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CPD Online

Risk management and COVID-19: how can REBOK help?

Geoff Hurst

FIEAust CPENG NER CHOHSP
President Risk Engineering Society
Director & Founder @ ENGENEOHS Pty Ltd

5 May 2020

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RISK ENGINEERING SOCIETY

Risk Engineering Body of Knowledge (REBOK) Community of Practice

REBOK Concept

REBOK Webinar program

Navigating and contributing to REBOK

COVID-19 Example

Open discussion based on CREATE articles:

Business Continuity and protecting people

- https://www.createdigital.org.au/risk-engineering-best-practice-covid-19-environment/

Technology & Innovation to deal with the risk

- https://www.createdigital.org.au/covid-19-pandemic-engineers-ready-to-help/
- https://www.createdigital.org.au/3-ways-technology-helping-fight-against-coronavirus/
- https://www.createdigital.org.au/australian-engineers-are-3d-printing-protective-equipment-for-hospital-workers/
- https://www.caradvice.com.au/846416/ford-australia-donates-up-to-100000-medical-face-shields-for-covid-19/
- https://www.createdigital.org.au/australian-manufacturers-and-motorsport-engineers-join-coronavirus-relief-efforts/

Economic risk

- https://www.createdigital.org.au/coronavirus-driven-recession-infrastructure-projects/
- https://www.createdigital.org.au/covid-19-construction-industry-keep-economy-running/

Discussion on COVID-19

REBOK calendar: Next session

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Risk Engineering Body of Knowledge

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Welcome to the Risk Engineering Body of Knowledge

The Risk Engineering Body of Knowledge (REBOK) will help explain the essence and boundaries of risk engineering by capturing and updating the concepts, skills and practices that are generally accepted and known within the field.

Membership of this online community is free and open to the public. To participate in discussions and be notified of upcoming activities please register and optimise your settings to follow the content that interests you.

Our wiki is a gateway to REBOK, and incorporates links to existing bodies of knowledge and resources for risk engineering and related fields and professions. We also maintain a list of key definitions and frequently asked questions, as well as a collection of case studies and practice notes. This will be complemented by webinars to explore topics of interest and encourage discussion and knowledge sharing.

You can also join the RES LinkedIn discussion group to make contact with risk engineering specialists and other interested engineers about risk engineering topics covered in REBOK.

REBOK is a living and continuously developing project. We invite you to help drive its success and value by contributing your expertise and experience through posts, comments and discussion topics. Please contact the community facilitator if you would like to suggest topics or become a contributor.

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- Resources (including case studies and tools index)
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- Industry
- Major Engineering Discipline
- Professional Specialisation

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UPCOMING EVENTS

MAY 05 — Risk management and COVID-19: how can REBOK help? — 0
05 May 2020 12:00 PM
Until 1:00 PM

TOPICS

N — REBOK webinar recordings — 3
By Nadine Cranenburgh
Started December 17, 2019

N — COVID-19 as a contractual force majeure event — 2
By Nadine Cranenburgh
Started April 14

N — Best practice risk management for COVID-19 — 0
By Nadine Cranenburgh
Started April 14

N — Best practice COVID-19 risk management — 1
By Nadine Cranenburgh
Started April 9

N — What is risk engineering? — 0
By Nadine Cranenburgh
Started March 3

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Started April 9

What is risk engineering? — By Nadine Cranenburgh — Started March 3 — 0

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Application Categories

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March 29, 2018

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Introduction

While many risk engineering and management principals (such as those on the general principles page) have applications across a broad range of application categories, there are some principles, tools and practices which are specific to individual applications.

A non-exhaustive list of applications categories is below, and links to application specific information will be added as REBOK develops:

- Enterprise Management
- Environmental Management
- Project Management, including:
  - Contingency allocation
  - Cost risk management
- Functional Applications, including
  - Maintenance and Asset Management
- Occupational Health and Safety (OHS) Management
- Major Hazard Management, including:
  - Safety case arguments to prove due diligence
- Hazard Sources such as:
  - Hazardous Material
  - Electricity
  - Moving machinery
  - High / Low Pressure
  - High / Low Temperature
  - Hazardous Events (Fire, Explosion, Toxic exposure)
  - Dangerous goods in tunnels

Sources:

The information on this page was drawn primarily from the following sources:

Edited May 10, 2019 by Nadine Cranenburgh

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Industries

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March 29, 2018

industry

Introduction

While many risk engineering and management principals (such as those on the general principles page) are applicable across a broad range of industries, there are some principles, tools and practices which are specific to particular industries or sectors.

A non-exhaustive list of first tier Australian industries is below, and links to information will be added as REBOK develops:

- Agriculture
- Building
- Defence
- Energy
- Infrastructure
- Manufacturing
- Mining
- Services
- Utilities
- Water

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Engineering Disciplines

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Introduction

While many risk engineering and management principals (such as those on the general principles page) are applicable across a broad range of engineering disciplines, there are some principles, tools and practices which are specific to individual engineering fields.

A non-exhaustive list of engineering disciples is below, and links to specific information will be added as REBOK develops:

- Mechanical
- Chemical
- Electrical
- Information Systems
- Telecommunication and Electronics
- Civil
- Structural
- Environmental
- Biomedical
- Leadership and Management

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Professional Specialisations

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While many risk engineering and management principals (such as those on the general principles page) are applicable across a broad range of professional specialisations, there are some principles, tools and practices which are specific to particular fields of specialisation.

A non-exhaustive list of professional specifications is below, and links to information will be added as REBOK develops:

- Asset management
- Cost engineering
- Reliability engineering
- Forensic engineering and science
- Accident phenomenology
- Accident analysis
- Human factors investigation
- Workplace Health and Safety investigation
- Victim pathology
- Simulation
- Security infrastructure
- Environment
- Sustainability
- Existential risk

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Business Continuity and protecting people

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Risk engineering: Best practice in a COVID-19 environment

by Chris Sheedy — March 24, 2020 in Leadership, Features 5 min read 0

There is a lot that engineering firms could be doing right now to better manage their people and business through COVID-19. create spoke with two experts who said it begins by sorting the 'critical' from the 'important'.

Technology & Innovation to deal with the risk

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The COVID-19 pandemic has created a community of engineers ready to help

by Charlotte Barkla — April 9, 2020 in Innovation 5 min read 0

From libraries offering virtual storytelling sessions, to martial arts centres delivering classes via Zoom, the unique challenges presented by the COVID-19 pandemic have sparked innovation across society, and the engineering community is no different.

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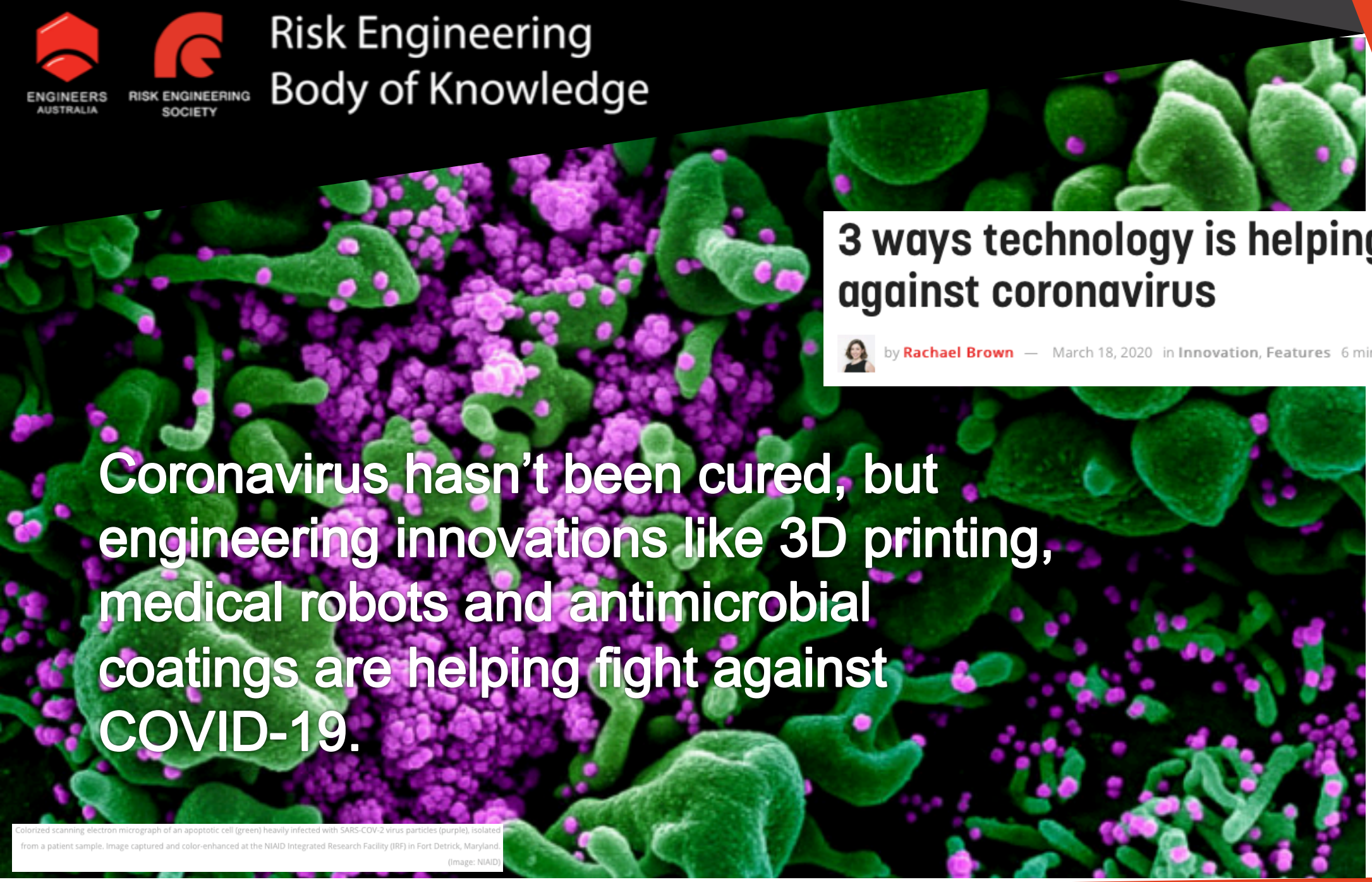
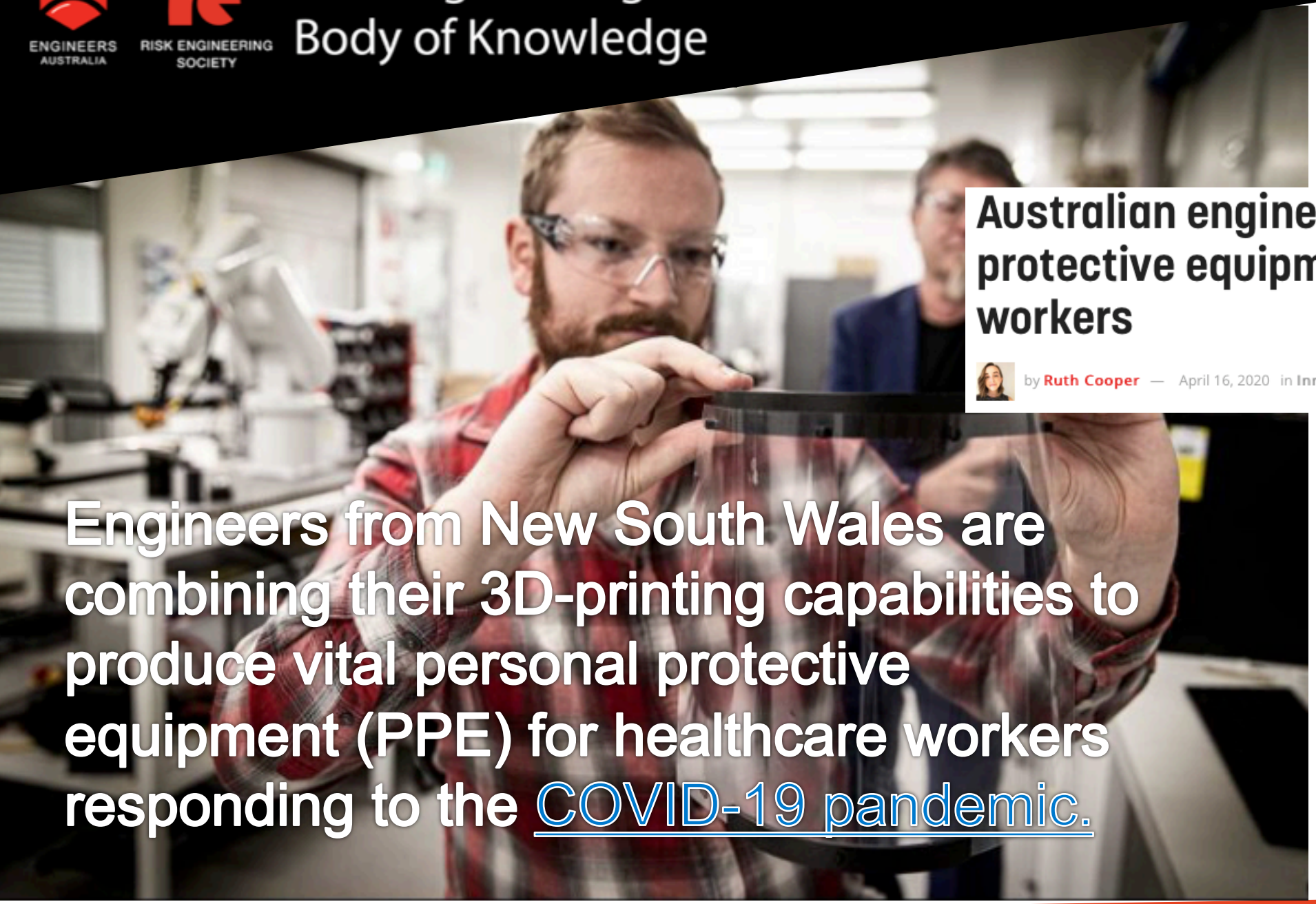


3 ways technology is helping the fight against coronavirus

by **Rachael Brown** — March 18, 2020 in **Innovation**, **Features** 6 min read 0

Coronavirus hasn't been cured, but engineering innovations like 3D printing, medical robots and antimicrobial coatings are helping fight against COVID-19.

Colorized scanning electron micrograph of an apoptotic cell (green) heavily infected with SARS-COV-2 virus particles (purple), isolated from a patient sample. Image captured and color-enhanced at the NIAID Integrated Research Facility (IRF) in Fort Detrick, Maryland. (Image: NIAID)



Australian engineers are 3D printing protective equipment for hospital workers

by Ruth Cooper — April 16, 2020 in Innovation, Features 3 min read 4

Engineers from New South Wales are combining their 3D-printing capabilities to produce vital personal protective equipment (PPE) for healthcare workers responding to the COVID-19 pandemic.

Ford Australia donates up to 100,000 medical face shields for COVID-19

Joshua Dowling
NATIONAL MOTORING EDITOR

4

Ford Australia's Kay Hart: "Producing face shields is certainly something new for us, but our innovation team and engineers were able to test a number of different designs in hospitals. With their input we have been able to get the face shield right for the people who will be wearing them."

Australian manufacturers (and motorsport engineers) join coronavirus relief efforts

by Charlotte Barkla — April 9, 2020 in Manufacturing 3 min read 1

A group of Australian engineering firms and manufacturing companies will work together to produce 2000 ventilators as part of Australia's COVID-19 response.

Economic risk

With a coronavirus-driven recession on the cards, infrastructure projects could help economies through

by **David Walker** — April 2, 2020 in **Infrastructure**, **Features** 6 min read 2

Governments around the world have seized on infrastructure as a tool to push their economies forward through a coronavirus-driven recession.

COVID-19: PM says Australia's construction industry will help keep the economy running

by **David Walker** — April 9, 2020 in **Infrastructure** 3 min read 0

Unlike many countries, Australia is keeping its construction industry going, framing it as a national economic priority.

COVID-19 Risk

Societal Risk

The Washington Post
Democracy Dies in Darkness

Why outbreaks like coronavirus spread exponentially, and how to "flatten the curve"

By Harry Stevens March 14, 2020

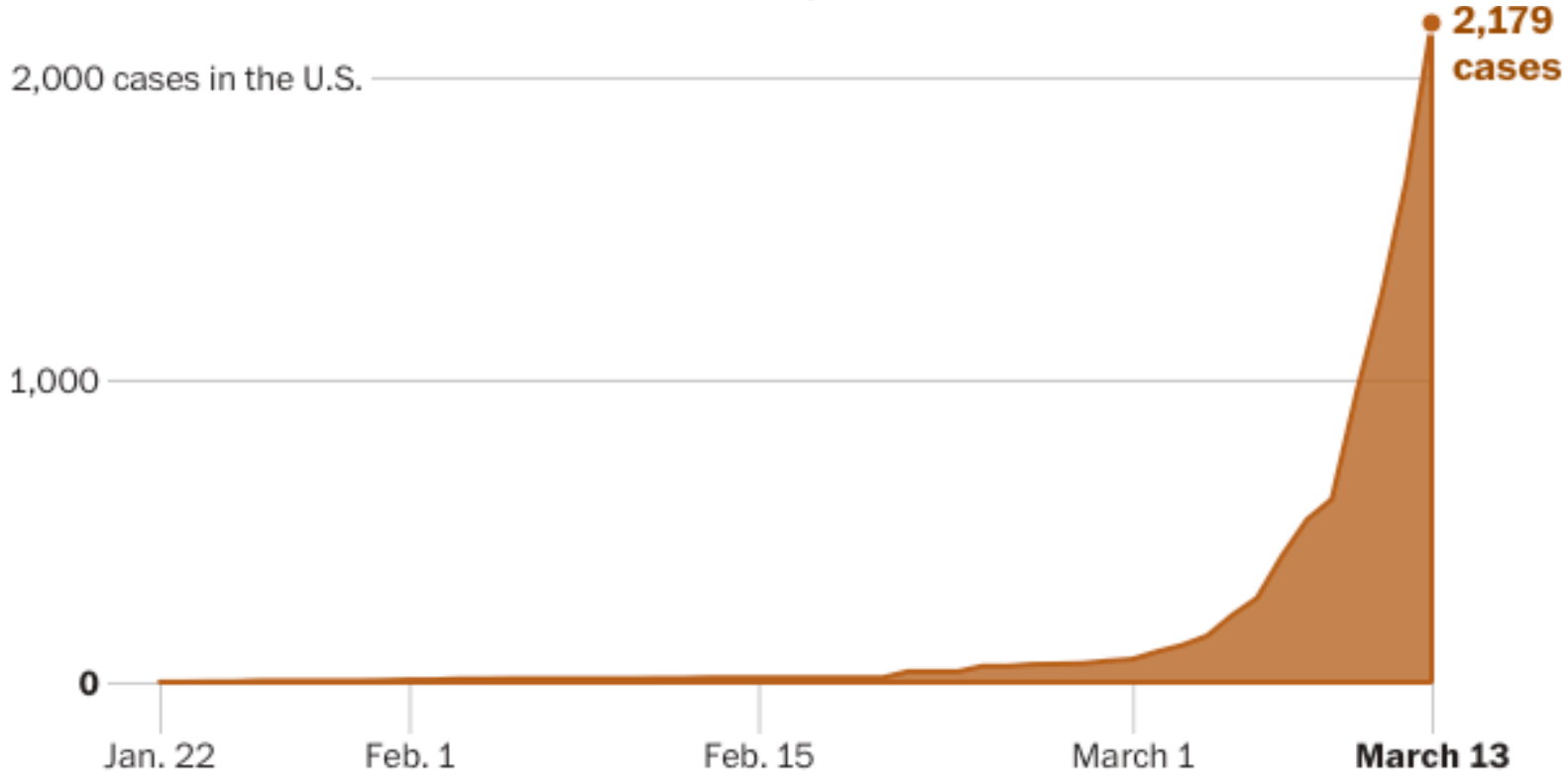
After the first case of covid-19, the disease caused by the new strain of coronavirus, was announced in the United States, reports of further infections trickled in slowly. Two months later, that trickle has turned into a steady current.

PLEASE NOTE

The Washington Post is providing this story for free so that all readers have access to this important information about the coronavirus. For more free stories, sign up for our daily Coronavirus Updates newsletter.

https://www.washingtonpost.com/graphics/2020/world/corona-simulator/?utm_campaign=wp_main&utm_medium=social&utm_source=twitter

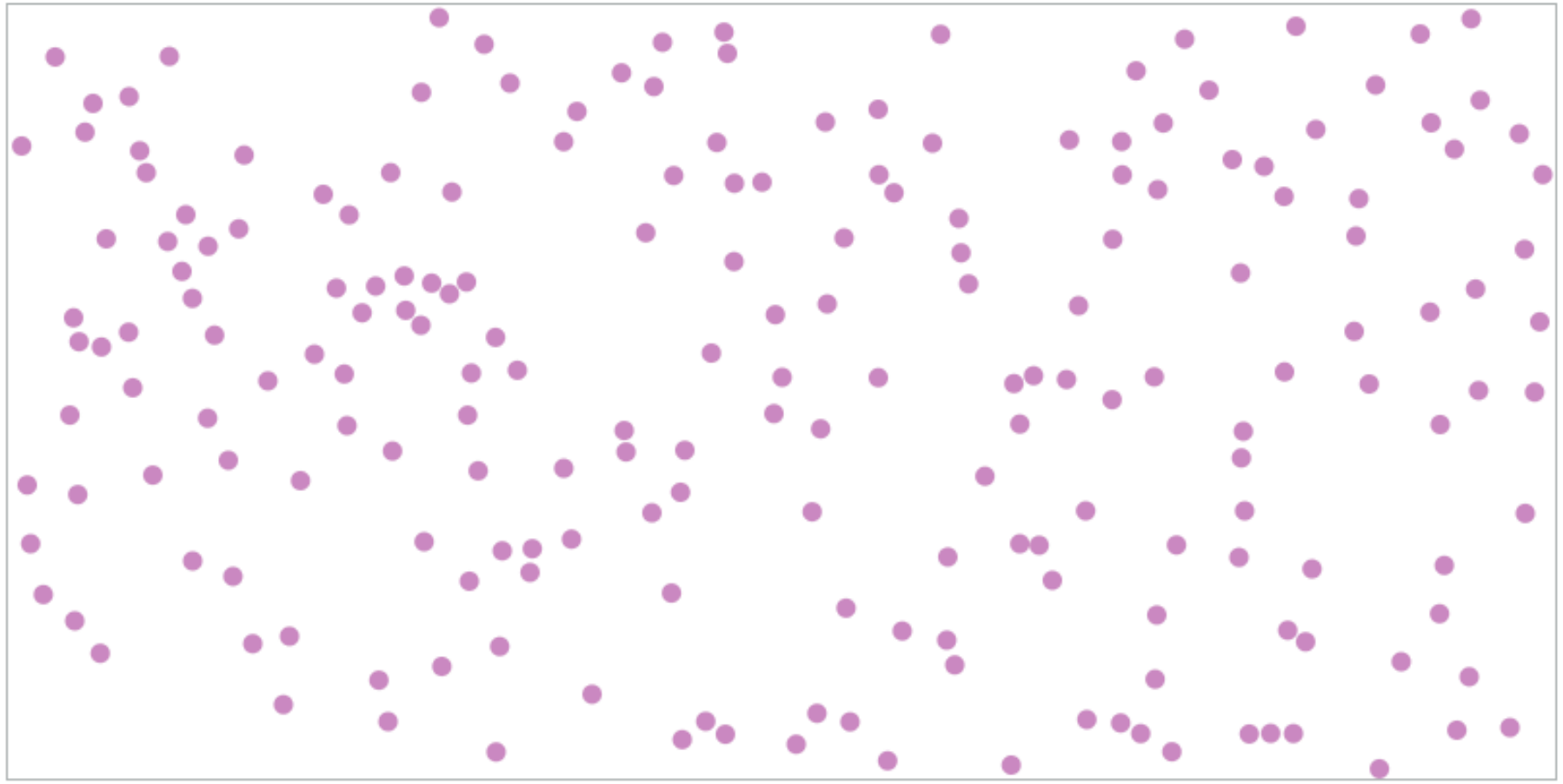
This so-called **exponential curve** has experts worried. If the number of cases were to continue to double every three days, there would be about a hundred million cases in the United States by May.



Count

Recovered	200
Healthy	0
Sick	0

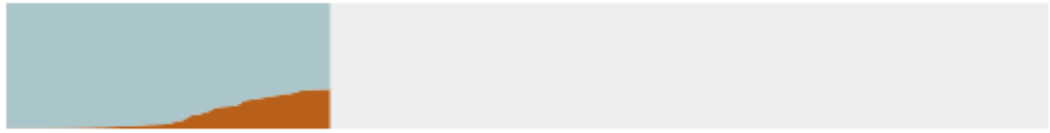
Change over time

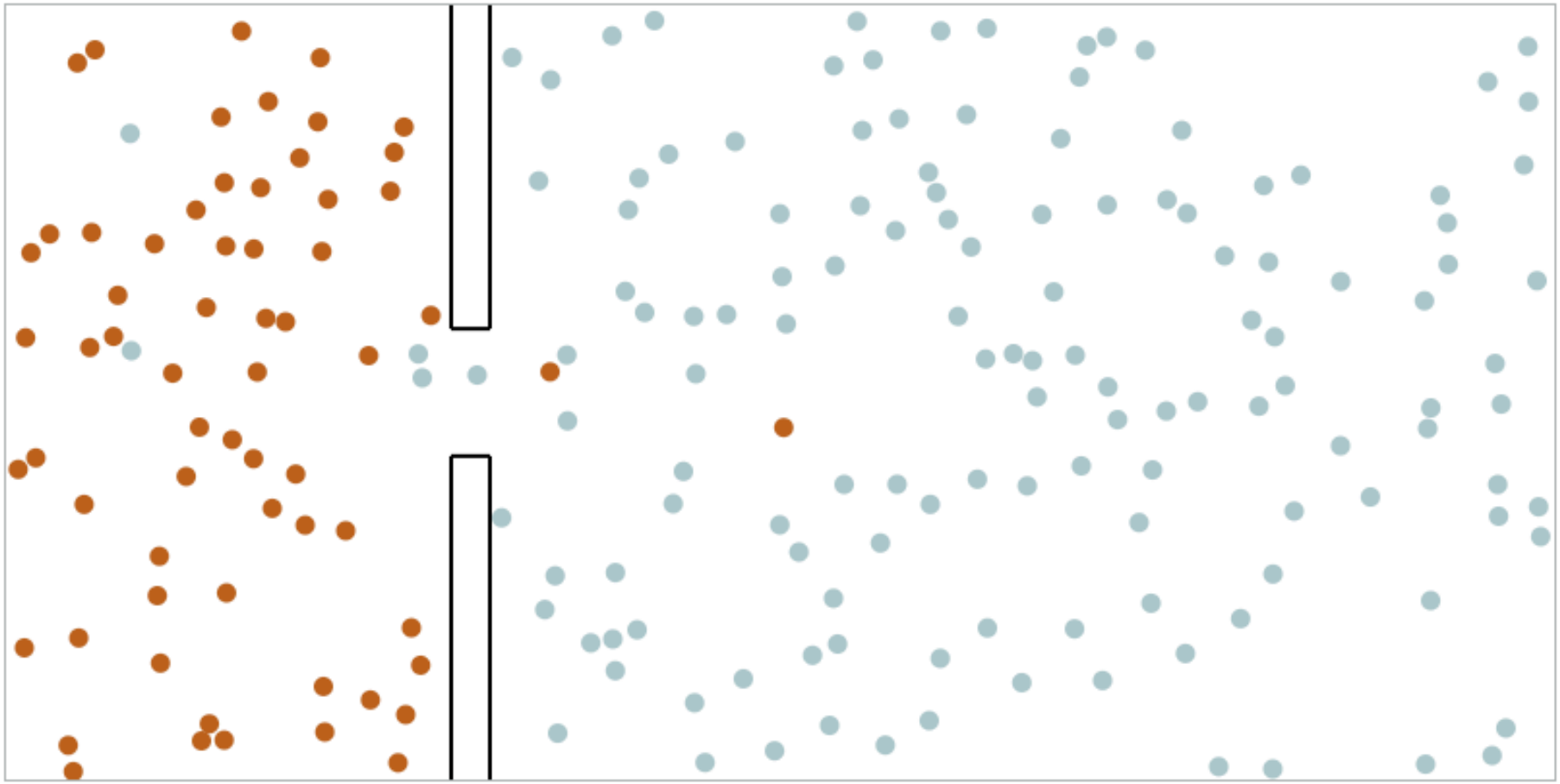


Forced Quarantine

Count	
Recovered	0
Healthy	137
Sick	63

Change over time

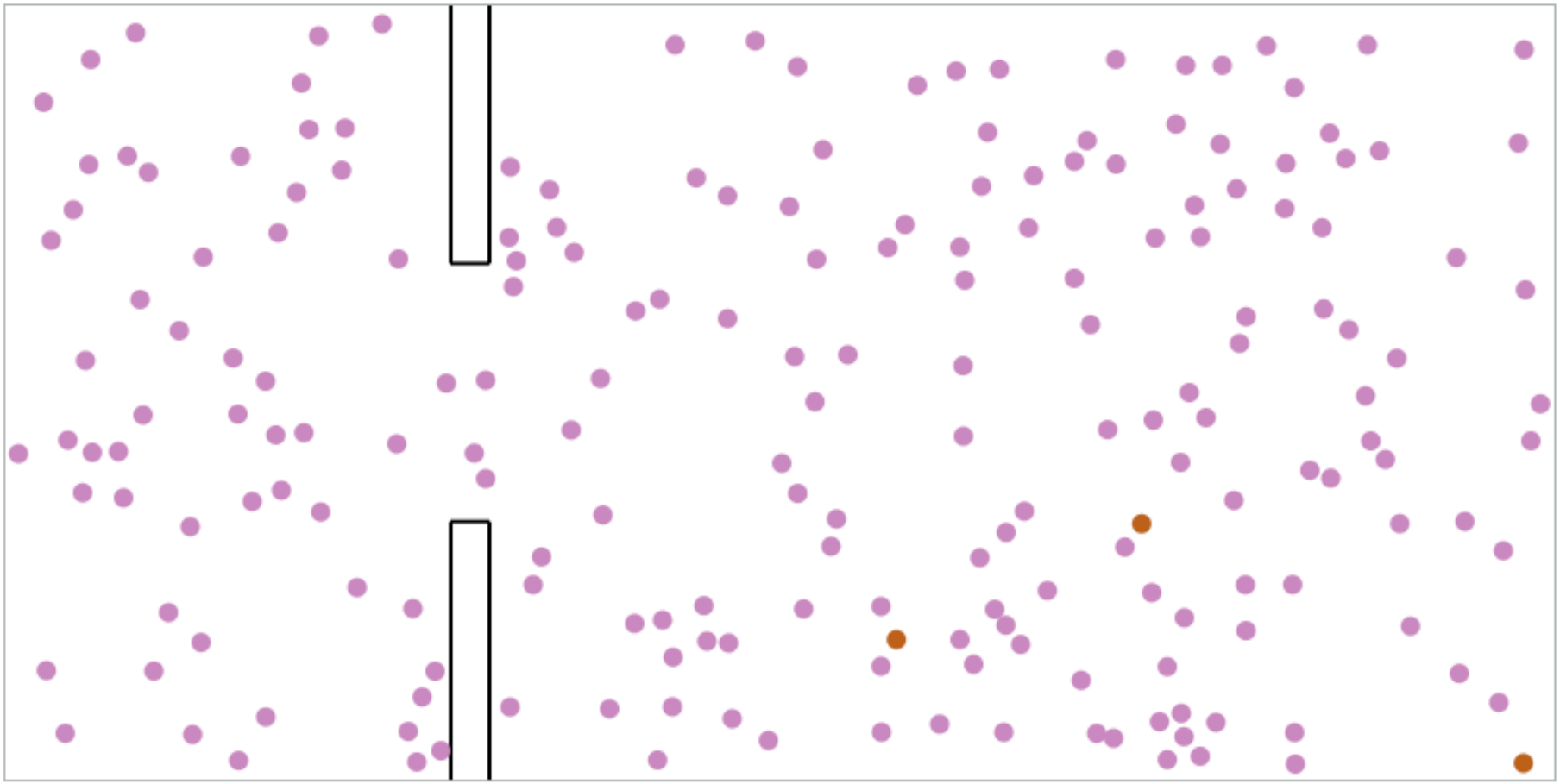




Forced Quarantine

Count	
Recovered	197
Healthy	0
Sick	3

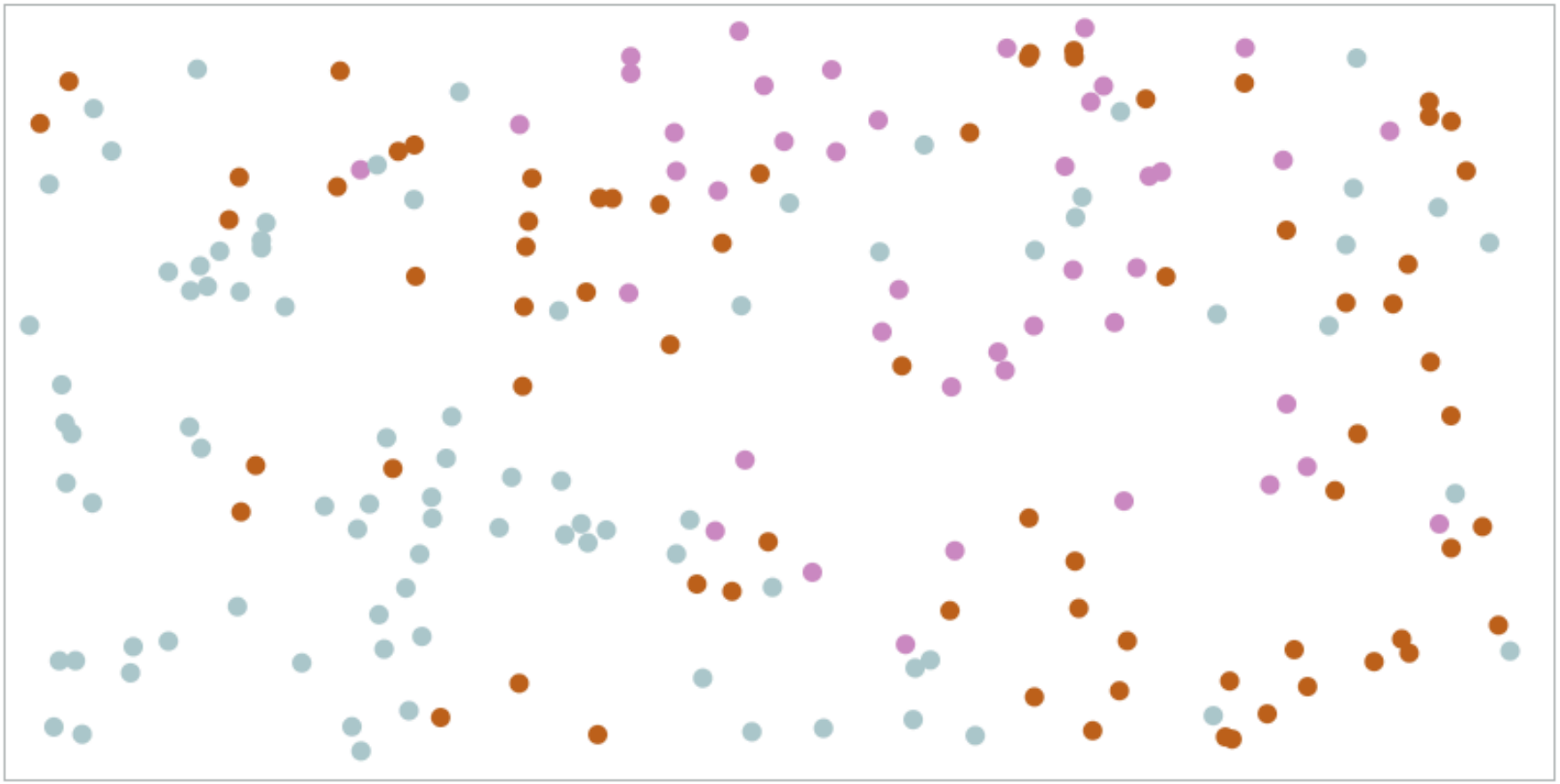
Change over time



75% Social Distancing

Count	
Recovered	43
Healthy	86
Sick	71

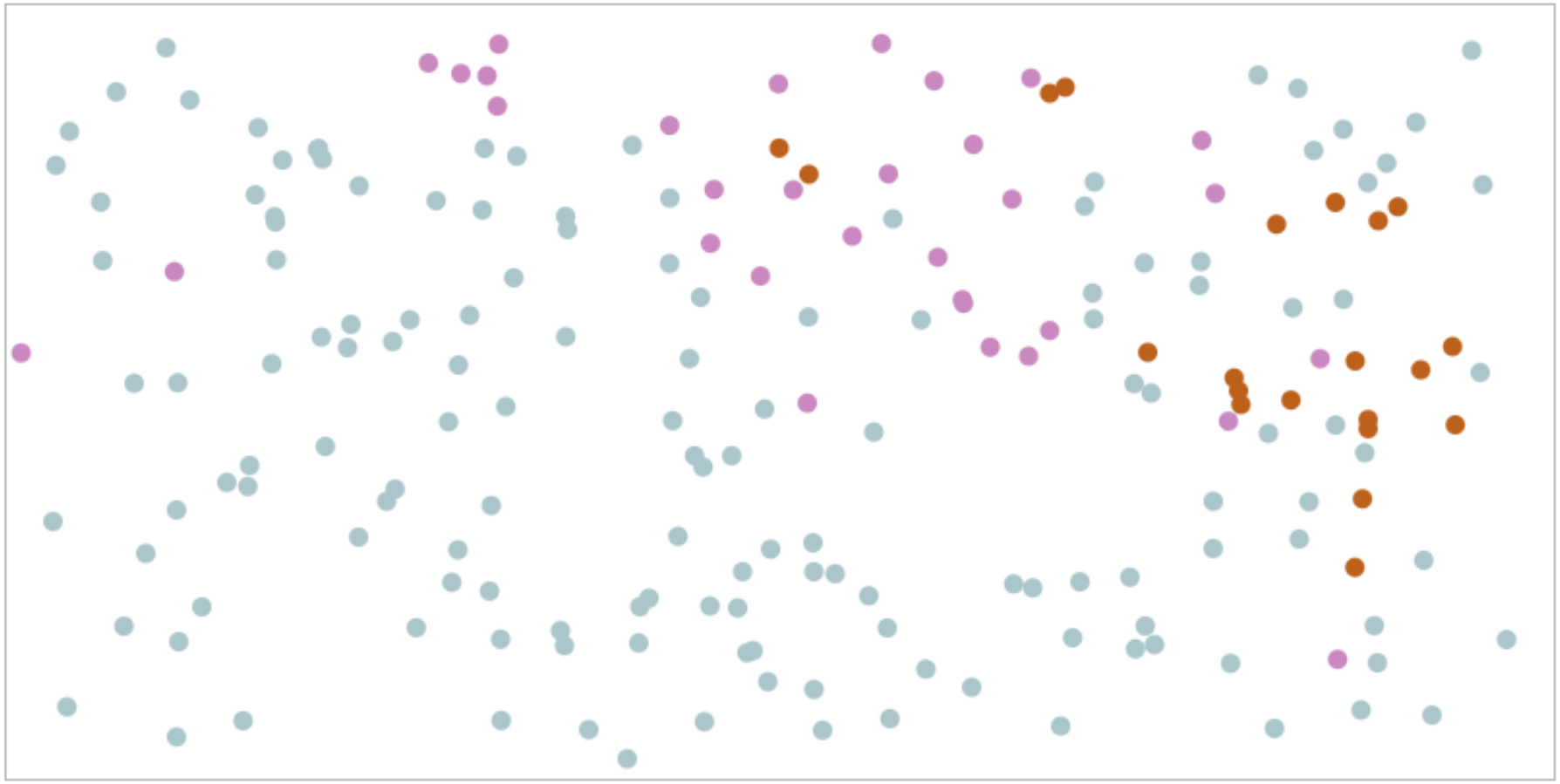
Change over time



.90% Social Distancing

Count	
Recovered	32
Healthy	146
Sick	22

Change over time



Individual Risk

Deaths per 100k population:

World	3
Australia	0.4
Italy	46
France	37
UK	39
USA	19

Deaths per 100k Reported Cases:

World	7000
Australia	1,500
Italy	14,000
France	14,400
UK	15,700
USA	5,800

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Thank you

Today's presenter:

Geoff Hurst – ghurst10@live.com

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