



ASIA CLEAN ENERGY FORUM 2026

Beyond Transition: Building Secure, Resilient, Inclusive, and Intelligent Energy Systems

8–11 June | ADB Headquarters, Metro Manila, Philippines



Session 4.2 AI-Driven Analytics, Robust Data Management and Cybersecurity as Essential Pillars of Modern Energy Systems

The Red Queen in the Control Room

9 June 2026 | 4–5 p.m. (GMT+8)

In cooperation with



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ABOUT THE SPEAKER

Ken Gau

Principal Industrial Consultant · Dragos

Twenty-five years across international IT operations and eleven years working OT cybersecurity in cybersecurity in Asia-Pacific oil & gas — downstream, upstream, operations, and capital project capital project design compliance.

BASED IN

Perth, Australia

SECTOR FOCUS

Oil & Gas · APAC

EXPERIENCE

25+ years IT · 11+ years OT

CERTIFICATIONS

CISSP · GICSP

OT / ICS SECURITY

ASIA-PACIFIC ENERGY

CAPITAL PROJECT DESIGN



BBA · ZICKLIN SCHOOL OF BUSINESS
BARUCH CITY UNIVERSITY OF NEW YORK

TWO LENSES

AI cyber, through Carroll & Nash.



Illustration by Sir John Tenniel · Chapter 2, "The Garden of Live Flowers"

"Here, you see, it takes all the running you can do, to keep in the same place."

LEWIS CARROLL · THROUGH THE LOOKING-GLASS · 1871

Biological competition

	hawk	dove	bourgeois
hawk	lose -5 offspring	lose -5 offspring	gain +10 offspring
dove	gain none, lose none	gain +2 offspring	gain +1 offspring
bourgeois	lose -2.5 offspring	gain +6 offspring	gain +5 offspring

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Biological competition payoff matrix · evolutionary game theory

"The pace of the race is set by the players — not by either one of them alone."

GAME THEORY · VON NEUMANN · MORGENSTERN · NASH

TODAY'S ARGUMENT

Two old ideas, one new problem in the control room.

AI is changing the rules of OT cybersecurity faster than governance can adapt. To see what to do next, it helps to borrow two well-worn frames — one from a children's book, one from a war room.

- THE RED QUEEN

You run like crazy just to stay in place.

You may be forced to adapt to AI, so be ready

Through the Looking-Glass · Lewis Carroll, 1871

- GAME THEORY

Cooperate or defect. The pace sets itself.

Offense and defense lock into a prisoner's dilemma. Market competition compounds it. Strategy beats heroics.

von Neumann · Morgenstern · later, John Nash

THE THESIS

In OT, the binding constraint isn't technology, it's governance. AI accelerates the pace, and governance is often misunderstood.

THE REAL BOTTLENECK

The current gap is governance, not technology.

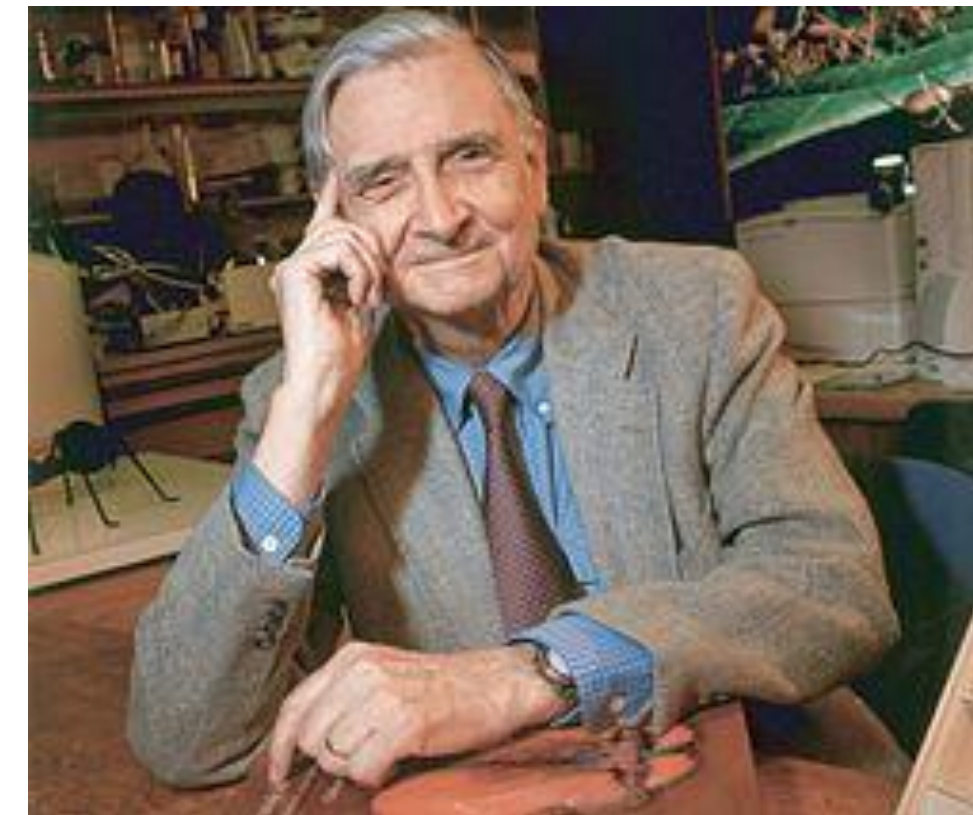
"The real problem of humanity is the following: we have Paleolithic emotions, medieval institutions, and god-like technology."

EDWARD O. WILSON · 1929–2021 · HARVARD

"**Loss of control**" is now a credible threat scenario, not a thought experiment.

AI is great *sideways* — adding capability to existing roles — not *up*, replacing judgment.
judgment.

Role boundaries will collapse: *renewable engineer + grid modeler + policy analyst + finance specialist + specialist + community liaison* .



Edward O. Wilson · Organismic & Evolutionary Biology · Harvard · 1929–2021

IMPLICATION

Governance must move at the pace of capability — or capability will set policy by policy by default.

2026 EVIDENCE

Capability is outpacing governance — measurably.



● FRONTIER MODELS

Anthropic ships *Mythos* in prerelease to vendors.

Closed-door capability evaluations land in vendor hands before procurement procurement teams know the model exists.



● INFRASTRUCTURE

Spud and next-gen models trained on NVIDIA Grace Blackwell.

A new chip generation has compressed model training cycles from quarters into weeks.

~ 7x

● VULNERABILITIES

Palo Alto's "Vulnpocalypse" — May 2026.

75–85 vulnerabilities surfaced in a few weeks. Agentic workflows now have now have to be designed like OT systems.

TAKEAWAY

Treat agentic AI workflows the way you would treat OT: assume failure, design for safe defaults, and gate the blast radius.

SANS ICS CRITICAL CONTROLS

How do we fix this?

<https://www.dragos.com/blog/assessing-ot-cybersecurity-maturity-with-the-sans-ics-5-critical-controls/>



ICS CRITICAL
CONTROLS

01 **ICS Incident Response Plan**
Who picks up the phone at 3am when a PLC goes weird.

02 **Defensible Architecture**
Segmentation between IT, OT, and the wider operational estate.

03 **ICS Network Visibility & Monitoring**
You can't defend traffic you can't see — passive monitoring first.

04 **Secure Remote Access**
Vendor laptops are the original AI agent. Treat them accordingly.

05 **Risk-based Vulnerability Management**
Patch what matters in the right order — not every CVE by CVSS.

BORROWED FRAMEWORKS

OT cyber frameworks, repurposed for AI.

Three industrial risk methods that already work for safety-critical systems — and translate cleanly to AI-augmented control rooms.

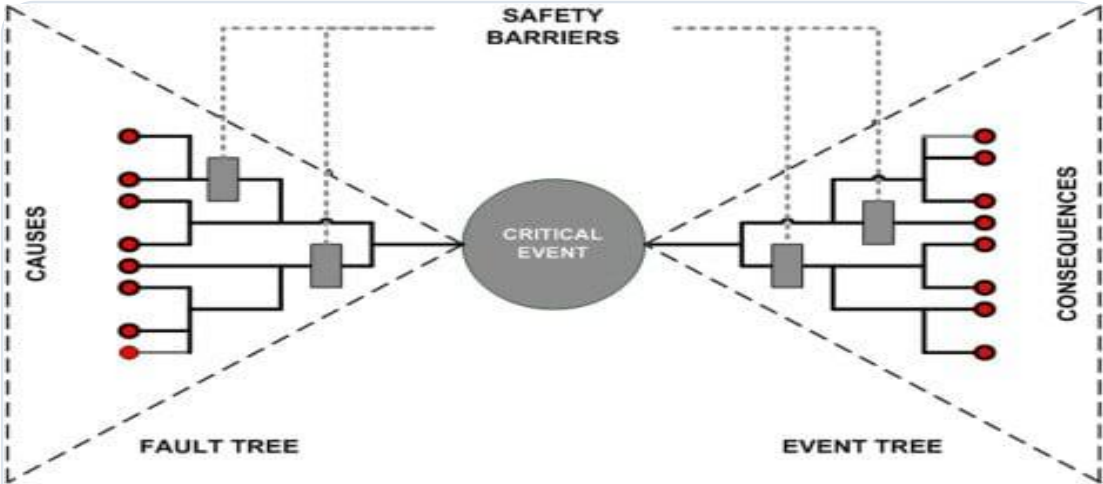
		Consequence Severity		
		A	B	C
Likelihood	5	High	High	Med-high
	4	High	Med-high	Medium
	3	Med-high	Medium	Med-low
	2	Medium	Med-low	Low
	1	Med-low	Low	Low

● RISK MATRIX

IEC 61511-3

Functional safety for the process industry sector — adapt the likelihood / consequence axes to AI failure modes.

International Electrotechnical Commission

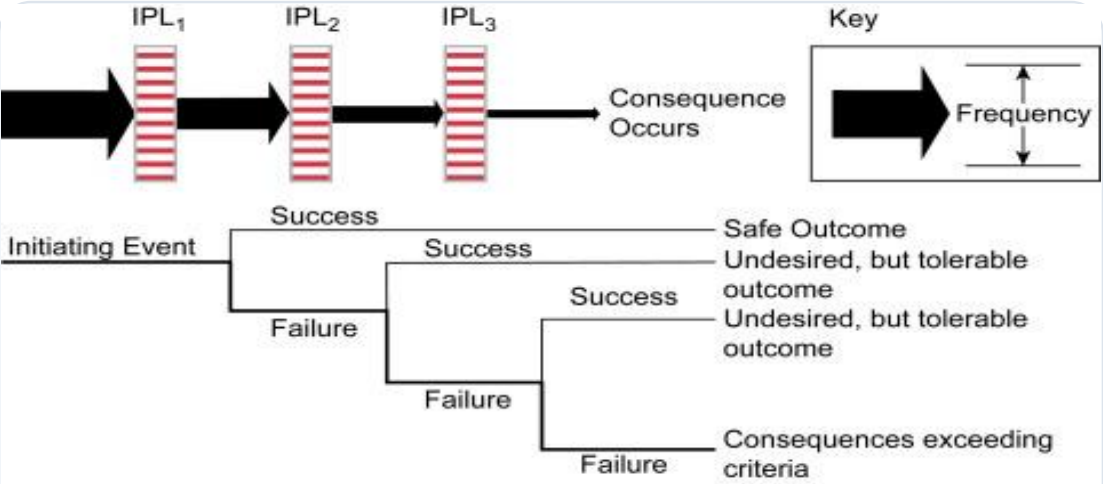


● BOWTIE

ISO 31010:2019

A picture of preventive vs. mitigating controls around a around a single top event. Reads in two minutes; survives survives scrutiny.

de Ruijter & Guldenmund, Safety Science 88 (2016)



● LOPA

CCPS · Wiley AIChE

Layer of Protection Analysis — a simplified, defensible way to argue that the residual risk is tolerable.

Center for Chemical Process Safety

THANK YOU · ASIA CLEAN ENERGY FORUM 2026

Thank you.



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out after the session.

