

# FATAL ENGINEERING

6x60'

**BIG**  
MEDIA

# OVERVIEW

“Delve into the gripping real-life stories behind engineering disasters that shook the world, innovative CGI allows us to investigate the intersection between science, engineering and human error.”

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In Fatal Engineering each episode meticulously unravels the intricate details of high-profile accidents, from structural collapses to technological failures. Along the way, we explore the human errors, design flaws, and unforeseen circumstances that created a chain of events that led to tragic outcomes. Using archival footage to set the scene and introduce our subject we will then introduce cutting-edge 3D animation and CGI to get inside the disaster and identify what went wrong, how and when.

# OVERVIEW (CONT.)

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We will investigate the science behind each disaster, analyzing the design blueprints, and dissecting the engineering to reveal the pivotal point that led to these fatal accidents. What could have been prevented or was disaster inevitable? Each subject will present lessons to be learned and mistakes that can be prevented as we investigate each of these disasters, the impacts of which still reverberate today. With the help of selected experts, Fatal Engineering will make the technical, accessible. We will clear the debris and lay bare the truth of these fatal incidents. Why did this happen? What lessons did we learn? And how can we stop it ever happening again.



# EPISODE STRUCTURE

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We will begin each episode with a brief introduction to the general topic area (BUILDINGS) we briefly introduce how disasters occur in this category (Collapses, Fire etc..) and briefly introduce the three recent events that give the most complete view. We will then see each disaster (where possible) and/or the before and aftermath. This will place the event in the audience's mind, jogging their memory or introducing the event to them. We'll then listen to contemporary reports (news and press conferences etc..) which begin to build the narrative. We will then introduce our 3D GFX Model and wireframe. This will form the centre-piece of the editorial to which we will return frequently. We will begin by investigating the initial theories then how any civil or criminal investigation unfolded and any resolutions or recommendations that were enacted and what that has meant for the sector; both good, bad or interesting. Throughout we will refer to key experts to make the technical accessible and to identify the fatal engineering flaw which caused the disaster.

Each episode will have three subjects and a dedicated expert/specialist for each engineering area; civil construction, architectural engineer, building safety expert, fire safety expert etc.



# CGI & 3-D ANIMATION

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**Fatal Engineering** will use innovative CGI to investigate the intersection between science, engineering and human error. We will investigate the science behind each disaster, analyzing the design blueprints, and dissecting the engineering to reveal the pivotal point that led to these fatal accidents.

By introducing our **3D GFX Model** and **wireframe**, we will establish them as the centre-piece of the editorial to which we will return frequently. Providing an even more in-depth investigation into the how, what and when behind these disasters.





# EPISODE LIST

# EPISODE 1: PLANE CRASHES

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The Tenerife, Kegworth, and Air France 4590 incidents are gripping chapters in aviation history, showcasing the pivotal role of engineering in the high-stakes world of air travel. Individually they highlight the intensity of air traffic control clashes, the adrenaline-pumping challenges of managing engine failures mid-flight, and the nail-biting moments when aircraft structural integrity is put to the ultimate test. Together, they reveal the relentless pursuit of innovation and meticulous engineering required to conquer the skies.

Tenerife Airport Disaster (1977, Spain)

Kegworth Air Disaster (1989, UK)

Air France Flight 4590 (2000, France)



# EPISODE 2: NUCLEAR PLANT DISASTERS

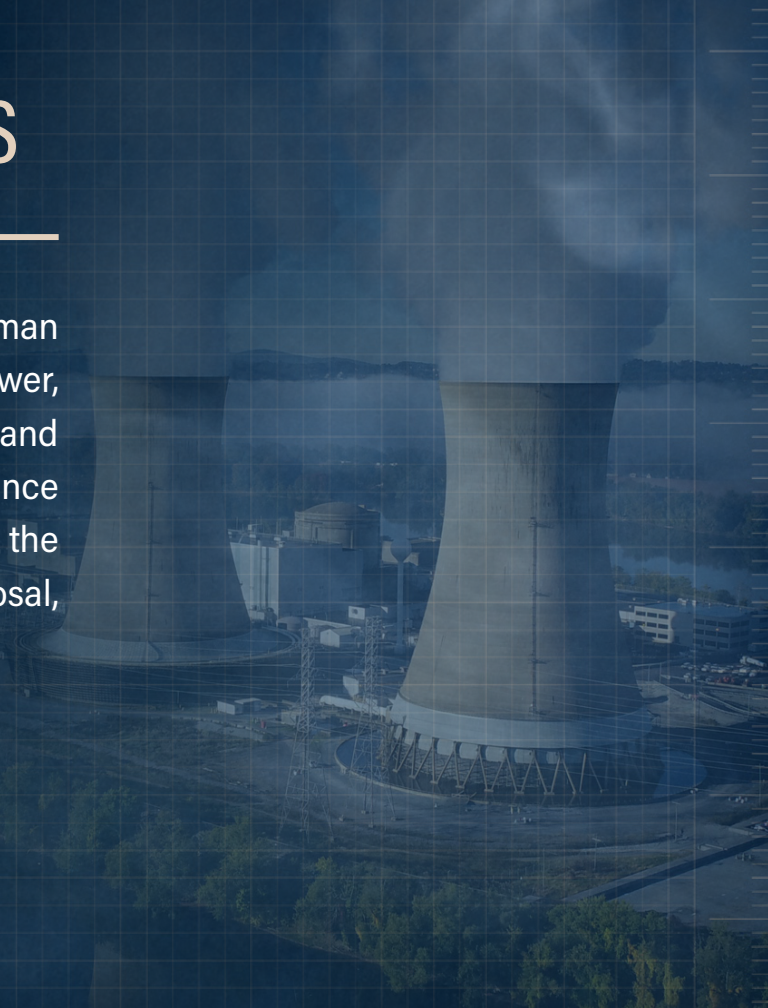
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Nuclear disasters are harrowing tales of technological challenges and human resilience. The Windscale incident revealed the perilous side of nuclear power, emphasizing the urgent need for better reactor designs. The Three Mile Island Accident unfolded as a dramatic race against time, underscoring the importance of swift and effective crisis management in nuclear emergencies. Meanwhile, the Kyshtym Disaster shed light on the consequences of inadequate waste disposal, urging the global community to reevaluate nuclear safety protocols.

Windscale (1957, UK)

Kyshtym (Mayak/Ozyorsk) Disaster (1957, Soviet Union)

Three Mile Island Accident (1979, USA)





# EPISODE 3: SKYSCRAPER COLLAPSES

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From towering infernos to dramatic collapses, structures worldwide have borne the brunt of critical engineering flaws. In 1968, London's Ronan Tower witnessed an entirely preventable explosion. The Lalita Park building collapse in 2010 underscored the hefty price of neglecting building laws. Meanwhile, in 2017, Tehran's Plasco Building suffered a sudden mid-construction collapse due to an electrical short circuit, resulting in a tragic and deadly fire.

Ronan Point (1968, UK)

Lalita Park Building Collapse (2010, India)

Plasco Building Collapse (2017, Iran)



# EPISODE 4: BRIDGE COLLAPSES

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Bridge failures have left a permanent mark on engineering history. The Tacoma Narrows incident showcased the perils of aerodynamic forces, while the I-35W collapse underscored the consequences of structural mishaps in vital transportation links. While the Can Tho Bridge collapse served as a stark reminder of the implications of engineering oversights.

Tacoma Narrows Suspension Bridge Collapse (1940, USA)

I-35W Mississippi River Bridge Collapse (2007, USA)

Can Tho Bridge Collapse (2007, Vietnam)



# EPISODE 5: DAM COLLAPSES

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Dam failures have echoed through time as cautionary tales in civil engineering. The St. Francis Dam collapse revealed the catastrophic consequences of poor structural design and engineering oversight. The Brumadinho disaster emphasized the devastating environmental and human toll resulting from dam breaches, highlighting the need for robust safety measures. The Derna Dam collapse serves as a modern reminder of the ongoing challenges in managing and maintaining critical infrastructure.

St. Francis Dam (1928, USA)

Brumadinho Dam Disaster (2019, Brazil)

Derna Dam Collapses (2023, Libya)

# EPISODE 6: ROLLERCOASTER ACCIDENTS

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Rollercoaster accidents have marked chilling moments in amusement park history. The Battersea Park Funfair disaster highlighted the dire consequences of inadequate safety measures. The Dreamworld disaster in Australia revealed what happens when lapses in ride maintenance and operation protocols occur. More recently, the Gröna Lund incident serves as a reminder that even in modern times, unforeseen challenges can pose risks.

Battersea Park Funfair Disaster (1972, UK)

The Dreamworld River Rapids Disaster (2016, Australia)

Gröna Lund Jetline Disaster (2023, Sweden)

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