



Commerce Decisions
A QINETIQ company

Evaluation Masterclass: Secrets to Success

Kimm Krueger – VP Sales and Business Development (Canada)
Philip Lear – International Account Director

Agenda

Introduction to Commerce Decisions

Procurement Challenges – Complexity

Structured Criteria Development

Real Value for Money (RVfM)

Will cost

Testing

Summary

“Commerce Decisions is making a difference by helping people around the world benefit from the right procurement decisions being made on important projects”



ABOUT US

Established 2001

Acquired by QinetiQ 2008

150 years combined
evaluation experience



LOCATIONS

UK

Australia

Canada



CREDENTIALS

BSI ISO 9001

BSI ISO 27001

Cyber Essentials Plus


GCloud

PRINCE2

CIPS



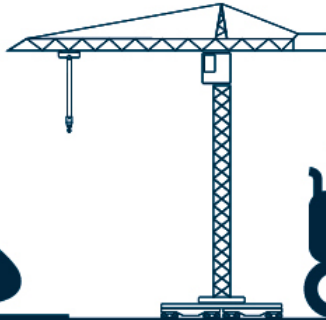


**OVER \$400 BILLION
WORTH OF PROJECTS
EVALUATED** 

95 MILLION

PAGES OF A4 ELECTRONICALLY
SUBMITTED PER YEAR
INTO AWARD[®]

**= 11,875
TREES SAVED**



13.6K PROJECTS



**13,131,170
ANSWERED
QUESTIONS**


**206k
INDIVIDUAL
USERS**

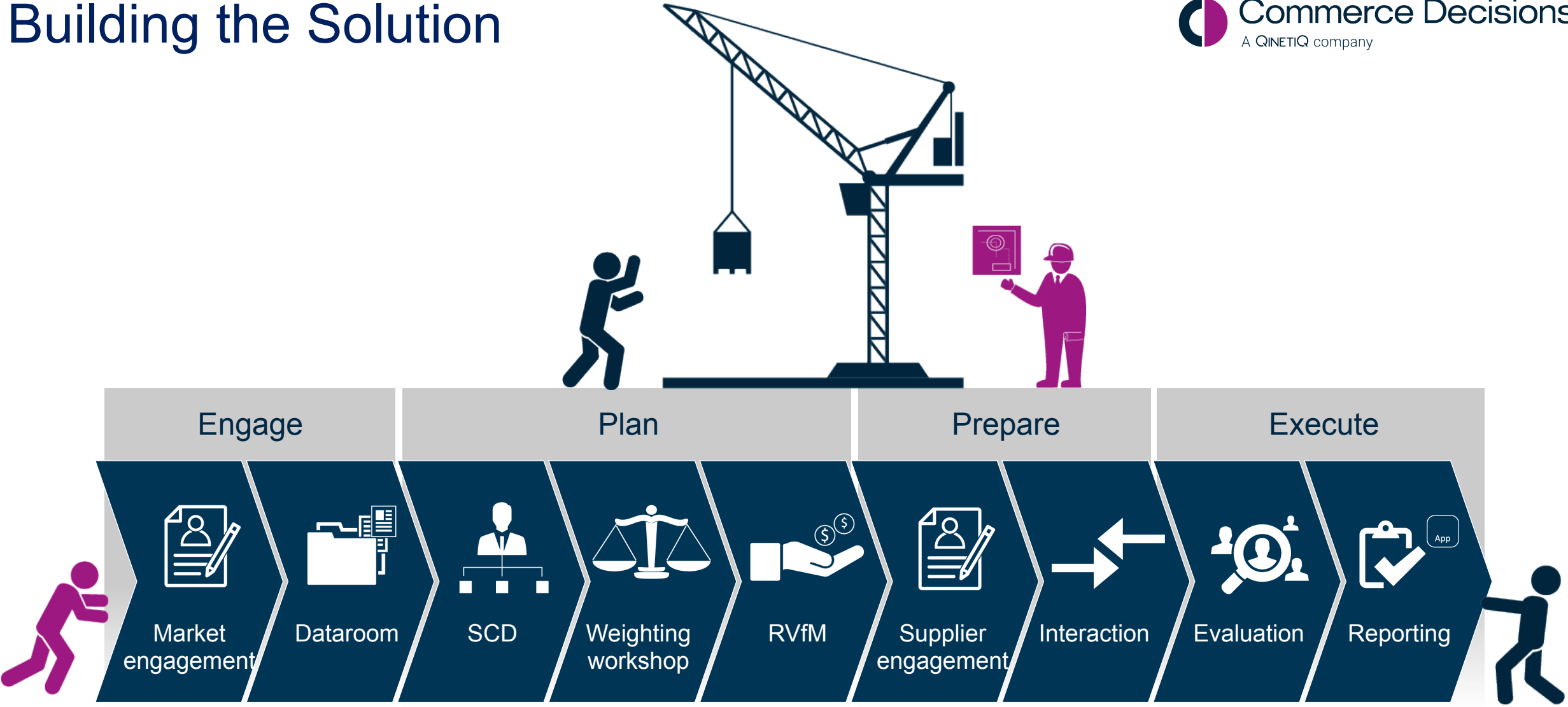


**AVERAGE
TIME SAVED
40%**



**96%
CUSTOMER
RETENTION**

Building the Solution



Expert Services



Project types

Collaborative projects



Multi-lot projects

FM Projects



Capital build projects

Multi-region projects

Infrastructure projects

IT/Telecoms projects

Framework agreements

Major outsourcing

Politically sensitive projects

Options appraisal



High Value

High Risk

High Complexity

Engagement examples

Ministry of Defence

- Tailored AWARD® licence packages
- Expert services and technology support
- Audit, scrutiny and reporting



Project

Crossrail

- Annual AWARD® licences (multi-project)
- Full-time equivalent support
- Fully managed service



Programme

Department for Work and Pensions

- Multi year enterprise licence commitment
- Annual AWARD® training
- ExpertAssist helpdesk support



Organisation

International case studies

Canadian Service Combatant

- Structured Criteria Development and Real Value for Money
- Full time equivalent
- Thought Leadership, cost, value



Value for Money

SANGCOM

- SCD and RVfM project licence
- International competition standards
- Managed service deployment



Transparency

MMRA

- Programme package with assisted rollout and adoption
- Evaluation focus
- Large disparate teams



Robust decisions

AWARD® solution case studies

NHS Commercial Solutions

"We use AWARD® for all of our significant procurements and to support the NHS World Class Commissioning initiative. Its inherent flexibility has allowed us to tailor it to our specific needs."



Flexibility

TfL

"AWARD® saves TfL a significant amount of effort and cost."



Efficiency

BBC

"The visibility and control that AWARD® brings to BBC procurement is invaluable."



Process control

Canada – Future Fighter



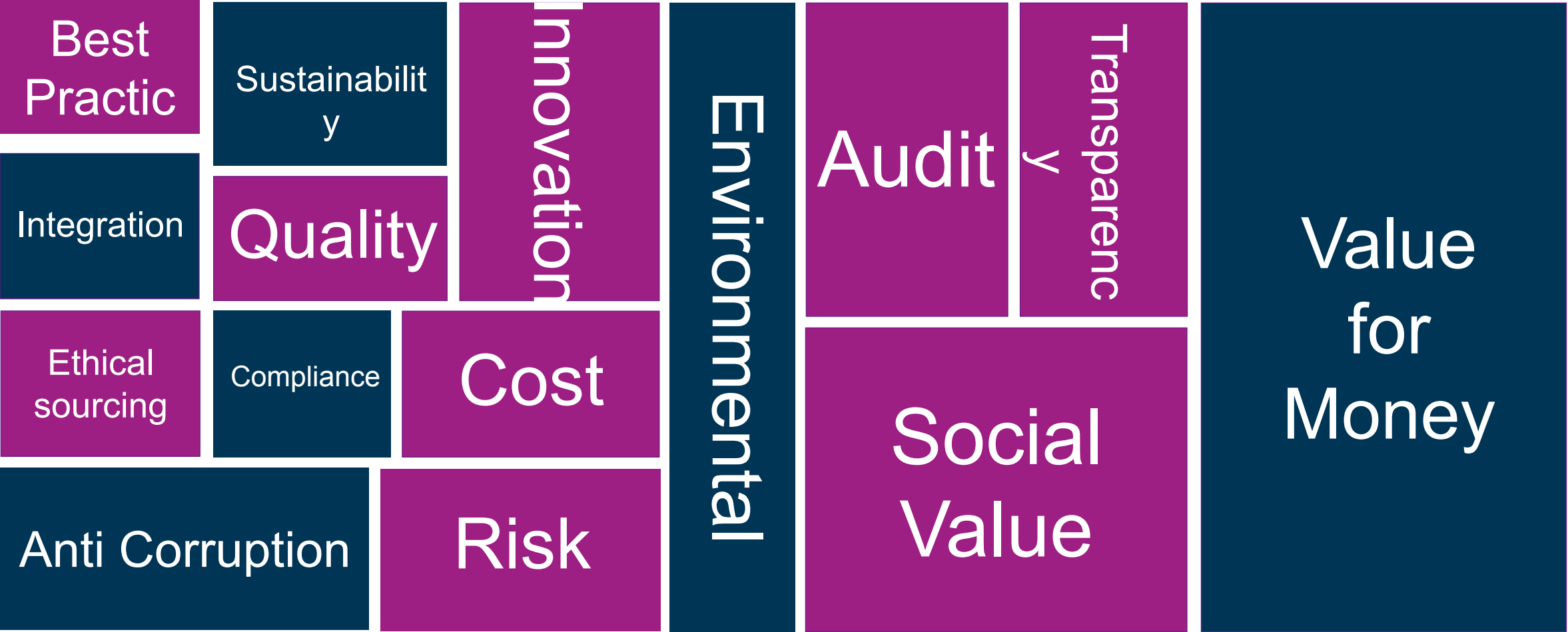
Presenter



Philip Lear

- Supplier selection expert for complex/strategic procurement projects.
- Experience of global procurement processes, eProcurement technology and evaluation best practice methodologies.
- Extensive knowledge of international infrastructure and defence organisations and how to make more effective, robust and evidence based procurement decisions.
- Transparency and Social Value Champion
- Offset Programme and Prosperity Model Design
- Publications:
 - “Becoming a Smart Buyer” - Australian Defence Magazine – March 2016 (Vol. 24 No.3).
 - “Getting Procurement Right First Time” - Vanguard Canada Magazine - Aug/Sept 2015
 - “Light at the end of the Tunnel” – ReNew Canada Magazine – Dec 2014

Procurement Challenges



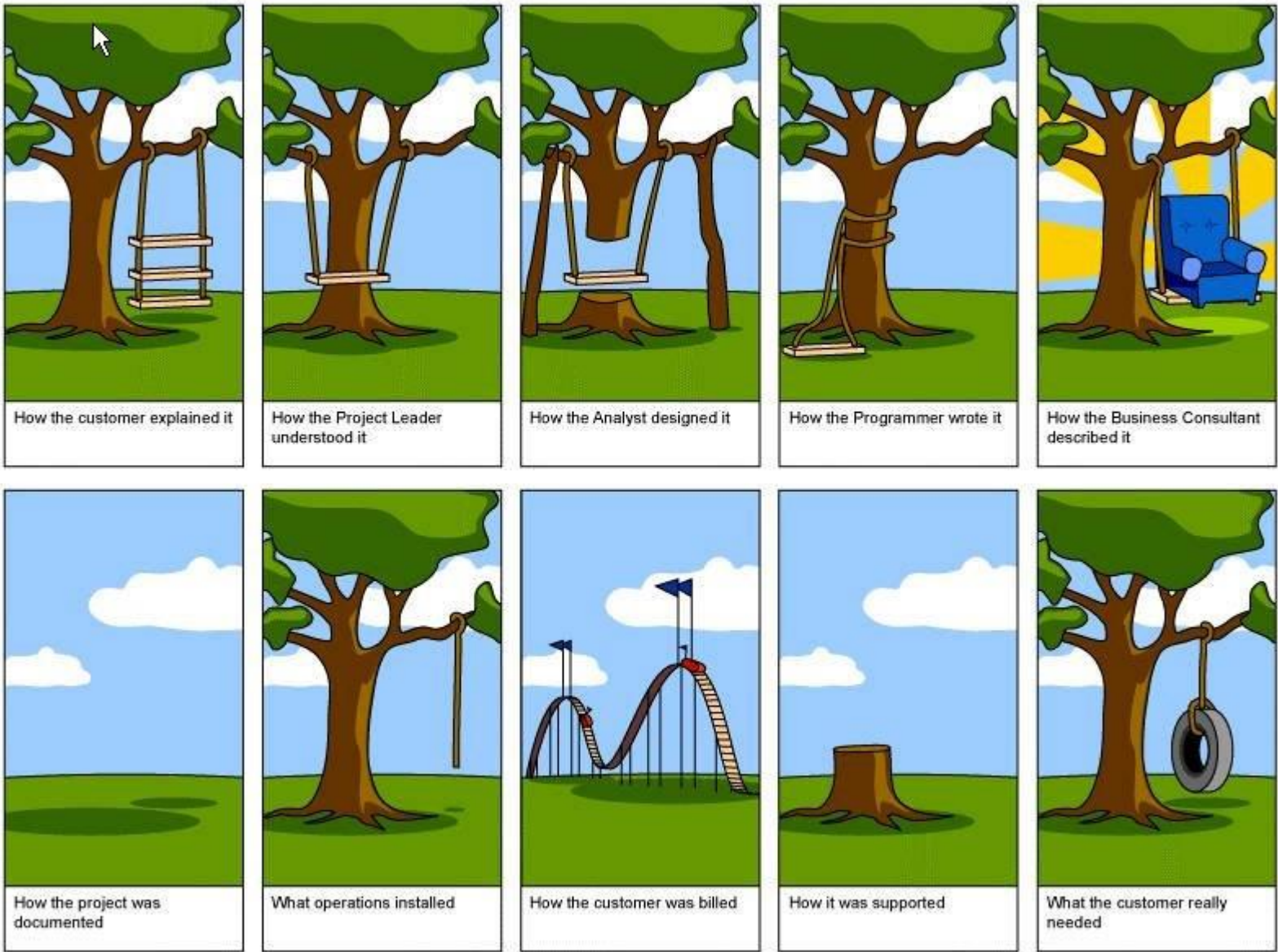
Complexity



Complexity



Getting it wrong...



Common Sub-Optimal Outcomes

- ☹ The top 2 or 3 bids are scored **very closely**, with little numerical difference in the overall MEAT calculation. There is a consequent lack of confidence in the result (& a higher risk of challenge)
- ☹ All bidders deemed **non-compliant** at the end of evaluation
- ☹ Incumbent providing an **acceptable** service for an **acceptable** price beaten by a **high risk** winning tender
- ☹ Preferred supplier clearly identifiable at end of tender evaluation, but, key senior stakeholder (e.g. SRO) **unhappy**, viewing outcome as **intolerable**
- ☹ Winning bidder obviously '**gamed**' the competition
- ☹ Bidder's face-to-face presentation to delivery team was **dire**, despite scoring 0% of the 10% available score for presentation, they go on to **win** the competition

Understand Complexity



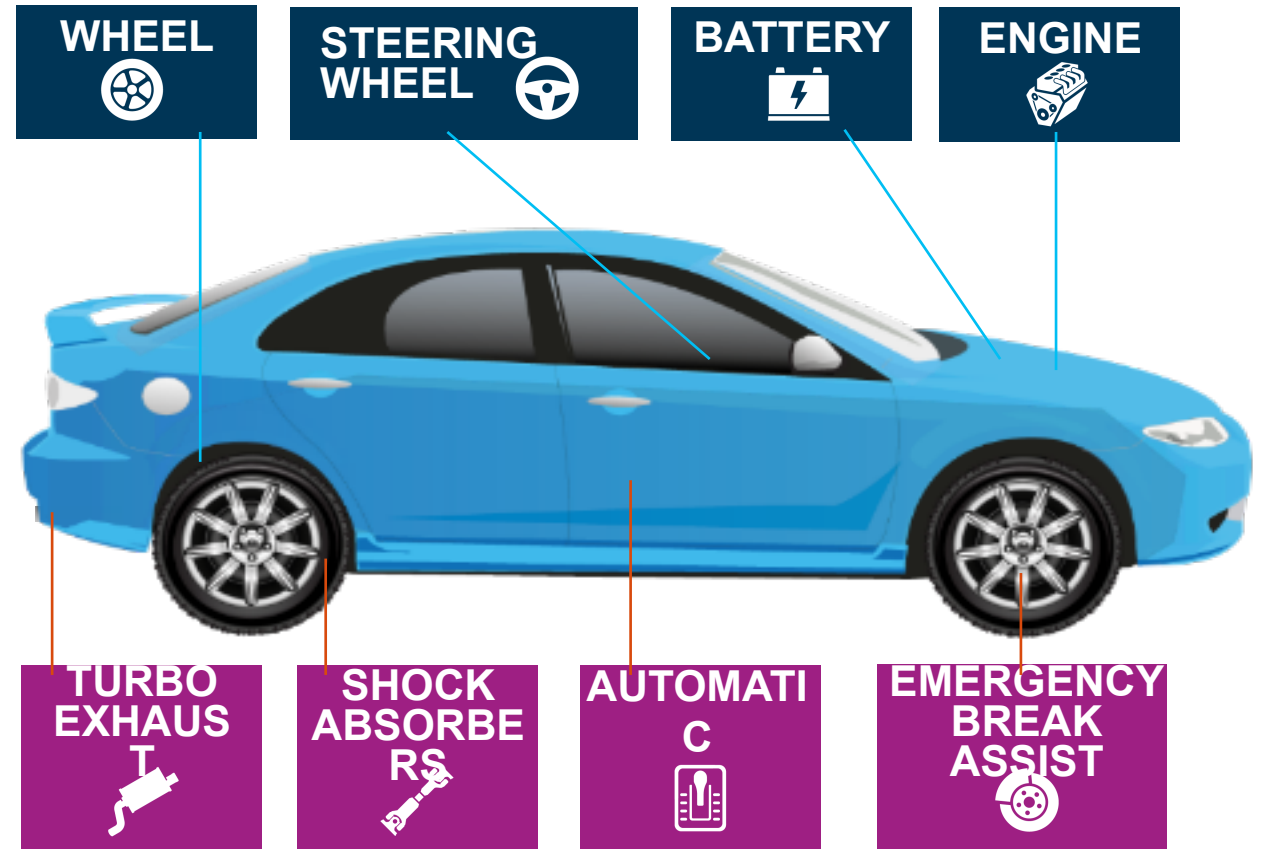
Clarity of Vision for the Procurement



Being able to answer this succinctly
(preferably with collective agreement)
is a prerequisite for successful project delivery

Requirements and Criteria

- **Requirements** are a mix of
 - What we **need** (must have)
 - What we **want** (would like)
- **Award Criteria** are how we choose





“Traditional” approach

- Evaluate against a large number of requirements
- Evaluation of compliance
- Decision made on compliance and price – i.e. cheapest compliant

Structured Criteria Development

- Smaller number of high-level criteria
- Criteria examine things that ensure the requirements will be met
- Decision made on confidence that the bidder will be able to deliver the requirements, balanced against price

Requirements and criteria are different

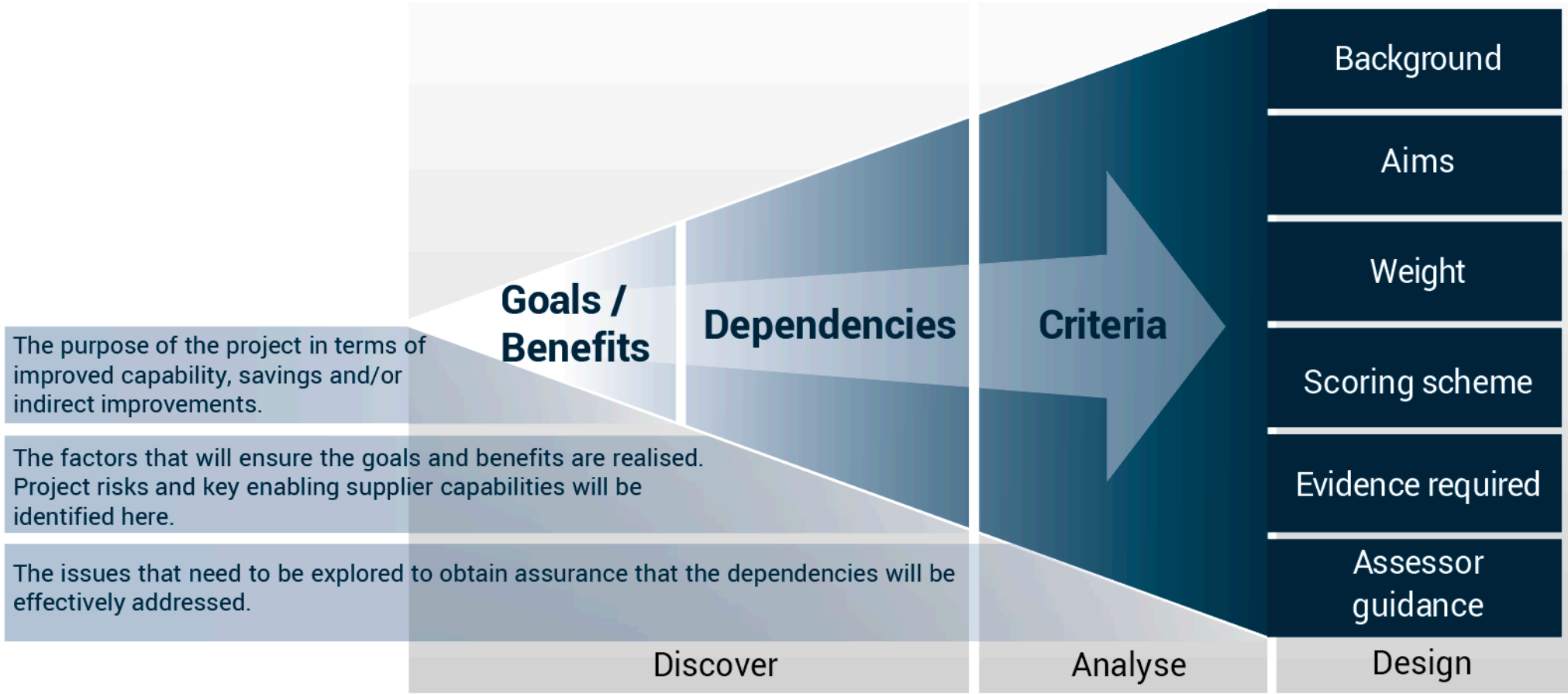


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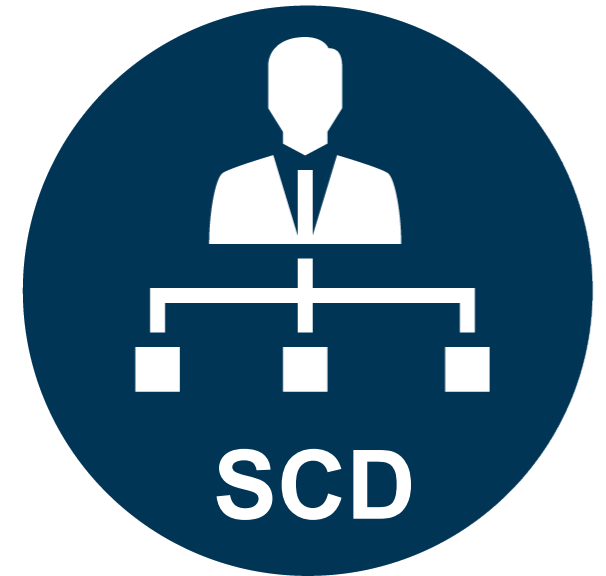
Structured Criteria Development

Structured Criteria Development



Questions asked

1. **Why** do we need ... ?
2. **What** needs to be in place to get ... ?
- or What does ... consist of?
3. **How** can we assure we get ... ?
4. **When** do we need ... by?



A Possible Approach¹ – *An Excellence Narrative*

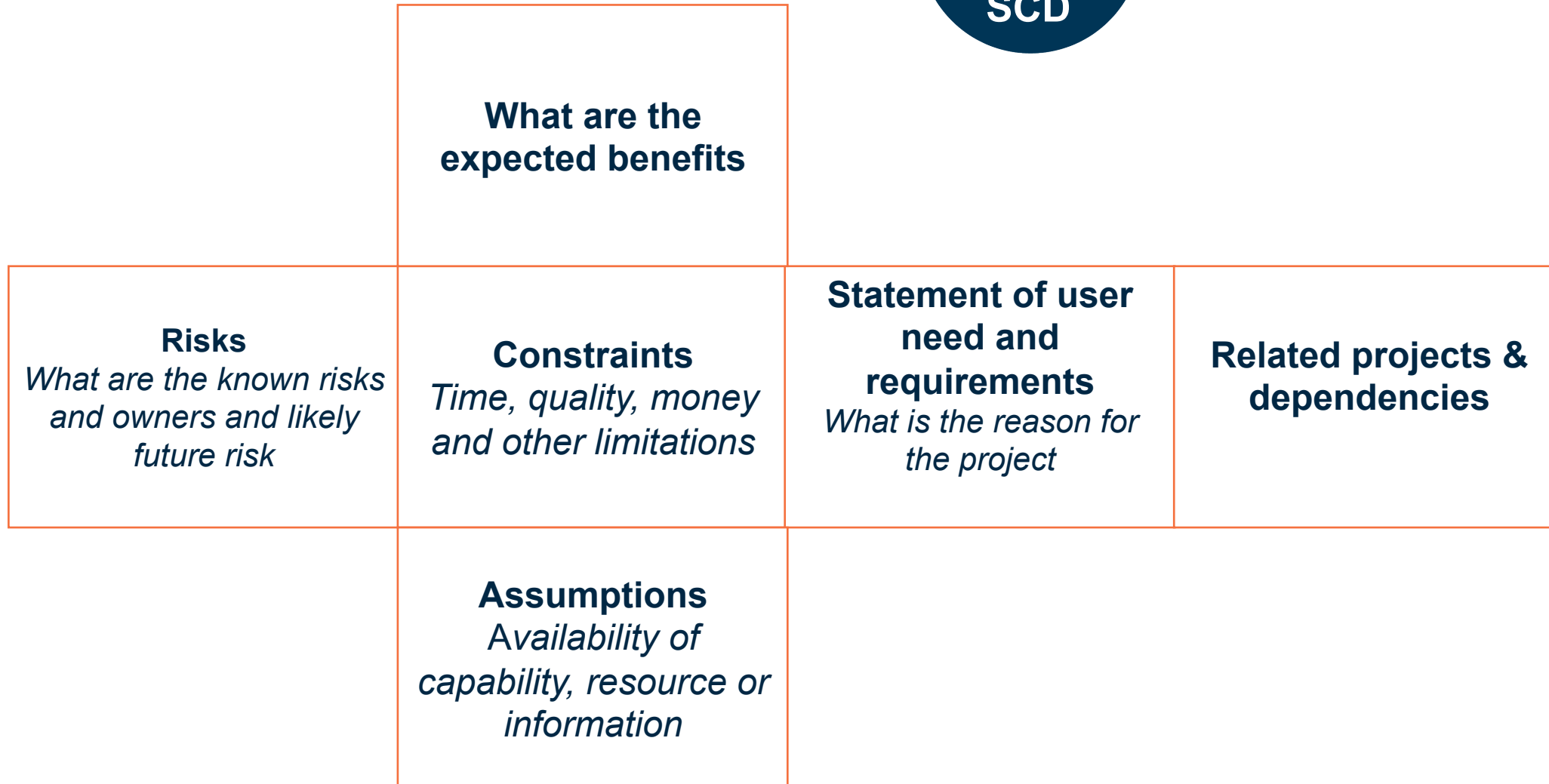


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<i>Realism is Key</i>	<i>A Vision of Excellence</i>	<i>Red Line or Barely Acceptable Outcome</i>
Positive – Describe the outcome with definitive language		
Own Part – Describe the procurement outcome in a more important wider system or landscape		
Specifically – Describe, visualise or rehearse this outcome. Mentally test the outcome. Describe this rehearsal or testing activity		
Time – Explicitly describe a small number of key/critical milestones and how they relate		
Evidence – Identify and describe the evidence that will materially demonstrate or prove the outcome		
Resources – Identify and describe the internal and external resources underpinning the outcome		
So What? – What are the likely key consequences of this outcome?		

1. POSTERS Mnemonic - Adapted by Swannell. Based on O'Connor and Seymour (1993), *Introducing NLP* (Well Formed Outcomes)

The Box



Award criteria weighting factors



IMPACT The extent to which the lack of this capability or solution would affect the overall objectives of the project. How likely is it that the Authority could rectify the deficiency by other means?	Vital	The Authority could not rectify this by other means and it would result in complete failure to meet objectives.
	Very Important	The Authority would find it difficult or very expensive to rectify this by other means.
	Important	The Authority could rectify this, but it would cause inconvenience or additional expense.
	Neutral	The Authority could easily rectify this at minimal cost
DISTINCTIVE CAPABILITY Within the expected group of bidders, the measure of difficulty that Authority anticipates that each would have in scoring 'Excellent Confidence'.	Rare	Only one or two bidders will be able to do this well
	Scarce	Few bidders will be able to do this well
	Common	Most bidders will be able to do this well
	Universal	Any bidder will be able to do this well
CERTAINTY A measure of the level of information available to bidders to enable them to formulate a response.	Full information	Complete clarity would allow a totally informed response
	Good Information	Most of the information required is available, can be inferred or can safely be assumed.
	Partial Information	Responses will need to rely in part on intelligent assumptions as there are significant gaps in the available information.
	Vague	Very little information is available, so responses are expected to be speculative, imprecise and lacking in detail.
IMMEDIACY The extent to which the question relates to current or future demands on bidders (from the date of contract award).	Immediate	The capability, solution or resource must be available from the date the contract is signed
	Short Term	The capability, solution or resource must be guaranteed to be available 'soon' after contract award
	Medium Term	The capability, solution or resource must be guaranteed within a reasonable time after contract award
	Long Term	The is little or no urgency in the availability of capability, solution or resource relative to the date of contract award

Testing Validity of the Questions



	Neutral	Important	Very Important	Vital
Rare	Question why it's Needed!	Evaluate for Compliance/ Capability	Good Question for Evaluation	'Killer Question' for Evaluation
Scarce	Specify in the Contract	Evaluate for Compliance/ Capability	Good Question for Evaluation	Good Question for Evaluation
Common	Specify in the Contract	Specify in the Contract	Evaluate for Compliance/ Capability	Evaluate for Compliance/ Capability
Universal	Manage	Specify in the Contract	Check for Compliance and specify in contract	Check for Compliance and specify in contract

Reviewing the Outcomes

- ☺ There is clearer differentiation between scores of the bidders. This provides greater confidence in the result (and reduces risk of challenge)
- ☺ Fewer bidders deemed **non-compliant** at the end of evaluation
- ☺ Preferred supplier clearly identifiable at end of tender evaluation, and key senior stakeholder (e.g. SRO) **happy**, viewing outcome as a **good result**
- ☺ Bidder's face-to-face presentation to delivery team was **dire**, as this part of the evaluation was dealt with appropriately, they **fail to win** the competition

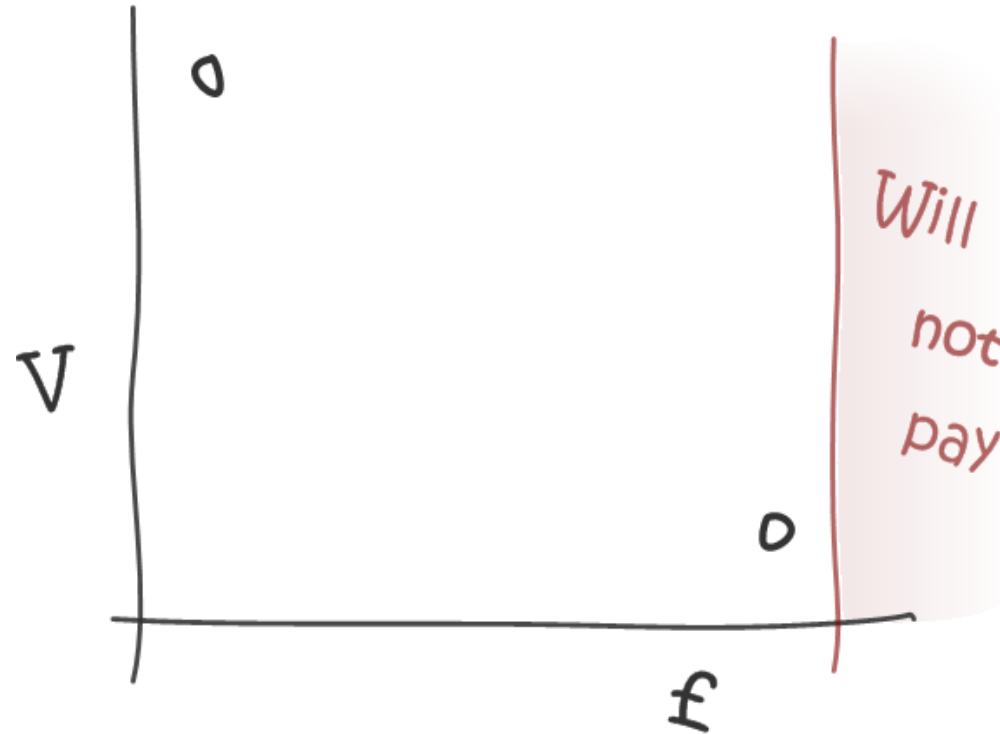


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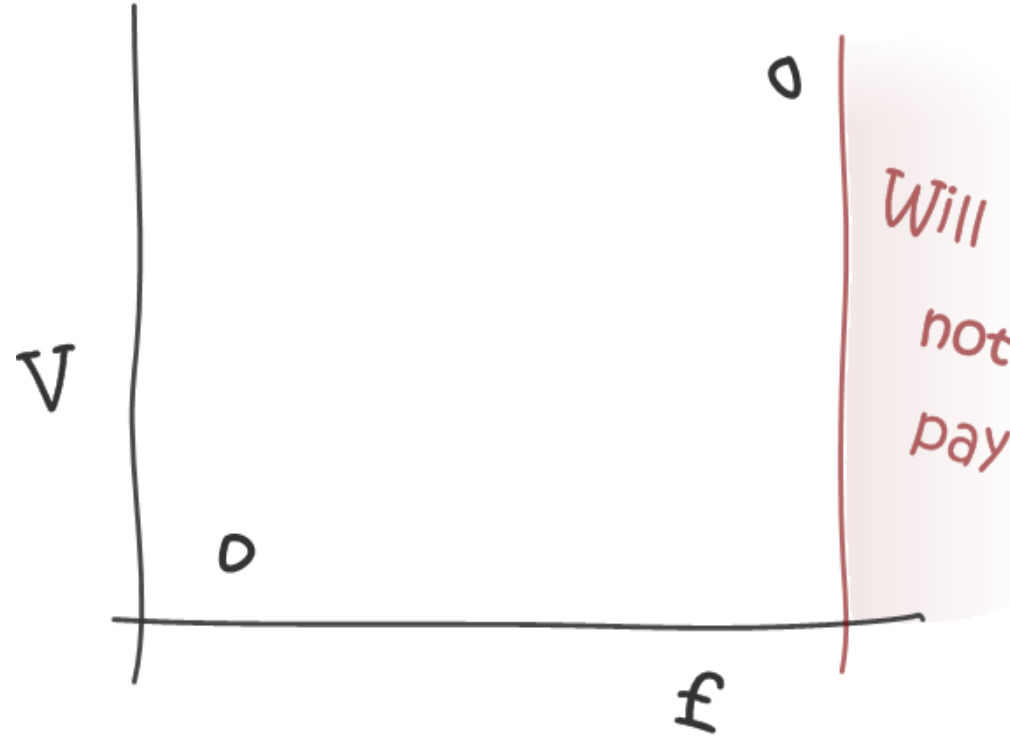
Real Value for Money

How do we Judge the Winner? EASY!



How do we Judge the Winner? CHALLENGING!

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So what is Value for Money?

Define Value for Money as:

- The **optimal use of resources** to achieve the **intended outcomes**.
- ‘**Optimal**’ means ‘the most desirable possible given expressed or implied restrictions or constraints’.

“Value for money is not about achieving the lowest initial price”

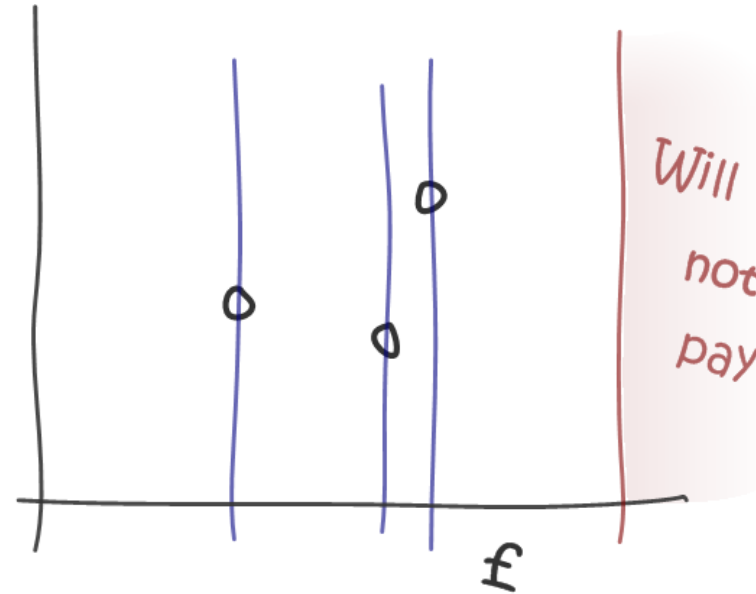
How do we Judge Value for Money?

- We use three criteria to assess the value for money of government spending:
 - **Economy = spending less**
minimising the cost of resources used or required (inputs)
 - **Efficiency = spending well**
the relationship between the output from goods or services and the resources to produce them
 - **Effectiveness = spending wisely**
the relationship between the intended and actual results of spending (outcomes)

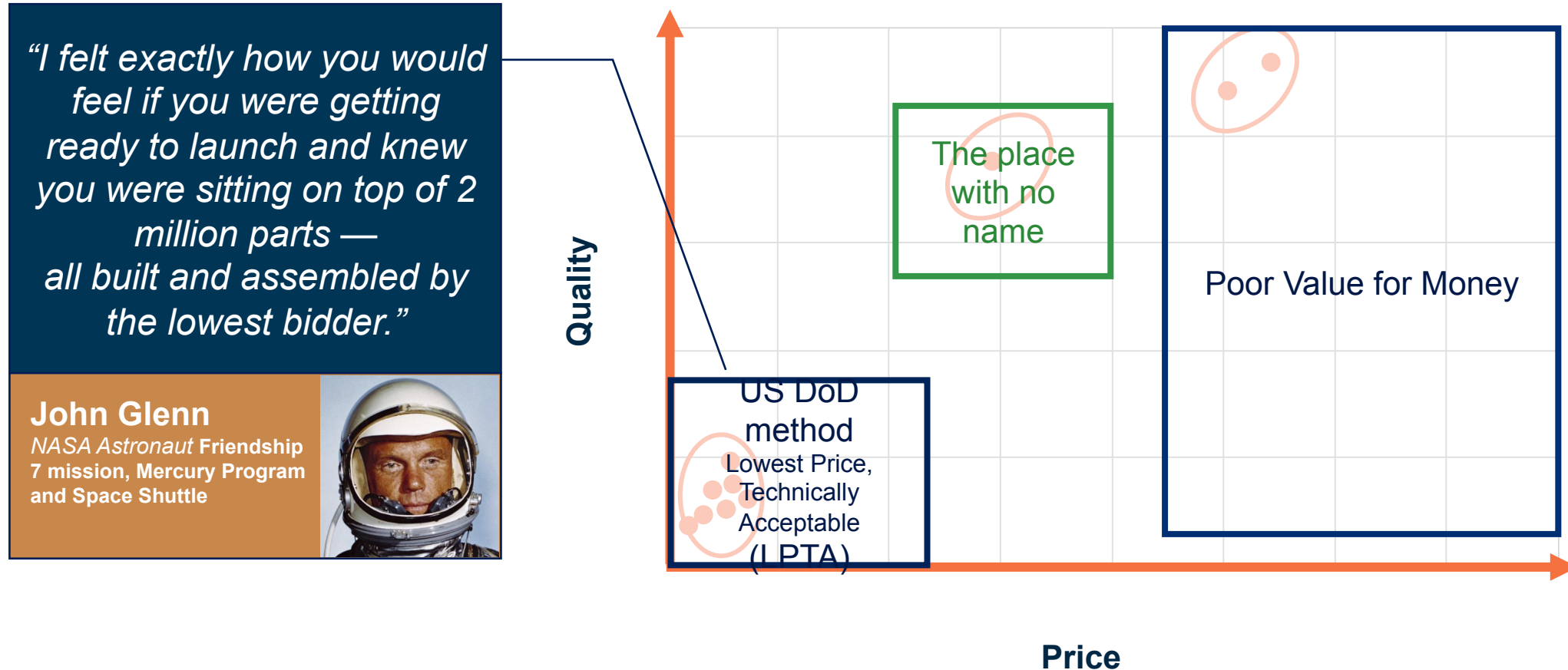
Cheapest Compliant

Winner = Lowest Price that is compliant

Compliance: The action or fact of complying with a wish or command

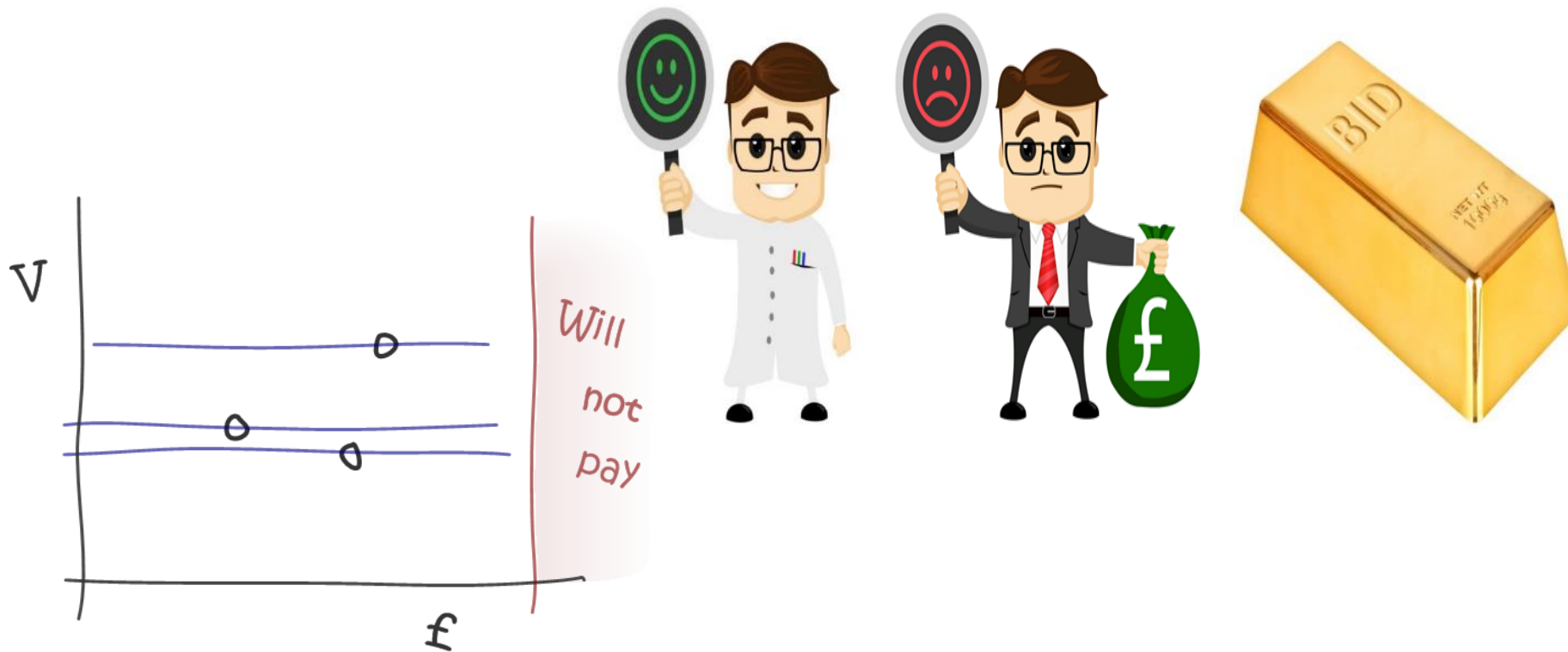


Lowest Price, Technically Acceptable



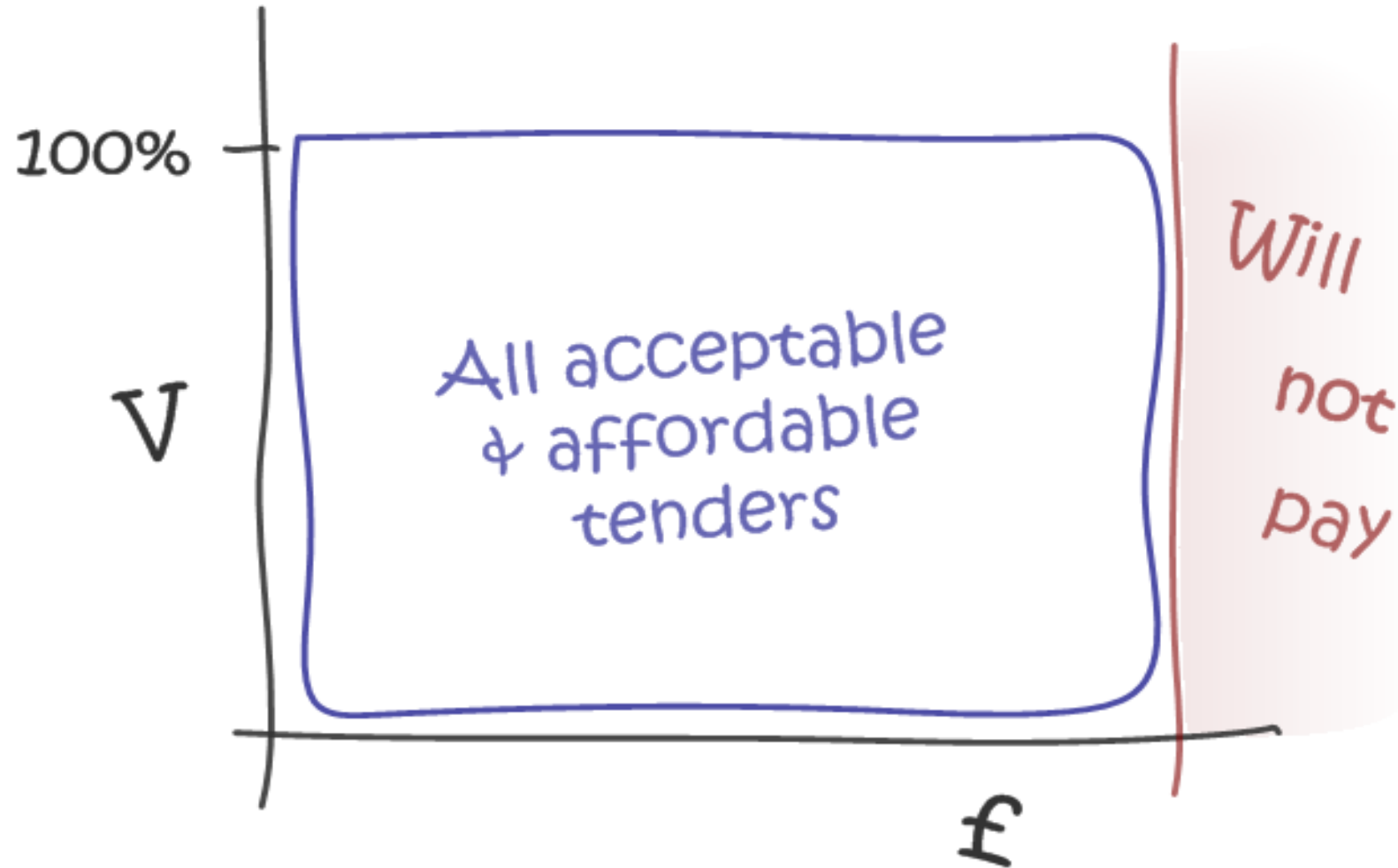
Best Technical Affordable

Winner = Best Technical score we can afford

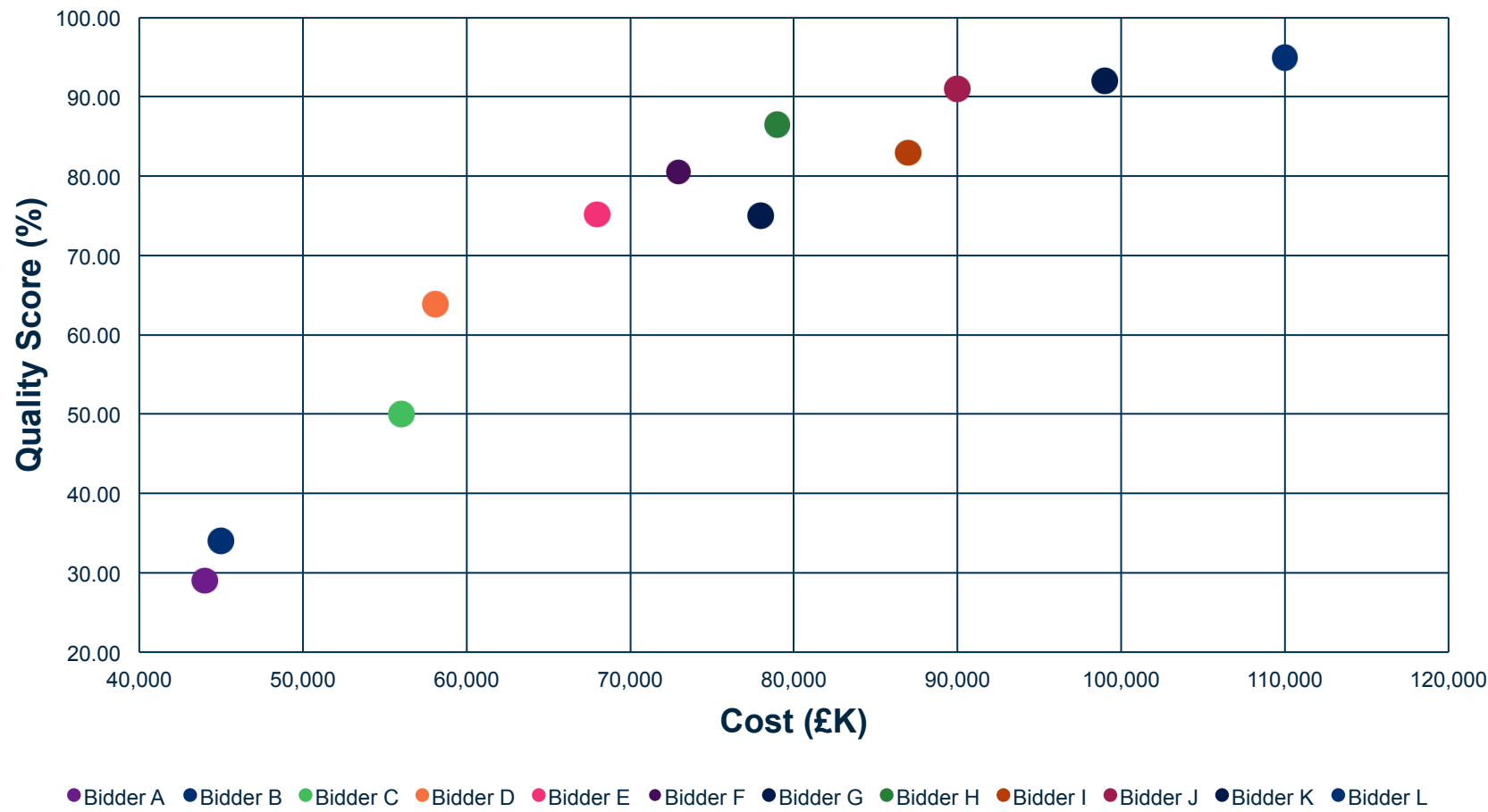


Most Economically Advantageous Tender

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Which of the plotted bids will win?



MEAT – A Global View

- We are tracking more than 30 MEAT formulas in use globally.
- We select which formulas to code into AWARD® based upon:
 - Customer requests & policies
 - Observed usage
 - Analysed sensitivity of formula performance

i - individual bid	P_{Avg} - average price of all bids
b - value per quality point	P_{Best} - lowest price of all bids
Q_i - quality of each individual bid	P_i - price of each individual bid
Q_{Best} - highest quality of all bids	P_{Max} - highest price of all bids
Q_{Ref} - reference quality	-

W _{Quality} - weight of quality	4. Based on Average Bid [Source: Waara and Brochner (2006)]
W _{Price} - weight of price	$Score_i = \frac{P_i}{P_{Avg}} W_{Price} - Q_i W_{Quality}$
Note: Some of the formulas are for the formula, but this does not published the formula in their	5. Maximum Price Deviation Model [Source: Waara and Brochner (2006)]

Formulas	12. Waterschap Brabantse Delta [Source: Negometrix, personal communication]
1. Lowest Bid Scoring* [Source: Dunitz]	$Score_i = \left(1 - \frac{P_i}{P_{Max}}\right) W_{Price} + Q_i W_{Quality}$
$Score_i = \frac{P_{Best} - P_i}{P_i - P_{Best}} W_{Price} + Q_i W_{Quality}$	6. Utility Index [Source: Negometrix, personal communication]
2a. Highest Bid - Lowest Bid Scoring	$U_i = \frac{\left(1 - (Q_{Best} - Q_i) \frac{W_{Quality}}{W_{Price}}\right) P_{Best}}{P_i}$; $Score_i = U_i$
$Score_i = \frac{P_{Max} - P_i}{P_{Max} - P_{Best}} W_{Price} + Q_i$	7. Coventry City Council [Source: Coventry City Council]
2b. Based on Bid Spread [Source: Wint]	$Score_i = \frac{P_{Best}}{P_i} W_{Price} + \frac{Q_i}{Q_{Best}} W_{Quality}$
$Score_i = \frac{P_i - P_{Max}}{P_{Max} - P_{Best}} W_{Price} - Q$	8. European Organization for Nuclear Research URL no longer available
Formula 2b is a variant of 2a leading versions to make it as easy as possible with.	$Score_i = W_{Price} + 0.5 \left(1 - \frac{P_i}{P_{Best}}\right) + Q$

3. Average Scoring* [Source: Dunitz]	9. Tennesse [Source: Negometrix, personal communication]
$Score_i = \begin{cases} W_{Price} + Q_i W_{Quality} \\ \frac{P_{Max} - P_i}{P_{Max} - P_{Avg}} W_{Price} + Q_i \end{cases}$	$Score_i = P_i + P_i \left(1 - \frac{Q_i}{Q_{Best}}\right) \frac{W_{Quality}}{W_{Price}}$
10. Mercer [Source: Negometrix, personal communication]	$Score_i = \begin{cases} \left(1 - \frac{P_i - P_{Best}}{P_{Best}}\right) W_{Price} + Q_i W_{Quality} \\ Q_i W_{Quality} \end{cases}$
11. Scottish Government [Source: Scottish Government]	$Score_i = \left(0.5 - \frac{P_i - P_{Avg}}{P_{Avg}}\right) W_{Price} + Q_i$

13. Score by Rank* [Source: Smith (2010)]	14. Chen 2* [Source: Chen (2008)]
$Score_i = p W_{Price} + Q_i W_{Quality}$ p is the score on price. The highest price bid earns score. All other price scores are placed at equal to p on price.	$Score_i = \left(1 - 0.5 \frac{P_i}{P_{Best}}\right) W_{Price} + Q_i W_{Quality}$
15. Chen 3* [Source: Chen (2008)]	16. Chen 4* [Source: Negometrix, personal communication]
$Score_i = \begin{cases} \log\left(\frac{P_i}{P_{Best}}\right) \\ 1 - 0.5 \frac{\log\left(\frac{P_i}{P_{Best}}\right)}{\log(2)} \end{cases} W_{Price}$	$Score_i = \begin{cases} \log\left(\frac{P_i}{P_{Best}}\right) \\ 1 - \frac{\log\left(\frac{P_i}{P_{Best}}\right)}{\log(s)} \end{cases} W_{Price} + Q_i$

17. UfAB II-Formel [Source: UfAB (2012)]	18. UfAB Medianmethode [Source: UfAB (2012)]
$Score_i = \frac{Q_{Best} - P_{Best}}{P_i} W_{Price} + Q_i W_{Quality}$	$Score_i = \frac{Q_i}{Q_{Median}} W_{Quality} - \frac{P_i}{P_{Median}} W_{Price}$
19. Pauw & Wolvaardt* [Source: Pauw and Wolvaardt (2009)]	20. Based on the Average Price* [Source: Negometrix, personal communication]
$Score_i = \frac{P_{Max} - P_i}{P_{Max} - P_{Avg}} W_{Price} + Q_i W_{Quality}$	$Score_i = \left(1 - \frac{P_i - P_{Best}}{P_{Avg}}\right) W_{Price}$
21. Based on the Lowest Price* [Source: Negometrix, personal communication]	22. Quotient Verdeling 1 [Source: Negometrix, personal communication]
$Score_i = \frac{2P_{Best} - P_i}{P_{Best}} W_{Price} + Q_i W_{Quality}$	$Score_i = \frac{P_{Avg} - P_i + P_{Best}}{P_{Avg}} W_{Price} + Q_i$
23. Quotient Verdeling 2 [Source: Negometrix, personal communication]	24. Quotient Verdeling 3 [Source: Negometrix, personal communication]
$Score_i = \frac{2P_{Best} - P_i}{P_{Best}} W_{Price} + \frac{Q_i}{Q_{Best}}$	$Score_i = \frac{P_{Max} - P_i}{P_{Max} - P_{Best}} W_{Price} + \frac{Q_i}{Q_i}$

25. Domb & Tsar [Source: Uria Domb]	26. Chen 1 [Source: Chen (2006)]
$Score_i = \frac{Q_{Best} - P_{Best}}{P_i} W_{Price} + Q_i W_{Quality}$	$Score_i = \frac{P_i}{P_{Set Max}} W_{Price} + \frac{Q_i}{Q_i}$
27. Kuiper's Superformula [Source: Hans Kuiper, personal communication]	28. PSIBouw Value Based [Source: Negometrix, personal communication]
$Score_i = \left(2 - \frac{P_i}{P_{Ref}}\right) W_{Price} + \left(\frac{Q_i}{Q_{Ref}}\right) W_{Quality}$	$Score_i = P_i - b Q_i$
Both P_{Ref} and Q_{Ref} are set by the buyer and known to the bidder.	29. ISZF [Source: Negometrix, personal communication]
30. Belastingdienst S-curve* [Source: Negometrix, personal communication]	$Score_i = \frac{P_i^{W_{Price}}}{Q_i^{W_{Quality}}}$
$Score_i = \left(1 - \frac{1}{1 + \exp(100 \alpha (\beta - P_i))}\right) W_{Price} + Q_i W_{Quality}$	31. Kuiper 1 [Source: Kuiper (2009)]
where α and β are user-defined parameters. α and β are set by the buyer and known to the bidder.	$Score_i = P_i - \frac{W_{Quality}}{W_{Price}} P_{Ref} \left(1 - \frac{Q_{Ref}}{Q_i}\right)$
Both P_{Ref} and Q_{Ref} are set by the buyer and known to the bidder.	32. Kuiper 2 [Source: Kuiper (2009)]
33. Kuiper 3 [Source: Kuiper (2009)]	$Score_i = \frac{P_i}{Q_i}$
$Score_i = \left(2 - \frac{P_i}{P_{Ref}}\right) W_{Price} + \left(\frac{Q_i}{Q_{Ref}}\right) W_{Quality}$	Both P_{Ref} and Q_{Ref} are set by the buyer and known to the bidder.

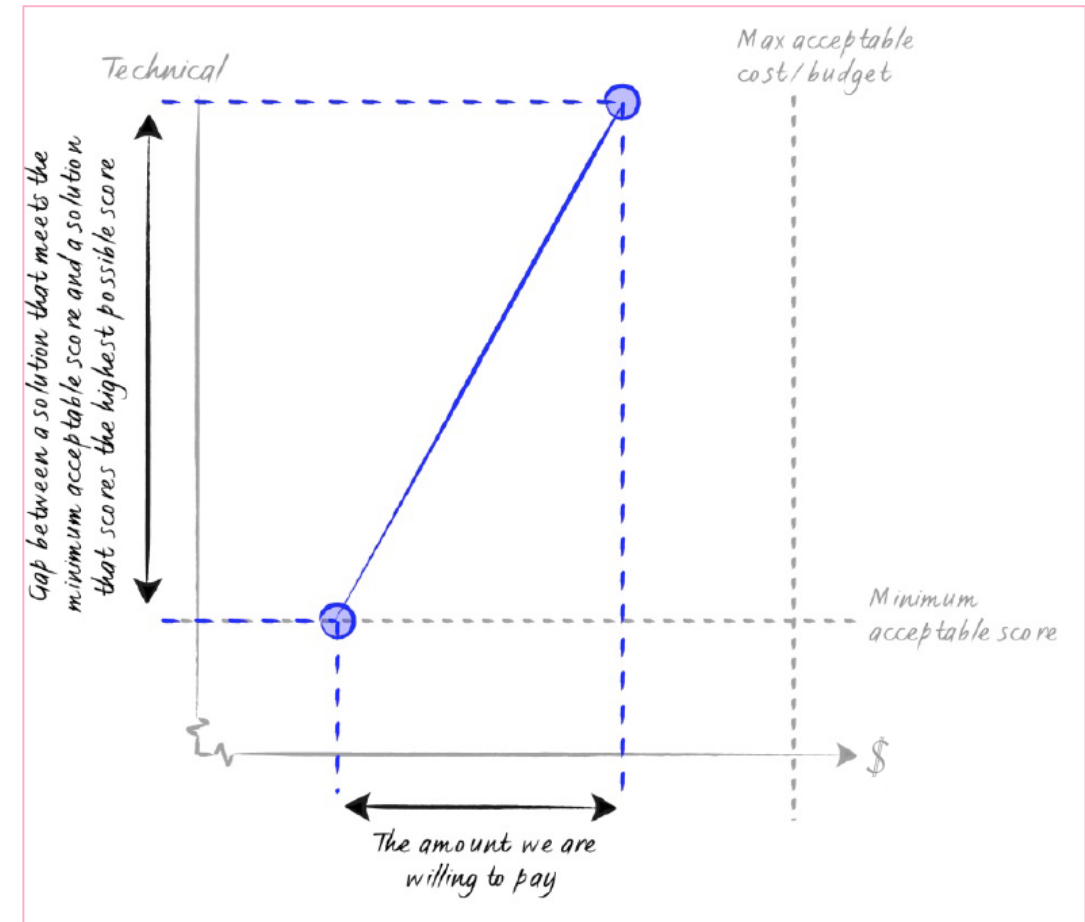
Stilger, et al (2015)



Real Value for Money

Real Value for Money (RVfM):

- Ensures the best value for money outcome
- Start by defining how much you are willing to pay
- Articulate value attributed to each level of capability
- Test criteria and weighting
- Build scenarios





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Evaluating Whole Life Cost and Risk to find “Will Cost”

Risk

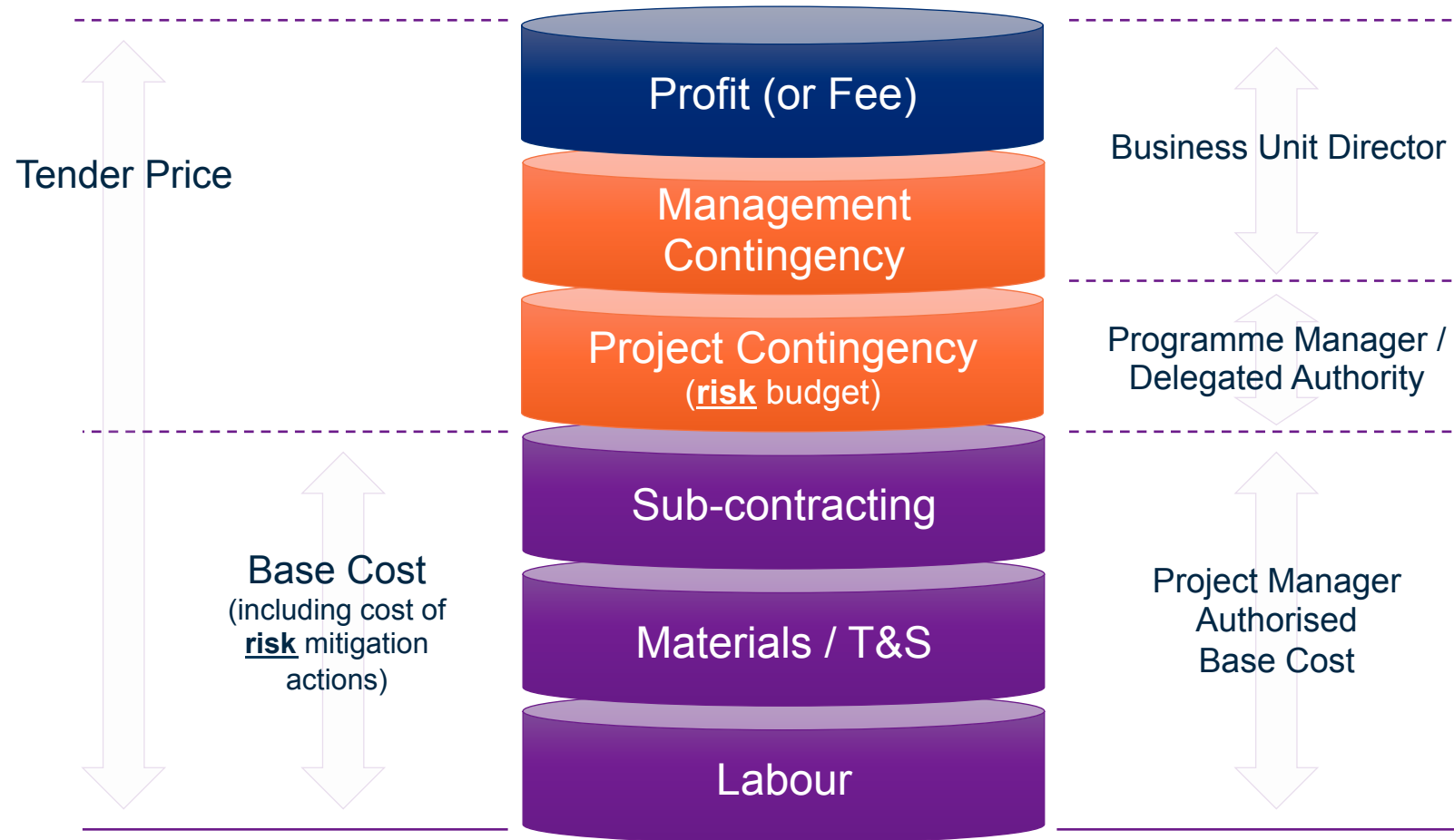
Procurements fail due to poor consideration of RISK:

- Who owns the risk
- Who manages the risk
- What the consequences could be on Cost and Schedule.

Each Supplier will have different Cost and Schedule Risks



Bottom Up Pricing ('risk on risk')



Cost Breakdowns

To ensure accuracy, we want to understand the costs in more detail to provide confidence that the bidder is able to deliver on time and on budget.

To do this we ask for **Three Point Estimates**

In three-point estimation, three figures are produced initially for every distribution that is required, based on prior experience or best-guesses:

a = the best-case estimate

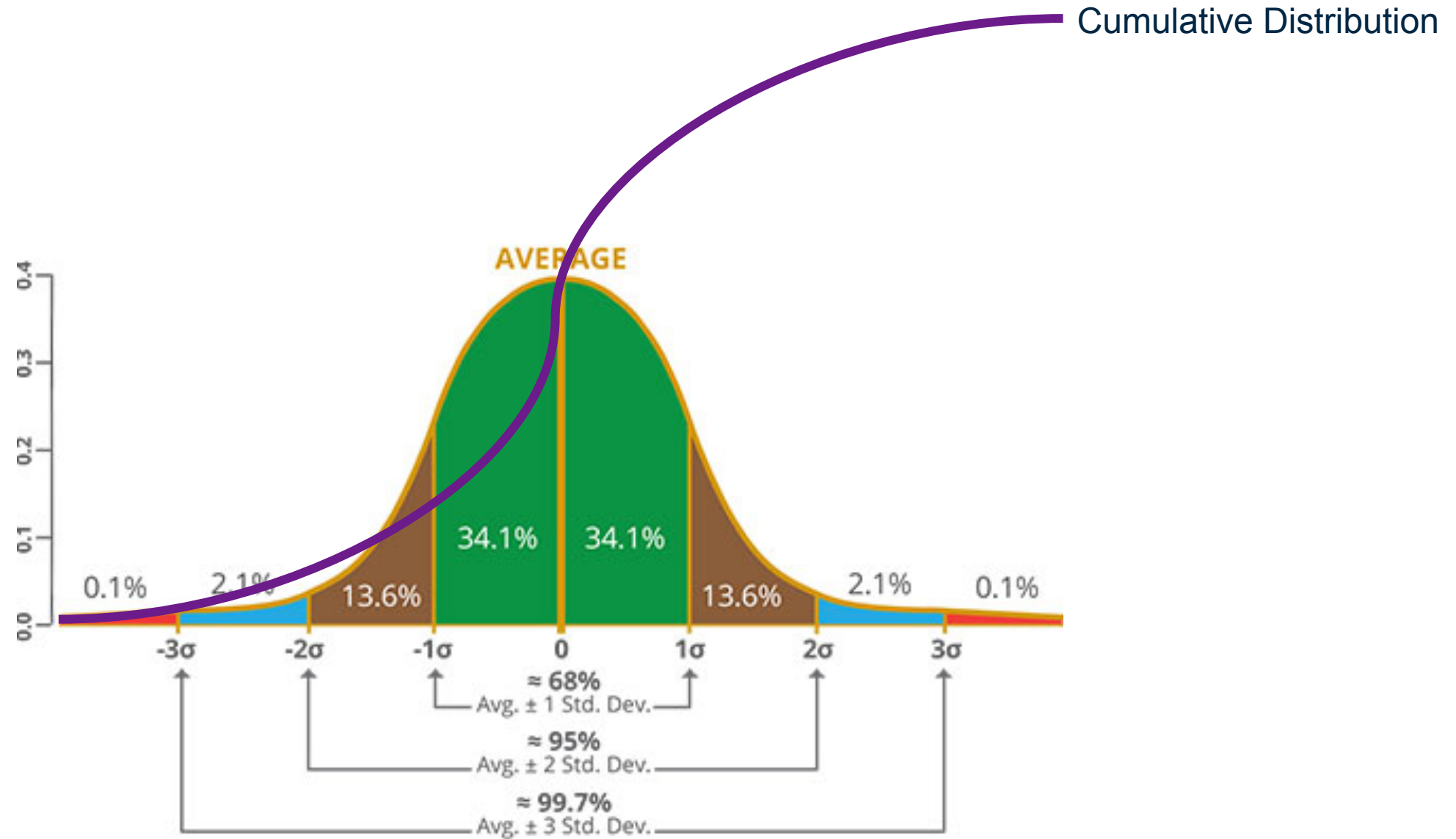
m = the most likely estimate

b = the worst-case estimate

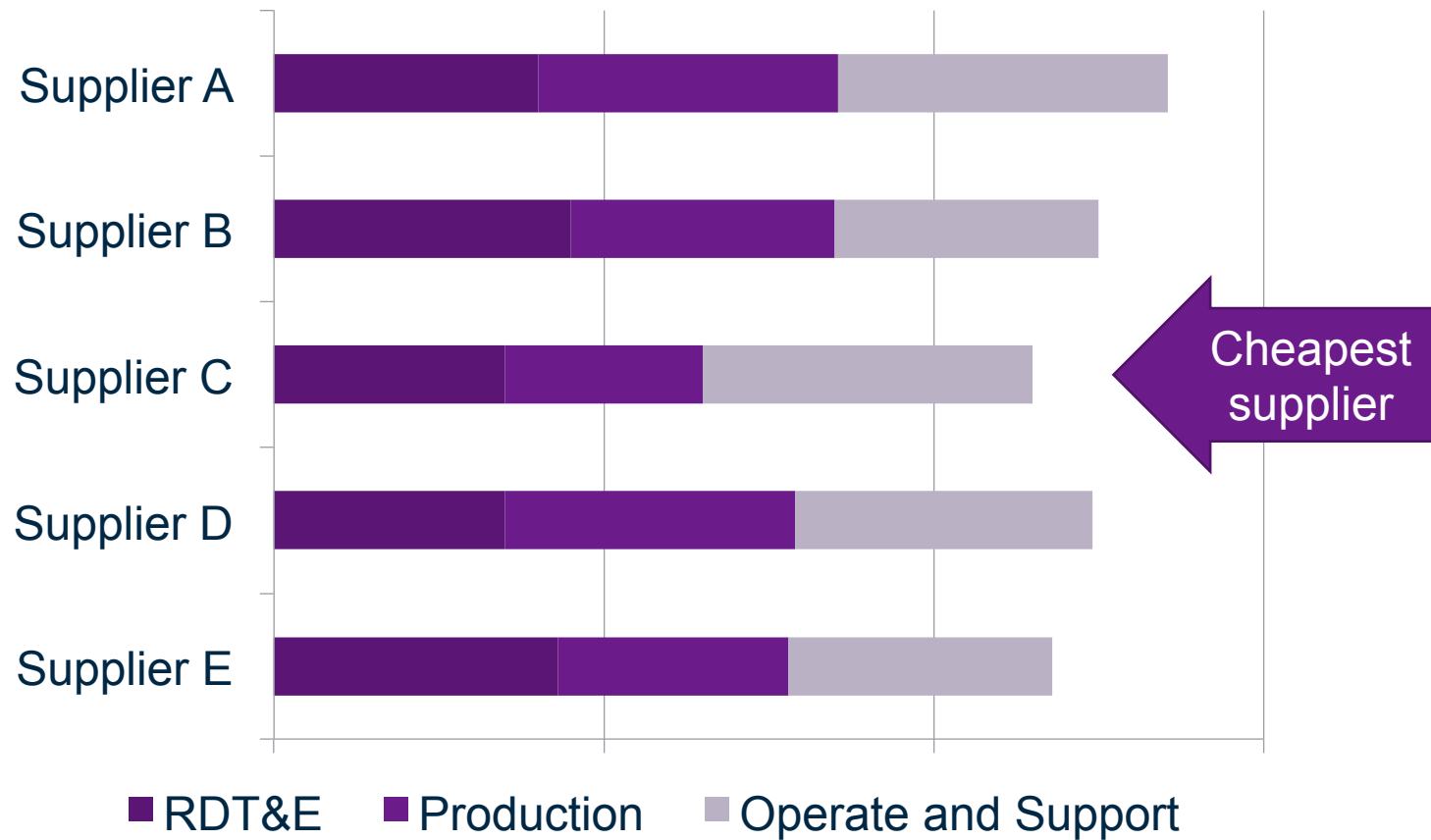
We consider **Probability** of these estimates being correct with scenario analysis (thousands of random iterations).



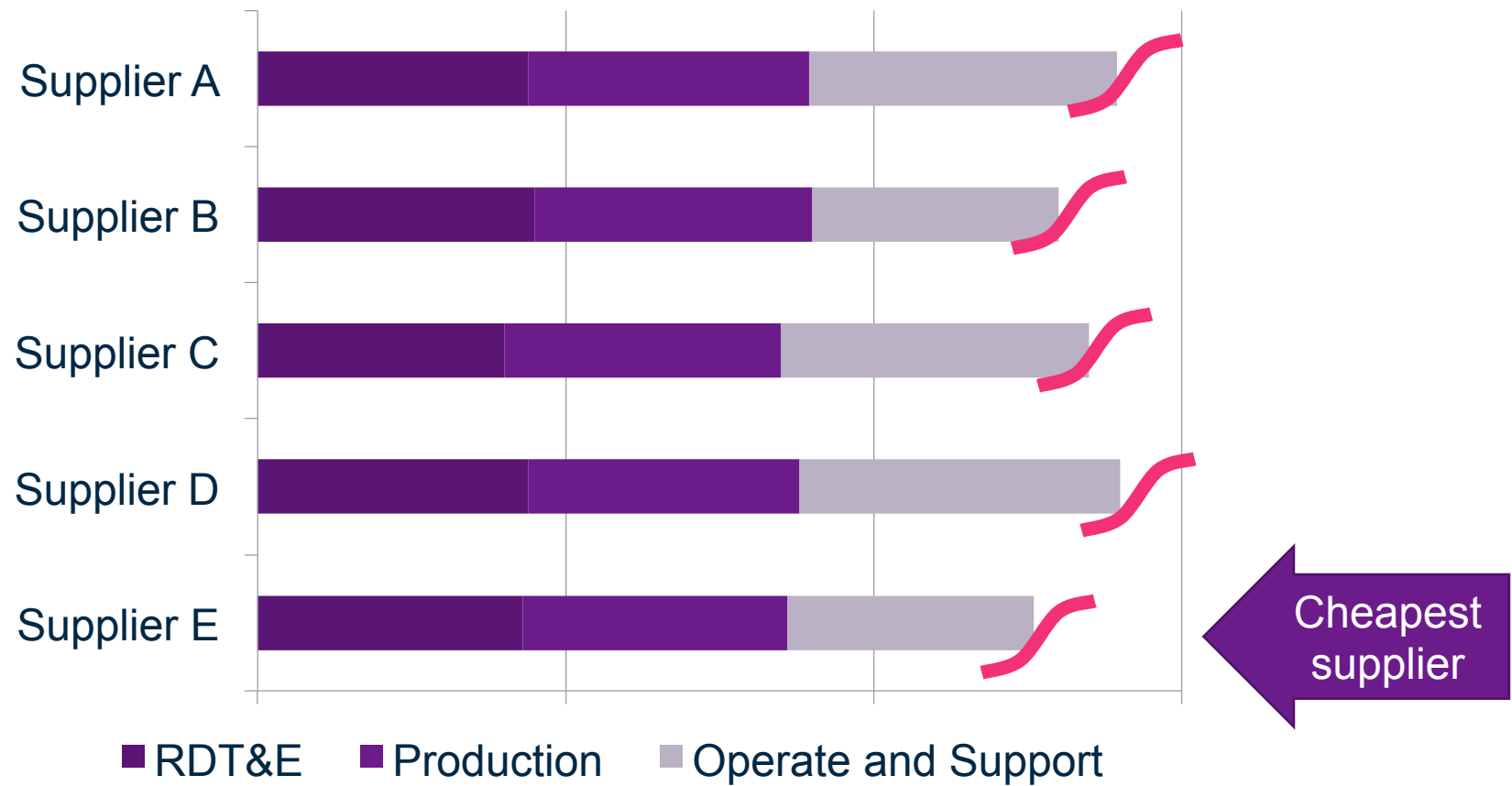
Probability



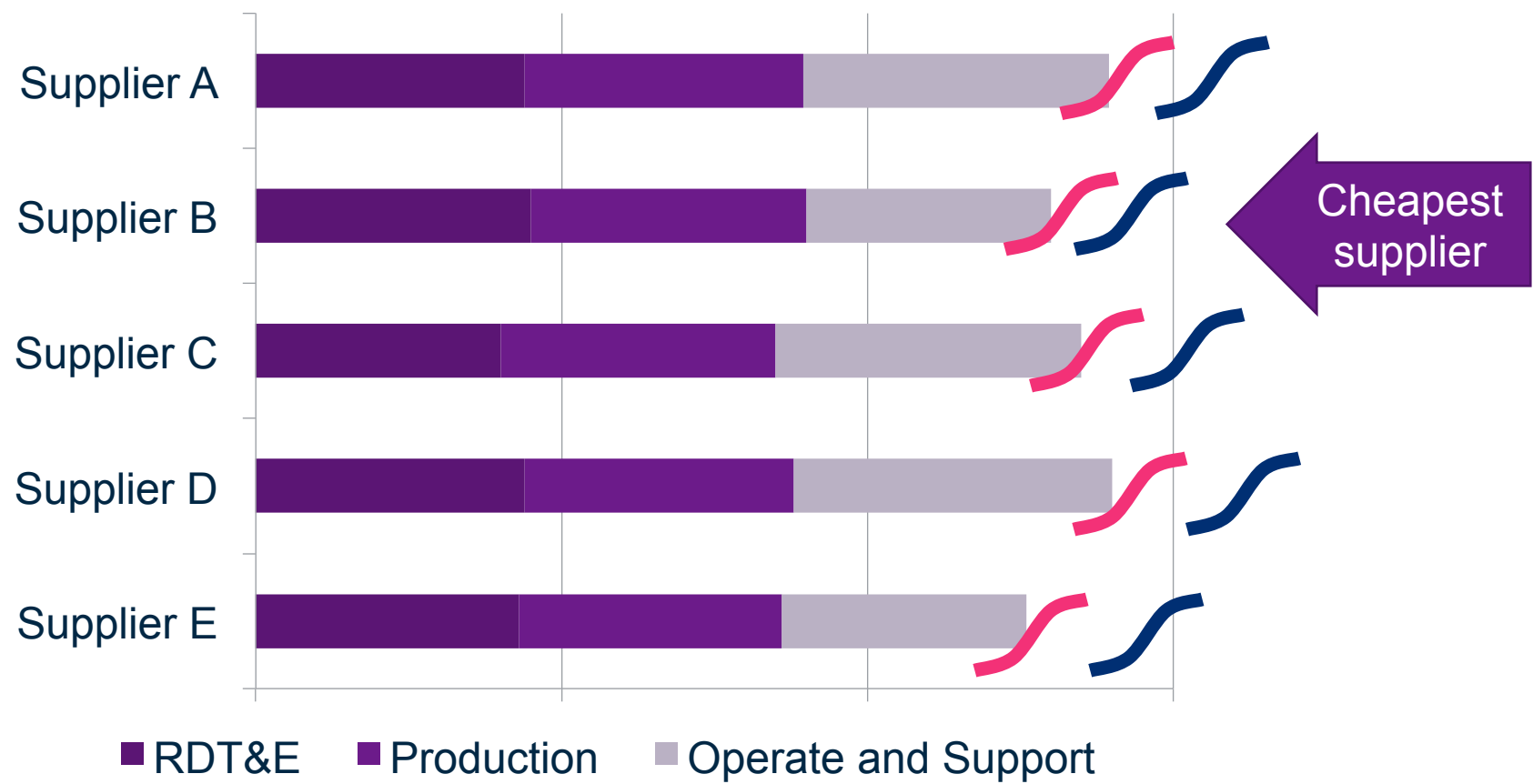
Suppliers raw cost proposals



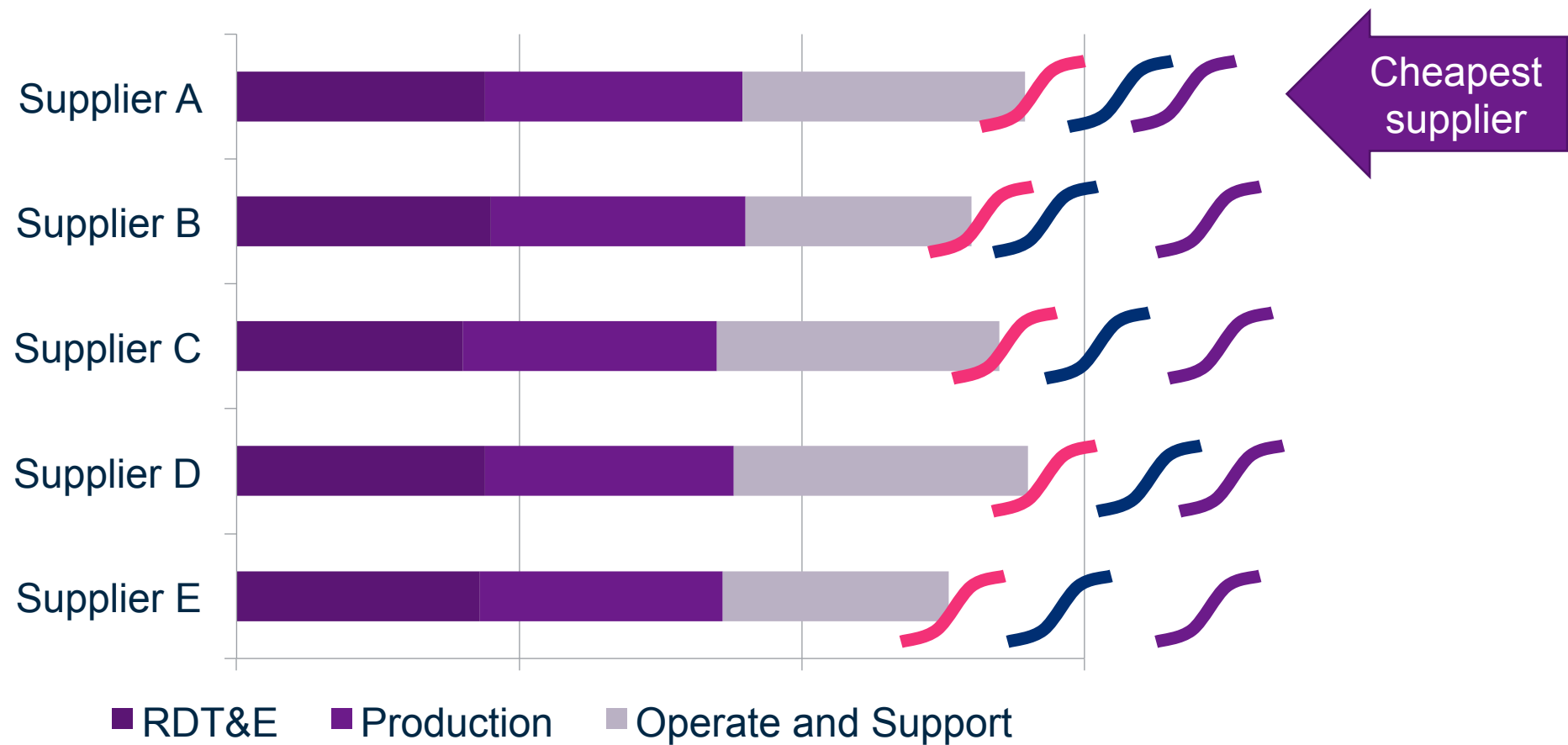
Suppliers Could cost with uncertainty



Suppliers Could cost with post-mitigated risk



Will cost with clients Risk Register



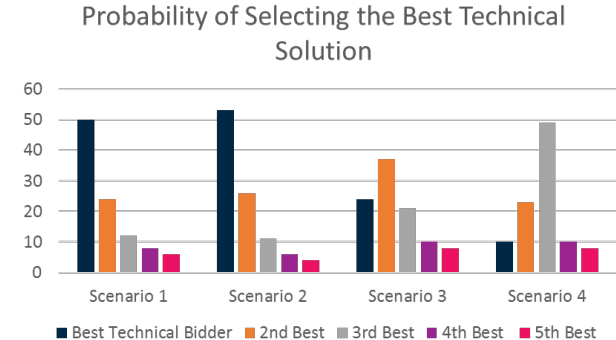
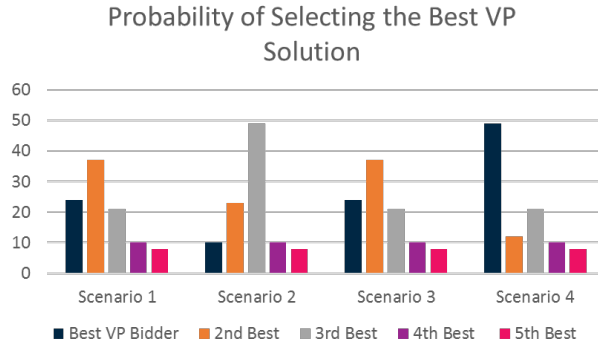
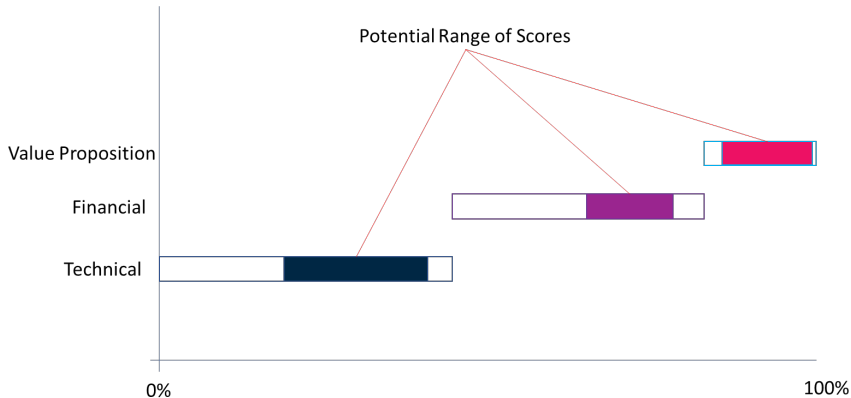


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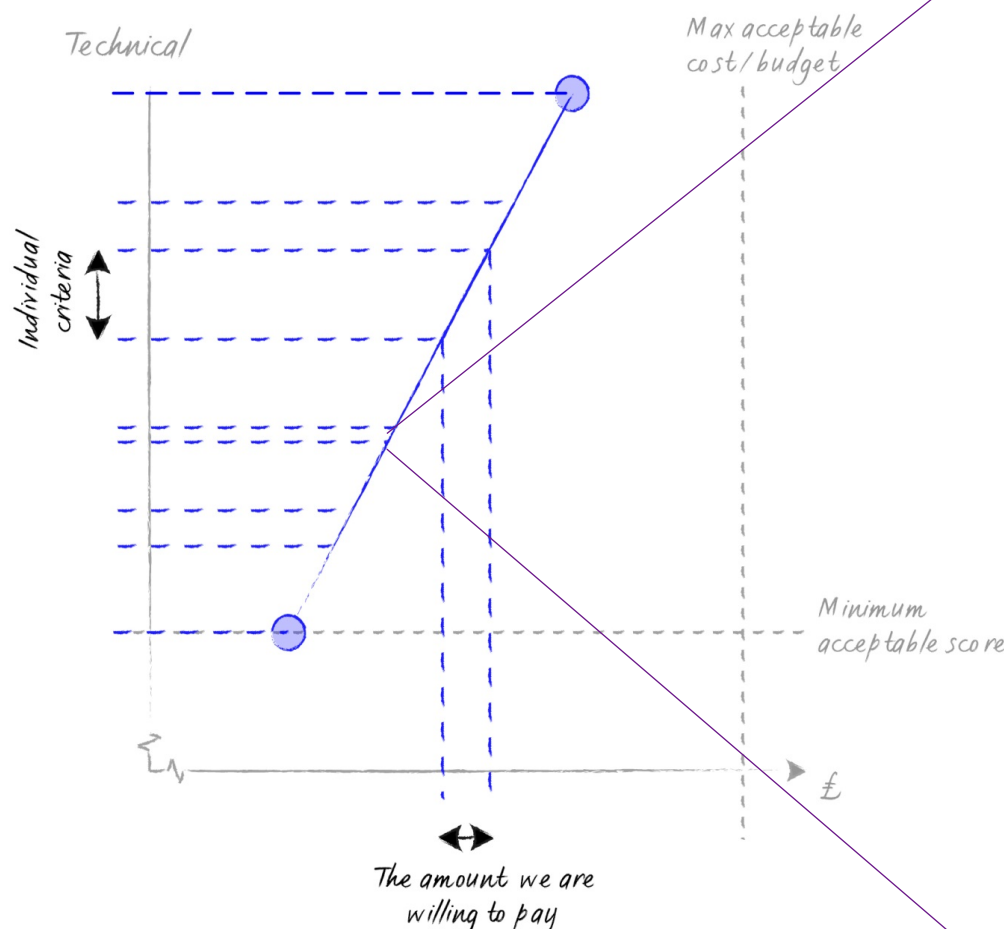
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Testing the Assessment Scheme

Testing with Scenarios (Monte Carlo simulation)

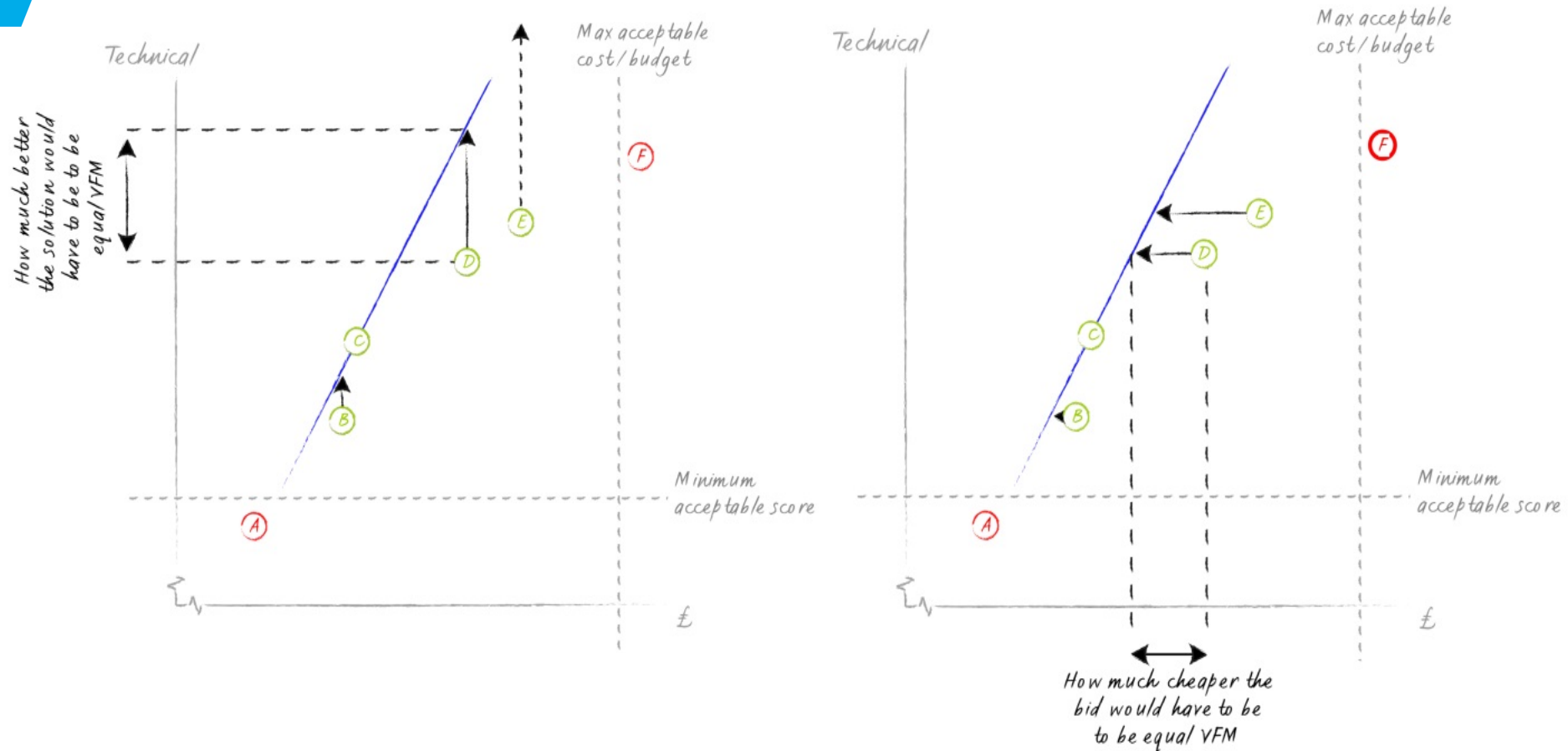
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Outputs



Criteria	Previous experience in developing the supply base
Weighting	40% of Industry Capacity Criteria 1% of Overall Decision
Aim	Contract with bidders who are able to demonstrate recent and relevant experience to support the proposed development of NATO's supply base.
Background	Increasing NATO's competitiveness relies on a foundation of a healthy, diverse and growing supply base. A key objective of the Defence White Paper 2016 is to strengthen and develop NATO's supply base and to move suppliers further up the value chain. This will lead to long-term economic benefits throughout the supply chain. The NATO believes that in order to develop the supply base, it should seek to place contracts with suppliers who have recent and relevant experience in the development of NATO's supply base.
Evidence Required (Question)	Within the Supply Base Development Plan, bidders must provide any recent (within the past 5 years) and relevant previous experience where they have successfully developed NATO's supply base. Experience should be, wherever possible, in similar market segments and in similar supply base areas. The experience should clearly detail what development was undertaken, details of the measurable impact that directly resulted from the work. Finally, bidders should provide evidence for how this experience will be used to the benefit of the proposed transactions for this procurement.
High confidence 100%	Significant, recent and relevant experience demonstrated of successfully developing the NATO supply base with statistics provided to show the positive impact. and Experience demonstrated in directly relevant market segments and within supply base areas similar to the proposals. and Evidence clearly demonstrates how the experience will be used and transferred to maximise the success of the proposed investments to develop the NATO supply base. Overall the levels of experience demonstrates high levels of confidence that the bidder has successfully developed relevant areas of NATO's supply base and can use this experience in the proposed developments.
Confidence 66%	Some recent and relevant experience demonstrated of successfully developing the NATO supply base. and Experience demonstrated either in relevant market segments or within supply base areas similar to the proposals. and Evidence clearly demonstrates how the experience will be used and transferred in the proposed investments to develop the NATO supply base. Overall the levels of experience demonstrates some levels of confidence that the bidder has successfully developed relevant areas of NATO's supply base and can use this experience in the proposed developments.
Limited confidence 33%	Limited experience demonstrated of developing the Canadian supply base. or Experience demonstrated market segments or supply base areas with some limited relevance to the proposals. or Evidence demonstrates some limited areas of experience that may be used or transferred in the proposed investments to develop the NATO supply base. Overall the levels of experience demonstrates limited confidence that the bidder has successfully developed relevant areas of NATO's supply base or can use this experience in the proposed developments.
Concerns 0%	Evidence fails to give confidence that the bidder has the appropriate experience of developing the NATO supply base. or Experience has little or no relevance to the proposed market segments or supply base areas. or Evidence fails to demonstrate how experience may be used or transferred in the proposed investments to develop the NATO supply base. Overall the levels of experience gives concerns that the bidder has successfully developed relevant areas of NATO's supply base or that they can use their experience in the proposed developments.

AWARD[®] Negotiation and Debriefing



Benefits and ROI



Deliver robust and
defensible decisions



Reduce the
opportunity for
Gaming



Reduce time to
contract



Reduce cost
& risk



Manage
Complexity



Ensure
compliance

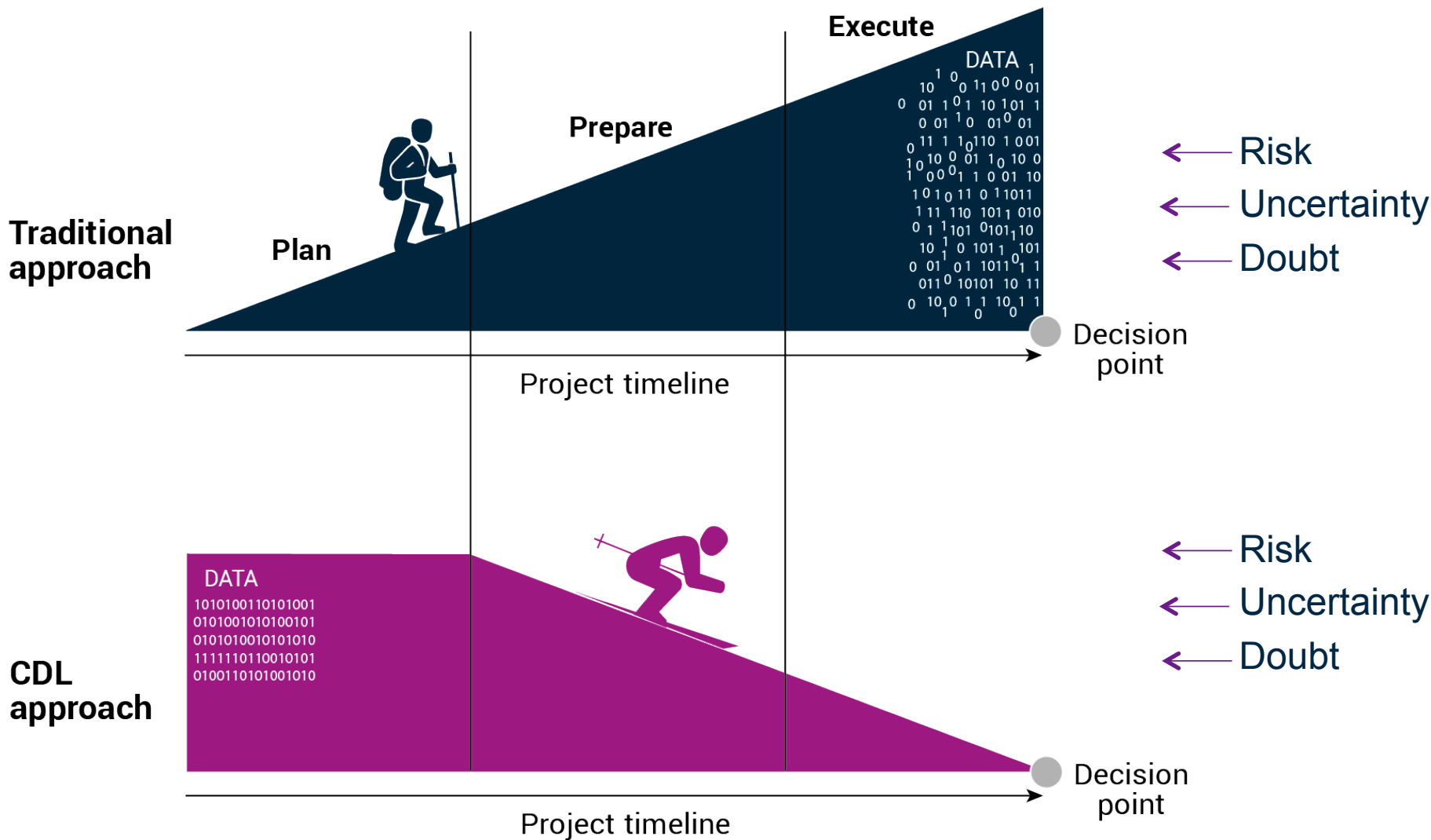


Maximise value for
money



Enable
collaboration

Summary

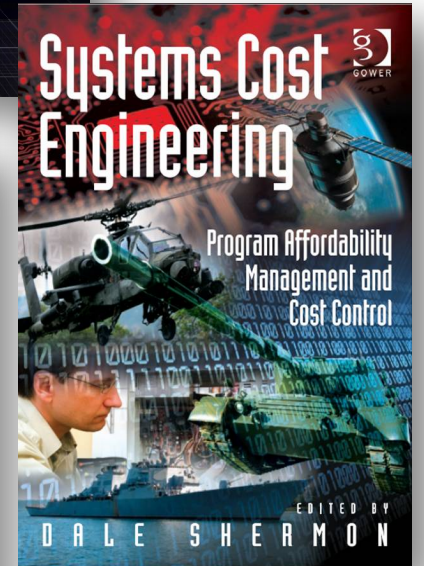
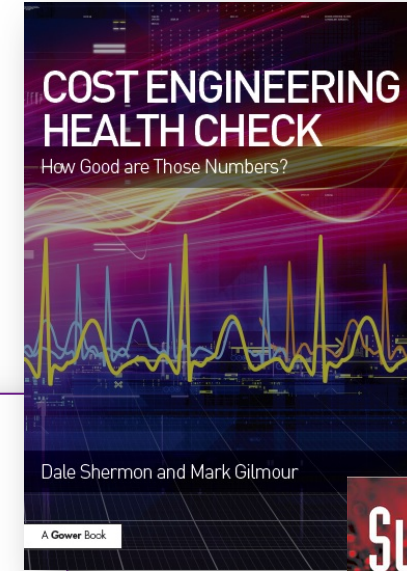
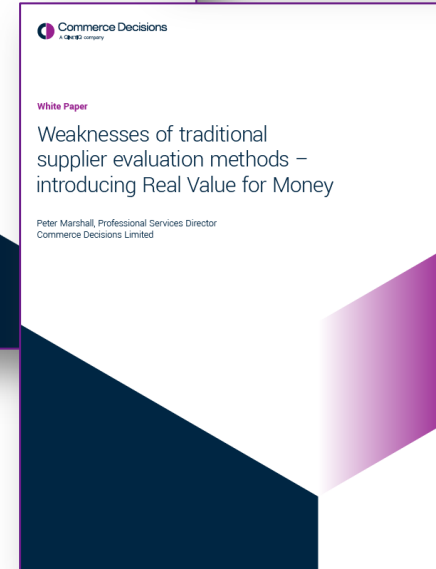


Further Reading

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Questions ?



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