

V&A



Teachers' Resource: **THE FUTURE STARTS HERE**

SUPPORTED BY

VOLKSWAGEN
GROUP

12 MAY – 4 NOVEMBER 2018

KS4 & 5 Design & Technology and KS4 Citizenship



Tomás Saraceno, Aerocene, launches at White Sands Natural Park, 2015. Courtesy the artist; Pinksummer contemporary art, Genoa; Tanya Bonakdar, New York; Andersen's Contemporary, Copenhagen; Esther Schipper, Berlin.
© Photography by Studio Tomás Saraceno, 2015

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Introduction

The world of tomorrow is shaped by the designs and technologies emerging today. From smart appliances to satellites, this exhibition brings together more than 100 objects either newly released or in development that point towards where society might be headed.

While the objects exhibited suggest a certain future, it is not yet determined. New things contain unpredictable potentials and possibilities, often unanticipated even by their creators. It is up to us – as consumers, as citizens and even as a species – to determine what happens next... The future is up to us. **The future starts here.**

How to use this resource

This resource introduces the critical themes and ideas explored in the exhibition and sets out discussion points and design challenges inspired by some of the key objects on display. The activities have been devised to support the new D&T GCSE and to help prepare students for Non Examined Assessment (NEAs). It can also support key themes in KS 4 Citizenship and provide useful starting points for discussion and debate about the society we want to live in.

Before visiting the exhibition

View our [Rapid Response Collecting](#) pages online in the classroom. This collection is responsive to current global events, technological advances, political changes and pop cultural phenomena and will help to set the scene for the present before considering the future.

Choose three or four objects to form the basis of a discussion or debate about the role design plays in shaping the world we live in.

The museum visit

The accompanying activity sheets present a series of questions raised in the exhibition through the lens of nine key objects. Use the questions with students to consider what impact these objects might have on our bodies, our environment, our society and even our planet – ultimately our lives and beyond.

Exhibition themes

Self

The field of design has expanded to include the monitoring, augmentation and alteration of our selves. Added to this, our homes are gradually filling with smart machines that manage our lives. These appliances are becoming interactive and intelligent and have the capacity to learn our preferences and habits – knowledge that can easily feel like affection.

Does all this amount to a shift in what it means to be human?

Public

Today's most pressing issues and concerns range from mass migration to global warming, neither of which are neatly contained within national borders. Alongside these global challenges, we are tackling housing affordability, environmental changes and religious divisions. In response, citizens, communities and collectives are harnessing new tools to raise funds and coordinate efforts in order to re-shape their cities. ***Will the future be shaped by the rising force of bottom-up, citizen-led organisations?***

In this digital age, we can connect with each other more easily than ever before. But the digital traces of our online lives can also be misused. ***Being connected to the web is becoming a default condition for most people worldwide, but who should own, police and regulate the internet?***

Planet

Years of burning fossil fuels, polluting the oceans and pushing plant and animal species to the brink of extinction have altered our planet. For some, space is a unique vantage point from which to learn about the Earth. For others, however, looking beyond to discover new planets as an alternative supply of resources, or even as a place to live, is the goal. ***Now that we know our behavior has unintentionally designed the Earth, can we use technology to reverse the effects?***

Afterlife

Advancements in biotechnology and artificial intelligence now promise to radically extend our lifespans. The idea of reawakening after death or uploading one's mind onto a computer used to be the stuff of fiction, but today they are the subject of serious scientific research. ***Will we live forever as machines? And how will humanity fit into this future?***

Follow up activities/Find out more

Visit the conclusion space in the exhibition to discuss the questions raised in depth. You will find tear-off resources to take away, a survey which will determine your outlook on the future and an area to leave a final comment or question for others to consider.



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Courtesy of Superflex

WHAT MAKES US HUMAN?

Object:

POWERED CLOTHING

Seismic

designed by Yves Béhar, 2017

Exosuits are designed to enhance the capabilities of the human body. Made from a lightweight and flexible material, this example is marketed towards an older audience. It is integrated with sensors and pods that react to the body's natural movements, offering extra muscle power to its wearer. This technology assists with small movements such as getting up, staying upright or sitting down.

Debate:

Technology can help us in old age to continue to move about the world and engage with it, physically, socially and emotionally. But how far should we integrate technology with our bodies?

Design challenge:

Interview an elderly relative or friend. Research their day-to-day tasks and how easy or hard they find them. How could design be used to enhance or improve one of these tasks? Set out a design brief based on your research.



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WE ARE ALL CONNECTED, BUT DO WE FEEL LONELY?

Object:

A COMPANION ROBOT FOR THE HOME

Jibo

Cynthia Breazeal, Jibo Inc., 2017

Social robots like Jibo are artificially intelligent companions, designed to interact with humans and develop their own playful personality. Able to recognise the faces and voices of family and friends, Jibo helps with everyday tasks, from reading bedtime stories and assisting grandparents with video calls, to interfacing with other smart home devices. Created by Cynthia Breazeal, founder of the Personal Robots Group at MIT, Jibo is the result of decades of research into artificial intelligence and robotics.

Debate:

Should we be making Artificial Intelligence that behaves like humans?

If you could design and make a new digital friend, would you want to?

Choose one of these questions and decide if you are for or against this idea. Host a class debate to explore the pros and cons.



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DOES DEMOCRACY STILL WORK?

Object:

A FLAG FOR REFUGEES

Refugee Flag

Designed by Yara Said, commissioned
by the Refugee Nation with the support
of Amnesty International, FilmAid,
Makers Unite and U-able, 2016

Designed by Syrian artist and refugee Yara Said, this flag represents a team of ten athletes who competed as the first ever refugee team at the 2016 Rio Olympics. The flag's simple yet striking design in orange and black was inspired by the lifejackets worn by many refugees as they fled across hazardous seas. It has become a symbol for displaced people around the world.

Design challenge:

Get together with your friends to consider what you think it means to be a citizen living in the UK. Create an icon to signify your collective identity and draw up a set of instructions or a template for others to follow to make their own. Display your design at school or in your local area to celebrate yours and others' identity within your community.



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ARE CITIES FOR EVERYONE?

Object:

A BRIDGE CROWDFUNDED BY CITIZENS

Luchtsingel (Air Canal)

ZUS, 2011–15

Connecting Rotterdam's declining central district to the city's vibrant north, this crowdfunded bridge stretches over 400 metres and incorporates a public park and a rooftop garden in its design. The bridge is made up of timber panels, each one inscribed with the name of a citizen-donor who helped to fund the project. Though an important community initiative, Luchtsingel raises questions around government responsibility in the delivery of vital public infrastructure.

Design challenge:

Is there a space in your school or local area that could be improved?

Form a small design team and survey some of your fellow students or local residents to get their opinion.

Does it need to be more inviting, better at connecting people or just given a new lease of life?

Once you have gathered your research, brainstorm design ideas to meet the needs of the people you surveyed. Show your design ideas through a series of sketches, colour schemes, simple prototypes and models. You could use furniture design, graphics or spatial design. Think about how you would like the new design to benefit your fellow students or local community.



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IS EDWARD SNOWDEN A HERO OR A TRAITOR?

Object:

A WORLD WIDE WEB OF TREES

Living Network

Jalila Essaïdi, 2014–15

This project turns living trees into radio antennae capable of communicating over long distances. The system does not harm the trees, but uses them to amplify the signal. When the tree antennae are connected, they form a living network. While in its early stages, creator Jalila Essaïdi imagines the network could become an alternative organic internet, especially valuable in areas where governments control the flow of information.

Debate:

How would you use this technology in your community?

What would be the benefits of setting up a local or alternative information network of communication?

Form a proposal with your class for using this technology in a specific setting. Consider scale, purpose and who your network members would be. For example, it could be for use within your own neighborhood to share news and information, or a world wide web of trees for communicating with friends and relatives who live far away.

What other communities or parts of the world would benefit from this system?



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SHOULD THE PLANET BE A DESIGN PROJECT?

Object:

A SHIP THAT CLEANS OIL SPILLS

Protei

Cesar Harada, 2010

Existing oil spill-skimming technologies are incredibly inefficient. They collect only a small portion of oil spilled in our waters, add to pollution by using boats that are expensive to power and expose those working to remedy the spill to toxic chemicals. This low-cost, oil-collecting robot has been designed to eliminate many of these hazards through autonomously sailing upwind and intercepting oil sheens travelling downwind.

Design challenge:

Get together with your class to consider how you can design a system that will make your Design & Technology department more sustainable.

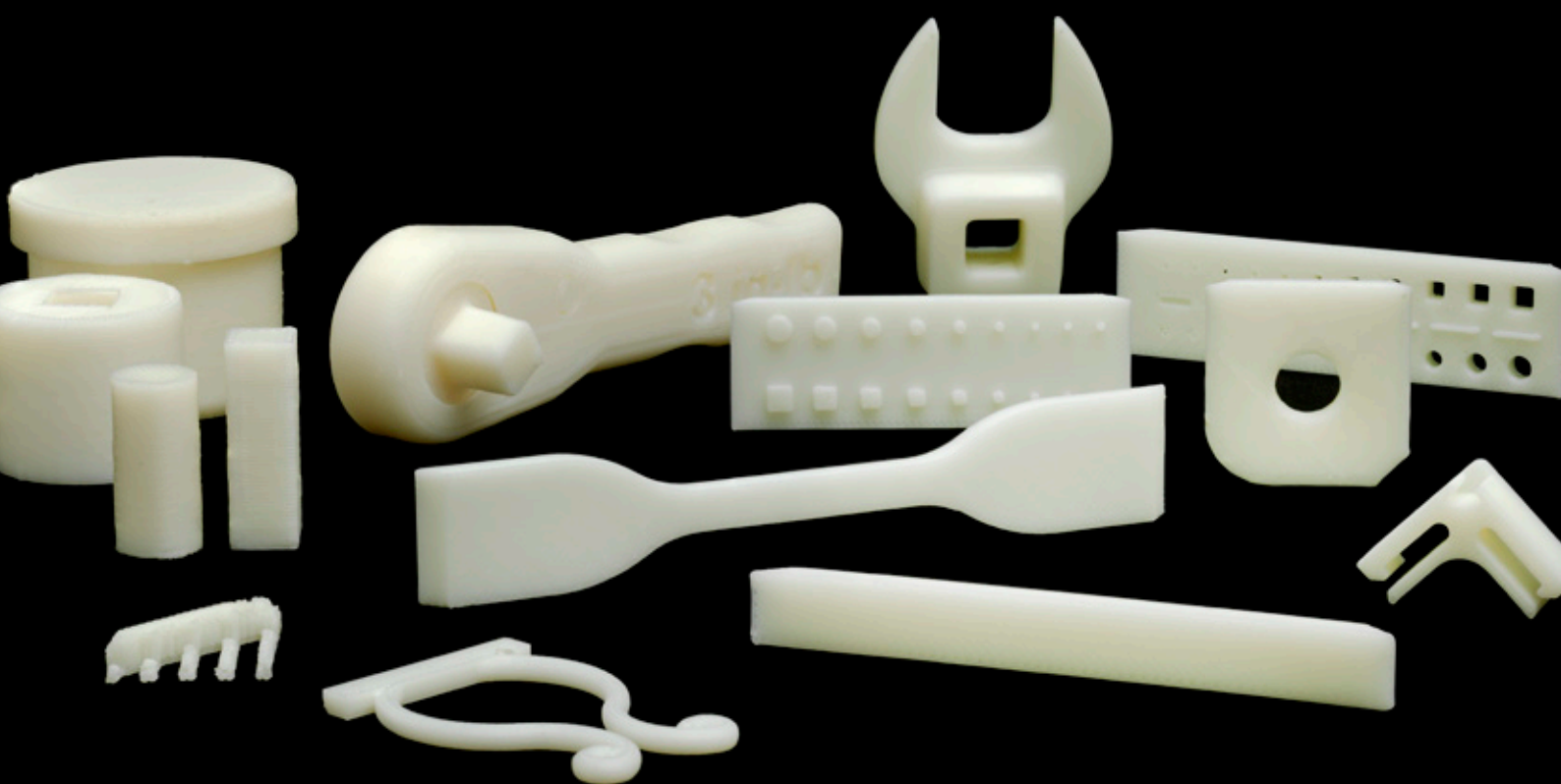
Begin by undertaking research into how the space is run and what happens to waste materials that are left over from old projects.

How could these be better utilised? How will you communicate this to the rest of the school?



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IF MARS IS THE ANSWER, WHAT IS THE QUESTION?

Object:

A SPACE FACTORY

3D Printing in Zero-G Technology Demonstration
Made in Space, 2014

These objects were made using the world's first zero-gravity 3D printer, installed on the International Space Station in 2014. 3D printing technology could make space exploration cheaper, safer and more efficient. Spacecraft with 3D printers on board could manufacture tools or spare parts rather than rely on supplies from Earth. This technology also opens the potential for factories to be installed in space.

Debate:

Who owns space?

Should we be setting up factories in space when we have already damaged the Earth through manufacturing processes and consumerism?

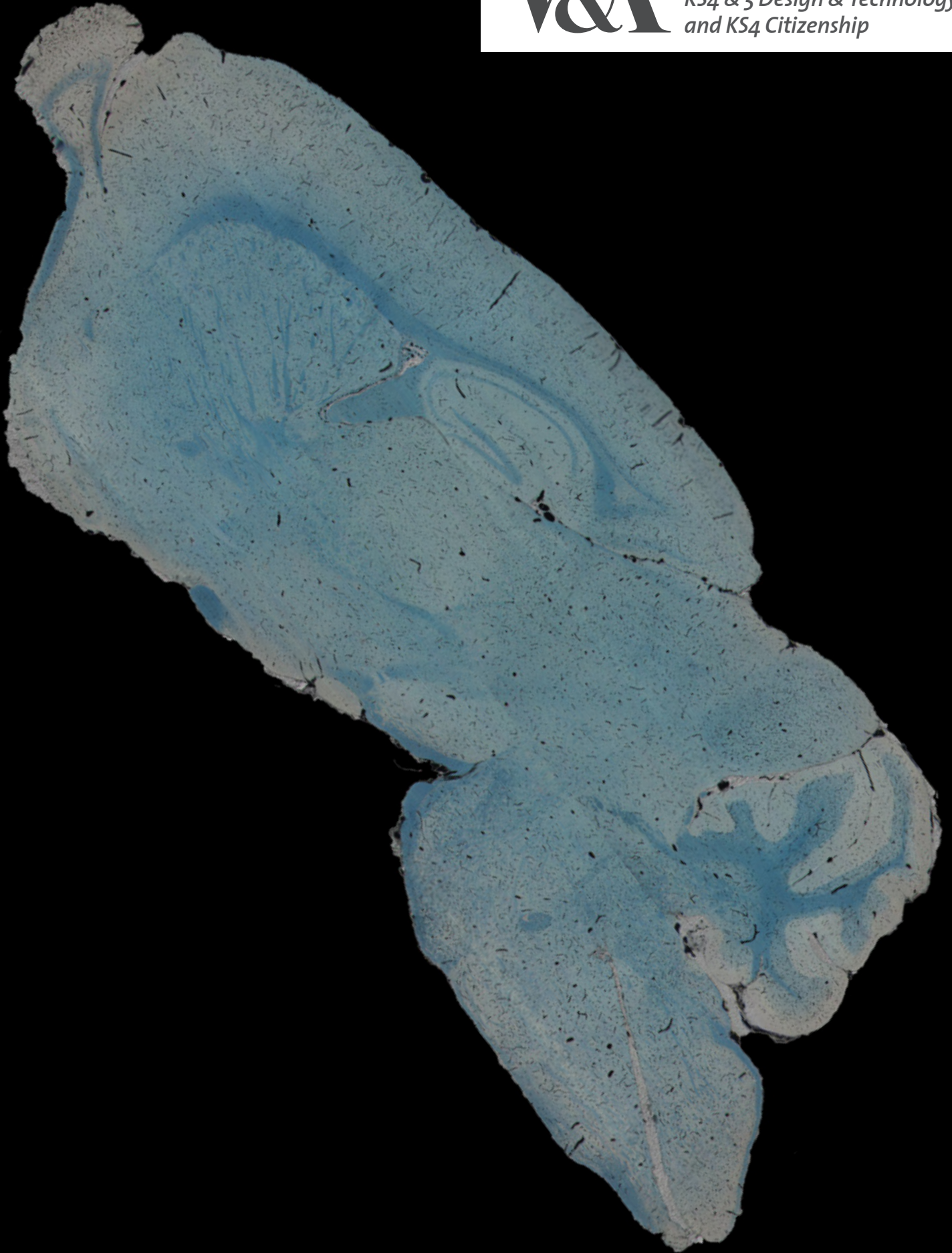
Consider these questions together with your friends before trying to answer the question in the exhibition: *If Mars is the answer, what is the question?*



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WHO WANTS TO LIVE FOREVER?

Object:

UPLOAD YOUR BRAIN ON TO A USB

Whole Brain Emulation

3Scan, 2018

This film shows an experimental process of brain scanning, used to create a digital model of a neural network. So far it has been trialed on small animals, such as the mouse shown here, whose brains contain far fewer neurons than the human brain.

Debate:

Should your brain outlive your body?

Who would be your 'brain guardian' after your physical self has gone?

Form two teams at school. One team will imagine they work for 3Scan and discuss the benefits of this technology as a life investment. The other should develop the counter-argument for prolonging your brain after your body has gone.



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THE FUTURE IS UP TO YOU

Object:

DIY HACKS THAT REFRAME DESIGN AND ENGINEERING PRACTICE

Engineering at Home

Sara Hendren and Caitrin Lynch, 2009

71-year-old Cindy lost the full use of her limbs following complications from a severe heart attack. While waiting for her new robotic prosthetic, Cindy improvised 'object hacks' to help her with everyday tasks that she now found impossible. These adaptations to the most commonly used objects in her home allowed her to hold cutlery, play cards, brush her teeth, read the newspaper and much more.

Design challenge:

Think of a simple routine that you or your family conduct every day, from brushing your teeth to making your favorite food.

How could you make this process easier, more enjoyable or more efficient?

Start by going through the process step by step to highlight problem areas that might be slow, clumsy or irritating. Use everyday materials or found objects from your home to create useful life hacks to existing objects that will improve the process.

Trial out your improvements with friends.

Has it worked? Can you make further changes? How has this altered your own behaviour as a user? Do your designs exist to buy or have you come up with a new product or system?