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How to win hearts and minds so  
Cost & Schedule Risk Analysis delivers results

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# CSRA is an absolute necessity for projects

One of the fundamental challenges today are low levels of collaboration and of ownership of CSRA activities due to the lack of trust

# Winning Hearts and Minds to perform this critical activity

## Why do we perform Cost & Schedule Risk Analysis?

CSRA workshops help build **Collaboration & Trust**

**Rules of engagement** for an open and productive CSRA workshop:

- Facilitation by an **independent & impartial CSRA analyst** (no Project Manager will thank you for saying their baby is ugly!)
- **Verification of the Schedule AND the Cost Estimate**, with QA/QC checks on alignment between the supporting basis of assumptions
- **Reconstruction of the Schedule and Cost Estimate at a high level**, e.g., target <100 activities and even fewer cost line items to keep the conversation at the right level – also avoids unrealistically narrow & symmetrical distributions (Central Limit Theorem is our enemy!)



# Winning Hearts and Minds...

## Why do we perform Cost & Schedule Risk Analysis?

CSRA workshops help build **Collaboration & Trust**

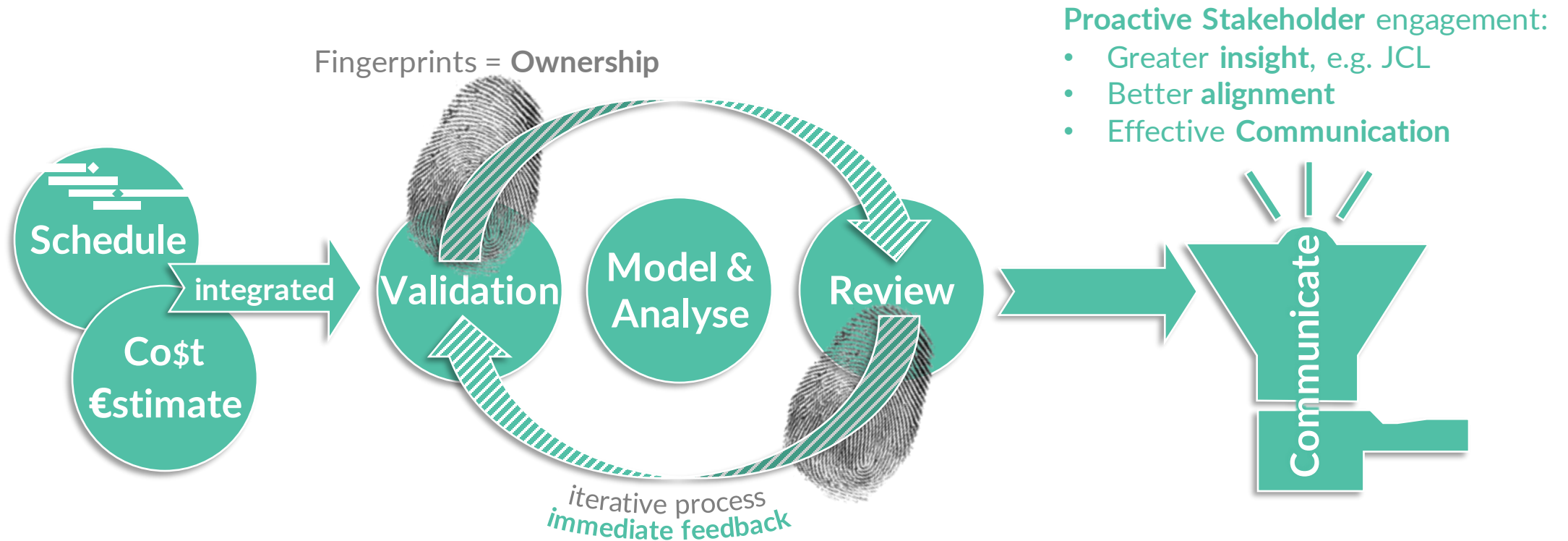
Rules of engagement for an open and productive CSRA workshop:

- **Focus on the macro Risk & Uncertainty drivers**, using the 80/20 rule (insignificant many vs critical few)
- **No hierarchy in the room**, ensuring the quietest voice is heard; what happens on the road...
- **Discourage Anchoring** on base costs & deterministic durations – good luck with that one!
- Be **vigilant in safeguarding against goal-seeking behaviors**, e.g., prevent sandbagging on healthy economic projects, or reverse-engineering lower allowances & contingency on marginal projects to clear hurdle rates
- **Estimate-talk-Estimate**: exploit the **Wisdom-of-Crowds**, but ensure inputs are given in isolation before sharing with the team (to avoid the anchoring bias)



# The KEY to Winning Hearts and Minds!

Actively nurturing an environment of **Collaboration & Trust** enables Higher Quality inputs which results in Higher Quality outputs



# CSRA can help us reduce Bias & Noise

# Winning Hearts and Minds

## Why do we perform Cost & Schedule Risk Analysis?

Reducing Bias & Noise

### QUICK EXERCISE

20 people go to a rifle range for a team building event.  
They are split into 4 teams, with 5 people in each.

Q: which team won?



# Winning Hearts and Minds

Why do we perform Cost & Schedule Risk Analysis?

Reducing Bias & Noise

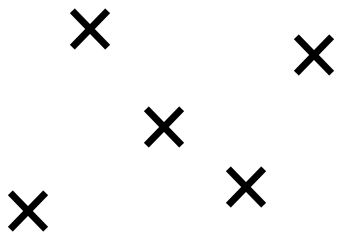


**TEAM A**

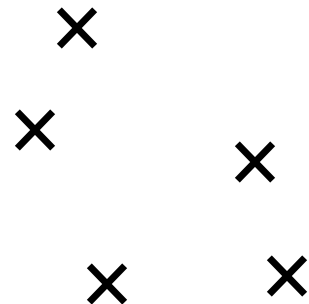


**TEAM B**

**TEAM C**



**TEAM D**

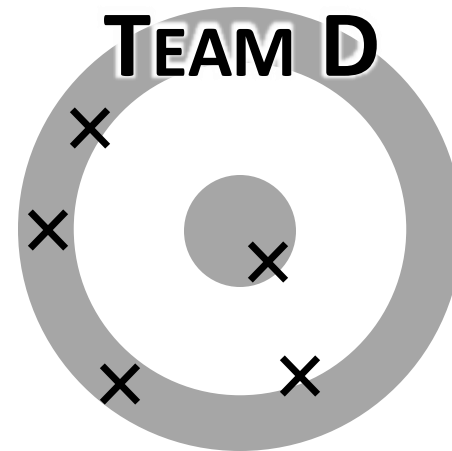
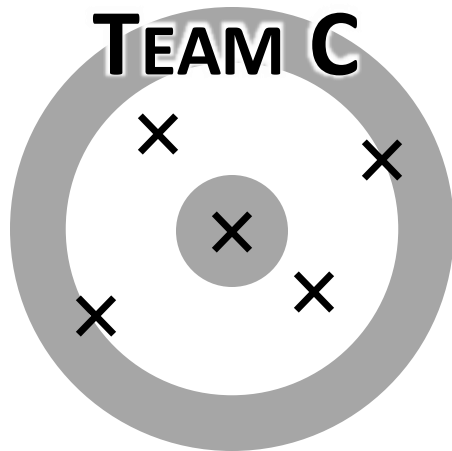
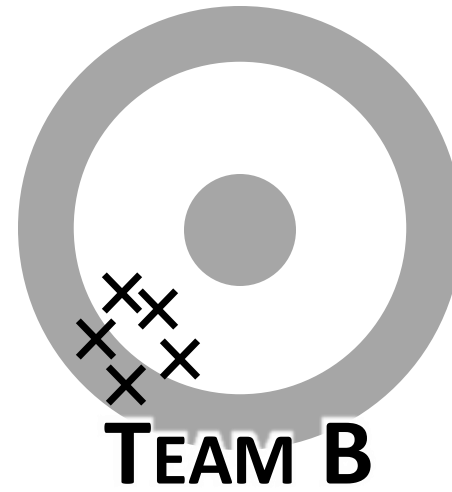
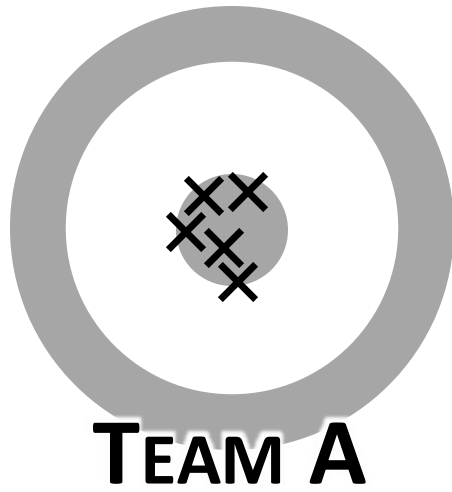




# Winning Hearts and Minds

Why do we perform Cost & Schedule Risk Analysis?

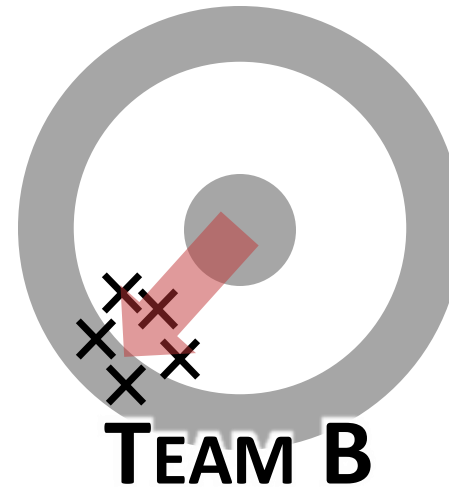
Reducing Bias & Noise



# Winning Hearts and Minds

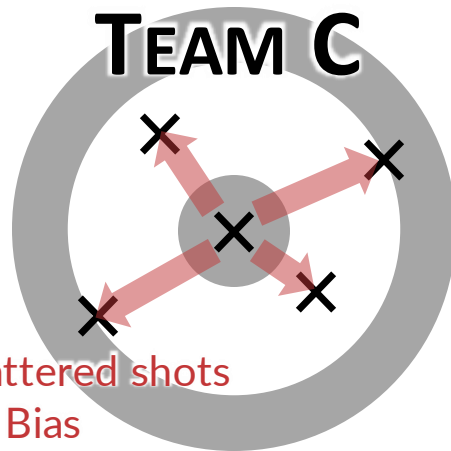
## Why do we perform Cost & Schedule Risk Analysis?

Reducing Bias & Noise



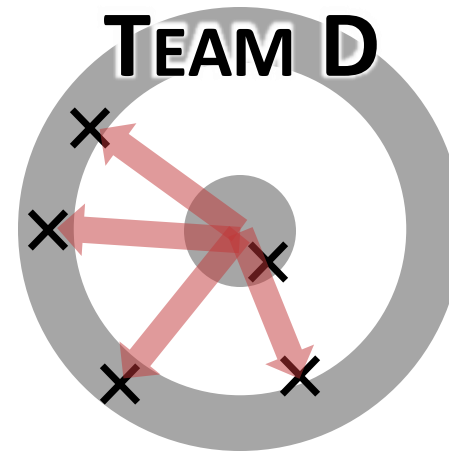
### BIASED

- Systemically off target
- Next shot likely to be in the same cluster, e.g. is the rifle's gunsight bent?



### NOISY

- Widely scattered shots
- No sign of Bias



### BIASED & NOISY

Errors in human judgment

- Systemic deviation
- Random scatter



# Your best friend in a workshop

# Winning Hearts and Minds

CSRA models can be a powerful tool in a live, dynamic workshop

$$\text{Duration (days) for Offshore HUC, } f_x = \frac{THWeight \times MhrsPerTe}{PoB \times MhrsPerDay} - \frac{MhrsLiquidatedTAR}{PoB \times MhrsPerDay}$$

CASE STUDY

General Formulas Risks Cost Impact Time

References:

Variable	Name	Value	Symbol
X	MhrsLiquidatedTAR	23275	MhrsLiquidatedTAR
X	MhrsPerDay	6.5	MhrsPerDay
X	MhrsPerTe	415	MhrsPerTe
X	PoB	118	PoB
X	THWeight	650.7	THWeight

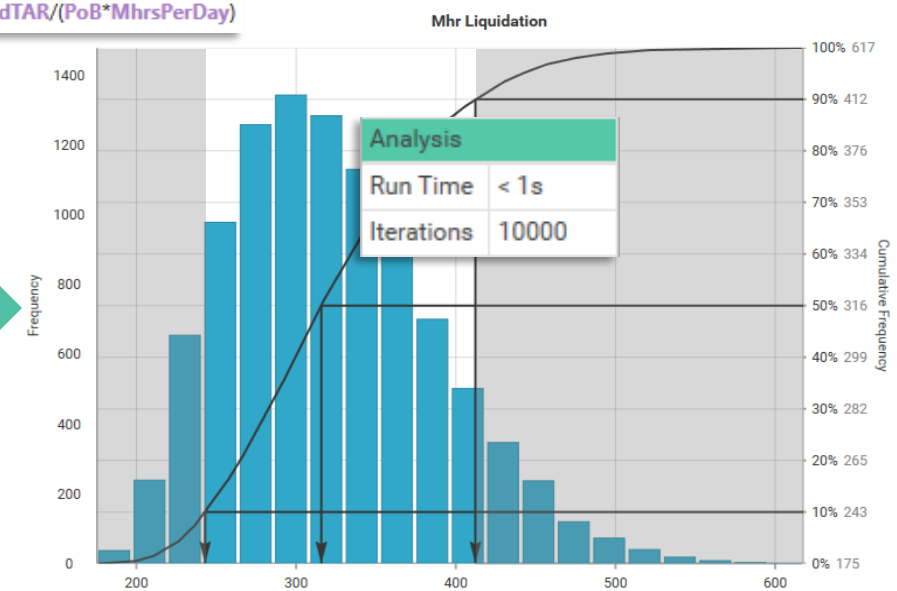
Base

$(THWeight * MhrsPerTe) / (PoB * MhrsPerDay) - MhrsLiquidatedTAR / (PoB * MhrsPerDay)$

Correlations

		Cost Model				
		Cost Variables				
		MhrsLiquidatedTAR	MhrsPerDay	MhrsPerTe	PoB	THWeight
Cost Model	MhrsLiquidatedTAR				0.56	0.70
	MhrsPerDay					
	MhrsPerTe					
	PoB	0.56				0.80
	THWeight	0.70			0.80	

Input → Output



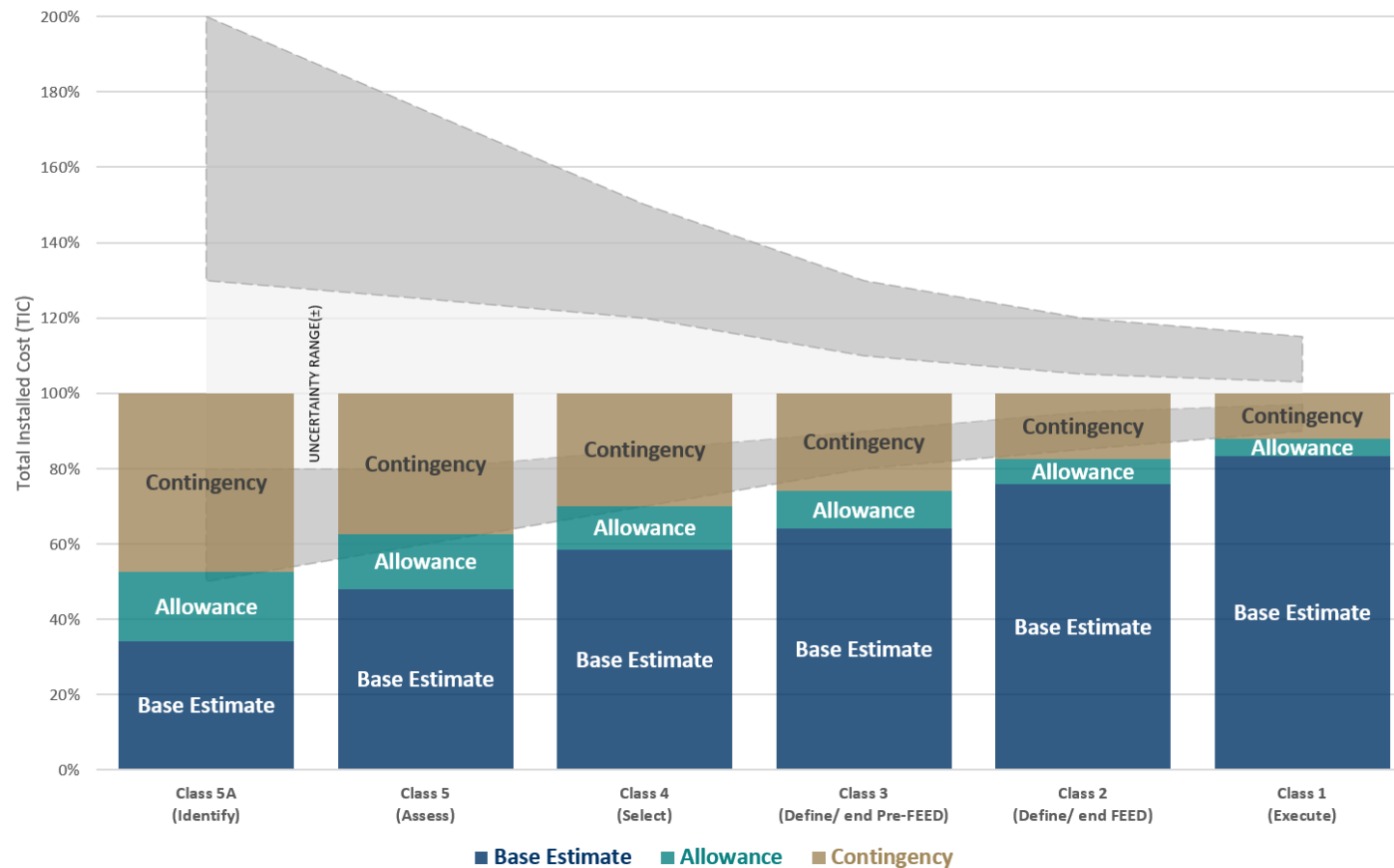
# Winning Hearts and Minds - What moves the needle?



# Winning Hearts and Minds

## Why do we perform Cost & Schedule Risk Analysis?

Drawdown of Allowance (growth) + Contingency (risk) through project maturation



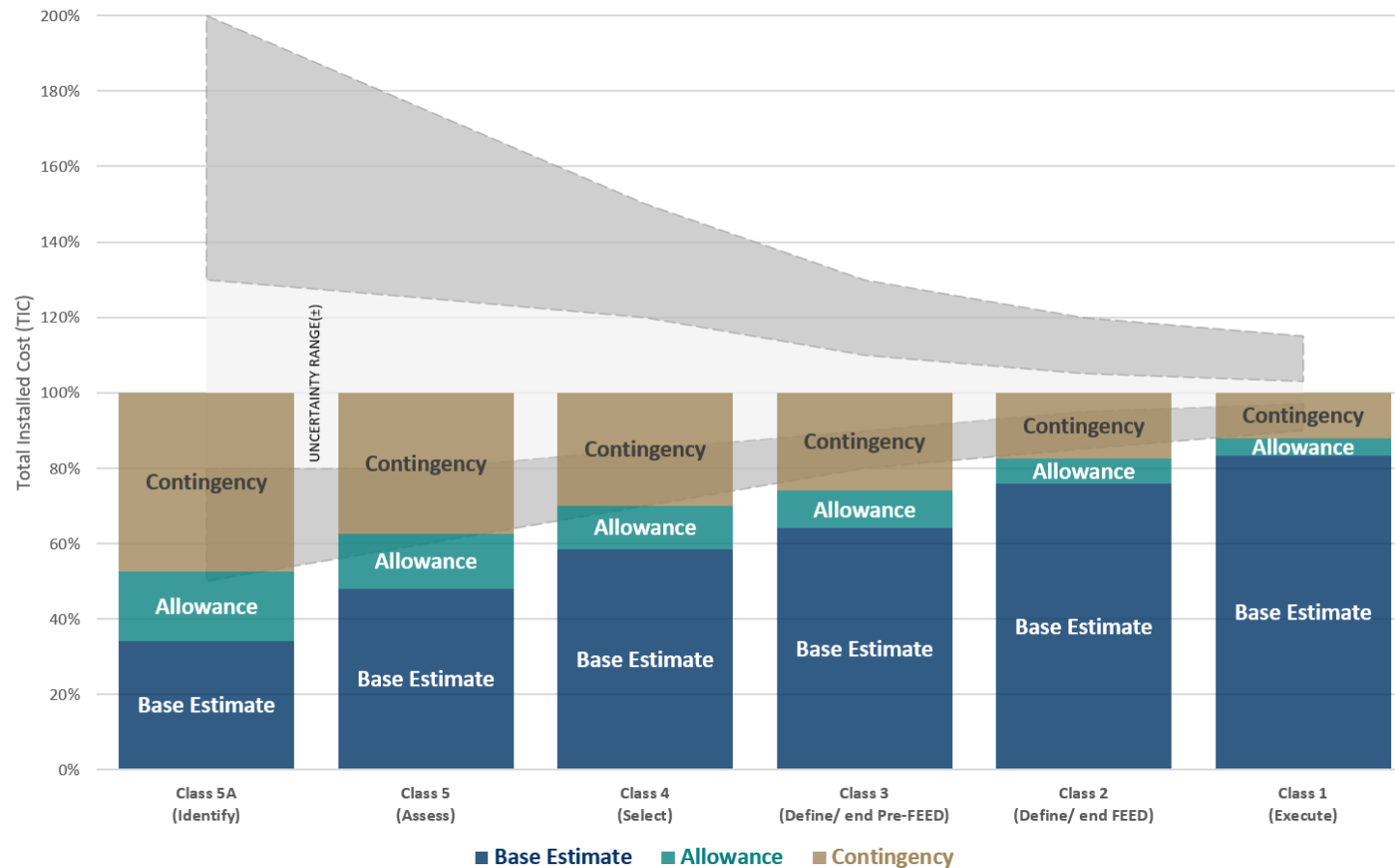
- In a perfect world our predictability of project outcomes would be so refined that the Total Installed Cost (or EAC) and Key Milestone dates would not change from the earliest phases through to the final outturn cost & schedule.
- Assuming no major scope changes, we would simply replace Allowances with evolving design development & growth, and contingency would be drawn-down as risk events were avoided/ exploited with effective execution of mitigation strategies and implementation of response actions.
- ...in a perfect world!



# Winning Hearts and Minds

## Why do we perform Cost & Schedule Risk Analysis?

Drawdown of Allowance (growth) + Contingency (risk) through project maturation



- As with any weather forecast the quality of a CSRA can only ever really be judged in retrospect, but there will always be key input parameters that are unverifiable, e.g., we cannot lookback and verify the validity of any risk occurrence estimated between 1% to 99% likelihood; the Opportunity or Threat either materialized or it did not (there is no such thing as 40% rain).
- However, we can learn a lot from the holistic view - especially when looking across a portfolio of projects.



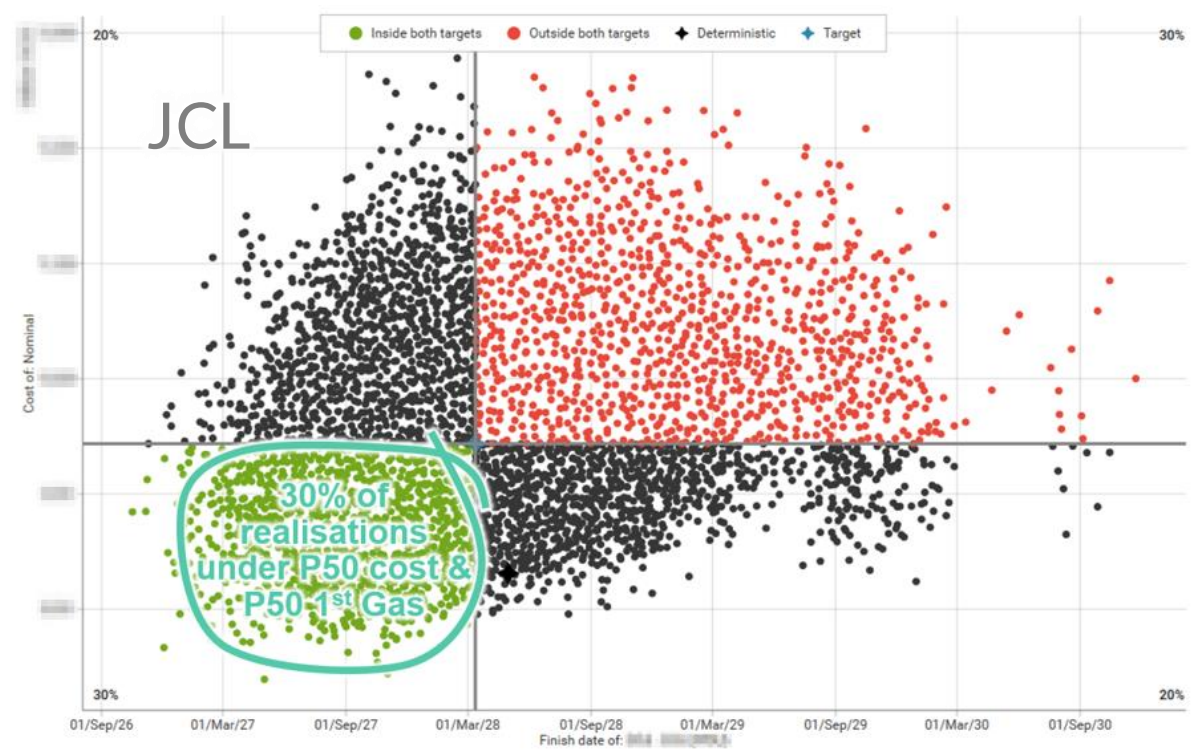
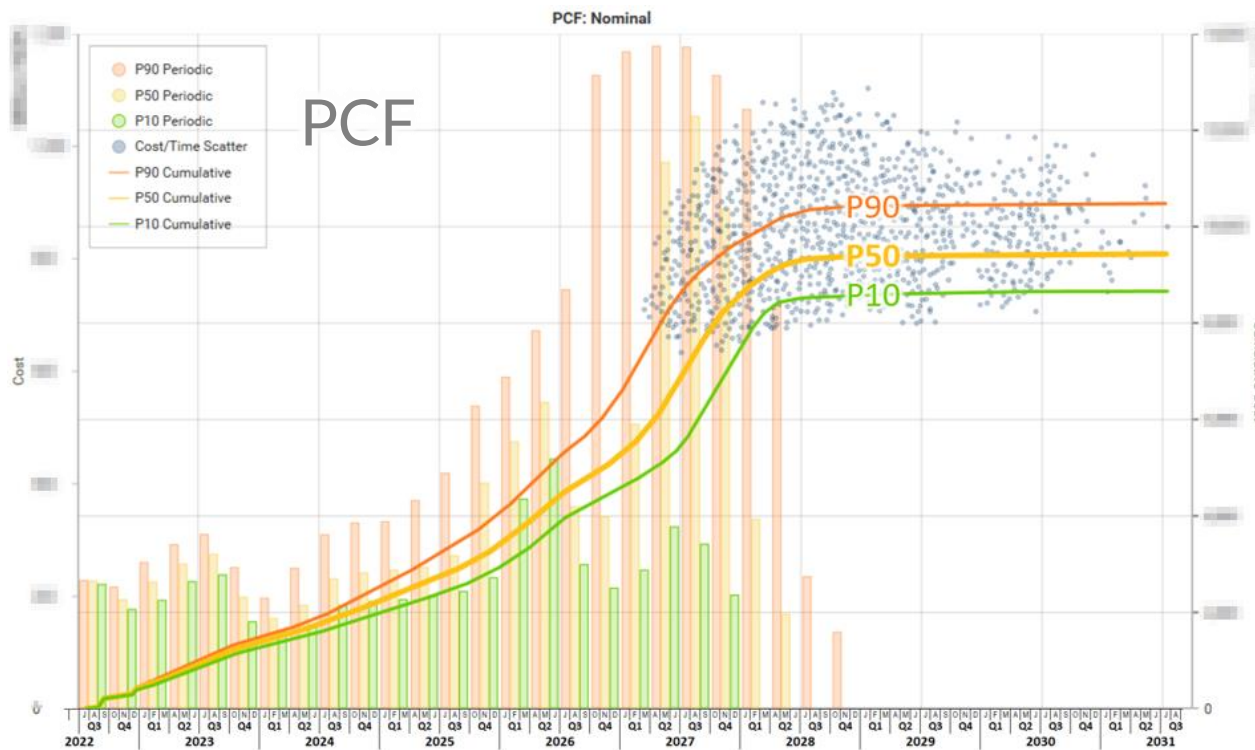
# Powerful & insightful outputs



# Winning Hearts and Minds

## Why do we perform Cost & Schedule Risk Analysis?

- Probabilistic Cash Flow (PCF): key input into project Economic model
- Joint Confidence Level (JCL): quantify level of confidence in meeting percentile target Cost & Schedule



# CSRA is an absolute necessity for projects

To overcome the fundamental challenges today of low-level collaboration and ownership is to ensure that CSRA activities are performed in an environment that increases trust and the desire to collaborate

**Where Hearts and Minds are Won**

The fundamental challenges

Low-level collaboration & ownership

Cure: Increase trust and Desire to Collaborate

**Where Hearts and Minds are Won!**

**THANK YOU**

