

GROUP 4: TECHNOLOGICAL THREATS (47 Causes)

(Human-engineered risks from innovation, infrastructure, and unintended consequences)

4A: Nuclear, Weapons & Energy (15 Causes)

1. **Cascading Multiple Nuclear Accidents**
2. **Multiple Nuclear Accidents from Extreme Events**
3. **Autonomous Weapons Acceleration**
4. **Swarm Attacks**
5. **CO₂ Cylinder Storage Failures**
6. **Nuclear Waste Management Failures**
7. **Radiological Warfare (Cobalt Bombs)**
8. **Hydromethane Risks**
9. **Nuclear Winter**
10. **Oil-Tectonic Plate Interactions**
11. **Oil Transition Shock**
12. **Geoengineering Termination Shock**
13. **Poorly Implemented Geoengineering (SRM/Carbon Engineering)**
14. **Geoengineering Governance Risks Without Global Framework**
15. **Militarization of Space**

4B: AI, Cyber & Space (18 Causes)

1. **Simulation Shutdown**
2. **Cyberattacks on Industrial Control Infrastructure**
3. **Truth Collapse from AI-Generated Content**
4. **Deepfakes for Blackmail & Emotional Manipulation**
5. **High-Energy Physics Experiments (Vacuum Decay, Strangelets)**
6. **Widespread Critical Cyber-Infrastructure Failure**
7. **Misaligned AI (Systemic Risk)**

8. **Autonomous AI Disinformation Generators**
9. **Global GPS/GLONASS Disruption**
10. **Kessler Syndrome (Orbital Debris Congestion)**
11. **Internet of Things Vulnerabilities**
12. **AI Risks in Critical Operational Systems**
13. **Ship Sonars & 5G/6G EMF Pollution**
14. **Uncontrolled Cognitive Enhancement**
15. **Nanotechnology (Gray Goo, Self-Replicating)**
16. **Hostile Extraterrestrial Life**
17. **Evolutionary Regret**
18. **Additional Physics Experiments**

4C: Infrastructure & Mining (14 Causes)

1. **Over-Water Architecture Adaptation Failures**
2. **Self-Destruction of Cities**
3. **Intensive Aquaculture Collapse**
4. **Infrastructure Collapse from Subsidence**
5. **Cooling System Failures**
6. **Massive Wave Barrier Construction Risks**
7. **Cascading Prolonged Blackouts**
8. **Systemic Grid & Digital Network Failures**
9. **Critical Coastal Infrastructure Failure**
10. **Major Dam & Hydraulic System Failures**
11. **Critical Mineral Mining Risks (Lithium, Cobalt, Nickel)**
12. **Systemic Risks in Megadense Coastal Cities**
13. **Aquifer Overexploitation & Subsidence**
14. **Stagnant Society**

