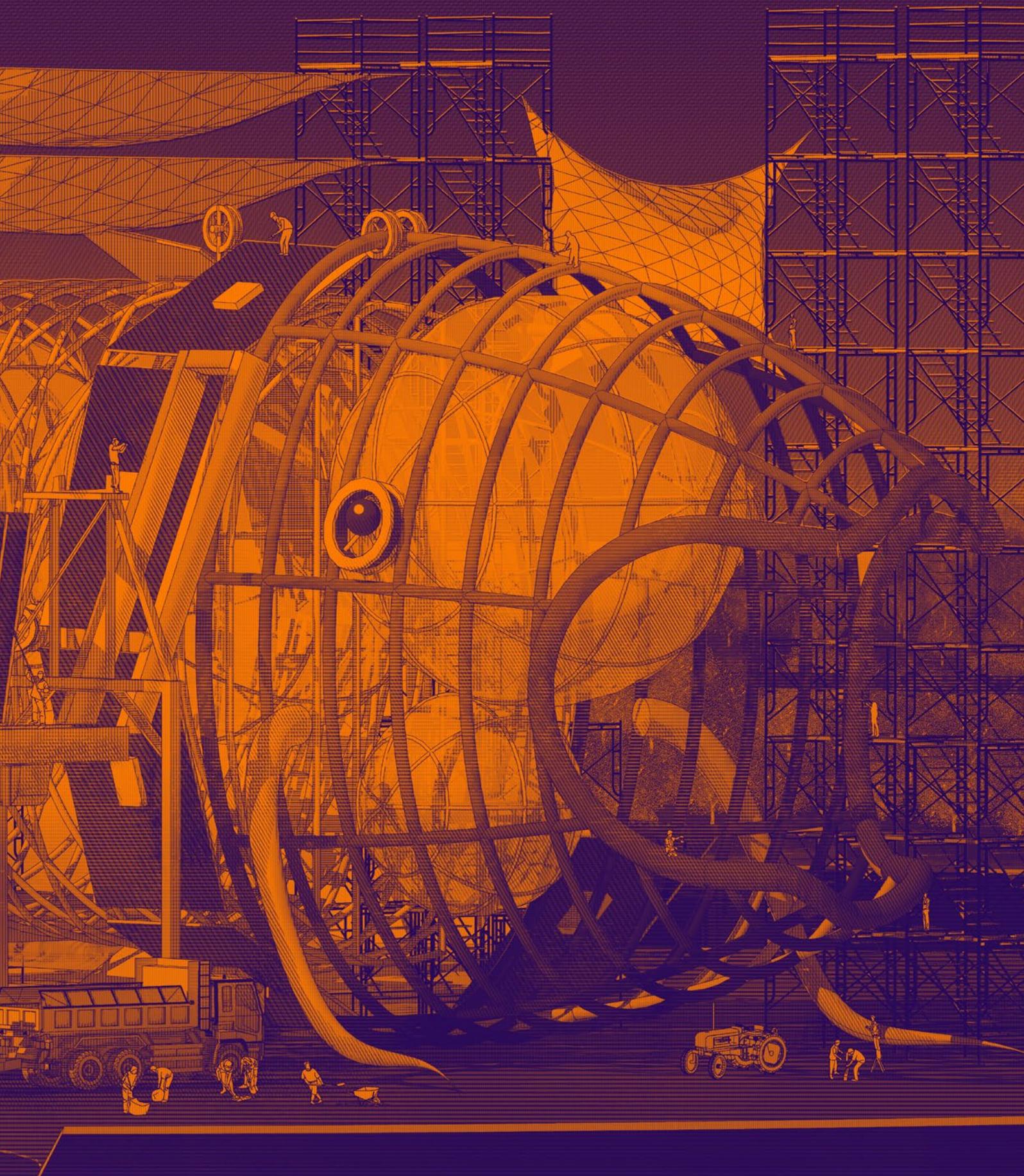


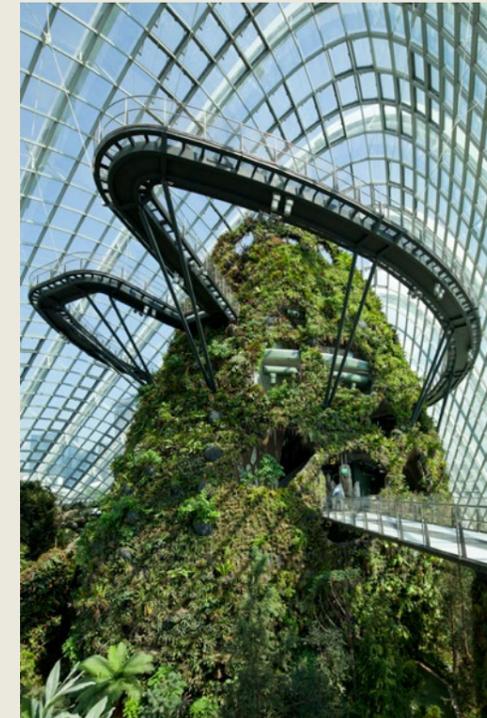
Design Update

— 3

VitruA



VitrA



— Cool moist biome, Gardens by the Bay, Singapore, WilkinsonEyre



I find it extremely encouraging that the debate around water consumption and treatment has become so prominent. In school most of us were only taught the facts and percentages of how much water covered the earth or how much filled our bodies, missing out on a more philosophical understanding of how important water is in our lives.

As a bathroom specialist it's a topic that, unsurprisingly, tends to be at the forefront of our minds – whether it's the physics and chemistry of water or less tangible outcomes like relaxation and wellbeing.

So this issue of *Design Update* picks up the debate and looks to the past and to the future with the theme of water. We hear from leading design journalists, industry professionals and some of the Vitra team on how new ways of thinking are even shaping how a tap is turned on or off.

This issue runs in parallel with the preparation of our new London showroom near Farringdon station. Since learning and innovating by discussion is one of the most important aspects of what we do, we've dedicated an area of the building to social space. We look forward to welcoming you here to continue the discussions started on the following pages.

Margaret
Talbot

— MARGARET TALBOT, VITRA UK

The Water Issue

66 per cent of the world's inhabitants could live in water-stressed conditions by 2025 — GOV.UK

“Water is life, and clean water means health” — AUDREY HEPBURN

“Water, in all its forms, is what carries the knowledge of life throughout the universe.” —

ANTHONY T. HINCKS

“In rivers, the water that you touch is the last of what has passed and the first of that which comes; so with present time.” — LEONARDO DA VINCI

One in four of the world's cities are already experiencing water stress — RACONTEUR

A leaky tap can waste as much as 450 litres of water a day

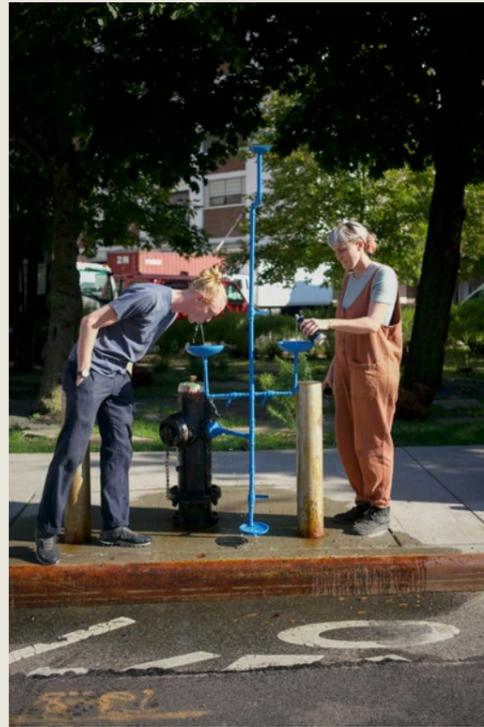
— THINK H2O

Global demand for water has increased sixfold in the last 100 years and continues to grow at a rate of around 1–2 per cent per annum — GLOBAL WATER FORUM

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timeline

Jane Withers is a leading design consultant, curator, writer, and founder of Jane Withers Studio.

Water Futures

— Design curator Jane Withers can't remember a time when water hasn't been a positive influence on her life. It's a passion that has been a recurrent theme throughout her career and has led to her latest research-based work ●

'I've always been fascinated by the elusive, mercurial qualities of water,' says Jane Withers, 'I find it extraordinary that water exists in so many different states and moods'. It's a fascination that Withers traces back to childhood; how 'this stuff that came out of the sky' could change the whole sensory experience. She recollects the intense disappointment of discovering at a young age that you weren't actually allowed to bathe in the famous Roman Baths in the city of Bath: 'It seemed we'd forgotten how to celebrate water in the way that Roman cultures did.'

Water is a recurrent theme in the work of Withers' research-based London design consultancy, whose projects include a prototype drinking fountain for London, designed by Michael Anastassiades, and the Wonderwater Cafés, a concept that has toured cities including Beijing, Helsinki, London and most recently the Triennale in Milan to raise awareness of water sustainability issues by elucidating the water footprints of dishes on a café menu.



— New Public Hydrant, New York City (2018), Tei Carpenter / Chris Woebken

It was whilst teaching at Design Academy Eindhoven in the early 2000s – when water scarcity was beginning to be taken seriously – that water became a central theme of Withers' work: 'I realised that, in northern Europe at least, we tend to treat water as an unwelcome guest. So many of the ways we use water don't make sense – we flush drinking water down the toilet while letting the valuable free resource of rainfall go to waste. And we import food grown using irrigation in climates that aren't suitable for industrial agriculture'.

While the water crisis was once perceived as one of scarcity restricted to the global south, that is by no means the full story, says Withers: 'Actually what we're facing is a much more complex picture that includes flooding, failing infrastructure and ineffective water management. The water crisis needs to be thought about holistically because, as we all know, the world's water is one resource that moves around'.

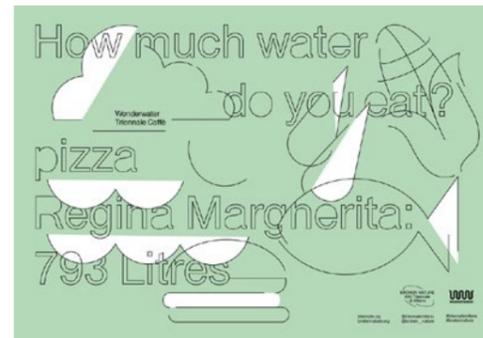
In the context of dramatically increasing global usage – due not just to growing populations but also to increasing per capita use and the existence of global food supply chains – Withers recently convened a year-long programme on water futures for A/D/O in New York that asked: what can design do to address the global water crisis?

'It was about building a little petri dish of multidisciplinary culture where ideas could thrive,' says Withers of the three seasons of talks, workshops, exhibitions and commissioned projects. Working with academics from a range of disciplines she put together a programme that aimed to inspire designers and to prompt collaborations with scientists, engineers, artists, ecologists and activists.

One strand of the programme explored how rain or water in the atmosphere could be captured rather than allowed to run away or evaporate. 'We found that there were vernacular traditions of collecting and storing water from the medieval period and much earlier, such as the ancient tradition of India's stepwells that were explored by Professor Morna Livingston. They were once very visible parts of communities but have been forgotten.' Every culture, says Withers, has its own histories of water and its different traditions of bathing cultures to learn from. In order to shape a more sustainable future, she believes, we need to re-evaluate our fundamental cultural connections to water.

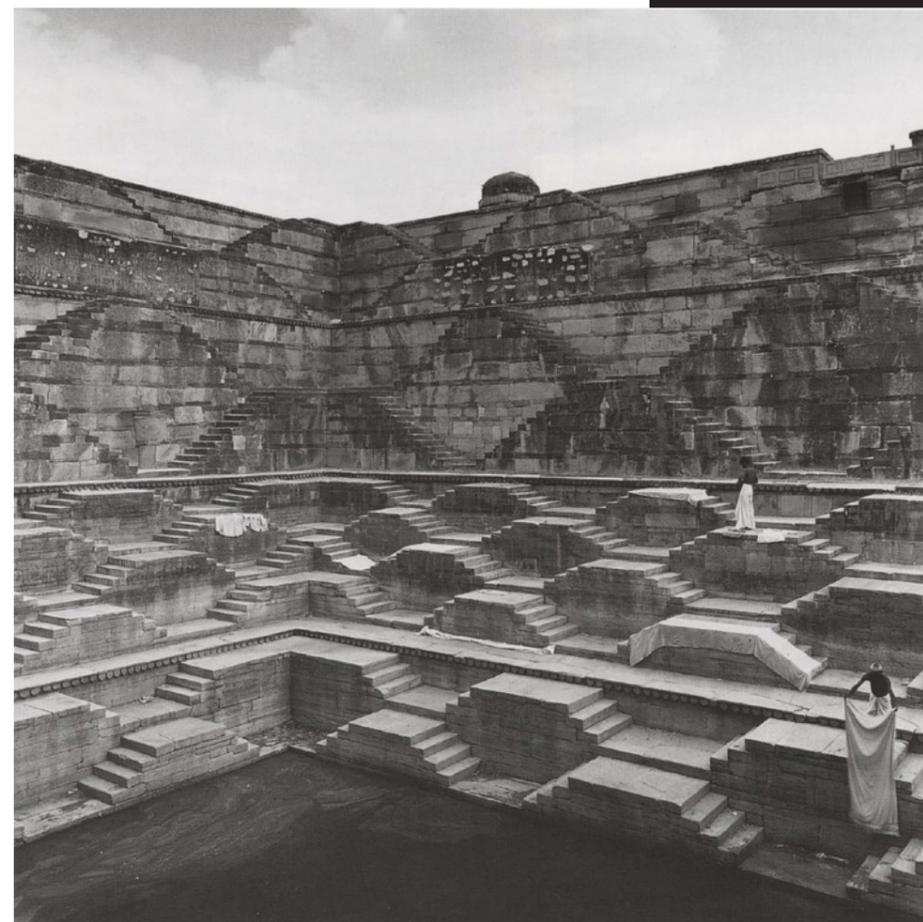
Other voices during the season included architectural historian Anthony Acciavati on living and working on the Ganges; author Ashley Dawson on the effect of rapid globalisation on water supply in cities; and Ravi Naidoo of Design Indaba on Cape Town's 'day zero' water crisis.

While the primary focus of the A/D/O programme was drinking water, water issues tend to be interlinked so that an important flash point of the programme was Reimagining Urban Water, a showcase of three commissioned design projects specific to the New York context but globally resonant. A high-concept proposal by SWINE investigated a new typology for the iconic Manhattan water tower that would collect and filter water instead of just storing it; while Ooze Architects' 'Every Other Grid' looked at

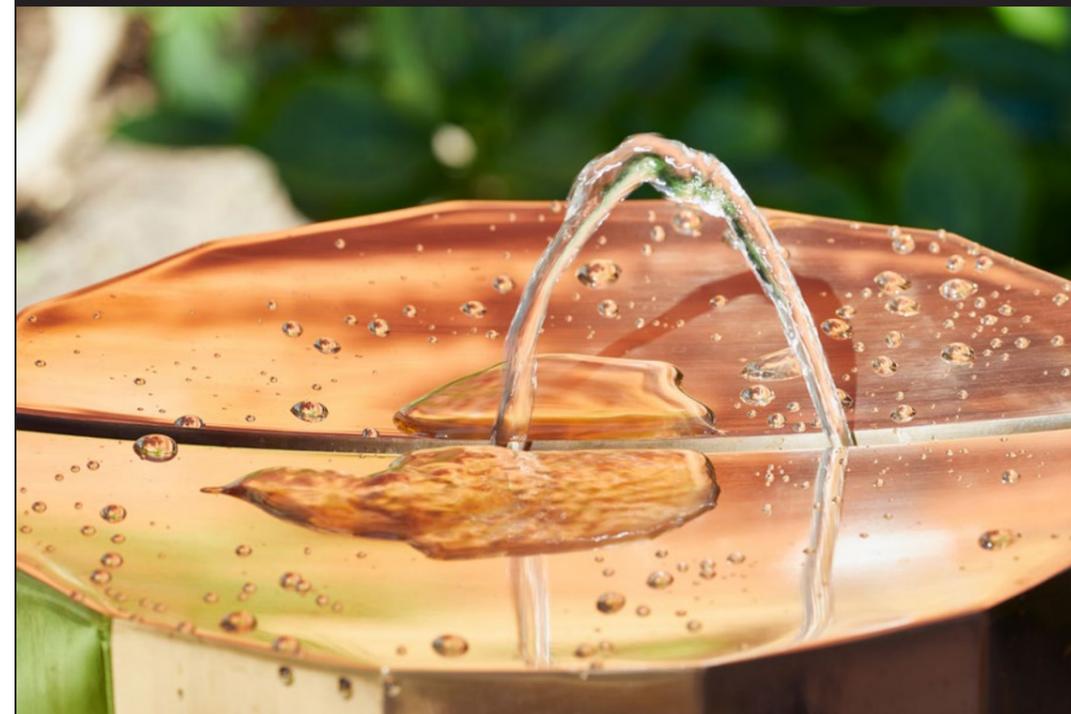


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— The planet's water is not just for everyone but for everything —



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— 1. Wonderwater @ Triennale Caffè for Broken Nature XXII Triennale di Milano, 1 March – 1 September 2019 — 2. Men bathing at Toda Raisingh Stepwell, India, from a talk given by Professor Morna Livingston at A/D/O Water Futures — 3. The Fleet drinking fountain

ways to green the city with pocket parks that capture, clean and re-use water – bringing water cycles down to a community scale. Tei Carpenter and Chris Woebken, meanwhile, explored ways of hacking New York's fire hydrants – which run off drinking water – into new sources of celebratory drinking fountains for people and pets.

What's next for Withers? In Autumn 2019 she is developing a sustainable model for public toilets funded by a café for Hyderabad Design Week. The 'Loo Café x Water Loop' concept, developed in collaboration with Anupama Kundoo Architects, the British Council and the Loo Café operators Ixora, showcases alternative ecological sanitation, circularity and nature-based systems by making them a visible, engaging and interactive part of a building. 'Water runs through us, through buildings and through cities but by and large we ignore it,' comments Withers, 'We've sort of made water invisible and we need to make it visible again'.

Her personal take on water futures is that we need to remember to celebrate water. As well as looking to technologies in the hunt for solutions she believes that we've got to learn to value water again by looking to the past. 'We should enjoy water more. It isn't always just about using less, it's also about using water more thoughtfully. Compare the joy – for instance – of Roman baths to two minutes in a sanitised shower cubicle. The planet's water is not just for everyone but for everything – for plant life and animal life. Yet we treat water as if it's just for us.'

A review of the A/D/O research programme, *Where Will the Water Come From?: One Year of Water Futures*, will be published in December 2019.

Sense and Sustainability

— For something as ubiquitous as water how can perceptions be shifted towards a more ecological approach to its use? We caught up with Ferit Erin – Vitra Bathrooms Group General Manager – to discuss how the tides are turning ●

DESIGN UPDATE: *Water is a hugely significant element in the sustainable futures agenda, from infrastructural and resource management issues at national level right down to the behaviour of end users in the home. How do you see the big picture of water and sustainability at Vitra?*

FERIT ERIN: There are various levels of responsibility. As a company we have a moral duty to reduce our water footprint, which is about designing re-use and recycling into our production processes. We also have a responsibility to promote reduced consumption at end user level, which we do through innovating with design and technology – and there is also an educational aspect. Beyond that, there is the big humanitarian issue, and questions of how to balance the management of water resources globally bearing in mind that water, currently at least, is key to much of the world's sanitation and therefore to human health.

Vitra is part of the Eczacıbaşı Group, with origins as a modernising pioneer of healthy living across a range of sectors. The ethos of the Group's founder, Nejat Eczacıbaşı, was: 'The true measure of private enterprise is its degree of success in raising social welfare'. He was strong in establishing that principle and the result is that Vitra today continues to uphold a tradition of serving society. An integral part of this of course is respecting our environment – and that goes hand in hand with contributing to health and education, to science and sports and to culture and the arts. The company's culture of participatory management helps to make sure that everyone is striving to-

wards clear objectives and goals and that the responsibility is shared.

The philosophy on sustainability is enshrined in Vitra's award-winning 'Blue Life' mission statement, which addresses design, production and also management issues to make sure that social and environmental responsibility remains at the core of the corporate model.

— We have a moral duty to reduce our water footprint – to design in re-use and recycling —

DU: *The 17 United Nations Sustainable Development Goals for 2030 are broad based and interdependent humanitarian aims. They include SDG 6, which relates specifically to promoting clean water and sanitation throughout the world. How has Vitra been contributing since the goals were set in 2015?*

FE: Vitra's Blue Life philosophy starts by identifying water as the most critical life-supporting resource. It was actually adopted in 2009 before the UN goals, but just like the SDGs it's a road map that keeps us firmly focused on goals to conserve the world's resources, not only water but power and raw materials too.

One of the things the Group is doing in relation to the SDGs is as a founding partner of the SDG Impact Accelerator – it's basi-

cally a cross-disciplinary global initiative to speed up the time frame for achieving the UN goals. It's a new platform, a way of promoting collaborative solutions to humanitarian crisis around the world, and its first focus is displaced people and refugee populations. Other partners include the UN Development Programme, the World Food Programme, Turkey's Ministry for Foreign Affairs and the Bill and Melinda Gates Foundation.

The Eczacıbaşı Group is working with the Gates Foundation on a pilot project – they're developing a new system, a portable toilet with non-sewage plumbing enabling seasonal field workers or refugees living in camps to have access to decent sanitation and therefore a better chance of good health. It's an evidence-based project, so prototypes are going to be tested and evaluated on the ground. Leading the project, Emre Eczacıbaşı, Innovation and Entrepreneurship Coordinator for the Group, pointed out at a workshop on Humanitarian Innovation earlier this year that sustainability has now overtaken technology as the principal driver of innovation. The SDGs have prompted a gear change in everyone – in relation to sustainability it's clear we need to be concentrating on human and cultural issues as well as scientific and technical ones.

In some ways the pilot is a logical progression of the ongoing Eczacıbaşı Hygiene Project that began back in 2007, and which aligns directly with SDG 6.2 and access to sanitation. It's focused on schools in low-income and rural areas of Turkey, and is partly about providing the practicalities of facilities and plumbing

infrastructure, partly about education in health – not just physical but emotional wellbeing as well. More than 50 schools across 38 provinces have benefitted so far. It's a programme that has won many international awards for social responsibility, including one from the UN.

DU: *Vitra's Blue Life sustainability philosophy covers a trinity of design, production and management issues. How does management fit into the environmental picture?*

FE: Blue Life is a way of sharing a focus on sustainability with Vitra employees and business partners, and creating a clear direction and goals. It's a strategy really, a way of integrating people, business and technology around a core value – and without management that can't happen. In fact Blue Life won the European Business Award for the Environment for its integrated approach to sustainability management. It provides a useful structure for employee training programmes on issues like water and power saving, and it's a way of encouraging teams to develop projects centred on resource conservation. It's also important that we pay attention to where our partners stand in terms of sustainability – it's a way of establishing clear benchmarks for everyone.

DU: *How is Vitra helping to inform specifiers and end users about the water consumption of its products?*

FE: Vitra has been very active in supporting the European Water Label. It's a colour-coded classification system and database that in fact now extends far

beyond Europe. It's aimed at consumers and professionals to make it easier to identify water-saving products and ties in with the metrics of initiatives such as BREEAM, LEED and the Code for Sustainable Homes. Labelling schemes are useful for consumers and professionals because, if done well, they cut through a lot of jargon and make it easy to compare sustainability credentials – like the traffic light labelling systems of foods in supermarkets.

We were also the first brand worldwide to publish an EPD (Environmental Product Declaration) for ceramic sanitaryware and the first ceramic brand in Europe to obtain an Energy Management Certification (ISO 50001), so in that sense we've always been a leader in the sector. And we are fully committed to continuing to lead the way by finding new ways to conserve the world's water resources.



Architecture Meets Water Sustainability

— Veronica Simpson asks architects and urbanists working at the forefront of water sustainability about current and emerging best practice ●

Veronica Simpson is a visual arts/design writer and an advocate for socially and environmentally intelligent design.



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— 1. The waterfall of WilkinsonEyre's cool-wet tropical Cloud Forest, one of two carbon-positive cooled conservatory environments at Gardens by the Bay, Singapore — 2. The social landscape of Eddington in Cambridge by Stanton Williams incorporates rainwater harvesting and Sustainable Drainage Strategies — 3. The 264 Eddington key worker homes meet the Code for Sustainable Homes Level 5

By 2060 over a billion people will be living in cities that are at risk of catastrophic flooding, according to a recent report by Christian Aid, a UK based charity. But rather than rely on huge, defensive sea barriers, the disciplines of engineering, architecture and landscaping are now working collaboratively to find intelligent, long term solutions.

One person's (or planet's) crisis is another's business opportunity, as London-based practice Baca Architects has found, after their Amphibious House project attracted major TV and media coverage for its innovative, flood friendly design back in 2016; set into concrete dock-like foundations, the house rises along with water levels.

Baca's schemes and ambitions have grown substantially since then. By incorporating water intelligently into every aspect of its design – from landscaping down to filtration – Baca recently won planning permission for a four star leisure park, the £25m Tyram Lakes Hotel and Spa in South Yorkshire, to be operated by Campbell Gray Hotels. Set in a former quarry, the excavated land will form a series of lakes, complemented by the lush woodland already established in this 165-acre site. Floating among reed beds on the western lake will be 50 eco lodges, currently under construction.

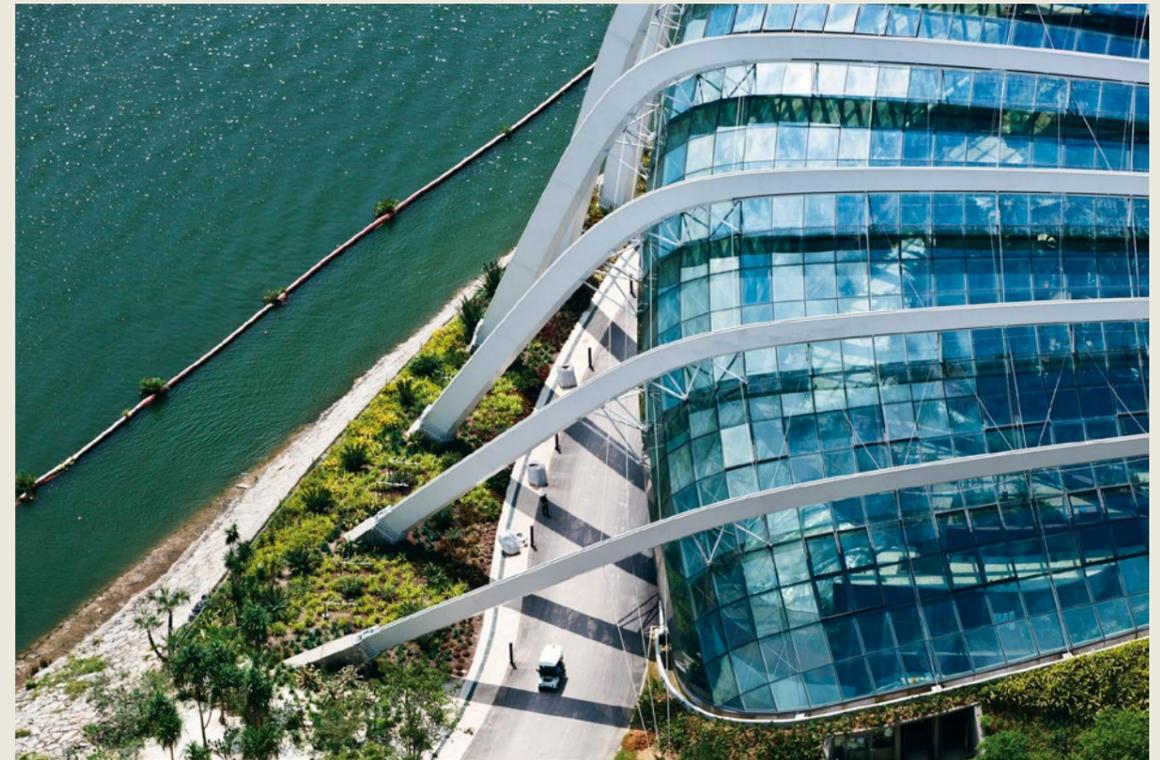
The scheme isn't 100 per cent carbon neutral, says Baca director Richard Coutts, but the aim is to get as close as possible, with total self-sufficiency in energy and waste infrastructure: reed bed filtration will treat the site's sewage, the lake will act as a heat-exchange battery, and drinking water will be drawn from an existing aquifer below the site. Interior materials will also be primarily recycled or locally sourced. Coutts says: 'We are trying to ensure that this is both as luxurious and responsible as possible.' For the same operators, Baca is currently looking at other sites around the UK, as well as internationally. Baca is also collaborating with Water Studio in Holland to develop floating resorts, with a prototype resort lodge already bobbing on the harbour in Miami.

Are these eco-friendly initiatives being driven by customer interest, or striving to create a new market? Either way, the appetite for more sustainable living is growing, as evidenced by the 100 per cent occupancy of the first phase of new bespoke, eco-homes on the North West edge of Cambridge. A pioneering development between landowner Cambridge University and Cambridge City Council, Eddington puts flood resistance, integrated water recycling and landscape irrigation at the heart of its placemaking, conservation and design strategy. Masterplanned by AECOM, the scheme employed 14 different architecture practices to design different elements, but all to the same exacting environmental standards. Stanton Williams has just completed 264 one- and two-bedroomed apartments, primarily for Cambridge University's postgraduates and research fellows, arranged around characterful and lushly planted public squares and gardens, which are part of the comprehensive water run-off and irrigation strategy (landscaped by Jane L Gibbons). Taking advantage of the site's gentle slope, rainwater rills set along the edge of cobbled foot and cycle paths feed into the ponds and planting. Rainwater is also harvested on 75 mm deep troughs placed on top of the apartment buildings' flat roofs, to be used for toilet flushing and washing machines.

WilkinsonEyre is another leading practice recruited for Eddington, a practice that helped to set new benchmarks for intelligent, integrated water strategies globally, with the opening in 2012 of both Singapore's Gardens by the Bay and The Crystal, in London. The world's first carbon-neutral leisure attraction, Gardens by the Bay (developed in collaboration with engineering and landscape partners Atelier Ten and Grant Associates) uses its two main lakes to purify and nourish the park's entire ecosystem: aquatic plants clean and rebalance the water run-off from the park's facilities, so it can be re-used for irrigation and refilling the adjacent reservoir. The Crystal is an events venue for client Siemens, in London's docklands, and incorporates rainwater and grey water harvesting and even black water treatment (on site purification of sewage), as well as generating all of its own power from solar energy and a ground source heat pump. It was the first building in the world to achieve the highest level in both US and UK sustainability accreditation schemes.

Water resilience is now a major focus for the architecture profession, and WilkinsonEyre's head of sustainability, Gary Clark, is working with the RIBA to write new guidelines for the profession. The new metrics are based on the UN Sustainable Development Goals (SDG), but simplify the 10-page UN document to create a set of clear and achievable targets. 'We need tools and we need facts,' he says. Which means, 'You have to measure in-use performance to achieve the goals that we are setting.'

One of the biggest challenges facing the industry, says Clark, is the need to achieve 50–60 per cent reduction in potable water use in the UK by 2030. However, while grey water re-use is an obvious solution for washing machines and flushing, it requires a substantial up-front investment in parallel pipework systems, which makes it problematic to retrofit. Harvesting rainwater is a less costly alternative, but here there are also hidden complications: 'Our Victorian drainage system is designed to have lots of water flushed through it, and if you reduce the water too much it doesn't work. So we've got to watch out for unintended consequences of low water use.' Either way, with the help of these clear RIBA guidelines Clark hopes that the industry will start ringing the necessary changes for more intelligent use of the precious resource of water.



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— The world's first carbon-neutral leisure attraction uses its two main lakes to purify and nourish the park's entire ecosystem —



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— 1. The Gardens by the Bay composite structures combine a gridshell with an external superstructure of radially arranged, arched steel ribs — 2. WilkinsonEyre's conservatories are among the largest climate-controlled glasshouses in the world

VitrA Timeline

1942 — Dr. Nejat Eczacıbaşı establishes a pharmaceutical laboratory in Istanbul. His first product is a vitamin capsule

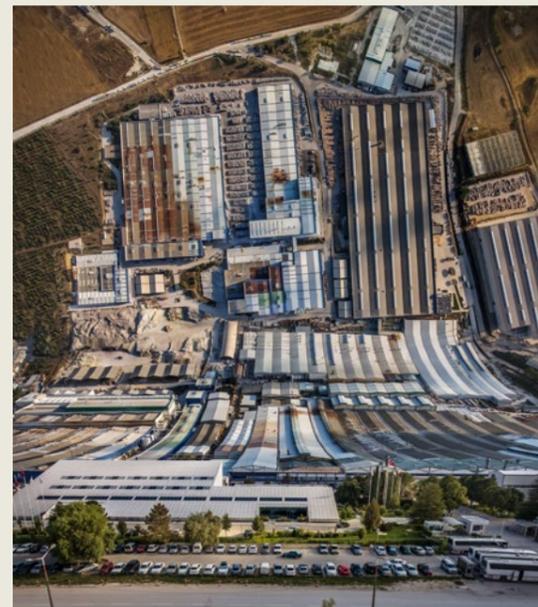
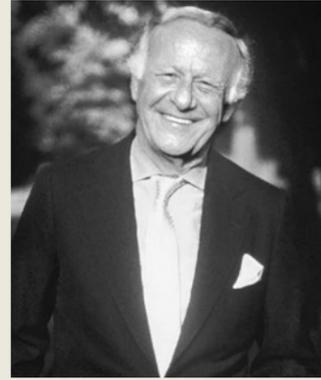


1952 — The Eczacıbaşı Group inaugurates the first Turkish modern pharmaceutical plant in Istanbul

1958 — Turkey's first ceramic sanitaryware production plant is opened by Eczacıbaşı

1968 — The VitrA brand is adopted

1977 — The Eczacıbaşı Group's ceramic factory in Bozüyük begins production



1979 — The group opens its first brassware plant within its Bozüyük complex

1983 — The first ceramic sanitaryware exports begins

1991 — Production of acrylic bathtubs and ceramic tiles begin at the Tuzla plant



1996 — With their new facility in Bozüyük VitrA has one of the world's largest ceramic sanitaryware facilities



2011 — All R&D teams are housed under one roof with the opening of the VitrA

Innovation Centre

2014 — VitrA wins 2 Red Dot and 2 iF Product Design Awards

2015 — V-Care is launched; the new generation of shower toilet

2019 — The Bozüyük complex is expanded with an additional sanitaryware production line, raising capacity to 5.6 million units



TODAY — VitrA is an international brand exporting to 75 countries worldwide

Wellness and Water: The Making of the Modern Bathroom

John Jervis is a writer and editor specialising in the realm of architecture, art and design.

— John Jervis looks into the origins of the modern bathroom and how historic roots continue to influence the evolving bathroom today ●



— Interior of a Public Bath (triptych of polychrome woodblock prints; ink and colour on paper), Utagawa Yoshiiku (1833-1904), Japan

— Learning from other bathing customs, past and present, can help to provide solutions to contemporary concerns —



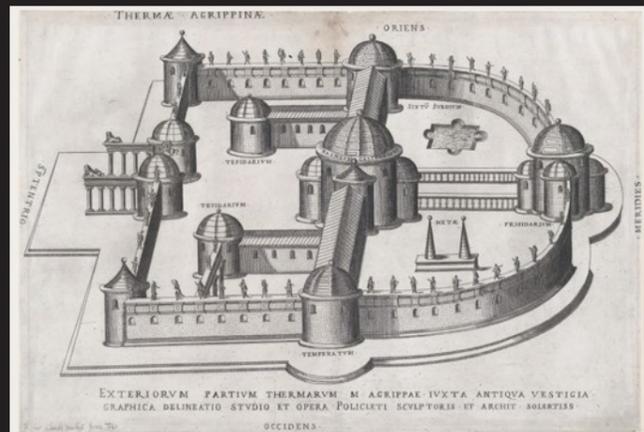
— 1. *Plural* monoblock basin, designed in collaboration with Terri Pecora — 2. *Istanbul* basins, designed in collaboration with Ross Lovegrove — 3. *Water Jewels* basin, designed in collaboration with Matteo Thun & Partners — 4. *Speculum Romanae Magnificentiae: Baths of Agrippa*, Anonymous, 1585 — 5. *Women Bathing*, Jean Mignon, c1535–55



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The growing embrace of the bathroom as a place for relaxation, for social engagement and for the entire family is a wonderful development, yet it is far from an innovation. A generous approach to bathing is second nature in so many cultures, where its mix of company and cleanliness, of intimacy and refreshment, is seen as among the greatest of life's pleasures, whether enjoyed in a Finnish sauna, a Japanese onsen, a Russian banya, a Korean jimjilbang or a Turkish hammam.

In today's homes, many of us have inherited cramped, monochrome bathrooms covered wall-to-wall with gridded tiles, chrome piping and boxed-in, back-to-the-wall fittings – with occasional if questionable forays into avocado and pink. Now, however, Vitra is witnessing a ready embrace for its pioneering revival of a more open approach to bathing, complete with a modern twist, in place of the longstanding Western preoccupation with total privacy and stark decor that emerged out of Victorian prudery and Modernist functionalism.

Instead, Vitra is reconnecting to a longer, richer history that reaches right back – via the lido and the public bath – to the Roman spa towns dotted across Europe and north Africa. And, in tandem with this embrace of previous cultures, it has recognised the potential of these more hospitable bathrooms to address contemporary concerns – some with their own ancient origins – around the importance of self-care, relaxation and mindfulness. As scientific research increasingly focuses on quantifying the cognitive and physical benefits of interaction with water, it is clear that learning from other bathing customs, past and present, can help to provide solutions to contemporary concerns around creating calm, tranquil spaces for wellbeing and reflection.

This holistic approach to the bathroom is epitomised in recent Vitra ranges, the result of a closely collaborative research and development process that often involves working with leading international designers to rethink traditional forms and functions. These collections explore principles that hark back to the spa and onsen – with the freedom offered by flexible, spacious layouts at the forefront. In ranges such as *Nest*, created with Pentagon Design, and the *Plural* collection developed with Terri Pecora or the newest collaborative project – *Equal* with Claudio Bellini – the option of freestanding elements creates a bathroom that works as a liveable area, not an immutable, inhospitable one, with movable tables and storage, and adjustable mirrors and stands, all of which can be arranged and rearranged for convenience and visual impact. In addition, the acclaimed *Istanbul* collection, developed with Ross Lovegrove and inspired by the fusion of East and West in the city's dazzling architecture and culture, now offers slimline, contoured basins on slender metallic legs, heightening the diffusion of light and maximising the sense of space. This collection's innovative sculptural forms

take inspiration from the fluidity of water, drawing on nature to deliver a harmonious atmosphere for meditation and immersion.

In addition, an innovative and eclectic approach to materials, whether in *Nest's* Scandinavian natural wood and curved edges or *Plural's* softer colours and organic shapes – as well as the classic palette of copper, teak, gold and chrome employed for the *Eternity* accessories range – offers a stylistic palette far broader than Modernist-era designers could ever have imagined, and one that can satisfy a wide range of aesthetic preferences.

Perhaps most extraordinary of all is the *Water Jewels* range developed with Matteo Thun, with its curvaceous forms and highly polished finishes, including copper, platinum and gold. These exceptional yet highly durable surfaces are made possible through a process developed at the Innovation Centre where physical vapour deposition is applied to the ceramic surface, achieving a richness that is reminiscent of the tiled surfaces and intense colours of Granada's Alhambra, with its historic hammam.

This focus on aesthetic and functional flexibility helps to recapture the open and relaxing spirit of historic bathing cultures, but also contributes to another key Vitra concept: 'Design for all'. A fundamental aspect of the spa as a social space has long been its capacity to embrace all abilities and all generations, from children to grandparents. The adaptability offered by these ranges is an important aspect, ensuring that changing needs can be met with ease. Yet these inclusive collections are also designed to enhance accessibility – particularly important at this time of ageing populations – rather than answering such requirements with specific utilitarian products. In such ranges as *Nest*, grab bars are integral yet attractive; freestanding storage elements can act as additional seating; dimensions and heights are appropriate for wheelchair-based use; and lighting levels and grip strengths are carefully calculated. Similarly, the increasing inclusion of smart technology within many products, from motion-activated *V-Care* shower toilets to the innovative *Smart Panel* – an elegant glass flush plate that connects to a mobile app and provides reports on water usage, and will in the future track and control flush rates to prevent excessive water use – can enhance both accessibility and liveability.

The history of bathing may be long and diverse yet, by tapping into this rich past, an entirely new class of bathroom is being created that can adapt to our evolving needs and deliver flexibility and comfort, while also promoting relaxation, enjoyment and wellbeing.

Design Inspired by Water

— Water inspires Vitra designers in many ways. We asked Innovation Director, Boğaç Şimşir, how visionary design ideas emerge from an Innovation Centre where art meets science and technology ●

‘Design at Vitra is never an add-on,’ says Vitra’s Innovation Director, Boğaç Şimşir. He’s explaining how design is embedded in the company from the strategic level onwards; how it is closely aligned with research and innovation throughout the product development cycle as well as being applied to shape the manufacturing processes themselves. Design thinking, he argues, runs right through the Vitra culture and is fundamental to its innovative spirit.

In terms of product design, Vitra’s approach is multi-faceted and ambitious. The brand is known for its renowned collaborations with leading international designers, and equally for the innovations that emerge from Vitra’s talented team of in-house designers, with their research-based hallmarks of sustainability, ‘design for all’ accessibility, and technical innovation.

Vitra’s reputation as a design leader was cemented back in 2004 with the development of its first designer range: Ross Lovegrove’s now iconic – and still evolving – multi-award winning *Istanbul* bathroom series. Applying Lovegrove’s concept of ‘organic essentialism’, *Istanbul* broke new ground in bathroom sanitaryware with a series of sinuous sculptural shapes that pushed hard at boundaries in single-cast ceramics. The series was extended in 2018 with a seamless ceramic vanity basin, as well as an electronic flush urinal and new WC design.

Since the debut designer collaboration Vitra has finely tuned the collaborative process to further integrate technology and research into generating new ideas about bathroom spaces and aesthetic innovations. Each subsequent designer collaboration has brought a new and different angle to designing with water. Claudio Bellini’s focus in the *Equal* range, for instance, is in many ways an architectural exploration of the poetics of water, with a collection that plays fluid volumes against orthogonal forms. Terri Pecora’s *Plural* collection, in contrast, focuses on recuperative themes around water, rethinking how space is used in sociable, family-oriented bathrooms that prioritise shared wellbeing (in the process she also readdressed the architectonics of plumbing). And Matteo Thun, in developing the now classic *Water Jewels* range, explored the chemistry of water with the Vitra team to develop a special glazing process that increases surface tension to enable a dirt-repellent finish.

‘If you want to innovate with design you have to create an organisational culture where ideas can thrive,’ says Şimşir, explaining that a big part of his role is nurturing creative cross-disciplinary innovation. At Vitra this happens within the purpose-built hub of the Innovation Centre, a research and development incubator located at the heart of the company’s Bozüyük production complex in Turkey. ‘Risk-taking is really important for generating new ideas’, observes Şimşir. ‘That’s why “Embrace failure on the way to success!” is one of our favourite mottos at the Centre.’

The open sharing of ideas is another crucial element of the Vitra mix. Şimşir explains how, in order to prevent organisational hierarchies getting in the way of creative innovation, concept proposals are anonymized before evaluation. Once a concept has been given the green light, the idea owners can step forward to build their own teams.

‘Our methods for idea generation are actually very structured and carefully orchestrated. We need to make sure there is shared understanding of clear goals,’ says Şimşir. He describes a model where four main research areas, based on the company’s strategic vision, provide an overall framework for defining new challenges. Around this, staff are involved in multiple on-going research streams, constantly engaging with industry experts from architects to cleaning personnel, and with end-user groups from children to the elderly, using qualitative methods to gain insights. Consumer and industry trends are also tracked continually at the Centre via a wide range of sources. ‘In the context of accelerating change we need to be super vigilant,’ Şimşir observes, ‘The next opportunity for technology transfer might pop up anywhere’.

The core focus is always the human-centred problem, observes Şimşir: ‘We never forget that we’re developing products to meet the needs of people. The needs might be functional – to simplify or to save time, resources or costs – or emotional – such as aesthetics, wellness or fun – but the common denominator is always people.’

Research scopes and methodologies at the Centre are broad ranging, so that the design challenge of reducing water consumption, for instance, might be studied using computerised fluid dynamics (CFD) software to analyse the flow of water, as with prototypes for the *Rim-ex* rimless WC pan design or the water-saving 2.5/4 litre WCs. Or the teams may look to nature, such as investigating ways to mimic the lotus effect in order to develop hydrophobic surfaces with nanomaterials as with the *Vitra Clean* washbasins. Equally, the research focus might be reducing resources in manufacturing, or prompting change in the consumption behaviours of end users.

Workspace at the Centre has been restructured under Şimşir to encourage the kind of serendipitous encounters and adjacencies that trigger creativity. A series of work modes is accommodated in settings including space for focused work, group review and team working, as well as relaxed and informal breakout spaces.

A particular nucleus for Şimşir and the Vitra innovation teams is how disruptive digital technologies might be applied usefully to environmental challenges. The *Smart Panel* is an example: applying algorithms to the problem of excessive flush rates, an automatic smart flush feature will be able to track the WC bowl to supply the correct volume of water when required, monitoring water use to minimise usage over time. It’s a technology applicable to domestic settings as well as public and commercial environments, where it has the potential to integrate with building management systems, providing alerts to blockages and preventing overflows by automatically delaying flushing until drains are cleared.

‘If you think about it,’ says Şimşir, ‘digital technology can be usefully applied to promote better management of the shared, finite resource of the world’s water. At scale this will have a big impact’. While much of the world’s sanitation may currently be organised around sewage systems that require a certain amount of water to function, this quantity can be minimised. And in the future, Şimşir suggests, the world’s sanitation is likely to be far less water-based: ‘We’re working on that too!’.



— In relation to sustainability it’s clear we need to be concentrating on human and cultural issues as well as scientific and technical ones



— 1-4; Product manufacturing in the Vitra Bozüyük factory
— 5; The *Equal* range, designed in collaboration with Claudio Bellini

Glass Half Full

— Architect-urbanist CJ Lim talks about his ideas for a new kind of floating urbanism, encapsulated in his visionary project Twenty Thousand Fish Above the Sea ●

Engaging with water in the context of rising sea levels is possibly the single most important challenge facing architects, engineers and planners today. UCL professor CJ Lim has been exploring the city of the future for 28 years, as an educator at The Bartlett and through his multi-disciplinary research practice Studio 8 Architects. One research outcome is 'Twenty Thousand Fish Above the Sea', a speculative project investigating how architecture and urbanism could respond to the crisis of rising sea levels.

'The project offers an allegorical, adaptable Noah's Ark', says Lim. 'In essence it's a universal and timely humanitarian infrastructure that advocates three principles of action: to protect, to provide and to participate in the aftermath of an environmental disaster.'



Despite its sci-fi overtones, the project is very much a serious proposition – intended as a catalyst to spark leaders and anyone interested in sustainable urban futures to engage in debate and kick-start innovation. Lim points out that rising sea levels pose a serious threat to more than 3,000 cities located in low-lying nations, impacting infrastructure, quality of life and urban systems across the world: 'this isn't a crisis affecting only poor countries but rich ones too,' he says.

A 2019 report by the Proceedings of the National Academy of Sciences of the United States of America (PNAS) has suggested 'a global total of sea level rise exceeding two meters by 2100'. The Maldives in the Indian Ocean is a prime example of a nation in peril – the vast majority of this low-lying archipelago, including its capital Malé, is under threat. 'Do not be fooled by the calm and inviting guise of the ocean,' cautions Lim, explaining how back in 2008 this small atoll nation began investigating the purchase of

higher land elsewhere – in India, Sri Lanka, or Australia – so that the islanders or their descendants will be able to rebuild their lives when water takes over.

‘In the UK we’re facing exactly the same threat,’ Lim observes: ‘At present London is protected by the Thames Barrier – one of the world’s largest movable flood resistant infrastructures – but those silvery, science fiction-like pods were constructed more than 30 years ago when engineers were planning for a sea-level rise of just 8 millimeters a year’. He explains that despite recent predictions for sea level rises, in the UK there is no plan for major adjustment to the existing system before 2070. The issue of what will happen as the ice caps continue to melt extends to many cities in the UK and beyond; around the world societies are asking the same questions, says Lim: ‘what are the most viable means of protection from rising sea levels, and what are the timescales for implementing them?’

The basis of Lim’s proposition is that the migration model – as mooted in the Maldives – is unsatisfactory. Along with many other thinkers, Lim believes that the likely scenario is that communities threatened with rising water will remain in situ and will seek to adapt. ‘Rather than fight sea-level rise, governments need to work with planners, engineers and architects to envision long-term built environments that embrace water; strengthening community resilience with flexible systems

and portable infrastructures that are adaptable in uncertain times. Engaging with water is a challenge. But it’s also a great opportunity.’

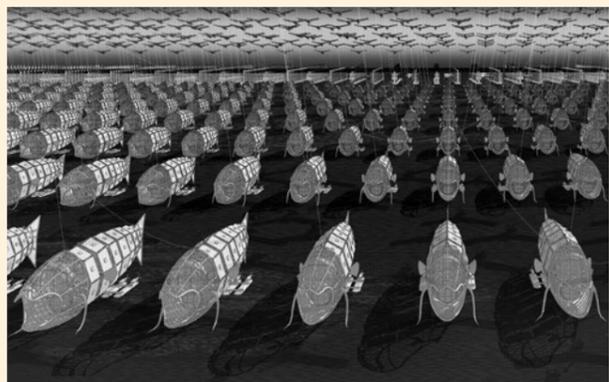
In the speculative tradition of Archigram’s 1971 ‘Instant City’, and influenced by the theoretical approaches of architects including Cedric Price, Future Systems and Lebbeus Woods, ‘Twenty Thousand Fish Above the Sea’ proffers an alternative solution. Portable, lightweight and sustainable, Lim’s ‘fish’ posit a fantastical infrastructure that is also strongly grounded in the practical reality of existing technologies – a ‘multi-use adaptation kit’ in the form of an armada of floating communities connected by fin-like communications antennae.

— The central message is that we don’t have to be afraid —

Each fish is big enough to house 500 people, with smaller modules equipped as pop-up medical surgeries. ‘Collectively, this is a new typology for habitation that provides access to the essentials of clean water, sanitation, food, and health care,’ says Lim. He explains how, from the moment of delivery at a beleaguered location, the fishes will deconstruct; tails flipping into a vertical position to harvest wind and solar energy, heads offering facilities to desalinate and filter seawater to be stored for everyday consumption in the hollow structural frameworks.

In anticipation of ground shortage, each fish carries the tools for structural self-replication in the form of scale-like floating panels designed to ‘tile over’ water surfaces to provide instant new ground. The kit also offers longer-term ‘make-your-own-land’ via a sustainable system akin to the reed-woven vernacular of floating infrastructures in the Andes’ Lake Titicaca. Social participation is vital to the model, argues Lim, as it will create essential livelihoods: some people will be responsible for cultivating and harvesting reeds; others will participate in crafting the ingenious new woven-ground. It’s a programme that will rely heavily on partnership and collaboration: ‘participation is key, and will be needed to build the essential shared facilities on floating terraces – community halls, schools, playgrounds’.

Central to Lim’s thesis is the belief that many of the ongoing initiatives in sustainable urban futures are simply too boring to capture people’s imaginations. ‘Twenty Thousand Fish Above the Sea’ aims to change all this by fully communicating the imaginative possibilities of adapting to climate change. ‘The potential to address inhumane living conditions and chronic housing shortages in megacities around the world is very real,’ says Lim, ‘but the central message is that we don’t have to be afraid’.



— 1. A floating landscape connected by shared infrastructure — 2. An armada of fish – each housing 500 people

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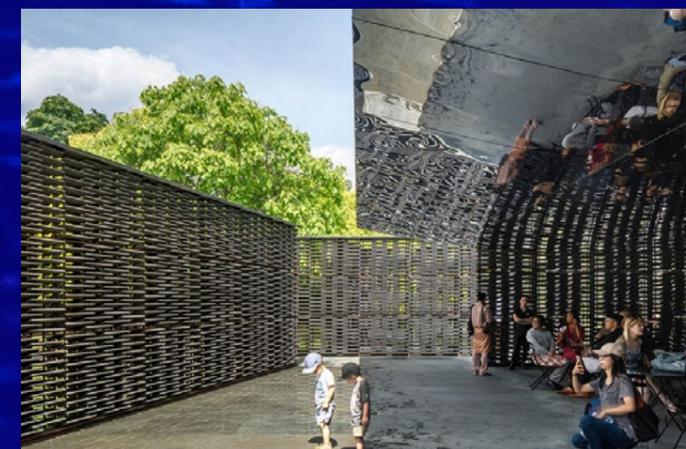
— Centre in Ilulissat, Greenland by Dorte Mandrup Arkitekter

The RIBA + Vitra Talks partnership reflects a shared commitment to add social, economic and cultural value to society. Vitra are proud to support this inspiring programme, which features emerging and established international voices in architecture.

The critically acclaimed series takes place across the UK and in Istanbul. Speakers in 2018–19 included celebrated names such as Daniel Libeskind, Kazuyo Sejima, Sir David Adjaye, Kate Macintosh, Frida Escobedo, Emre Arolat, MASS Design Group, Feilden Fowles and Grimshaw Architects. The 2019–20 season so far features lectures by Snøhetta and Dorte Mandrup at the RIBA in London.



— Maternity Waiting Village, Kasungu, Malawi by MASS Design



— Serpentine Pavilion 2018 by Frida Escobedo

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