

The background of the entire image is a solid dark red. Overlaid on this background is a stylized world map. The map is composed of numerous circles of varying sizes, some in a lighter red shade and others in a darker red shade, creating a bubble-like effect. The circles are distributed across the map, with higher concentrations in the North Atlantic and Europe. In the center-right of the image, the word "ISACA" is written in a large, bold, white, italicized sans-serif font. To the right of the "A" is a small registered trademark symbol (®).

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ISACA Ireland Conference 2018

November 16th

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Risk Management in the Post- Information Age

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Agenda

Disruptive technologies

Incredible opportunities (The Good)

Unprecedented risk (The Bad)

Evolution of Risk Management

Next Generation Risk Management

Risk management practices are inadequate for the Post-Information Age (The Ugly).

Conclusion and Q&A

Biography

- Joseph Mayo



- PMP, PMI-RMP, CRISC, RIMS-CRMP
- 3 decades of industry experience
- Author
 - Chaos to Clarity
 - Cultural Calamity
- Creator
 - Risk Hurricane

Learning Objectives

Design a risk management strategy to manage risk associated with disruptive technologies

Leverage collective learning to improve your organization's ability to manage new and emerging threats

Differentiate between value preservation and value creation for risk management

Establish a heuristic control environment



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Disruptive Technology

Artificial Intelligence (AI)

Artificial intelligence (AI)

A Stanford University exercise revealed that artificial intelligence systems from Alibaba and Microsoft performed better than humans in a reading comprehension test

Google's DeepMind AI mastered 1,500 years of chess knowledge in 4 hours

DeepMind learned chess from scratch after only being programmed with the rules

DeepMind also developed new chess strategies never before seen by grandmasters

Disruptive Technologies - Impact

2015 Data Breach Investigations report found that 5 malware events occur every second

In 2016 companies lost an estimated \$1.5 billion to ransomware

In 2017 WannaCry ransomware infected more than 200,000 computers, losses expected to exceed \$4 billion

Chip manufacturers produce an estimated 40 billion microprocessors each year

The Meltdown and Spectre CPU flaws were able to be patched

Side-Channel L1TF Vulnerability (aka Foreshadow)

Exposes cloud and virtualized environments

Latent vulnerability since 2016

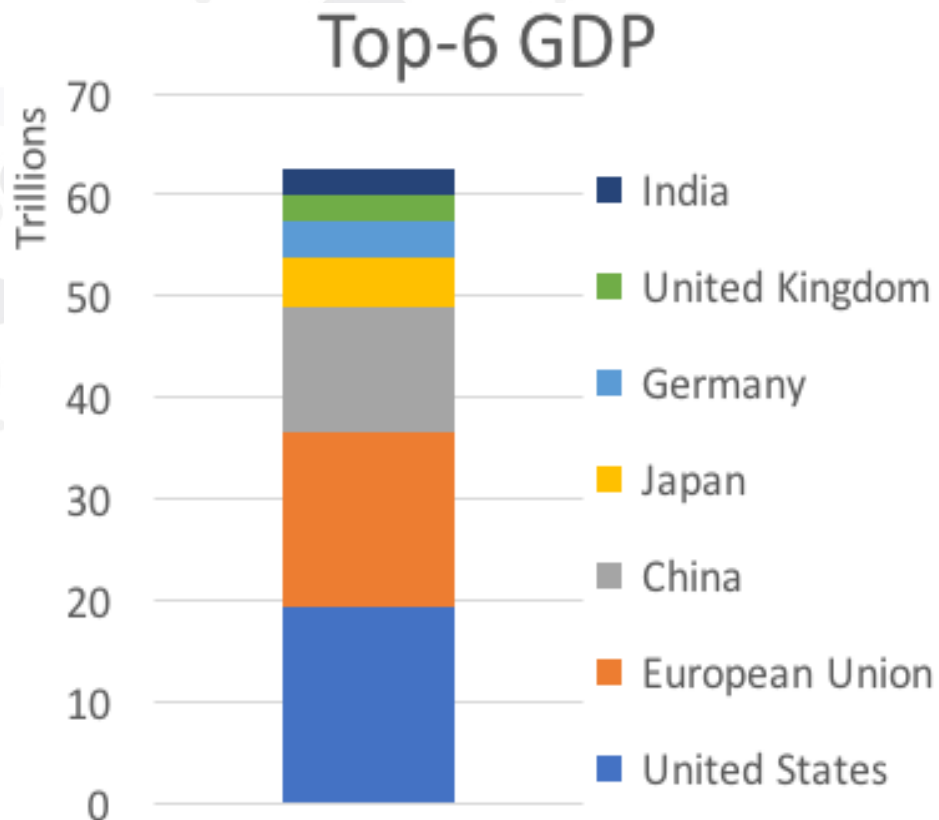
Consider This...

Industrial robots manufacture tens of billions microprocessors based on a flawed design

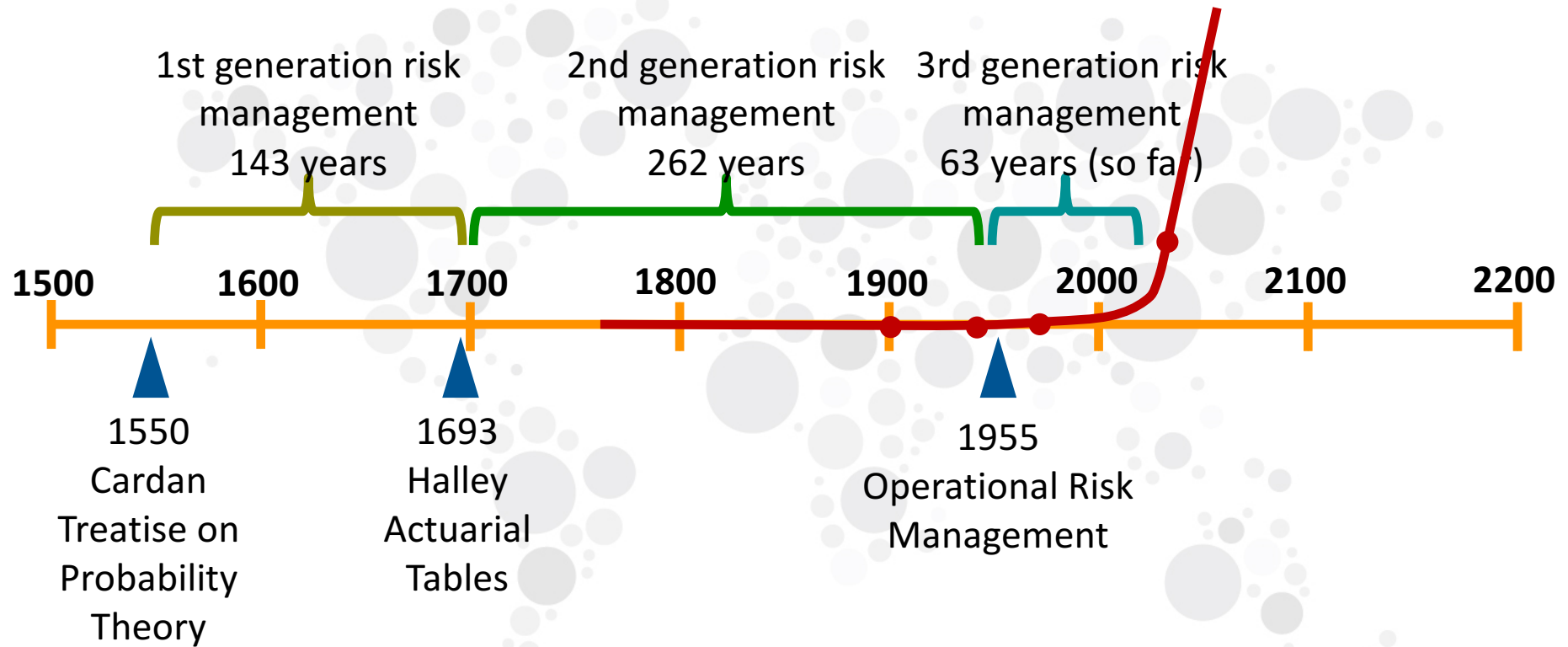
The design flaws can't be patched (e.g. Foreshadow) and must be recalled.

What is the impact of recalling 20 billion or 30 billion consumer products and industrial machines?

How do we manage this risk?



Evolution of Risk Management



This is where we are today,
protecting the castle walls





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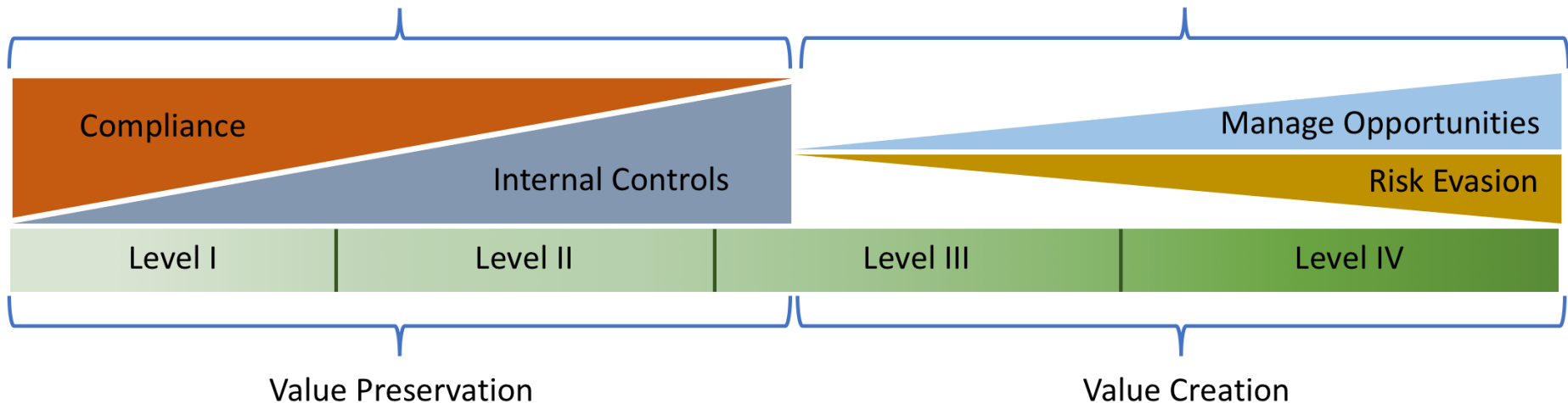
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Next Generation Risk Management

Bimodal Risk Management

Traditional Risk Management – Mode 1

Offensive Risk Management – Mode 2



Bimodal Risk Management

Mode 1 satisfies compliance requirements and preserves existing value (narrow)

Keep doing what we you're doing

Over time, Mode 1 will become a supporting function of Mode 2

Mode 2 creates new value and aggressively ferrets out emerging threats (expansive)

Extend the boundary of the Enterprise

Embrace collective learning (learn from events impacting other industries)

Expand the use of detective and preventive controls

Increase use of honey pots, internal password cracking, Red Teams

Implement heuristic controls

Post-Information Age Strategy

Go all-in with Bimodal Risk Management

Leverage disruptive technologies to aggressively pursue opportunities

Bots for internal audits; move toward 100% audit

Use AI to identify emerging threats and tactics

Bots for automated reporting and escalation to humans

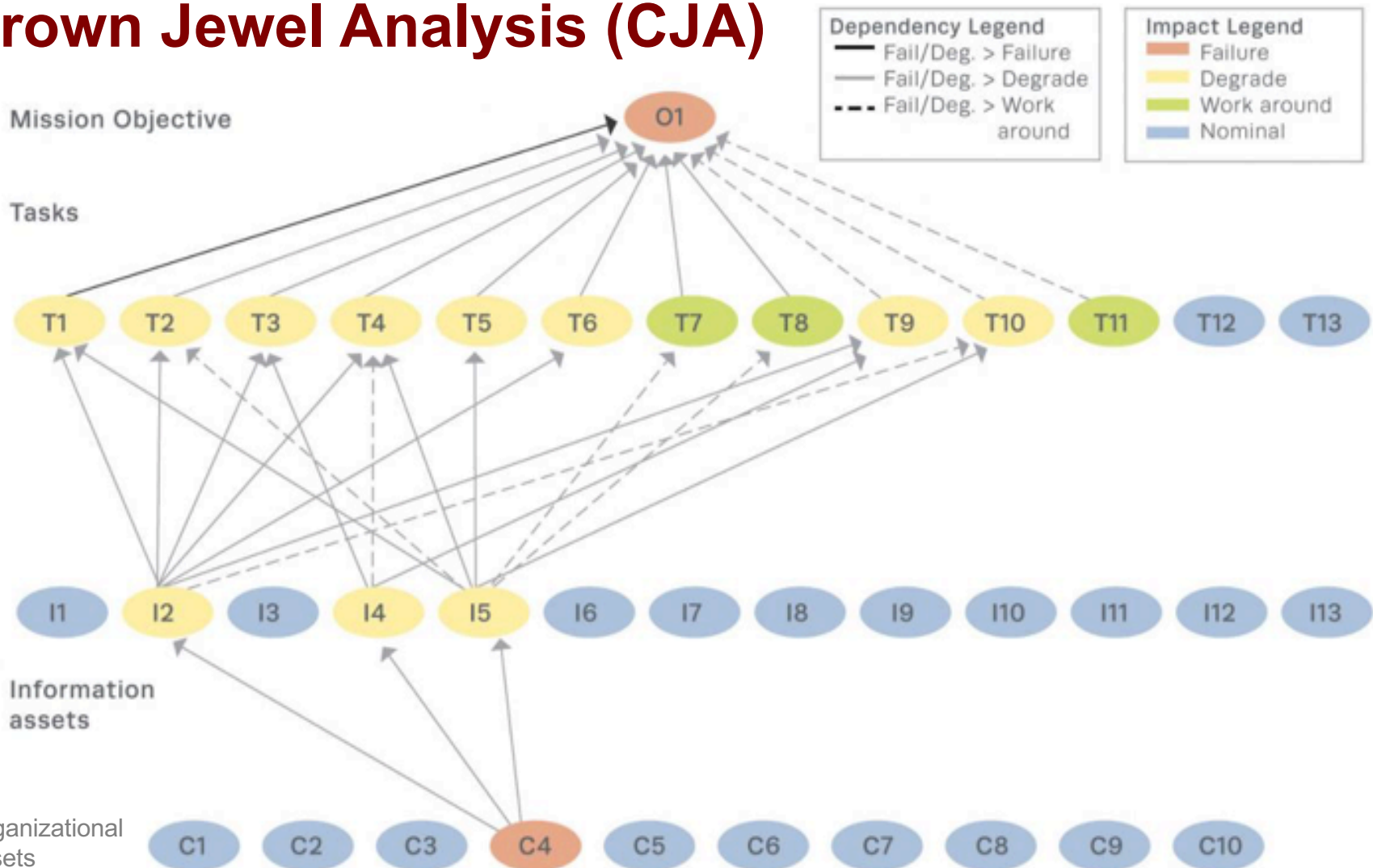
Quantitative risk management

RiskLens

Implement crown jewel analysis (CJA)

Mission oriented asset management

Crown Jewel Analysis (CJA)



Conclusion

Disruptive technologies will drive rapid evolution of unforeseen risk events

Organizations must collaborate globally to cope with the rapid emergence of new threats

Cooperation has become the optimum survival strategy -- Buckminster Fuller

Extend the boundary of the Enterprise to provide more lead-time to develop internal controls and risk treatment plans

Chance favors the prepared mind – Louis Pasteur

Questions?

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GRC

**THE GOOD
THE BAD
& THE UGLY!**