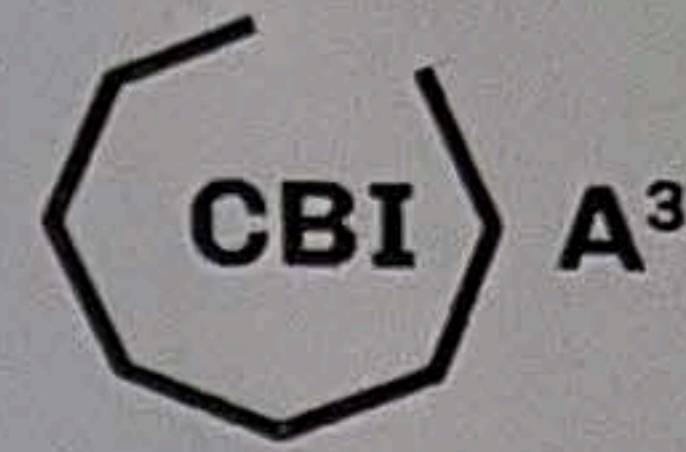


IDEA NAPKIN:

Name your idea here!

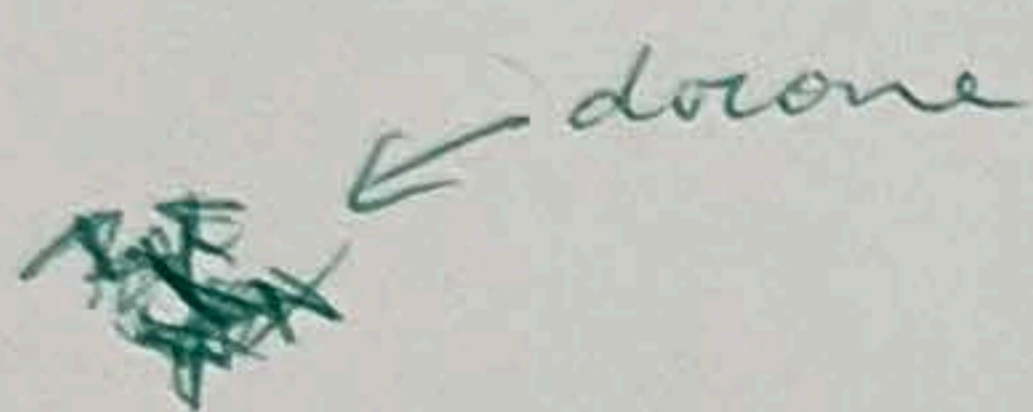
Hygger Fire Drone



Describe your idea in one sentence:

A drone uses Hygger tech (ATTRACT) and CERN'S flame detectors to detect and mitigate flames + embers at the beginning.

- Visualise your idea. Draw it, map it, diagram it. What are the different components or aspects of the idea?
- Show the idea in context. Sketch how your idea solves the defined issue/problem.



- Hygger tech: detection of gases, navigation

- Flame detector: matchsize flame @ 30m
embers/sparks @ 10m
detection of gases

• Stops before it starts

• Stops spreading
(over highways)

↓
fire retardant
spray to prot.
out embers/sparks

CHRIS:
- collect data on
what created the
fire, analyzes

How does the idea work in more detail? What issue does your idea solve?

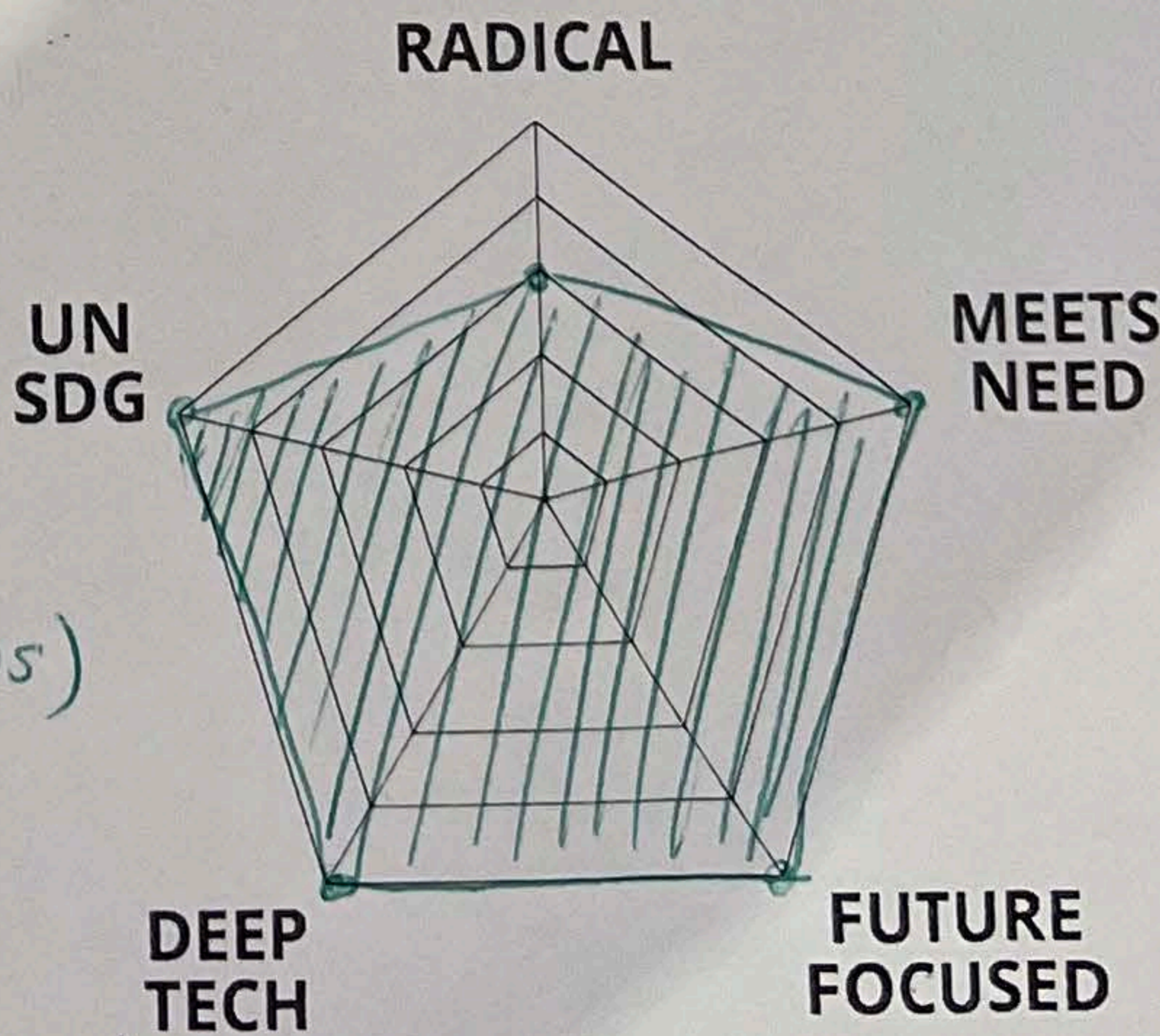
The drone paired with the tech allows for fires to be tracked and put out in small amounts, mitigating the risk of a fire growing or spreading.

What are the benefits to the user and other stakeholders?

- fire safety - firefighters can't be everywhere
- air quality
- mitigate water pollution

What is the point of difference?

- combination tech
- automated firefighting (for certain scenarios)

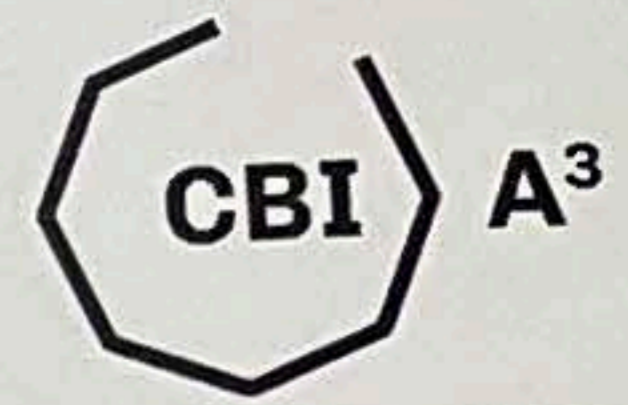


CREATORS: CTRL + Z

Who was the super awesome creator of this idea??!

IDEA TABLECLOTH

Name of your solution!
 CREATORS/PLANNERS: Ctrl + 2



WHAT

What is the solution?

Describe the project in enough detail for other to understand. What are the different components, elements, features?

It's a drone which navigates through forest fires and fire prone areas to detect ember attack or spot fires and extinguish them to prevent further spread. This is important in Australia where we have large scale bush fires which cause environmental and human health issues through air and water pollution.

It uses ATTRACT'S Hopper technology to navigate through different landscapes (bush, residential, industrial and smoke), and CERN's flame detector to detect embers, sparks, and flames at a distance, and triggers the extinguisher. Putting out ember attack and spot fires helps to prevent spread and large scale fires.

These technologies combined with a camera can help to capture data which can be analysed by climate scientists, meteorologists, and fire specialists for the prediction, prevention and planning of future fires.

By preventing large scale fires, we can ^{reduce} assist with the health risks for people and planet by reducing air and water pollution - a problem faced by many Aussies living in and around fire-prone areas.

Air we breathe + water we drink

WHO

Stakeholders & Users

Who is impacted?
 Who do we need to engage with?
 Who do we need to involve in the process?

People living in fire prone areas
 CFA + Government
 Infrastructure
 Data analysis
 Environment
 Hospitals/Health care
 Agriculture

WHY

Problem - Solution Fit

What is your SDG problem statement? Can you succinctly describe how your solution solves the societal problem

1. Natural disasters are polluting water sources + risking human health.
 2. Air quality can be the worst in the world during Australian bush fires and causes health issues.
- The drone helps to prevent large scale bush fires, reducing risk of air + water pollution.

Value to society

What is the value of your design solution to society? Why is your idea/solution valuable? What is the point of difference?

Although not directly linked to health, preventing large scale bush fires in Aus. will reduce risk of ^{long term} air + water pollution and therefore risk of short and long term health issues, mental health during fire season. It can safely put out embers/spot fires without risking firefighters lives as well as collect data to be analysed for future fire planning + prevention.

HOW

CERN or ATTRACT Technology

What CERN or ATTRACT technology are you using? How will this work? What areas do you need to investigate further?

CERN → flame detector to detect embers and put them out to prevent ember attack/spread + spot fires. Also uses to collect data on heat, smoke, etc.

ATTRACT → Hopper to navigate the environment, especially through smoke and assist with heat mapping. Assuming it's small and cost effective enough.

Resources & Materials

What other resources, materials or technologies do you need?

Drone tech → range, photography, heat resistance
 Hopper infrared to navigate

Does someone need to control it?

Flame detector

Mechanism to release fire retardant

Eco fire retardant

How to smooch tech together?

How small can it be?

How accurate is the extinguisher?

storage capacity
 → how much to use?

WHEN + WHERE

Transformative Innovation

Is this transformative innovation? Consider your 2030 horizon - how can you further your idea? What systems are you making obsolete? What undesirable side effects might occur?

Fire retardant can be harmful to environment long term (potentially) so we will look into alternatives.

Proactive solution to human health caused by water + air pollution. Could help limit other environment issues i.e. deforestation, fresh water access, warming, gas emission.

Not to replace fire fighters but to ease fire, stop rapid spread, help plan, predict, prevent future fires.

ASSUMPTIONS

The drones will be heat resistant
 Hopper will navigate through smoke.
 we need to protect the drone from heat

How might we mitigate water pollution from natural disasters?



CATCH BOX

VISITOR / VISITORS
31 Oct 2022 - 11 Nov 2022

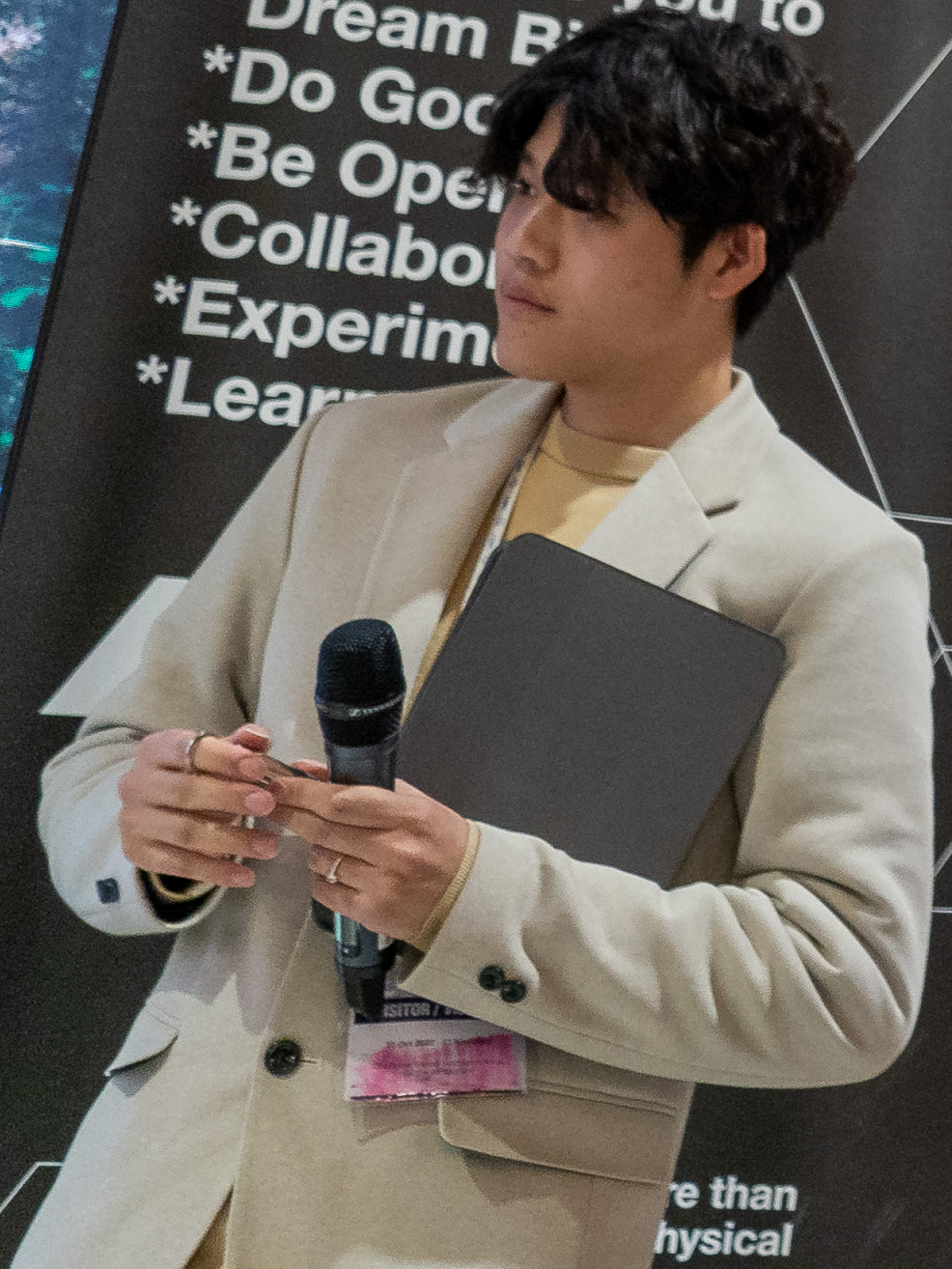
VISITOR

VISITOR / VISITORS
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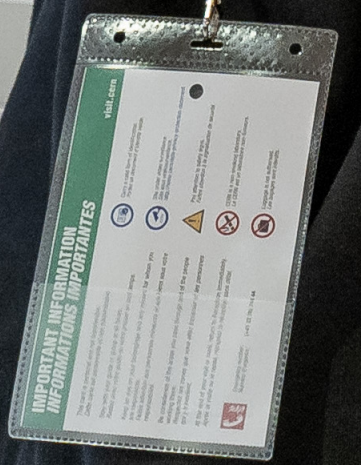


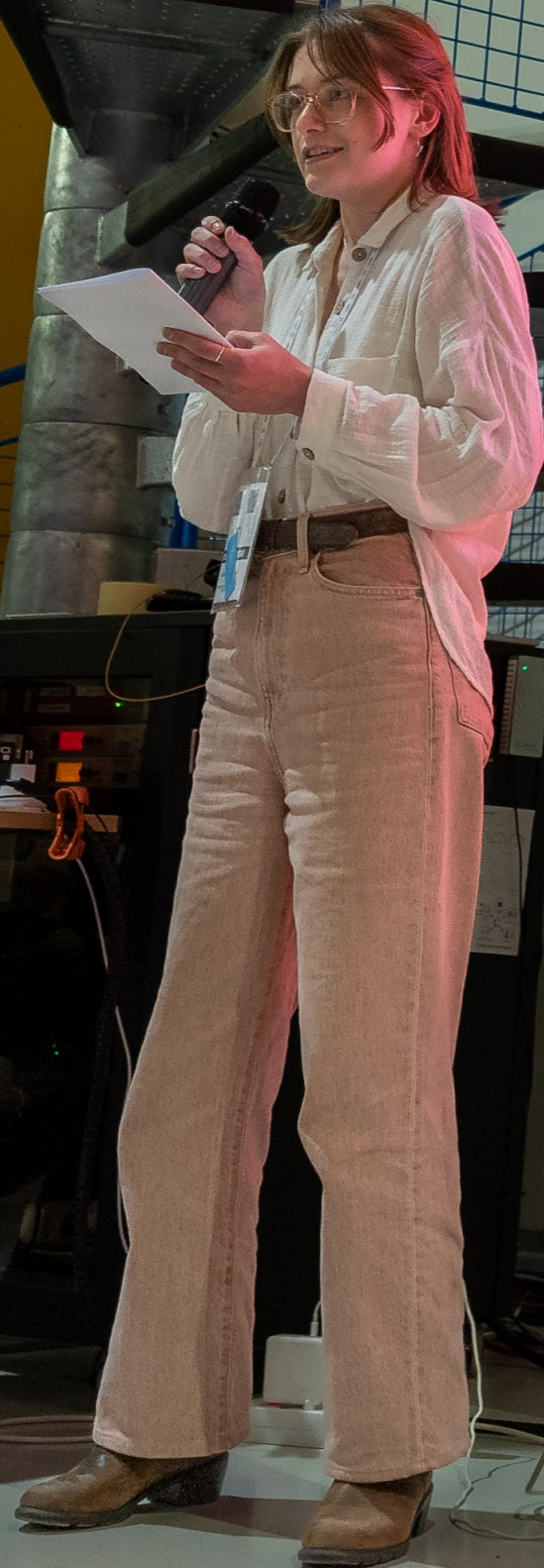
IdeaSquare
welcomes you to

- *Dream Big
- *Do Good
- *Be Open
- *Collaborate
- *Experiment
- *Learn



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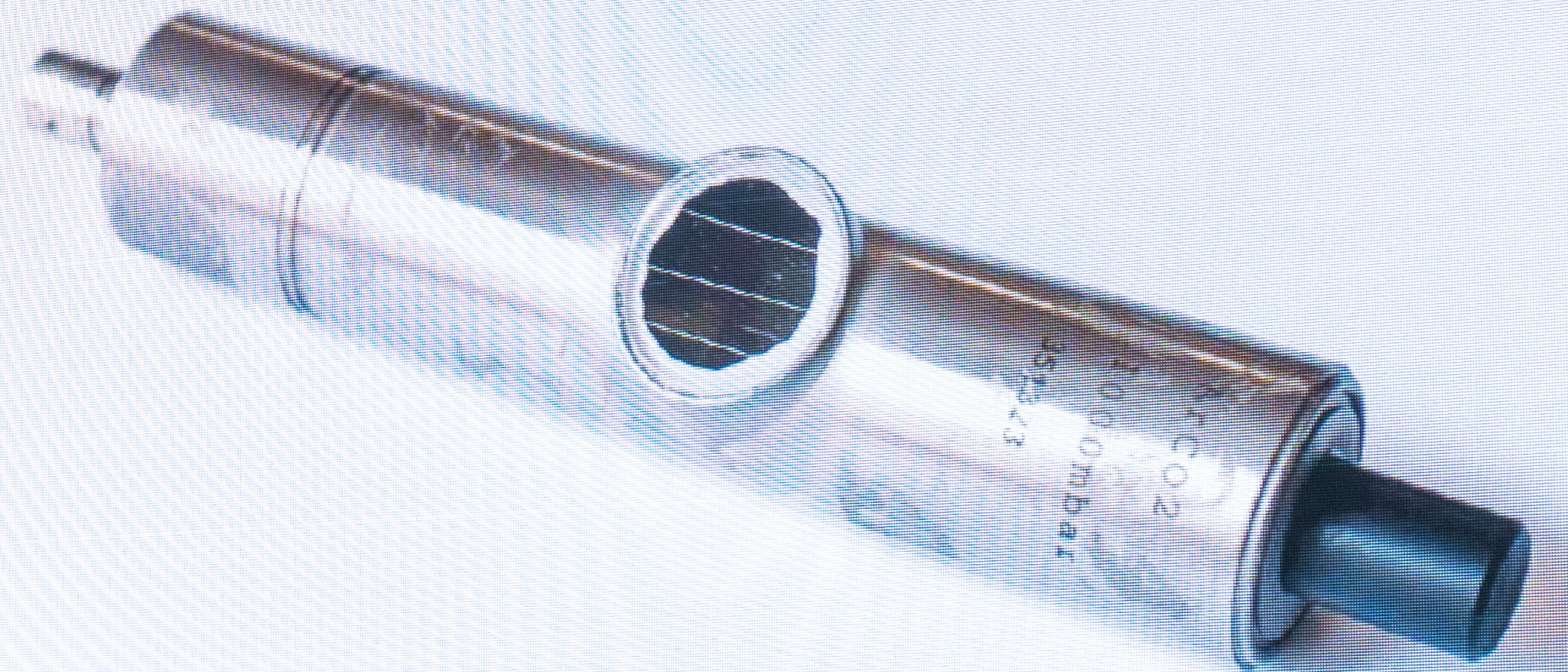
80 percent
Houses lost can be attributed to ember attack

450
Deaths from smoke inhalation

24 million
Hectares of land burnt during Black Summer



the scene



CERN Flame Detector



Concept

Sparky



Problem

Bushfire

have an enormous impact on both human and environmental health

80 percent

Houses lost can be attributed to ember attack

450

Deaths from smoke inhalation

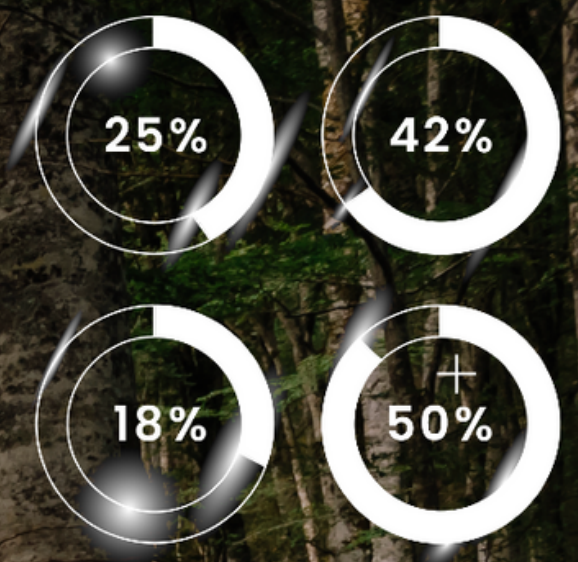
24 million

Hectares of land burnt during Black Summer





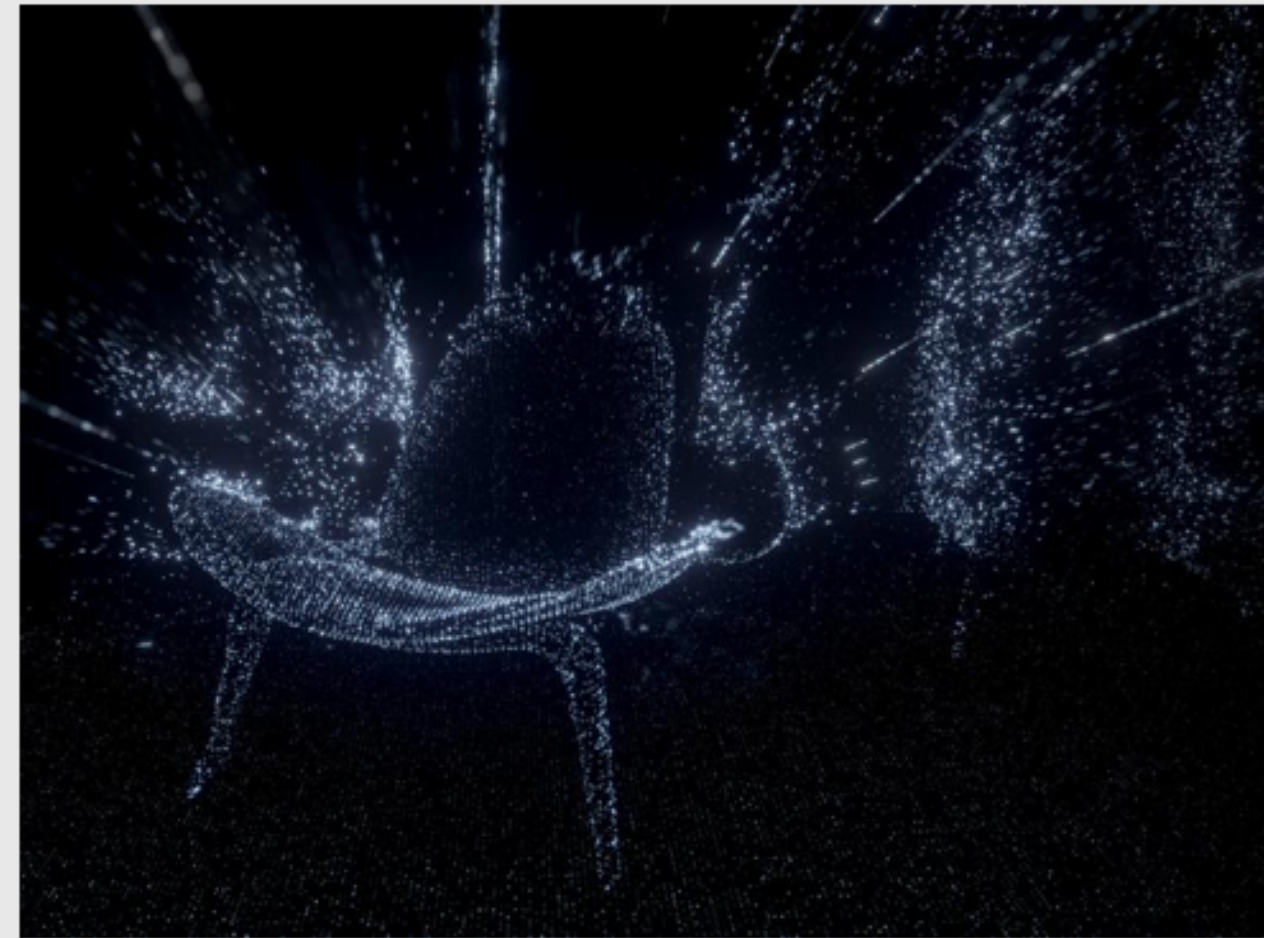
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Behind the Scenes



CERN Flame Detector



ATTRACT Hyger