

# FLAIM Trainer™

The world's first  
immersive  
technology  
enabled firefighter  
training solution



FLTR0820



Firefighters have limited opportunity for live fire training



There are limited structures  
There is limited capacity,

**\$M's** Dedicated live fire training grounds cost millions of dollars

**\$1k-5k** Typical cost of live fire training per firefighter per event



Resulting in firefighters getting less than one day training per annum<sup>1</sup>

<sup>1</sup> NFPA 2016 report: Fourth Needs Assessment of the U.S. Fire Service  
<https://www.nfpa.org/-/media/Files/News-and-Research/Fire-statistics-and-reports/Emergency-responders/Needs-Assessment/OSFourthNeedsAssessment.ashx>

# FLAIM Trainer

is a virtual immersive learning solution that delivers safe, cost effective experiential, tactical and risk awareness, firefighter training



## Risk to life & health

Eliminate live fire training fatalities<sup>1</sup>

Improve risk awareness for REAL fire call-outs<sup>2</sup>

Eliminate unnecessary exposure to carcinogens



## Economic

Increase your training capability with a lower cost:

**1 hour** of “live” fire training costs **\$1-5k** per firefighter

**1 hour** of FLAIM Trainer Trainer training costs **\$16<sup>3</sup>**



## Environmental

Reduces Carbon Emission

Prevent banned PFA discharge

Reduce water consumption

Eliminate run-off contamination

<sup>1</sup> 2020 NFPA(US) recorded 92 training related deaths between 2009-2018  
(<https://apps.usfa.fema.gov/firefighter-fatalities/fatalityData/incidentDataReport>)

<sup>2</sup> NFPA(US) reported less than 4% of call-outs (2017) are actual fires  
(<https://apps.usfa.fema.gov/firefighter-fatalities/fatalityData/incidentDataReport>)

<sup>3</sup> Based on FLAIM Trainer investment costs over 5-years inclusive of annual subscription with the assumption of a minimum of 5k hours of training delivered over total life



## HIGHWAY - MVA FIRE

### Description and objective

Highway - Motor Vehicle Accident/Fire  
Sedan, electric vehicle, fuel tanker.

### Situation

A three-vehicle accident (nose to tail).  
Fire spreads from sedan towards fuel  
tanker. Average speed fire spread

### Demonstrate

Correct site approach procedure  
Hose handling technique  
Correct smothering technique  
Word-back and situation reporting  
What to look for in a 360/size-up  
Difference in electric vehicle/gas/petrol  
car fire attack  
Prioritisation of attack

### Location

Road

### Describe

Appropriate extinguishing medium  
Additional resourcing requirements  
Expected time duration and reporting to  
command  
What to look for in a 360/size-up  
Difference in electric vehicle/gas/petrol car fire  
attack  
Risks posed by batteries, fuel cells, gas tanks,  
gas shocks and magnesium construction  
Prioritisation of attack

### Time

Day

# Expansive library of high fidelity virtual fire environments



FLAIM's development team incorporates proprietary virtual fire science physics in an increasing portfolio of virtual fire environments to create graphically rich, low latency, high fidelity simulations. FLAIM Trainer™ proprietary After Action Review (AAR) feature provides data on the firefighter trainee performance, monitors air consumption and enables live feedback on firefighting techniques



Residential



Rural



Tunnel



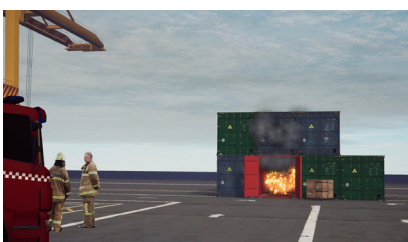
Airport



Highrise



Air Base



Docks

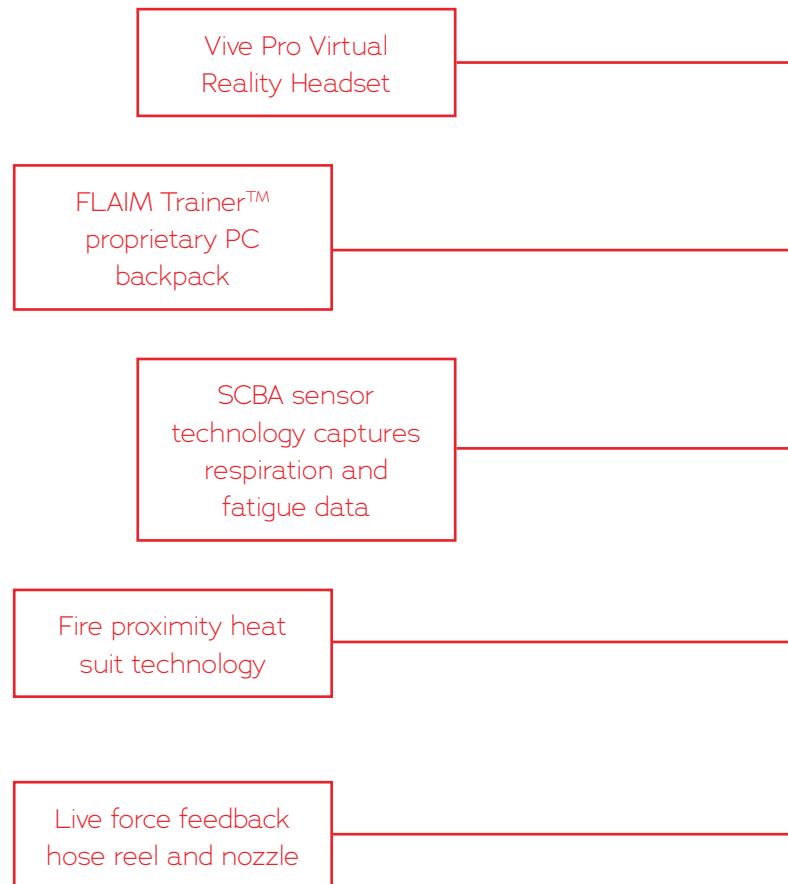


Mining



Navy

FLAIM Trainer™ combines high fidelity virtual fire environments with real time physical interfaces to deliver the **feels real** virtual training experience, any place, any time in a safe cost effective manner that safely prepares firefighters for the risks associated with fighting fires.



**FLAIM Trainer** enables the trainer to take the live fire training ground into the classroom

With a set-up time of less than 15 minutes training firefighters in risk awareness, hazard anticipation and fire suppression tactics is made simple by FLAIM's proprietary fully immersive learning approach



# What are the unique features of FLAIM Trainer?



## Immersive Simulation

Delivering a physical world training solution in a safe, controlled virtual environment



## Virtual Environments

High fidelity virtual experiences with a continuously expanding portfolio of scenarios



## Multi-Sensory

Integrated physical interfaces to deliver the **feels real** virtual training experience



## Fire Science

Proprietary algorithmic modelling delivers real fire behaviour in a virtual environment



## Biometric Performance

Statistical learning outcome analysis to generate data driven decision making



## Live Feedback

Real time data capture, analysis and training outcome feedback



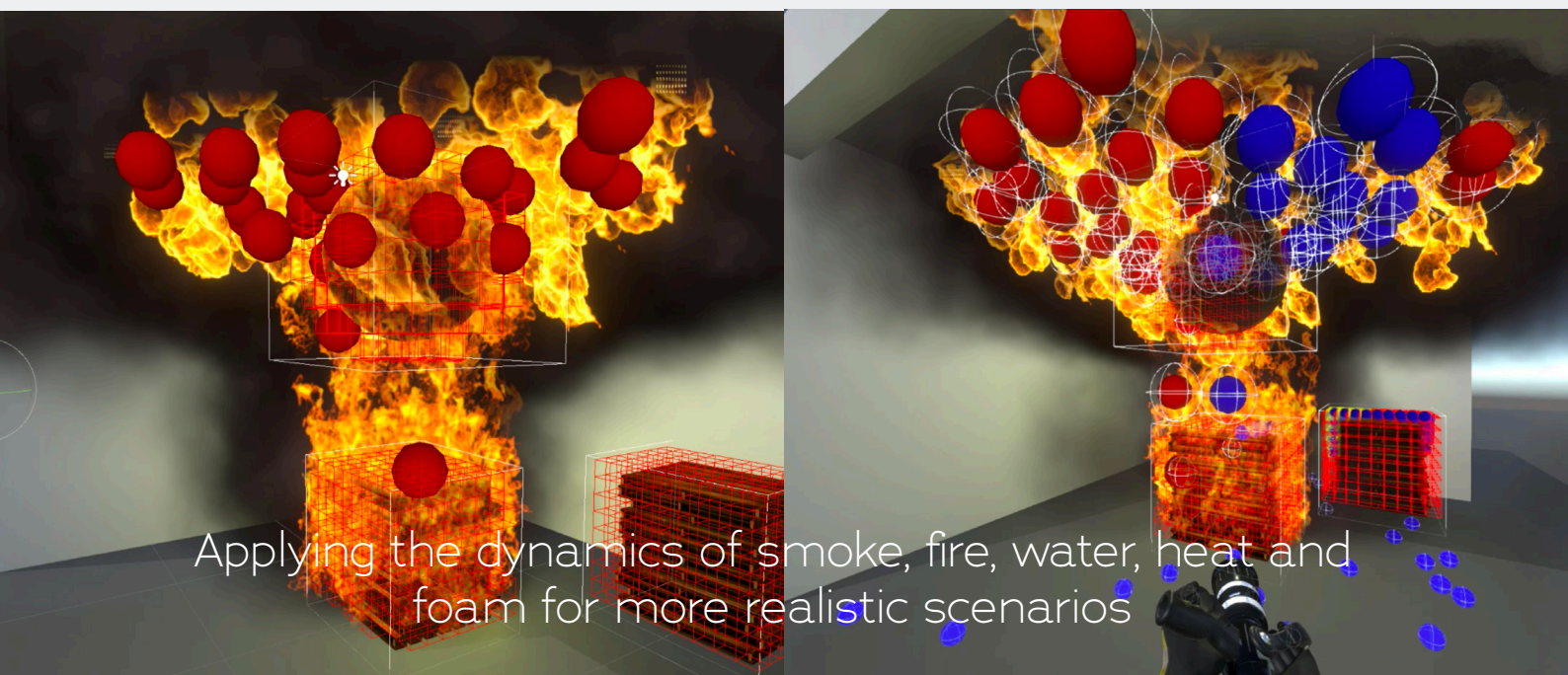
# The Science of Fire

## Algorithms that replicate fire and reaction

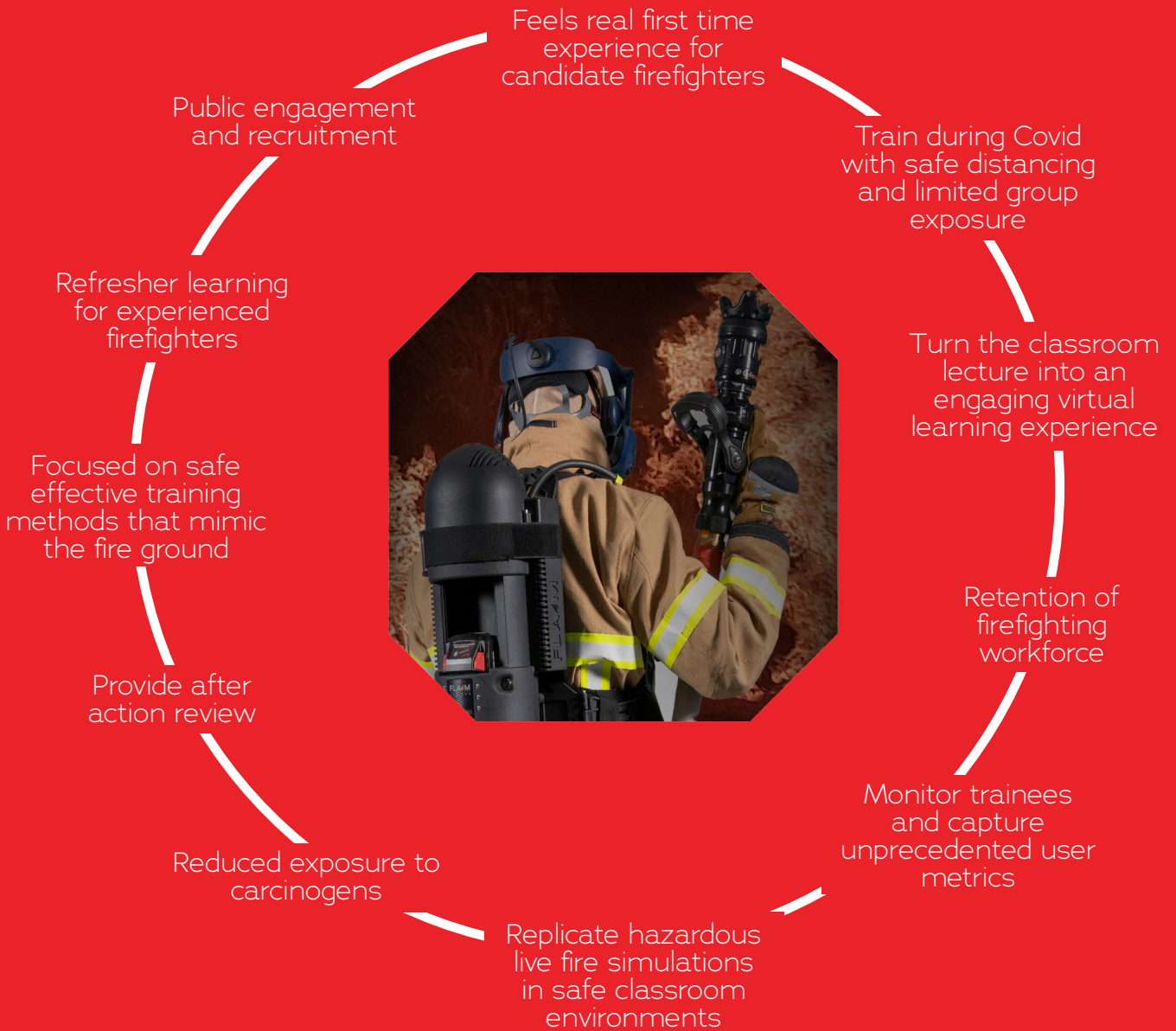
FLAIM's proprietary virtual fire behavior technology was developed by comprehensive modeling of the interaction and variability of fire, smoke, water, air with different combustibles in a virtual environment. This technology ensures that the virtual fire reacts, progresses and mimics real world live fires.

## Over a decade of experience modelling

FLAIM's research and development team leverages over 10 years of experienced third level and PhD researchers modeling real-time fire behavior in 3D virtual reality environments. FLAIM's VR software operates at high fidelity frame rates to eliminate motion sickness.



# How would you use FLAIM Trainer?





# FLAIM is used and trusted by

**Ian Dunbar**  
Head of Curriculum at UK Fire Service College

Flaim Trainer is fantastic for acquisition of skills and for people to learn various techniques. It's a very efficient way of training. The system is very quick, very safe, and you are reducing the burden on the organisation in terms of equipment resources and people. You are also reducing the incidents of exposure of people to carcinogens and hazardous and toxic gases.



# Why use FLAIM?

FLAIM intersects technology and science to create real world immersive learning solutions, in safe virtual environments, for training in hazardous and emergency situations

## Our purpose

FLAIM's purpose is to prepare those who serve for their everyday challenges so that they stay safe while saving and defending others

## What we do

We develop technology based learning solutions that solve real world training and operational challenges

## How we do it

**Solutions** We create immersive, multi-sensory training solutions that deliver valuable learning outcomes to enhance cognitive responses that increase risk awareness

**Agility** We listen and work with our community to improve and co-create learning solutions that improve the knowledge, skills and risk awareness of your first responders

**Value** We continuously improve the value of our solutions by working with our customers and partners to create safe effective training environments for first responders

**Educate** We lead with a culture of continual learning, dedicated to improving our collective knowledge through research and experiential development. We are always listening and always sharing

# SkillsTrain

## DISTRIBUTION

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## FLAIM

### **FLAIM's Intellectual Property**

FLAIM Systems intellectual property protection extends to patents, trademarks, copyright VR content and proprietary software. Proprietary software includes hardware abstraction layer system software, breathing apparatus data capture, virtual fire, smoke and water behaviour and heat suit proximity tracking.

The FLAIM Trainer System is patent protected under the World Intellectual Property Organisation (WIPO) WO2016/131110 A1

FLAIM Trainer™ is a registered trademark of FLAIM Systems Pty Ltd

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