Safety Assurance for Artificial Intelligence is Futile (and that's okay)

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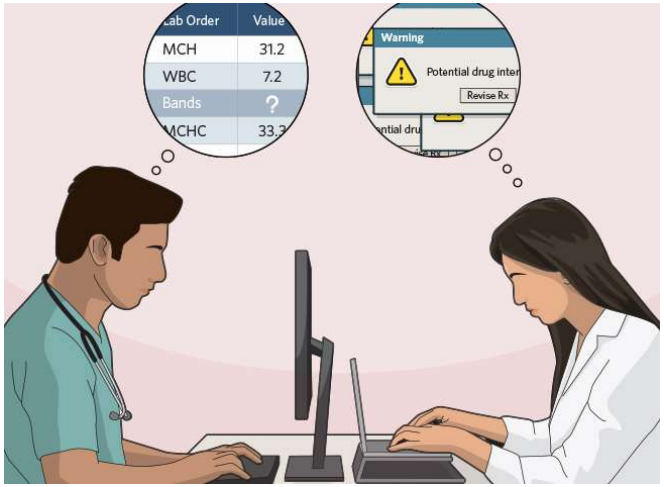
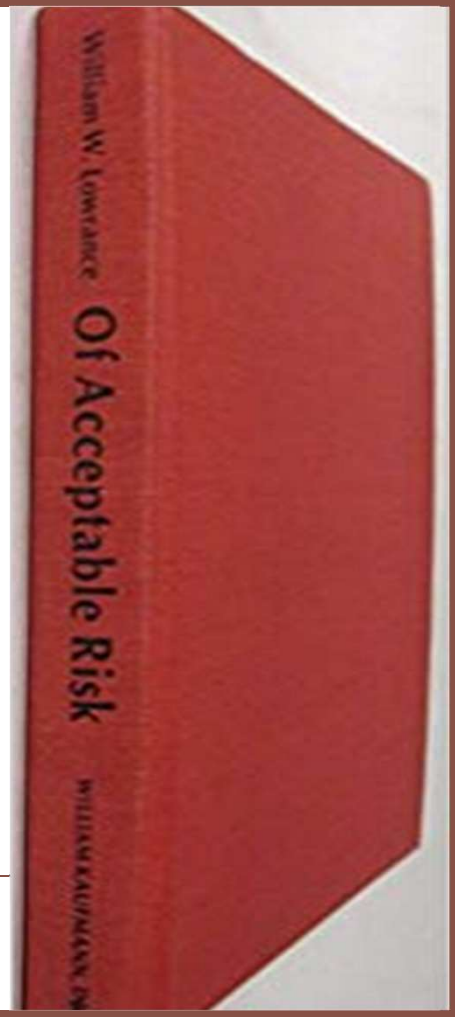


How do we worry about AI in safety?

"A thing is safe if the associated risk of harm is acceptably low"



Why do we worry about AI?

Knowledge

Capability
- What can the system do?

Predictability
- What will the system do?

Control

Comprehensibility
- Can insiders understand the system?

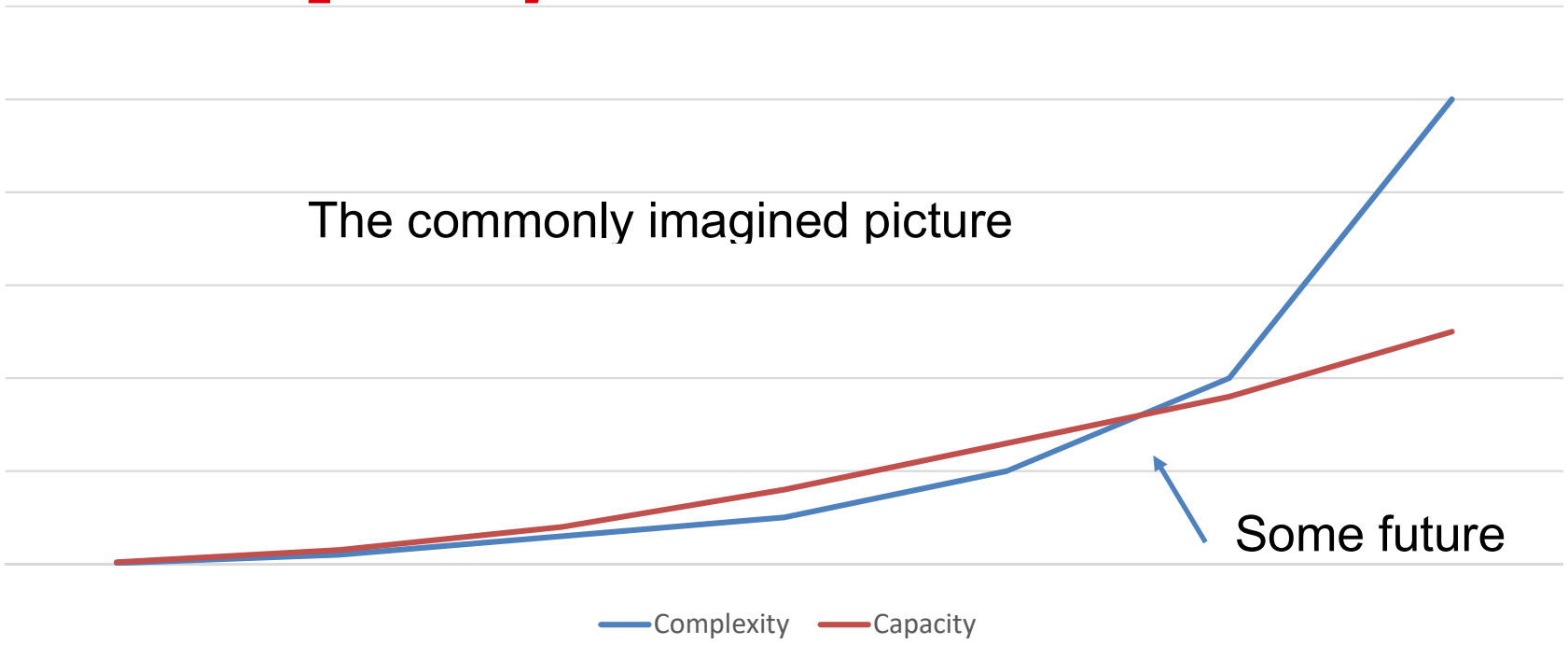
Tractability
- Can we manage the system?

Regulation

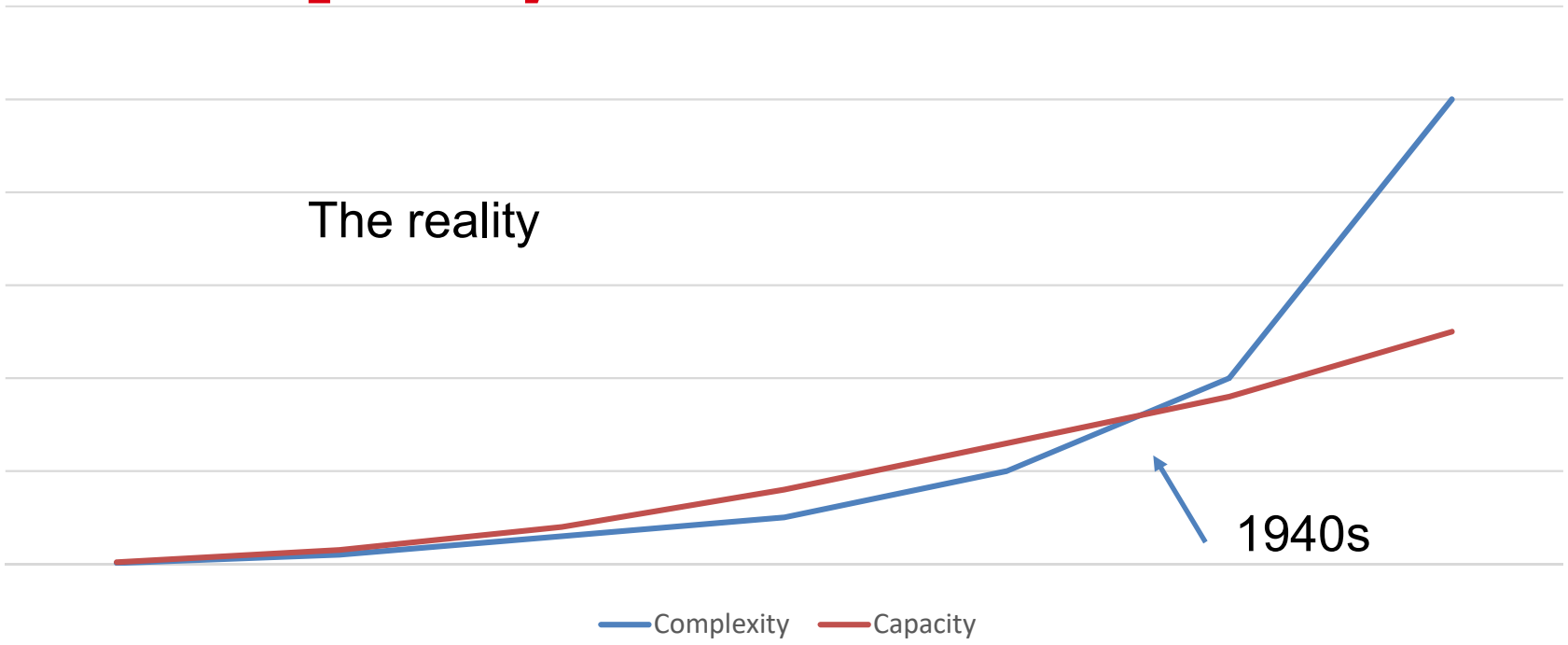
Legibility
- Can outsiders understand the system?

Regulatability
- Can outsiders influence the safety?

Can our methods and organisations cope with complexity?



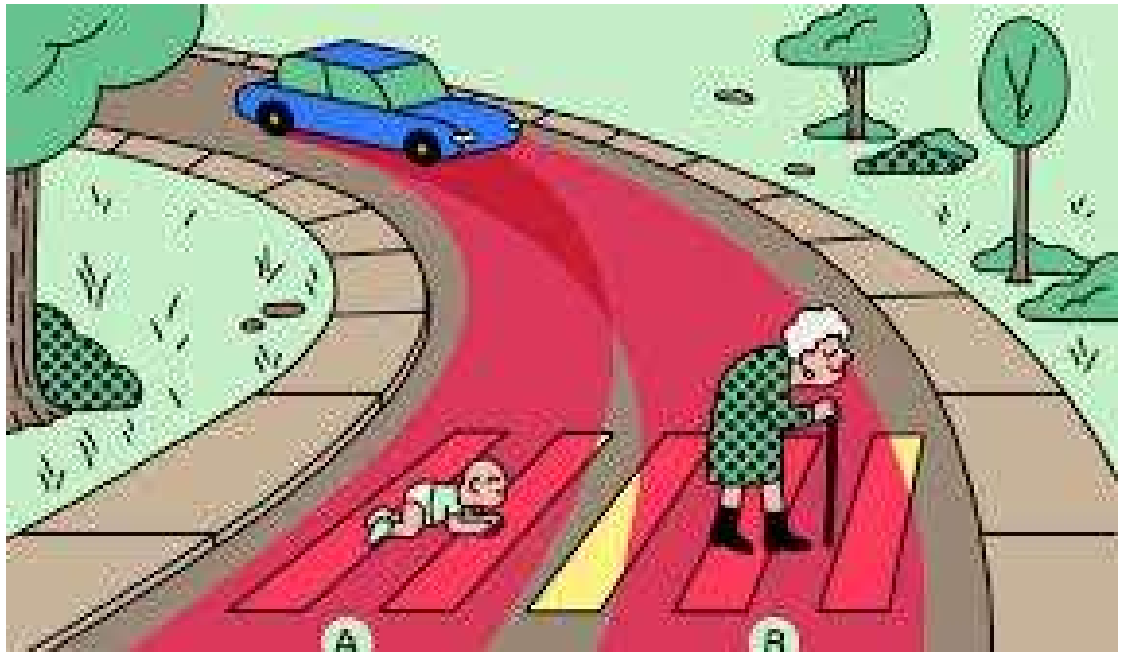
Can our methods and organisations cope with complexity?



Capability

In most cases AI doesn’t represent an increase in system capability to do harm

Northeast Blackout (1965)



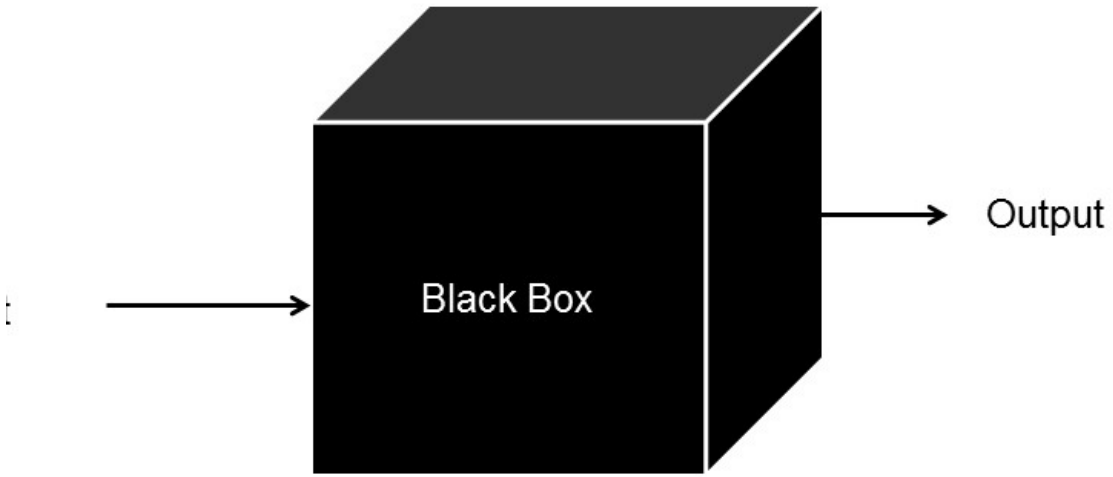
Predictability

Safety assurance relies on systems being predictable.

We identify what can go wrong, and then provide assurance that it won't.

United Airlines Flight 608 (1947)

UA965 B767 Galley Chiller Incident

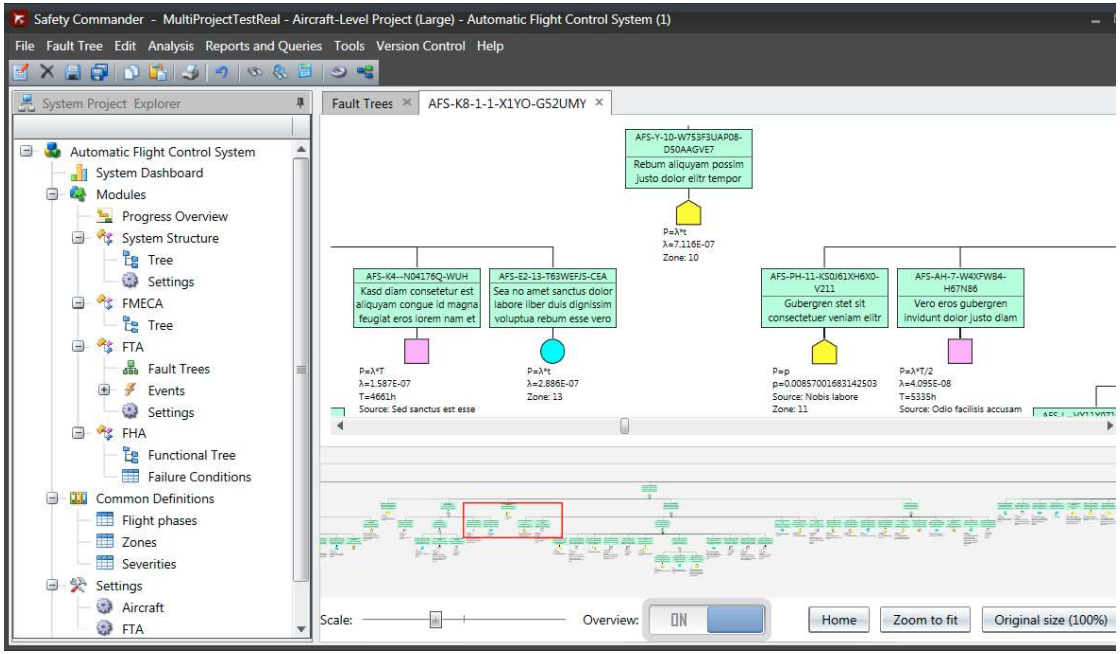


Internal behavior of the code is unknown

Comprehensibility

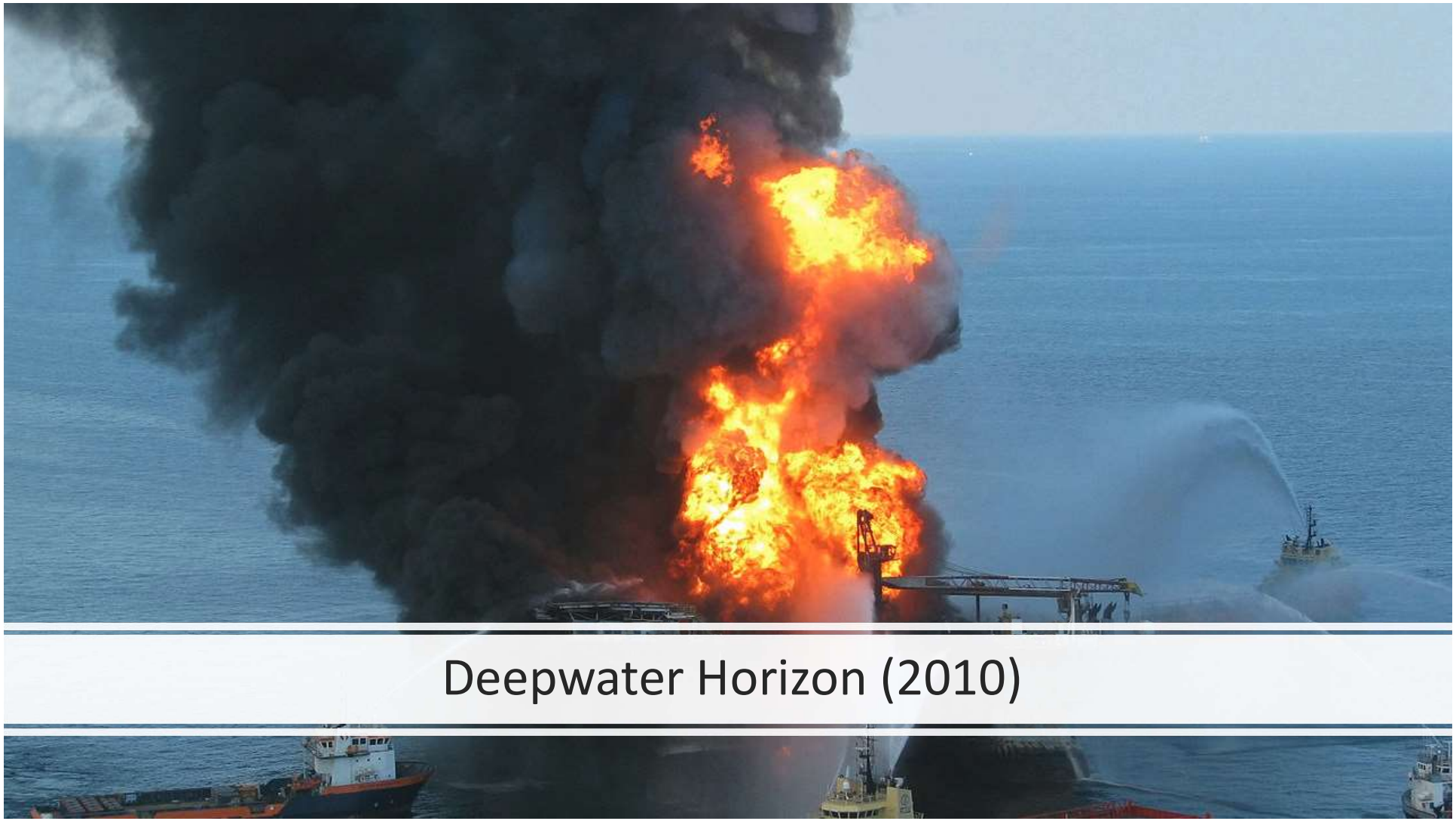
Safety assurance depends on systems being analysable. We can't say that something is safe if we don't even know how it works.

AF447 “This maneuver is totally incomprehensible”

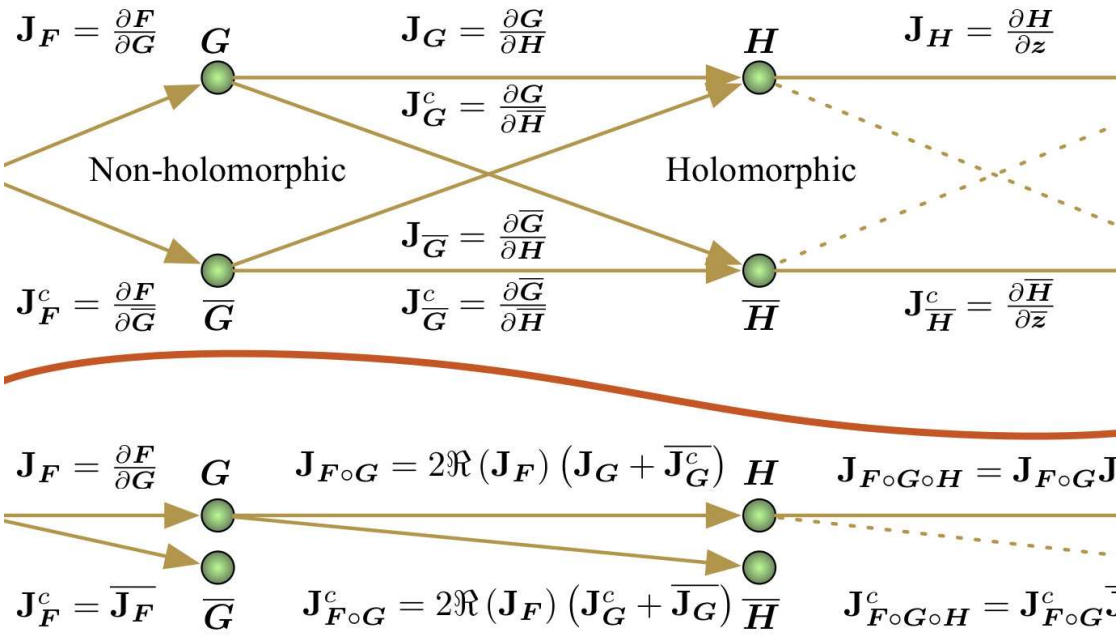


Tractability

Safety assurance depends on systems being analysable. We can't say that something is safe if we can't determine how it will and won't behave.



Deepwater Horizon (2010)

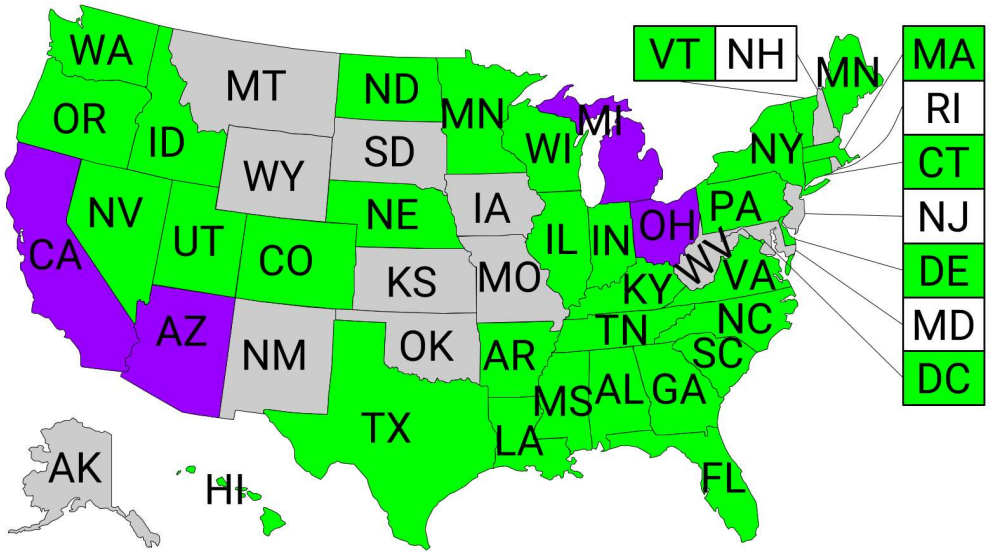


Legibility

- “regulators of 'high' technologies face an inevitable epistemic barrier when making technological assessments, which forces them to delegate technical questions to people with more tacit knowledge”

- Downer (2009)

Eastern Air Lines Flight 375 (1960)



Legend

Regulatability

- “regulators of 'high' technologies face an inevitable epistemic barrier when making technological assessments, which forces them to delegate technical questions to people with more tacit knowledge”

- Downer (2009)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Does AI actually make any of these worse?

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DON'T
PANIC

For more information or to provide private feedback

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