

# Integrated Cost & Schedule Risk Assessment => Project/Task Planning, Financing, Permits, etc.

All Graphs from [RIAAT](#), a software from [RiskConsult GmbH](#) [moergeli.com](#)

## Base Cost (B):

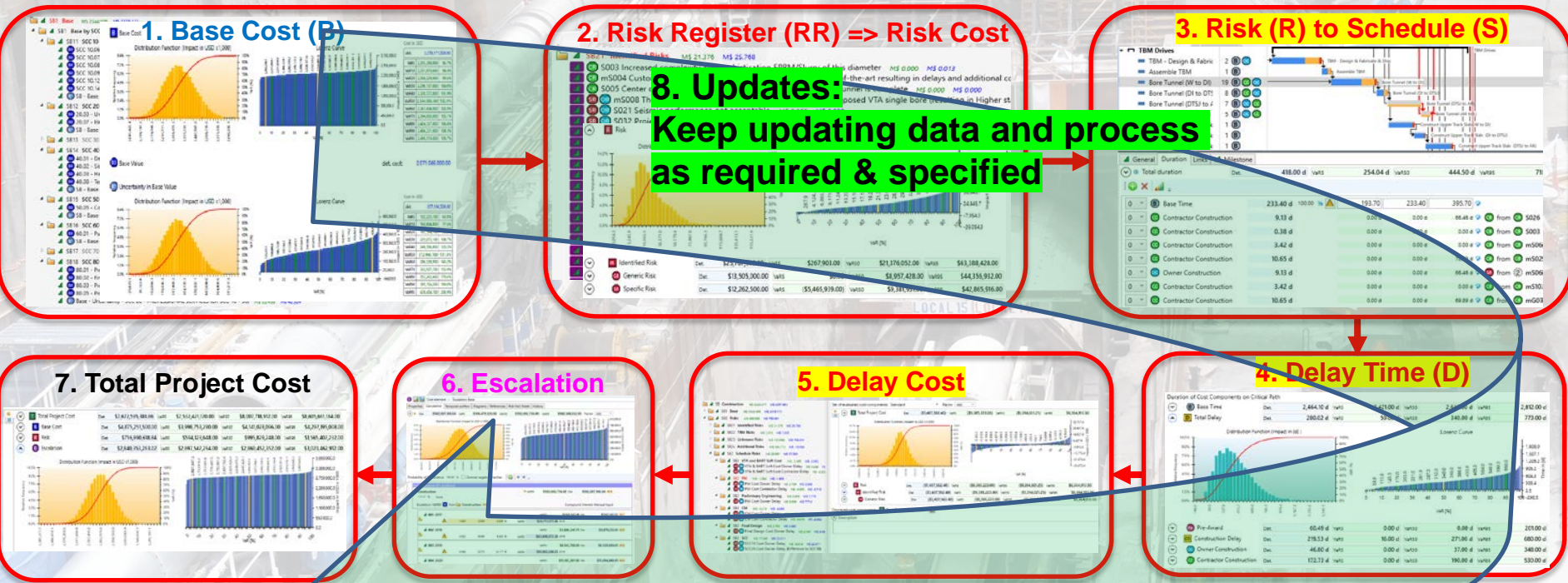
Estimate (or import from existing contract), validate, remove "hidden" contingencies and integrate reasonable uncertainties into the project's Work/Risk Breakdown Structure (WBS/RBS) => Probabilistic Aggregation (PA) of **Base Elements with Uncertainties (Cost/Time, uB)**

## Risks (R):

**Assess Identified Risks (IR)** and a **Markup on Base Cost for Unknown Knowns (U)** with cost and time impacts and integrate into WBS/RBS & Schedule => **PA of uB + (IR + U)**

## Schedule (S):

**Assign Risks to corresponding risky activities in the schedule** & to responsible stakeholders like **Owner / Contractor** etc. => **PA for Substantial Completion Dates and (Near) Critical Paths**



## Total Project Cost (TPC):

=> PA of **uB + (IR + U) + D + E**  
At any **Confidence Level** (= Probability P / Value at Risk VaR) of all cost components at all WBS/RBS levels

## Escalation (E):

Add as required & specified

## Delay Time (D)

**turning into Cost:** Calculate with time-related cost for **Owner / Contractor** etc. and aggregate & integrate into WBS/RBS => **PA of uB + (IR + U) + D**

## Resulting Delay Time (D):

Calculate and aggregate probabilistically for all responsible stakeholders like **Owner / Contractor** etc.

# Risk-based (Rb) Project Management / (System) Controlling



= Risk Management in Action: RMiA<sup>©</sup> => To keep your project controlled at all times

=> Active Monitoring & Controlling => Periodic Updates if/when required

1.  
Safe &  
Secure  
?

**1. Risk-based Assessment of System Safety: ok?**

➤ Performance Level PL (as-built)  $\geq$  PL<sub>r</sub> (r=required)?

NO

2.  
On Time  
?

**2. Risk-based Forecast: Substantial Completion Dates @ Project Milestones/Completion  $\leq$  Schedule?**

NO

3.  
Economic  
?

**3. Risk-based Forecast: Total Project Cost (TPC) @ Project Milestones/Completion  $\leq$  Budget?**

NO

- ❖ **Update Risk Assessment** (Option 0), and/or
- ❖ **Intensify existing/add new Controls** (Option I), and/or
- ❖ **Update Budgets for Time/Money** (Option II)

Any ...

Update Project Plan

Continue with Project Execution

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