THE CENTRE FOR
LONG-TERM RESILIENCE

Centre for Long-Term Resilience Annual Report 2021

1. Introduction

Mission

The Centre for Long-Term Resilience (CLTR) is an independent think tank with a mission to transform global resilience to extreme risks.

Context

While Covid-19 demonstrates the impact that extreme risks can have, we are likely to face greater risks within our lifetimes. Threats from misuse of biotechnology or powerful AI systems would likely be even more destructive, and we are even less well prepared for them.

The UK Government, alongside other organisations, has made substantial progress in building resilience in the wake of Covid-19. But much more needs to be done.

By making relatively small and inexpensive changes, we can reduce the likelihood of extreme events occurring, and transform our ability to respond if they do.

We think of building resilience to extreme risks as an insurance policy — for the UK and the wider world.

Extreme risks

Extreme risks are high impact threats with global reach. They have the potential to devastate lives and economies around the world. We focus on two areas of risk where effective governance today could substantially mitigate both current and future threats:

- **Artificial intelligence (AI)**, including risks arising from unethical uses of AI, from AI systems behaving in unintended ways in high-stakes domains, and from the broader impacts of AI on the economy and society.
- **Biosecurity**, including risks arising from naturally-occurring pandemics, laboratory leaks, bioweapons and 'dual-use' research (advances that can be used for harm as well as good).

A resilient world is one which has systems in place to anticipate, mitigate and respond to all extreme risks. To help build this resilience, we also focus on **risk management** more broadly — the process of both transforming risk governance, and of identifying, assessing and mitigating all extreme risks.

We deliver on our mission by working with governments and other institutions to improve relevant governance, processes, and decision making. We are based in the heart of Whitehall at Public Hall.

THE CENTRE FOR
LONG-TERM RESILIENCE

Theory of Change

Our theory of change can be summarised as follows:

Research (and influence) of long-term AI risk, biosecurity and risk management experts
↓
Concrete, actionable policy recommendations, designed in collaboration with governments and other actors
↓
High-impact actions taken by decision makers in government to boost resilience to these challenges

How we define success

In the short term (over the next three to five years), we see success as:

- Helping decision-makers and the wider public to understand extreme risks and what can be done about them.
- Providing expert advice and red-teaming on policy decisions.
- Convening cross-sector conversations and workshops related to extreme risks.
- Developing and advocating for policy recommendations and effective risk management frameworks and systems.
- Providing an exchange for specialist knowledge, including by facilitating expert placements into government.

In the medium term (over the next five to ten years), we would expect to see meaningful policy change to increase resilience to extreme risks in the UK as a result of our work.[1] We would also expect to have gathered enough information to have a confident sense of whether CLTR's model could be usefully replicated in other jurisdictions.

Our long-term vision is a world with transformed resilience to extreme risks - a world where:

- Advances in AI and biotechnology are used in safe and beneficial ways;
- Significant AI and biological threats are prevented or detected rapidly at their source; and
- Government-wide governance, processes, and decision making around extreme risks has been transformed.

[1] We will be defining more specific key performance indicators during 2022, once our unit leads have defined their strategies and settled into their roles

Focus areas

In our first year (2020) we had six focus areas:

1. AI risk;
2. Biosecurity;
3. Climate change;
4. Electrical grid safety;
5. R&D; and
6. Risk management.

In 2021 we narrowed our focus to the three issue areas that seemed most promising in Year One, given the relative neglectedness of these three areas in the UK policy space, relative to their importance:

1. **AI**, including risks arising from unethical uses of AI, from AI systems behaving in unintended ways in high-stakes domains, and from the broader impacts of AI on the economy and society.

2. **Biosecurity**, including risks arising from naturally-occurring pandemics, laboratory leaks, bioweapons and 'dual-use' research (advances that can be used for harm as well as good).

3. **Risk Management** — the process of both transforming risk governance, and of identifying, assessing and mitigating all extreme risks.

Funding

At the beginning of 2021, we set a stretch target of raising three years' worth of runway for an expanded team, which we estimated at £2.8 million.

As of 31 December 2021, we had raised approx. £2 million, and by early 2022 we will have secured £2.3 million.

This gives us approximately 23 months of runway as an expanded team of seven, and 22 months of runway if we expand further to a team of ten from the second half of 2023 (see Section 4 for further details).

We plan to proactively fundraise in the second half of 2022, with the aim of having at least 18 months of runway remaining by the end of 2022. This represents a fundraising target of £1 million for 2022 (based on the scenario of expansion to a ten-person team by the second half of 2023).

Our current funding breaks down as follows:

Over £1 million

Survival and Flourishing Fund
The Survival and Flourishing Fund is funded primarily by Jaan Tallinn, a founding engineer at Skype, and aims to fund organisations working on long-term challenges. Jaan is a co-founder of the Cambridge Centre for the Study of Existential Risk. He is a core supporter of The Founders Pledge, both as an advisor and member of the Foundry.

Over £500,000 (projected, by early 2022)

A private foundation[2]
This foundation focuses primarily on impact investing, the promotion of social responsibility, and making grants that benefit low and middle-income countries.
Over $100,000

EA Infrastructure Fund
The EA Infrastructure Fund aims to increase the impact of projects that use the principles of effective altruism, by increasing their access to talent, capital, and knowledge. It supports work that could multiply the impact of direct work, help run events, disseminate information, or fundraise for effective charities.

Over $50,000

Founders Pledge
Founders Pledge is a non-profit created to encourage and facilitate charitable giving by entrepreneurs and investors. Its mission is to empower entrepreneurs to do immense good. It was built for and by entrepreneurs and launched out of Founders Forum, Europe's foremost network of digital and technology entrepreneurs.

Private Donor[3]
An individual donor, whose funds come from his salary as a software engineer, has made a private donation to CLTR in a personal capacity.

Waking Up Foundation
Waking Up, a company owned by the author and neuroscientist Sam Harris, strives to help alleviate human suffering. To that end it has set up the Waking Up Foundation, through which it donates a minimum of 10% of profits to the most effective charities, including the International Rescue Committee and the Good Food Institute. It focuses on enabling humanity to flourish, working to improve life in the present, while also addressing many sources of long term, catastrophic risk.

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[2] We agreed to keep this donation anonymous, at the donor's request.
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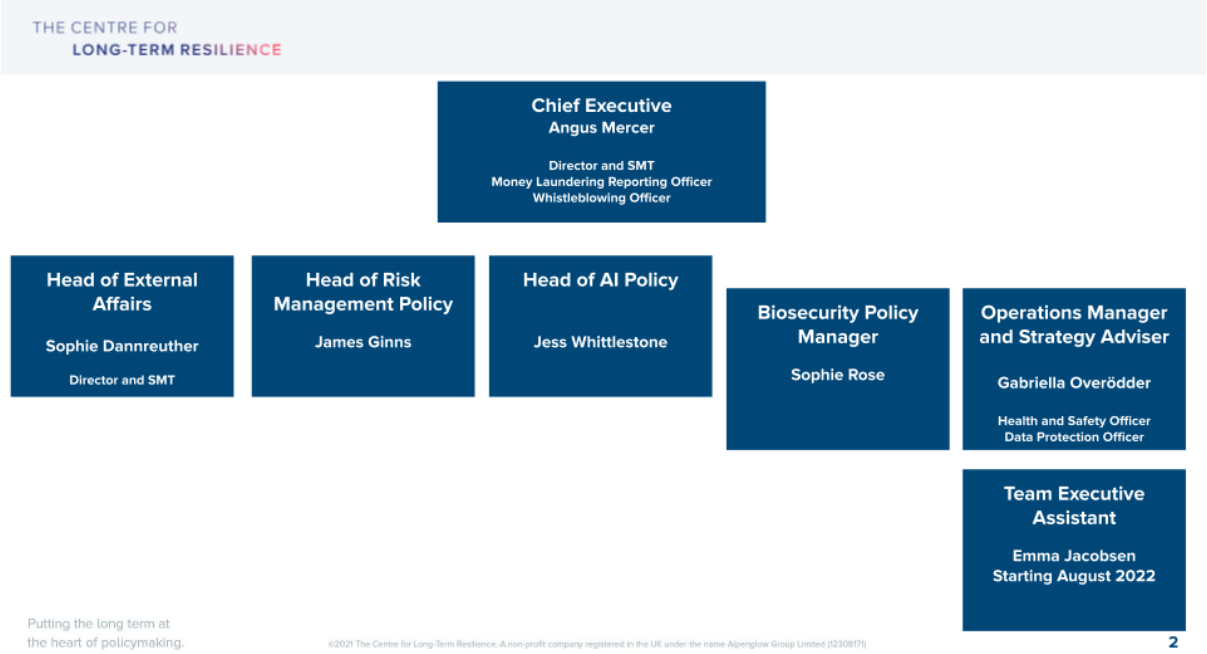
Our original seed funding of approx £430k was provided in 2019 by **Ben Delo**, the co-founder of BitMEX. Ben has signed the Bill and Melinda Gates' Giving Pledge, a movement of philanthropists who commit to give the majority of their wealth to charitable causes, either during their lifetimes or in their wills. He focuses his philanthropy on reducing global catastrophic risks and safeguarding future generations, and has previously donated to the Johns Hopkins Center for Health Security, the Center for Human-Compatible AI and the Forethought Foundation for Global Priorities Research.

Team

In light of our new funding, we took the decision in August 2021 to expand our team to a full-time team of six, supported by a communications and public affairs team on a full-time retainer. We have also hired a seventh full-time role — a Team Executive Assistant (starting in August), along with a communications contractor to provide strategic communications and public affairs services to support our work.

Following our hiring round from September to December, we will now have the following team in place by August 2022:



THE CENTRE FOR
LONG-TERM RESILIENCE

New and future joiners

Gabriella Overödder joined in November 2021 as CLTR's Operations Manager and Strategy Adviser. Gabby is responsible day-to-day for managing CLTR's transition from a two-person founding team to a team of seven, and for providing strategic advice to the Chief Executive and wider leadership team. Gabby was previously Executive Director of Effective Altruism Sweden, and a contractor for the Centre for Effective Altruism and 80,000 Hours. Prior to this she worked as a sustainability consultant, focused on strategy and communications. Gabby has also worked as a research assistant in clinical immunology research, climate change research, and food and water security research. She holds a BA in Earth Sciences from the University of Cambridge.

Dr Jess Whittlestone joined in March as CLTR's Head of AI Policy. Jess leads the development of, and advocacy for, CLTR's key AI policy recommendations, and ensures that the responsible development of AI is given the attention it deserves in senior UK policy circles. Jess brings a wealth of expertise in the long-term impacts and governance of AI, and in working with governments to translate academic insights into policy recommendations. She joined us from the Centre for the Study of Existential Risk and the Leverhulme Centre for the Future of Intelligence, both at the University of Cambridge, where she was a Senior Research Fellow and Deputy Director of the AI: Futures and Responsibility Programme. Jess has published widely on subjects related to AI policy and provided expert advice to a number of government departments, including the Centre for Data Ethics and Innovation and Office for AI. Jess holds a PhD in Behavioural Science from the University of Warwick, and a first class degree in Mathematics and Philosophy from Oxford University.

James Ginns joined us in April as CLTR's Head of Risk Management Policy. James is a leading expert in risk management, having served as a Chief Risk Officer in the aviation sector for a number of years. We have collaborated with James closely in recent months. James provided valuable contributions to both Future Proof, and to Toby Ord's paper on how the UK could transform its approach to risk management with the adoption of a Three Lines of Defence approach, and the appointment of a Chief Risk Officer.

Sophie Rose joined us in June as CLTR's Biosecurity Policy Manager. Sophie was previously a Research Fellow at the Center for Health Security at Johns Hopkins Bloomberg School of Public Health. She is currently a fellow at the Council on Strategic Risks' Ending Bioweapons Program. Sophie holds an MHS in Infectious Disease Epidemiology at Johns Hopkins Bloomberg School of Public Health. Sophie also co-founded 1 Day Sooner, an organisation born in the COVID-19 pandemic to represent volunteers who wanted to rapidly accelerate the deployment of the most effective COVID-19 vaccines possible.

Board

Our board of directors continues to consist of:

- Sophie Dannreuther (full-time staff)
- Niel Bowerman, 80,000 Hours
- Jade Leung, OpenAI
- Angus Mercer (full-time staff)
- Cassidy Nelson, Oxford University

Gabriella Overödder, our new Operations Manager and Strategy Adviser (OMSA), will also attend future board meetings.

In Year Three (2022), we will explore the possibility of forming an Advisory Board to help broaden our networks (particularly our government networks) and help boost our credibility.

2. Progress

We achieved the following significant progress towards reducing vulnerability to extreme risks in 2021:

A. Helping ensure that the UK government's recently published ten year defence and foreign policy review (the 'Integrated Review') included an explicit commitment to building the UK's resilience to 'low probability, catastrophic-impact events' (page 88, Integrated Review) - April 2021

The inclusion of this commitment in the Integrated Review, which was published in April 2021, followed engagement with the government throughout 2020 at various levels:

- Arranging for six academics to be interviewed by the Cabinet Office's Integrated Review team about how to make the UK more resilient to extreme risks.
- A number of written submissions to decision makers in the Cabinet Office's Integrated Review Team and the Open Innovation Team.

This commitment by the UK government now needs to be implemented into policy, through the upcoming AI strategy, National Resilience Strategy and biosecurity review.

We are working with the government to ensure this happens - primarily by discussing how to implement recommendations in our new report, *Future Proof*, which constitutes our attempt to put 'flesh on the bones' of this commitment by setting out a policy roadmap for the UK government to follow.

B. Launching Future Proof - June 2021

Future Proof is CLTR's first policy report, and sets out a roadmap for the UK government to transform its resilience to the most extreme risks the UK faces, with a particular focus on AI risk, pandemic risk and improving UK government risk management processes. Toby Ord co-authored the report with us.

Launching *Future Proof* was the culmination of over twelve months' work developing costed, actionable policy proposals with extreme risks experts from within our network, and establishing consensus for these proposals.

The report secured coverage in a range of top-tier outlets, including The Times, The Telegraph, Sky News, Vox, UnHerd, Politico, Thoughts In Between, TalkRadio, LBC Radio, Axios and Global Government Forum.

C. Obtaining a commitment to boost understanding of, and resilience to, existential risks - July 2021

In July 2021, Cabinet Office Minister Penny Mordaunt (a former Defence and International Development Secretary) gave a speech about the UK government's planned National Resilience Strategy.

The speech and its accompanying materials referenced the work of the Centre for Existential Risk at Cambridge University (CSER) and the Future of Humanity Institute at Oxford University (FHI), paraphrased key language from *Future Proof*, and underlined the government's preliminary plans to boost its resilience to, and understanding of, existential risk.

As far as we are aware, these sorts of commitments have not been made before by a UK government minister.

Penny Mordaunt's speech included references to "*not simply prepar[ing] to fight the last battle again. We don't know exactly what risk will challenge us next. What we do know is that the UK faces a broad set of malicious and non-malicious risks.*" The accompanying call for evidence included an acknowledgement that *"there will be unexpected risks, as well as risks which may emerge beyond the (two year) time horizon of each National Risk Register"*. This is firmly in line with CLTR's priorities.

D. References to extreme risks and Future Proof in the recent UN Common Agenda Report - September 2021

The recent UN Secretary-General's Common Agenda report contained a range of interesting announcements relating to extreme risks, which gives encouragement that extreme risks will become a policy priority at international level as well as at the domestic UK level:

- An Emergency Platform to be convened in response to complex global crises
- A Strategic Foresight and Global Risk Report by the UN every five years
- A United Nations Futures Lab
- The re-establishment the Secretary-General's Scientific Advisory Board
- A declaration on Future Generations
- A UN Special Envoy for Future Generations
- A Summit of the Future to be held in 2023
- A repurposed Trusteeship Council
- A new High Level Advisory Board led by former heads of state and government on improved governance of global public goods
- A Global Digital Compact which "could also promote regulation of artificial intelligence to ensure that this is aligned with shared global values"

E. The inclusion of key Future Proof language & recommendations in the AI Strategy - September 2021

A number of our key policy commitments (and general language from *Future Proof*) were included in the government's first AI Strategy, which launched in September 2021. This included:

- A commitment that the Office for AI will "*coordinate cross-government processes to accurately assess long term AI safety and risks, which will include activities such as evaluating technical expertise in government and the value of research infrastructure*".
- References to innovation being achievable only through public trust / responsible AI governance and development.
- A commitment from the government to "*work with national security, defence, and leading researchers to understand what public sector actions can safely advance AI and mitigate catastrophic risks*." (emphasis added).
- A commitment to build "medium and long term horizon scanning functions to increase government's awareness of AI safety".
- A commitment by UKRI to review compute capacity, including for academia.
- A commitment to review the UK's approach to semiconductor supply chains.

3. Finances

Expense type	Breakdown per year	Estimated cost
Staff salaries	Salaries for: Chief Executive Director Heads of Policy x 2 Managers x 2 Executive Assistant	Year Three: **£428k** Year Four: **£544k** Year Five: **£599k** *In the event that we expand to a ten-person team from the second half of Year 4 (hiring AI, Biosecurity and RIsk Management Policy Managers) we anticipate extra costs of approximately **£125k** in Year Four and **£275k** in Year Five (including additional ancillary costs such as office space and benefits).*
External consultants	**£216k**: £15k per month + VAT for consultancy support	Year Three: **£246k** Year Four: **£246k** Year Five: **£246k**
Office space	**£92k** **£10k** setup costs (furniture, electronics etc)	Year Three: **£98k** Year Four: **£98k** Year Five: **£98k**
Legal fees	**£20k**: Based on contingency costs required in Year One from a medium-sized firm specialising in UK-based non-profits	Year Three: **£20k** Year Four: **£20k** Year Five: **£20k**

Staff benefits	**£70k:** Approx. £10k per person per year on average	Year Three: **£70k** Year Four: **£70k** Year Five: **£70k**
Travel and accommodation budget	**£60k:** Assuming an average annual budget of £10k for six team members **£10k** team away days (lower costs in Year Three)	Year Three: **£55k** Year Four: **£70k** Year Five: **£70k**
Accountancy fees	**£18k:** Based on costs incurred in Year One, scaled up to a team of seven **£4k:** Swedish operational costs for our team member based in Sweden	Year Three: **£22k** Year Four: **£22k** Year Five: **£22k**
Costs under £10k	IT hardware: **£6k** Business insurance: **£6k** Events: **£4k** Newspaper subscriptions: **£0.8k** Bank fees: **£0.6k** Petty cash e.g. postage: **£0.1k**	Year Three: **£17.5k** Year Four: **£17.5k** Year Five: **£17.5k**
Learning and development budget (including attending conferences, courses, etc)	**£21k**	Year Three: **£21k** Year Four: **£21k** Year Five: **£21k**
IT software inc. website support	**£5k:** Contingency fee for any website support required	Year Three: **£5k** Year Four: **£5k** Year Five: **£5k**
Sub-total		£3.655 million with a team of ten from the second half of

		Year Four (2023)
Total (including 10% contingency budget)		**£4.02 million with a team of ten from the second half of Year Four (2023)**

*= **£99k per month** for the projected 18 months as a team of seven (with 10% contingency), from January 2022 to June 2023, and **£125k per month** as a team of ten (with 10% contingency) from June 2023 onwards.*

Given that we will have secured £2.3 million by February 2022, this gives us **22 months of runway** from January 2022 - in other words, runway until the end of October 2023.

To give us a robust financial position from which to expand to a team of ten, we aim to have at least 18 months' runway in place by the end of 2022. This means we are aiming to find another eight months' runway (as a team of ten) this calendar year. This equates to a funding goal of £1 million in 2022.

4. Priorities for 2022

Successfully transition to a team of seven by July 2022

- Ensure our new joiners have an excellent onboarding experience and are set up for success in their new roles.
- Ensure our culture and values are updated to reflect the input and needs of this expanded team.
- Ensure our internal systems (including our policy handbook, operations guide and new starter guides) are fit for purpose.
- Ensure each of our units (AI, biosecurity, risk management and public affairs) are coordinating well with each other, and have clearly set strategies.

Ensure we have eighteen months' runway by the end of 2022

- We plan to proactively fundraise in the second half of 2022, with the aim of having at least 18 months of runway remaining by the end of 2022. This represents a fundraising target of £1 million for 2022. See Section 3 above for further details.

Improve our ability to evaluate the impact CLTR is having

- We want to improve the way we assess our counterfactual impact, beyond basic metrics of policy progress and stakeholder feedback. This will help inform our strategy, and provide learnings that can be shared with others doing similar work in the UK or other jurisdictions.

THE CENTRE FOR
LONG-TERM RESILIENCE

Improve the robustness of our policy development

- Ensure that we continue to improve the robustness of how we vet both the policy recommendations we develop, and the recommendations that we do not develop but choose to support — by soliciting feedback from those outside our academic and technical expert network.

Raise the level of ambition in our policy engagement

- Help ensure the remit of the UK's refreshed Biosecurity Strategy covers the full range of biological threats the UK faces
- Make the argument that the UK's National Risk Register and National Security Risk Assessment have horizon scanning timelines that are sufficiently long to appropriately capture extreme risks
- Help ensure that the UK identifies and manages the threat of extreme risks, including via the UK's National Resilience Strategy
- Support the government's efforts to implement the commitments they have made in the National AI Strategy around long term AI risk, and that the forthcoming Defence AI Strategy appropriately factors in considerations around AI ethics and AI safety.

Raise awareness of extreme risks in the media and in the policy space

- Ensure that extreme risks become a more regular part of the policy and media conversation in the UK, through the creation of an external affairs unit in H2 of 2022
- Grow CLTR's reputation as the leading Westminster extreme risks think tank.