DELIVERING MORE WITH LESS: STRATEGIC VALUE ENGINEERING

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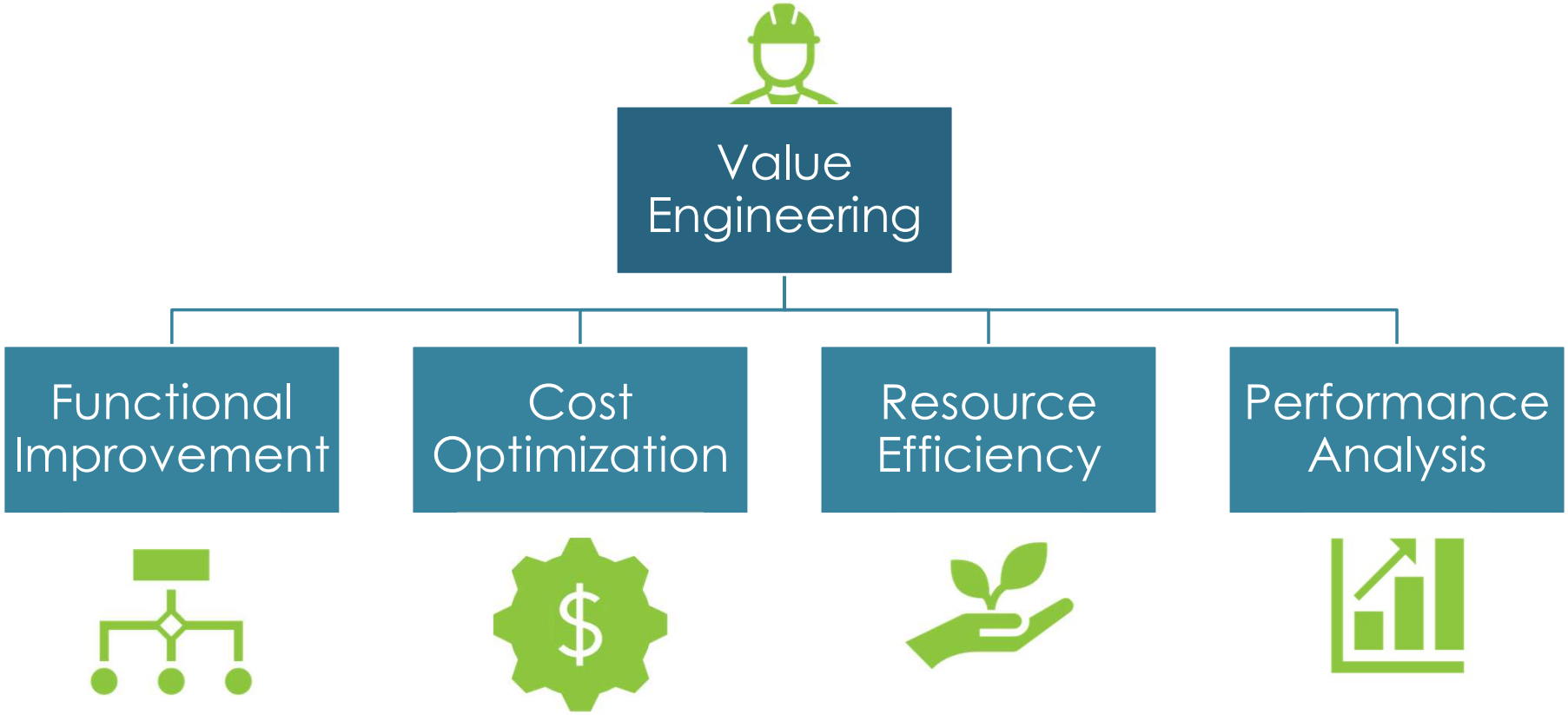
D Raghu

Why are we having this discussion ?

- What does “value” really mean in the context of your projects?
- Are we truly delivering “value” in our projects—or just reducing cost at the expense of safety, performance, or reliability?
- Do we proactively question whether designs are truly fit-for-purpose before execution—or only after failures occur?
- What if we consistently applied a value-driven mindset from the start to balance function, cost, schedule, and risk creatively and effectively?

What is Value Engineering?



Why do VE in Energy Projects?

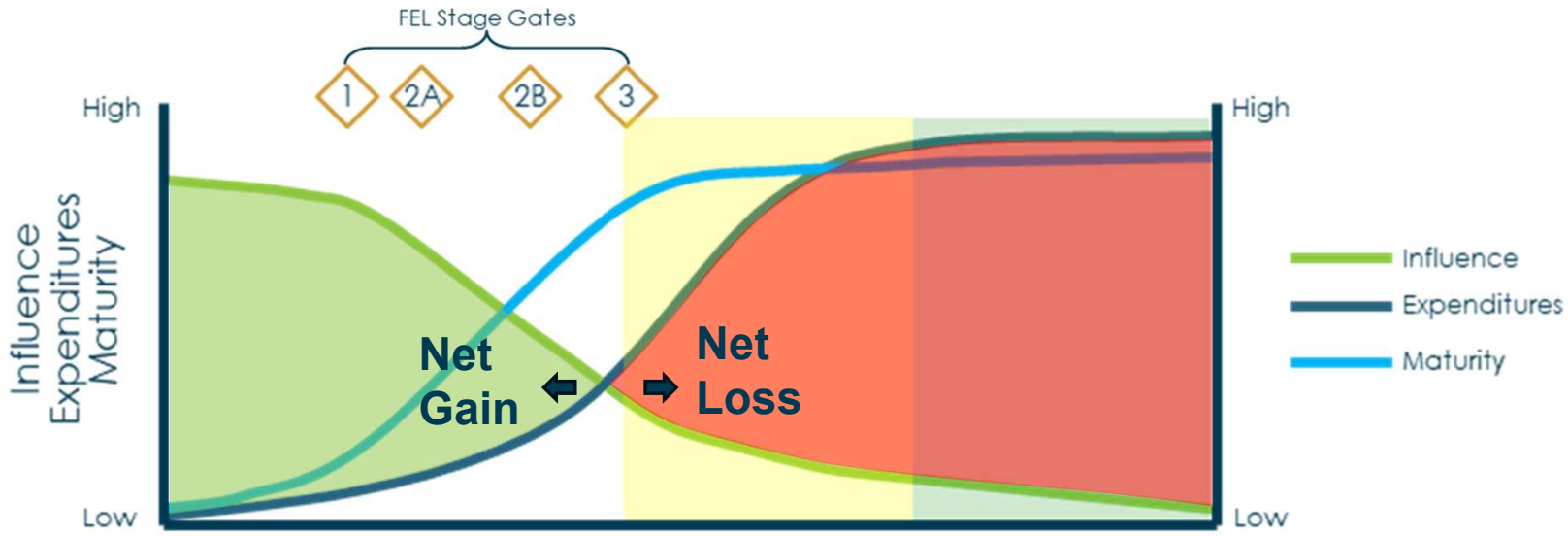
- Cost savings
- Improved performance
- Reduced risk

Definition of Value:

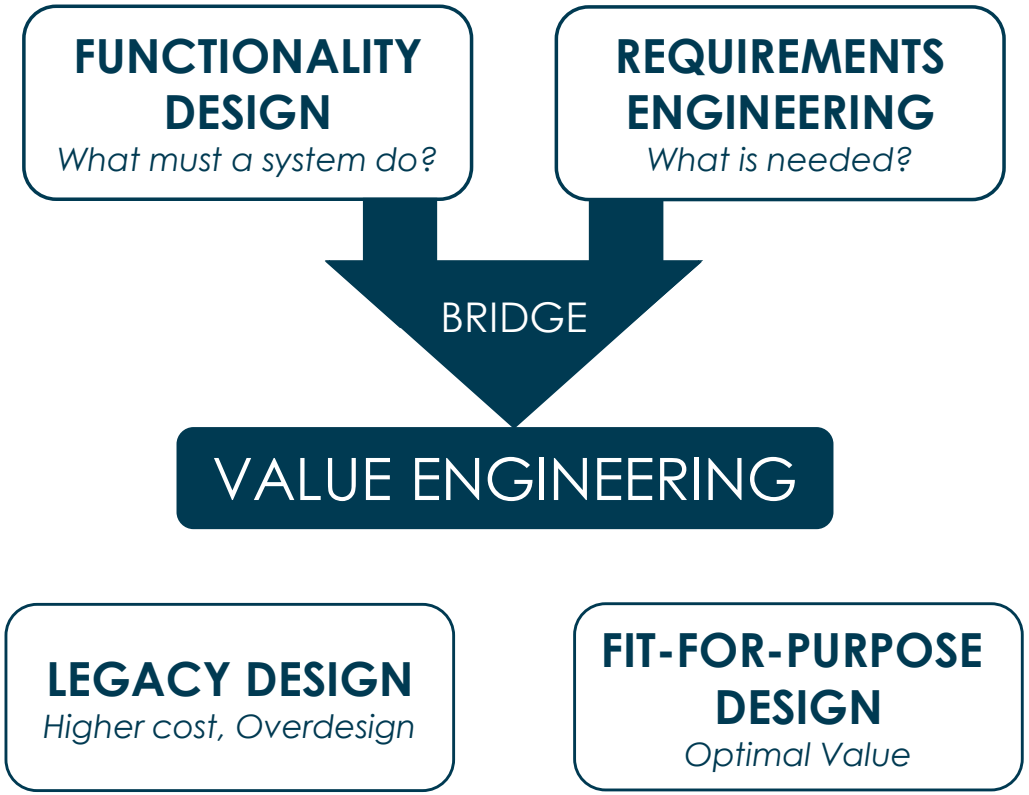
The relationship between the function achieved and the cost to achieve it

$$Value = \frac{Function}{Cost\ of\ Function}$$

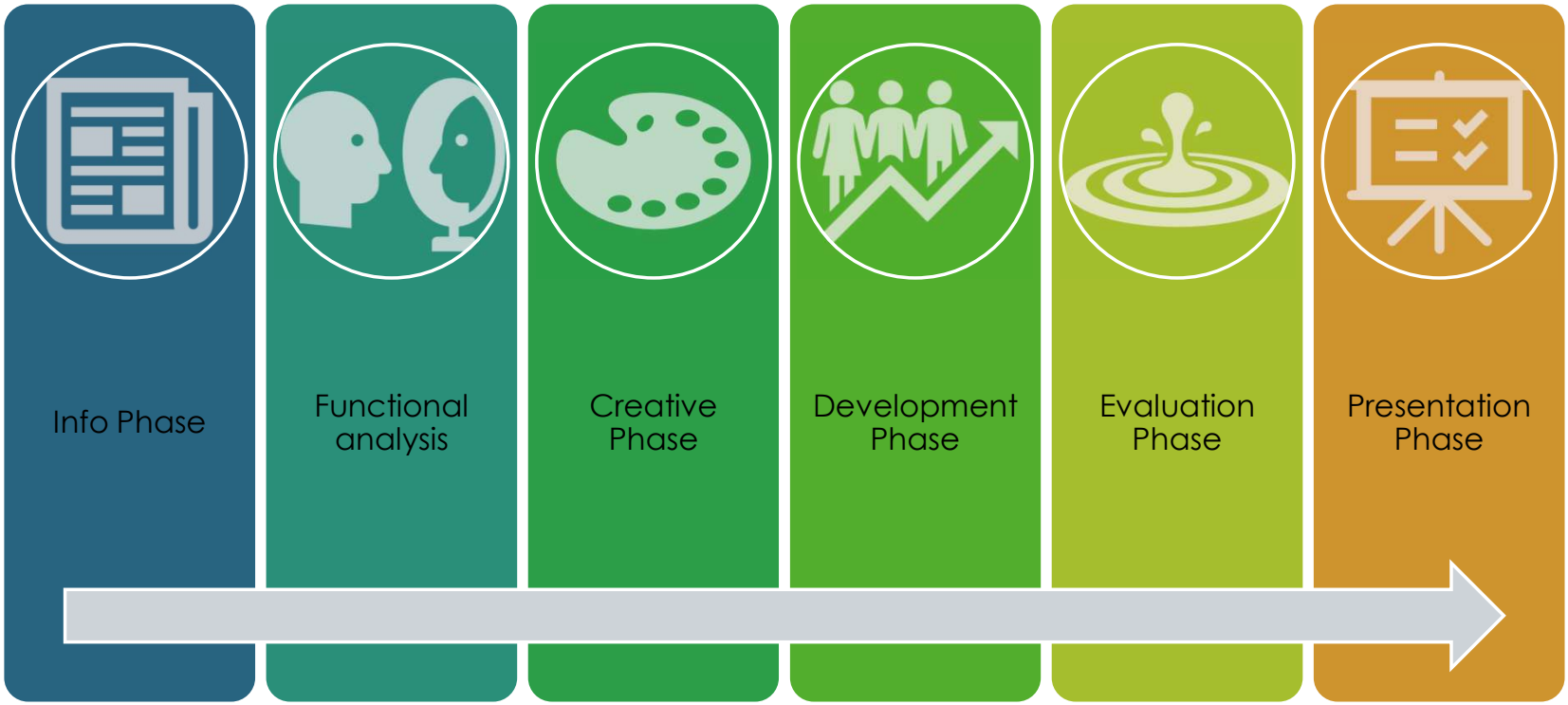
When must we do VE ?



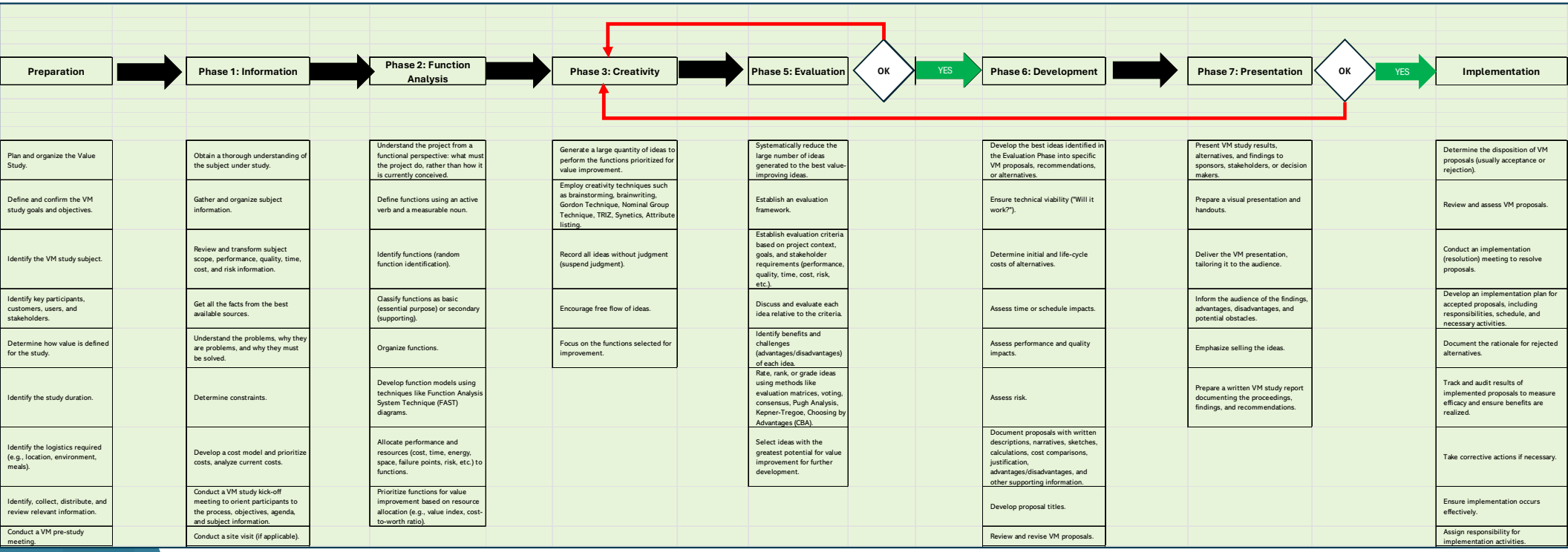
What does Value Engineering do?



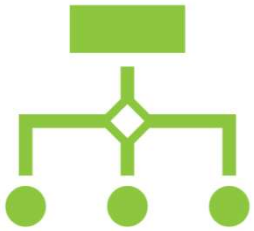
Value Engineering Process



overly Detailed VE Process



Value Engineering Tools



FUNCTION ANALYSIS TOOLS

- Function Analysis System Technique (FAST)
- Function Cost Matrix

BRAINSTORMING AND IDEA GENERATION

- Creative Thinking Techniques (e.g. SOAMPER, Mind Mapping)
- Morphological Analysis

EVALUATION AND SELECTION TOOLS

- Weighted Evaluation Matrix (Decision Matrix)
- Cost-Benefit Analysis

MODELING AND SIMULATION TOOLS

- Life Cycle Cost Analysis (LCCA)
- Design of Experiments (DOE)
- 3D Modeling / Digital Twins

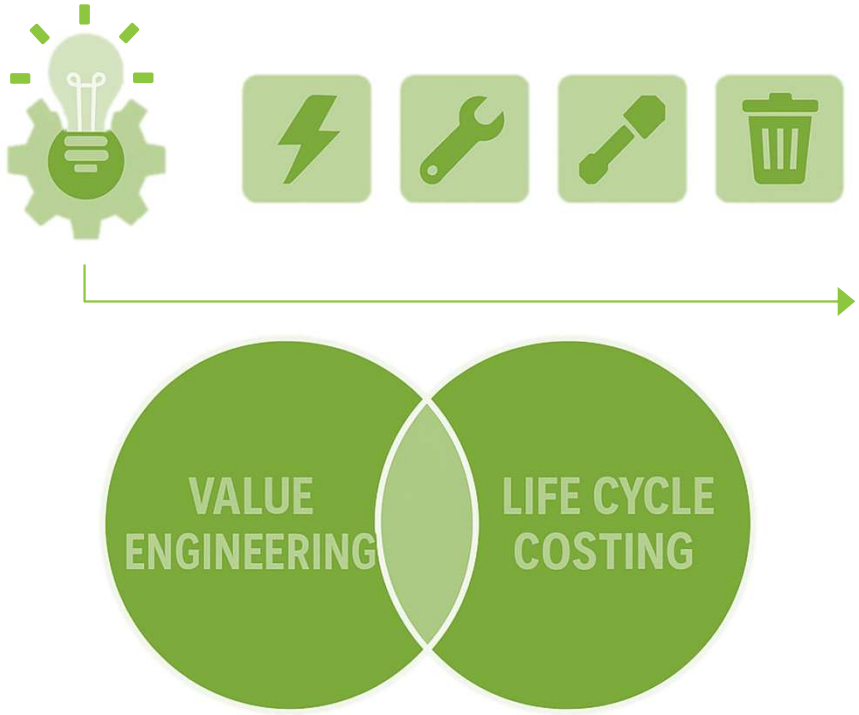
DOCUMENTATION AND PRESENTATION

- VE Job Plan Templates
- VE Reports and Dashboards

COLLABORATION AND WORKSHOP TOOLS

- Cross-Functional Team Workshops
- Value Trees / Logic Trees

Value Engineering - For Complete Life Cycle



VE Principles – Technical Solutions

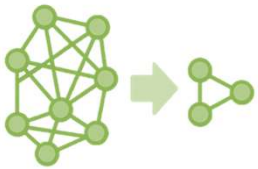
MODULARIZATION AND PREFABRICATION

FUNCTION-BASED DESIGN

MATERIAL SUBSTITUTION

SHIFT FROM CAPEX TO OPEX

REUSE AND REPURPOSE



SIMPLIFY DESIGN AND MINIMIZE INTERFACES

VE Principles – Non-Technical Solutions

EARLY STAKEHOLDER ENGAGEMENT

SMART CONTRACTING AND PROCUREMENT STRATEGY

MANAGING WACC

SCHEDULE INTEGRATION

ORGANIZATIONAL SIMPLIFICATION

EMPHASIS ON LIFECYCLE COST IN DECISION-MAKING

Conclude

- Value Engineering is a structured process that enhances value by balancing function, cost, and performance—not just reducing costs.
- Early integration with Front-End Loading (FEL) is critical to unlocking the full potential of VE.
- VE applies across the lifecycle, not just during design—covering CAPEX, OPEX, and even decommissioning.
- Both technical and non-technical solutions can deliver major value gains. (e.g., digitalization, modularization, contract strategies)
- Success relies on team diversity and creativity, facilitated through a disciplined 6-step VE process.

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WORK RIGHT
THE FIRST TIME.

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