

# Risk Management: Design, Tools and Materials

(or why ERM is the uncertain future of RAFM)

Eric Priezkalns

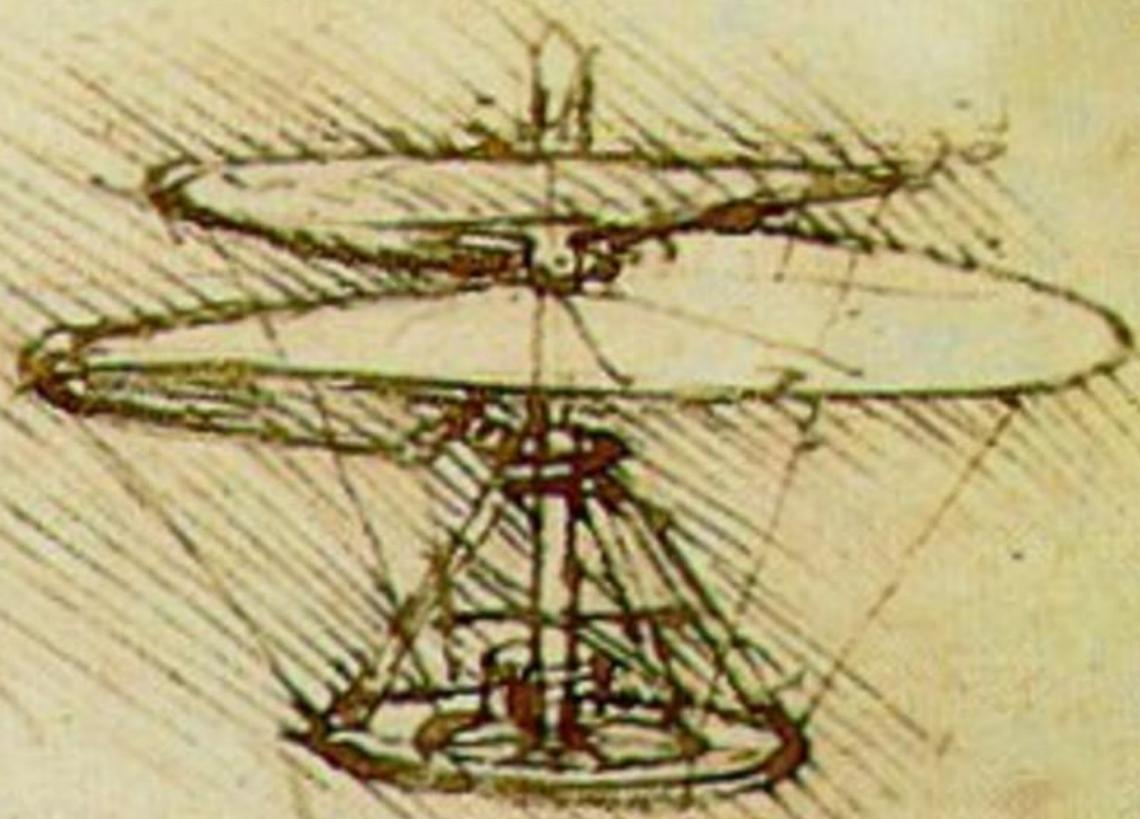
WeDo Technologies Worldwide User Group & Summit  
Lisbon 2016

# Who is Eric Priezkalns?

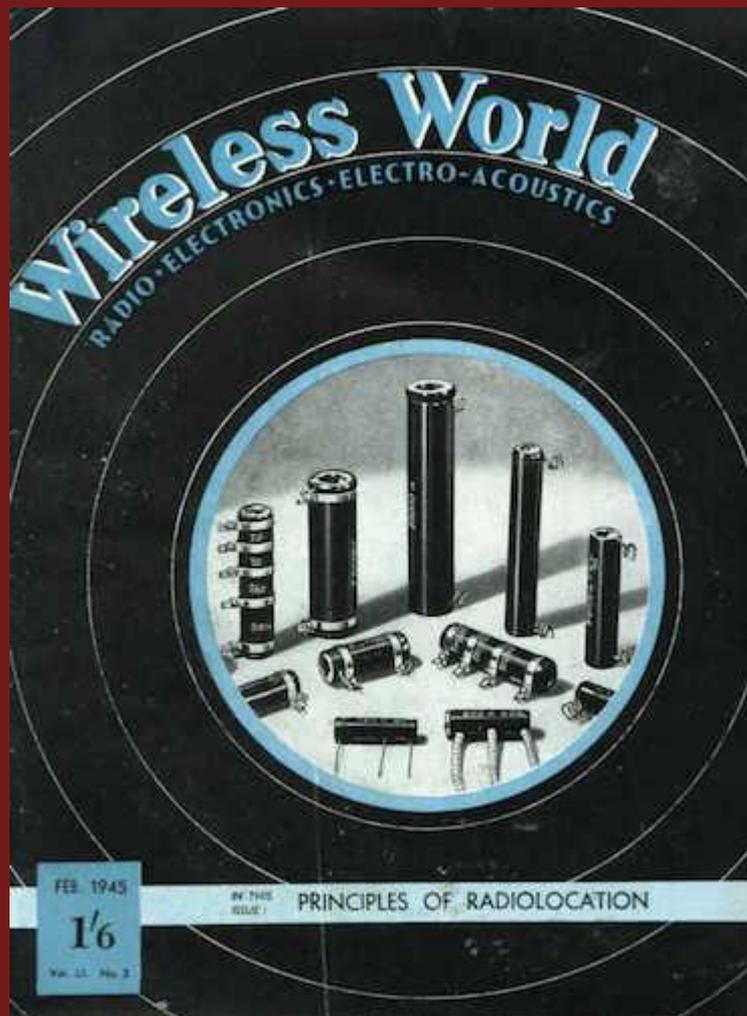
- Specialist in risk management and assurance
- Chartered accountant, trained at Deloitte London ERS
- Former Director of Risk Management for Qatar Telecom
- Also worked with: Cable & Wireless, T-Mobile, Worldcom...
- Author of *Revenue Assurance: Expert Opinions for Communications Providers*
- History of involvement in various industry bodies
  - TMF ERM team, Qatar NCIS, RAG
- Editor of [Commsrisk.com](http://Commsrisk.com)
- But mostly retired!



Handwritten notes in a cursive script, oriented vertically on the left side of the page. The text is partially obscured and difficult to decipher, but appears to contain several lines of text.



Handwritten notes in a cursive script, oriented horizontally at the bottom of the page. The text is partially obscured and difficult to decipher, but appears to contain several lines of text.



out  
ch  
er.  
b-  
u-  
o-  
eir  
ns  
ld  
ny  
of  
w  
's  
ne  
a  
off  
s,  
p  
a-  
e-  
n-

a century ahead.

An "artificial satellite" at the correct distance from the earth would make one revolution every 24 hours; i.e., it would remain stationary above the same spot and would be within optical range of nearly half the earth's surface. Three repeater stations, 120 degrees apart in the correct orbit, could give television and microwave coverage to the entire planet. I'm afraid this isn't going to be of the slightest use to our post-war planners, but I think it is the *ultimate* solution to the problem.

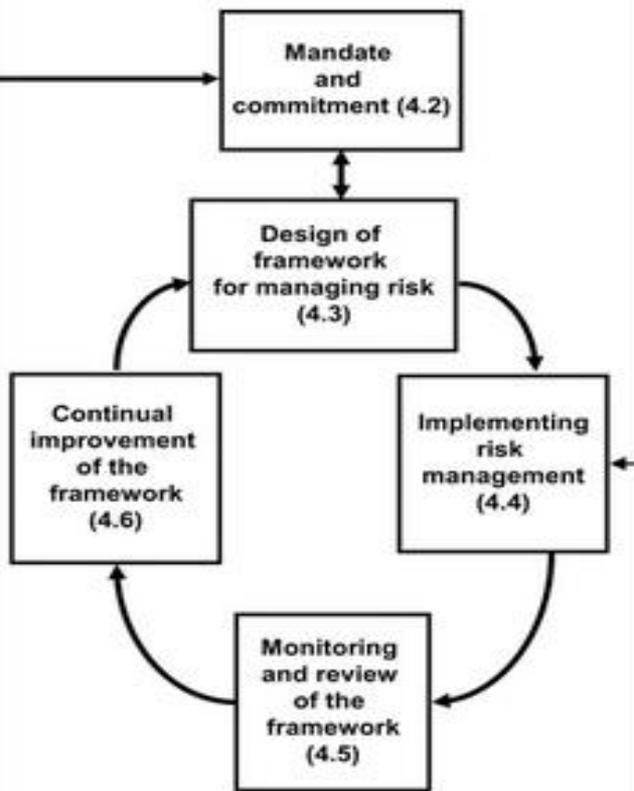
ARTHUR C. CLARKE,  
British Interplanetary  
Society.

Frequency Modulation

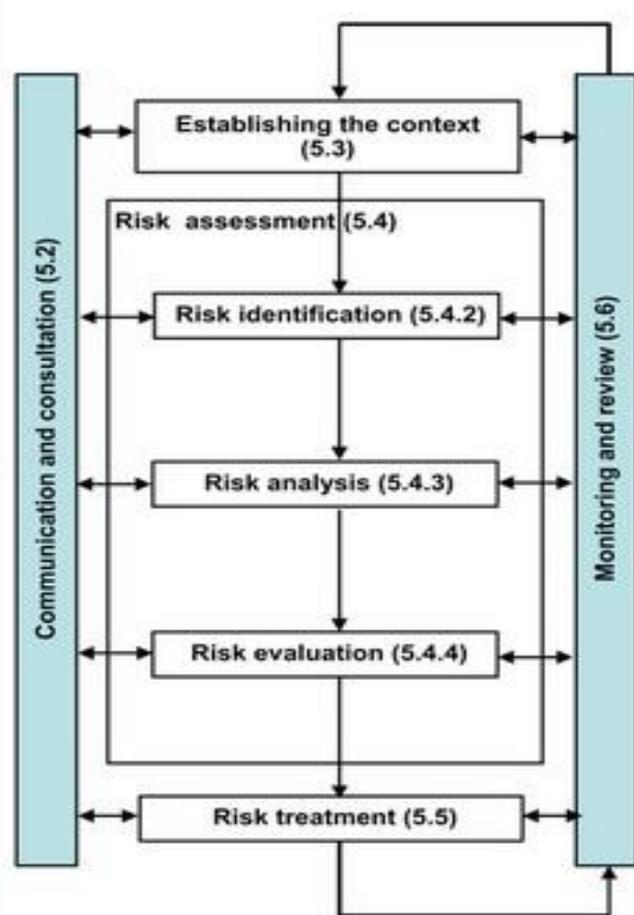
co  
of  
fre  
wh  
tur  
pu  
tas  
tio  
acc  
of  
wil  
def  
ges  
chi  
ing  
bas  
wit  
bar  
lim

- a) Creates value
- b) Integral part of organizational processes
- c) Part of decision making
- d) Explicitly addresses uncertainty
- e) Systematic, structured and timely
- f) Based on the best available information
- g) Tailored
- h) Takes human and cultural factors into account
- i) Transparent and inclusive
- j) Dynamic, iterative and responsive to change
- k) Facilitates continual improvement and enhancement of the organization

Principles  
(Clause 3)



Framework  
(Clause 4)



Process  
(Clause 5)

# Principles vs. Tools and Materials

- ‘Integral’ to organizational processes
  - A bit like saying honesty should be integral - but nobody has devised a foolproof mechanism to guarantee the honesty of human beings
  - We teach children to be honest, but we also rely on **monitoring** and **enforcement** because education and good intentions are not enough
- Part of decision making
  - Circular thinking: can only influence decisions if it is believed the influence is beneficial
  - The **demonstration** of benefits is key, but this entails robust **quantification**
- Systematic, structured and timely
  - Systems and structures do not guarantee **accuracy** or **completeness**
  - The simplest way to fail to manage a risk is by not identifying it in the first place... so where does that leave timeliness?

# “Based on the Best Available Information”

- This is the worst fudge in ISO31000
- Our ‘best’ information *may not be good enough*
  - Consider Da Vinci’s helicopter - would it work with the ‘best’ available source of power?
- Also, we do not always need the ‘best’ information to make a *good* decision
  - Could collect a lot more data about Da Vinci’s helicopter... but basic info says it will not fly!
  - The benefit derived from the information depends on the risks being assessed
  - Could always spend more money and more time seeking ‘better’ information
  - We need a sense of the pay-off between the *cost and effort* that goes into obtaining information and the *impact* it will have on decisions
  - *Efficiency* of information gathering is key
  - In reality this does not get analysed like it should, because subjective opinions are routinely treated as a substitute for the ‘best available information’

# Know Thyself

γνῶθι σεαυτόν

*Ancient Greek aphorism inscribed above the doorway of the Temple of Apollo at Delphi*

# Why ‘Know Thyself’ is the Risk Manager’s Maxim

- Our goal is to understand risk so we make the best decisions
- ISO31000 definition of risk:

“the effect of uncertainty on objectives”

- If we seek to counter uncertainty, our goal must be knowledge!
- We must be conscious of our own ignorance, and take practical and effective steps to limit the risk created by ignorance
- The success of a risk manager is not determined by the extent of the systems and structure they implement, but the degree to which the organization makes better-informed decisions as a result of the systems and structure

# What Are the Risk Manager's Tools and Materials?

- Like other risk standards ISO31000 is written in a style that suggests it could be implemented without using a single computer
- The standard is relatively agnostic about mathematical sciences like statistics
- ***But computers and mathematics are our most important tools***
- The systems that have evolved to support standards like these tend to collate lots of information... but with little sense of quality control
- Subjective opinion gets treated like other information
- GIGO is a crucial modern information challenge, whether dealing with models for climate change or banking volatility
- ***It should be our goal to obtain cheap and plentiful data to reduce our reliance on subjective opinion***

# Where Are We Now, Where Do We Want to Be

- We can point to the future, even if it will take a while to reach it
- But we will never make necessary improvements by pretending we already do things we cannot do!
- Many piecemeal developments eventually contribute to major innovations like helicopters and comms satellites
- Many of us are engaged in the piecemeal development of risk management
  - But we may not be conscious of how we contribute to solving a bigger challenge
  - And we may also exaggerate the extent to which we have conclusively solved problems
- I can think of no better example than the crucial epistemic work that has gone into improving telco revenue assurance and fraud management
  - Though some in the audience will know other examples too!

# Conclusions

- It is good to have a design, but we also need the tools and materials to turn our designs into reality
- The current 'designs' for risk management are like Da Vinci's flying machine or Clarke's communications satellite
  - the concepts are sound but we do not have adequate tools and materials
- Instead of focusing solely on design we must also improve other aspects of risk management, including our technology and the data available to us
- Piecemeal development is taking place in data-rich risk silos like telco RAFM
- We must keep investigating the potential for crossover application of new tools and techniques to other risk domains