

**Media Release**  
**FOR IMMEDIATE RELEASE**

**The Waste Refinery at National Design Centre  
shines the spotlight on local and international creators  
designing with waste as the starting point**

*Opening amid COP26, the exhibition reframes waste as an abundant resource.*



**5 November 2021** – It's everywhere we look. It's the result of the way we consume. It's inherent in everything we produce. And what a waste we are grappling with now.

According to research from the World Bank, more than 2 billion tonnes of municipal solid waste are generated every year, and that is just everyday trash. Add industrial and agricultural waste, and the figure becomes truly unimaginable. Without urgent action, global waste is set to increase by 70% over the next 30 years.

But what if waste could be reframed, thought of as an abundant resource rather than an unwanted material? What if we design with waste as the starting point, and as an end in itself? What if waste could be made useful and beautiful, re-birthed and given worth? The time has come to never let waste go to waste again.

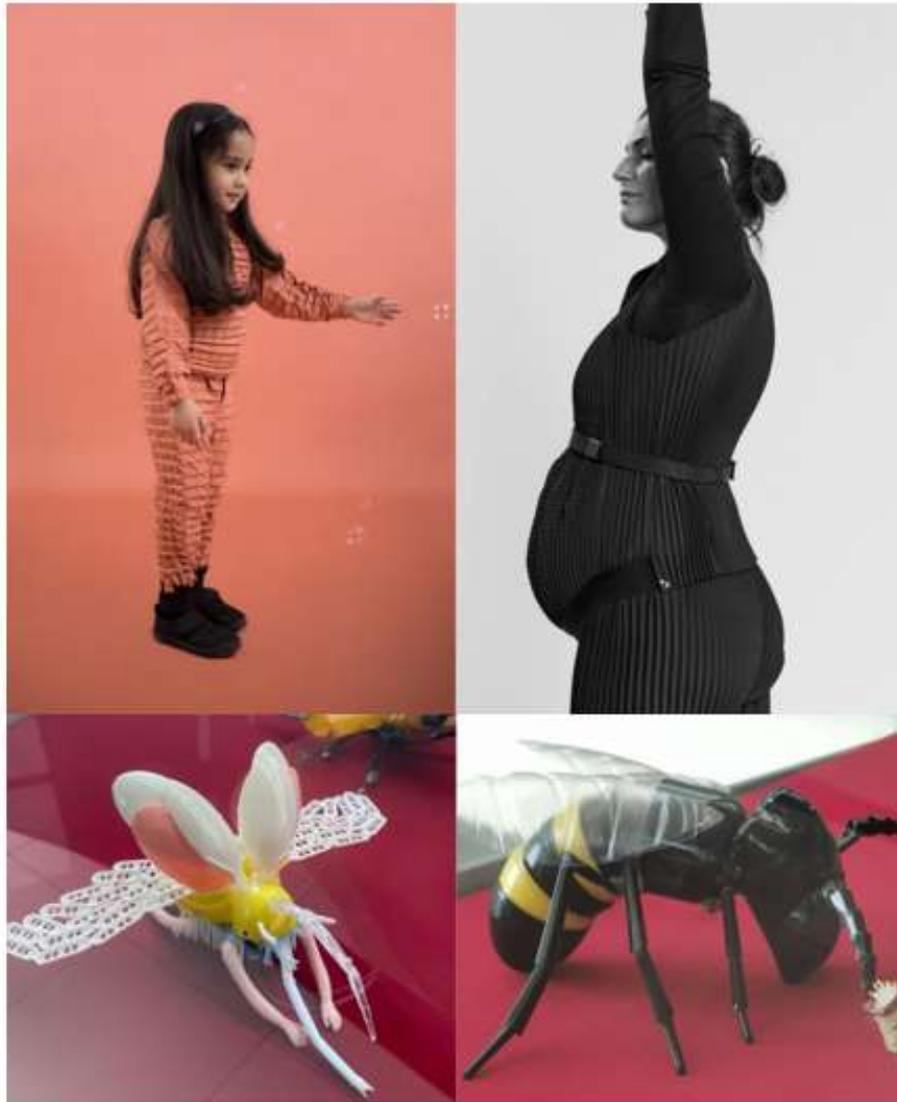


From left: Peggy Chair designed by South Korean DJ Peggy Gou in collaboration with Space Available and made with over 20kg of plastic salvaged from landfills, rivers and the ocean; biodegradable bag by Sonnet155 made from leftover fruit peels and cellulose waste.

Opening amid the UN Climate Change Conference (COP26), The Waste Refinery at National Design Centre brings together international and local brands, designers, artists and schools to show how design can tackle critical global issues.

From acclaimed Japanese designer Kazuhiro Yamanaka to London-based Fash-Tech studio Petit Pli to the students of LASALLE College of the Arts, these 20 exhibitors curated by award-winning creative agency Kinetic Singapore collectively address one of the biggest sustainability challenges of our future – waste.

“One of the most pressing issues when it comes to sustainability is what can we do with the ‘monster’ – mountains of waste – that we created. The Waste Refinery aims to challenge the perception of waste as unwanted, unusable material. The exhibits here go beyond aesthetics. They demonstrate a utilitarian and functional angle to show that waste can be a truly valuable resource,” says spokesperson and creative director of Kinetic Singapore, Pann Lim.



From top: Clothes That Grow by Petit Pli made with 100% recycled polyester derived from plastic bottles;  
Insectica Plastica by LASALLE College of the Arts students made from found objects and materials.

Among the exhibits are sustainable footwear made from used tyres by Indonesian brand Indosole; playful table tennis bats crafted from recycled plastic by Sydney studio Préssec; a pair of guardian lions grown into shape using mycelium (a natural fungi material of industrial strength) by Mycotech Lab; ceramic vessels glazed with coloured pigments derived from metal mining residue by Lithuanian designer Agne Kucerenskaite; homeware made from renovation and construction waste by homegrown label LAAT; and one-of-a-kind refurbished chairs by beloved local second hand furniture store Hock Siong in collaboration with textile studio Soft Studio.

“The ways in which people produce and discard materials as well as unsellable items illustrate a gross neglect of the world we live in. In the midst of this extreme excess, we ask ourselves how can we (create items that) stand the test of time and be befitting to mother earth that needs us? Surely even the world of design can withdraw from its

excessiveness,” says interior designer and co-founder of LAAT, Cherin Tan, on why she works with waste.



From left: Pong table tennis bats by Sydney-based Pressecc crafted from sheets of terrazzo-like recycled plastic; botanical paints from discarded fruit peels, fallen leaves and flowers, and wood shavings by Wild Dot.

During its run from November 2021 till January 2022, The Waste Refinery will be complemented by an online campaign to spark conversations about waste. This will take the form of tutorials on transforming waste into items of value and beauty, and contests on social media.

“The Waste Refinery shows how creative ingenuity can benefit communities by diverting waste from landfills and generating new revenue streams, while transforming raw materials into precious objects. We hope that this exhibition at the National Design Centre will inspire visitors to rethink how we prescribe value to objects and aesthetics, and see the endless potential of using design to achieve a more sustainable lifestyle,” says Mark Wee, Executive Director of DesignSingapore Council.

The Waste Refinery

Exhibition from 6 November 2021 to 16 January 2022

9 am to 9 pm daily, free admission

National Design Centre, 111 Middle Road, Singapore 188969

<https://www.designsingapore.org/event/The-Waste-Refinery.html>

Images of The Waste Refinery can be downloaded [here](#)

## ANNEX A: LIST OF EXHIBITS AT THE WASTE REFINERY

### 1. I Walked A Landscape With My Fingers (Singapore)



#### **About the exhibit:**

Inspired by various terrains and geographical landforms, this explorative project incorporates various personal keepsakes that do not serve any function, yet are too precious to throw. By doing so, the work aims to highlight the thin line between 'trash' and 'treasure', with the 'worthless' given value and a second life.

#### **About the designer:**

Kelly Limerick or Klyllymrck is a self-taught textile artist. Often creating without a sketch or fixed design, she has stretched this traditional craft beyond predictable patterns and challenges the stigma of crochet being a 'granny craft'. Her work ranges from soft sculptures, textile hangings, installations, and an exploration of assemblages

## 2. Clothes That Grow (Britain)



### **About the exhibit:**

In their first two years alone, children grow through seven sizes of clothing. Breaking this wasteful cycle of discarding outgrown clothes and buying new ones, Petit Pli garments offer extended use by growing with the child with garments that expand as you grow – up to seven times the original size. Made with 100% recycled polyester derived from plastic bottles and using monofibre construction, these clothes can be easily recycled at the end of their use. The range has since grown to include adaptive garments for adults too.

### **About the designer:**

Petit Pli is a material innovation and Fash-Tech start-up founded by aeronautical engineer Ryan Mario Yasin. Guided by the ethos of circular design, this London-based studio sets out to create more sustainable clothing by eliminating waste every step of the way: from how a garment is made, to the way it is used, as well as after its use.

### 3. Striped Ming (Singapore)



#### **About the exhibit:**

The porcelain vessels of this collection are sourced from old shops and thrift stores. Once decorative and sought after, shifts in aesthetics have rendered them kitschy and old-fashioned, left on dusty shelves as dead stock. Using a resist-blasting technique, parts of the original glaze are taken off to create new contemporary motifs. The process revitalises these outdated porcelain pieces, resuscitating their value by imbuing them with a renewed aesthetic experience

#### **About the designer:**

Hans Tan is a designer and educator whose work walks a fine line between design, craft and art. His practice deploys design as medium while maintaining a keen focus on developing materials and processes. His narratives comment on design and its industry as a phenomenon, especially in the context of heritage, consumption and waste.

#### 4. Radical Plastics (Indonesia)



##### **About the exhibit:**

Focused on how the plastic crisis is one of our most pressing environmental issues and believing that design and creative collaboration can be a vehicle for change, Space Available uses plastic waste to create new circular products in Radical Plastics. Items on display include the Peggy Chair, designed in collaboration with South Korean DJ Peggy Gou, which is made with over 20kg of plastic saved from landfills, rivers and the ocean; the Meditation Chair; and the Artisan Chair. The Meditation Chair is part of a series of woven chairs made with plastic strips derived from waste in the ocean; Artisan Chair is similarly created out of plastic waste before being handwoven by a Balinese master weaver Nano Uhero on a bamboo frame.

##### **About the designer:**

Led by a global community of designers, artists, scientists and environmentalists, Indonesia-based Space Available is a creative platform on a mission to build a sustainable future, connecting the dots between nature, design and culture. Their holistic approach involves bio innovation, radical recycling of waste, future craft and digital communications for the new world.

## 5. The Ink-Surrection Series (Singapore)



### **About the exhibit:**

This project looks into the resurrection of things commonly discarded such as fruit peels, fallen leaves and flowers, and wood shavings. Combining traditional knowledge of extracting colours from nature and their research on making paints, Wild Dot revives these materials and extends their lifespan by turning them into water colours and inks for artmaking, opening the eye to the creative and aesthetic potential of waste.

### **About the designer:**

A botanical ink-making studio that specialises in making paints and artworks with natural pigments, Wild Dot is inspired by the abundance of local material, particularly in natural landscapes. Through their craft, they aim to bridge artmaking and nature education, and to demonstrate how waste can be as a source of creative inspiration.

## 6. Pong (Australia)



### **About the exhibit:**

What started as a weekly design challenge turned into a desire to make the render real. Pong table tennis bats are crafted from sheets of terrazzo-like recycled plastic. These are made from plastic waste, with coloured plastics artfully interspersed on whites for popping effect. Improving on the conventional three-layer construction which uses more materials and energy, the Pong bat features a streamlined design and is produced as a single piece. The handle is also hollowed out to make the bat lighter.

### **About the designer:**

Industrial designers Sam Weise and Cristina Borràs are the playful duo behind Sydney studio Préssec. Their passion lies in bringing design to life by making things – in essence, making ideas tangible.

## 7. Monolith (Singapore)



### **About the exhibit:**

European marble offcuts collected from factories, unused mild steel and panels of mirrors from contractors are composed into abstract geometric homeware finished with raw concrete. These pieces are not only an exercise in upcycling, they hold a mirror up to the excessive and careless ways in which we produce and discard materials and items.

### **About the designer:**

LAAT is a collaboration between interior designer Cherin Tan and multi-disciplinary artist Alvin Tan. With "purpose to repurpose" as a maxim to drive their designs, they give waste materials renewed life by repurposing them into one-of-a-kind artworks of furniture pieces and lifestyle objects.

## 8. Piñatex (Philippines)



### **About the exhibit:**

Each year, an estimated 76 million tonnes of pineapple leaves are left as waste by the pineapple industry. Piñatex is a natural textile made from this agricultural by-product that would otherwise be burned or discarded. With a supple leather-like texture and finish, this innovative material is envisioned as a sustainable and cruelty-free alternative for use in fashion, accessories, upholstery and more.

### **About the designer:**

Hailing from the Philippines, Ananas Anam combines research and innovation to enhance the well-being of the earth and its people throughout the entire life cycle of the product. It supports local communities by working directly with farming cooperatives to create an additional stream of income for pineapple farmers in the Philippines.

## 9. Mottainai! (Singapore)



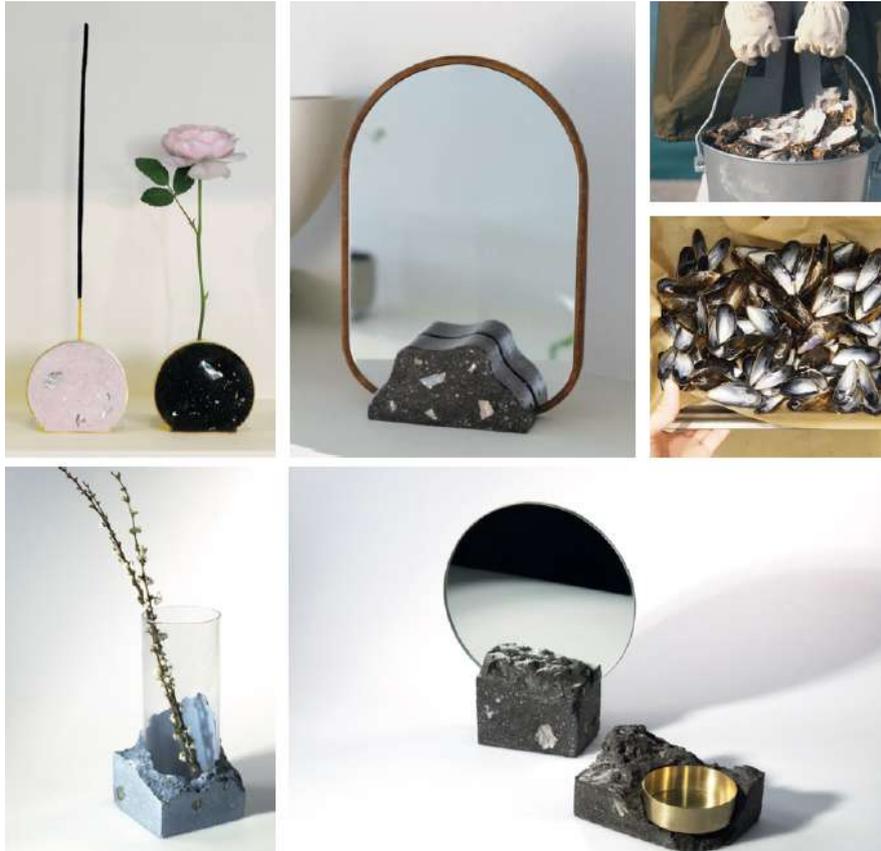
### **About the exhibit:**

Damaged, discarded old chairs take the spotlight in a stand against the throwaway ethos of the modern world. Instead of hiding the flaws, each chair is visibly mended with brightly coloured yarn that is salvaged from discarded textiles and other waste materials. Just like how every scar on a body tells a personal story, each stitching in this artistic repair pays tribute to history and the process of creative renewal. This project is a collaborative effort by Soft Studio and Hock Siong.

### **About the designer:**

What started out as a karung guni (rag-and-bone) business has evolved to become a second-hand furniture specialist retailing and trading pre-used homeware. Other than the salvage of such items, they are also proponents of upcycling, often refurbishing furniture to extend their longevity and use.

## 10. Sea Stone (South Korea)



### **About the exhibit:**

Similar to limestone used for cement, seashells are mainly composed of calcium carbonate. Yet every year, 7 million tons of shells are discarded by the seafood industry and aquaculture. Even though some are recycled or used as fertiliser, most end up in landfills or are left as litter by the seaside. In Project Sea Stone, Newtab-22 puts this waste to good use. The seashells are ground by hand, avoiding the use of heat and electricity to minimise carbon footprint. The shell powder is then transformed into unique homeware that is equal parts form and function.

### **About the designer:**

Based in Seoul, Newtab-22 is a material-led design studio started by Hyein Choi and Jihee Moon. The duo is interested in exploring new, natural, and overlooked materials. Coupling innovative approaches with an eye for the aesthetically pleasing, they hope to bring attention to the issue of sustainability through their work.

## 11. Community-Woven Tapestries (Singapore)



### **About the exhibit:**

These eclectic tapestries were collectively woven by visitors on a wooden floor loom in a pop-up free-weaving studio under the guidance of artist-curator Natalia Tan. Using materials like discarded clothing and plastic packaging, the tapestries put waste to work as they celebrate the joy of weaving and community. These artworks were created during Art Encounters: Into Softer Worlds presented by Art Outreach and Marina Central from May to June 2021.

### **About the designer:**

Founded by artist and curator Natalia Tan, Soft Studio creates art experiences that invite people to touch, connect, and play. Working with care and curiosity, the studio honours traditions, communities and our natural world while building a contemporary language of craft and celebrating all that is tactile, spontaneous, and healing.

## 12. Ignorance Is Bliss (Lithuania)



### **About the exhibit:**

The coloured glazes for the ceramic collection are solely derived from the metals found in the industrial residues. Thousands of tonnes of residue a year are produced due to metal mining and its excessive processing. In an effort to find a use for this byproduct, Agne Kucerenkaite has developed colour pigments from this waste.

### **About the designer:**

A material designer from Lithuania, Agne Kucerenkaite is currently based in the Netherlands. She works with raw materials and waste, transforming them into valuable products, methods and systems, seeking interaction between design, society, industry and environment.

### 13. Confetti Rocks (Singapore)



#### **About the exhibit:**

No stranger to failure during the firing of clay pieces, Genevieve Ang finds herself pondering the question of what to do with the unpresentable results. Rather than trashing them, her solution is to grind them to make grog. The resulting granular material is then incorporated into new art works, in the process creating a confetti-like texture as well as closing at least one loop of waste.

#### **About the designer:**

Genevieve Ang, also known as Gellyvieve, is a maker, designer and artist who expresses herself through ceramics and spatial installations. Fascinated with how clay is used everywhere, emoji and the evolution of languages, she is constantly searching for new forms to simplify the world around.

## 14. Soles With Soul (Indonesia)



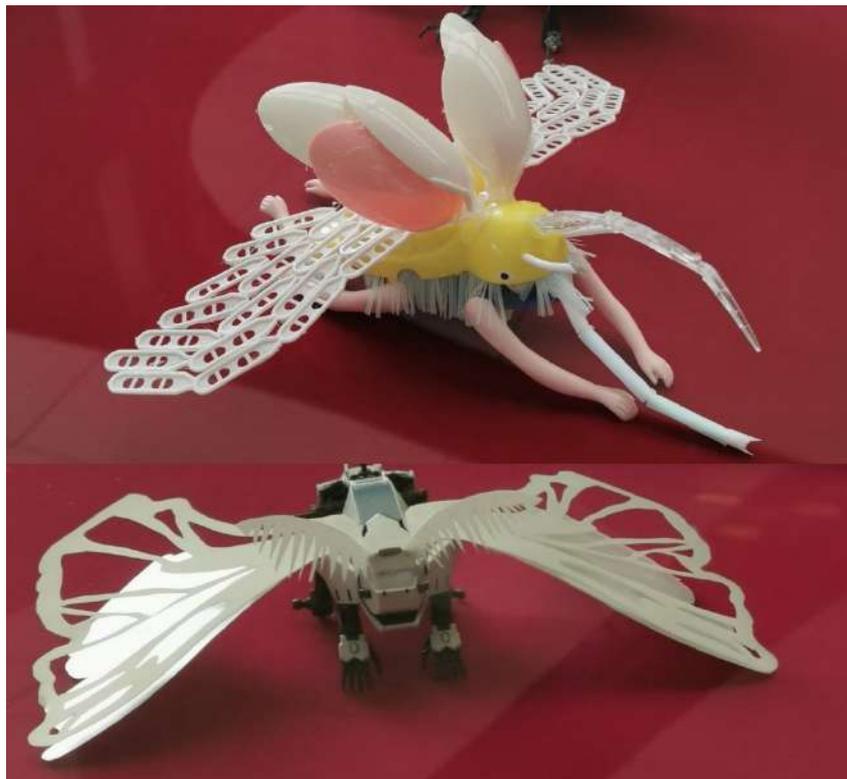
### **About the exhibit:**

This range of sustainable footwear has its beginnings in a dawning realisation – that we are drowning in tyre waste. 1.5 billion tyres are dumped every year at stockyards, illegal sites and even rivers, where they will take thousands of years to decompose. Making matters worse, they are often burnt as fuel by impoverished communities, releasing toxic oils and fumes. Determined to make a difference, the soles of Indosole footwear are made with tyre waste collected from all over Indonesia, repurposed to encourage one to tread more lightly on the Earth.

### **About the designer:**

Since 2009, Indosole has repurposed over 100,000 used tyres from landfills, garages and gutters into the soles of their footwear. The brand is continually innovating while providing employment opportunities, infrastructure solutions and community empowerment throughout Indonesia and beyond.

## 15. Insectica Plastica (Singapore)



### **About the exhibit:**

In this assemblage project, art students are challenged to create insect sculptures out of found objects and materials. An exercise in the twin processes of deconstruction and reconstruction, the resulting artworks also demonstrate how imagination and creativity can be applied to impart value to commonly overlooked scraps.

### **About the designer:**

Asia's leading contemporary arts and design institution, LASALLE College of the Arts provides a nurturing, interdisciplinary learning environment to inspire the next generation. Insectica Plastica is the work of students from the Visual Studies Programme (Level1, 2018): He Wen Zhou, Jacob Ariel, Koh Tat Wee, Lee Yun Jo, Marie Angelina, Stemple Haeun, Zhou Si Hao.

## 16. SONNET155 (Germany)



### **About the exhibit:**

SONNET155 is the upgrade to the ordinary paper bag, melding utility and sustainability with beauty. The bag is made from two sources of waste: fruit peels left over from juice production, and cellulose waste from the textile industry. A visual and textural treat, each bag is designed to entice people to use it to the full. At the end of its life, the biodegradable bag can be put to rest in the soil or dissolved in water.

### **About the designer:**

Fashion designer Johanna Hehemeyer-Cürte and textile designer Lobke Beckfeld met at art school in Berlin where they started working on SONNET155. The duo creates design strategies and products to position sustainability as a treat rather than a burden. They hope to change the way people consume trends and fashion, and balance the use of a product and its material lifespan.

## 17. Garden State Palimpsest (Singapore)



### **About the exhibit:**

Jagged blocks of marble, granite and stone found amidst construction debris and factory discards form the foundation for this series of photographic sculptures. Superimposed on these are images of idyllic rural Singapore as recalled by ex-kampong dwellers, creating a pointed juxtaposition of natural landscapes against its replacement, the built-up urban environment. In themselves, the materials also challenge conventional notions of waste and shine light on its possibilities.

### **About the designer:**

Artist and educator, Zen Teh's practice is shaped by her proficiency in photography and painting alongside a deep interest in our relationship with the natural world. Her continual investigation into this intersection manifests in work that spans disciplines and mediums.

## 18. Guardians of the Future (Indonesia)



### **About the exhibit:**

Usually carved from stone obtained through destructive mining, this pair of guardian lions are instead grown into shape using mycelium, the root system of mushrooms. Stronger than concrete kilo for kilo, this material hailed as the building block of the future is sustainable on many levels. Grown on agricultural by-product, mycelium turns waste into a useful resource. It is also biodegradable, leaving behind less waste than traditional building materials. This artwork was commissioned by MINI Singapore for MINI EXTRAORDINARY 2019.

### **About the designer:**

A bio-based material start-up from Indonesia, Mycotech Lab's primary research and development focuses on mycelium and its possible applications. From a leather alternative to sustainable furniture and building boards, the lab is constantly exploring new materials based on mycelium.

## 19. The Local Tree Project (Singapore)



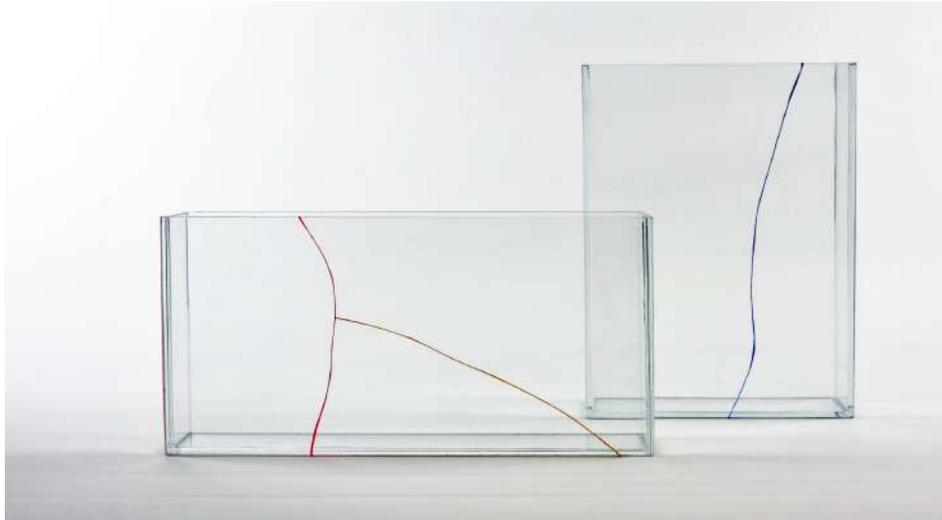
### **About the exhibit:**

In the drive for urban development, more than 15,000 trees will be felled in Singapore over the next 15 years, adding to the current stockpile. Not as favoured as imported wood, these logs will mostly be turned into wood chips or simply left to rot. The Local Tree Project is an effort by Roger&Sons to salvage these abandoned trees and give them value by turning them into durable furniture and homeware. Nothing goes to waste, even the shavings and sawdust are put to use as fertiliser or packaging material. Part of this exhibit will also feature a kinetic installation, *Weathering With Us*, in which global climate datasets are visualised as mandala-like patterns in the sand. Conceived by artist Isabella Ong and architect Tan Wen Jun, the piece is crafted by Roger&Sons.

### **About the designer:**

Roger&Sons is a team of ethical makers who craft fine furniture and thoughtful objects. Their work is driven by inquiry, and spans disciplines: furniture, industrial, and product design, as well as woodworking.

## 20. Irotsugi (Japan)



### **About the exhibit:**

What is damaged and thrown away is given new life in this series of vessels. Fascinated with the unique beauty of broken glass, Kazuhiro Yamanaka artfully mends them with coloured resin, purposefully emphasising the cracked edges that follow the providence of nature. The bright colours also serve to convey the sense of tension inherent in the fissures even as they herald the joyful rebirth. While inspired by the centuries-old tradition of kintsugi, the reborn glass bears an unquestionably modern aesthetic.

### **About the designer:**

Japanese designer Kazuhiro Yamanaka's interest spans furniture design, product design, lighting design and installations. His work navigates between the emptiness and fullness of surfaces, the subtle play of trompe l'oeil and the harmony of proportions. He believes that the designer's job is to create maximum impact with minimal use of material.

## **About the National Design Centre**

The National Design Centre is the nexus of design, the meeting point for creative minds and businesses and the venue for presenting all things design. It is also home to DesignSingapore Council. The repurposed, award-winning conserved building is as much an emblem for outstanding Singaporean design and architecture, as it is a thriving venue for visitors to attend showcases and programmes. Find out more at [www.designsingapore.org/national-design-centre.html](http://www.designsingapore.org/national-design-centre.html).

## **About the DesignSingapore Council**

DesignSingapore Council's (Dsg) vision is for Singapore to be an innovation-driven economy and a loveable city through design by 2025. As the national agency that promotes design, our mission is to develop the design sector, help Singapore use design for innovation and growth, and make life better in this UNESCO Creative City of Design. The Dsg is a subsidiary of the Singapore Economic Development Board. For more information, please visit [www.designsingapore.org](http://www.designsingapore.org).

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