

Encountering the future

Community resilience in emergencies



nesta

Nesta

This project was commissioned and managed by the Nesta project team led by Belinda Moreau-Jones, with invaluable expertise from Carrie Deacon, Laurie Smith, Camilla Bertoncin and Rosalind Hibbert.

With thanks to Polly Redfern who designed this brochure and the Nesta Communications team for their input.

Changeist

This project was undertaken by Scott Smith, Susan Cox-Smith and Lily Higgins.

Community Designers

The artefacts were designed by Tom James, creator of The Flow, Alicja Halbryt, creator of CADD, Dr Austin Houldsworth, creator of The Honour System, Hefin Jones, creator of Bevenistas and Christopher Lopez, creator of H2Observers.

Acknowledgements

We would like to thank the following people for their valuable insights and time which have informed this work: Aarathi Krishnan (Humanitarian Futures and Strategic Foresight Advisor), Michelle Eaton (RNLI), Joe Murray (Neighbourhood Watch Cumbria), Amanda Stevens (NAVCA), Kelly McLauchlan (Natural Resources Wales), Corina Angheloiu (Imperial College/ Forum for the Future), Suzanne Halligan (Association of Greater Manchester Authorities), Sian Lockwood (Community Catalysts), Daniel Blyden (Impact Hub Birmingham), Bede Mullen (Slow the Flow Calderdale), Ralph Throp (Scottish Government), Stephen Jones (Blue Lights Brigade), Hannah Baker (Groundwork), Kevin Burchell (Independent Researcher), Nicola Davies (Welsh Government), Tracey Goode (Welsh Government), Anna Pashley (NAVCA), Alan Bravery (East Riding of Yorkshire Council), Tim Townsend (North Yorkshire County Council), Colin Cooper (South West London Environment Network), Ryan Charlton (Cabinet Office), Alessandro Froidi (British Red Cross), John Hayward-Cripps (Neighbourhood Watch Network), Nadeen Haidar, Alice Clay, Shoubhik Bandopadhyay, Annette Holman and Khyati Modgil (Nesta).

If you'd like this publication in an alternative format, such as Braille, large-print or audio, please contact us at: information@nesta.org.uk

Contents

Introduction 1

Five Speculative Futures



The Flow: Make Power, Take Power 3



Community Assistance Depots and Distributions 5



The Bevenistas 7



H2Observers 9



The Honour System 11

Artist Biographies 13

Our Journey with Changeist 14

"It's tempting to ask why if you fed your neighbors during the time of the earthquake and fire, you didn't do so before or after."

Rebecca Solnit, A Paradise Built in Hell: The Extraordinary Communities That Arise in Disaster

Introduction

We are living in a time of huge change.

Extreme weather and disasters are experienced close to home and across the world with increasing regularity and severity due to climate driven disruption. The effectiveness of traditional structures of power to look after our best interest are called into question with greater urgency than ever.

There are reasons to feel hopeless, anxious and disillusioned.

But hope emerges in unexpected places.

From Australia's bush-fires, to Puerto Rico's hurricane, or UK floods - when a crisis hits, stories of mass destruction and chaos often dominate the headlines. But in these situations we also often see the extraordinary power of communities coming together. When communities organise, this can challenge the status quo and traditional notions of power and expertise. It also demands new ways of organising and working together, from shared decision making and allocating resources to better use of assets already within communities, showing that social challenges so often need social solutions.

This brochure provides greater detail about the exhibition 'Encountering the Future: Community Resilience in Emergencies' and can be read in conjunction with exploring the exhibition or independently.

Set in 2023, to highlight the challenges in our not too distant future, this work is presented not as a solution, but to spark questions and debate, and show the creative potential in communities.

What we're doing

Over the last ten years, Nesta has backed ideas and approaches that put people power back at the heart of how our communities, public services and democracies work. Through evidence, backing leading innovations and partnerships, we support a movement to help people shape the issues affecting their lives, and create action to affect change, normalising people power as an organising principle for our public institutions and services, and communities.

This is pertinent in the field of emergency management, where public sector professionals are examining their roles as collaborative and adaptive leaders. Seeking to work with and alongside communities to better prepare for, respond to and recover from emergencies.

This work was undertaken to help champion and support a creative exploration and debate of how greater resilience can be fostered. Together we hope to better seize the potential for collectively building community resilience.

1

Horizon scanning

Research was undertaken to identify key future trends that will likely impact upon community resilience in emergencies. You can find out more about the trends [here](#).

2

Workshop

People from different organisations including community, academia and frontline practitioners came together and used the trends on our horizon to create five future scenarios, demonstrating different forms of community resilience in emergencies.

3

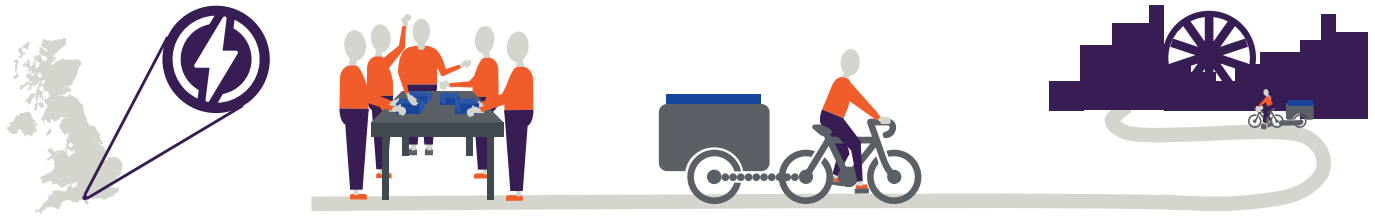
Artefacts

Community designers created physical objects that illustrate these visions. They immerse you in scenarios that think about how communities organise themselves, how people respond and what is needed to make it work.

4

Exhibition

These artefacts are to be interacted with, allowing you to think about your roles, question assumptions and consider challenges from different perspectives.



Make Power, Take Power

The Flow: Energy Sustainability Program Reinforces Social Sustainability Too, Through Co-operative “Good Neighbour” Outreach

Network: Co-operative

In 2021 cyberattacks on the UK grid triggered a small series of limited power outages, which escalated over the year and set in motion the large scale blackouts many experts had feared were coming, affecting critical sections of London and the Southeast. Blackouts hit many communities, and national and regional power providers struggled to regain control of their networks. In Brighton and Hove, however, the lights remained on in parts of the south coast—due in large part to a bottom-up effort by local citizens and some social and technical ingenuity.

Initially set up as a small group of electrical engineers, community activists, and renewables enthusiasts, THE FLOW convened to find a way to bring the patchwork of small-scale renewable energy projects together with individual home-based producers of wind, water, and solar onto a single cooperative platform. Using open source software, a local credit scheme, and cooperative investment, by late 2021 members of The Flow had managed to bring about 150 homes and businesses in the area onto a cooperative power system—either full- or part-time—by offering the opportunity to buy and sell from different providers, as well as owning a stake in the system. The Flow welcomed untrained and non-technical volunteers to assist with community-facing parts of the cooperative, which opened opportunities for participation.

During the blackouts, it was this newly-developed aspect of The Flow’s organisational model that proved most valuable. The Flow, working with students from Sussex University, designed and built a modular, portable backup power source for emergencies using inexpensive batteries packed into small corrugated metal or plastic containers called Bricks, which it encouraged members of the community to join in making at open workshops. A Brick can hold enough charge to power a small family home for a day and was designed to be distributed during a long-term power outage.



They established 'Good neighbourliness' as a core value, checking on community members' wellbeing, and confirming access to adequate electricity and heating, particularly for those more vulnerable in emergencies. During blackouts, FLOW members cycle the bricks across the city, to get them to the people who need power and regularly check-in on neighbours to deliver and swap units. Working in coordination with local social services, The Flow members make sure any unaddressed community needs are passed on, and those in need assisted.

THE FLOW
THE FLOW
THE FLOW

BRICK-BUILDING WORKSHOP

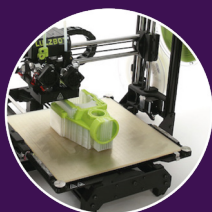
SAT 10TH OCT
2023

We're THE FLOW, a community energy co-op based in Brighton. We make our own storage batteries, called Bricks. We fill them with spare energy from off-grid projects across Brighton and Hove. And, during the blackouts, we cycle them across the city to get power to the people who need it. We keep Brighton's lights on. Join us!



WWW.THE-FLOW.NET

Future trends:



DIY Culture



4th Industrial revolution



Aging populations



Resource instability

What change might this prompt for you? Questions:

How can platform cooperatives expand their role in communities to increase resilience and reinforce, rather than replace, community interaction?

How can the public sector work with local climate and resource resilience systems in enhancing preparedness for extreme weather events?

How might relief organisations adopt their response processes so that their responses complement volunteer processes?



Delivering public goods on private networks

CADD [Community Assistance Depots and Distribution]: Private Platform Services Sponsor Community Emergency Response Through Volunteer Supply and Support Mandates

Network: Hub-and-spoke

Saddleworth Moor, between Manchester and Sheffield, experienced severe wildfires in 2023. After record-breaking heat and a severe lack of rainfall in the area over winter and spring, a fire broke out in May, spreading over 6,000 acres and putting the wider population of nearly five million people at risk.

Emergency and medical resources were stretched to their limit across the country. Insufficient supplies of filtration masks and other materials, left a large section of the regional population unprotected.

Communities nearest the fire in eastern Manchester began sending requests for assistance via CADD, an organisation which works with gig-economy platform-based entities who manage micro-depots and non-

retail preparation kitchens. They set aside ten percent of their space for emergency supplies to aid in localised community relief during crisis situations.

The community takes a major role in determining the use of this capacity. Communities designate volunteers to manage the storage and identify local needs during and after emergency events. The resources of the platforms are also seconded during an emergency to assist in distribution, and the app platforms used to provide real-time alerts and enable customers to request supplies, or assistance.

Requested items were couriered by ride-hail drivers or delivery riders, to doorsteps or designated drop areas, with needs coordinated on a street-by-street basis by community volunteers. Though Manchester CADD almost immediately exhausted the initial stock of 5,000 respirator masks, 100,000 litres of water, and basic medications, the network was able to secure additional supplies from nearby, non-affected communities.

A community volunteer working with the CADD warden described how they were monitoring residents, as well as communicating with local emergency responders.



"We have our eyes on the news and have been chatting with the emergency services off and on, and got informed that the stocks of water and breathing masks were low at the nearest depot."

Talking with our warden John this week, we were able to pass on these supplies and keep things running smoothly on a local basis along with other Deliverland riders."

One CADD warden stationed at a depot in Rochdale provided a view from his own area.

"For some older residents who can't get out, we've worked with the Deliverland and GoRide drivers to drop off meals on their routes. I think there have been three dozen meals delivered this week, along with other necessities."

The fires are expected to be under control by early June, allowing local CADD networks to

assess and replenish supplies in their systems. CADD had distributed almost 250,000 respirator masks, and several tonnes of water, food, and medical supplies. With government funded stocks running low, Manchester and Liverpool area community volunteers are now organising stock collection from local business donations, local fundraising, and additional crowd-supply campaigns as communities get back on their feet.



Future trends:



Climate-driven disruption



Urbanisation



Networked Humanitarianism



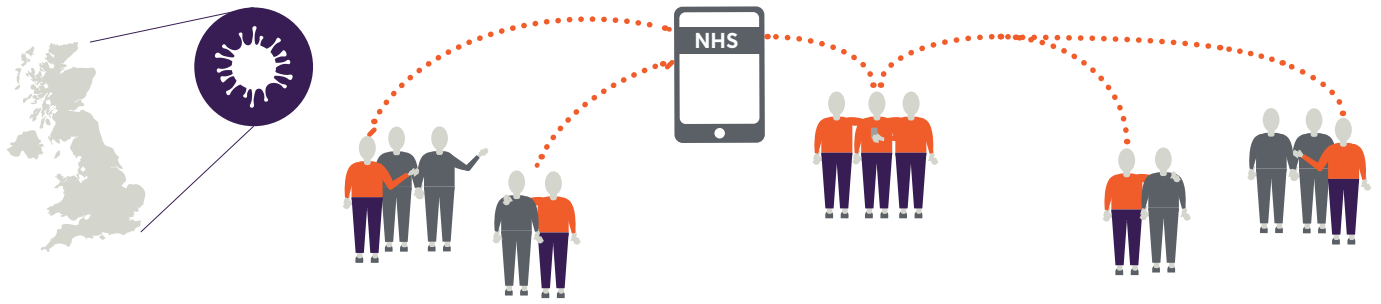
Sharing and Peer Economies

What change might this prompt for you? Questions:

In a future where private companies play a stronger role in operating community platforms, how can statutory services interact with them in ways that build trust and aid the community?

How can private companies, government and community organisations leverage each other's strengths to increase community resilience?

How might traditional relief organisations shift their organisational structures based on the potential opportunities within communities?



Walking the Hard Miles to Ensure Healthy Communities

The Bevanistas: Self-organising Cells Support Harder to Reach Communities in Need, Improving NHS Outcomes through Data and Research

Network: Spontaneous, self-organising cells

After several bad influenza seasons, did you ever wonder what accounted for the improvement in vaccines used in England this past winter? Some believe credit goes to the Bevanistas, an informal, self-organised network of former health care workers who have emerged as an important link between the health system and often hidden parts of our communities.

The swine flu outbreak in Bristol in 2023 resulted in several deaths when the flu vaccine developed in US labs in anticipation of that year's strain was unexpectedly ineffective, particularly for older people, as well as a surprising number of teenagers and young children. A group of women living in the Bristol area—all with medical and/or research experience—began working together on a hunch that those who died, or were severely sickened by the flu virus strain, despite many of them having had a flu shot, were missing a vital microbiome bacteria which supports immune health and resistance to flu.

Cate Hughes, a paediatrician from Wrexham, living in Bristol and part of this underground network—or cell—of local caregivers, dubbed the group “The Bevanistas”.

According to Cate, the Bevanistas' mission was to support their communities by filling gaps in local NHS capabilities and to improve health outcomes for all citizens.

Using an open source platform, the group shared their anonymised data with the NHS while protecting their own and patient identities. The NHS was eventually able to validate the findings despite anonymous submission, and to use this data to adjust the next wave of flu vaccines to maximise local efficacy, on a region-specific basis.

New groups then began to assemble as loose cells focusing on any medical situation, pooling knowledge and resources to inform and support the treatment of local outbreaks or medical emergencies.

As community members themselves, the Bevanistas helped spread important self-care information in ways that public health campaigns might not have reached or been as effective. They are trusted communicators and function as a kind of doorstep network for public health information, distributing news, correcting disinformation through direct dialog, and reaching community members who might be less inclined to visit

the formal health system.

Over time, they build an awareness of any growing concerns in the community which might not be getting shared with health officials, as well as noting how and where misinformation may be spreading. Some even engage community members to gather their own local health circles to share information.

"We've put a lot of miles on our trainers going door-to-door, meeting people who the system may not see. This is where you make or break community health," said Cate, as she thumbed through her well-worn book of appointments and field notes. "We've worked hard to build trust on both sides. The women we meet with will speak to and listen to us, and the NHS teams have developed faith in our information."

Patients NOT Passports

The Government are demanding that NHS trusts check patient's ID before giving them treatment. If they don't have the right documents they will be forced to pay upfront.

This scheme will destroy trust in NHS workers. It will make people fear getting the treatment they need, causing them harm, leading to more emergency admissions, and more avoidable deaths.

We have a duty to our patients and to the NHS to stop this from happening. Together we must force the government to scrap these disastrous proposals.

DOCS
DocsNotCops.co.uk
@DocsNotCops
facebook.com/DocsNotCops

NO BORDERS IN HEALTHCARE

Future trends:



New faces of change



Decentralised networks



Populism



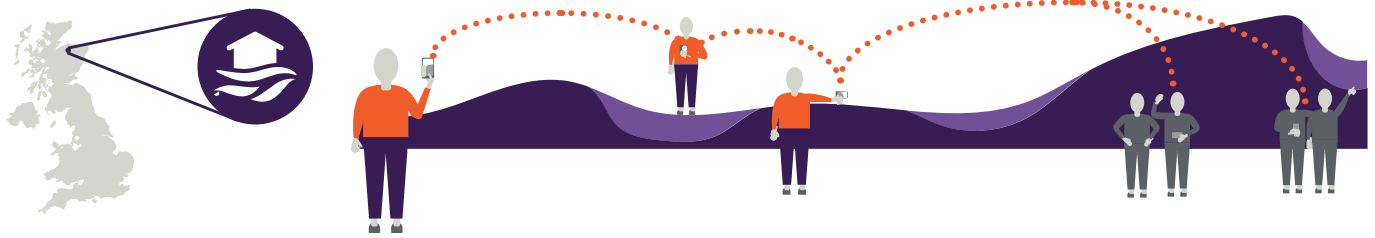
Sharing and Peer Economies

What change might this prompt for you? Questions:

How can informal resources be better harnessed to reach communities that are harder for statutory authorities to make outreach to?

How can statutory authorities make themselves more open to informal information sources?

How can public messaging become a collaborative process to more efficiently distribute key messages and enable trusted local knowledge to emerge?



A Leaderless Movement Fights Back the Tide

H2Observers: Enterprising Students Hack Technology to Save Their Centuries-Old Community Infrastructure

Network: Swarm, leaderless movement

Due to increasing sea level rise, communities in low-lying areas of coastal Scotland and its islands are seeing greater incidences of coastal flooding, as well as the newer phenomenon of sunny-day flooding, or tidal flooding, where roads and other infrastructure may become inundated during high-tide periods, making roads intermittently unpassable.

Sarah H., high school student in the affected area of Stronsay Island in the Orkneys found that the bus she took to school is increasingly unavailable due to sunny day flooding events washing out the route. Over time, she noticed that the flooding happens with a somewhat predictable pattern so she begins to track the days and times using a period tracking app on her phone. After a few months, she mentioned the idea to some of her schoolmates, and they begin tracking flooding on their streets, as well as taking pictures with their phones, and sharing them on social media to document the water levels, before, during, and after flooding events.

"I remember thinking, 'the moon cycle is basically the same time cycle as a woman's,' so I used a menstruation app to begin keeping track of the days and times of floods. It ended up being really helpful for my bus driver, who could start to avoid routes, so I got my friends involved

and pretty soon we were sharing our predictions across the island. That led to lots of pictures on social media with gps markers and hashtags, so pretty soon we were our own little meteorology service."

Jackie R., another student further developed the idea explaining:

"My friends and I learned that there was a group in Indonesia that was using machine learning and images from social media feeds to monitor and predict air quality, so we thought we could rework the code from GitHub and use it for monitoring water saturation on the ground in the Orkneys. It will basically measure how wet the ground is so we can predict where and when flooding is more likely to happen."

The students worked together to expand their efforts by engaging the broader community in taking pictures of their own properties several times a day, and sharing them with the group, to implement a wider collection of images for analysis. The machine learning algorithm was eventually generating a running forecast of at-risk areas in the community based on current and past patterns. This allowed the community to anticipate and deal with real time water risks, but to also plan ahead for areas which may flood next. School hours were adjusted and transport routes changed to avoid risky

roads, while businesses prepare for any changes to their operation, such as moving a Saturday market that coincides with flooding.

One resident, Maggie S, who is 85 and has lived in the area her entire life, was happy to assist the students' project as it helped her remain in place.

"I don't have email so I can't pretend I know everything, but I do know how to take a picture and send it, so I do feel helpful," she told me. "I also know that we're no longer talking about leaving. We're not talking about having to give up and disappear tomorrow. It's a big shift and we have a lot more confidence that we can stay. We were slowly drowning... We're still at risk, but at least we can now protect ourselves."



Future trends:



Climate-driven disruption



New faces of change



Networked Humanitarianism

What change might this prompt for you? Questions:

How can informal community initiatives build persistent trust and stable communication channels with relevant formal organisations?

What new models may allow communities at risk to manage their own adaptation to slow emergencies?

What kind of cultural and structural changes might relief organisations need to undertake in order to adapt to crowd intelligence gathering measures?



Recognising the Value of Resilience:

The Honour System: A New Currency Keeps the Economy Moving in a Storm-Damaged Community

Network: Neighbour-to-neighbour

In late 2022, Superstorm Charlotte left a trail of destruction across Ireland, Wales and central England. The Isle of Man was left completely without electricity and telecommunication services. Reeling from significant property damage, residents were without electricity, phone services, and Internet connectivity for almost two months. Without bank reserves, and connected systems to keep accounts, the relatively small amounts of available cash and a reversion to paper ledgers proved unworkable as the post-storm crisis expanded beyond a few days, to weeks, and eventually, months.

Yet, community members were eager to help one another, and with the need to keep account of materials, labour, and more needed across the area, two neighbours in Ramsey came forward with a temporary solution. Experimenting with some basic mechanical die-stamp equipment, as well as hundreds of metal washers of various sizes already on hand, the pair created what was in effect a physical currency, dubbed the "Honour". Having first used these "coins" to keep track of their own trades of time and supplies, they offered their currency to be used as a stop-gap system to keep the local economy working at a basic level, and enable people working in the recovery effort to gain both compensation and recognition. This simple measure spread solidarity amongst the neighbours as conditions tested the

patience of all those affected.

While the Honour as a cash substitute helped build trust and provided a simple accounting system for both provisions and labour, according to local residents it was the HR recognition currency that had the greatest impact overall. The physical token of acknowledgement for acts of volunteerism—large, and small—was appreciated by both givers and receivers. Beyond keeping a small economy moving, the recognition currency provided a means of improving morale during a difficult crisis, and provided a way for the wider community, businesses, and individuals to celebrate those who gave



critical time and effort in rebuilding the community. Acts of kindness were commemorated and celebrated.

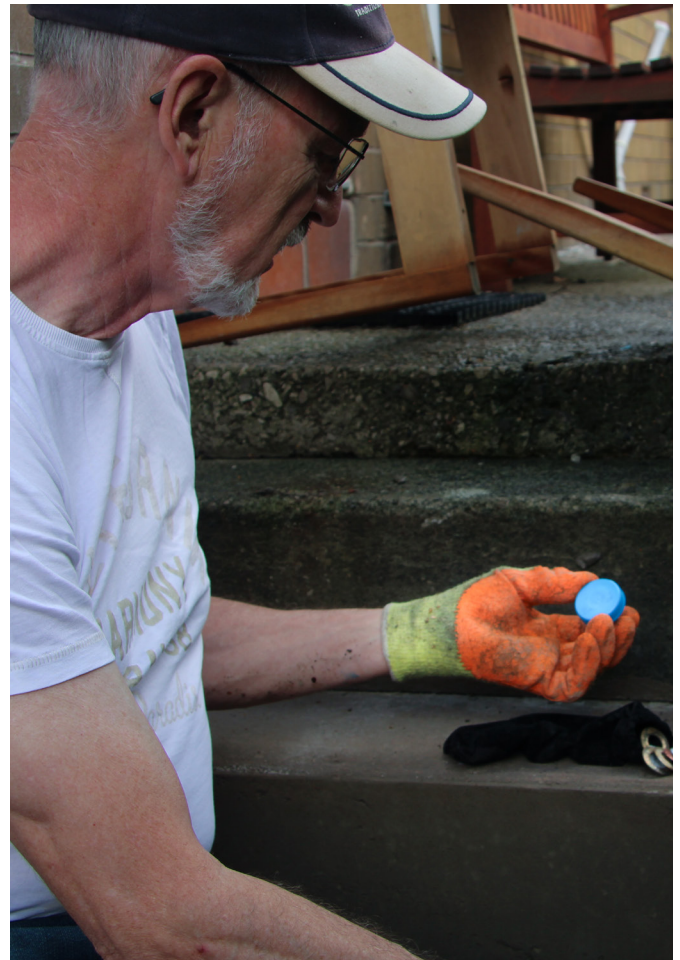
A thank you card, posted from Margaret Edge to Peter Hudson, a builder on her street, exemplified how the system worked for local residents:

Dear Peter,

Thank you so much for mending our broken steps. It's made access to Mum's granny flat so much easier. As a token of our gratitude, I went to the trust bank and applied for a few Recognition Coins. I know how much you do around the town and I wanted to say thank you in some way. Also, I hear the Hilltop [a local cafe] is doing some good food deals, so I've put a few Honours in this card (it's not much, but hopefully it will help).

Thank you again for all you've done for us.

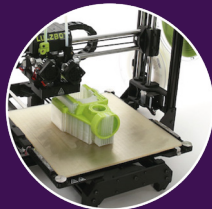
All the very best, Margaret



Future trends:



Climate-driven disruption



DIY Culture



Refocus on Community



Sharing and Peer Economies

What change might this prompt for you? Questions:

How can the value of small acts of kindness be recognised and enabled to flourish?

When a useful system emerges within a community how could authorities support them?

What factors enable citizen led initiatives to gain legitimacy with government?

Artist Biographies



Tom James, creator of The Flow

Tom James is a writer and artist who creates projects, publications and narratives to address the ambivalence he feels about the world that's coming our way. Recent work includes *The Clearing*, a year-long collaboration with Alex Hartley to create a vision of the future in the grounds of Compton Verney Art Gallery, in Warwickshire; and *A Future Manual*, a DIY guide to surviving and thriving in the bitter, barren world we're creating for our children. Tom's projects have been featured across the British press, whilst his cult fanzine, *Go*, is part of the permanent collection of the V&A.



Alicja Halbryt, creator of CADD

Alicja Halbryt is an MA Service Experience Design and Innovation student at the University of the Arts London. She pursued her BA at Lancaster University in Design Interactions. Her main interests focus on foresight, futures design and speculative design, and using these to design futureproof services. Her experience ranges from re-designing a service for electric vehicle chargers' users, to proposing a future solution for building online data privacy, to creating a speculative future scenario for the operations of the Hyperloop transportation system.



Dr Austin Houldsworth, creator of The Honour System

Dr Austin Houldsworth is a multidisciplinary design practitioner, researcher, educator, and expert in critical & speculative design practice. He is an associate lecturer at Sheffield Hallam University and founder of the 'Future of Money Design Awards'. His work strives to leverage change through the application of design within unfamiliar disciplines. Like reimagining and redesigning monetary systems ('For moneys sake' 2018). Building the world's first prototype human fossilisation machine. Or recently founding the 'Intergalactic Space Agency' at the Eden Project.



Hefin Jones, creator of Bevenistas

Hefin Jones is a designer living between Wales and London, working across wider national and international localities. He often works with public, cultural and educational institutions to instigate collaborative design practices. Recent projects and collaborations include Wellcome Trust Centre for Neuroimaging, National Theatre Wales, Design Museum, UP Projects, and Crafts Council. Hefin is currently an associate lecturer in the Department of Design at Goldsmiths University of London, having also taught at institutions such as Central Saint Martins and HDK, University of Gothenburg.



Christopher Lopez, creator of H2Observers

Christopher Lopez is a transdisciplinary designer, creative strategist and educator. His work utilizes design disciplines and processes to make tangible concepts, experiences and systems. Christopher's portfolio of creative and strategic projects leverages systems-thinking, design-led research, and participatory methods to understand contexts and build ideas. Christopher is currently a Senior Service Designer at EY-Seren in London. Off the clock, he is a snail-mail enthusiast, a podcast addict and a lobbyist for paper-crafts.

Our Journey with Changeist

Scott Smith - Managing Partner, Changeist

Nesta came to us with a challenge to create a process to imagine new possibilities for the future of collaborative emergency management in the UK. This project was to focus on scenarios, objects and artefacts that could bring these alternative futures to life and enable questioning of status quo approaches and relationships.

In response, Changeist designed a process that began with research on relevant future trends, which fed a workshop to engage a diverse community of stakeholders to synthesize these trends, ideas, themes into stories of possible futures, and finally engaged designers from communities around the UK to bring these stories to life. This process was structured to encourage different stakeholders to widen their scope of consideration about the roles of citizens at each step, and consider how communities of varied definition can interface with their organisations and approach the future more proactively.

The central workshop itself was structured as a flow of research, sensemaking, storytelling and reflection. This was completed through three stages; An initial download phase featured lightning talks from external experts who relayed their emergency response experiences from around the world. A sensemaking phase where groups explored several dozen cases of community emergencies and response, sourced from national and international news reports. Finally, working alongside designers, teams blended the trends, actors, networks, and situations into simple scenarios that put these elements into motion.

From these scenarios, our five selected community designers worked with Changeist to imagine create a series of speculative artefacts—objects, media, and communications—intended to bring the observer into the world of each scenario. These artefacts have the benefit of connecting us at both rational and emotional levels to these scenarios and the challenges and opportunities they represent individually and collectively.

Our overall approach was conceived to encourage participants to consider the challenges of communities, formally and informally, coming together with statutory services to face a shifting emergency landscape with a mindset that does not impose limits on their thinking based on current models. Opening up to plausible scenarios presented at human scale allows people to question the paradigms of their current methods and explore a greater potential. As a method of collective innovation, these approaches are designed to help organisations move past thinking rooted only in historical experience, and deal with specific questions and challenges raised by these structured scenarios—stepping into the near future to think more openly about the present.



58 Victoria Embankment
London EC4Y 0DS

+44 (0)20 7438 2500

information@nesta.org.uk

[@nesta_uk](https://twitter.com/nesta_uk)

www.facebook.com/nesta.uk

www.nesta.org.uk

Nesta is a registered charity in England and Wales with company number 7706036 and charity number 1144091.
Registered as a charity in Scotland number SCO 42833. Registered office: 58 Vistoria Embankment, London, EC4Y 0DS.

