



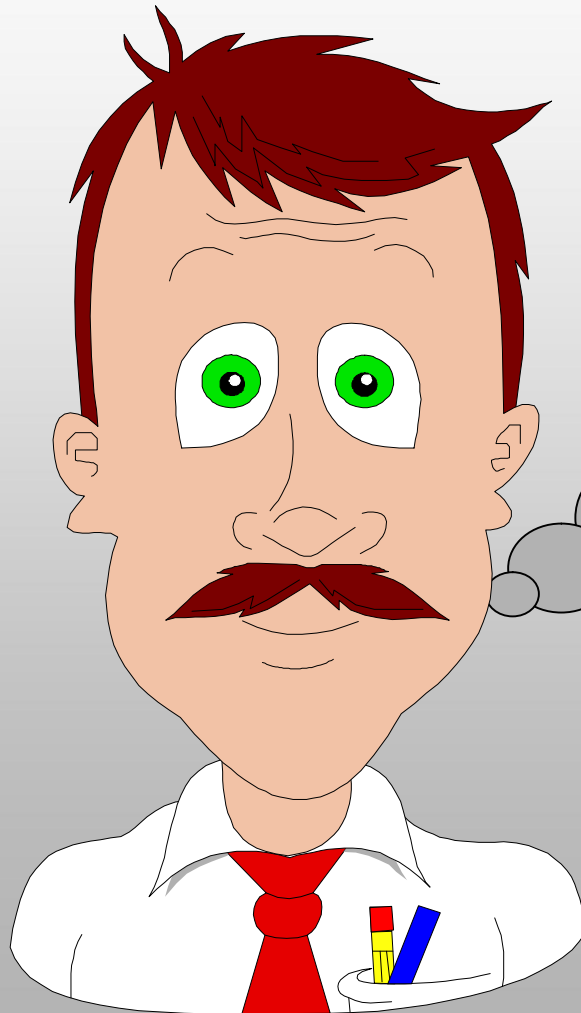
PFG

PRICING & FORECASTING GROUP

“Professional services that count”

**Schedule Risk
Analysis in the
MoD**

**Risk
Analysis**



“I don’t have time for **Risk Management**... there’s a Project to run !!!”



Peter Campbell

IEng MIEE MIRM MAPM

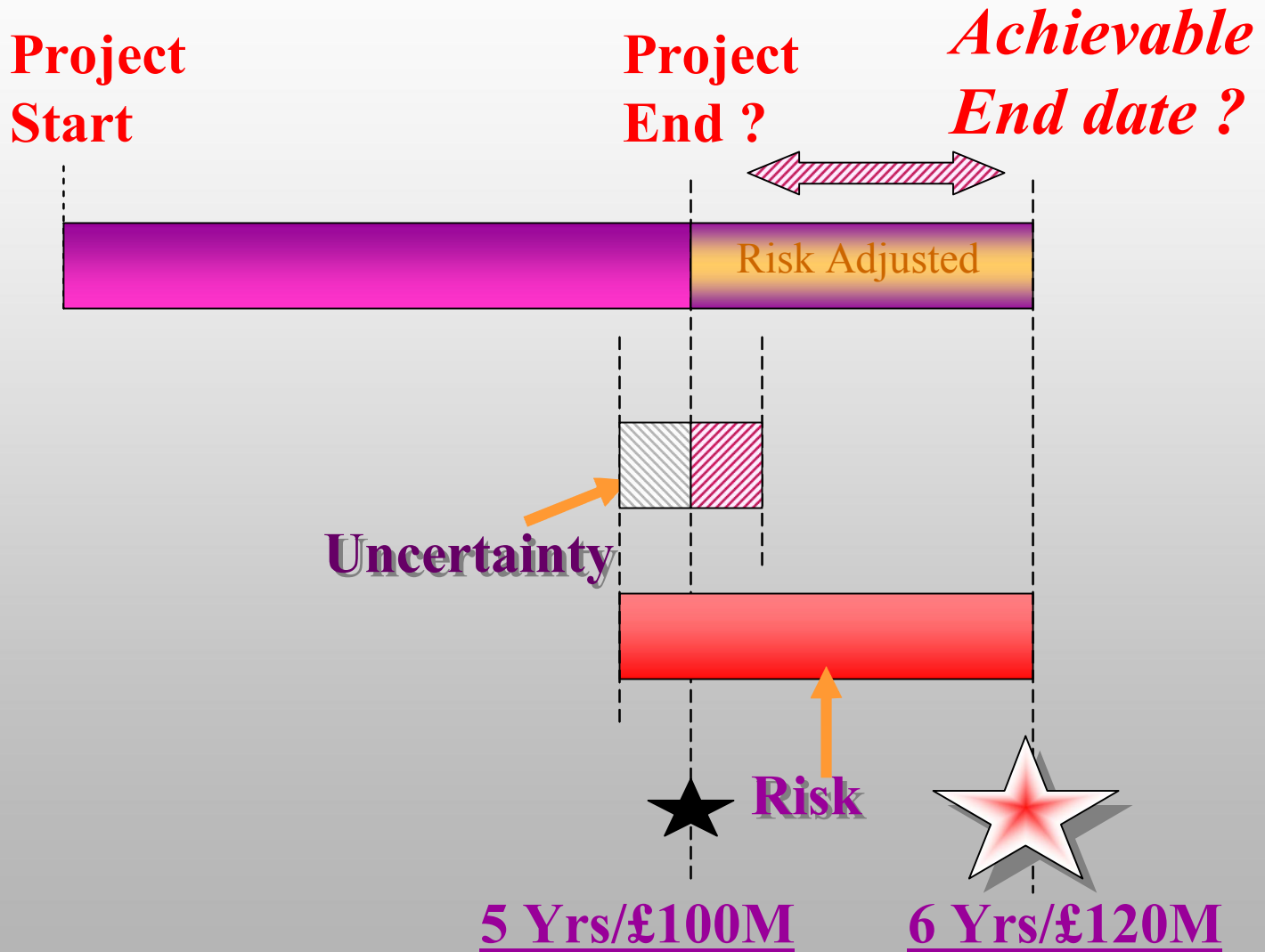
Risk Analyst

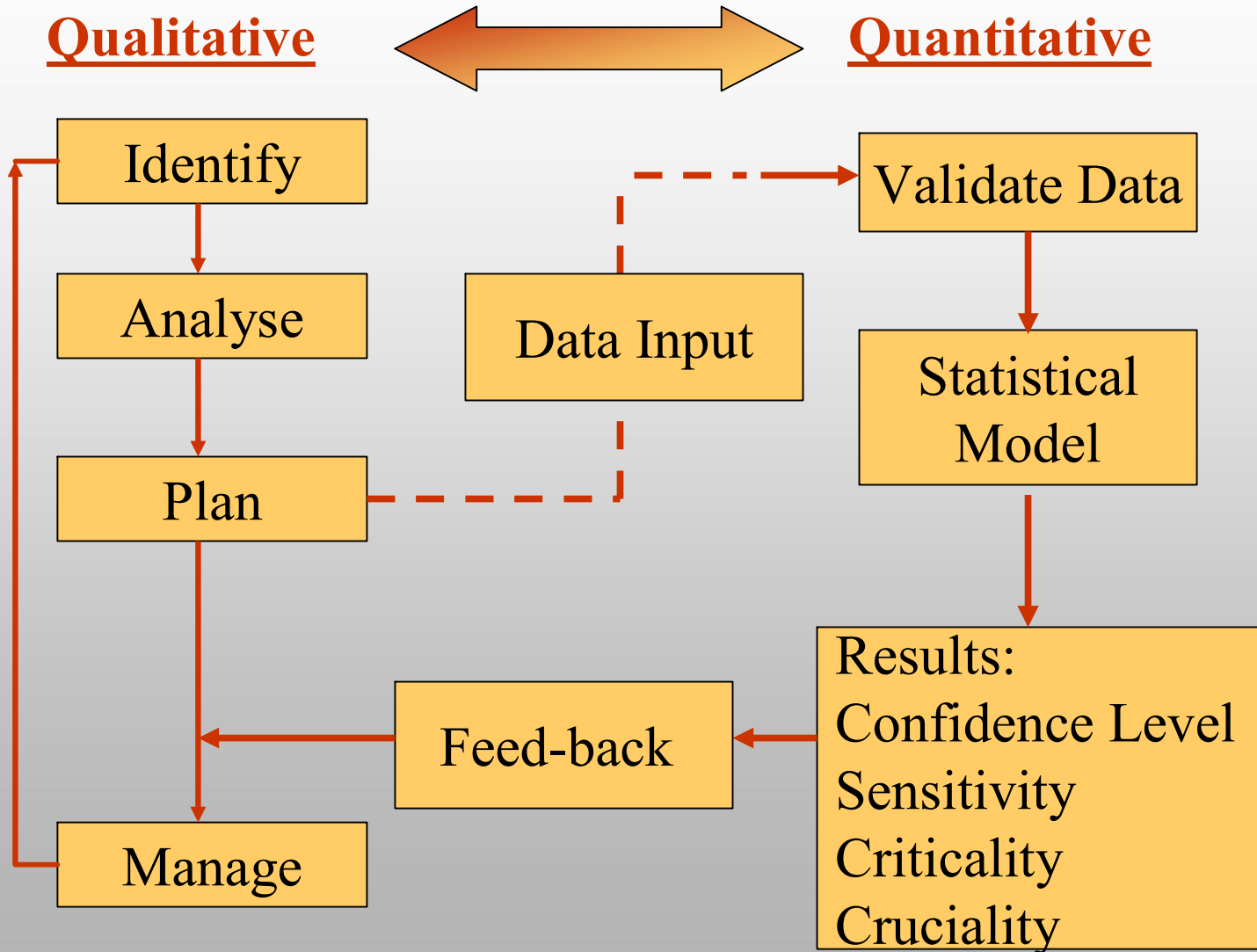
PFG Risk-R3

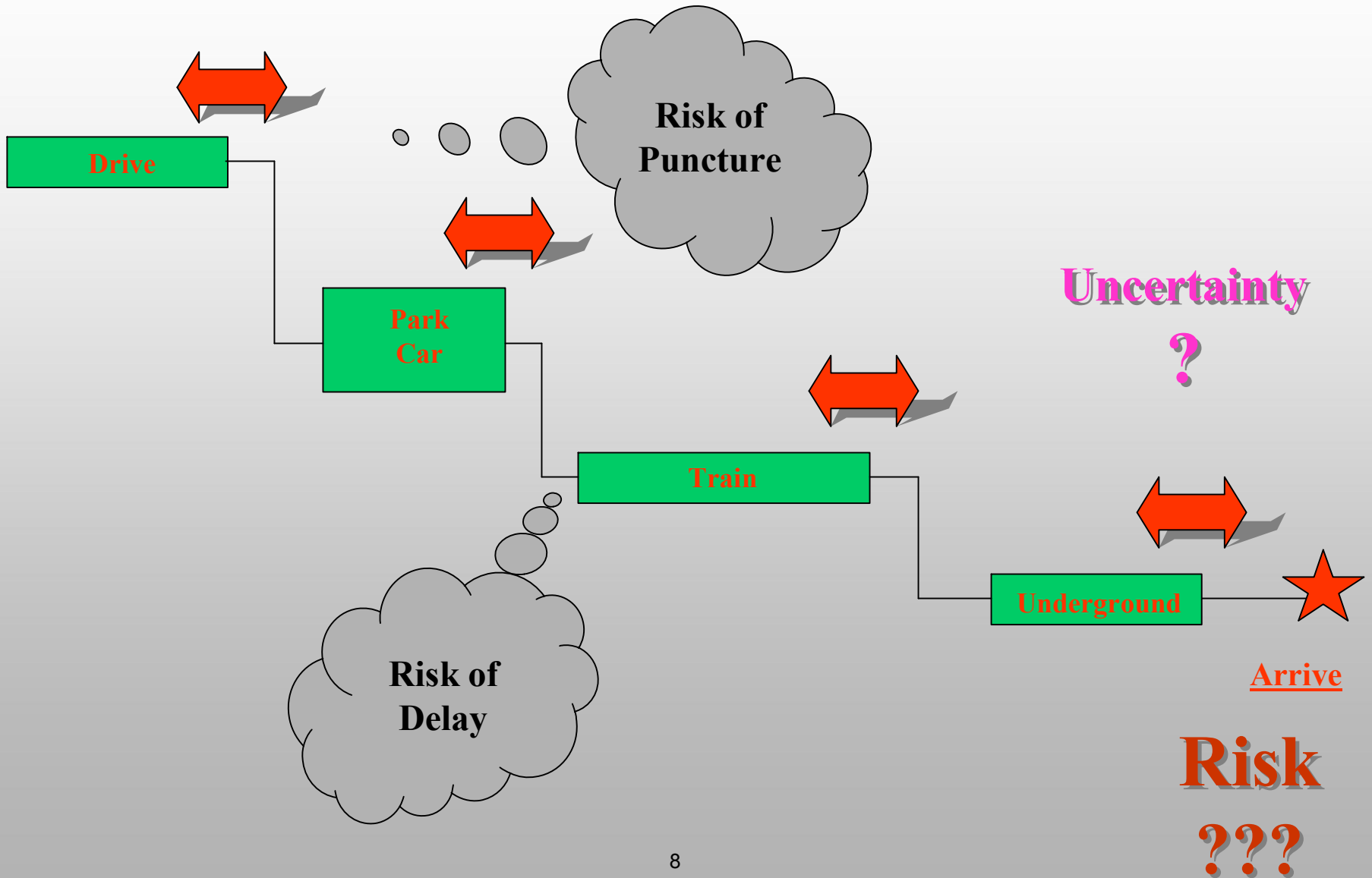


“To improve project performance through effective use of estimating techniques and risk analysis”.

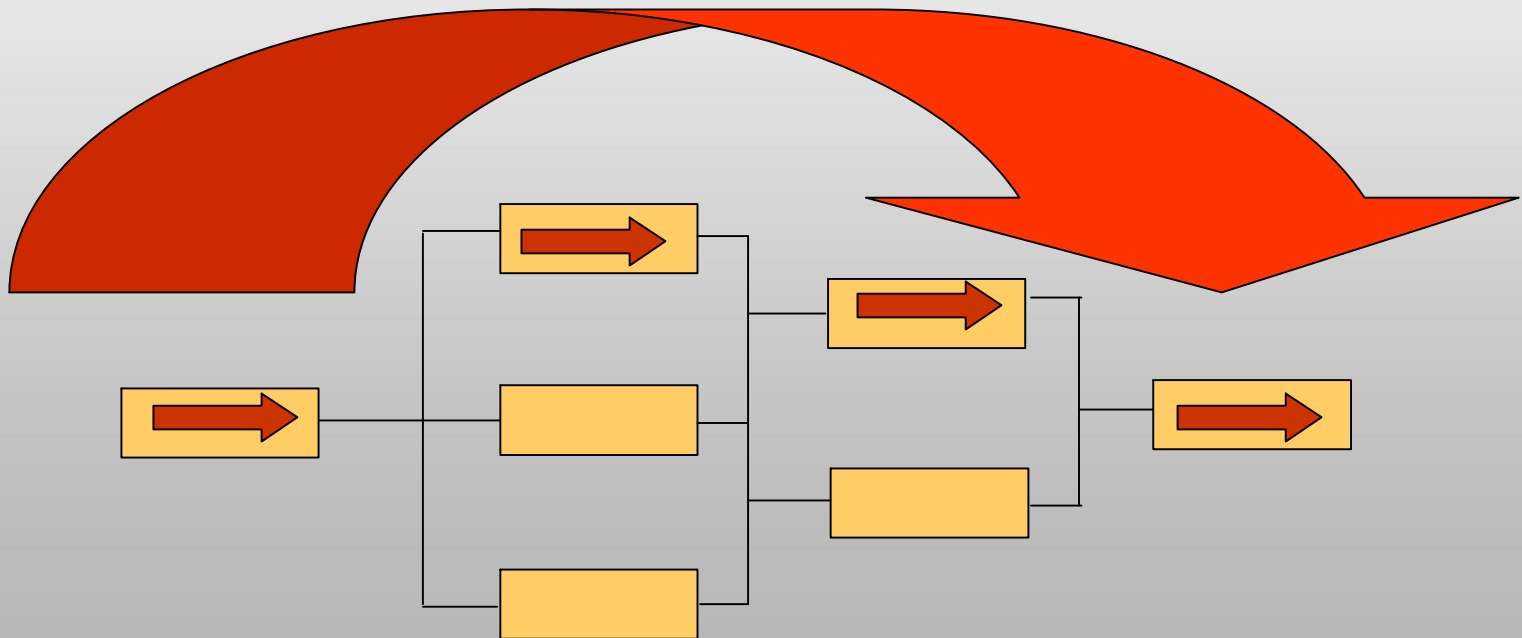
- **Founded on two fundamental Human factor Laws:**
 - **Students.**
 - **Parkinson.**
- **Students Law:**
 - ‘No task will be started until the last possible minute’.
- **Parkinson Law:**
 - ‘All activities will fill their allotted time’.

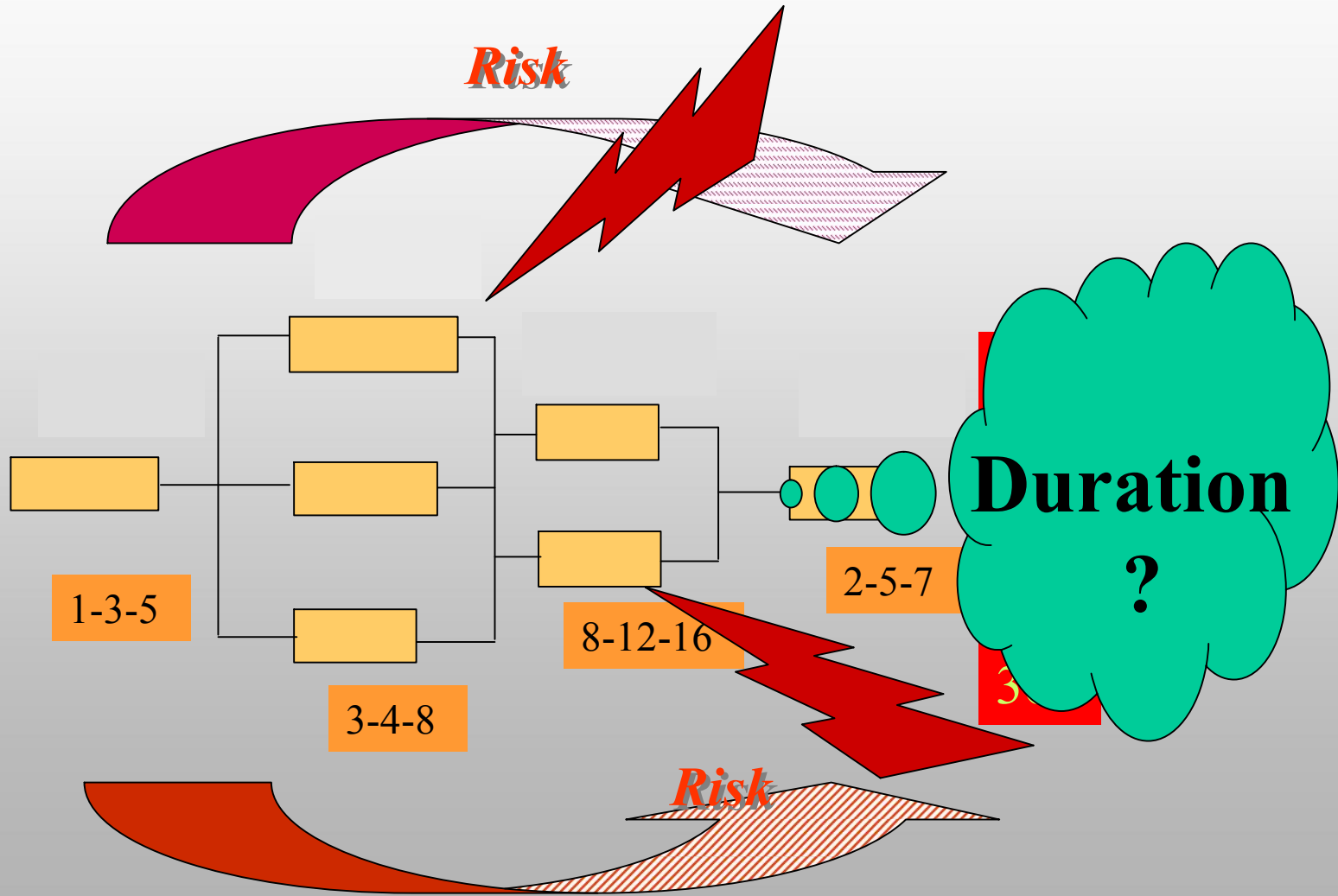




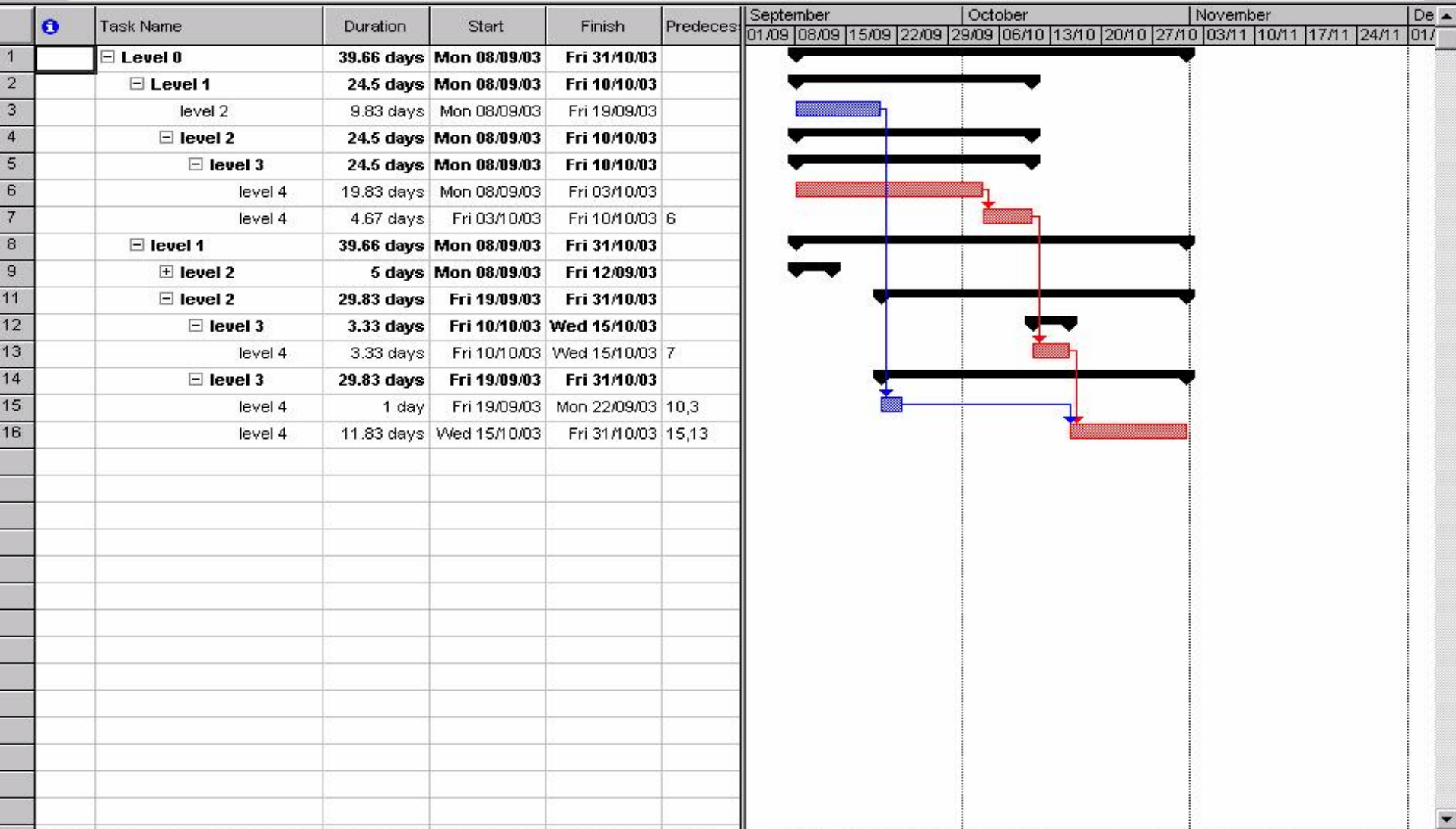


- **Deterministic.**
- **No Uncertainty or Risk.**
- **Float identifies single Critical Path**





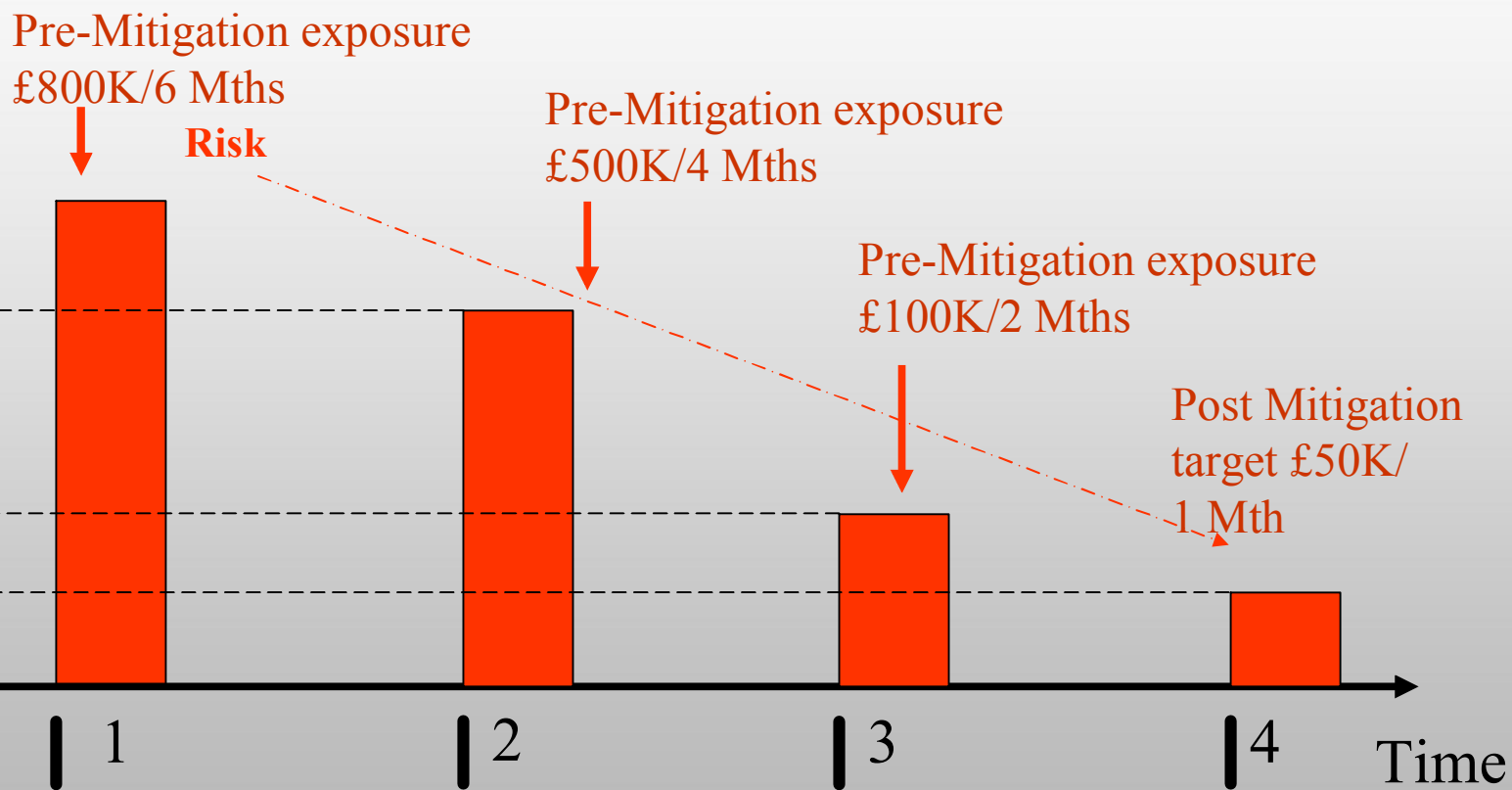
Statistical Modelling



Risk Register

	A	B	C	D	E	F	G	H
1			Example Risk Register					
2	Risk Serial	Risk Description	Probability	Time Impact	Cost Impact	Perf Impact	Mitigation	Fall-back
3	1.1.1	There is a risk that resource will not be available for production of the Business Case.	Low	High	Low	Nil	Manage the Manpower.	Hire EA personnel.
4	2.2.1	There is a risk that the risk model shows that the Project is un-affordable.	Med	Low	Low	High	Agree baseline costs with DEC.	Find alternative method.
5	3.1.1	There is a risk that IAB do not approve Business Case.	Med	Med	Low	Med	Engage IAB at early stage.	Re-evaluate the Project aims.
6	4.1.2	There is a risk that Contract agreement can't be made with the preferred contractor.	Low	Med	Med	Low	Begin negotiations at earliest stage.	Identify alternative suppliers.
7	5.2.1	There is a risk that the system fails acceptance trials.	High	High	High	High	Agree User Requirements and Trade-offs between DEC and Supplier prior to Contract award.	Identify shortfalls and work with DEC to resolve.
9	Probability:		High: >70% Med: 40~70% Low: <40%					
14	Time Impact:		High: 6~12 Mths Med: 3~6 Mths Low: <3 Mths					
Risk Data / Model Data / Assumptions								

Impact



Mitigation Action:

Do Work
£5K/1 Wk

Mitigation Action:

Do Work
£15K/3 Wks

Mitigation Action:

Do Work
£5K/1 Wk

Review Points

	A	B	C	D	E	F	G	H	I	J
1										
2										
3										
4	Risk Serial	Probability	Prob-Range		Time Impact	Time-Range	Days			
5	1.1.1	Low	1~39%		High	6~12 Mths	132~264			
6	2.2.1	Med	40~70%		Low	1~3 Mths	22~66			
7	3.1.1	Med	40~70%		Med	3~6 Mths	66~132			
8	4.1.2	Low	1~39%		Med	3~6 Mths	66~132			
9	5.2.1	High	70~99%		High	6~12 Mths	132~264			
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
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29										

Probability & Impact:

Range:

High, Medium & Low.

Deterministic:

30% or 3 months

Distributions used:

Uniform.

Triangular.

Bernoulli.

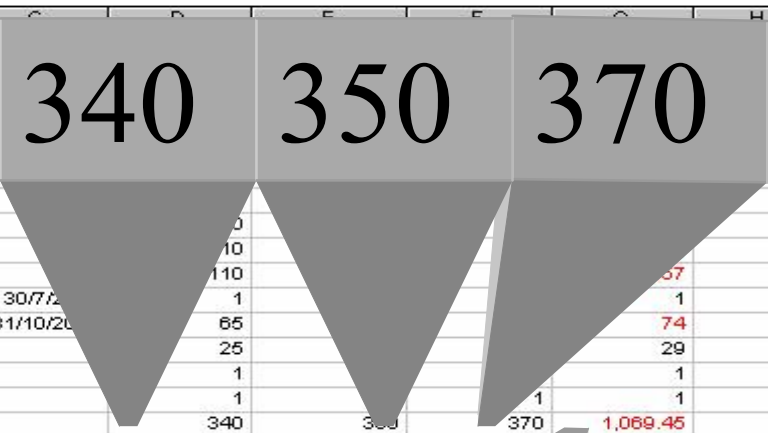
Nothing as exotic as:

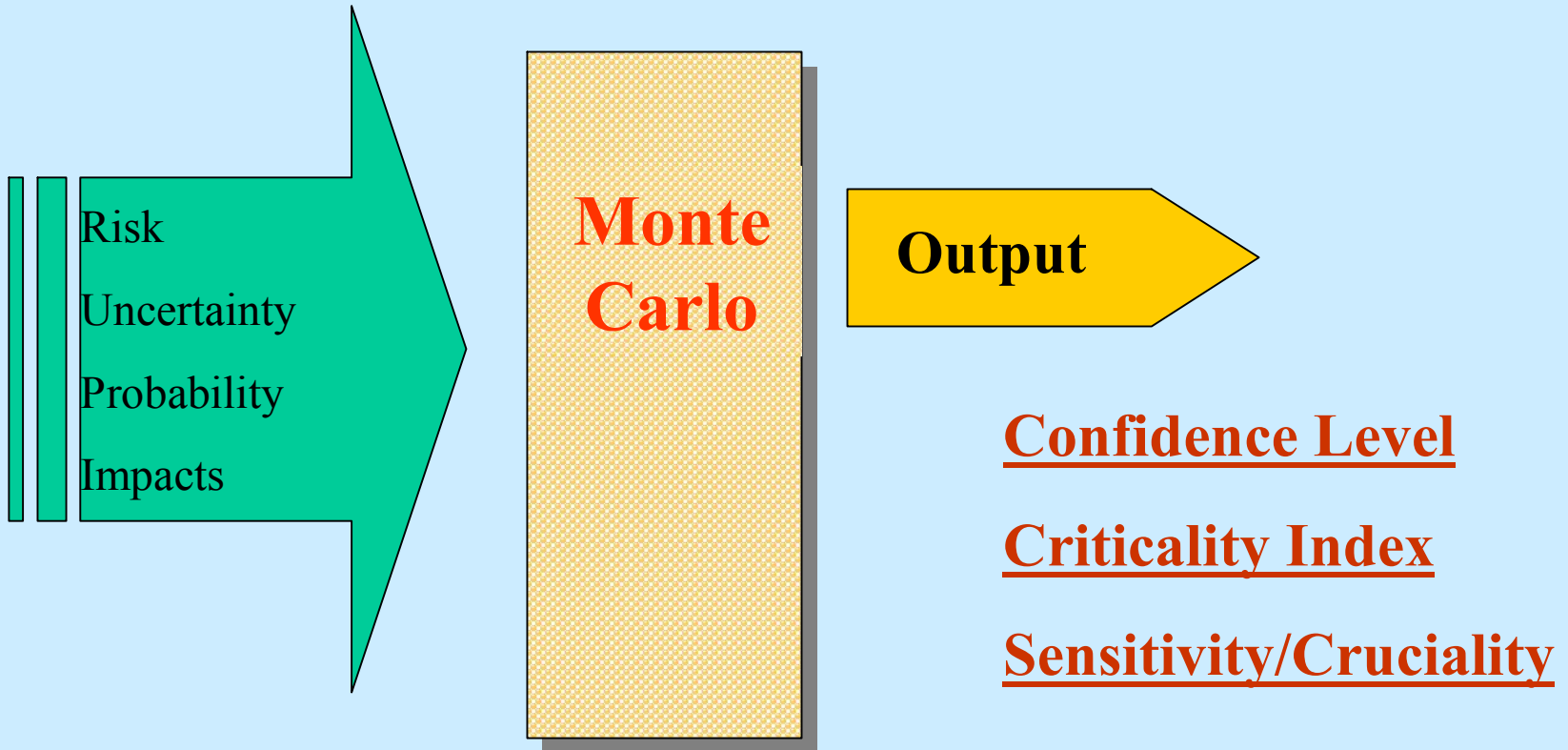
Beta (α, β)

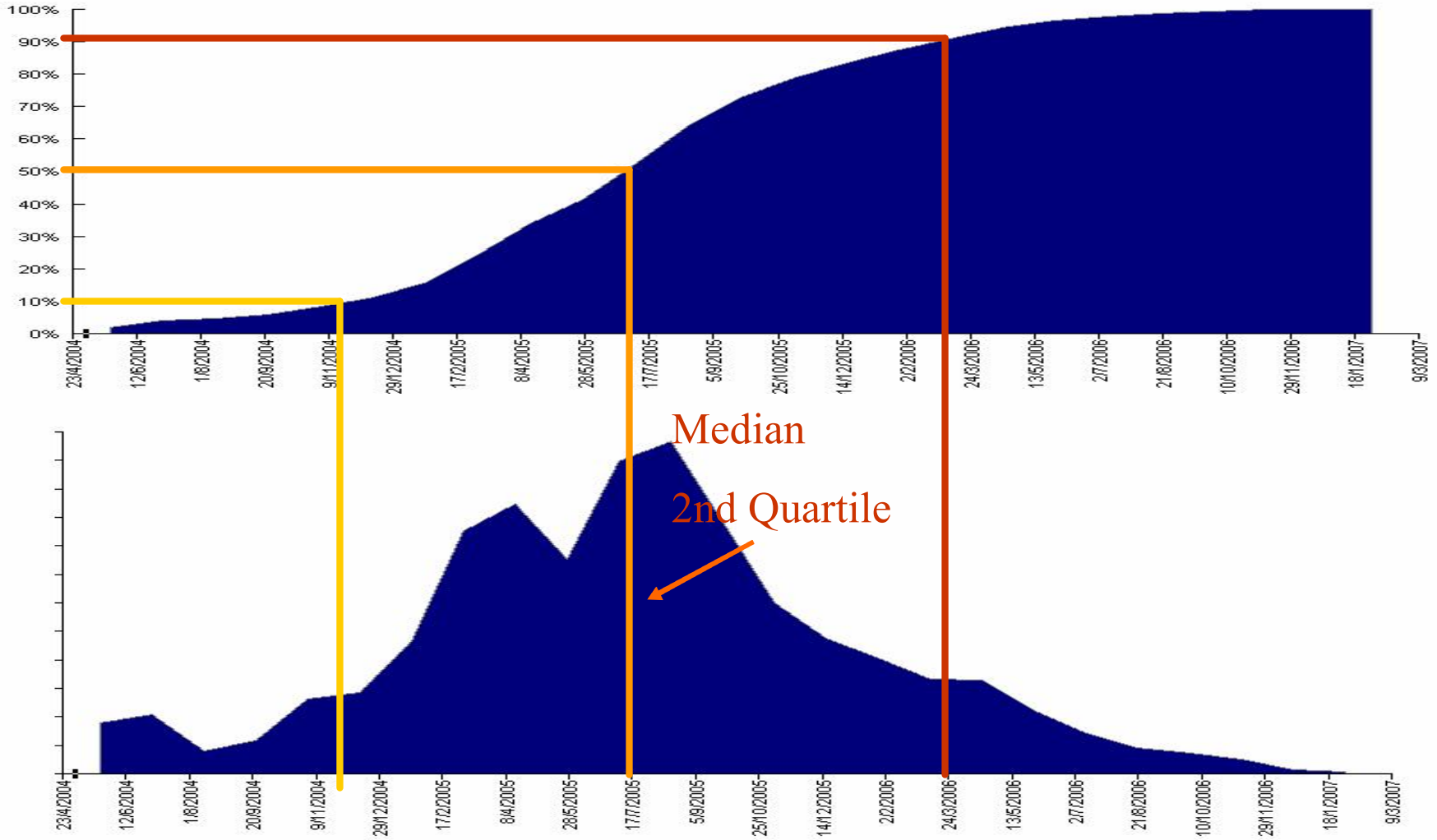
Cauchy (a,b)

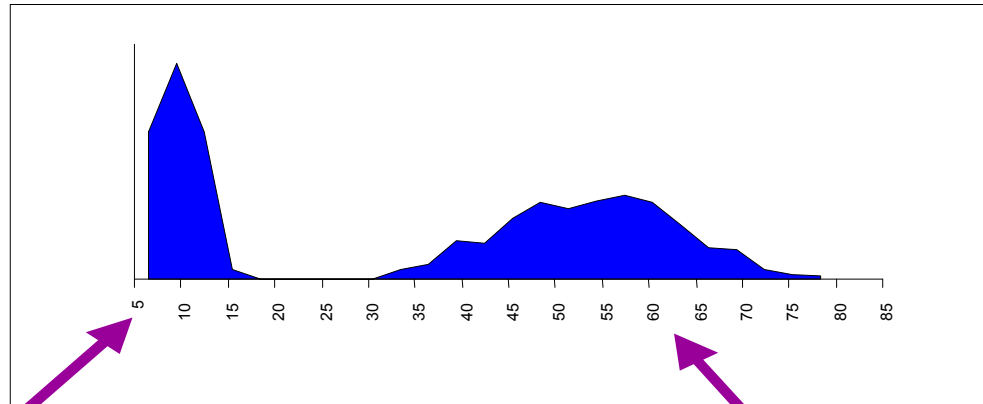
ChiSq

TIER	A4	A	B	C	D	E	F	G	H	I	J	K	
1	Phase 1 Risk Schedule 290703										Timing		
2											(dates)		
3	Activity									Start	Finish	Latest Start	
5	1. Assessment Phase									3/11/2003			
6	2. AP Preferred Bidders Identified									25/6/2003	13/11/2014 15:21:07	/2003 15:2	
7	3. Gatekeeper Study								0%	25/6/2003	25/6/2003	24/6/2	
8	4. Bidder Debrief/Tender Negotiations								0%	25/6/2003	17/6/2004	/2012 15:2	
9	5. Produce Demonstration MEL								0%	25/6/2003	25/10/2005 19:26:20	/2005 12:3-	
10	6. Arrange Delivery of GFX								0%	25/6/2003	12/12/2003	/2005 01:30	
11	7. SEI ITT Issue	30/7/2003							0%	25/6/2003	1/9/2005 01:33:33	25/6/2	
12	8. Deliver SWE	31/10/2003							0%	30/7/2003	30/7/2003	/2012 15:2	
13	9. SEI Tender Assessment								0%	3/11/2003	12/2/2004	18/7/2	
14	10. AP Contract Award								0%	29/9/2003	7/11/2003	/2013 15:2	
15	11. SEI Contract Award								0%	7/11/2003	26/10/2005 19:26:20	/2007 15:00	
16	12. C4I Studies		340						0%	7/11/2003	10/11/2003	/2013 15:2	
17	13. C4I System Design and Development		400	300				370	1,069.45	/2005 19:26:20	2/12/2009 06:16:17	/2010 04:3	
18	14. Initial WLC Modelling		260		280				673.395	/2005 19:26:20	27/5/2008 04:55:27	/2012 05:5	
19	15. Develop Synthetic Environment		320		350				356	/2005 19:26:20	29/11/2006 19:26:20	/2013 15:00	
20	16. Delivery of GFX Hardware		1		1				1	0%	10/11/2003	22/3/2005	/2013 15:2
21	17. Prepare for Demonstration		390						2,377.57	/2005 01:33:33	2/9/2005 01:33:33	/2005 01:30	
22	18. Gatekeeper Report Delivered		1						1	0%	14/10/2014 15:21:07	/2005 01:30	
23	19. Finalise Vehicle Strategy		240						255	0%	17/6/2004	18/6/2004	/2013 15:2
24	20. WLC Report Draft 1								1	0%	18/10/2006 19:26:20	18/10/2006 19:26:20	/2013 15:2
25	21. Full WLC Modelling								157	0%	30/11/2006 19:26:20	30/11/2006 19:26:20	/2014 15:00
26	22. Comms and Sensor Strategy Delivered								1	0%	9/7/2007 19:26:20	9/7/2007 19:26:20	/2014 15:2
27	23. SEI available for use								1	0%	3/12/2009 06:16:17	3/12/2009 06:16:17	/2014 15:2
28	24. C4I System Modelling								1	0%	22/3/2005	23/3/2005	/2014 15:2
29	25. Vehicle Strategy Delivered								35	0%	23/3/2005	13/7/2005	/2014 15:2
30	26. WLC Report Final								1	0%	19/10/2006 19:26:20	19/10/2006 19:26:20	/2014 15:2
31	27. Critical Design Review								1	0%	10/7/2007 19:26:20	10/7/2007 19:26:20	/2014 15:2
32	28. Delivery of Demonstration GFX								1	0%	4/12/2009 06:16:17	4/12/2009 06:16:17	/2014 15:2
33	29. AP System Demonstration								1	0%	15/10/2014 15:21:07	15/10/2014 15:21:07	/2014 15:2
34	30. D&M Phase Preparation								1	0%	13/11/2014 15:21:07	13/11/2014 15:21:07	/2014 15:2
35	31. Prepare D&M Phase SOW		250		280		310		267	0%	23/12/2015 15:06:42	23/12/2015 15:06:42	/2005 15:00
36	32. Issue D&M Phase SOW		1		1		1		1	0%	3/11/2006 19:26:20	3/11/2006 19:26:20	/2007 15:00
37	33. Prepare D&M Phase Bid		260		280		300		280	0%	6/11/2006 19:26:20	6/11/2006 19:26:20	/2008 15:00
38	34. D&M Phase Bids Received		1		1		1		1	0%	3/12/2007 19:26:20	3/12/2007 19:26:20	/2013 15:2
39	35. Undertake Bid Compliance Check		25		30		35		235.99	0%	14/11/2014 15:21:07	14/11/2014 15:21:07	/2014 15:2
40	36. D&M Phase Preferred Bidder Identified		1		1		1		1	0%	12/10/2015 15:06:42	12/10/2015 15:06:42	/2014 15:2



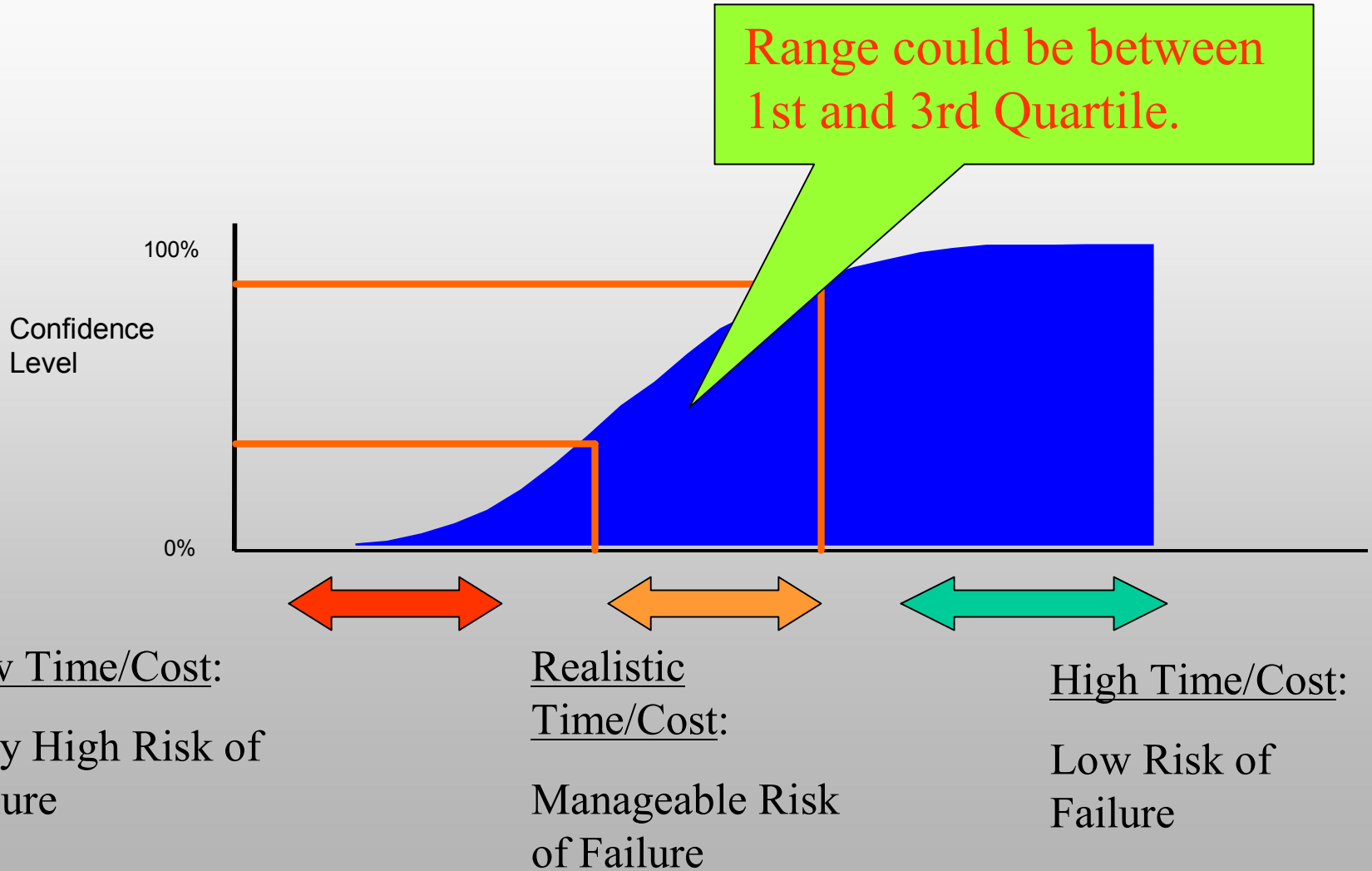






Total Uncertainty

Total Risk



Summary

- **More than just Modelling Tools:**
 - Are all Risks identified.
 - Are Probabilities and Impacts correct.
- **Can be used in Complex and Simple projects:**
 - Thousands to unit activities.
 - Changes in Critical Path.
- **Identifies the ‘Bigger-Picture’.**
 - Top-Ten Risks can mask problems.
 - Highlights Risk Exposure and Mitigation impact.



Additional Information and Support:

Risk Analysis Team

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Peter Campbell: 011791 34129

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Question Time

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