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## **Witness of a Major Hazard Accident and the power of learning**

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### **ABSTRACT**

*Nearly 25 years ago, on the 21st of September 2021, I witnessed the explosion of a Major Hazard Facility processing and storing ammonium nitrate, AZF (Azote Fertilisant), in the South-West of France, on the 21st of Sept 2021. About 300 Tons of ammonium nitrate detonated that day, this event had dramatic consequences for people and the environment of city of Toulouse: 31 fatalities on site and off site that day, thousands of people injured and traumatised. I was one of them, as a young chemical engineering student I experienced the blast, the fear, the panic, as university buildings started collapsing around me. This was not the first time nor was it the last time that ammonium nitrate would denote costing many lives. The world is facing unprecedented challenges with the growing need for industries to tackle energy transition towards a lower carbon future. It is a critical time for our industries to share and remember the learnings from major hazard accidents, and to apply the fundamentals to new emerging technologies. What is preventing us from learning from past events? How can we tackle the energy transition safely if we fail to learn from our past mistakes? This presentation will cover my story as a witness of the AZF explosion, and its learnings. It will also explore the barriers to learning from process safety events and what is required to overcome them to create a sustainable learning culture across boundaries based on practical applications in the energy industry.*

### **KEY WORDS**

*Process safety, process safety events, process safety incidents, technical failures, major hazard facility, major accident events, learning culture, collaboration, energy operations, energy transition, new technologies, sharing learnings, major hazard accidents.*

### **BIOGRAPHY**

Laurence Ledrut is Head of Process Safety at Origin Energy. She has two Masters of Engineering, in Safety and Environmental Risk Prevention, and Engineering Sciences (Chemical). She is a Fellow Engineer and Chartered Professional Engineer with Engineers Australia, Registered Professional Engineer QLD, Functional Safety Engineer (TUV certified), Associate Member of IChemE and Justice of the Peace (Qual). She specializes in Process Engineering and Process Safety Engineering with 19 years of experience, covering the lifecycle of assets, across Europe and Pacific. She is passionate about building an open learning culture and collaboration, to prevent future major hazard accidents.

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