



Inergen[®]
- secure your business
continuity

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Millions of websites offline after fire at French cloud services firm

By Mathieu Rosemain, Raphael Satter

3 MIN READ



PARIS (Reuters) - A fire at a French cloud services firm has disrupted millions of websites, knocking out government agencies' portals, banks, shops, news websites and taking out a chunk of the .FR web space, according to internet monitors.

None of us want such an experience. How to avoid it?



Agenda

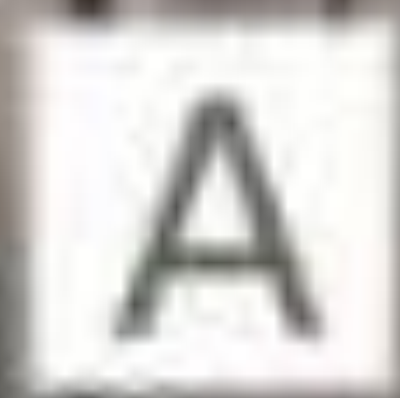


- Inergen - the clean agent fire suppression system.
- How Inergen works and why Inergen is 100 % safe for people.
- How Inergen will help secure your business continuity.

Short about

me...

al, safe workplace, as well as
corporate governance with Inergen.



A



B



C



For future merged systems, a better technology
for Class A, B and C may

Who is Fire Eater...



Highlights about us...

- International company from 1974 located in Hillerød, Denmark.
- 100 % dedicated to fire protection solutions with Inergen.
- We are known for our quality, innovation, safety, sustainable approach and our high level of service.



No fire, No danger, No damage

Secure your business continuity



How to ensure that your choice of fire extinguisher meets the UN's sustainability goals, both before and after a fire?



The cover of the report "Research Roadmap: Environmental Impact of Fires in the Built Environment". The background is a photograph of a large building on fire at night, with bright orange flames and thick black smoke. In the top left corner, there are two logos: the NFPA logo and the Research Foundation logo. The text "RESEARCH FOUNDATION" is in large white letters, with "RESEARCH FOR THE NFPA MISSION" below it. In the bottom right corner, there is a white box with the date "February 2020". The title "Research Roadmap: Environmental Impact of Fires in the Built Environment" is written in large, bold, black letters across the bottom. Below the title, it says "Final Report by:" followed by the authors' names: "Margaret McNamee*, Guy Marlair**, Benjamin Truchot**, and Brian Meacham†". At the bottom, there are footnotes: "*Division of Fire Safety Engineering, Lund University, Lund, Sweden", "**INERIS, Verneuil-en-Halatte, France", and "†Meacham Associates, Shrewsbury, MA, USA".



RESEARCH FOUNDATION
RESEARCH FOR THE NFPA MISSION

February 2020

Research Roadmap: Environmental Impact of Fires in the Built Environment

Final Report by:

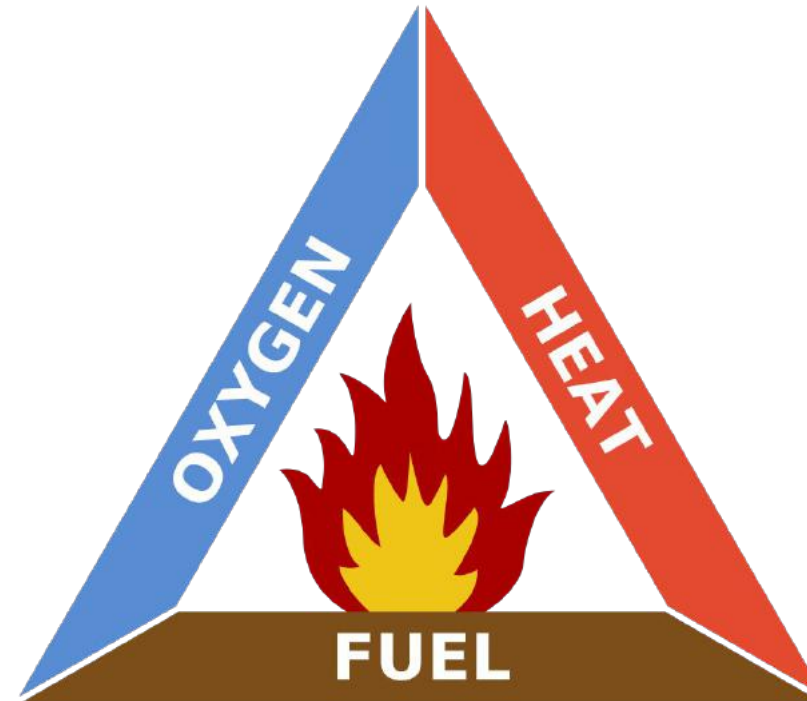
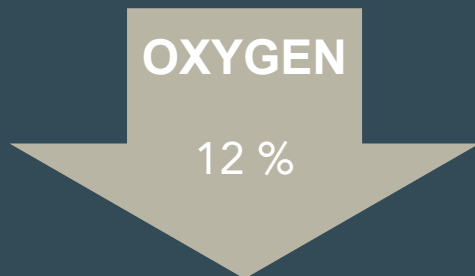
Margaret McNamee*, Guy Marlair**, Benjamin Truchot**, and Brian Meacham†

*Division of Fire Safety Engineering, Lund University, Lund, Sweden

**INERIS, Verneuil-en-Halatte, France

†Meacham Associates, Shrewsbury, MA, USA

How Inergen works and why Inergen is 100 % safe for people.



Inergen extinguishes a fire by blending a mixture of natural gases into the room, thus lowering the oxygen level from 20.9 % to approx. 12 % that suffocates the fire with a good safety margin.

Extinguishing with Inergen

Benefits of Inergen:

- Can effectively extinguish even "hidden" fires.
- No consequential damages.
- In the event that persons remain in the room during extinguishing, they will suffer no harm due to the Inergen discharge.



What is Inergen?

Ordinary atmospheric air

Inergen is a mixture of natural gases which has no harmful effect on the environment or humans.

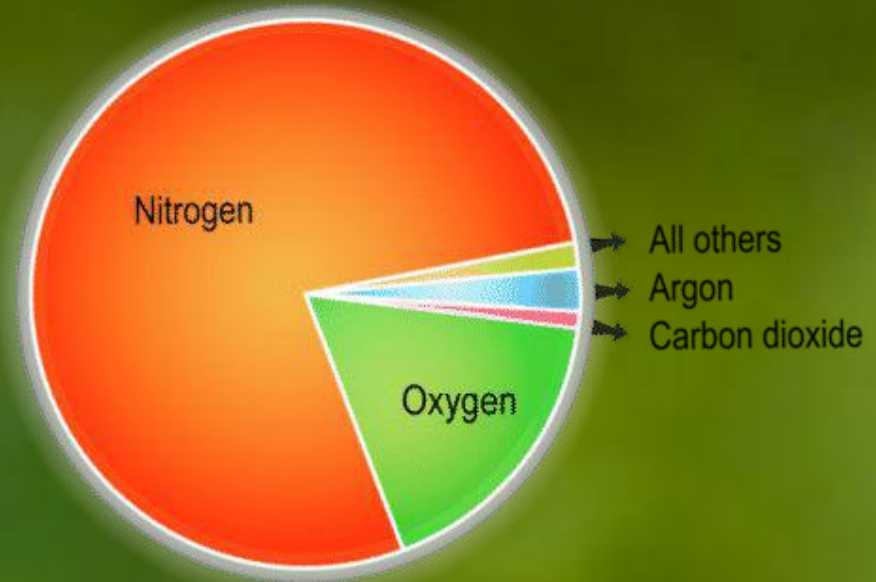
Inergen is a mixture of natural gases which has no harmful effect on the environment or humans.

Ordinary atmospheric air:

- 78.1 % Nitrogen
- 20,9 % Oxygen
- 0,9 % Argon
- 0,037 % CO₂

Inergen:

- 52 % Nitrogen
- 40 % Argon
- 8 % CO₂



How Inergen works and why Inergen is safe for people.



What personal safety is not...

- The international standards (e.g., NFPA2001, EN15004) do not address the personal safety reflecting the effect of the individual agents in realistic real-life scenarios.
- What requirements should one set for personal safety?
 - One should be able to breathe in an extinguishing concentration without being harmed in the short or long term.
 - The gas, together with heat, must not produce thermal decomposition products.
 - Give the employees peace of mind by experiencing full-scale tests! It should be mandatory.
 - Installing an agent that can be full-scale tested, will provide certainty that every aspect can be documented and that the

Inergen and respiration

How Inergen works...

- Inergen extinguishes a fire by lowering the oxygen concentration from 21 % to approx. 12 %.
- At the same time, the critical body organs (Brain, heart) need the correct oxygen supply.
- Inergen has a small content of CO₂, which secures that the Oxygen supply to the critical organs, is not decreased when the inspired Oxygen is reduced from 21 % to 10-14 %.



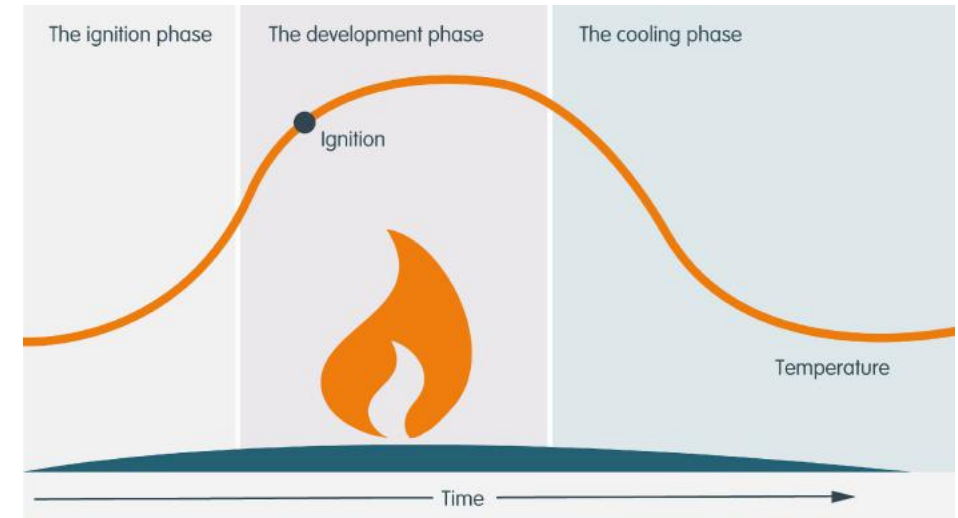
exercise and respiration

Early extinguishing efforts are crucial



Early intervention is essential...

- An Inergen system is activated by smoke particles in the air.
- Early detection is of critical importance to both life safety and prevention of damages to equipment.
- Early detection in combination with an efficient and clean extinguishing system will secure business continuity.



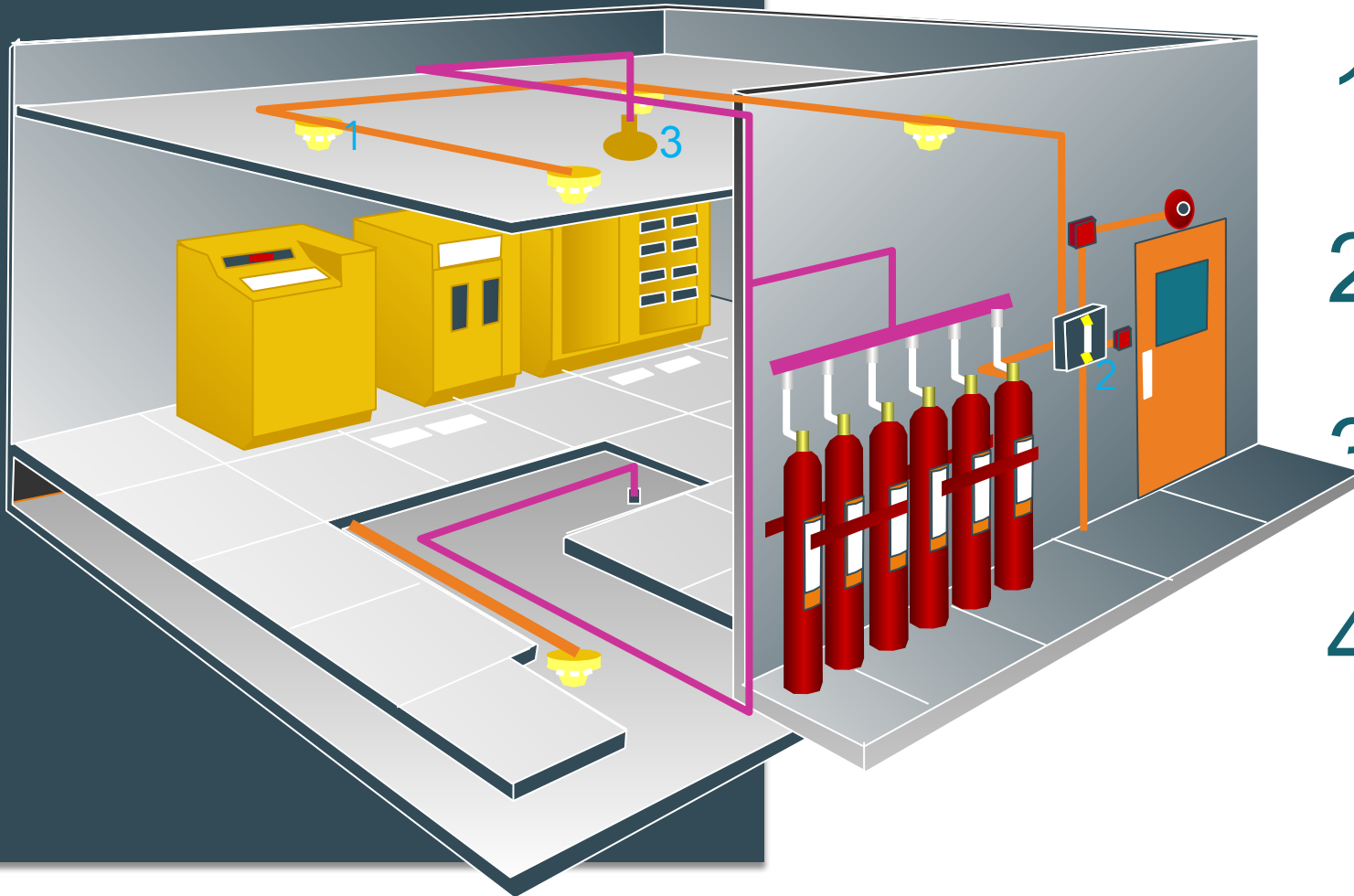
”Extended Discharge”



- If there is a requirement for a long holding time, and/or elimination of residual risk due to system errors (e.g. doors not closing correctly) extended discharge can be used.
- Fire Eater has developed ContinuOxy, whereby compensation for leakage can be made without running the risk of too low Oxygen concentration.
- The extended discharge blends Inergen with compressed air and secures that the Oxygen will never fall under the specified threshold (e.g. 11 % Oxygen).

Innovation

Inergen system



1. Detector
2. Control panel
3. Nozzle
4. Inergen pressure bottles

ESG is in our DNA



3 GOOD HEALTH
AND WELL-BEING



6 CLEAN WATER
AND SANITATION



13 CLIMATE
ACTION



14 LIFE
BELOW WATER



15 LIFE
ON LAND



Total safety for your data center

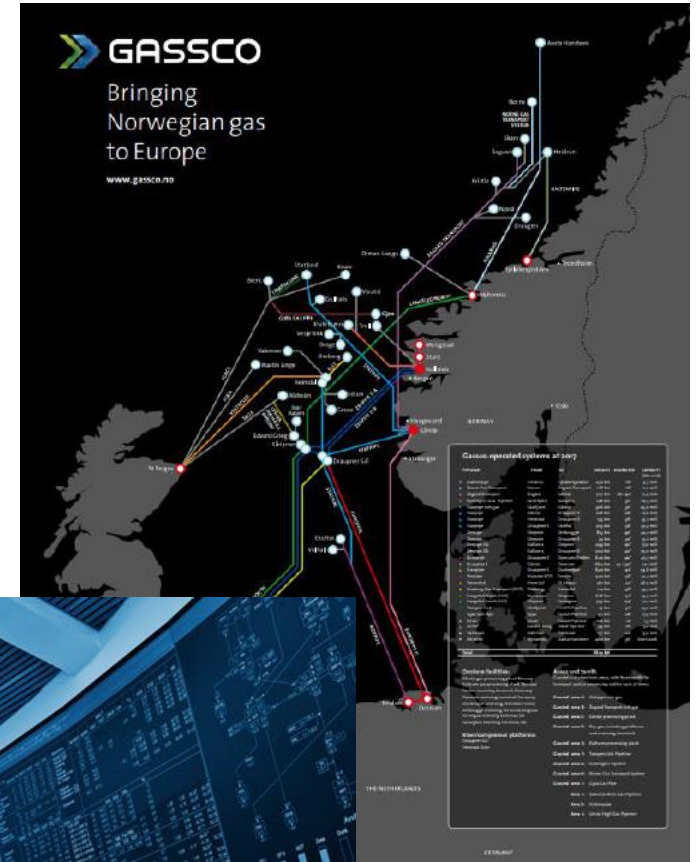


- Fire Eater invented Inergen and introduced the first Inergen systems to the market in 1989.
- We focus on Inergen and include important system features in every system, which are unique to Fire Eater:
 - Every valve can be 100 % tested for functionality and documented during periodical service/maintenance inspections.
 - We supply nozzle silencers to control noise during discharge. Our latest development is keeping noise as low as 85dB-A.
 - Local zone valves minimizing the amount of pipework.
 - ContinuOxy reducing residual risk. Sil-2 or SIL-3 compliance is possible.
 - Pressure switch monitoring of each cylinder.

Innovation



Gassco - protecting with Inergen...





Ksatt i Svalbard



Troll

Questions

