



DESIGNATHON WORKS PRESENTS:

# GLOBAL VOICES OF THE NEXT GENERATION

## DEFORESTATION



November,

**2018**

**Global Voices of the Next Generation:  
'Life On Land - Deforestation'**



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# EXECUTIVE SUMMARY

With this report, we wish to present you with the unique findings of the research that was conducted on the global voices of the next generation on the United Nation's Sustainable Development Goal #15.2: 'Life on Land – Deforestation'. The research was conducted during Designathon Work's annual flagship event: the Global Children's Designathon.

The fourth edition of the Global Children's Designathon was held on the 3rd of November 2018. On this day 1.000 children, aged 7 to 13 years, participated across 30 countries globally to create innovative solutions to this year's societal and environmental issues around the theme: 'Life on Land - Deforestation'. During the event ethnographers at the scene performed a study, collating a comprehensive collection of global voices of the next generation. A deeper study in the underlying ideation and motivation of our future generation led to the overwhelming outcome of future voices gathered in this report.

The children individually and collectively identified hundreds of problems and generated new focus areas for future solutions to solve the problems of their and our future. One of the problems around deforestation visible from the children's' responses is focused around human appropriation of nature. A broad spread in the results shows divergent opinions on the justification of the use of nature for human necessities such as living space, food and wooden commodities. This spread is additionally visible from the solution concepts, ranging from recycling of wood-based materials and the use of alternative natural materials to a form of minimalistic

co-existence where humans completely refrain from forest adaptation for their own use.

The solutions generated by the participating children identify the focus area where change and innovation is needed. These ideas were selectively implemented and elaborated, by the children who invented them, into sketches, prototypes and final presentations. Not only are the solutions proposed by the children creative, they also prove to be profound and well contextualized. This report shows how children care for our planet and worry about the unintended consequences of human society. 75% of the participating children rate their own concern for the environment as 'high'. Children are found to be aware of the importance of nature and forestation and found to believe in the urgency of change. The children's strong collaboration interest and their excitement about the possibility of being heard and being given the opportunity to act upon that concern prove this awareness. Additionally the children show concern about the impact of deforestation on emotional wellbeing by painting a grim picture of our future without trees.

Research showed that globally children are the most concerned about air pollution. The general perception proved to be that air pollution is the most urgent problem as a consequence of deforestation, even when not registered as a large problem locally. The comparative analysis of local problems versus overall concern showed children's natural empathic ability, demonstrating their concern about global consequences above personal affiliation.

Based on the questionnaire conducted amongst 555 children whom participated in the Global Children's Designathon in 2018, the three most important ingredients to cure deforestation are: technology, collaboration & creative stimulation. The emphasis on collaboration or 'togetherness' is clear over all responses. Collaboration is identified as a key feature and the main ingredient for solving deforestation, while 81% of the children appointed 'all of us working together' as the responsible party to take action against deforestation. Children show to believe in the power humans have to find ways to stop global injustice.

Based on the hundreds of inventions designed by the children, five recurrent sectors are identified as a cure to deforestation. The most prominent solution areas are generally described as: 'technological devices for forest protection', 'reforestation robots', 'new compositional structures of co-existence', 'material reuse & recycling' & 'cross-sector vertical building and farming'.

By stimulating children to solve the worlds most pressing issues, Designathon Works helps to unleash children's creativity and to spread awareness about the importance of engaging children as co-designers of our shared future. At Designathon Works we believe that children should be given the chance to have their voices heard. Our biggest wish is to involve children in the big conferences of the world, not as decision-makers but as consultants and creative thinkers. This will further empower and encourage children to play a part in solving worldwide issues.

By reading this report you are playing a role in creating and supporting the next generation of changemakers. To further assume an active position as a contributor you can be involved in the realization of one of the children's invention into a real-size product or by partaking in our school programs, initiating a custom designed school challenge around one of the Sustainable Development Goals or by becoming a sponsor to realize the next Global Children's Designathon in 2019.

# ACKNOWLEDGMENTS

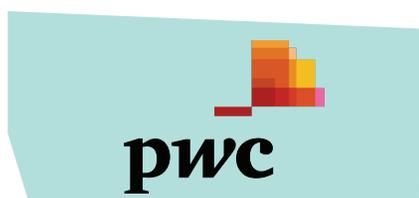
This research report was only made possible thanks to the support of our partners and contributors. Our global hosts and their teams are the reason we could yet again reach children from all over the world and provide them with a valuable experience. Their work and commitment is greatly appreciated and essential to the continued existence of this opportunity.

In each participating country, an expert panel reviewed the children's inventions to provide feedback and points for improvement. This year's experts included high-ranking professionals from among others Tony's Chocolonely and World Wildlife Fund (WWF). Experts on the topic of innovation, design and deforestation reviewed the children's inventions and provided the inventors with valuable feedback. Their expert opinions enhanced the participants' learning experience and elevated the innovations to a higher level.

There would not have been any data to present in this report if not for the contribution of PWC. By applying their analysis to our collected data, PWC made it possible to draw valuable conclusions from this year's Global Children's Designathon.

Additionally there would be no GCD without the help of our trusted partners and funders, whom each in their own way support Designathon Works and the GCD. Their support ensures the annual recurrence of the event and allows children's voices to be heard, not just in the Netherlands but around the world.

Lastly, this report is made possible thanks to PhD researcher Mar Cuervo who provided the research set-up and ethnographic execution and Isabel Brenner for the content and design of this report.





“Paint a tree if you can't plant one”



- Participants in Panjim, India



# INTRODUCTION

It is undeniable that the future of our world lies in the hands of next generations. The rapid urbanization of humankind combined with industrialization and globalization has created the world as it is today: progressive, connected and technologically advanced. However, this fast evolution has also led to challenges such as global warming, inequality and water shortages. We will leave behind a world full of possibilities but also full of challenges, to be solved by the next generation: our children.

Designathon Work's annual Global Children's Designathon represents a unique opportunity to reach out to hundreds of children worldwide. United in the drive for innovation with the honest intention to make the world a better place, Designathon Works provides the chance for these children to put their competencies and drive to good use. This worldwide event, which takes place simultaneously around the globe, provides an unparalleled opportunity where children's voices can be shared, heard and amplified. Meanwhile, the event opens up doors for research to be conducted in a natural setting, where children can speak freely.

The Global Children's Designathon 2018 was the breeding ground for the second edition of research on the global voices of the next generation regarding the Sustainable Development Goals as set by the United Nations. Last year's research and event was focused on Water (SDGs #6 and #14). This year the theme centred around 'Life on Land' (SDG #15), specifically how to tackle the causes of deforestation.

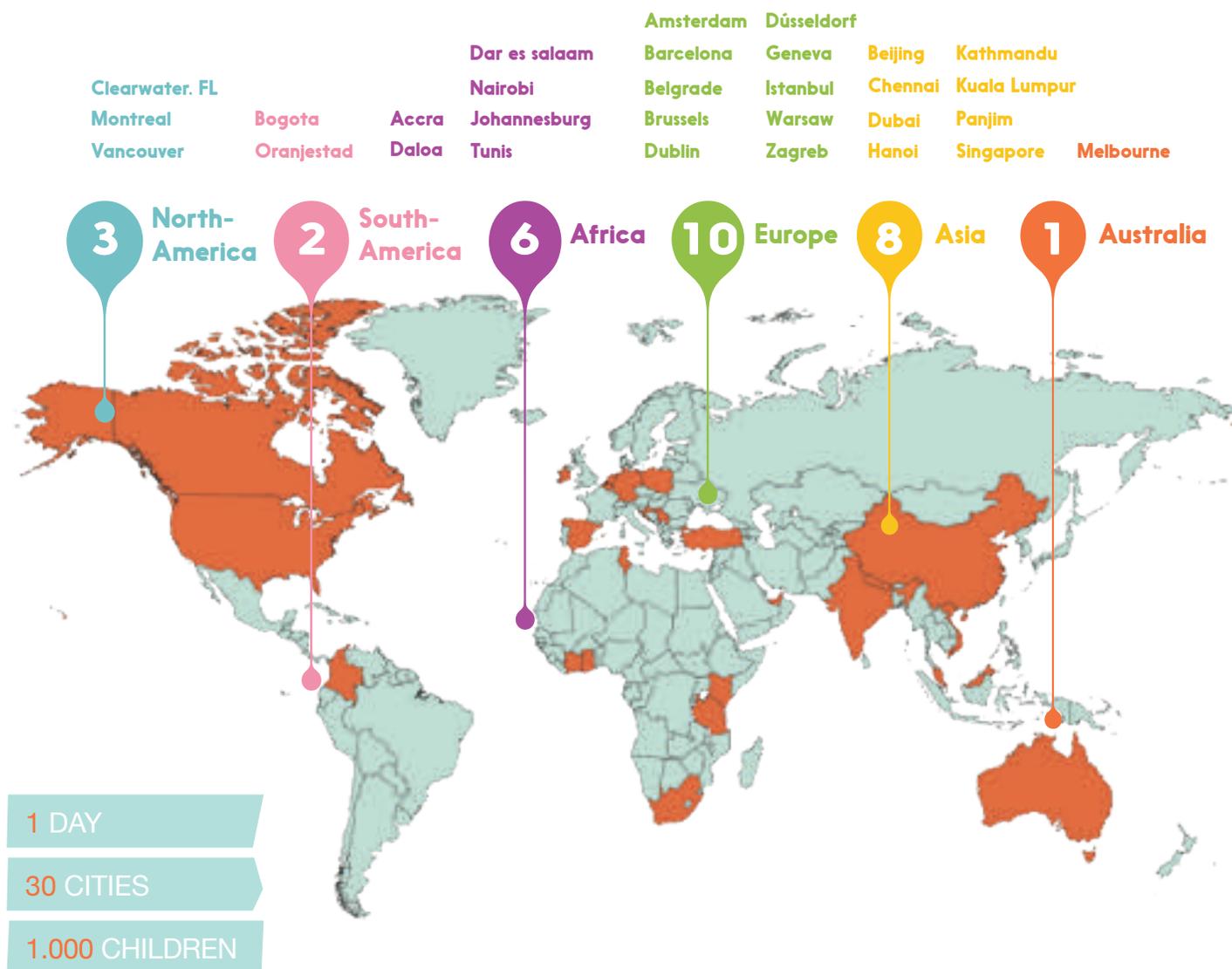
The aim of this report is to combine the children's proposed ideas with tangible solutions to achieve the Sustainable Development Goals. In the following pages we analyse, discuss and share the contributions from participants of the GCD 2018 and we evaluate the impact of design-based learning and cross-generational co-creation for a better future for our planet and ourselves.

The Global Children's Designathon is not just our most beloved event full of creative ideation and inspiring conversation, it is also an extraordinary source of insight. While children work globally to tackle the world's biggest societal and environmental problems, we can learn from their innovative insights. This research analyses the global voices of the future generation on the culprits and opportunities involved in 'Deforestation', providing unique revelations of the vision of our future generation. We hope it will inspire you!

Yours sincerely,

Designathon Works  
Emer Beamer, Ina Conkic & Anne Sallaerts

# Introduction to the Global Children's Designathon



The Global Children’s Designathon, hereinafter referred to as ‘GCD’, is an annual event initiated by Designathon Works in 2014. It was founded as a vehicle for children to take part in the creation of our shared future. The ‘Global’ aspect of the GCD is a way to unite future generations across the world and provide equal opportunities on a global level. The fourth edition was held on November 3rd, 2018, where children worldwide simultaneously worked on designing solutions for SDG #15: ‘Life on Land’.

During the GCD, the children learn about the United Nation’s Sustainable Development Goals (SDGs) through an

interactive presentation followed by a discussion. The presentation’s purpose is to inspire and educate, forming the basis for further exploration and research. During the discussion, the participants’ existing knowledge of that year’s theme is tested and the children are encouraged to further investigate.

This year’s GCD participants were spread out over six continents. Every participating country used the Designathon Method, recycled materials and identical ‘maker kits’. During the event, children got the opportunity to interact with children in another country through a live video feed.

## Why is it important to ask children what they think?

During the GCD we listen to the concerns and solutions voiced by the children. The children's designs give us insight into what they identify as focus areas of concern and potential solutions. By viewing and evaluating the many ideas generated by the participants seriously as adults, children are empowered to make the

change they want to see in the world, resulting in a positive effect on their development as a future changemaker.

Why do the children themselves believe their voices should be heard?

"The Designathon gives children a chance to make the world a better place."

- GCD 2018 participant in Chennai, India

"I think it's a very good idea to get children from all over the world to discuss problems and find solutions - because we kids are creative."

- GCD 2018 participant in Singapore

"We are the children of the Ivory Coast  
We know where we live  
We know what we want  
Give us the opportunity to propose our ideas"

- Banner made by GCD 2018 participants in Ivory Coast



Daloa



“The Global Children’s Designathon pushed me to see what is happening in the world.”

Ben (12)

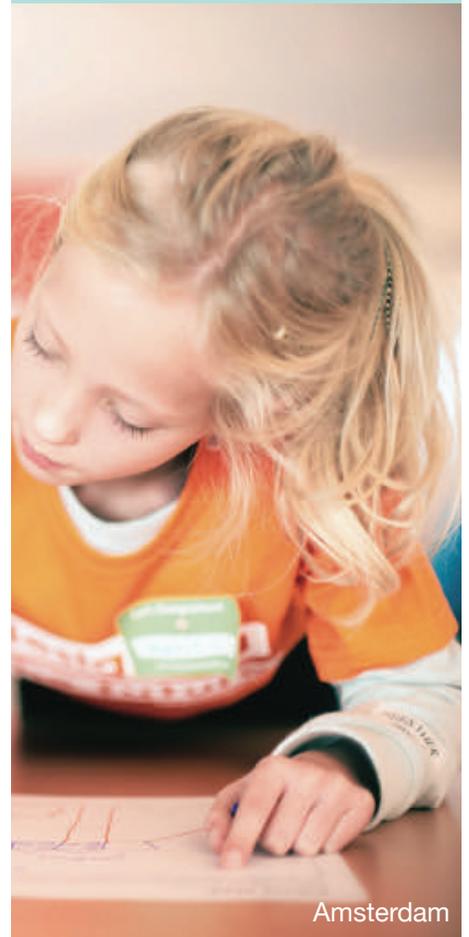
**JOHANNESBURG**



“I will never forget this experience. I think that events like this one from today are very important for survival of nature.”

Petar (10)

**BELGRADE**



Amsterdam

“The Global Children’s Designathon has helped us start to look at the world differently.”

Namashkar Group  
(11,13,13)

**DAR ES SALAAM**

## Alignment with the SDGs

The mission of Designathon Works to create a better future for everybody, directly coincides with the mission-statement of the United Nation's Sustainable Development Goals (SDGs). The UN's mission-statement states that the SDGs are the blueprint to achieve a better and more sustainable future for all. The SDGs target is set for 2030, which means the realisation of these goals is the joint responsibility of adults today and of the future: our current children. Therefore, stimulating and educating the future generation about the SDG targets and handing them the tools to shape the future in a positive way, is vital.

Every year the GCD revolves around one of the pressing matters for the future of our planet as categorized by the UN in the SDGs. By choosing an overarching and truly important theme, children are stimulated to engage in collaboration on a global level. Meanwhile, working on a global issue, which may not be noticeable on a local level, encourages empathetic thinking and encourages taking responsibility beyond the personal and local environment. By engaging the children with real life issues and examples, the GCD reminds children of the relevance of their behaviour and inspires them to take action. Additionally, focussing on the SDGs attributes to the children's development of world knowledge.



**GLOBAL**  
**Designathon** Children's  
**2018**

## Sustainable Development Goal 15.2: 'Life on Land - Deforestation'

'Life on Land' is one of the UN's most pressing yet fragmented challenges. Clearly ecosystems and biodiversity are vital to human life, however the overarching theme is too broad to unite global efforts in the space of just one day. To converge the theme into a comprehensible goal, one specific target within SDG #15 is featured in the GCD 2018: Deforestation. 30% of the surface of planet Earth is covered in forests. Forests are made up of trees that

convert CO<sub>2</sub> into oxygen and provide us with clean air. Additionally, forests are home to insects, plants, animals and humans. Despite all these qualities, millions of hectares of forests are cut-down every year. Deforestation is threatening the state of our atmosphere, destroying community livelihoods and causing a decrease in biodiversity. SDG #15.2 sets out to stop deforestation by 2030, restore degraded forests and increase reforestation globally.

- Between 2010 and 2015, the world lost 3.3 million hectares of forest areas.\*
- Around 1.6 billion people depend on forests for their livelihood.\*
- Forests are home to more than 80 per cent of all terrestrial species of animals, plants and insects.\*



To achieve the greatest impact, children are urged to tackle causes rather than consequences. This is done through examples and explanations of the rate of effectiveness of cause-oriented problem-solving versus result-oriented problem solving.

To inspire change, the three most damaging and tangible consequences of deforestation were presented. Next, the three most common causes of deforestation were given as design directions for solutions.

### Causes for deforestation



Raw materials



Building cities and roads



Agriculture & cows

### Consequences of deforestation



Air pollution



Animal extinction & loss of biodiversity



Loss of habitat for humans

\*<https://www.un.org/sustainabledevelopment/biodiversity/>

# ABOUT THE RESEARCH

In order to understand children's concerns around deforestation, we designed two questionnaires to research what children identify as their main concerns and solutions for deforestation. The research took place remotely yet simultaneously and within an identical setting in all participating GCD countries. A short questionnaire was translated in 26 languages by the global hosts in each region (Clearwater, Dublin & Melbourne all used the English survey). The survey was conducted at the same point in the process in each country. A longer questionnaire was translated in seven languages. For the longer

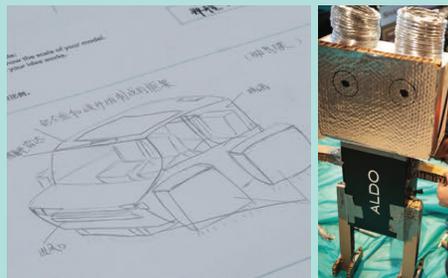
questionnaire an ethnographer was appointed at each location. The ethnographer conducted the research according to the guidelines, ensuring a consistent research setting and approach.

The second component of our data comprises the inventions designed by the children in each city. Each local host selected three inventions based on the three criteria mentioned below. All inventions are described and shown in the chapter 'About the global hosts'. The inventions were used to assess the solution areas chosen by the participants.

## Most innovative



## Best prototype



## Scalability potential



## Research method & approach

The leading principle behind this research is to uncover the level of concern children feel about deforestation as well as their innovative ideas to solve this issue. Additionally, we look at the immediate impact of the GCD on children's sense of urgency to stop deforestation. To gather this information we designed two questionnaires:

- A short questionnaire filled out by participating children in 27 out of the 30 cities worldwide.
- A long questionnaire filled out in a selection of seven participating cities: Amsterdam, Aruba, Beijing, Dar Es Salaam, Dubai, Johannesburg & Montreal.

These questionnaires collect insights on two different levels:

1

From an environmental perspective grasping the sense of urgency children feel on specific topics related to deforestation.

2

From a meta-cognitive level where children self-evaluate their creativity and sense of empowerment after the workshop.

## Research question

By analysing the responses and propositions of children between the ages of 7 -13 years old on the topic of Sustainable Development Goal #15.2: 'Life on Land - Deforestation', what do children identify as the main concern and future focus area to solve deforestation?

## Research relevance

Worldwide deforestation poses a severe threat to the future of our planet. If humans are to continue to live on earth we must tackle both the causes and consequences of this destruction. To prevent the loss of more forests, educating the next generation on the value of forestation is essential. Ultimately they, not us, will inherit a world where reforestation is critical to survival. For this reason, it's never too soon to start educating children on the power of communal actions and promoting solution-based thinking regarding 21st century issues. However, the only way to educate is through understanding. What are the concerns of the next generation? Where do they see possibilities for improvement?

The GCD provided us an opportunity to conduct a single-day field study across the globe, in order to answer these questions. Through action-based research, our ambition is to assist children in observing their own actions. Human-centred design is a powerful tool to pursue this difficult task. By using the GCD as a form of creative intervention, children become acquainted with speculative design thinking as a method for problem solving. This type of exercise nurtures changemaking skills, whilst simultaneously giving children the opportunity to raise their voices and share their creative personalities.



## About the participants

All GCD participants are between seven and thirteen years old. The participants are locally selected by each host with the goal to form a group diverse in gender, religion & nationality. To offer a broad range of children the opportunity to join, participants are recruited from a mix of surrounding neighbourhoods. Each country determines the amount of participants based on their geographical accessibility and local venue capacity. During the GCD the children put together their own design team. The GCD program is consistent across all thirty countries.

Of all children participating in the GCD 2018, a smaller selection took part in the research. Due to the busy schedule and many children's enthusiasm for prototyping, not everyone managed to fill out the questionnaire. In

several countries children were surveyed per group instead of per child. For research purposes, group answers are valued with the weight of the amount of group members to make them equally important as individual answers.

**171**

children

participated in  
the long survey.

**384**

children

participated only  
in the short survey.

**555**

voices

of the next generation are  
overall analyzed in this  
report.

# NEW WORLD

# FOR A NEW GENERATION



Dar es Salaam

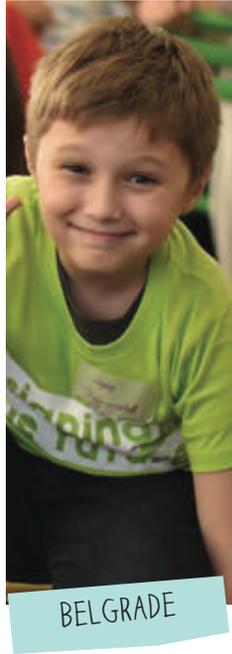
**GLOBAL**  
Des<sup>ign</sup>athon  
Children's  
2018



BEIJING



ZAGREB



BELGRADE



JOHANNESBURG



DAR ES SALAAM

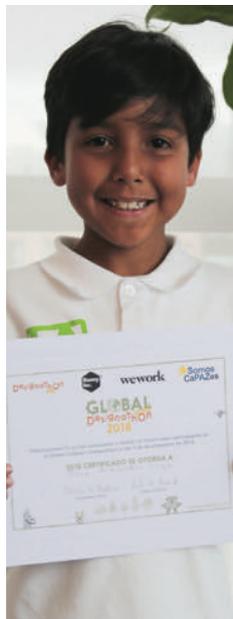


ISTANBUL

# GLOBAL FACES OF THE NEXT GENERATION



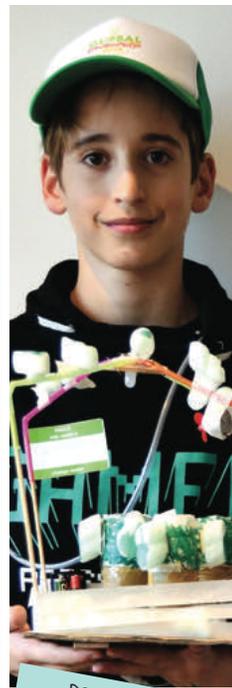
CLEARWATER



BOGOTA



ACCRA



BRUSSELS



MONTREAL



AMSTERDAM



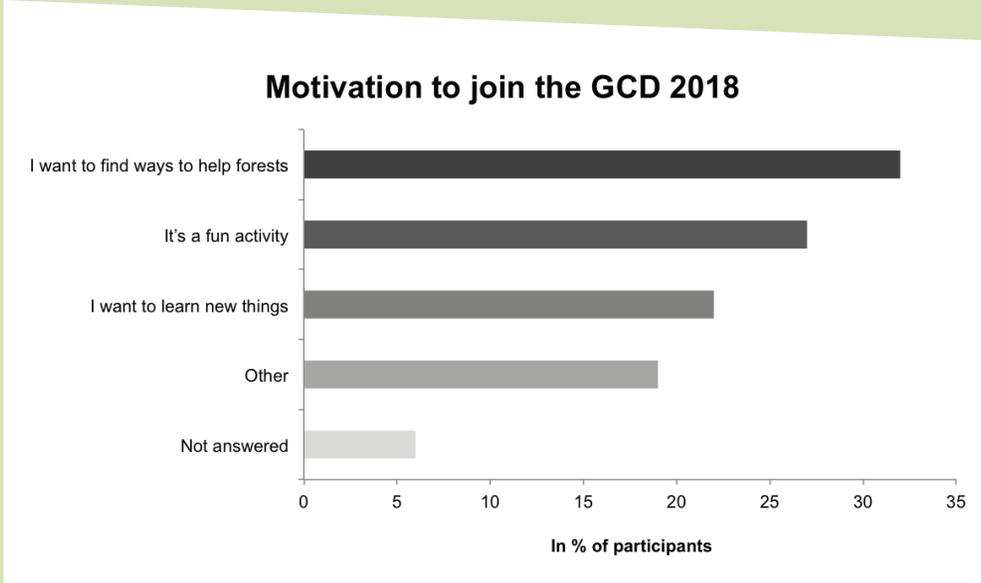


**75,4%**

of the participating children rate their concern for the environment as 'very concerned'\*

The majority of the children joined the GCD in order to:

**'Find ways to help forests!'**\*



### What are the children's main concerns?

The survey shows a clear indication that children are seriously concerned for the environment. 75% of the children rate their level of concern about the environment as 'very high'. The largest percentage was given to the highest level of concern with a full 10/10. Not only do these results show how

involved and aware children are, they also show how much children care about real world problems. This is also demonstrated in their self-appointed motivation to join the GCD 2018. The most frequently identified reason to join the GCD is the motivation to 'find ways to help forests'.

\*n=171. 75,4% of the participants indicate a level of concern between 7/10 and 10/10. 32% of the participants gave 'find ways to help forests' as their motivation.



Children are very concerned about the **global consequences** of deforestation.

Children are very 'world-oriented'. Only 44% of children think of their local problem as the most important consequence to deforestation globally. 66% of the participants identified a problem they do not see in their everyday life as the most pressing concern.\*\*

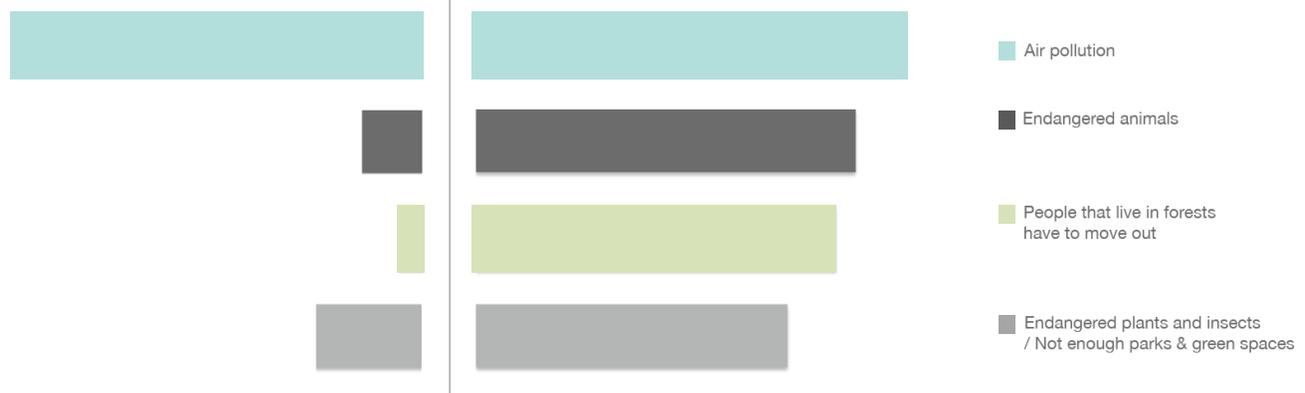
Overall, the children are most concerned about 'Air Pollution'. 42% of the children see 'Air pollution' as the main problem both globally and locally. 13,5% sees 'Air pollution'

as the main problem globally even though they do not notice it in their everyday life. 25,4% of the children see 'Endangered Animals' as the most important consequence worldwide, however only 1,7% actually experiences this as a problem in their own city.

Only one participant thinks the biggest problem locally is people forced to move to cities, while 11,9% of participants think this is the most important consequence worldwide.

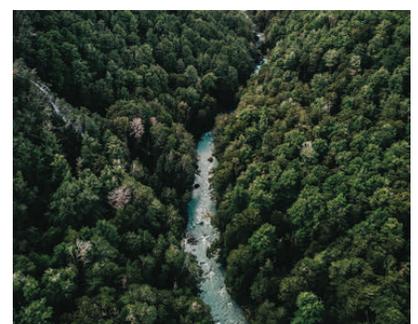
Most important problem where you live (locally)

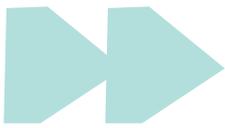
Most important problem around deforestation (globally)



\*\*n=59. Only taking into account children that filled out both questions: 'What is the most common problem where you live' & 'How important do you think these global deforestation problems are?'. Both questions were multiple-choice with similar answers. Percentages derived from children who filled in the same answer on

both questions. The total amount of responses to local problems is lower since 9% of the children responded 'other' and 5% chose not to answer the question.





Children spoke up about the importance of trees on their **emotional wellbeing**.

Not many of us are confronted with deforestation in our daily lives. The lack of personal affiliation with forests can have an effect on children's motivation to take action against deforestation. During the GCD children voiced their desire for more trees and plants in their cities. The participating GCD countries range in forest percentage from less than 1% to more than 50% surface coverage.

73% of the children surveyed during the GCD 2018 states to spend at least once a day around trees or plants. Only 2% of the children, all located in either Beijing or Amsterdam, indicate they never spend any time around trees and plants.

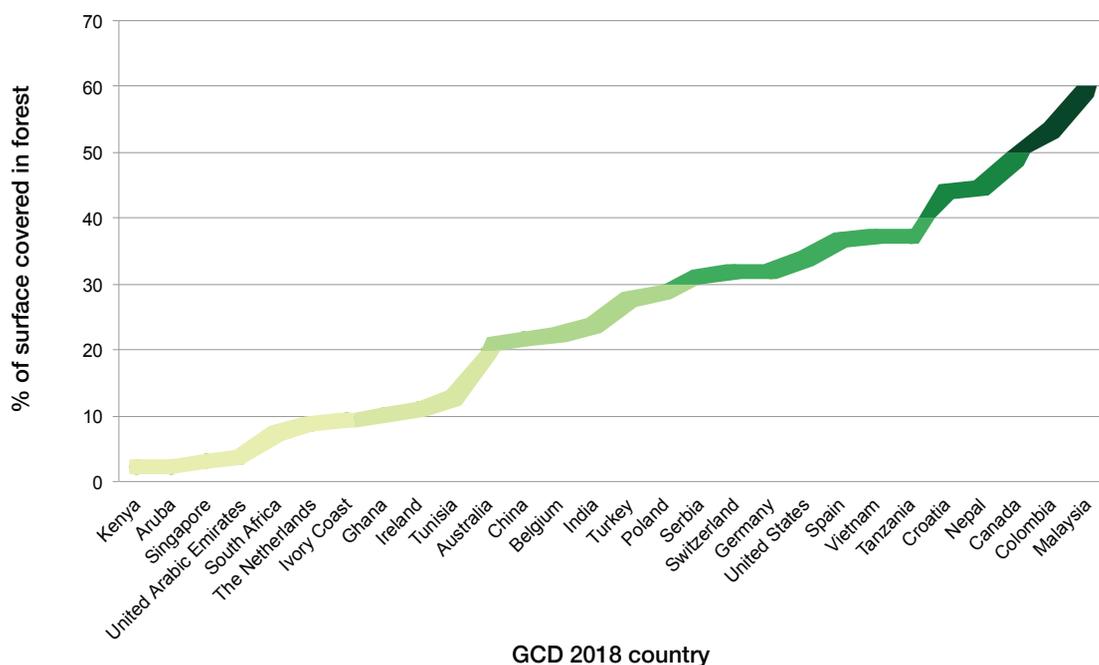
All children affirm that being around trees has a positive effect on their emotional wellbeing. 60% of the children say they feel more 'Happy' as a result of being around trees, 27% feels 'Healthy'. Other responses were 'Safe' & 'Calm'.

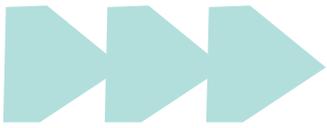
"There's no nature for people to see"

- XHanxi (11), Beijing

"People don't pay enough attention to forests"

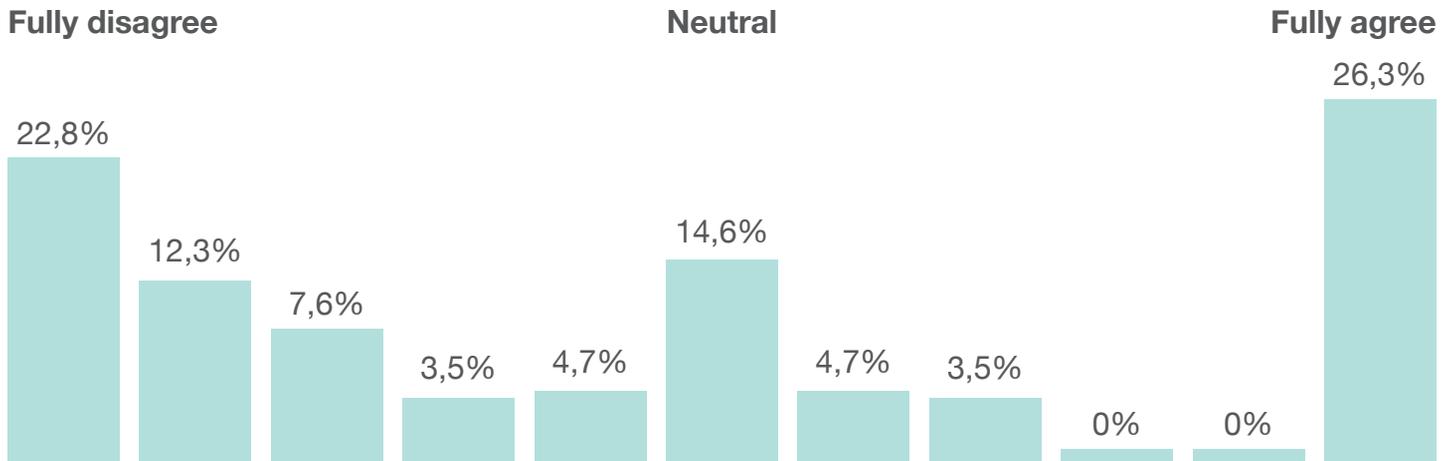
- Tessa (11), Amsterdam





Children are divided in their opinion on **human appropriation of nature**

**“I think nature is here so people can use it to make the things they need.”**



The most divergent response came from the answers to the question whether nature is here to serve the needs of the people. 23% of the children fully disagree with the statement that nature’s purpose is to serve humans. 26% fully agrees with the statement. Children from all cities are spread out and divided on the scale between agree and disagree. The children from Johannesburg give an averagely high rate of agreement to the statement, followed by children from Dubai. Amongst the children from Montreal, Beijing, Dar es Salaam and Amsterdam the majority stated to

disagree with the statement. This wide divergence in responses can be explained when listening to the voices of the children. The recurring opinion is to prefer natural materials above artificial materials such as plastic. The current generation is vocal in their concern for the ‘plastic soup’ and single-use plastics, due to their origin from fossil fuels, the large amount of emission in production and time spent in landfill. Hearing their concerns about plastic clarifies their preference for natural materials.



One of the objectives of the GCD is to involve children in today's relevant discussions. An ongoing discussion around materials and agriculture raises the question to what extent people should be allowed to appropriate nature for their own benefit versus their responsibility to preserve nature. For children this proves a difficult question when asked for the purpose of nature directly. However,

when presented with the challenge to design a system where nature does not become the victim of everyday life, children proved extremely capable of finding ways to co-exist. The designs show an adequate understanding of the necessary use of nature for survival, e.g. the necessity to eat plants, create space to live and use materials to build products and foundations for buildings. In their inventions, children manage to incorporate the harvesting of natural life necessities while improving human's existence around - and in harmony with - nature, utilizing nature's built-in sustainable qualities to maintain ecosystems and biodiversity.

"I learned to respect nature and to have a positive influence to save the world"  
- GCD 2018 participant in Tunis, Tunisia



Beijing



## What are the focus areas for solutions

### according to the children?

#### What do children identify as the solution areas?

All children chose a solution area to focus on for their invention. A small majority of children chose to find alternatives to raw materials. Their solutions show a recurring use of bamboo and recycled plastic. The combination of recycling and tree preservation shows children's understanding of the plastic problem and their ability to look beyond the current problem at hand. A second recurring solution is the re-use and recycling of paper and wood.

#### Identified by the children as solution areas for deforestation\*\*\*

- |          |   |            |
|----------|---|------------|
| <b>1</b> | Finding alternatives for raw materials        | <b>29%</b> |
| <b>2</b> | Adapting the way we build cities and roads    | <b>27%</b> |
| <b>3</b> | Finding alternatives for agriculture and cows | <b>26%</b> |

\*\*\*n= 171. Ranking derived from solution area chosen to address in the designs. 15% of the children focused on a solution area related to a consequence e.g. 'Air pollution' or 'Animals'. 3% did not fill out this question.

An almost equal portion of the participants chose to tackle 'loss of forests to make space for cities & roads' and 'cows & agriculture'.

26% of the children chose to find alternative ways to raise cows and/or grow food.

Alternative solutions were vertically stacked grazing fields for cows, subterranean farms and meat-alternatives found in nature. More than 30% of the children was surprised to learn that raising cows for meat consumption is a major cause of deforestation. After

learning this cause for deforestation 6,6% of the children chose to immediately tackle this cause in their solution.\*\*\*\*

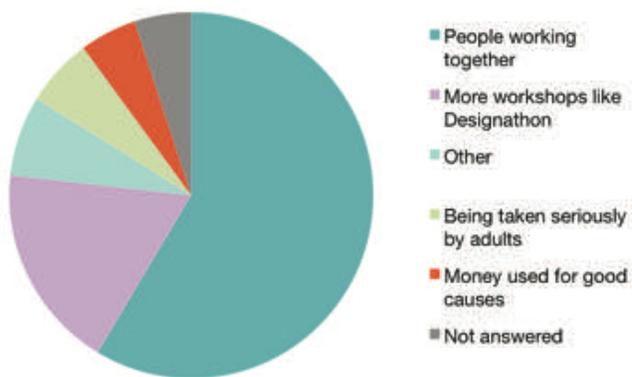
The overarching solution area to stop the sacrifice of forests for cities and roads is found in co-existence. This ranges from tiny green houses within the forests to elevated cities above or below the forests. Subterranean transport in the form of tunnels was also identified as a recurring theme.

\*\*\*\*n= 76. Derived from the analysis of the children that filled out 'what is the most surprising thing you learned about deforestation today' and 'what did your team choose to tackle today'. 6,6% of the children that filled out both questions found cows as a cause for deforestation the most surprising new fact about deforestation and chose to subsequently tackle that cause in their solution.



## What do we need to solve deforestation?

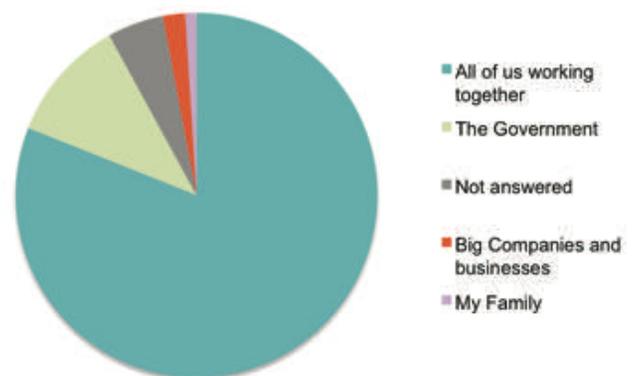
Through their solutions the children demonstrate how they would solve deforestation. However, what do the children need to enable these changes? 58% of the children identified 'working together' as the main tool needed to solve deforestation and similar world issues. Also among the answers were 'more workshops like Designathon', 'being taken seriously by adults' and 'money for good causes'.\*



\*n= 171. 5% of participants did not fill out this question, 7% filled-out 'other', which includes 'awareness' and 'all of the above'.

## Who is responsible to solve deforestation?

With the solution areas and tools identified, a question remains about the responsible party to enforce change. Who ensures innovation is implemented and action is taken against deforestation? Do we turn to our governments to provide the change we need? Or should the big corporations be the driving force behind innovation? We provided the children with five options as to who is responsible (see chart below). According to 81% of the children we, as a human race, are all responsible to work together to solve global issues. As runner-up the children appointed the government with 11%. Small percentages were given to 'Big companies and businesses' and 'My Family'.



\*n= 171. 5% of participants did not fill-out this question.

"If there were more Designathons around the world we could save forests"  
- Ilyas, 10, Montreal



## To solve deforestation we need...



Amsterdam

### WHO?

81% of the children see ‘all of us working together’ as the responsible party to solve global issues. Children have identified teamwork, collaboration and a global collective human effort as the way to solve deforestation and even as a way to recover lost forests through reforestation.

**...all of us working together**

### WHAT?

79% of the children believe technology is an important tool to tackle deforestation. This opinion is reinforced by the children’s technologically advanced inventions designed as solutions for deforestation. Technology is used in the inventions in the form of detection, data transmission and to provide sustainable alternatives to single-use materials.

**...technology**



Beijing

### HOW?

To design innovative ideas, it is necessary to think creatively. 92% of the children felt that the Global Children Designathon had a positive impact on their creativity. 30% of the children identified ‘more workshops like the GCD’ as the most important tool to solve global issues.

**...creative ability**



Montreal

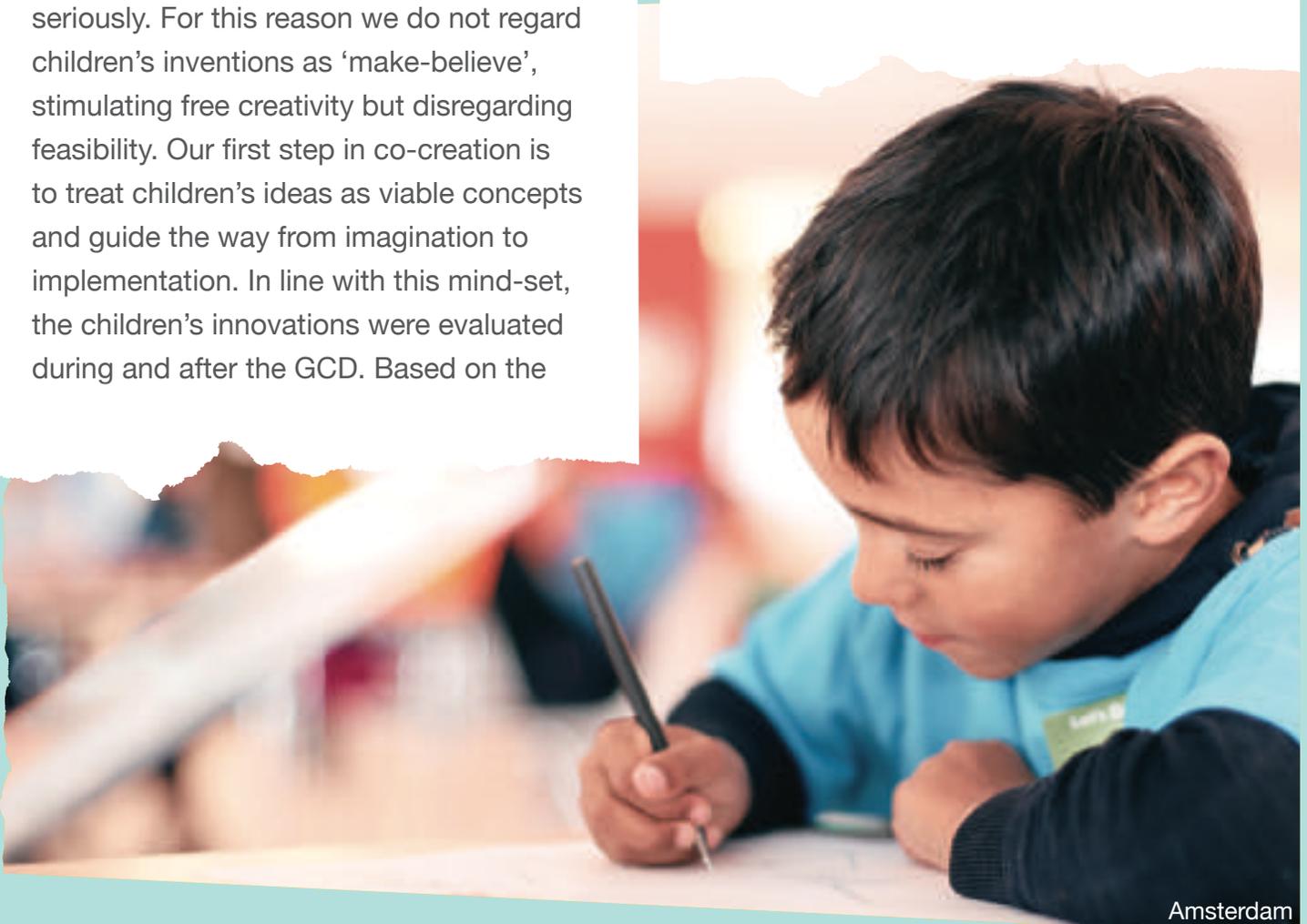
# EVALUATING CHILDREN'S INVENTIONS

Co-designing solutions to societal issues and environmental challenges with children is still in its infancy and including children is by no means the standard. By seeing their contribution as a form of research, we can regard their contribution as an open source of innovation and creativity. Through the minds of the children we can learn valuable radical innovation perspectives that may not occur to adults. Similarly, by continuing development to understand and analyse children's contributions and experiences in design activities, we can better appreciate children's concerns and values. Ultimately, this will help children to take a seat at the policy-making table.

To give children the opportunity to speak their mind, we need to start by taking them seriously. For this reason we do not regard children's inventions as 'make-believe', stimulating free creativity but disregarding feasibility. Our first step in co-creation is to treat children's ideas as viable concepts and guide the way from imagination to implementation. In line with this mind-set, the children's innovations were evaluated during and after the GCD. Based on the

children's designs, it is clear that children prefer solution-based thinking as a tool to tackle consequences above the use of design to make causal practices redundant. In this, children appear to have a stronger reaction to emotional stimuli, for example in the form of animal extinction, or to tangible examples of consequences, such as visible air pollution.

A selection of teams designed extraordinarily surprising and innovative solutions, of which three teams are put 'in the spotlight' on the following pages. Additionally, five sectors are identified as recurrent solution areas to combat deforestation. Examples of these five sectors are shown through real GCD 2018 solutions.



Amsterdam

## In the spotlight

Although all the designs show great capabilities and creative thinking, a selection of inventions demonstrate the innovative power of children's solutions in a truly extraordinary way. These designs show how children manage to converge different sectors and topics into new products and services. Some of the teams went above and beyond the assignment to design a new product by

also implementing marketing strategies and identifying specific target groups while taking into consideration present-day trends and modern technology.

We have chosen to highlight these inventions that inspire new ways of thinking and provide insights into the way children play an indispensable role in the creation of a better future for all.

### Beijing: Grow your own (meat)

**Team:** Wu Xizhi (10), Liu Zining (10), Teng Yaoxiang (10)

**Topic:** Agriculture and meat production

#### Description:

These are special kind of plates that you can buy in the supermarket. Each plate contains meat (or vegetable) cells.

Once you bring it home and activate it the cells start growing. After some time you have a real piece of meat: chicken wings, hamburger, steak... the choice is big.

In this way we don't need to cut down the trees for grazing or to make (meat) farms.

After you are done with eating you bring the empty plates back to the supermarket.



Team 'Grow your own' from Beijing has designed an original way to fulfill food demand while cutting back on deforestation. Their futuristic model combines the 'do-it-yourself' culture with the idea to grow 'on-demand' to eliminate overproduction. Their system incorporates a deposit system to ensure plate reuse, making it a sustainable business model.

### Dar es Salaam: Mazingira app

**Team:** Heating Minds, Auma (10), Jacqueline (11), Gisela (9)

**Topic:** Raising awareness

#### Description:

The Mazingira App is a phone application and computer software that will be specially designed for kids to raise awareness about the effects of climate change and help children with getting enough information to help them with resource and knowledge that helps them help and protect the environment. The app will have games, activities to do for the environment, a platform to connect with other kids who help the environment, and accessing information to share with other kids.



Team Heating Minds has applied their expertise to design a tool to engage children and to provide opportunities for children to take matters into their own hands. The power of the app lies in the insights acquired by having a tool designed by the ultimate target group of the product. This concept is both feasible and scalable. The app aligns with the goals of the GCD in its ability to educate and unite using today's technologies.



### Brussels: Plant vending machine

**Team:** Simon & Remco (age 8-12)

**Topic:** Access to greens

#### Description:

A vending machine that sells plant seeds and small plants to increase access to greens. The vending machine offers optimal circumstances to grow seedlings. Placed in a public location, people are more likely to buy plants. In rural areas, plants can grow inside the vending machine until somebody buys one.

The Plant vending machine is a perfect example of children's capability to combine present-day trends, marketing strategies and global issues. Combining contemporary technologies from vertical farming systems and greenhouse principles, Simon & Remco play into the hand of consumers' drive for efficiency and easy accessibility as a strategic approach.

## 1. Technological devices for forest protection

Several teams from all over the world showed great use of modern technology to help protect forests against deforestation.

### Dalao: Pylon warning mechanism

**Team:** Team Pylon

#### Description:

A pylon placed on top of a forest warning mechanism with cameras that are connected to a control centre based in the village. The electricity for the village and the device comes from solar panels installed on the pylon. The camera images are transmitted in real time to the control centre, which triggers an alarm in case of tree cutting. The surveillance team intercepts the trespassers and saves the forest.



### Dubai: Plant cop

**Team:** Lucy (7), Chloe (8) & Caroline (9)

#### Description:

Cameras in the forest that catch people before they try cutting trees down and stops them by squirting out a bad smell from a special type of plant around the area.

### Belgrade: Roboshwaba

**Team:** Team Roboshwaba

#### Description:

Forest protecting system with a lot of bug bots, which measure changes in the forest ecosystem.



### Hanoi: Wireless motion sensor alarm

**Team:** Chu Doan (9), Le Anh (10), Nguyen (11), Vu Minh (12) & Bui Thi (12)

#### Description:

A wireless motion alarm using acoustic sensor technology. It can distinguish the noise from an animal and a chainsaw by analysing the sound's intensity and duration. When suspicious activity is detected, the alarm at the guard station goes off, prompting the guards to take action.

## 2. Reforestation robots

Reforestation robots were a recurring solution during the GCD 2018. Teams from all over the world plan to use present-day technology to bring back our lost forests.



### Beijing: Seed planting robot

**Team:** Henry (8), Katherine (11), Sidney (11), Lucas (11)

#### Description:

a robot that can plant seeds and provide water and food to help the seedlings grow.

### Chennai: Seed assist

**Team:** Darshika (9), Roshan (9), Mihira (10) and Prithvi (7)

#### Description:

A drone that detects areas that have been impacted due to deforestation. It would detect and fly to those deforested areas and drop seeds in order to help rebuild forests.



### Barcelona: Reforestation vehicle

**Team:** Tommy (10), Nico (8) and Karam (9)

#### Description:

A vehicle that can circulate through burned forests. It catapults seeds and water from the container to reforest those areas.

### Amsterdam: POD (planting organization device)

**Team:** Floris (8), Phileas (9) & Breno (10)

#### Description:

POD is a rolling robot fit to detect deforestation and find fertile ground to immediately plant a tree as replacement.



### 3. New compositional structures of co-existence

Teams from all over the world integrated concepts of smart cities and green villages, to find new ways to co-exist with nature. They used sustainable energy, new spaces and circular systems.

#### Melbourne: Ecomeeshaya

**Team:** Meesha & Inaya (ages 8 - 12)

#### Description:

Ecomeeshaya is a sustainable community where humans live with minimal impact on the environment. Ecomeeshaya has three main features: a “floating” treehouse, underwater homes and underground highways. All aimed to provide the comforts of modern living with minimal disruption to the environment.



#### Kathmandu: Smart city

**Team:** Suhani (13), Supriya (13), Kabish (13)

#### Description:

Our smart city tackles deforestation by converting waste materials into energy. We built pipelines that transport waste materials collected from homes to energy centers. There waste is converted into energy that will be transferred back to the houses!

#### Istanbul: Children of nature

**Team:** Zelalsu, Peri, Uluç, Deniz, Umut (ages 10 - 12)

#### Description:

We developed a project to install houses on the sea, in order to protect the land. We also added propellers so that houses can move around with the people. On top of the houses there are terraces where you can produce your food.



#### Johannesburg: The scoop-D-Do project

**Team:** Jolynn (11), Oratile (10), Ashante (12) & Ditshupo (12)

#### Description:

A tree house built with recycled material on a dead tree. The home is self sustaining and uses solar power and greenhouse principles. There is also a 3D food printer in the house that prints food and distributes to the neighbours in the community.

## 4. Material reuse & recycling

Several teams designed ingenious solutions to reduce raw materials. The designs show a clever combination of current technology and recycling to cut back on deforestation for material harvesting.

### Bogotá: The erasable digital notebook

**Team:** Julia, José, Sharid, Benjamin & Jeronimo (Ages 7 - 12)

#### Description:

A notebook where, once full, you can download all your data to a drive for safekeeping. You can then clean all the pages of the notebook to prevent having to buy new notebooks. As a consequence, less trees have to be cut down because we reduce our need for paper significantly.



### Geneva: The recycler

**Team:** Nora, Bahar & Isha (ages 8 - 12)

#### Description:

The recycler solves two problems in one. By re-purposing plastic waste as a building material it reduces the demand for traditional building materials and helps solve the problem of plastic pollution. The low-tech production process can be established all over the world under different conditions and run using renewable energy.

### Brussels: A paper tablet

**Team:** Marlotte, Maxelle & Nona

#### Description:

Looks and feels like real paper, but is actually a digital device that scans the information. You can erase the sheet with the touch of a button.



### Clearwater, FL: The reusable paper machine

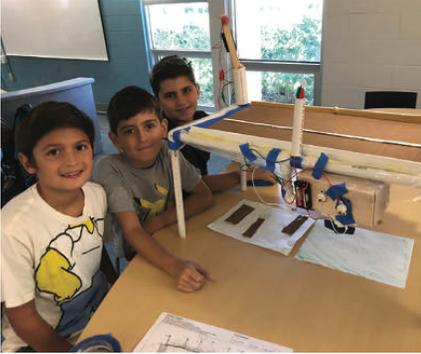
**Team:** Nola (10), Dakota (7), Jake (10) & Hudson (10)

#### Description:

The reusable paper machine is like a printer, except it removes the ink from printed paper allowing it to be recycled and printed on again. The machine evens out wrinkles so it can be used again in any printer.

## 5. Cross-sector vertical building and farming

Teams from all over the world employed vertical building possibilities to combine farmland, cities and forests. These ideas combine the trend of vertical farming and urban farming with larger scale cross-sector use of space.



### Clearwater, FL: The green bridge

**Team:** Oliver (10), Lucas (10) & Leon (8)

#### **Description:**

The green bridge road surface captures energy from solar and the friction of car tires, and stores it in batteries underneath the bridge. The rail of the bridge charges electric cars as they drive by. Underneath the bridge is a farm with plants and trees that are sustained by runoff water from the bridge and lights powered by the batteries. A wind generator powers the streetlights on the bridge and the batteries for the farm lights underneath.

### Amsterdam: De RIJ-kas

**Team:** Roos (9), Jan (8) & Isa (9)

#### **Description:**

A subterranean greenhouse for crops with cows, trees and farms on top. The greenhouse houses a restaurant and shop that sell the local freshly grown greens. A glass tube holds fish that are both food and entertainment for the guests.



### Dublin: Temperature alternating tower farm

**Team:** Ellie, Safiya & Julia (ages 8 - 12)

#### **Description:**

A tower that grows plants and crops with temperature-altering technology so a diverse variety of plants can grow. Industrial companies could install them in urban areas to grow their foods there. It is both intended for homes and factories. It will be five feet tall, have a rain collector that filters water and sprays it on the plants. Solar panels and wind turbines power it.

### Panjim: Rooftop harvesting

**Team:** Team rooftop harvesting

#### **Description:**

By using roof tops, this concept makes use of wasted space to grow food. We grow plants in pots on a terrace with underground piping bringing the water out on both sides, called spacing.



# CONCLUSION

Although impact and innovation are difficult parameters to measure, especially in short-term scenarios, our aim is to create a present-day record of development through these reports. By gathering children's insights and concerns around sustainable development goals, we are facilitating a space for reflection, understanding and potential change.

Through their answers children have stated a clear concern for the environment that is proven by their strong collaboration interest and their excitement about the possibility of being heard and to act upon that concern.

The children's answers show a clear concern for the environment further proven by their strong collaboration interest and their excitement about the possibility of being heard and creating real change.

Finding ways to solve problems together was one of the key insights we distilled from these questionnaires. The emphasis on "togetherness" is clear across the responses. Children believe in the power humans harness when we work together to find ways to stop deforestation. They acknowledge that humans are a cause of deforestation and believe we should be held accountable to fix the problems we have created. The children value togetherness as the key to find solutions over financial aid or government action.

After the workshop, children indicated they now feel more capable to make the world a better place and are more likely to take action to save forests. Based on their feedback they not only felt they had acquired new knowledge but also gained the right of advocacy on the subject of deforestation.

## Research question

By analysing the responses and propositions of children between the ages of 7 -13 years old on the topic of Sustainable Development Goal #15.2: 'Life on Land - Deforestation', what do children identify as the main concern and future focus area for solutions to deforestation?

## Research outcome

Research shows that children worldwide are generally most concerned about air pollution. Even when not registered as a large local problem, the general perception is that air pollution is the most urgent problem as a consequence of deforestation. The comparative analysis of local problems versus overall concern proved the empathetic nature of children, demonstrating their concern about global consequences above personal affiliation.

Based on the questionnaire conducted amongst the GCD 2018 participants, the three most important ingredients to cure deforestation are technology, collaboration & creative stimulation.

Based on the solutions designed by the participants, five recurring sectors are identified as a cure to deforestation:

1. Technological devices for forest protection
2. Reforestation robots
3. New compositional structures of co-existence
4. Material reuse & recycling
5. Cross-sector vertical building and farming



## Technology

Through the questionnaire children across all countries graded the importance of technology as a tool to fix big world problems with an 8,1/10. This mind-set is visible from the designs as well; robots and drones are found amongst the innovations in almost every city. Technology is mostly implemented as a form of surveillance, detection, warning or data storage. Technology is used by the children as an instrument for quick aid in reforestation, extinguishing burning fires and discouraging illegal deforestation.



## Collaboration

Both as a response to the question 'who do you think should fix the big problems in the world' and to the question 'what do we need most to fix the world's problems' the children responded with 'all of us working together'. This belief is also visible in the tremendous effort from the children to help one another during the day itself. Across borders, nationalities, religions and languages, the children proved extremely motivated to exchange ideas, ask questions, present their findings and cooperate.



## Creative ability

91% of the children felt 'more able to help make the world a better place' after taking part in the GCD. An additional 80% stated to feel empowered to take action against deforestation as a result of the day. When provided with the choice between 'teamwork', 'being taken seriously by adults', 'workshops like the GCD' and 'money for good causes', 18% of the participants identified workshops like the GCD as the most important tool to fix global problems.

# HOW TO GET INVOLVED

## Our design-based learning method

The world in which our children will live as adults will be radically different from the world we live in today. Our goal as Designathon Works is to give children the tools to co-design their own future and in doing so, prepare them to prosper in a rapidly changing, increasingly technological and complex world. The tools that children need to co-design their own future are transferred by employing the 'Designathon Method'. The 'Designathon Method' is our own unique design-based learning method, developed around the Sustainable Development Goals and designed to unleash children's creativity to design a better world using new technologies. The method is implemented in workshops where a theme is researched and ideas are created, sketched, built and presented. Our design-based learning method is executed across three different channels where it is implemented in a form of 'future-proof education'. Besides from the annual GCD event, we run an all-year-round project where we strive to implement science and technology in the school curriculum through teacher trainings. Additionally, we provide customized Designathon events for organizations, focusing on a requested theme.



## How can I get involved?

By reading this report you are playing a role in supporting the next generation of changemakers. To further assume an active role as contributor, you can help realize our goal of a better future for all children. Whether you are a teacher, a parent, an environmentalist or a CEO, there are many ways to contribute in bringing future-proof education and contemporary issues to the creators of the future.



### Teacher training and school programs

If you want to implement design thinking or SDG-specific workshops in the classroom we can help you write an appropriate curriculum to fit every school system.



### Designathon workshops for organizations

If you have a pressing matter you want to tackle or get new insights on, we can design a customized Designathon for your company or institution.



### Global Children's Designathon

Take part in next year's GCD by contributing to the improvement and growth of the research report or get involved by sponsoring next year's event through funding and/or expert input.

## 21<sup>st</sup> century skills

Based on the research conducted by HundrEd Research into the opinions from young people (4 to 18 year olds) on the future of education, certain areas are identified as needing improvement.\* According to the research, children “feel unprepared for the ‘real world’ and frequently share their concern for a lack of preparedness for what they will face after formal education”. (Spencer-Keyse 2018, p.15) Additionally the research states that 58% of children is concerned with improving their life skills when it comes to empathy, collaboration & communication, while 53% is interested in learning to live a sustainable lifestyle. In accordance with these results, Designathon Works offers 21st century skills tailored to the needs of the children of today. Rather than focusing only on knowledge transfer like many educational systems, we also teach:



Changemaker\*\*  
skills



Creative thinking



Technological  
literacy



Critical thinking



Collaboration

\* Spencer-Keyse, A. Jessica & Warren, Frederika (2018), “Every Child to Flourish: Understanding Global Perspectives on Improving Education. Insights from a state of the debate review & global youth survey.” HundrED Research. <https://hundred.org/en/research>.

\*\* A changemaker is someone who takes creative action to solve a social problem. (Ashoka)



Bogotá



Tunis



Dubai



Amsterdam



Bogotá

# WORLDWIDE GCD SOLUTIONS & HOSTS

Worldwide there are 2 billion children of school going age. How can we prepare them to prosper in a rapidly changing, increasingly technological and complex world? How can they learn to design a better world for themselves and the planet?

To answer these questions, designers, entrepreneurs, teachers and volunteers from all over the world have set out to host a Global Children's Designathon in the country they live and/or work in. In teams or alone, the 'global hosts' make sure the event is optimally organized, facilitated, executed and evaluated in each city. Meanwhile hosts connect with each other across borders to discuss, inspire and co-create.

To give an insight into the solutions designed in every participating country, the global hosts

have selected some of their favourite, most innovative, exciting or original results. These 'top three' designs selected by the hosts are a way to show a cross section of the hundreds of solutions created during the event. Carefully selected, each 'top three' represents the most noteworthy ideas per city. Of course all designs created on the 3rd of November were noteworthy and innovative, however it is not possible to present them all. The chosen designs and their designers are presented on the following pages.

Under the overarching theme and Designathon Method the global hosts and their teams have made it possible to create a worldwide impact. Per city, the following pages showcase the back-stories of these amazing people and their drive to help children co-create a better planet.



# ACCRA GHANA

Jamel Buhari & Afra Foli  
Dr. Monk



## About the hosts:

Dr. Monk is an international agency that offers research and ideation, with offices in Accra and Amsterdam and a worldwide network of collaborating pioneers. We immerse ourselves in topics at the intersection of sustainability and global inequality, only to emerge with interventions that will have a systemic impact. Our goal is to contribute to a more equal, regenerative and compassionate future.

## About the event:

This year we introduced the Global Children's Designathon in Ghana. Bringing children together from the Suhum area and the Agbogbloshie district, we are mixing children from both rural and urban environments. A unique opportunity for children from different backgrounds to work together and come up with refreshing and creative ideas. We'll be working with inspiring local partners to make sure we provide the best facilitators to guide the children during the GCD.

**Title:** Sustainable cattle pen  
**Team:** Godfred, Rita & Kwaku  
- age 10  
**Topic:** Agriculture

**Description:**  
Using natural spaces in nature for cattle pens, to prevent cutting down trees for cattle. The roof is built in a way that rainwater is collected and used for irrigation.



**Title:** Car tire recycler  
**Team:** Seth, Abel & Emmanuel  
- age 11  
**Topic:** Air-pollution

**Description:**  
A machine that recycles tires to prevent air pollution caused by burning tires.



**Title:** Bamboo/Clay house  
**Team:** Team Bamboo  
**Topic:** Alternatives for wood

**Description:**  
A house made of bamboo and clay to stop deforestation.



# AMSTERDAM THE NETHERLANDS

Anne Sallaerts & Isabel Brenner  
Designathon Works



## About the hosts:

In Amsterdam the event is led by Designathon Works' managing director Anne Sallaerts and newest DW member Isabel Brenner. For Anne this will be her third GCD. Previously she has facilitated the event in Dubai and organized the event in Amsterdam. For Isabel this year's GCD is her first. She has a background in industrial- and cultural design. Both Anne and Isabel highly value education and want to make a positive impact on the future generation's capacity to be a changemakers for a better world.

## About the event:

In 2018, children from all parts of the city and the rest of the Netherlands joined the GCD event in Amsterdam. Diverse in terms of their cultures, socioeconomic background, age and gender, the children formed a united group throughout the day. The Amsterdam event was held in the Public Library of Amsterdam (OBA), a place where children's knowledge, creativity and love for reading is stimulated.

**Title:** POD (planting organization device)  
**Team:** Floris (8), Phileas (9) & Breno (10)  
**Topic:** Reforestation

**Description:**  
POD is a rolling robot fit to detect deforestation and find fertile ground to immediately plant a tree as replacement.

**Title:** Team SOS  
**Team:** Noortje (9), Isa (8) & Pia (10)  
**Topic:** Cities and Roads

**Description:**  
A city build on poles to preserve the forest below. Houses are connected through bridges so the trees still receive sunlight and rainwater. There are bridges and stairs to get to the cities.

**Title:** De RIJ-kas  
**Team:** Roos (9), Jan (8) & Isa (9)  
**Topic:** Agriculture and cows

**Description:**  
A subterranean greenhouse for crops with cows, trees and farms on top. The greenhouse houses a restaurant and shop which sell the local freshly grown greens. A glass tube holds fish that are both food and entertainment for the guests.



# BARCELONA SPAIN

Judith López  
Bits & Kids Academy



## About the hosts:

As a trained engineer, I have dedicated most of my life to the world of cyber-security until, two years ago and thanks to my children, I discovered the almost magical things that children can do thanks to technology.

## About the event:

This year's Global Children's Designathon is a challenge for children to develop creative ideas to solve problems related to deforestation and its consequences.

**Title:** Reforestation vehicle

**Team:** Tommy (10), Nico (8) and Karam (9)

**Topic:** Reforestation

### Description:

It is a vehicle that can circulate through burned forests by throwing seeds with its catapult and water from the container to reforest those areas

**Title:** Paper recycler

**Team:** Joab (11), Juliet (12) and Anna (12)

**Topic:** Home recycling

### Description:

It is a household appliance that we could all have at home: in it we introduce old papers that we no longer use and small pieces of waste wood, which are then converted into new paper, ready to be used.

**Title:** Maqui

**Team:** Nora (6), Martina (8)

**Topic:** Home recycling

### Description:

A household appliance to recycle wood by mixing small pieces of wood with hot water.



# BEIJING CHINA

Lisa Sai Li & Ina Conkic  
IDEAS Foundation for Youth Development



## About the hosts:

Lisa Sai Li works for IDEAS Foundation for Youth Development based in Beijing. She has a Bachelor's degree in Advertising and Economics and a Master's degree in Communication. Prior to IDEAS, she worked for Save the Children in rural China. Ina Conkic is a Co-Founder of Designathon Works and one of the original creators of the GCD. She has been coordinating the global network of GCD hosts for the past three years and this year went to Beijing to facilitate the GCD there.

## About the event:

Lisa: This will be the first time that GCD comes to China. I am a believer in design-thinking and combining DT with maker education makes it even more appealing and practical. I think it is critical to get children familiar with this approach as early as possible and applying it to solve a global issue. I also believe in educating children to care about the world from a young age.

**Title:** Seed planting robot

**Team:** Henry Wang (8), Katherine Wang (11), Sidney Hou (11), Lucas Han (11)

**Topic:** Raw materials

### Description:

a robot that can plant seeds and water and give good for plants (help the seeds grow).

**Title:** Grow your own (meat)

**Team:** Wu Xizhi (10), Liu Zining (10), Teng Yaoxiang (10)

**Topic:** Agriculture and meat

### Description:

You can buy these special plates in the supermarket. Each plate contains meat (or vegetable) cells. You bring it home and activate it so the cells start growing. After some time you have a real piece of meat. After you are done eating you bring the empty plates back to the supermarket.

**Title:** City of heaven

**Team:** Richard Liu (9), Rainbow Zhao (8), Qiu Yutong (9)

**Topic:** Find the alternative for building cities and roads

### Description:

Use bamboo and iron to replace building materials and use artificial lights to make trees grow



# BELGRADE SERBIA

Tijana Jovanovic Petrovic  
KidHUB organization



## About the hosts:

Tijana Jovanović Petrović is a social entrepreneur, designer and educator. She launched the first socially responsible toys in Serbia called Koba Yagi Toys and is the director of KidHUB which is dedicated to empowering the creative potential of children and employability of young people through innovative educational programs, social innovations and creative entrepreneurship.

## About the event:

Tijana: I want to inspire children, and especially girls to see themselves as creators, artists, scientists - those who create solutions to social challenges! GCD and the Designathon Method are great ways for children to explore, collaborate and visualize their ideas on important topics such as the UN Global goals.

**Title:** Bambos

**Team:** Team Bambos

**Topic:** Deforestation

### Description:

Island made out of recycled materials where mini robots plant bamboo for various industries.

**Title:** Roboshwaba

**Team:** Team Roboshwaba

**Topic:** Protection of habitat

### Description:

Forest protection system with a lot of bugbots, which measure changes in forest ecosystems.

**Title:** Eco mouse

**Team:** Team Eco Mouse

**Topic:** Forest protection system

### Description:

A mousebot that recycles trash for plant food and plants new trees.



# BOGOTA COLOMBIA

Maika Hoekman, & Paula Porras  
Somos CaPAZes



## About the hosts:

Maika works as People Operations Coordinator at Bunny Inc. Her background is in social impact project development where she helped ideate solutions to societal issues. She has a Masters in Globalization and Latin American Development. Paula is Director of non profit Somos CaPAZes, and the co-founder of Educacionenpaz, a virtual platform to promote peace education. Paula is a One Young World Ambassador, Generation Change Fellow of the US Institute of peace and recognized by Barack Obama's Young Leaders of the Americas Initiative (YLA).

## About the event:

We chose to participate because we believe in enabling children to take charge of ideating solutions for pressing societal and environmental issues that will impact them as they grow older. By involving them in activities like this we believe we can create social change-makers for the present and future.

**Title:** Erasable digital notebook

**Team:** Julia, José, Sharid, Benjamin & Jeronimo (7-12)

**Topic:** Materials

### Description:

A notebook where, once full, you can download all your data to a drive for safekeeping. You can then clean all the pages of the notebook to prevent having to buy new notebooks. As a consequence, less trees have to be cut down because we reduce our need for paper significantly.

**Title:** Air cleaner

**Team:** Team clean air

**Topic:** Air pollution

### Description:

Turbine that transforms pollution into clean air. Firstly the turbine will be for cars but they envision bringing it to a larger scale for heavy industries to use.

**Title:** Robot plastic cleaner and plant seeder

**Team:** Luis, Felipe, Maria & Luisa (7-12)

**Topic:** Reforestation and trash collection

### Description:

This robot is multi-functional. It can pick-up trash from the rivers with a special net that does not kill the fish. At the same time, it lodges seeds onto the riverbanks to ensure that trees grow.



# BRUSSELS BELGIUM

Joos van Cauwenberghe &  
Marie van den Broeck  
School community of RHIZO



## About the hosts:

Marie owns design company 'My Addon', which is on a mission to make every (para)medical device on earth user friendly. She was awarded 'Belgian youth entrepreneur of the year' and spreads her mission as a passionate public speaker. Joos fuses his passion for education, design and entrepreneurship to create radically new forms of learning. He works at the school community of RHIZO on scalable learning experiences that bring creative problem solving and project-based learning into the classroom.

## About the event:

While Marie uses creative problem solving and design in her design company, Joos is a teacher and fully committed to bringing creative problem-solving into the classroom. We blended these focus areas by hosting the GCD in Brussels. We believe the mind-sets and principles of design really can make the world better, safer and more humane. That's exactly the message that the GCD spreads and we're very happy and eager to share and support that mission.

**Title:** A paper tablet

**Team:** Marlotte, Maxelle & Nona

**Topic:** Paper preservation

### Description:

Looks and feels like real paper, but is actually a digital device that scans all the information. You can erase the sheet with a touch of a button.

**Title:** Tree planting spot searching drone

**Team:** Manu, Alois, Warre & Yolan

**Topic:** Reforestation

### Description:

The drone scans cities and can detect suitable places to plant a tree (it detects if there is enough space + if there are proper nutrients in the ground).

**Title:** Plant vending machine

**Team:** Simon & Remco

**Topic:** Access to greens

### Description:

Vending machines that sell plant seeds and small plants to increase access to greens. The vending machine offers optimal circumstances to grow seedlings. Placed in a public location, people are more likely to buy plants. In rural areas plants can grow inside the vending machine until purchased.



# CHENNAI INDIA

Charlotte van 't Klooster & Shammy Jacob  
New World Fight Club



## About the hosts:

Shammy is founder of the New World Fight Club, a collective of 50+ Design Thinkers that help organizations solve complex business challenges through a structured creative method to trigger innovation while creating value for all. Charlotte is a passionate researcher who has worked in several countries in the field of Ethnobotany, Medical Anthropology and Intellectual Property Rights of Traditional Knowledge and is now finalizing her Ph.D. She is co-director of the New World Fight Club.

## About the event:

We LOVE innovation, and it lights a fire within us. We are solution seekers and finders, and we like to share and learn. We see and feel the need to build programs for children, including those with special needs. In our own kids, we acknowledge the deep effect that nature, food, play, and love have on their development and awareness of all things good.

**Title:** Seed assist

**Team:** Darshika (9), Roshan (9), Mihira (10) and Prithvi (7).

**Topic:** Raw materials

### Description:

It is a drone called 'plant assist' that detects areas that have been impacted due to deforestation. It would detect and fly to those deforested areas and drop seeds in order to help rebuild forests.

**Title:** Flying car hybrids

**Team:** Emalyn (8), Mythili (9), AsmarNoor (8), Armaan (9).

**Topic:** Road development

### Description:

This car is powered by solar panels and has the ability to drive on roads and also to fly over forest, thereby discouraging the need to build new roads across forests.

**Title:** Electronic book

**Team:** Isabel (12), Aniketh R (11), Praveen R (12), Pradha K (12), Sakthi (8)

**Topic:** Raw materials

### Description:

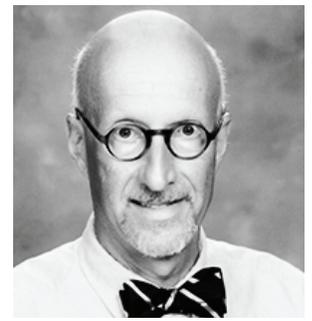
This concept converts all books to electronic books in schools. The concept allows text to be read and written and edited. This would reduce the large amount of paper used by every student across the globe.



# CEARWATER, FL USA

Paul Haberstroh

Clearwater's Fabrication Lab at Saint Paul's School



## About the hosts:

Paul Haberstroh is the Founder of Clearwater's Fabrication Lab at Saint Paul's School. Mr. Haberstroh is a passionate teacher committed to design thinking and maker education. Mr. Haberstroh conducts workshops internationally on technology in education. He specializes in developing computer science, design, engineering, and robotics curriculum.

## About the event:

The first Designathon Clearwater was held at Clearwater's Fabrication Lab at Saint Paul's School. The event was very successful with 27 students from diverse backgrounds creating some excellent designs.

**Title:** The green bridge

**Team:** Oliver (10), Lucas (10) & Leon (8)

**Topic:** Air Pollution

### Description:

The green bridge road surface captures energy from solar and the friction of car tires, and stores it in batteries underneath the bridge. The rail of the bridge charges electric cars as they drive by. Underneath the bridge is a farm with plants and trees that are sustained by runoff water from the bridge and lights powered by the batteries. A wind generator powers the streetlights on the bridge and the batteries for the farm lights underneath.



**Title:** The reusable paper machine

**Team:** Nola (10), Dakota (7), Jake (10) & Hudson (10)

**Topic:** Raw materials

### Description:

The reusable paper machine is like a printer, except it removes the ink from printed paper allowing it to be recycled and printed on again. The machine smooths out wrinkles so it can be used again in any printer.



**Title:** Eco Tree house

**Team:** Ava (11), Luci (11), Elliott (11), Camila (7) & Ruthie (8)

**Topic:** Loss of Habitat

### Description:

Rather than cut down trees for housing, this home design is built in the trees. The home is made of bamboo, so no trees are cut down. The home has a vegetable garden on the roof for food, and solar panels for power. Building the home in the trees also protects from flooding and wild animals.



# DALOA IVORY COAST

Mariame Yayatoure  
Dr. Monk



## About the hosts:

Mariame Yayatoure is a cocoa expert, a children's- activist & facilitator and trainer. She was responsible for organizing the team in Daloa. Mariame: I have lived and worked in cocoa communities for about 20 years. The situation of the producers remains the least enviable in the cocoa value chain. It's not fair to the producers and it's especially not fair to the children who did not choose to be born in the cocoa communities that unfortunately remain in severely deprived places.

## About the event:

For me the children in the GCD are like defendants on trial, drawing their ideas and solutions to defend themselves. The goal is to manage for the children's ideas to convince the jury of adults, so that the adults assume their shared responsibilities in the defense of the children.

**Title:** Warning mechanism  
**Topic:** Protection

### Description:

A pylon placed on top of a forest warning mechanism with cameras that are connected to a control centre based in the village. The electricity for the village and the device comes from solar panels installed on the pylon. The camera images are transmitted in real time to the control centre, which triggers an alarm in case of tree cutting. The surveillance team intercepts the trespassers and saves the forest.



**Title:** Air tank  
**Topic:** Air pollution

### Description:

This group has designed a device that collects pure oxygen during the day into a tank. Thanks to the propellers placed on the tank, the pure oxygen is released into the air to allow the people of the village to breathe clean air. This fights air pollution caused by deforestation.



**Title:** Seed watering device  
**Topic:** Circular irrigation

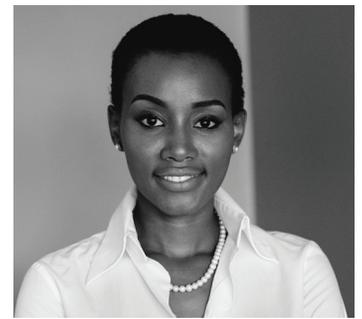
### Description:

This group has designed a large, moveable water tank that collects rainwater. The tank uses the rainwater to provide water to seeds in reforestation initiatives.



# DAR ES SALAAM TANZANIA

Nancy Sumari & Luca Neghesti  
The Jenga Hub



## About the hosts:

Nancy is a published author, business woman and social entrepreneur. She has a business degree from the university of Dar Es Salaam and is the Managing director of Bongo5 media group. She is the founder and executive director of the Neghesti Sumari Foundation and The Jenga Hub, which teaches coding to kids from marginalized backgrounds. Her mission is to improve the world through digital literacy for all. With The Jenga Hub, she strives for children to thrive creatively and become better learners and thinkers.

## About the event:

We held the GCD for the first time in Dar es salaam in 2017 and it was an incredibly successful event. It brought together 30 children around Msasani Ward to solve water challenges. We were amazed and inspired by how much the children were keen to solve issues facing our communities and have fun while doing it. In 2018 the event is held in Dar es Salaam again, around the theme 'Life on Land'.

**Title:** Tree labs

**Team:** Modesta (12), Khadija (12), Salma (11)

**Topic:** Growth enhancement

### Description:

We have created a laboratory that uses technology to shorten the amount of time needed for a tree to grow to maturity and provide the necessary ecosystem for biodiversity. Our technology will help combat deforestation by continuously adding more fast-growing seeds and trees. Tree Labs are the future!



**Title:** Mazingira app

**Team:** Auma (10), Jacqueline (11), Gisela (9)

**Topic:** Raising awareness

### Description:

The Mazingira App is a phone application and computer software designed for kids to raise awareness about the effects of climate change and help children get enough information. It provides them with resources and knowledge so they can help and protect the environment. The app has games, activities for the environment and a platform to connect and share information with other kids.



**Title:** Jiji Msitu; City of the future

**Team:** Warna (12), Precious (11) & Nurzat (12)

**Topic:** Clean cities

### Description:

Our city is surrounded by trees and biodiversity but does not make use of anything that requires damaging the environment (like wood). It's a very peaceful place due to the clean air and happiness that comes from trees and animals. It has increased productivity because people are happy. Everyone is vegetarian so it's a new world that can be copied by other cities as well!



# DUBAI UAE

## Nadyn Kesserwany & Talah Almously The Wonder Generation



### About the hosts:

Nadyn grew up in Lebanon and moved to Dubai 15 years ago. Through work experience, education and motherhood, she has found inspiration in children's creativity and is now completely invested in programs that feed, sustain and enrich this most valuable asset. Talah grew up in Lebanon and lived in Europe, America and the UAE. She has transformed her rich background into a committed investment in encouraging creativity in children and helping them acquire the right skills for a better future.

### About the event:

Talah and Nadyn founded the The Wonder Generation because they believe in investing in the creative potential of children to mould them into changemakers and social agents. The Wonder Generation is a hub where children can acquire and practice skills that will set them apart and prepare them for the future. The Global Children's Designathon fits all of these criteria. We love the message the GCD is sending out to the world and we are privileged to be part of this initiative.

#### **Title:** Sandmulator

**Team:** Habiba (9), Prianne (10), Hana (10) & Mira (7)

**Topic:** Building cities and recycling

#### **Description:**

A robot that converts sand into glass; take up the sand and mud and turns it into glass panels to use for building instead of cutting down trees.

#### **Title:** Plant cop

**Team:** Lucy (7), Chloe (8) & Caroline (9)

**Topic:** Endangered species and loss of habitat

#### **Description:**

Cameras in the forest that catches people before they try cutting trees down and stops them by squirting out a bad smell from a special type of plant around the area.

#### **Title:** The animal factory

**Team:** Sofia (9), Haya (9) & Zoe (9)

**Topic:** Endangered species and loss of habitat

#### **Description:**

A machine that basically clones endangered or dead animals; it scrapes their DNA and makes a new animal.



# DUBLIN IRELAND

Marie Lonergan & Rowan Oberman  
DLR Lexicon, the Centre for Human Rights and  
Citizenship Education, DCU



## About the hosts:

The Centre is at the forefront of human-rights developments and global citizenship education both in Ireland and internationally, by hosting the EU funded Global Schools partnership and the Irish Aid funded Development and Intercultural Education project, and working with governmental and non-governmental organizations, teachers and schools, Marie Lonergan is a passionate teacher of young adults who are trying to get (back) into the education system and build a career.

## About the event:

We are committed to recognizing children as citizens and supporting their engagement in the transition to a sustainable society. GCD gives children the opportunity to think about solutions to some of our most urgent global issues. Creativity, problem-solving, team work and concern for life on Earth are an integral part of education for sustainable development. GCD not only supports these skills and values but encourages children to feel connected to others around the world.

**Title:** RRR: Rubble recycling robot

**Team:** Dylan, Aaron & Ronan

**Topic:** Cities & buildings

### Description:

Rubble goes through a funnel and is compressed into blocks. Wind turbines channel rainwater through for pressure. Geothermal energy channels electricity to heat and compress the rubble together for building blocks.



**Title:** Temperature alternating tower farm

**Team:** Ellie, Safiya & Julia

**Topic:** Agriculture

### Description:

A tower that grows plants and crops with temperature-altering technology so a diverse variety of plants can grow. Industrial companies could install them in urban areas to grow their foods there. It is both intended for homes and factories. It will be five feet tall, have a rain collector that filters water and sprays it on the plants. Solar panels and wind turbines power it.



**Title:** Clean village

**Team:** Nakai & Munaki

**Topic:** Cities

### Description:

Villages that work with nature instead of replacing nature. The entire village is powered by solar panels, wind and water mills. The only vehicles are electric cars and boats powered by mini fans and other types of clean energy. Trees grow through the houses. All rainwater is collected and stored for growing plants. The lights in the houses only work when there are people inside.



# DÜSSELDORF GERMANY

Gisèle Legionnet-Klees  
Active value



## About the hosts:

When I joined the creative leadership masterclass at THINK in Amsterdam, I was looking for a way to empower everybody to become a designer of the technologies that have such a deep impact on our lives. Emer was developing the Designathon concept, and so I joined the very first Global Children's Designathon. Since then, we have run several Kinderdesignathons and each Global Designathon in Germany, and see tremendous need for education around both sustainability and technology.

## About the event:

The global nature of the GCD is such a powerful message: all the children are facing the same challenges to the future of the planet and each has the potential to bring a meaningful solution. It is something that resonates very strongly with our participants and with the team members.

**Title:** The bamboo elevator glasshouse

**Team:** Joseph (11) and Clemens (7)

**Topic:** Raw materials and efficient use of space.

### Description:

Taking advantage of the fast growth of bamboo plants, the glasshouse elevator rotates young bamboo plants in stores of different heights.

**Title:** The solar crib for endangered seeds

**Team:** Aurelia (10) and Antonia (11)

**Topic:** Plant biodiversity and endangered plants.

### Description:

A portable device that takes care of seedlings of endangered plants species.

**Title:** The home paper making machine

**Team:** Tabea (9), Mathilda (12) & Pauline (9)

**Topic:** Paper recycling

### Description:

A home-device where paper is recycled into new paper, following clear steps of shred / heat / press / dry the material. Pictures on the paper get scanned before recycling so that no memories are lost.



# GENEVA SWITZERLAND

Meriel Rhodes, Dunja Chamberlain  
& Ian Smith

The International School of Geneva



## About the hosts:

The international school of Geneva was founded in 1924 by civil servants from the ILO and the precursor to the UN. It still has close links with the UN and international students from around the world. A key element of the curriculum and pupil development strategy is to align learning and personal agency around the Sustainable Development Goals. Their principal aim is to empower students with knowledge, competencies, and attitudes to be changemakers and help solve world problems.

## About the event:

What a fantastic opportunity to be a part of something bigger, an international change maker event designed to inspire and guide the next generation through the most relevant challenges of our time and empower them to seek solutions. The GCD is a wonderful opportunity for our students to connect and collaborate on an international platform with other like minded, solution driven individuals inspired to turn ideas into action in pursuit of a safer, more sustainable world.

**Title:** Co-Ho, Cow Hotel

**Team:** Marios, Meg & Husna

**Topic:** Agriculture

### Description:

The cow hotel uses minimal land by using vertical space and is fully self-sustaining. Powered by solar and wind energy harnessed from a maximum advantage position high on the building, the multistory 'cow hotel' has fields for grazing layered like a multistory car park which the cows revolve through during daytime as well as sleeping space below ground. Rainwater irrigates the grass levels and provides drinking water for the cows. The cow waste is collected and used as both fertilizer for the grass levels and fuel through a methane conversion unit in the building.

**Title:** The recycler

**Team:** Nora, Bahar & Isha

**Topic:** Building materials

### Description:

The recycler solves two problems in one. By re-purposing plastic waste as a building material it reduces the demand for traditional building materials and helps solve the problem of plastic pollution. The low-tech production process can be established all over the world under different conditions and run using renewable energy.

**Title:** Coco-home

**Team:** Mayank, Charlotte & Matias

**Topic:** Housing

### Description:

This space-saving design is based around the idea of multiple story mobile housing units constructed of sustainable bamboo and coconuts as flotation material. It uses solar and wind energy as well as rainwater harvesting and 'green walls' (walls for growing food vertically) making it completely eco-friendly.



# HANOI VIETNAM

Hieu Nguyen  
Ban Mai K-12 School System



## About the hosts:

Hieu Nguyen is Director of International Department of Ban Mai K-12 School System in Hanoi, Vietnam. Hieu: I graduated a B.A in Economics from NYU and worked in the field of finance before becoming a teacher. Our school has over 2500 students, ranging from Kindergarten to high school. As the Director of our school's International Department, organizing STEM & international events is a key part of my job.

## About the event:

I understand very clearly the purpose and the content of GCD. The event's mission and purposes, along with the opportunities for our students to enter a meaningful STEM project and connect to friends from other countries. Our participating team included about 20 - 30 Primary and Grade 6 students.

**Title:** Wireless motion sensor alarm

**Team:** Chu Doan (9), Le Anh (10), Nguyen (11), Vu Minh (12) & Bui Thi (12)

**Topic:** Forest preservation

### Description:

A wireless motion sensor alarm using acoustic sensor technology. It can distinguish between the noise of an animal and the noise from a chainsaw by analysing the sound's intensity and duration. When a suspicious activity is detected, the alarm at the guard station will go off, prompting the guards to take action.

**Title:** Hawkeye

**Team:** Vu The (7), Bui (10), Luu (11), Nguyen Hoang (11), Hoang Dao & Nguyen Vu (12)

**Topic:** Forest protection

### Description:

A remote control flying device, called Hawkeye carries a camera to monitor activity in the forest. Images are sent wirelessly to the forest guard station. Solar panels on the wings power the device and a sound suppressor prevents it from getting noticed. Layers of armoured plates in the body panels make the Hawkeye bulletproof as it can be the target of illegal loggers.

**Title:** Forest model

**Team:** Pham Gia (9), Nguyen Tuan (10), Nguyen Duy (11), Nguyen Dac (12) & Nguyen Chi (12)

**Topic:** Raising awareness

### Description:

This forest model makes it possible for people to distinguish between forest areas with different usage purposes to avoid deforestation and to raise awareness about forest protection, also increasing the productive forest area to cover bare hills.



# ISTANBUL TURKEY

Erdoğan Kahyaoğlu & Sibel Çetingöz  
İnformel Eğitim-çocukistanbul



## About the hosts:

Informal Education-cocuk Istanbul is located in Turkey's industrial heritage, the "Energy Museum" which served as the only energy power plant in Turkey for over 70 years. We run interactive education programs in the museum for children from pre-school up to high school. Our mission is to reach children attending public schools by providing the programs for free with sponsor support.

## About the event:

Istanbul will be joining the event for the first time this year and we are very excited to make it possible. We have been concentrated on sustainability for more than 5 years. The GCD 2018 supports our efforts to increase awareness and motivate children to create solutions for this crucial topic. It also increases the understanding that they are not alone to deal with this issue and they are a real "power of change" together with their peers all over the world.

**Title:** Architects of the future

**Team:** Bora, Ecrin, Ali, Ayşenur, Berra (Age: 8 - 10)

**Topic:** Raw materials

### Description:

We think using bamboo that grows faster and is stronger than wood is a better solution. We can grow bamboo in the desert because deserts are empty and better to use for them. Water will be taken from the sea, cleaned and stored in pools. Drones will do the watering, maintenance and control automatically. Drones and the system will work with solar power. Hot sand can also be used for energy production.



**Title:** Children of nature

**Team:** Zelalsu, Peri, Uluç, Deniz, Umut (Age: 10 - 12)

**Topic:** Cities and roads

### Description:

Part of the forests are destroyed for housing and roads. People often own more than one house. We decided to develop a project to install houses on the sea. This way we can protect the land. We also put propellers so that houses can move around with the people. On top of the houses there are terraces where you can produce your food.



**Title:** DTC (Dreams come true)

**Team:** Ayda, Gökalp, Şevval, Arda, Zeynep, Miraç (Age: 11-12)

**Topic:** Materials and pollution

### Description:

We developed a system to replace wood in furniture production and construction needs. This system collects sera gasses and toxic gasses from factory chimneys and places with dirty air. It filters the air and converts the gasses to solid raw material through chemical processes. These raw materials will be used for furniture and construction.



# JOHANNESBURG SOUTH-AFRICA

**Phuti Manguba**  
Microsoft



## About the hosts:

Phuti Manguba is a Design Thinking Strategist and Service Designer. She is the founder of Barweshi Consulting, a start-up using innovative approaches such as Design Thinking. Phuti uses her ability as a natural storyteller to help clients create exciting stories about their brands and products. She is also passionate about teaching children to use critical thinking and creativity. Through her company she has partnered with Designathon Works to empower and unleash children's creativity using new technologies.

## About the event:

We have partnered with Microsoft SA for the GCD 2018. The event will take place at Microsoft SA offices in Bryanston, Johannesburg.

**Title:** The bamboo eco house

**Team:** Jayde, Mathew, Benjamin & Bathipo (all 12)

**Topic:** Cities and recycling

### Description:

The Eco House is a roof garden used to grow cotton, bamboo and reeds. It has a machine that collects waste to make compost as an alternative to soil. The machine drops off the compost in the 4 sections which grows bamboo, cotton and reed/papyrus. These can be used to make affordable clothes and furniture for the less fortunate.



**Title:** The drone jojo project

**Team:** Gomo, TJ, Wang, & Lwandle

**Topic:** Cities and water

### Description:

The idea is to move people from the cities back to the abandoned rural areas and deserts. The drone will be used to collect grey water and purify the water to fill up Jojo tanks. The water is also used to grow plants and vegetables for people to survive in the rural areas and desert.



**Title:** The scoop-D-Do project

**Team:** Jolynn (11), Oratile (10), Ashante (12) & Ditshupo (12)

**Topic:** Cities and homes

### Description:

A tree house built with recycled materials on a dead tree. The home is self sustaining and uses solar power and greenhouse principles. There is also a 3D food printer in the house that prints food and distributes to the neighbours in the community.



# KATHMANDU NEPAL

Anuradha Shrestha & Pavitra Gautam  
Karkhana



## About the hosts:

I am Anuradha Shrestha, currently working as a teacher coordinator at Karkhana. In my role, I go to different schools each week and teach hands-on classes related to STEM education for middle school students.

## About the event:

As Karkhana has been working to promote hands-on education, we think the kind of work Designathon Works is doing is more or less similar. We believe in the importance of giving students practical learning experiences and problem-solving skills, which is why GCD is important and we wanted to collaborate with Designathon.

**Title:** Bamboo city

**Team:** Nawaraj (13) , Azim (11), Nimesh (12)

**Topic:** Alternative materials

### Description:

Keeping in mind that trees are essential for all living beings as they provide them with food, shelter and even the air to breathe in, we decided to tackle the problem of deforestation. As bamboo plants grow faster than trees, we can use them to make furniture instead of trees!

**Title:** Smart city

**Team:** Suhani (13), Supriya (13), Kabish (13)

**Topic:** Alternative energy

### Description:

Our smart city tackles deforestation by converting waste materials into energy. We have built pipelines that will transport waste materials collected at homes to an energy centre which will convert all waste into energy which is then transferred back to the houses!

**Title:** Terrace farming and sustainable ecosystem

**Team:** Dipesh (10), Munal (10), Rashila (10)

**Topic:** Sustainable ecosystems

### Description:

To tackle the problem of landslides and floods in the hilly areas of our country, we have made a prototype of terrace farming. We have also made a model of a proper lifecycle to represent a sustainable ecosystem.



# KUALA LUMPUR MALAYSIA

Anne Marie Tan  
HELP International School



## About the hosts:

I am currently a Project Director (CSR) for Taylor's Education Group in Malaysia and have been involved in the social sector scene for 3 years now. I am passionate about helping large corporations increase business value through positive social impact. I wish to create meaningful platforms to connect the right people to the right resources for a greater impact. I was also the Project Lead for Do Something Good, Malaysia's largest volunteering platform, connecting individuals and corporate volunteering to Non-Profit Organizations.

## About the event:

As Malaysia is going through change now, it is about time for people to listen to the voices and ideas of the children as we are building the world for them to live in. This event exposes children to various skills such as creative and design thinking, but more importantly it empowers children to be socially responsible citizens, encouraging them to create change in society in accordance to their strength.

**Title:** Jungle city

**Team:** Abdullah (10), Gan (10),  
Leia (10) & Jonathan (10)

**Topic:** Cities

### Description:

A city in the forest where plants, animals and human will co-exist together.

**Title:** Underground city

**Team:** Michael (8), Elizabeth  
(1), David (12), Mary (14) &  
Naomi (7)

**Topic:** Cities

### Description:

A city built underground so no trees are harmed to construct a city.

**Title:** Machine fertilizer

**Team:** This Yap (6) &  
Constance (6)

**Topic:** Reforestation

### Description:

A machine the spits out seeds along with the soil and fertilizer randomly as it moves in an open field.



# MELBOURNE AUSTRALIA

Evon, Elaine & Jason  
Design Thinking Games



## About the hosts:

Design Thinking Games was founded with the purpose to create social impact through education. We believe in the power of play as a tool to teach, learn, and share. We want to foster meaningful outcomes in a safe and exploratory space. Our activities are for everyone, and they drive collaboration between you—our Design Players—and the broader community. Design Thinking Games empowers people to have a conversation about real-world issues, and start on the journey of creating a better world.

## About the event:

Design Thinking Games seeks to start a movement that empowers people to solve social problems and change the world with design thinking.

**Title:** Ecomeeshaya  
**Team:** Meesha & Inaya  
**Topic:** Cities and housing

### Description:

Ecomeeshaya is a sustainable community where humans can live with minimal impact on the environment. Ecomeeshaya has three main features: a floating house (think: “floating” treehouse), underwater homes and underground highways. All aimed to provide the comforts of modern living with almost no disruption to the environment.



**Title:** Drone delivery  
**Team:** Kevin & Derrick  
**Topic:** Pollutions and materials

### Description:

A special drone that delivers packages to places that are hard to reach and far away. This saves cardboard usage for packages and the resources required for delivery, and more importantly, reduces the pollution caused from travel and transport.



**Title:** Backpack sensor crawler  
**Team:** Lara & Annika  
**Topic:** Recycling

### Description:

A lightweight backpack that has the function to sense and pick up reusable materials for recycling.



# MONTREAL CANADA

Rym Baouendi  
Medina Works



## About the hosts:

My mission is to 'help cities and youth rise to their full potential'. As a social entrepreneur I like to engage in projects and collaborate with people who support this mission. I am the founder of Medina Works, a strategy + design consultancy based in Montreal and Tunis that helps governments, non-profits and businesses craft impactful strategies and programs, develop skills, and build enabling platforms that foster youth innovation and contribute to advancing the SDGs within the context of cities.

## About the event:

Medina Works is partnering with Designathon Works for the third year now by hosting the GCD in Montreal and Tunis. We have two great teams of facilitators (social innovators, educators, tech professionals) who are all passionate about the event. We are very excited because we know from previous experience that we will get to collaborate with great co-facilitators, to connect with like-minded hosts from around the world and most of all, to work with the children who always amaze us with their creativity and inventions.

**Title:** Planter bus

**Team:** Erika (8), Charlotte (8), Maya (8) & Rosalie (7)

**Topic:** Making place for cities and roads / Replanting forests

### Description:

A solar-powered flying vehicle (bus) that moves on a cushion of air, over trees and forest. It has special cameras that can detect where there has been deforestation and will replant the areas by dropping seeds for planting. It also has the ability to filter the air.

**Title:** Robot planter

**Team:** Kais (9) & Andrew (9)

**Topic:** Making place for cities and roads / Replanting forests

### Description:

A robot that has all the functionalities necessary to plant trees (digging holes, planting seeds, backfilling with soil, watering...)

**Title:** Food4All vehicle

**Team:** Hadi (10), Ilvas (10) & Yusuf (8)

**Topic:** Making space for agriculture / Food waste

### Description:

A vehicle that allows people to deposit and pass on extra food they have to other people in need. This machine can identify the type and quantity of food donated and will make it available to others.



# NAIROBI KENYA

Mark Kamau  
BRCK



## About the hosts:

Mark is a Human Centered Designer with experience in Berlin, Amsterdam and across the African continent. He specializes in design for Africa and emerging Markets. Mark founded the first open Human Centered Design Lab in Africa, as well as 'Tajriba': Africa's first Design Week in Nairobi. He has provided design consultancy for, amongst others, Google, Intel, IDEO, Grameen Foundation, and MasterCard. Mark currently works as the Director of UX Design at BRCK where he leads the research and design of ruggedized connectivity hardware and software for Africa.

## About the event:

Mark believes in the power of Design to transform the world. "Africa cannot afford un-contextualized design. The stakes are simply too high."

**Title:** Hydro-electric water purifying machine  
**Team:** Mori, Lavella & Juza  
**Topic:** Reusing water

### Description:

Hydro-electric machine that is used to purify water used by animals, plants and human beings. When the light turns green and the alarm goes off, the water is pure and ready to be used. When the light turns red it means the machine is disconnected or shut down.



**Title:** Air purifying drone  
**Team:** Benza  
**Topic:** Air pollution

### Description:

A drone that can convert polluted air into fresh air. An outside motor with propeller pulls air into the drone. Another motor inside cleans it and it is released back through holes in the ceiling.



**Title:** Solar panel plane  
**Team:** Ivonne  
**Topic:** Irrigation and land restoration

### Description:

The solar panel plane is used to irrigate dry areas. I invented it to prevent leaving land in a bad state and so it can be beautiful. This way trees can grow and wild animals can stay in that area. We can only cut trees when we plant others. We then use the wood to make furniture and to sell it to other countries to increase our country's income.



# ORANJESTAD ARUBA

Lay Hing de Kort-Yee,  
Theresa Montenarello & Lisette M. Malmberg  
HopeAruba Movement Foundation



## About the hosts:

HopeAruba Movement Foundation is a civic organization striving to inform and empower individuals and communities to use their voice and potential to create solutions for collective well-being. Theresa Montenarello's initial role as an international educator in Peace Corps Thailand, peaked her interest in cultivating "world citizens". Montenarello incorporates hands-on, collaborative experiences in both the mathematics classroom and in extracurricular activities, including Maker/STEAM Camps and Key Club.

## About the event:

The event will bring 30 children aged 8-12 from the district of Oranjestad together at one venue to think about solutions to this year's Global Children's Designathon theme: SDG #15 'Life on Land'.

**Title:** Recycling wood machine

**Team:** The believers: Andrea (11), Loghan (8), Emma (7) & Khymo (7)

**Topic:** Alternative materials

### Description:

A machine that can recycle wood into other types of furniture at home. Wood will go into the machine, and is restored for other uses.



**Title:** Eating less meat

**Team:** Fun group: Davinah (9), Xody (10), Gillay (11) & Destiny (8)

**Topic:** Cows & agriculture

### Description:

A campaign to encourage people to eat less meat.



**Title:** TreeCity: a community in forest

**Team:** The world helpers: Sophie (10), Kira & Brooke (8)

**Topic:** People losing living space in forests

### Description:

The houses are built around the trees, so trees are not cut down. The houses are not built on the floor, but higher up, so that the ground is not damaged. The houses operate on alternative energy sources.



# PANJIM INDIA

Samir Mardolker  
Chota Jugaad



## About the hosts:

Samy heads up the business for Clear, a global marketing strategy consultancy. Samy is passionate about innovation and change. He believes that the 'information age' while helping us solve problems is also 'uncovering more problems'. So we have to be efficient at solving for them to make the world a better place.

## About the event:

Samy believes that initiatives like the GCD that work at a grass root level will help prepare the next generation of problem-solvers.

**Title:** River of trees

**Team:** River of trees team 1

**Topic:** Floating pods on a river carry greenery all year long!

### Description:

A tank in the river collects all the chemicals dumped by factories. There is a freshwater waterfall with fishes. Trees grow on top of the pods in the rivers.

**Title:** Grow your own

**Team:** Team grow your own

**Topic:** Agriculture

### Description:

Each person needs to grow his own crop. They have the land here in Goa, India where most stay in landed properties. And they can harvest rain water effectively as the model shows.

**Title:** Roof top harvesting

**Team:** Team roof top harvesting

**Topic:** Agriculture

### Description:

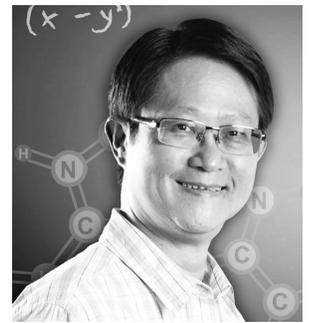
By using rooftops, this concept makes use of wasted space to grow food. In a terrace we can grow plants in a pot. Underground piping brings the water out on both sides, called spacing.



# SINGAPORE SINGAPORE

TM Lim

Science Centre Singapore



## About the hosts:

TM Lim is the Chief Executive of Science Centre Singapore. He is also the President of the Singapore Association for the Advancement of Science, first Vice President of the Singapore National Academy of Science and the President of the Asia Pacific Network of Science and Technology Centres.

## About the event:

Science Centre Singapore is an institution under the Ministry of Education. Since 1997, the Centre has welcomed over 30 million visitors. Stoking curiosity, and fostering a passion for Science is the driving motivation behind its success. Participating in the GCD aligns well with its mission as a platform to encourage students to explore and investigate topics of their interest and innovate solutions to solve problems they identify as worthy pursuits.

**Title:** Flame blower

**Team:** Team fire blower

**Topic:** Forest fires

### Description:

This prototype can detect and automatically put out forest fires. The components of the prototype were a coiled spring and a fan in a circuit. When there is a fire, temperatures rise leading to the expansion of the spring which then closes the circuit. This closed circuit turns on the fan that will blow and put out the fire.

**Title:** Fire extinguisher

**Team:** Team fire spitter

**Topic:** Forest fires

### Description:

Smoke detectors installed on trees and water pumps. These detectors will detect smoke which then send a signal to the central control plant, cascading various command systems that will ultimately activate water pumps. Water is sprayed from the pumps attached on top of the trees, to extinguish the forest fire.

**Title:** Animal sanctuary

**Team:** Team sanctuary

**Topic:** Animal relocation due to deforestation

### Description:

A sanctuary for animals during reforestation. Occasionally humans update the supplies in the sanctuary but they do not disturb the habitat of the animals. The sanctuary includes an automated water supply system through pumps to ensure minimal human interferences.



# TUNIS TUNISIA

Houda Ghozzi  
Medina Works Tunis



## About the hosts:

Houda is an education and entrepreneurship expert with ten+ years of experience in academic teaching, curriculum design and project management. She was coordinator of the Dicamp Master Program specialized in Innovation Management. She is program director of the Open Start-up Competition Tunisia (OST) in partnership with Columbia university and specialized in developing impact ventures using technology to solve global problems. Medina Works focuses on having youth thrive locally and become changemakers of their system.

## About the event:

Medina Works is partnering with Designathon Works for the third year by hosting the GCD in Montreal and Tunis. There are two great teams of facilitators (social innovators, educators, tech professionals) who are all passionate about the event. Medina Works is very excited as they know from previous experience that the team will get to collaborate with great co-facilitators, to connect with like-minded hosts from around the world and most of all, to work with children who always amaze them with their creativity and inventions. Let's Designathon!

**Title:** Home-farm  
**Team:** Team vegetables  
**Topic:** Agriculture

**Description:**  
A machine to grow vegetables in your own house.

**Title:** Urban jungle  
**Team:** Team jungle  
**Topic:** Air pollution

**Description:**  
Skyscrapers with jungles to remove carbon dioxide from polluted cities.

**Title:** Meat factory  
**Team:** Team meat  
**Topic:** Agriculture and cows

**Description:**  
Meat factory using non animal proteins.



# VANCOUVER CANADA

Shayna Rector Bleeker



## About the hosts:

Shayna Rector Bleeker spent a decade convening dialogue around climate change and energy transitions with Shell. As a daughter of two teachers she has always had a passion for education. She now works as a Corporate Communications and Management Consultant at the intersection of communication, strategy, systems and design with Theory and The Tantalus Group.

## About the event:

The Global Children's Designathon Vancouver is hosted by Shayna Rector. Shana has school aged children of her own and is driven to bring the Global Children's Designathon to Vancouver.

The GCD in Vancouver consists of a smaller group of motivated children and is therefore presented in pictures instead of inventions.



# WARSAW POLAND

Agata Raczewska  
Demant Technology Centre



## About the hosts:

Agata is a user experience (UX) designer at the Demant Technology Centre in Poland. She works on healthcare solutions to provide a better user experience for hearing aid users and hearing care professionals.

## About the event:

This year will Poland is joining the GCD for the first time. Agata joined the GCD in order to give kids a valid voice in shaping the world. Agata: With their creativity and lack of mental boundaries, it is kids who could teach us, adults, a lot about solving problems that we are facing in the modern world.

**Title:** Sustainable city

**Team:** Team SC

**Topic:** Cities

### Description:

A sustainable city with housing made from folded asphalt. The houses have plants growing all over them. Drones sustain those plants.



**Title:** Cow-roof

**Team:** Team CR

**Topic:** Agriculture

### Description:

A rooftop pasture for cows that also supplies cow poop in order to produce electricity from them.



# ZAGREB CROATIA

Petra Ravlic, Sanja Novak & Teo  
Drempetić Čonkić  
JCI Croatia



## About the hosts:

JCI Croatia is part of the global JCI network, an NGO led by citizens aged 18-40 working to create positive change and support the SDGs. Petra is a CX consultant and Design Thinker with experience in shaping services in telco and similar industries and facilitating Design Thinking workshops. Teo is a visual communication designer skilled in conceptual + experiential design, branding & identity, and copywriting. Sanja is an Associate at the Croatian Ministry of Science and Education with a professional background in finance.

## About the event:

Zagreb is happy to be on the Global Children's Designathon map for the third year in a row. We strongly believe in the power of individuals to shape a better world, especially the younger generations. We see GCD as a platform to give them a voice and self-esteem and equipping them with the knowledge and skills needed to thrive in the future. Experienced facilitators with backgrounds in design and maker education are a guarantee to get the best out of children's ideas.

**Title:** Bird drone

**Team:** Mara, Lara, Nina and Sanja:

**Topic:** Forest maintenance

### Description:

This drone is equipped with all kinds of sensors and looks like a seagull. During a daytime it zooms around a forest to check if the trees are healthy and waters them in case of drought. It also cleans the forest and recycles found objects. During the night time it plants the trees if the forest needs to be restored.

**Title:** Genetically modified tree planter

**Team:** Karlo, Nikola, Jakov and Matej

**Topic:** Reforestation

### Description:

An aircraft plants genetically modified trees, which are stronger and more resistant due to bamboo genes that stimulate rapid growth and renewal. This way it restores endangered forests and plants trees in less accessible areas. Engines and generators that work according to the perpetuum mobile principle power the aircraft.

**Title:** Solar-powered vehicle

**Team:** Lucija, Luka and Masha

**Topic:** Roads and cities

### Description:

The team worked on a design to solve the problem of deforestation due to cutting trees to make space for new roads. Additionally, they wanted to tackle air pollution caused by traffic, so they designed a solar powered vehicle.



**"YOU ARE NEVER  
TOO SMALL  
TO MAKE A  
DIFFERENCE"**

**- GRETA THUNBERG  
(16-year-old climate activist)**

# THANK YOU!

First of all, a giant thank you to the 1.000 children that participated in the GCD 2018 in Accra, Amsterdam, Barcelona, Beijing, Belgrade, Bogotá, Brussels, Chennai, Clearwater, Daloa, Dar es Salaam, Dubai, Dublin, Düsseldorf, Geneva, Hanoi, Istanbul, Johannesburg, Kathmandu, Kuala Lumpur, Melbourne, Montreal, Nairobi, Oranjestad, Panjim, Singapore, Tunis, Vancouver, Warsaw & Zagreb. You are all inspiring inventors and we have complete faith in your abilities to play an important role in designing a better future for all of us on this planet!

To all global hosts, their teams and the amazing facilitators that came out on the day to help make this year's GCD great, it could not have been done without you and we greatly value your role in making this world a better place.

To the experts that took up a place on this year's expert panels, your input was appreciated and helped elevate the children's inventions to a greater level, thank you!

To all ethnographers, researchers and consultants that contributed to the research, the data analysis and the report, you have all played an important role in creating awareness and amplifying the voices of the children.

Thank you to all of our sponsors: City of Amsterdam, Patagonia, PWC, Expo Live - an Expo 2020 Dubai initiative, Ashoka, Talud, Yoxi, Bugaboo & the Chocolonely foundation, and our local partner: Amsterdam's Public Library (OBA).

Each and all of you have played an important role in realizing the global event and this report: The Global Voices of the Next Generation on: 'Life on Land - Deforestation'.

Thank you!

Designathon Works

Emer Beamer, Ina Conkic & Anne Sallaerts

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Let's create a better future together!



It is undeniable that the future of our world is in the hands of the next generations. Rapid urbanization of humankind combined with industrialization and globalization has created the world as it is today: progressive, connected and technologically advanced. However, this fast evolution has also led to problems such as global warming, inequality and water shortage. We are to leave behind a world full of possibilities but also full of challenges, to be solved by the next generation: our children.

Designathon Work's annual Global Children's Designathon represents a unique opportunity to reach out to hundreds of children worldwide. United by a drive for innovation and honest intentions to make the world a better place, Designathon Works strives to provide the chance for these children to put their competencies and drive to good use. This worldwide event, which takes place simultaneously around the globe, provides an unparalleled opportunity where children's voice can be shared, heard and amplified. Meanwhile, the event opens up doors for research to be conducted in a natural setting, where children are allowed to speak freely.

The Global Children's Designathon 2018 was the breeding ground for the second edition of research on the global voices of the next generation regarding the Sustainable Development Goals as set by the United Nations. This year's theme revolved around 'Life on Land - Deforestation' (SDG #15.2).

Global Voices of the Next Generation provides an opportunity to amplify the voices of the children on what is identified by children as the main concern and future focus area for solutions to deforestation.

