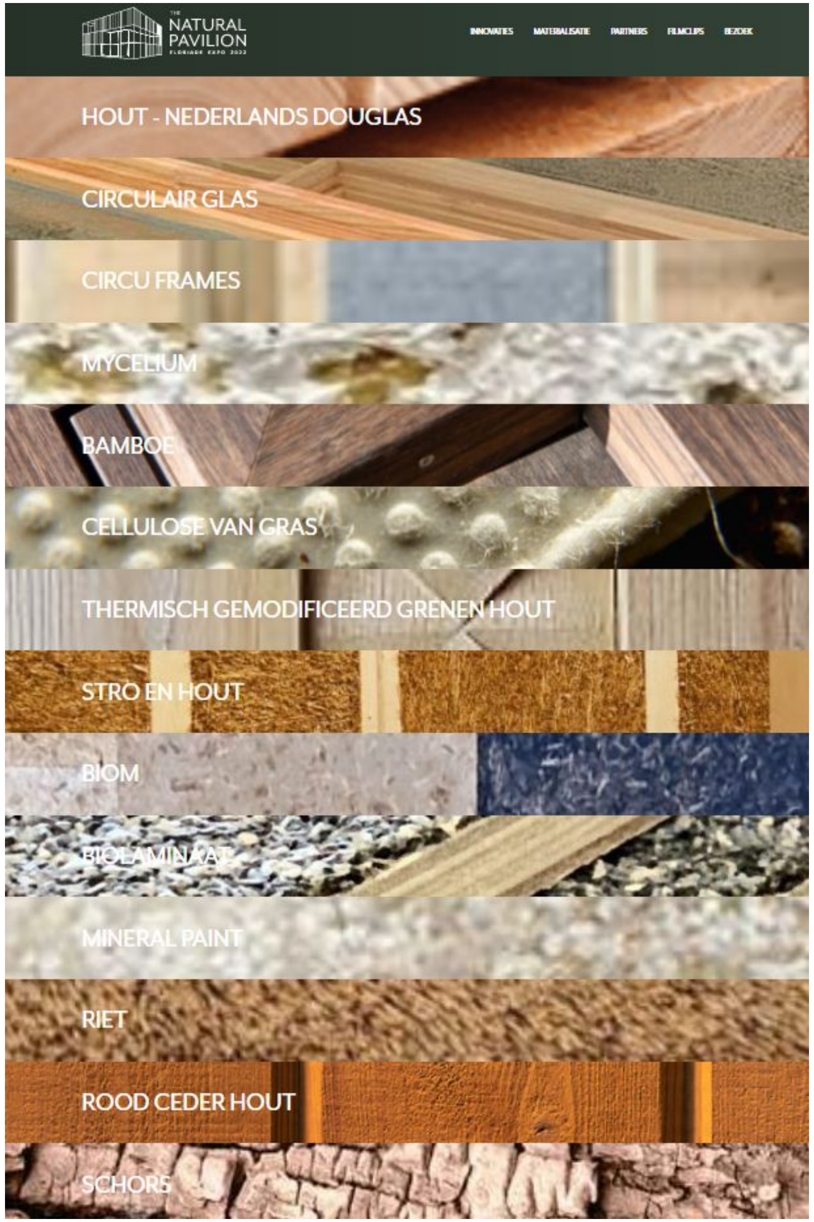
Natural pavillion
https://www.thenaturalpavilion.eu/



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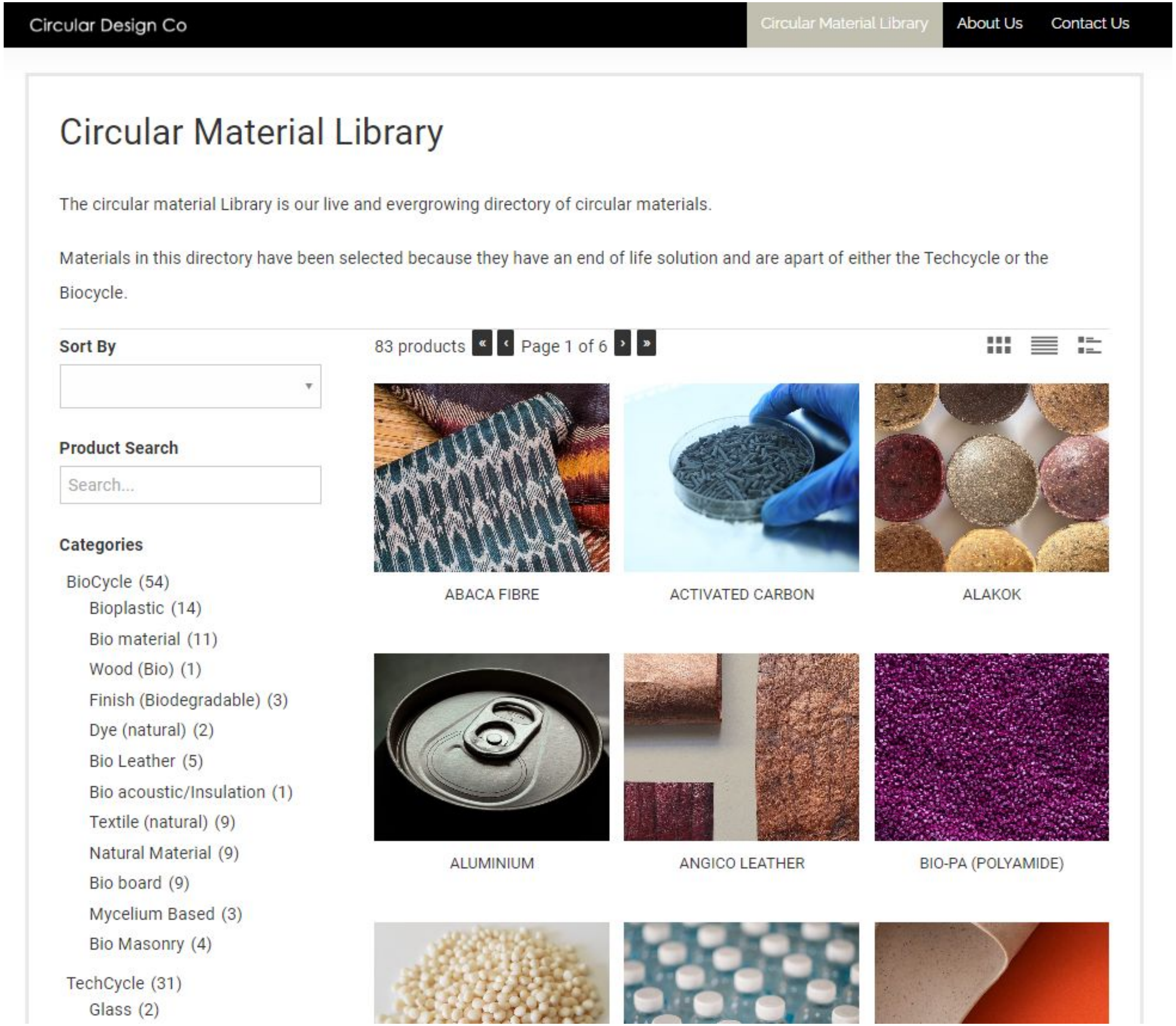
Circular economy material examples

https://circulardesignco.com/circularmateriallibrary/



Floriade Fair

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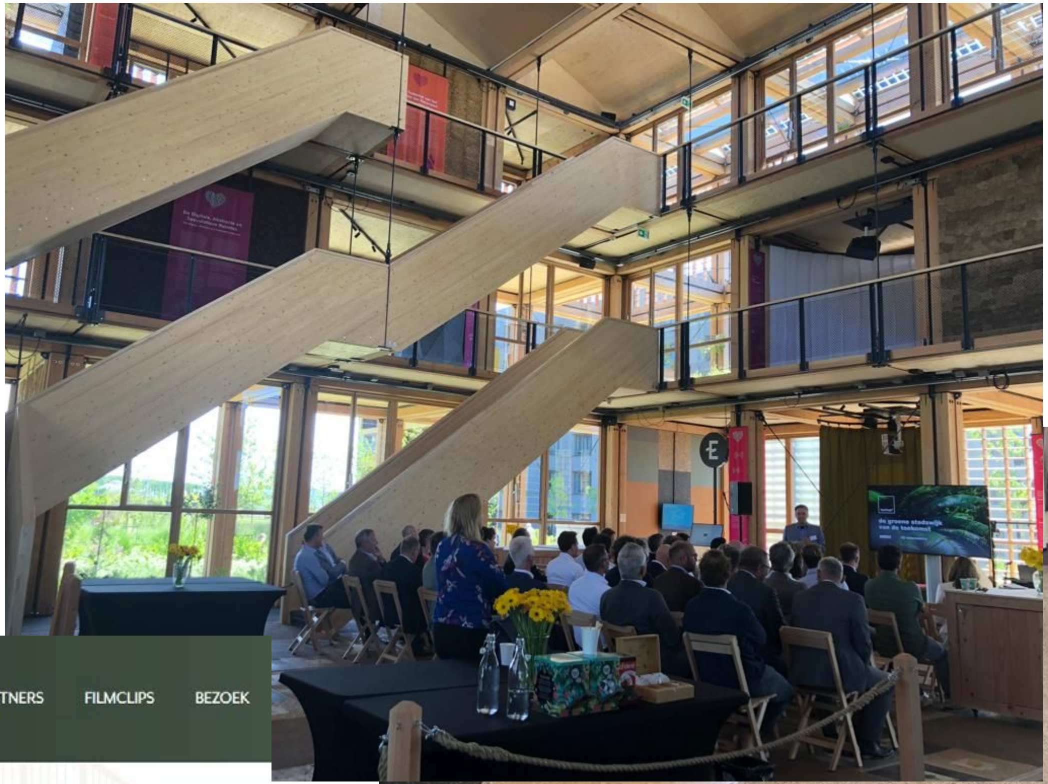

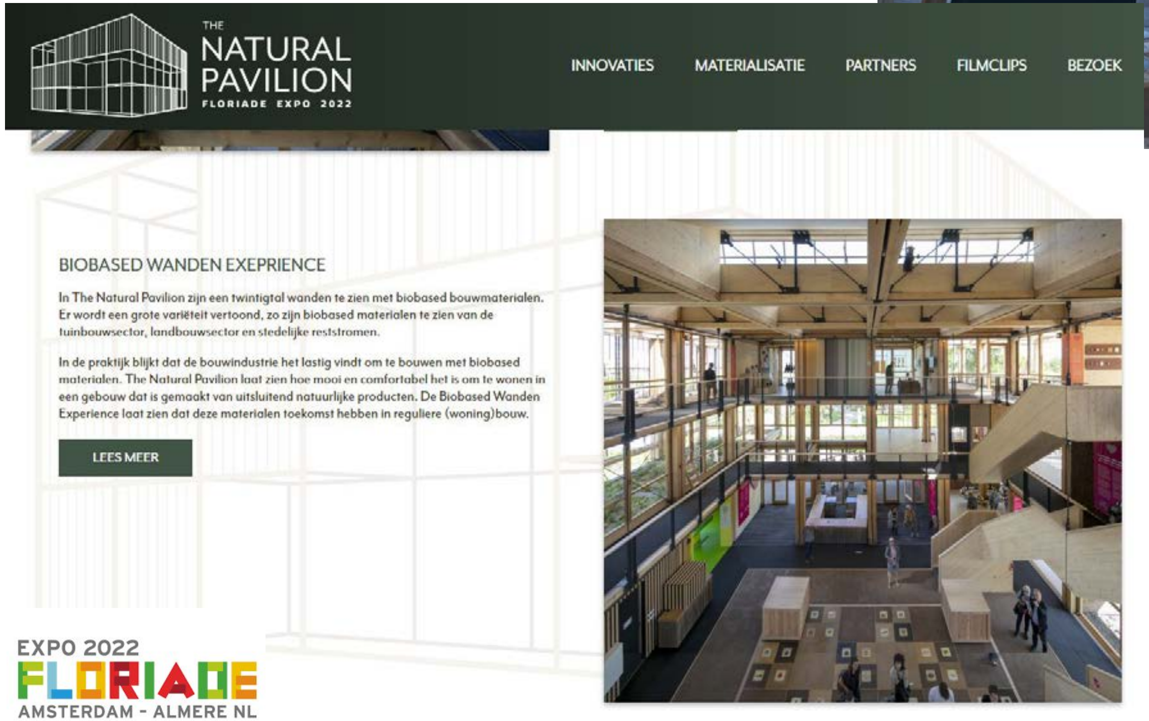

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Natural pavillion

https://circuwall.nl/

"Circular biobased wall made of recycled wood, provided with biobased insulation and finished with various types of sheet material and felt.

CircuWall introduces a 100% biobased and circular inner wall.

Based on a CircuFrame made of recycled pinewood (old VELUX roof windows), releasably glued with CircuGlue and available in various sizes. Easy to (dis)assemble.

Reusable many times if necessary. With insulation and finish of your choice."

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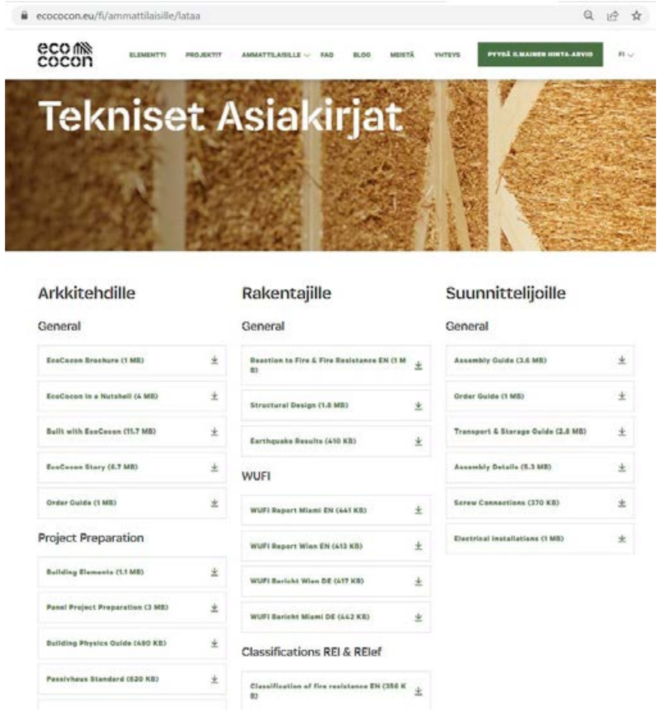
Natural pavillion

https://ecococon.eu/fi/



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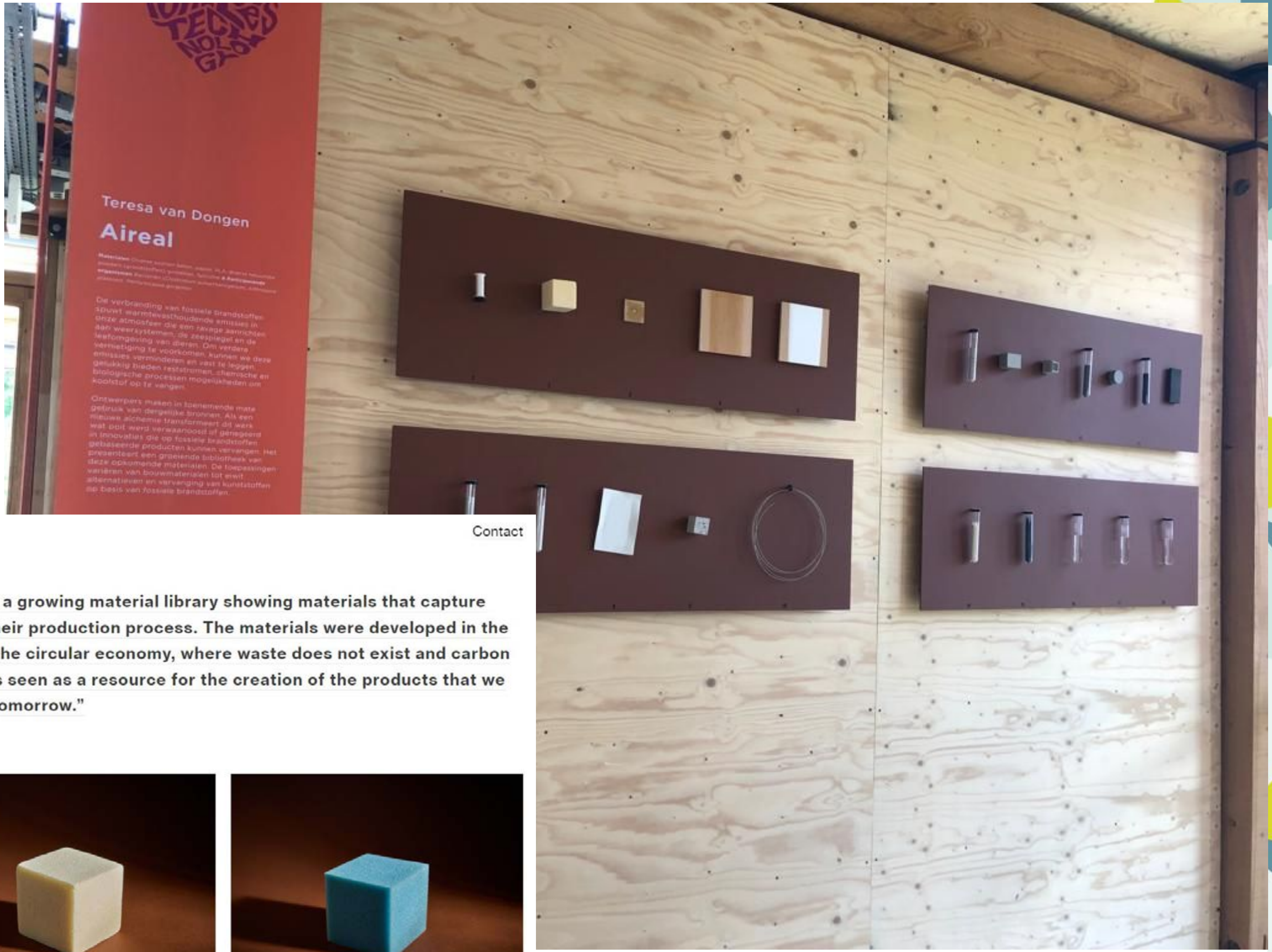
https://aireal-materials.com/



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Natural pavillion

Floriade Fair

Natural pavillion
https://www.grown.bio/

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Mycelium

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Natural pavillion

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The Growing pavillion

Material atlas

https://thegrowingpavilion.com/material-atlas/

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The Growing pavillion

Material atlas

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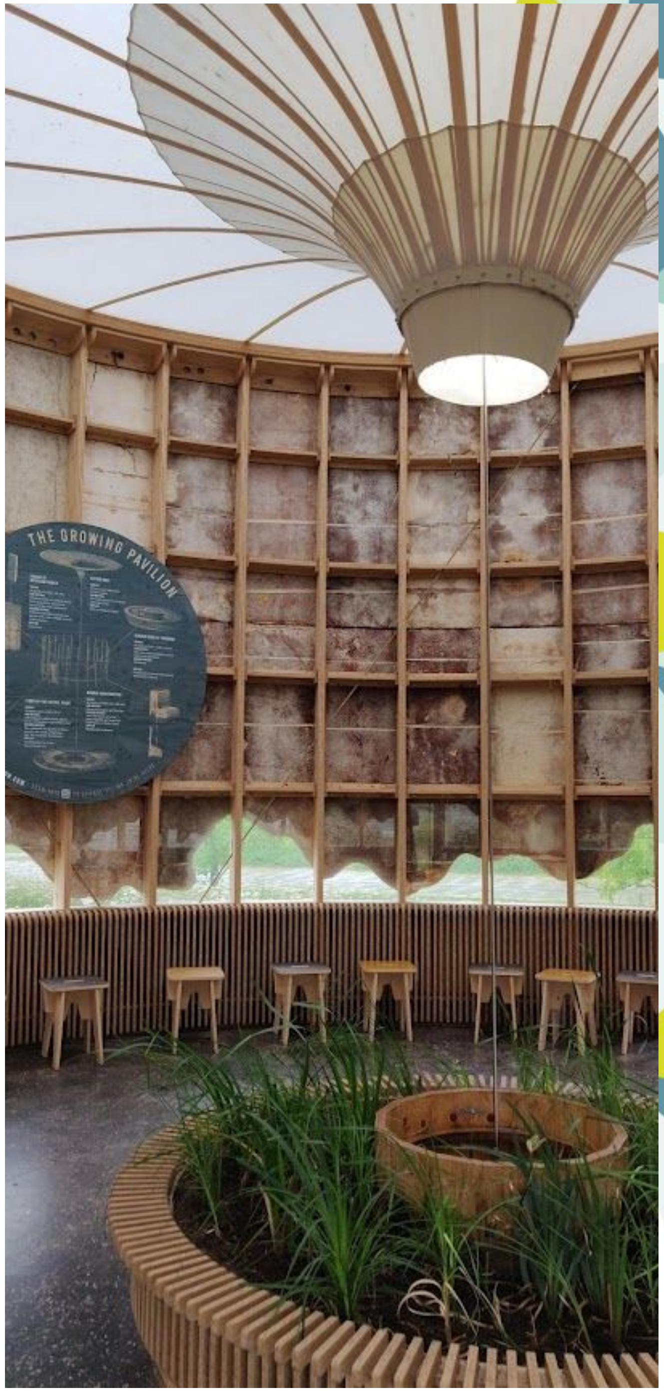

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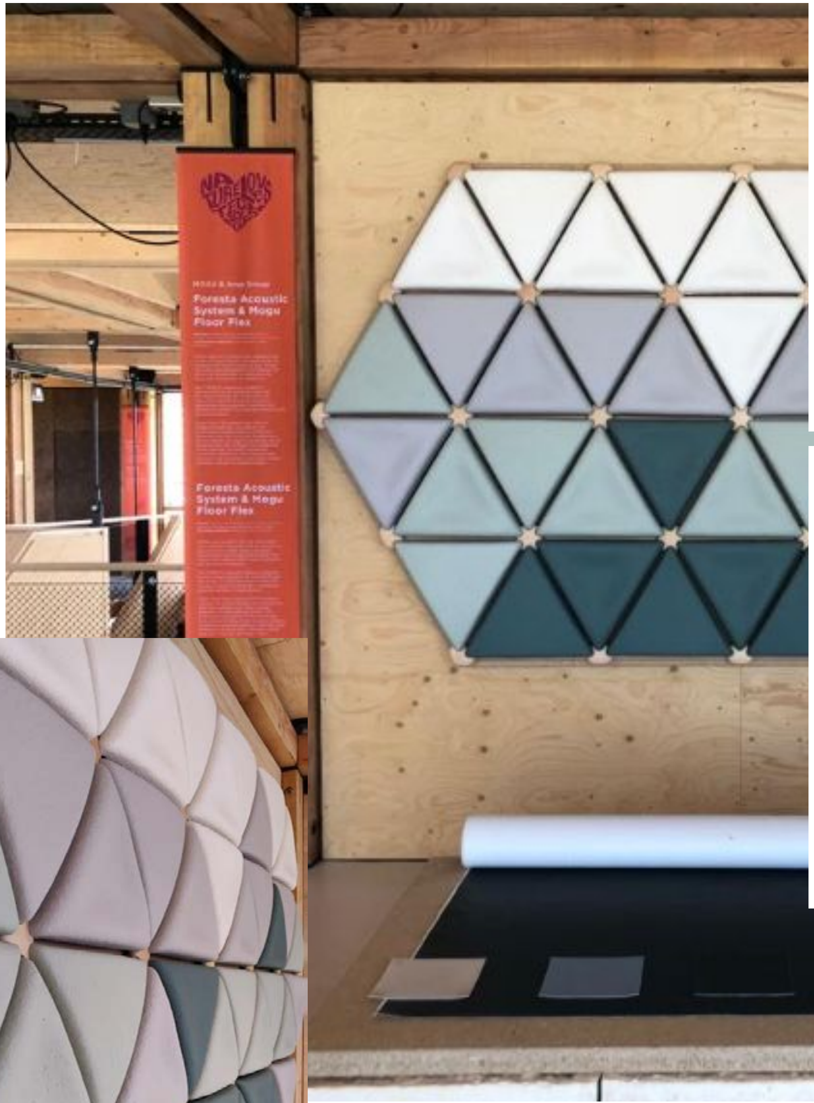
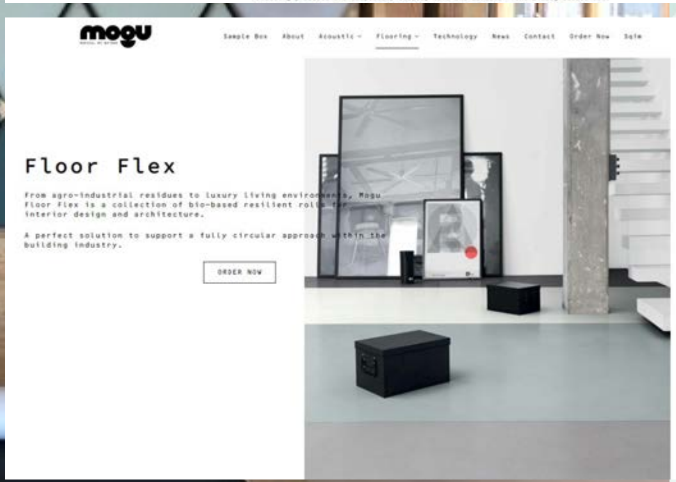
Natural pavillion
https://mogu.bio/





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https://www.urbanreef.nl/

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https://www.biootech.com/

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- https://floriade.com/en/article/high-tech-bridge-built-with-flax/
- https://www.itke.uni-stuttgart.de/research/icd-itke-research-pavilions/

itke
Institute of Building Structures and Structural Design

April 2022

High-tech bridge built with flax

Innovations for climate protection

An old material is being rediscovered: flax has been with us for thousands of years in the form of clothing, sacks, and robust ship's ropes. Now the plant fibres are experiencing a renaissance and could become the building material of the future. Combined with a special bio-resin, it can be made into a light and highly stable material with properties comparable to aluminium or steel. The EU project "Smart Circular Bridge" shows what is possible with this innovative new material: via the development of three bridges from this so-called bio-composite. A first one has now been built, and two more will follow.

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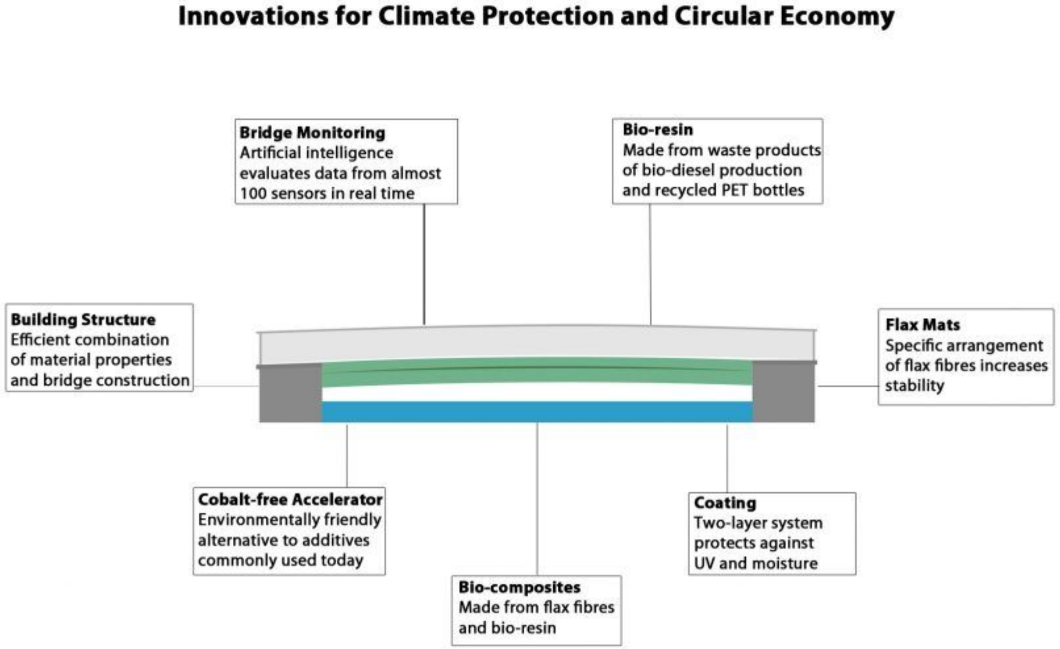

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- https://floriade.com/en/article/high-tech-bridge-built-with-flax/
- https://www.itke.uni-stuttgart.de/research/icd-itke-research-pavilions/

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https://www.overtreders-w.nl/en/floriade

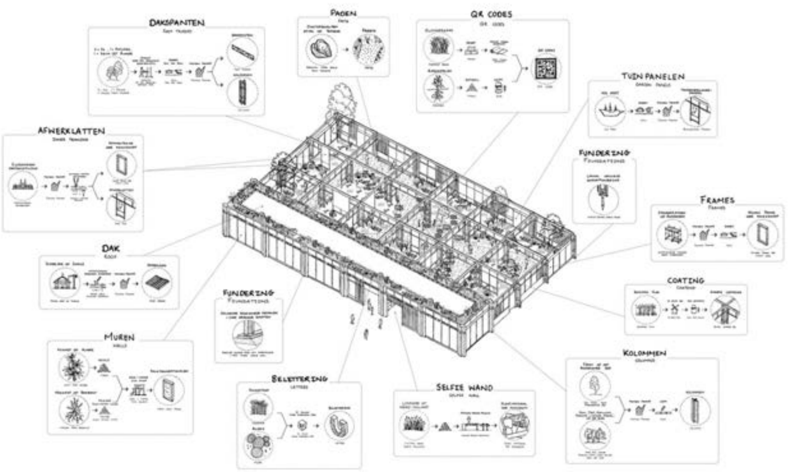
"The Voice of Urban Nature is built from 100% biobased building materials and composed of a combination of wooden building modules filled with lime hemp and robust constructive columns.

We sourced the raw materials as locally as possible in the vicinity of Almere and Amsterdam: the walls are made of hemp-lime from fiber hemp grown in Almere, and the pink color of the walls was obtained from Brabant madder.

The wood structure consists of regional wood from trees harvested for the maintenance of nature reserves, and second-hand wood from demolition projects in Amsterdam, Almere, and Zwolle.

The black coating of the wood is made from oil flax that grew on the fields around Schiphol. In this way, biobased construction can close local cycles and strengthen both local ecosystems and the regional economy."

Waar is dit paviljoen van gemaakt?
What is this pavilion made of?



dezeen Follow:

Pink hempcrete brightens demountable Floriade pavilion by Overtreders W

Lizzie Crook | 22 August 2022 | 2 comments

Dutch studio Overtreders W has used hempcrete and reclaimed timber to create a demountable pavilion in Almere, the Netherlands, named The Voice of Urban Nature.

Enclosing a series of gardens, the pavilion sits beside the central square of Floriade – an international horticultural exhibition held every 10 years in the Netherlands.

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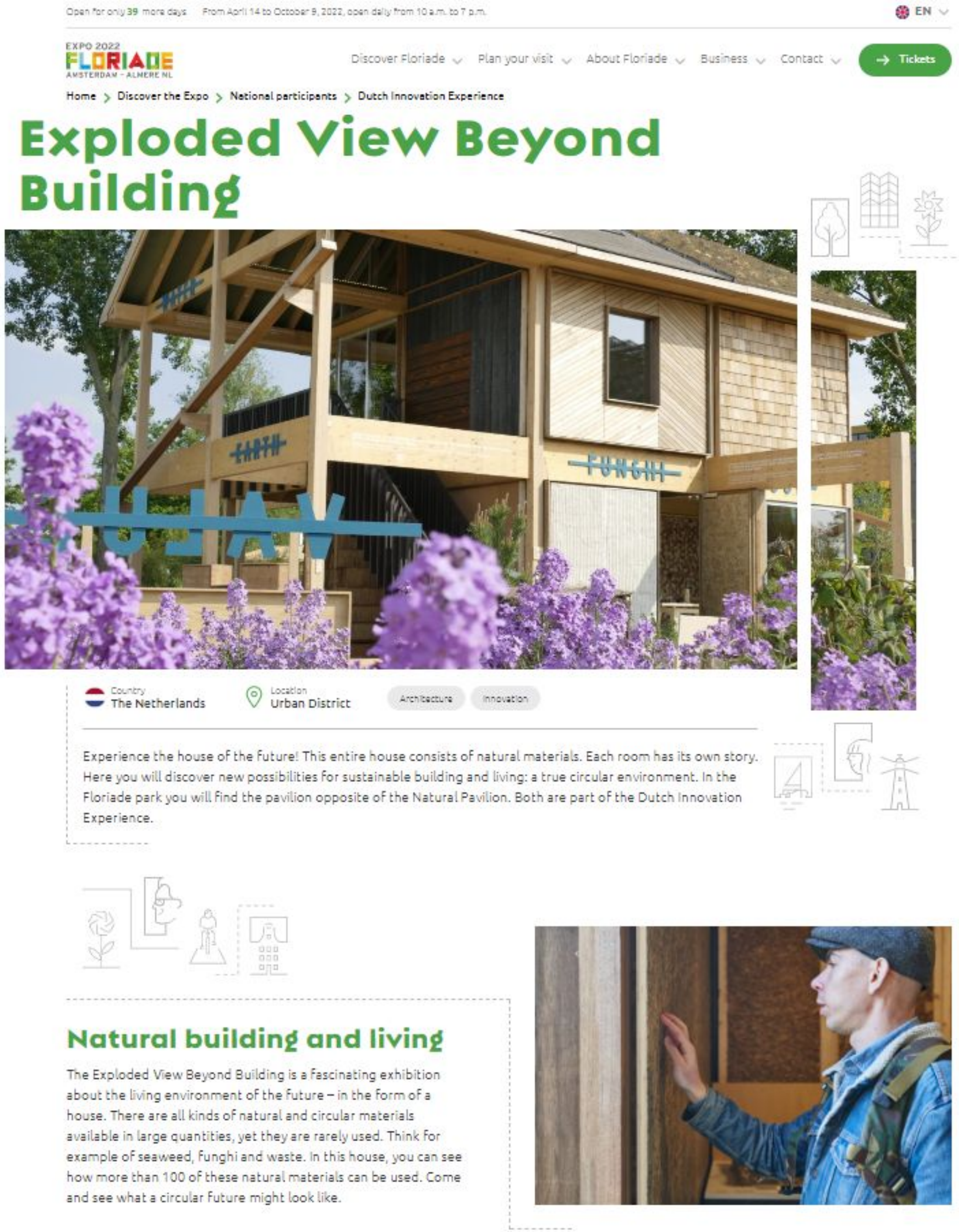
https://theexplodedview.com/the-exploded-view-beyond-building/agenda/

Kuva: Tuuli Kassi


Open for only 39 more days | From April 14 to October 9, 2022, open daily from 10 a.m. to 7 p.m. | EN

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Discover Floriade | Plan your visit | About Floriade | Business | Contact | Tickets

Home > Discover the Expo > National participants > Dutch Innovation Experience

Exploded View Beyond Building

Country: The Netherlands | Location: Urban District | Architecture | Innovation

Experience the house of the future! This entire house consists of natural materials. Each room has its own story. Here you will discover new possibilities for sustainable building and living: a true circular environment. In the Floriade park you will find the pavilion opposite of the Natural Pavilion. Both are part of the Dutch Innovation Experience.

Natural building and living

The Exploded View Beyond Building is a fascinating exhibition about the living environment of the future – in the form of a house. There are all kinds of natural and circular materials available in large quantities, yet they are rarely used. Think for example of seaweed, funghi and waste. In this house, you can see how more than 100 of these natural materials can be used. Come and see what a circular future might look like.

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- https://theexplodedview.com/the-exploded-view-beyond-building/agenda/

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- https://theexplodedview.com/the-exploded-view-beyond-building/agenda/

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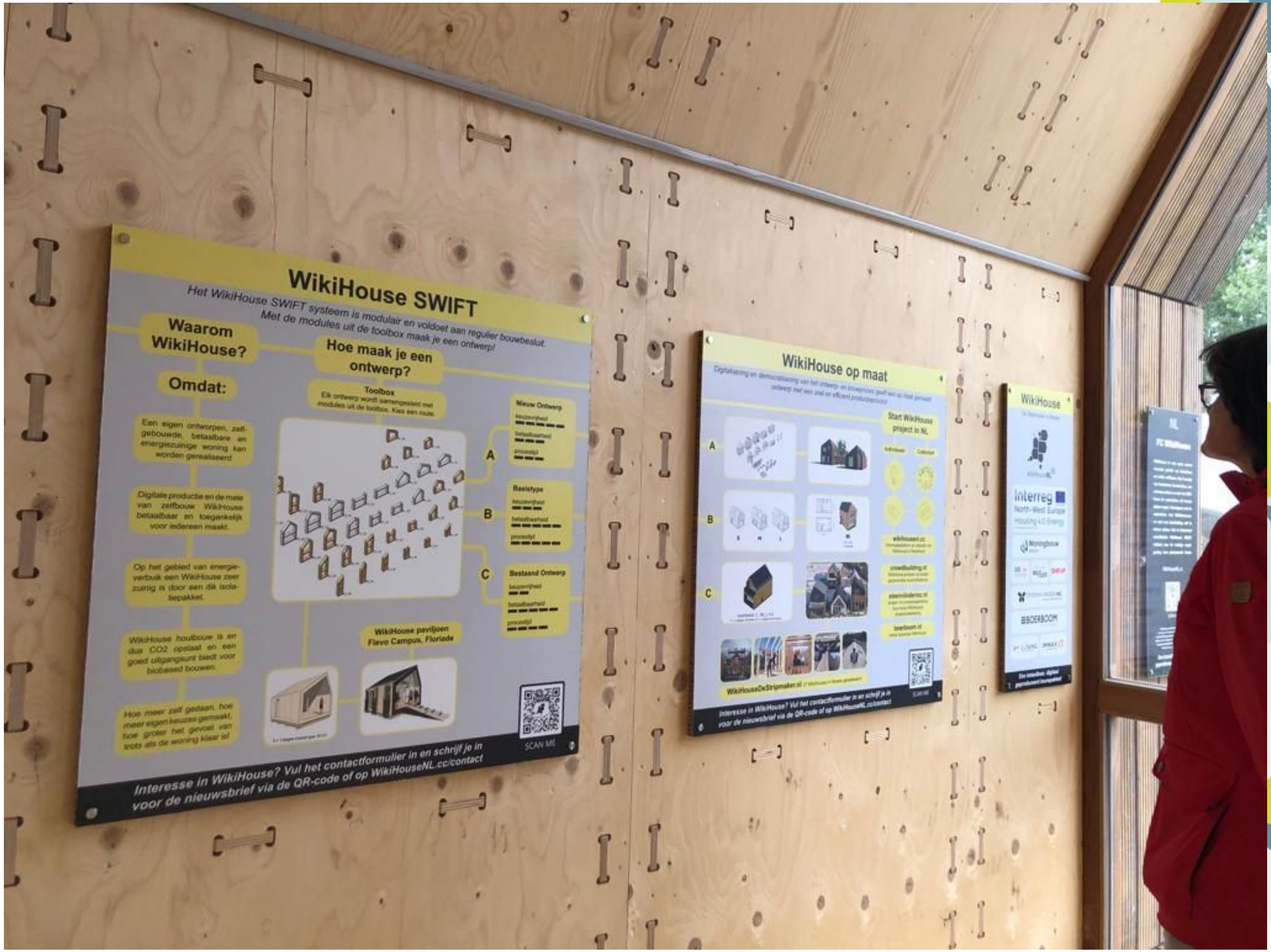
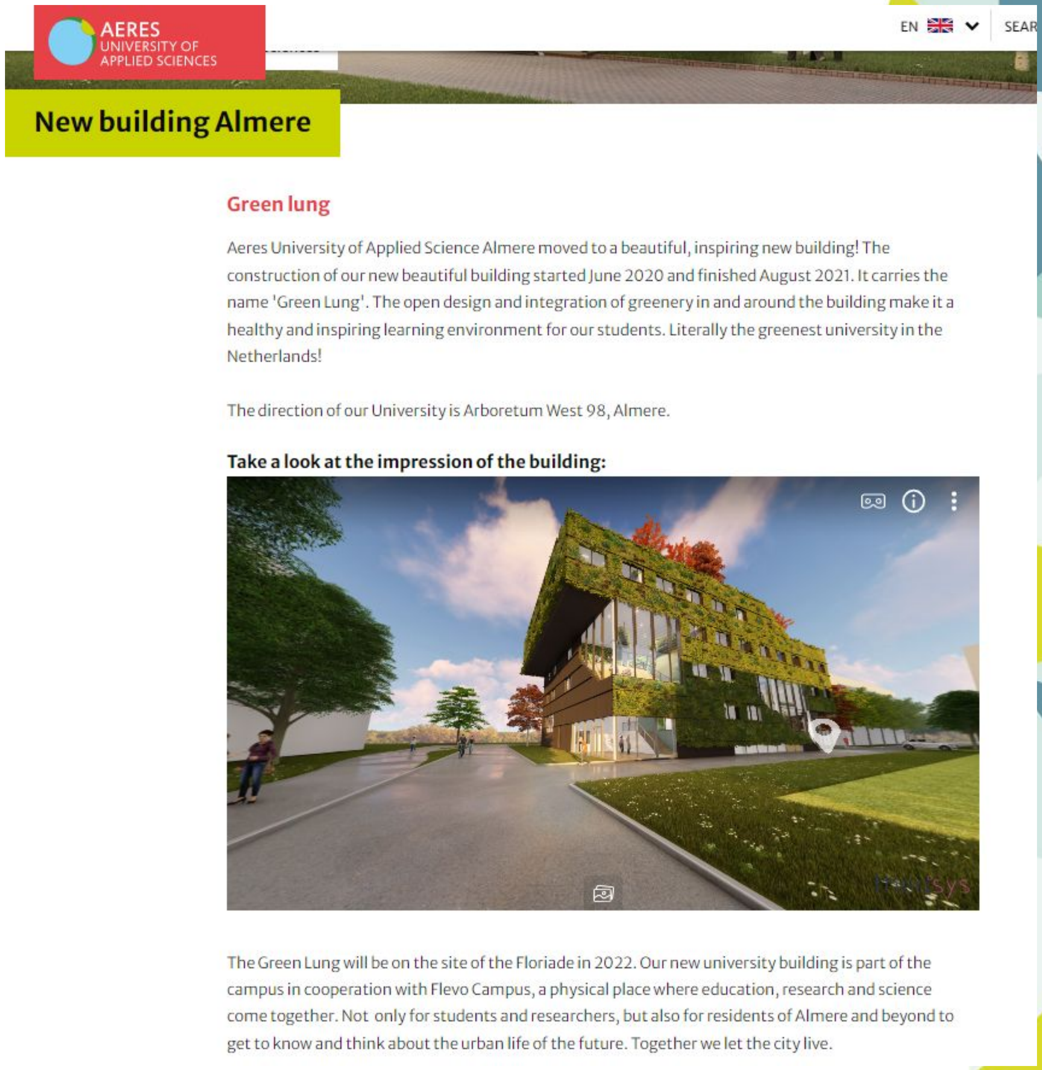
- https://www.wikihouse.cc/product
- https://github.com/VincentMuller/Pionierswoning-WikiHouse



Floriade Fair

https://www.aeresuas.com/about-aeres-uas/faculty-almere



AERES UNIVERSITY OF APPLIED SCIENCES

EN SEAR

New building Almere

Green lung

Aeres University of Applied Science Almere moved to a beautiful, inspiring new building! The construction of our new beautiful building started June 2020 and finished August 2021. It carries the name 'Green Lung'. The open design and integration of greenery in and around the building make it a healthy and inspiring learning environment for our students. Literally the greenest university in the Netherlands!

The direction of our University is Arboretum West 98, Almere.

Take a look at the impression of the building:

The Green Lung will be on the site of the Floriade in 2022. Our new university building is part of the campus in cooperation with Flevo Campus, a physical place where education, research and science come together. Not only for students and researchers, but also for residents of Almere and beyond to get to know and think about the urban life of the future. Together we let the city live.

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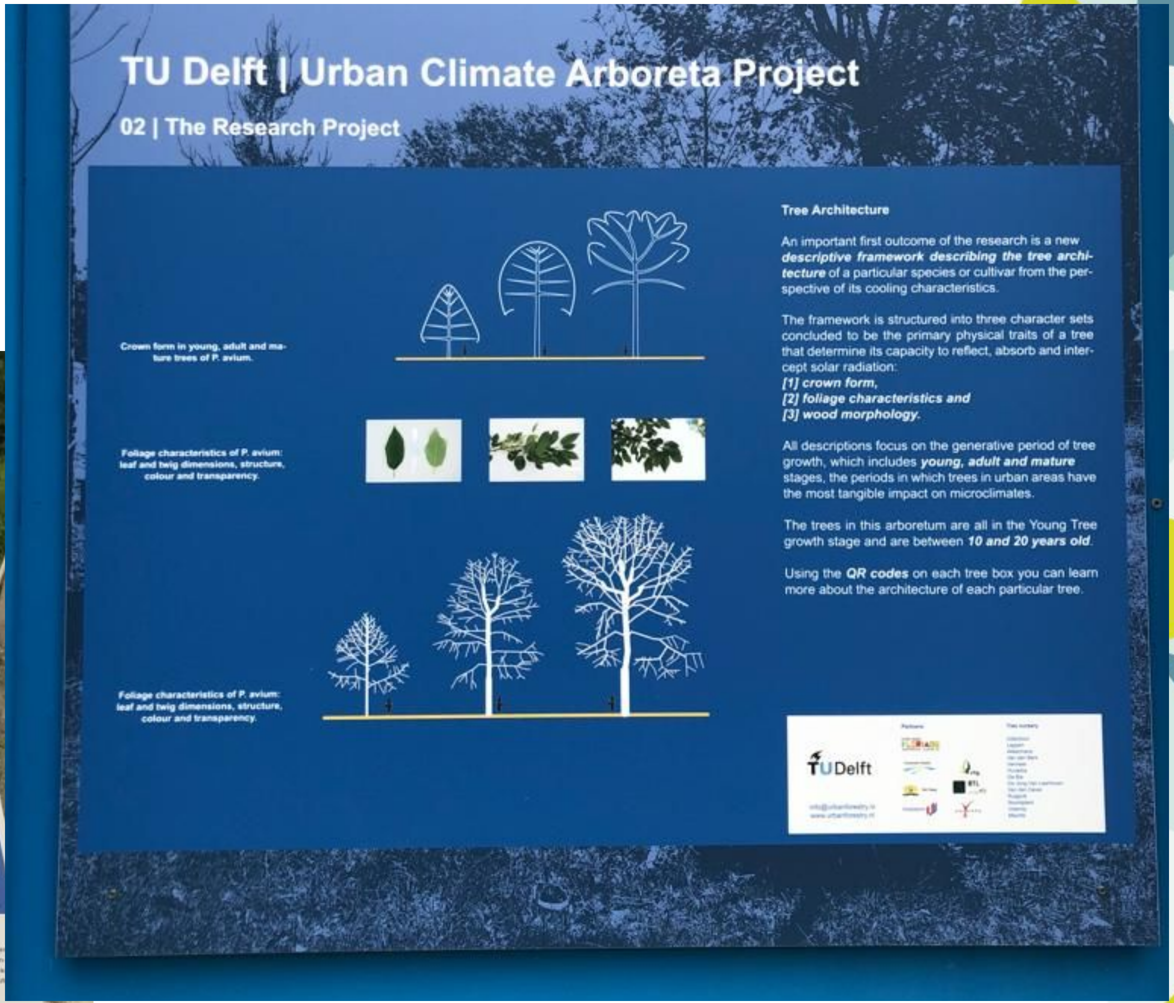

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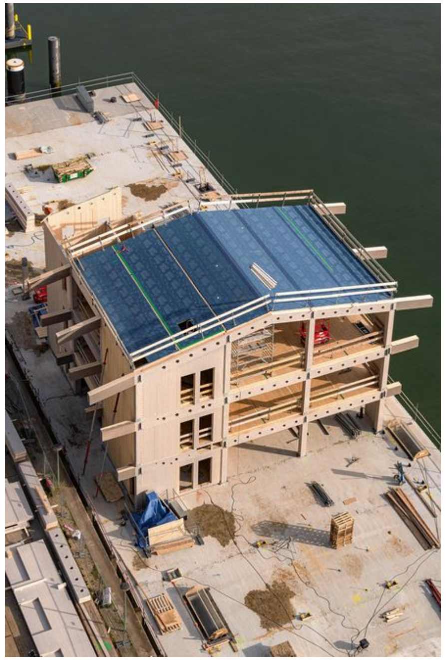
Built examples in Europe

Floating office

- Wood
- Green sedum roof
- Rainwater storage
- "Climate neutral"



King Willem-Alexander in the Rijnhaven with the new floating head office of the CGA in the background, Source: © Albert Nieboer / koninklijkhuis.nl

2 MIN READ 2021-09-07 15:04:41 (LAST EDIT 2021-09-07 15:47:28) ASENIYA DIMITROVA

Largest floating office building in the world opens in Rotterdam

It stays afloat as sea level rises

With a bottle of champagne, King of the Netherlands Willem-Alexander opened the Floating Office Rotterdam on 6 September. The building in the Rijnhaven harbour basin is the biggest floating office building in the world, local authorities report.

The structure is capable of staying afloat as sea level rises and falls, that is about 2 metres every day. Moreover, with a green sedum roof, it can store rainwater and is completely climate neutral.

A building of the future

Since March, the largest floating office building in the world, the so-called Floating Office, has been located in the Rijnhaven. Thanks to its multiple properties that make it resilient to climate change and rising sea levels, local authorities have a reason to call it the building of the future.

The Floating Office is 3,700 square metres, built entirely of wood, reusable and recyclable materials. On the roof are located 900 m2 of solar panels and there is a herb garden that attracts all kinds of insects. Water from the Rijnhaven will be used for the cooling of the building. Moreover, the building is completely self-sufficient and circular and can be dismantled and rebuilt elsewhere.

The building is home to the headquarters of the Global Center on Adaptation (GCA), an international think tank for climate issues and an initiative of various countries and the World Bank. It will also host a

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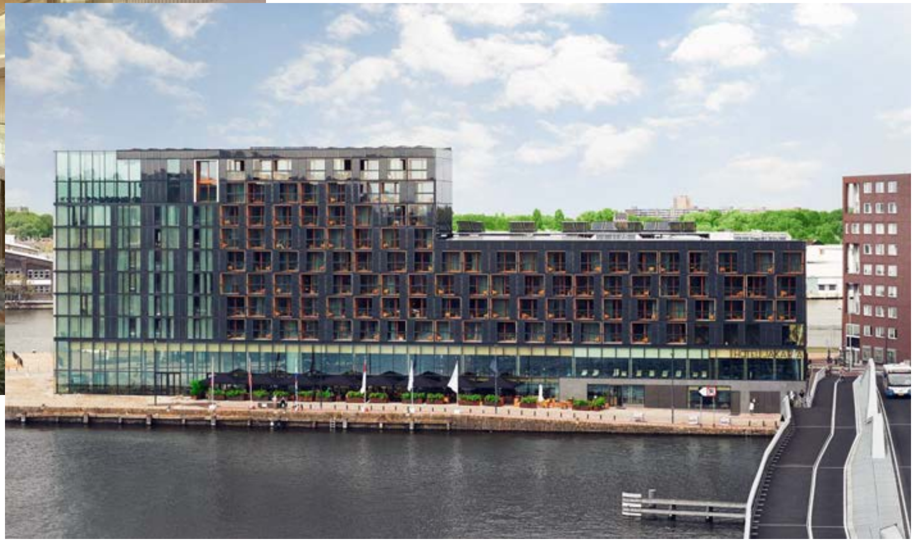
Amsterdam: Hotel Jakarta

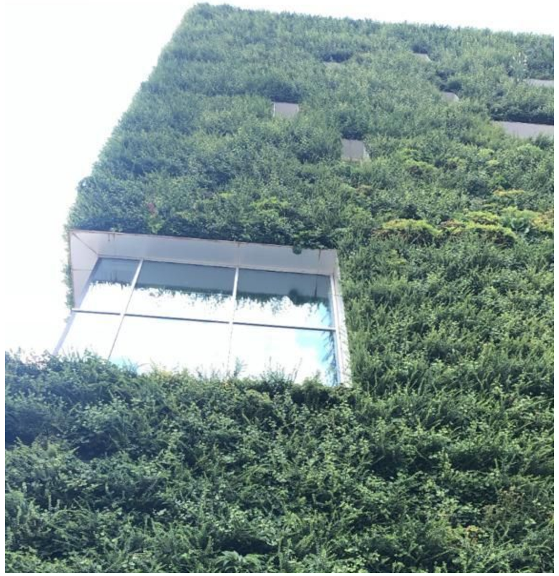
- Rainwater is stored in the property, solar cells power the space, underground thermal energy storage is utilized, and its Atrium and high windows maximize natural light
- Solar panel facade
- https://hoteljakarta.com/



Venlo City Hall

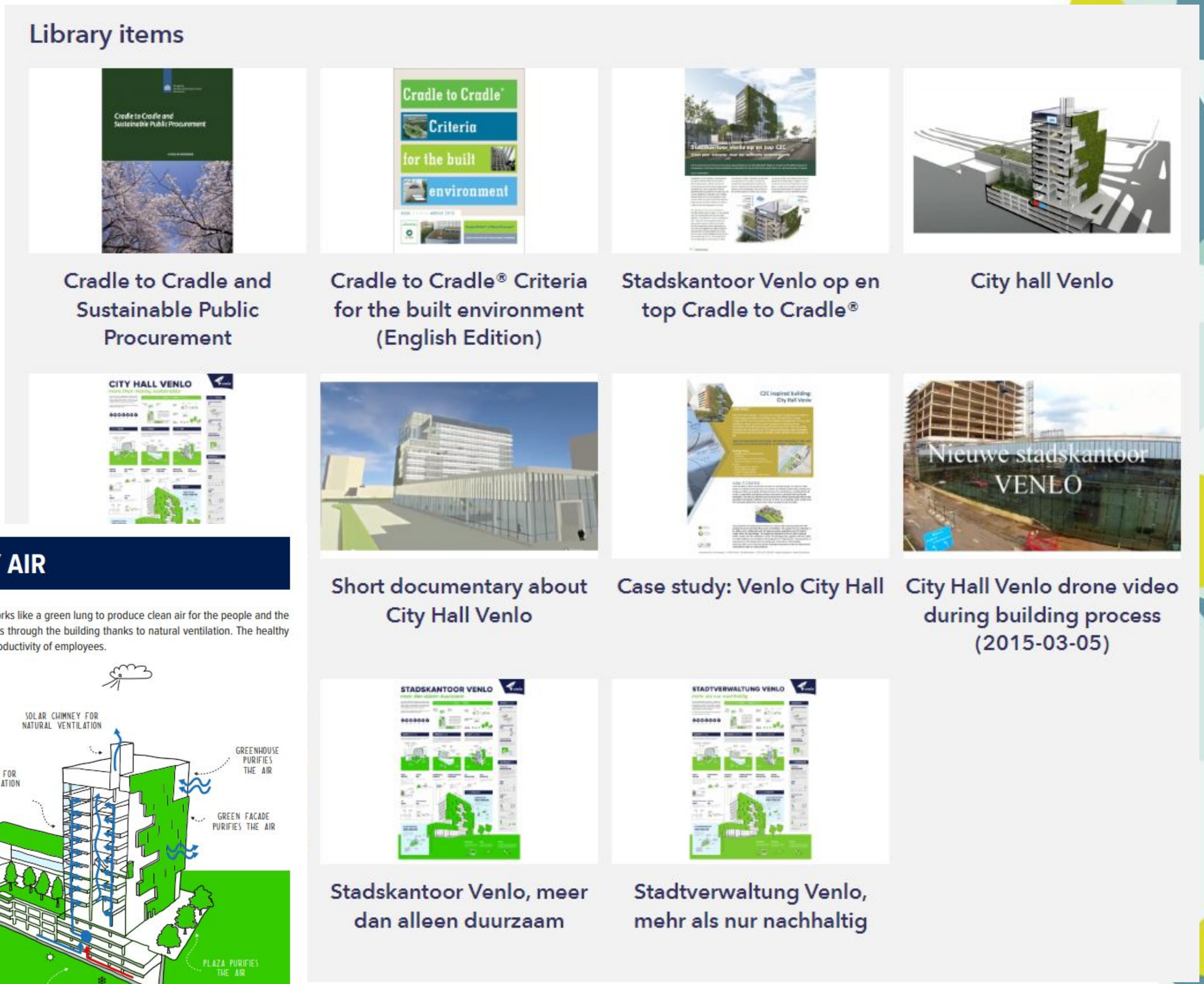
Design principles:

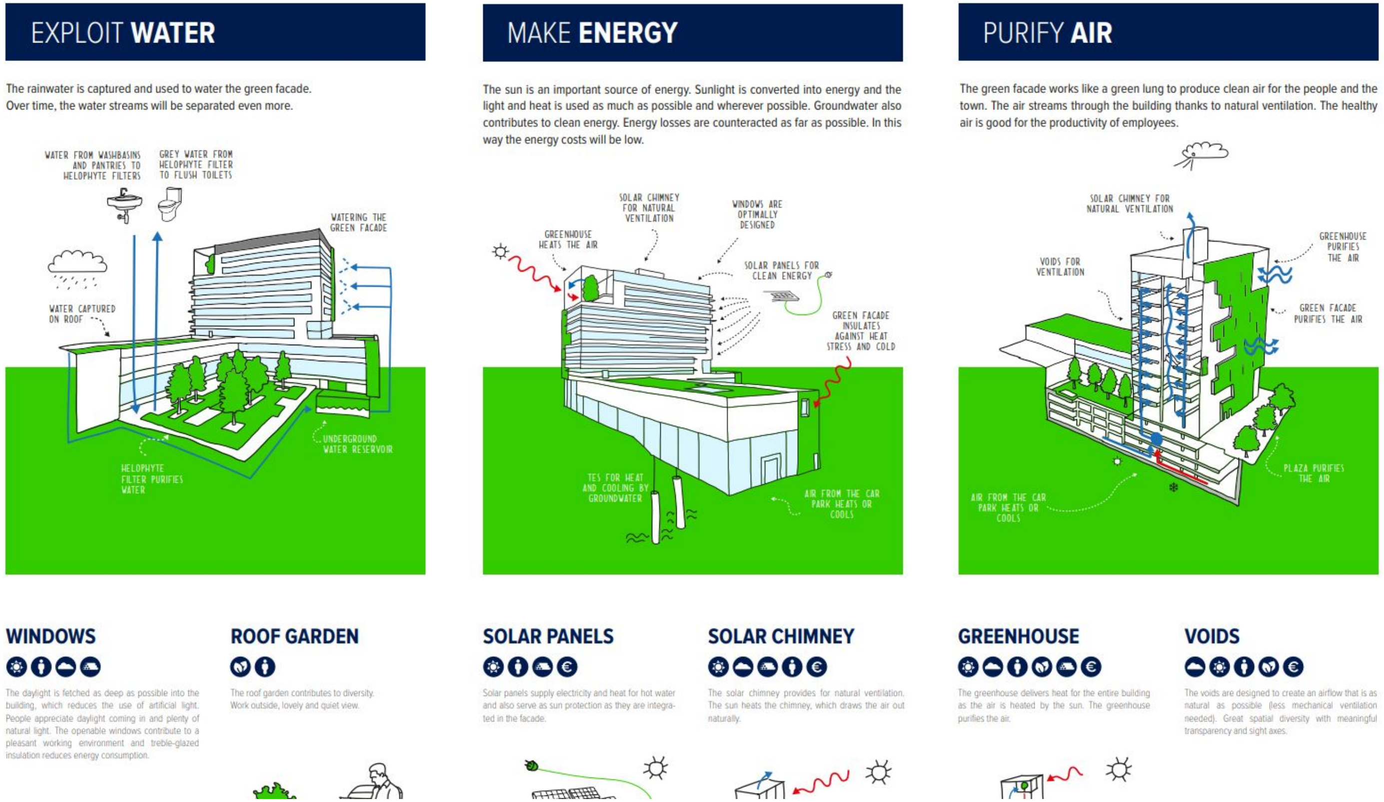
- Exploit rain and grey water
- Make clean energy
- Purify air indoor and out
- Enjoy great diversity
  (100+ species planted)
- Human first
- Use C2C certified products and
  materials



Venlo City Hall

- http://www.c2c-centre.com/project/venlo-city-hall
-





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Venlo City Hall

- http://www.c2c-centre.com/project/venlo-city-hall
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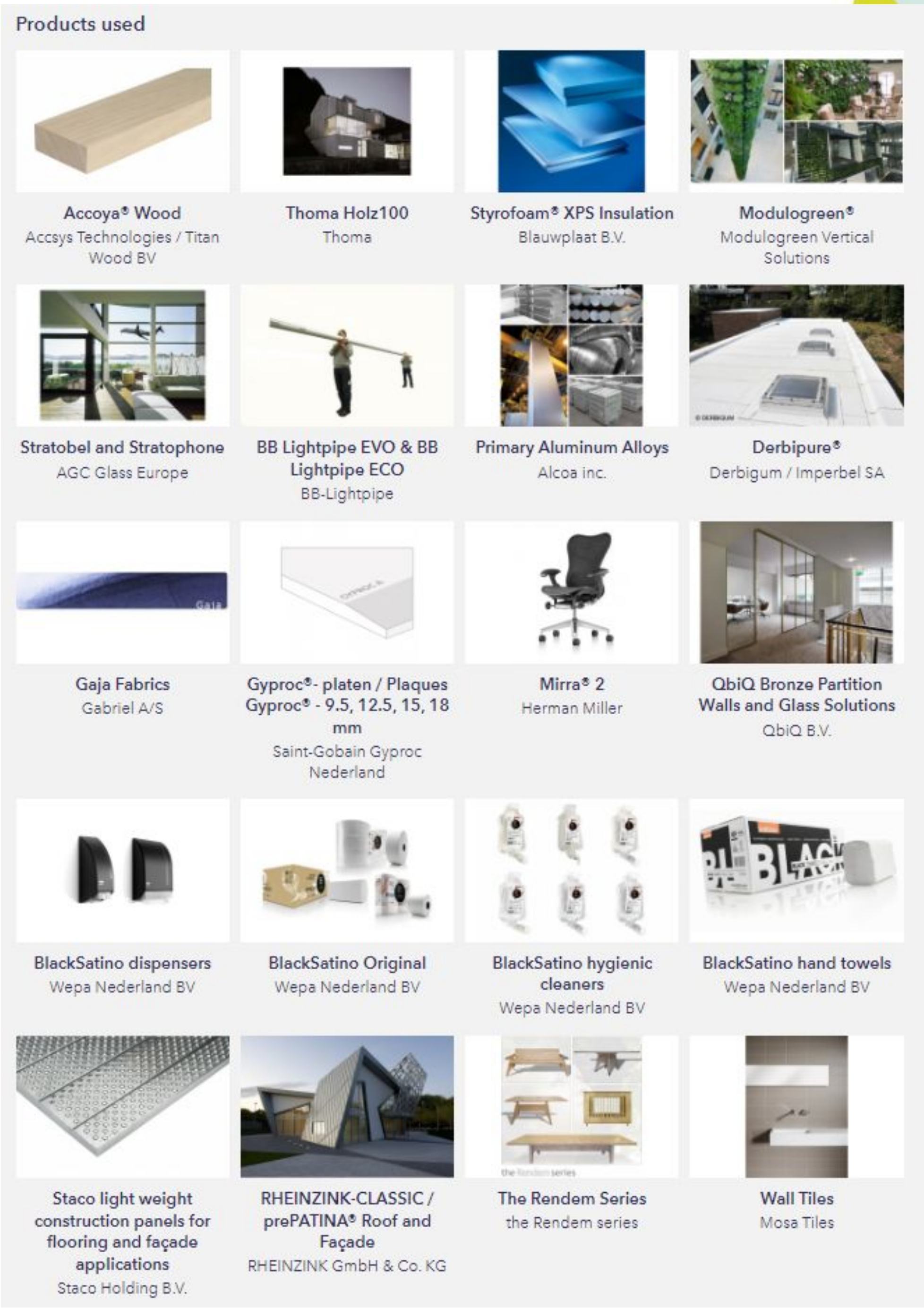

Continuous Material Cycles:

The question 'What are suitable materials that can continuously return in a biological or technological cycle without qualityloss?' can be expressed in the following desired results:

- Materials are appropriate for a biological- or technological cycle;
- Cradle to Cradle certified products are used;
- Residues are raw materials for new products;
- Products and materials have an added value for users and the environment;

Eindhoven Trudo Tower

- Stefano Boeri (Bosco Verticale, Milan) https://www.stefanoboeriarchitetti.net/project/trudo-vertical-forest-2/
- https://www.archdaily.com/976910/trudo-vertical-forest-stefano-boeri-architetti
- Sint-Trudo social housing company
- Rent €633,20 per month
- 125 apartments
- Strijp-S area
- “The maintenance of the entire complex, including the plants, is collective and managed directly by Sint Trudo while the specific maintenance of the greenery is carried out at considerable heights by a team of flying gardeners.”
- https://www.kekkila.fi/viherrakentaminen/artikkeli/trudo-tower-eindhoven-kerrostalosta-kasvaa-metsa/

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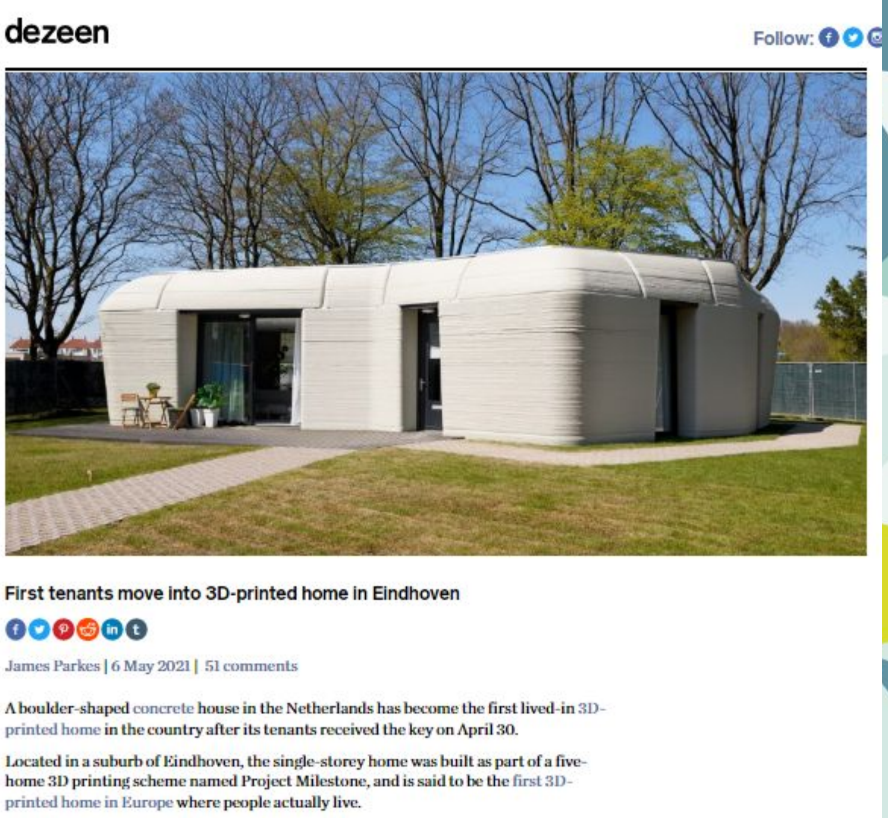
3D printed house



dezeen

Follow:

First tenants move into 3D-printed home in Eindhoven

James Parkes | 6 May 2021 | 51 comments

A boulder-shaped concrete house in the Netherlands has become the first lived-in 3D-printed home in the country after its tenants received the key on April 30.

Located in a suburb of Eindhoven, the single-storey home was built as part of a five-home 3D printing scheme named Project Milestone, and is said to be the first 3D-printed home in Europe where people actually live.

- https://3dprintedhouse.nl/en/

Medina Eindhoven

- Terrace house
- Neave Brown, Jo Coenen, 2003

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Biobased circular economy

https://www.triodos.com/articles/2022/triodos-bank-netherlands-has-first-bio-based-mortgage?fbclid=IwAR2fkuBP4vsh7geAxwrP1B1VXw_zs58R98Y92FwcnGIWbfsGVrggTT-rh0c

Triodos Bank

Triodos Bank Netherlands has first bio-based mortgage

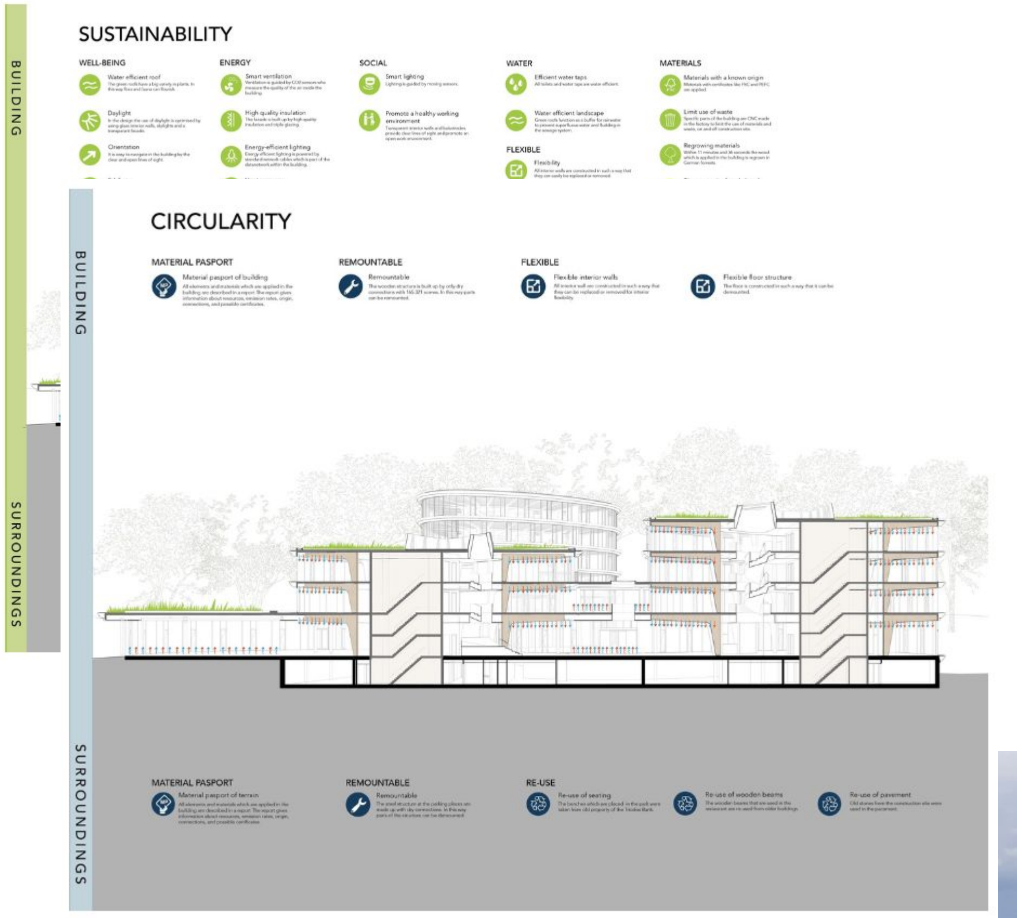
News | 08 June 2022
by Triodos Bank

♡ 13

Triodos Bank is the first Dutch lender to launch a mortgage whereby the interest rate is linked to the choice of materials for the home. In doing so, the bank is taking a new step in making the housing market more sustainable.

Biobased circular economy

https://www.archdaily.com/926357/triodos-bank-rau-architects



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Triodos Bank / RAU

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Curated by Paula Pintos

BANK · DRIEBERGEN-RIJSENBURG, THE NETHERLANDS

Architects: RAU

Area : 12994 m²

Year : 2019

Photographs : Bert Rietberg, Ossip van Duivenbode

Manufacturers : GRAPHISOFT, Hunter Douglas Architectural (Europe), GEZE, Guardian Glass, Aesy Liften, Boon Edam, De Groot Vroomshoop, Derix, Ecophon, Harry van Interieurbouw, Hunter Douglas, Jules Dock, Luxaflex, Rockfon, Schüco

Lead Architects : Thomas Rau, Peter Klaassen, Erik Mulder, Robin Hurts, Dennis Grootenboer, Vincent Valentijn, Michael Noordam, Jochem Alferink

Landscape : Arcadis

Consultants : BBN Adviseurs, Deerns, Aronsohn, DGMR

Paris

Frédéric Bourgeon and Joe Giddings · Jul 2, 2021 · 7 min read

How the emerging environmental regulations will apply to new buildings in France

© MARS Architectes - Avenue de Saint Mande 14, Paris

*Since February, ACAN has been calling on the UK Government to introduce Building Regulations to require all new buildings to calculate and report whole life-cycle carbon emissions, writes **Joe Giddings**. We didn't pluck this request from thin air. We looked abroad to see how other countries are aiming to reduce emissions arising from construction.*

*The most relevant example was just over the channel, where France is pressing ahead with a new policy that will result in all new buildings built in 2031 having a 52% reduction in embodied carbon emissions over today's standard. In this long read, structural engineer **Frédéric Bourgeon** explains how the new regulations work, illustrated with a beautiful residential scheme by MARS Architectes in Paris.*

Firstly in November 2020, and then in more detail in February 2021, French Minister of Ecological Transition Barbara Pompili and Minister Delegate for Housing Emmanuelle Wargon announced the guiding principles for the future environmental regulations, 'RE2020', to be applicable to new build developments starting in 2022. RE2020 will be the seventh major set of regulations on energy use within buildings in France, the first of which was created in 1974. But this newest iteration will pack in a major addition: carbon, both operational and embodied, is now part of the picture.

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News

New French public buildings must be made 50% from wood

GCR Staff
07.02.20

The government of France is set to require that all new public buildings must be made at least 50% from wood or other sustainable materials from 2022 as it pushes for sustainable urban development.

The local government in Paris had already pledged a greater use of natural materials such as wood, straw and hemp, and any buildings higher than eight storeys built for the 2024 Paris Olympics must be made entirely of timber.

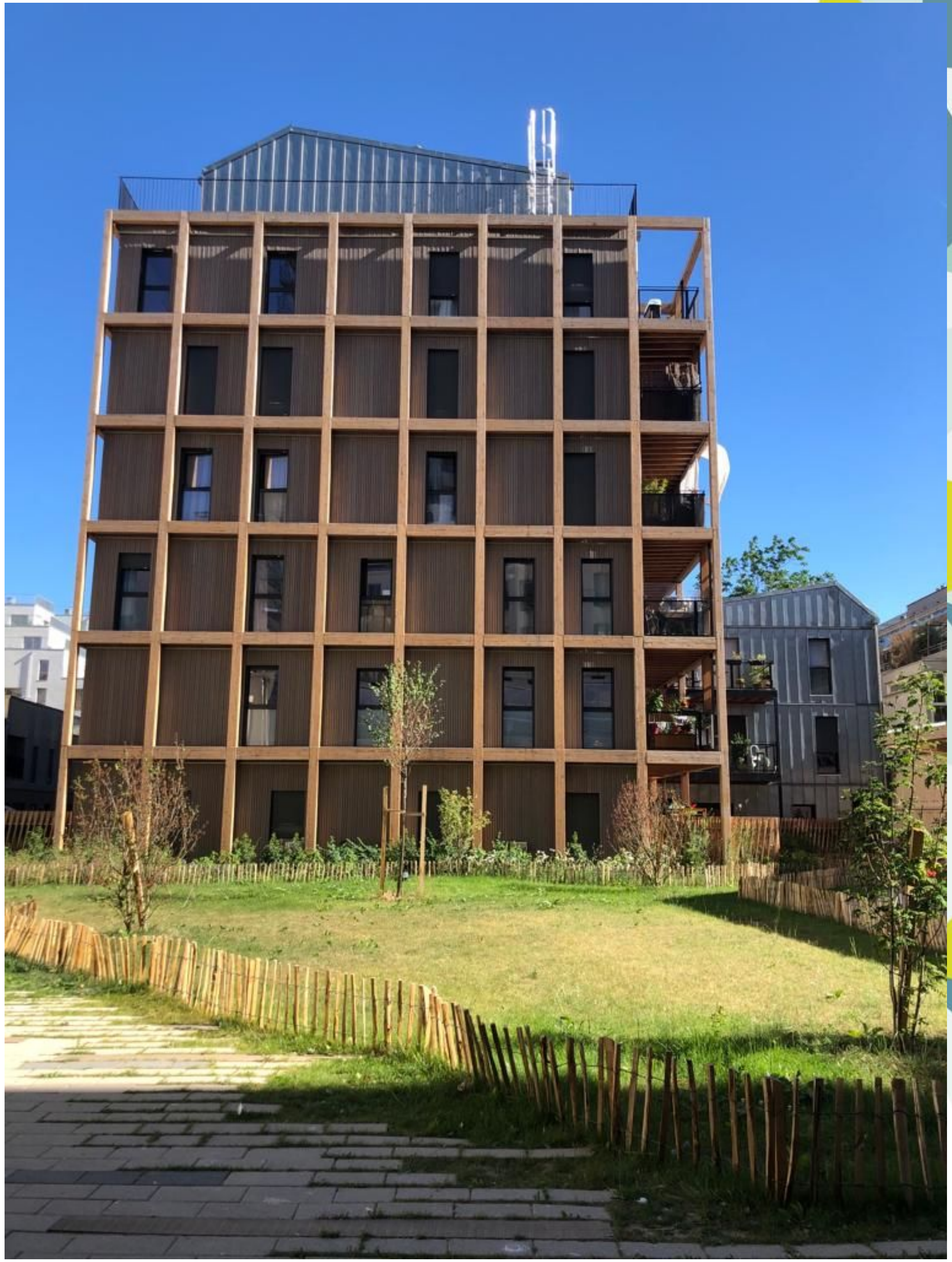
"If it is possible for the Olympics, it should be possible for ordinary buildings," said Julien Denormandie, minister for cities and housing, on 5 February. "I am imposing on all public bodies that manage development to construct their buildings with material that is at least 50% wood or other bio-sourced material."

The minister also called for the creation of 100 urban farms, with the first 30 to be selected by this summer. "As a father, I prefer that what is on my children's plates come from the local area, rather than being imported on a plane," he said. Â

Finally, he announced the objective of low-carbon cities that can adapt to heat waves and floods. This will involve the building of 90 "eco-neighbourhoods", to be organised by the a new body called "France Ville Durable", chaired by Patrice Vergriete, mayor of Dunkirk.

In 2016, it was announced that the city of Bordeaux would acquire France's first timber towers. The Hyperion towers (pictured), will be 50m and 57m in height. They are being developed by Bordeaux Euratlantique, a public body involved in modernising the city. The project is due to be completed later this year.

Paris



Paris

Paris

Y-SÄÄTIÖ

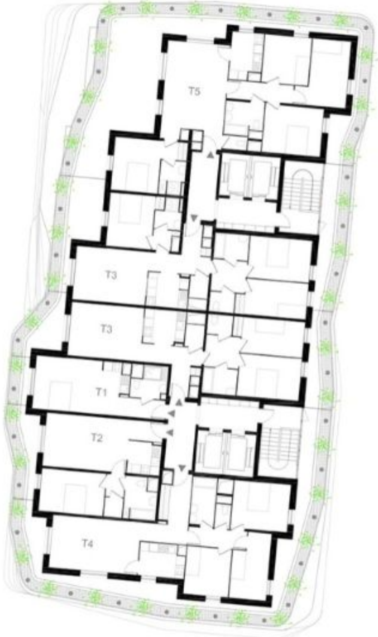
Paris

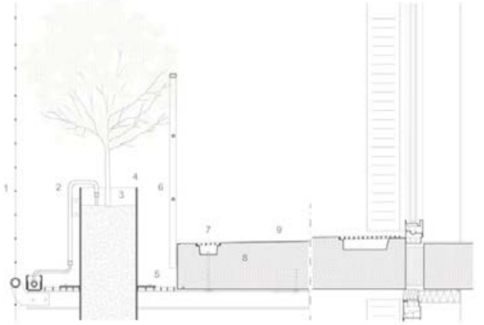
Paris


PARIS
SNCF
LA PETITE CEINTURE DU 16e
LA PETITE CEINTURE
VIGIPIRATE
SECURITE RENFORCEE
RISQUE ATTENTAT


LEADER CASH

Paris





1 - Stainless steel net
2 - Watering system
3 - Soil
4 - Stainless steel tube - Green support
5 - Maintenance footbridge
6 - Separating balustrade
7 - Rainwater collection
8 - Concrete balcony
9 - Impermeability

M6B2 Tower of Biodiversity / Edouard Francois

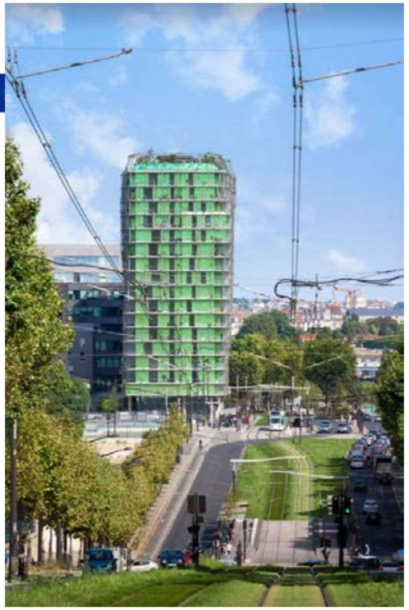
APARTMENTS, RETAIL, SUSTAINABILITY & GREEN DESIGN · PARIS, FRANCE

Architects: Edouard Francois

Area : 13830 m²

Year : 2016

Photographs : Pierre L'Excellent



Paris

- Rooftop farm, Paris expo building https://www.paris-expo-portedeversailles.com/en/site/paris-expo-porte-de-versailles
- Restaurant on the roof 2022 https://leperchoir.fr/location/le-perchoir-porte-de-versailles/#infos

Photograph: Nature Urbaine

The world's largest urban farm has opened on a rooftop in Paris

The 14,000-square-metre complex is already providing fruit and veg to homes and restaurants across the capital

Written by Huw Oliver Wednesday 5 August 2020

Patch by patch, plot by plot, Paris is gradually getting greener. Just last week, we reported on the city's plans to plant four new 'urban forests' next to major landmarks. And now just take a look at this.

The world's largest urban farm has opened on top of the Parc des Expositions building in the 15th arrondissement – and it's already providing fruit and veg to homes and restaurants across the city's Left Bank.

Nature Urbaine : une ferme urbaine sur les toits de Paris

Publié le : 29 Août 2021 · Mis à jour le : 30 Août 2021 · 3 minutes

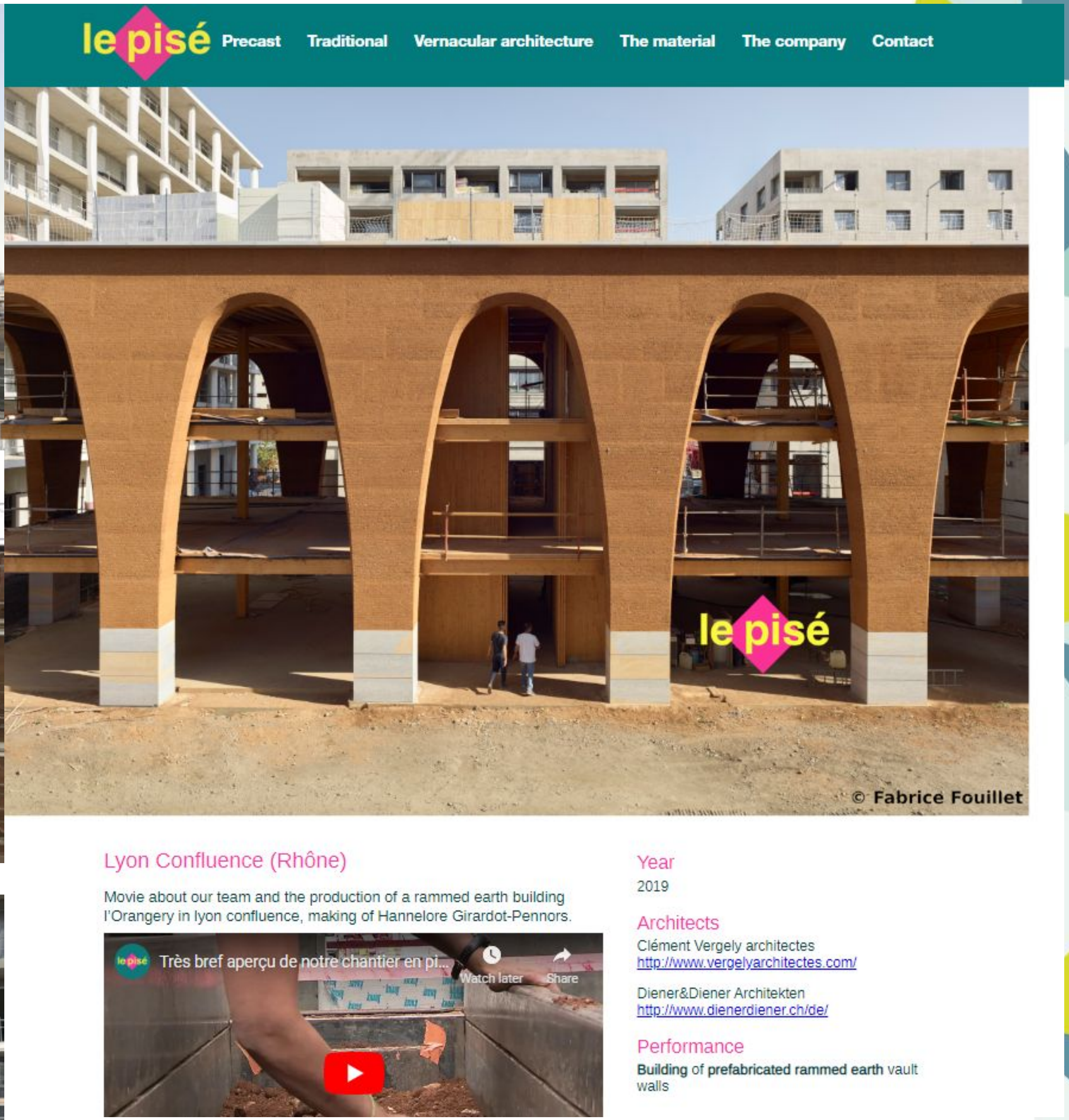
Y-SÄÄTIÖ

Lyon

- Confluence district

Lyon

- http://www.construction-pise.fr/
- Confluence district
- Rammed earth building
- Co-working area



Y-SÄÄTIÖ

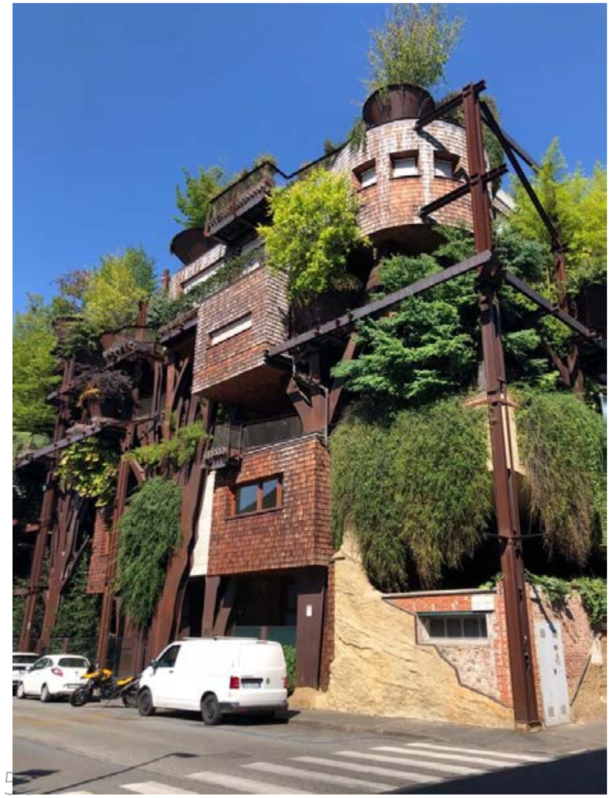
Lyon

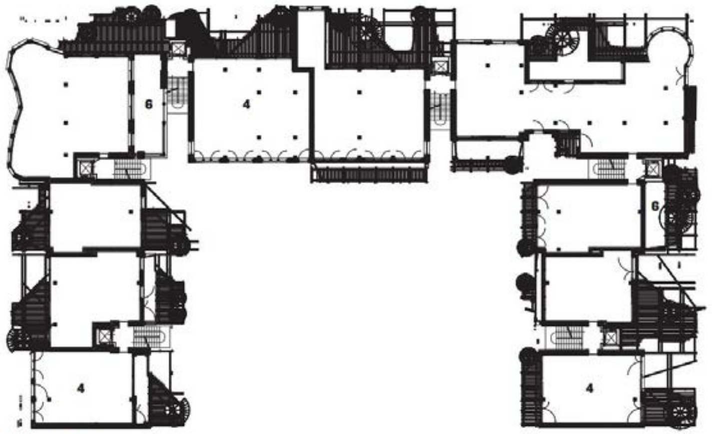
- Confluence district
- Rammed earth building
- Co-working area

Y-SÄÄTIÖ

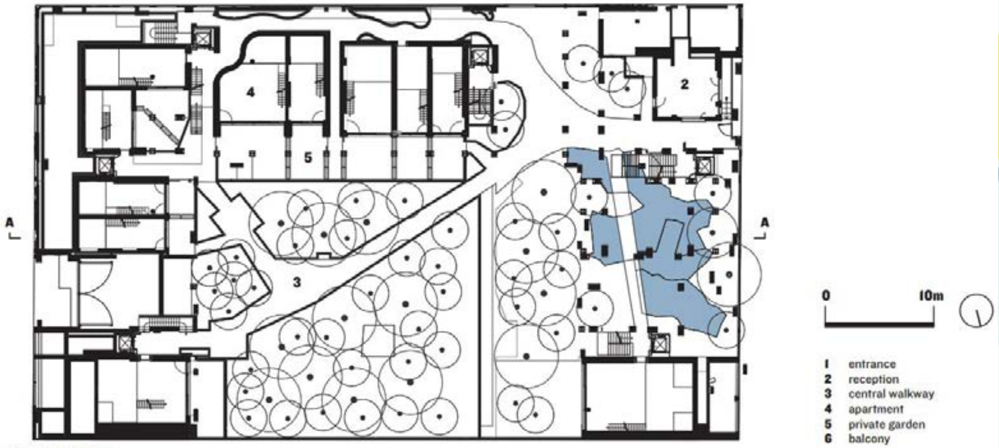
Turin

- 25 Verde in Turin by Luciano Pia
- https://www.lucianopia.it/opere-e-progetti/2007-2012-25-green-25-verde/

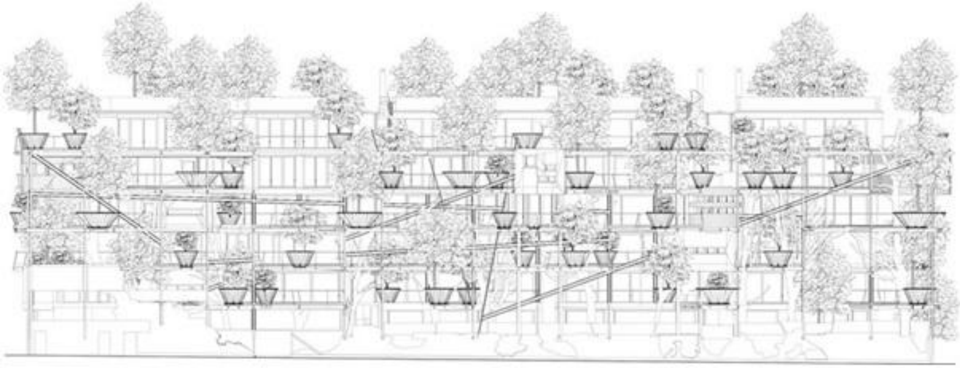




fourth floor plan



ground floor plan



Turin

- Lingotto rooftop park

Biodiverse Roof Garden Added to Iconic Lingotto Factory in Turin

Benedetto Camerana greens a very big roof.

By Lloyd Alter | Published June 27, 2022 02:00PM EDT | Fact checked by Katherine Martinko

Mario Schiavone / Benedetto Camerana

Wien

- https://www.iba-wien.at/en/

Y-SÄÄTIÖ

Wien

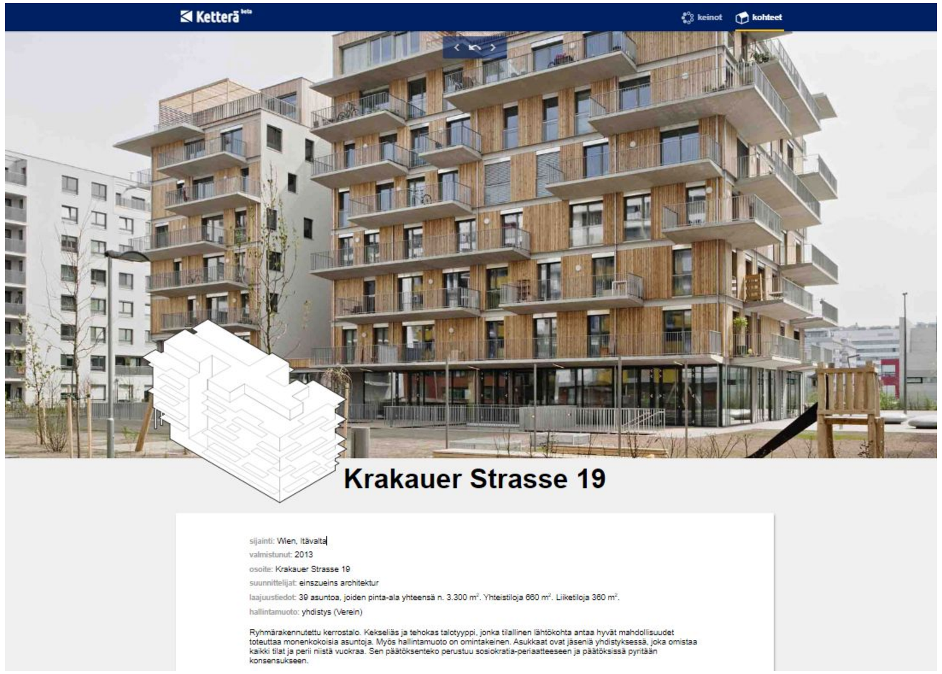
- Example of rural and urban soil layers
- https://www.azw.at/en/event/hot-questions-cold-storage/

Y-SÄÄTIÖ

Wien

- https://housingcookbook.com/kohteet/krakauer-strasse-19

LUONNOS

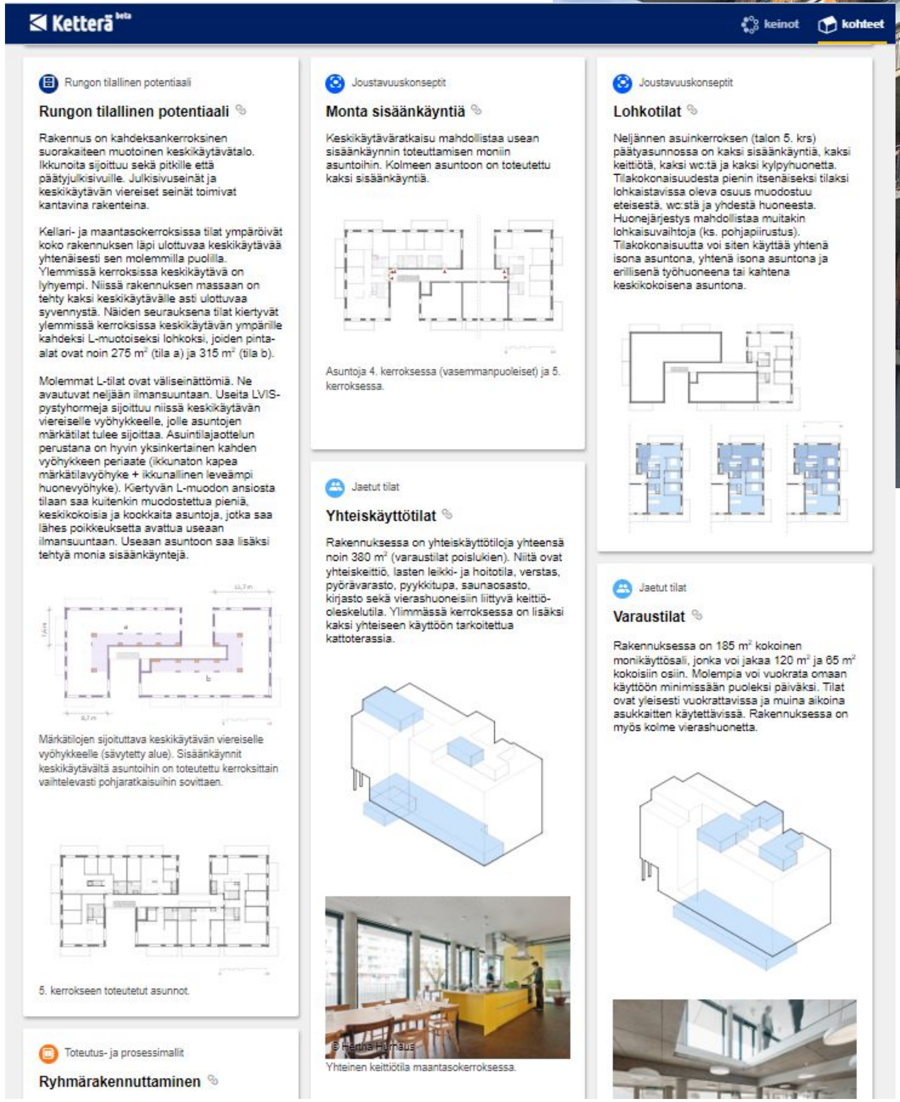


Ketterä beta
keinot
kohteet

Krakauer Strasse 19

sijainti: Wien, Itävalta
valmistunut: 2013
osoite: Krakauer Strasse 19
suunnittelijat: einszueins architektur
laajuustiedot: 39 asuntoa, joiden pinta-ala yhteensä n. 3.300 m². Yhteistiloja 660 m². Liiketiloja 360 m².
hallintamuoto: yhdistys (Verein)

Ryhmärakennutettu kerrostalo. Kekseliäs ja tehokas talotyyppi, jonka tilallinen lähtökohta antaa hyvät mahdollisuudet toteuttaa monenkokoisia asuntoja. Myös hallintamuoto on omintakeinen. Asukkaat ovat jäseniä yhdistyksessä, joka omistaa kaikki tilat ja perii niistä vuokraa. Sen päätöksenteko perustuu sosiokratia-periaatteeseen ja päätöksissä pyritään konsensukseen.



Ketterä beta
keinot
kohteet

Rungon tilallinen potentiaali

Rungon tilallinen potentiaali

Rakennus on kahdeksankerroksinen suorakaiteen muotoinen keskikäytävätalo. Ikkunoita sijoittuu sekä pitkille että päätyjulkisivuille. Julkisivuseinät ja keskikäytävän viereiset seinät toimivat kantavina rakenteina.

Kellari- ja maantasokerroksissa tilat ympäröivät koko rakennuksen läpi ulottuvaa keskikäytävää yhtenäisesti sen molemmilla puolilla. Ylemmissä kerroksissa keskikäytävä on lyhyempi. Niissä rakennuksen massaan on tehty kaksi keskikäytävälle asti ulottuvaa syvennystä. Näiden seurauksena tilat kiertyvät ylemmissä kerroksissa keskikäytävän ympärille kahdeksi L-muotoiseksi lohkoksi, joiden pinta-alat ovat noin 275 m² (tila a) ja 315 m² (tila b).

Molemmat L-tilat ovat väliseinättömiä. Ne avautuvat neljään ilmansuuntaan. Useita LVIS-pystyhormeja sijoittuu niissä keskikäytävän viereiselle vyöhykkeelle, jolle asuntojen märkätilat tulee sijoittaa. Asuintilajaottelun perustana on hyvin yksinkertainen kahden vyöhykkeen periaate (ikkunaton kapea märkätilavyöhyke + ikkunallinen leveämpi huonevyöhyke). Kiertyvän L-muodon ansiosta tilaan saa kuitenkin muodostettua pieniä, keskikokoisia ja kookkaita asuntoja, jotka saa lähes poikkeuksetta avattua useaan ilmansuuntaan. Useaan asuntoon saa lisäksi tehtyä monia sisäänkäyntejä.

Märkätilojen sijoituttava keskikäytävän viereiselle vyöhykkeelle (sävytetty alue). Sisäänkäynnit keskikäytävältä asuntoihin on toteutettu kerroksittain vaihtelevasti pohjaratkaisuihin sovittaen.

5. kerrokseen toteutetut asunnot.

Toteutus- ja prosessimallit

Ryhmärakennuttaminen

Joustavuuskonseptit

Monta sisäänkäyntiä

Keskikäytäväratkaisu mahdollistaa usean sisäänkäynnin toteuttamisen moniin asuntoihin. Kolmeen asuntoon on toteutettu kaksi sisäänkäyntiä.

Asuntoja 4. kerroksessa (vasemmanpuoleiset) ja 5. kerroksessa.

Jaetut tilat

Yhteiskäyttötilat

Rakennuksessa on yhteiskäyttötiloja yhteensä noin 380 m² (varaustilat poislukien). Niitä ovat yhteiskeittiö, lasten leikki- ja hoitotila, verstas, pyörävarasto, pyykkitupa, saunaosasto, kirjasto sekä vierashuoneisiin liittyvä keittiö-oleskelutila. Ylimmässä kerroksessa on lisäksi kaksi yhteiseen käyttöön tarkoitettua kattoterassia.

© Hertha Hurnaus

Yhteinen keittiötila maantasokerroksessa.

Joustavuuskonseptit

Lohkotilat

Neljännen asuinkerroksen (talon 5. krs) päätyasunnossa on kaksi sisäänkäyntiä, kaksi keittiötä, kaksi wc:tä ja kaksi kylpyhuonetta. Tilakokonaisuudesta pienin itsenäiseksi tilaksi lohkaistavissa oleva osuus muodostuu eteisestä, wc:stä ja yhdestä huoneesta. Huonejärjestys mahdollistaa muitakin lohkaisuvaihtoja (ks. pohjapiirustus). Tilakokonaisuutta voi siten käyttää yhtenä isona asuntona, yhtenä isona asuntona ja erillisenä työhuoneena tai kahtena keskikokoisena asuntona.

Jaetut tilat

Varaustilat

Rakennuksessa on 185 m² kokoinen monikäyttösali, jonka voi jakaa 120 m² ja 65 m² kokoisiin osiin. Molempia voi vuokrata omaan käyttöön minimissään puoleksi päiväksi. Tilat ovat yleisesti vuokrattavissa ja muina aikoina asukkaitten käytettävissä. Rakennuksessa on myös kolme vierashuonetta.

Y-SÄÄTIÖ

Wien Gleis 21

- The co-housing project was designed as a compact, zero-energy house („Niedrigstenergiehaus“) in a wood-hybrid construction and built in a resources saving way
- Half-open bottom floor

EUmiesaward EUROPEAN UNION PRIZE FOR CONTEMPORARY ARCHITECTURE MIES VAN DER ROHE AWARD

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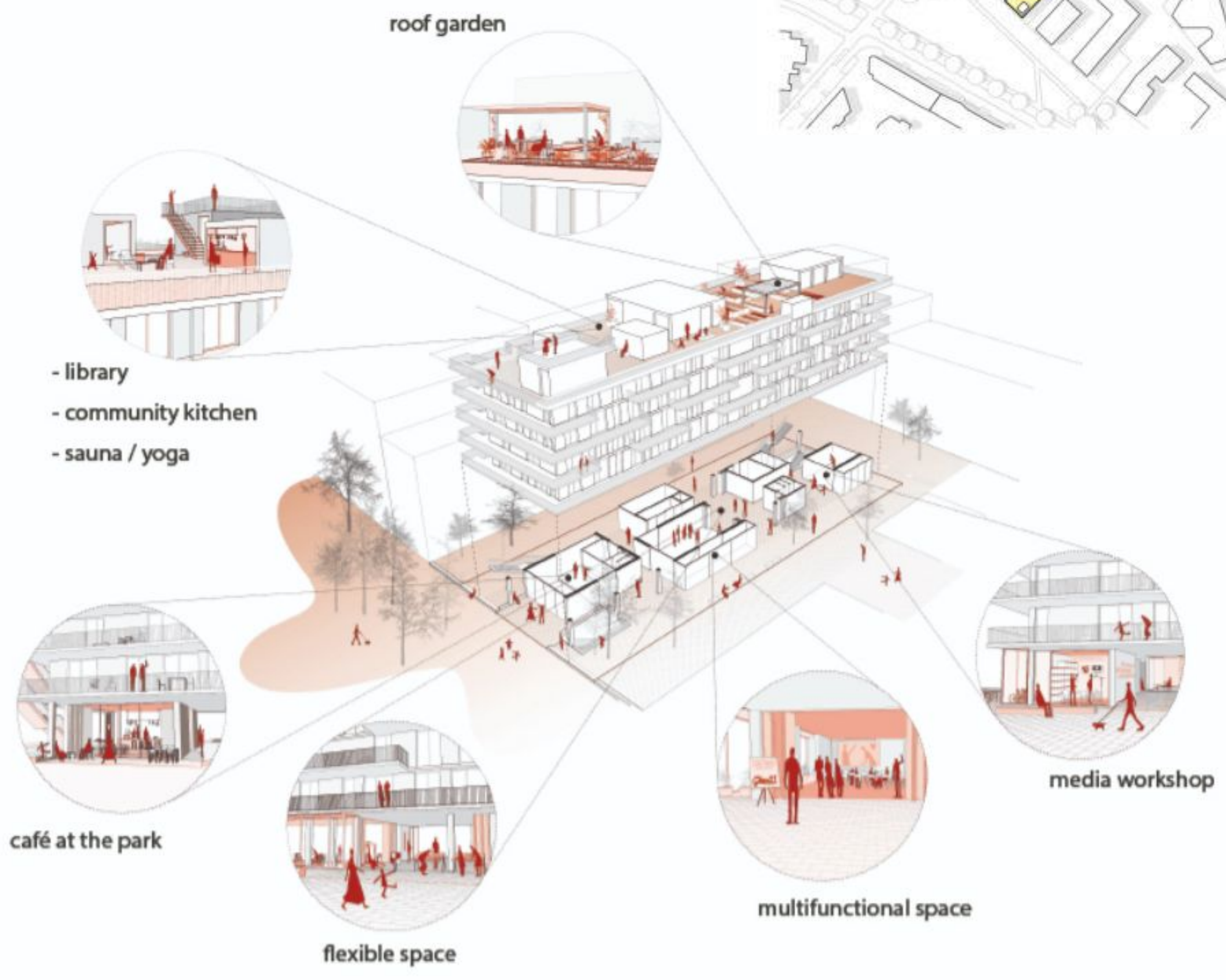
Gleis 21 - We bring the village to the city

Lived Urbanity. We bring the village to the city.

Gleis 21 - View from Park
© Hertha Hurnaus

Wien Gleis 21



Wien

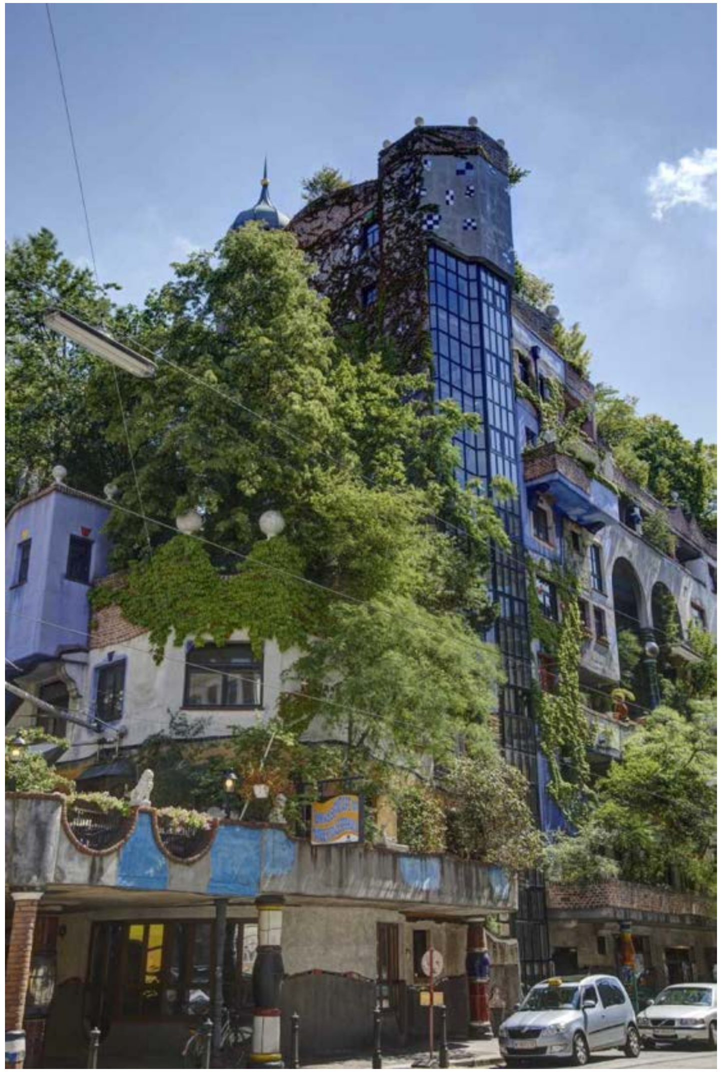
LUONNOS

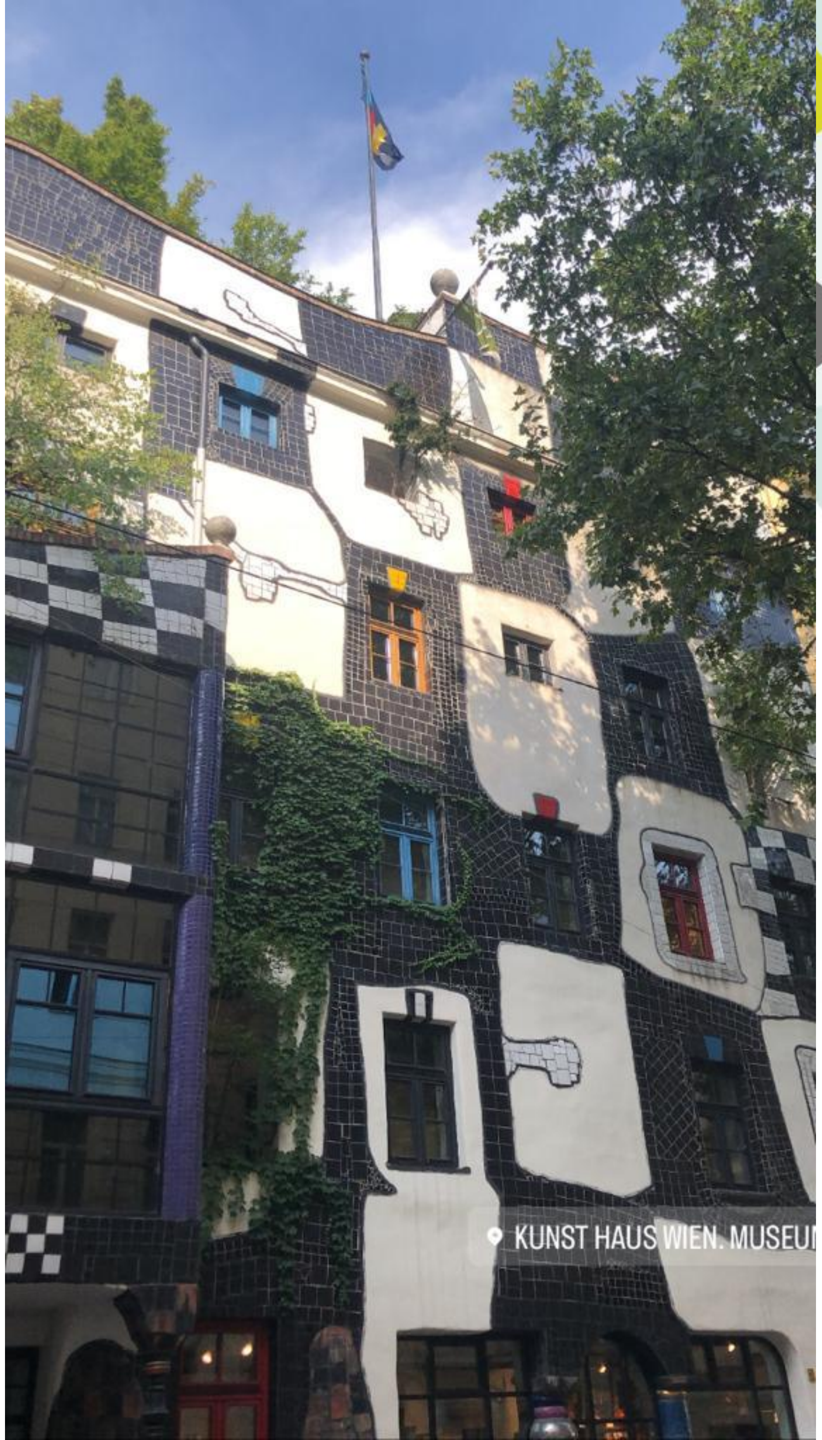
Wien

- https://graetzloase.at/

Wien: Hundertwasser projects

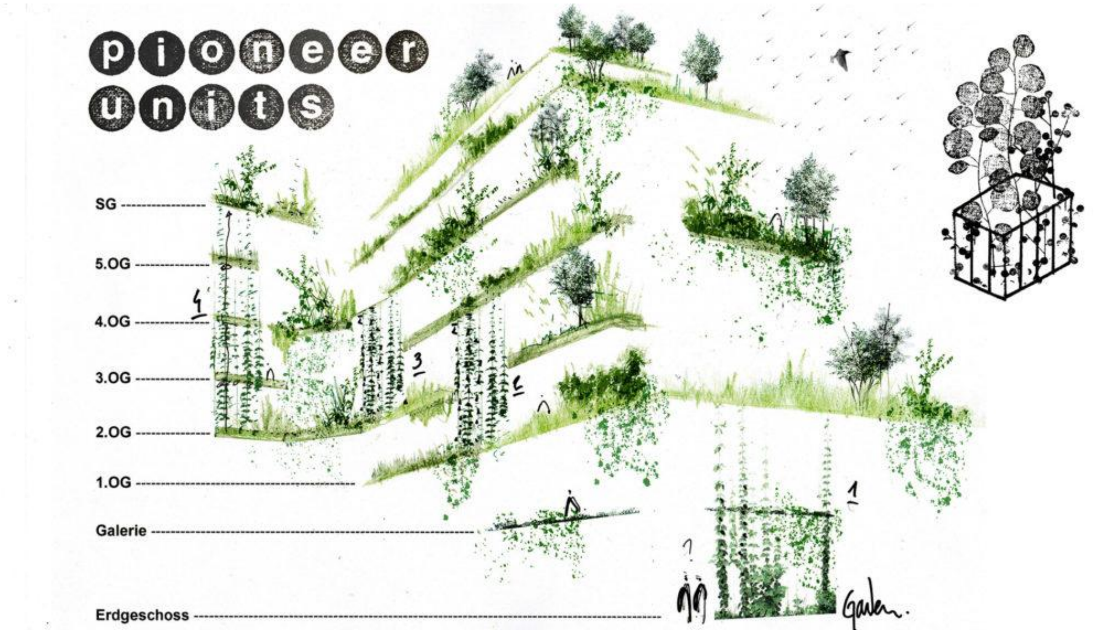
- Hundertwasserhaus 1983–1986
- Kunsthaus Wien 1991 Museum was created through the renovation of the 1892 building which housed the Thonet furniture factory





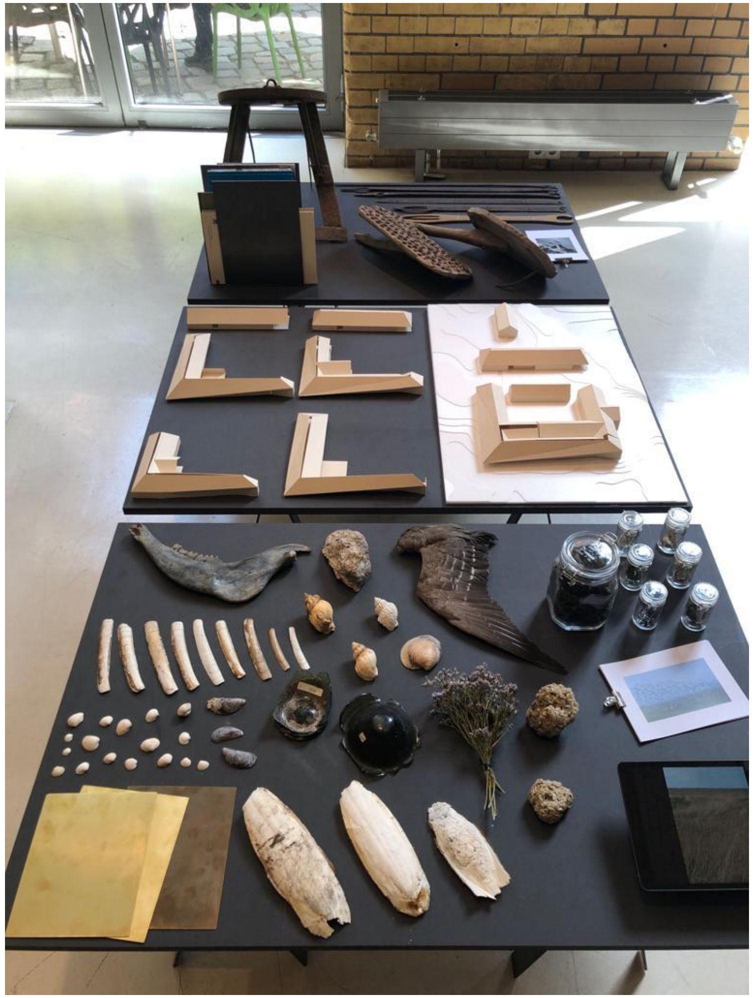
Berlin Köpenicker Straße

- Belin Michels Architekten
- Atelier Le Balto https://www.lebalto-leblog.eu/pioneer-units/



Berlin Dorte Mandrup exhibition

- Wadden Sea Centre 2017
- Thatched roof and facades



Other sustainability examples

Biobased circular economy

Chourkina et al, Nature sustainability 2020

https://www.nature.com/articles/s41893-019-0462-4


nature sustainability

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nature › nature sustainability › perspectives › article

Perspective | Published: 27 January 2020

Buildings as a global carbon sink

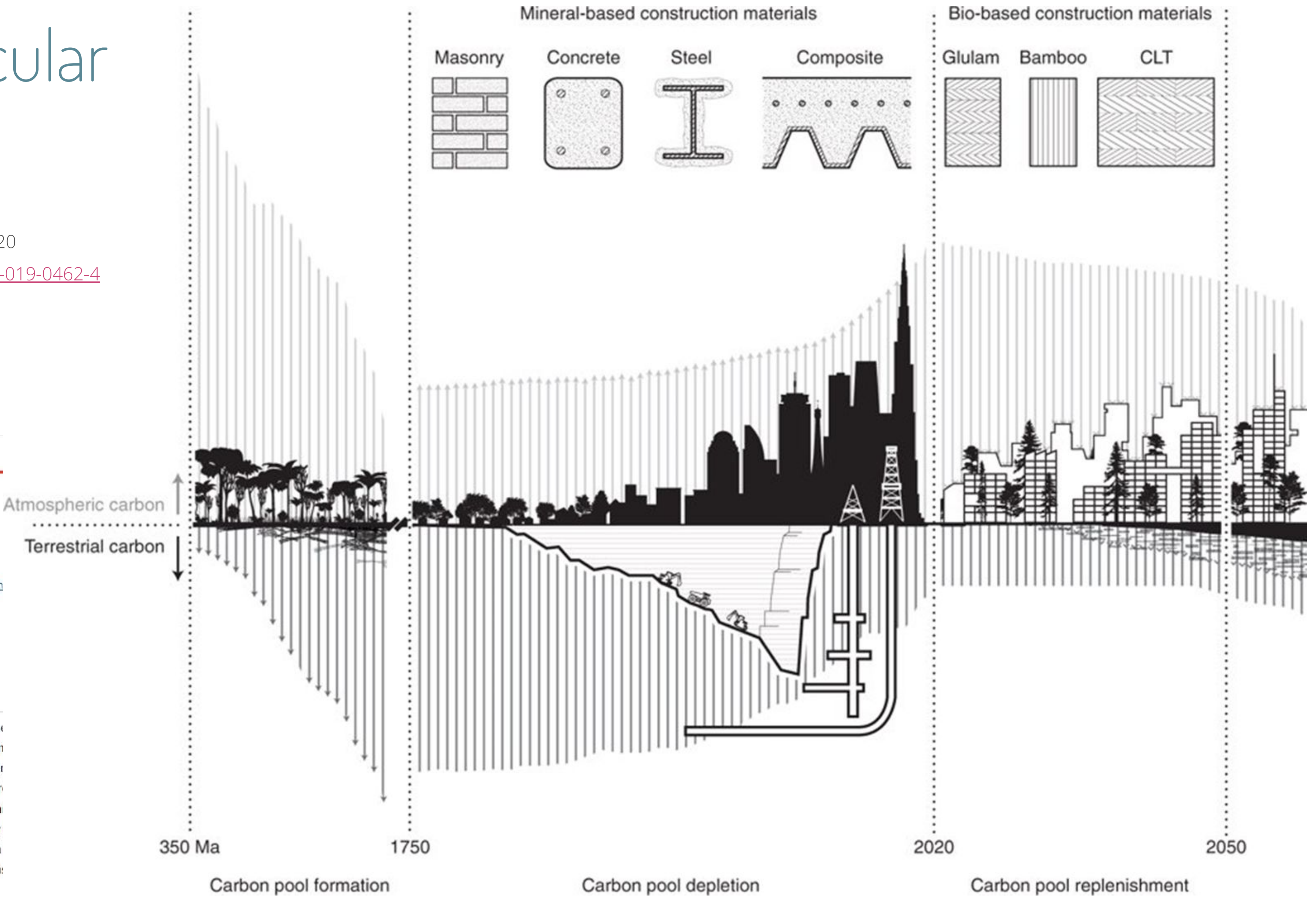
Galina Churkina, Alan Organschi, Christopher P. O. Reyer, Andrew Ruff, Kira Vinke, Zh
Reck, T. E. Graedel & Hans Joachim Schellnhuber

Nature Sustainability 3, 269–276 (2020) | Cite this article

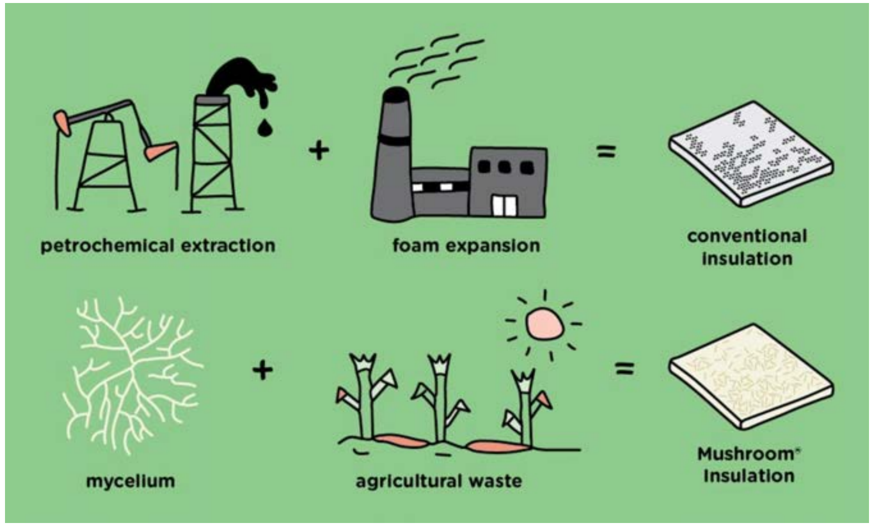
9786 Accesses | 177 Citations | 339 Altmetric | Metrics

Abstract

The anticipated growth and urbanization of the global population over the n
decades will create a vast demand for the construction of new housing, comm
and accompanying infrastructure. The production of cement, steel and other
materials associated with this wave of construction will become a major sour
greenhouse gas emissions. Might it be possible to transform this potential th
climate system into a powerful means to mitigate climate change? To answer
question, we explore the potential of mid-rise urban buildings designed with
timber to provide long-term storage of carbon and to avoid the carbon-inten
of mineral-based construction materials.



Biobased circular economy



LinkedIn
https://www.linkedin.com/pulse/mushroom-buildings-possibilities-using-mycelium-alberto-zancanella/?trk=eml-email_series_follow_newsletter_01-footer_promo-3-primary_cta_link&midToken=AQENUbiOZSPL7g&fromEmail=fromEmail&ut=3hgVvM2HNpuGo1&fbclid=IwAR2CpjXEJbtTY_zkbFiD5Qo_ckS5lDpJRjCW4yzOsI0L6CU3jjL-7OUMNLI

Mushroom Buildings? The Possibilities of Using Mycelium in Architecture

Published on August 23, 2022

Alberto Zancanella
MBA Candidate @BBS | Country manager China, ASEAN, and GCC presso ICA Group
44 articles

Fungi are everywhere. In the air, in the water, in our bodies, in the trees, in the ceilings of our bathrooms, underground. They can be mushrooms (edible, medicinal, hallucinogenic, or very poisonous), or take other simpler forms, such as molds. They can trigger illnesses, but they can also produce antibiotic remedies, such as penicillin, or help ferment amazing cheeses and breads.

Could they also be the future of #packaging and #building #materials?

Y-SÄÄTIÖ

Biobased circular economy

LinkedIn
https://www.linkedin.com/pulse/future-materials-architecture-biocomposites-alberto-zancanella/?trackingId=UQN4L61%2FQzWuSu5wCabg5g%3D%3D&fbclid=IwAR3G9-TgGfEVSWo5aPJkEEPwzldqBl9CpT-e_EoEli1MNnvthIyi7DyJBJw

Biodegradable Materials for the Construction Industry

Future Materials: The Architecture of Biocomposites

Published on August 9, 2022

Alberto Zancanella
MBA Candidate @BBS | Country manager China, ASEAN, and GCC presso ICA Group
44 articles

Architecture is born from materials. Between structure, light, movement, and comfort, materials profoundly shape our experiences.

Mycelium Materials: The Future of Growing our Homes

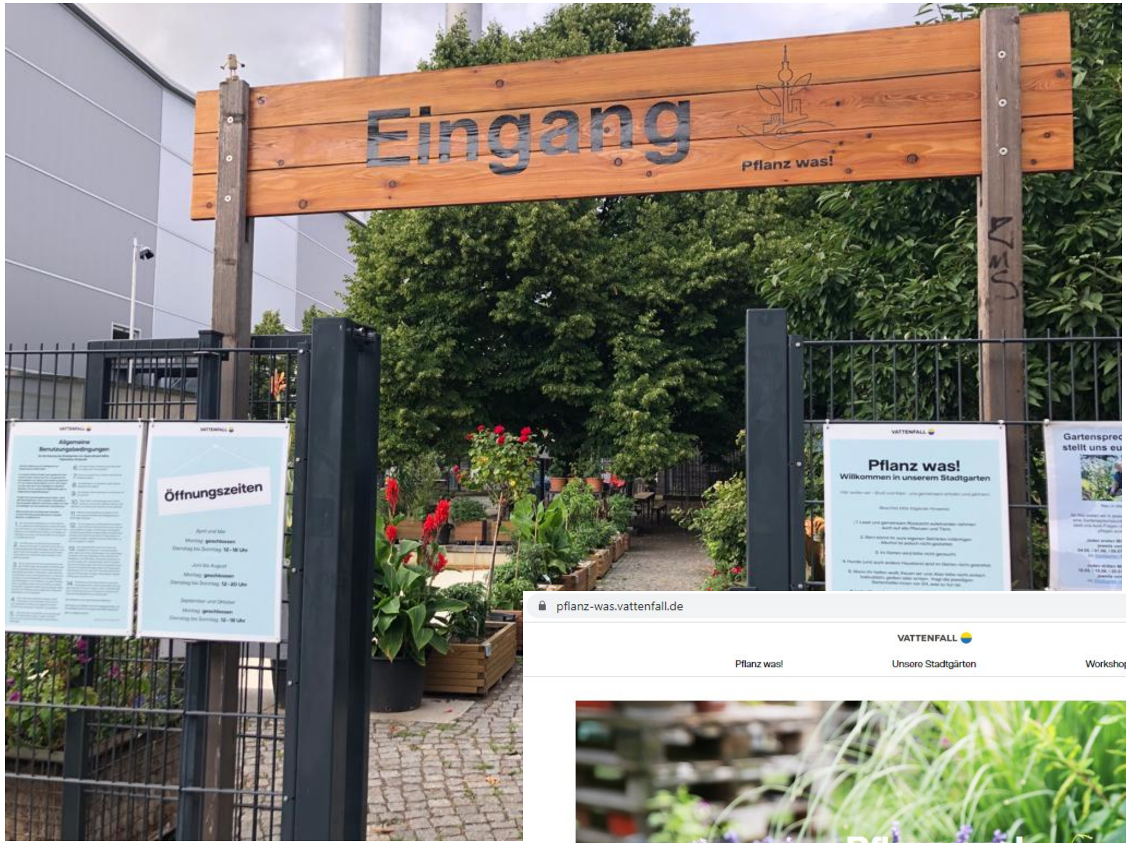
For industrial biotechnology, fungi like yeast are commonly used catalysts for bioprocesses such as beer brewing or bakery. Yet, there is more that fungi are capable of.

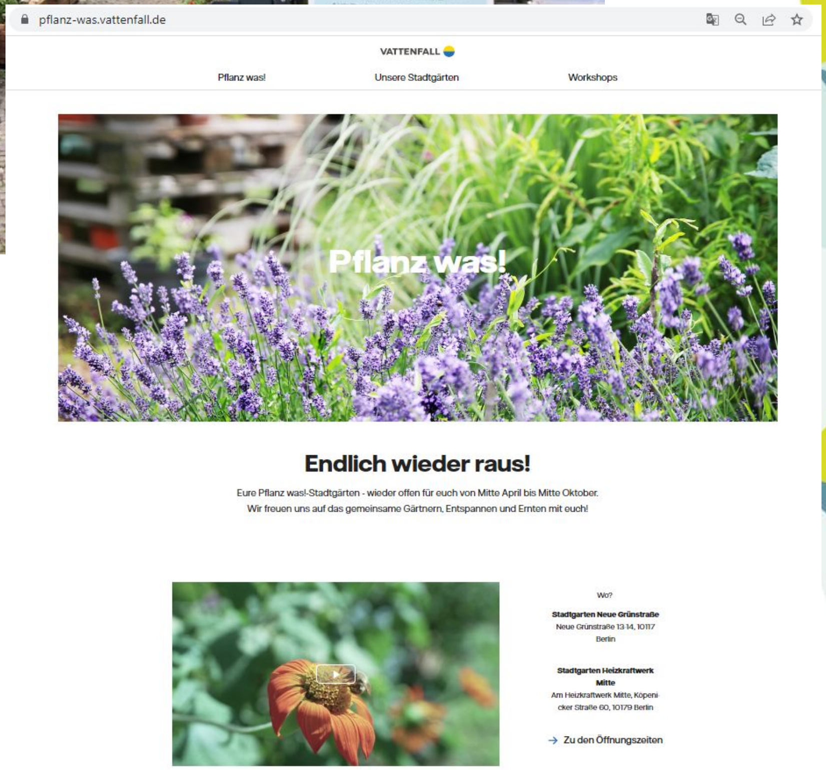
In nature, the fungal kingdom represents the most abundant group of organisms bearing various important roles such as degrading dead organic matter, delivering nutrients to plants, detoxifying soil and purifying water from heavy metals.

Y-SÄÄTIÖ

Vattenfall Stadtgärten

- https://pflanz-was.vattenfall.de/
- Vattenfall energy company's city gardens 2022
- Stadtgarten Neue Grünstraße
  Neue Grünstraße 13-14, 10117 Berlin
- Stadtgarten Heizkraftwerk Mitte
  Am Heizkraftwerk Mitte, Köpenicker Straße 60, 10179 Berlin





Low carbon travel

- Swedish family arriving to Berlin with a night train from Stockholm with their foldable bikes

Y-SÄÄTIÖ