SLIM AI DELIVERS FAST & ACCURATE SOFTWARE COST ESTIMATES

QUANTITATIVE SOFTWARE MANAGEMENT

AI ENCOMPASSES MORE THAN JUST GENERATIVE

Artificial Intelligence

- Computers mimicking human problem-solving
- Broad scientific field
- Multiple specialized approaches

Three Key AI Specialties

- **Machine Learning**
  Systems improving through experience
- **Expert Systems**
  Programs emulating domain expertise
- **Generative AI**
  Creates content from training data

ESTIMATION ACCURACY DRIVES TRUST AND ALIGNMENT

23%

Reduction in budget overruns

50%

Staff reduction

14%

Faster delivery schedules

THE QSM ADVANTAGE SPANS FOUR DECADES

FOUR DECADES OF SOFTWARE INTELLIGENCE EVOLUTION

14,400+ Completed software projects

Founded in 1978

Larry Putnam, Sr.
Army Computer Systems Command
Software Lifecycle Model

Trusted by Leaders

- Fortune 1000 companies
- Government agencies
- 47+ years of proven results

SLIM ANSWERS YOUR MOST CRITICAL QUESTIONS

Can we do it?

- Feasibility assessment
- Confidence levels

How much will it cost?

- Budget forecasting
- Cost ranges

What's the risk?

- Probability modeling
- Uncertainty analysis

How long will it take?

- Schedule prediction
- Timeline modeling

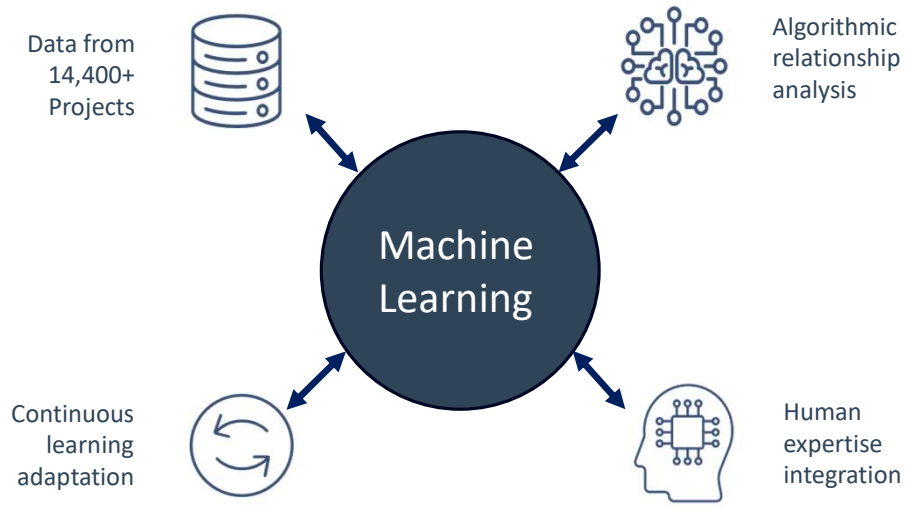
How many people?

- Resource planning
- Team optimization

What are the tradeoffs?

- Scenario comparison
- Decision support

MACHINE LEARNING POWERS PREDICTIVE ACCURACY



Beyond Simple AI

- Identifies non-intuitive patterns
- Reveals complex metric relationships
- Adapts to new project data
- Combines algorithms with expertise

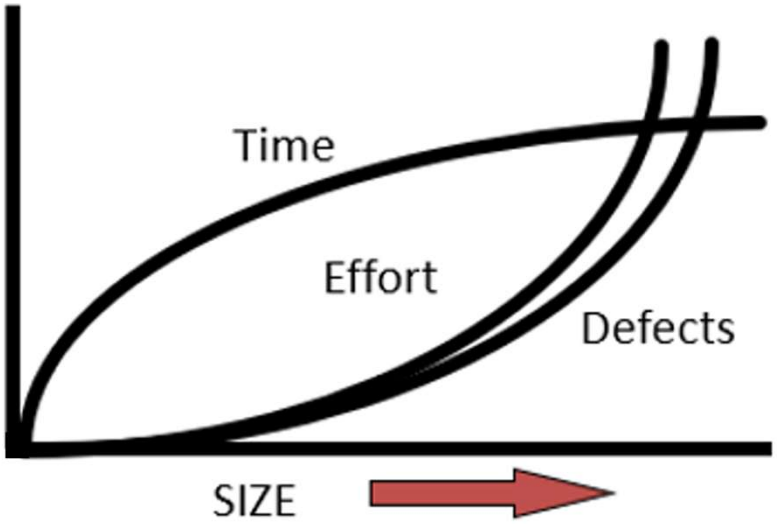
AI TRANSFORMS COMPLEX ESTIMATION INTO CLARITY

SOFTWARE EQUATION MODELS REAL WORLD DYNAMICS

The Software Equation

Size = Effort $^{1/3}$ * Time $^{4/3}$ * Productivity

- Empirically derived from data
- Captures nonlinear relationships
- Models interconnected factors



Small increases in project size can cause disproportionate increases in effort and time

NEGOTIATION BECOMES DATA DRIVEN NOT OPINION

Fixed Budget

- Smaller team, longer time
- Descope to fit budget

Fixed Duration

- Larger team, compressed time
- Descope to fit timeline

Fixed Scope

- Negotiate required schedule
- Negotiate required budget

FIVE ESTIMATION STRATEGIES FOR EVERY SCENARIO

Balanced Risk

- Based on historical averages
- Similar project trends

Rough Order of Magnitude

- Quick baseline estimate
- Refine as details emerge

Time Boxed, Fixed Team

- Functionality possible given constraints

Fixed Resources

- Functionality possible with specified effort

Bid Evaluation

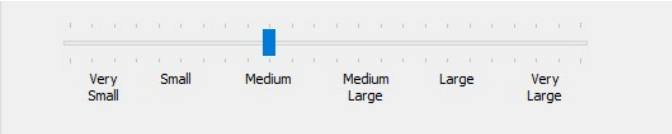
- Productivity needed for time and staffing

Flexible approach for any project context

T SHIRT SIZING MAKES ESTIMATION INTUITIVE

Intuitive Sizing

- Requirements
- Capabilities
- Features
- Epics
- Stories
- SLOC and more



Trend Groups

- Real Time Group
- Engineering Group
- Scientific
- System Software
- Command & Control
- Telecommunications
- Scientific
- Business (Agile, Financial, Gov’t)
- Package Implementation
- Cloud Migration

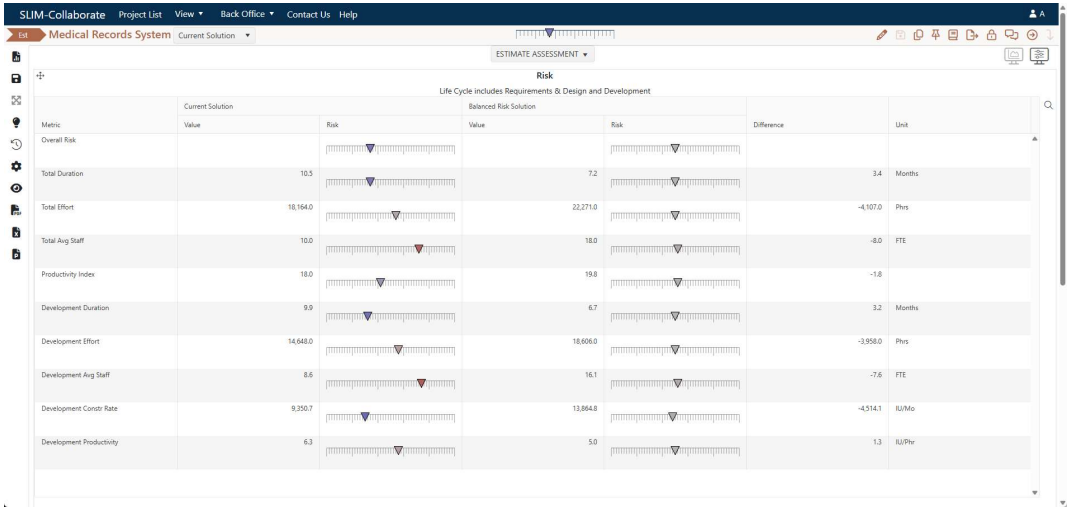
Huge reduction in estimation time

Combines simplicity with statistical rigor

RISK ASSESSMENT BECOMES AUTOMATIC AND VISUAL

COMPARE YOUR PROJECT AGAINST INDUSTRY BENCHMARKS

Project Risk Assessment Dashboard



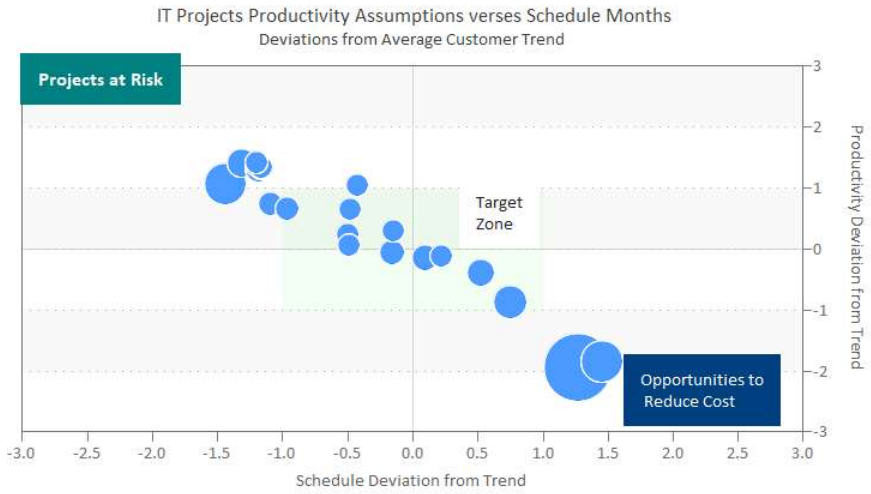
Visual risk assessment immediately identifies areas of concern

Beyond Simple AI

- **Blue:** Conservative estimates, lower risk, potential inefficiency
- **Grey:** Average/Typical, aligned with industry norms
- **Pink/Red:** Risky estimates; requires negotiation and mitigation planning

QUADRANT ANALYSIS REVEALS OPPORTUNITIES AND RISKS

Project Portfolio Quadrant Analysis



Mapping of projects (blue bubbles) across performance quadrants

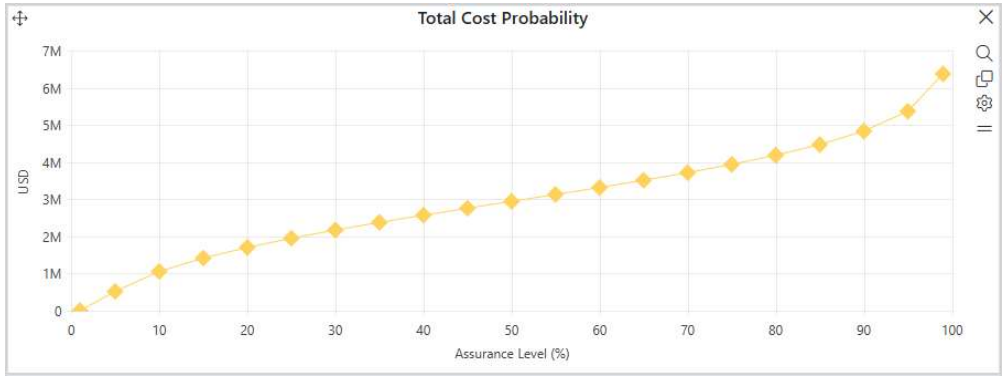
Beyond Simple AI

- Visually map your portfolio
- Identify at-risk projects early
- Find cost-saving opportunities
- Establish realistic dates
- Balance resources effectively

Transform portfolio management from reactive to proactive

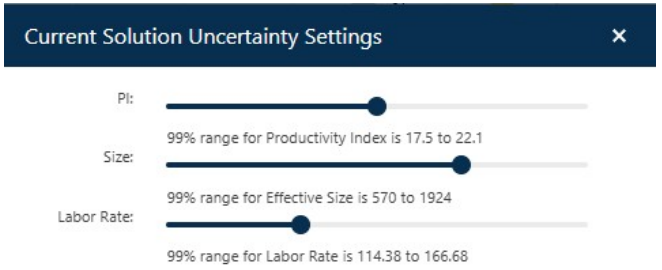
MONTE CARLO SIMULATION CALCULATES CONFIDENCE LEVELS

Probability Distribution



Shows the range of possible outcomes (cost, duration, staffing, quality) rather than a single point estimate

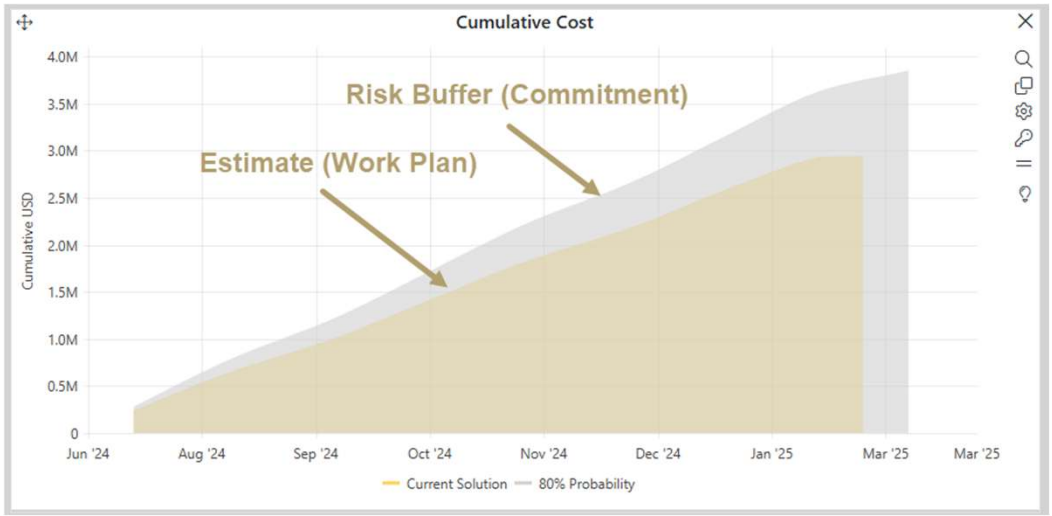
Adjustable Uncertainty Levels



Move beyond single-point estimates to realistic ranges

CONTINGENCY CHARTS ENABLE NEGOTIATION

Compute Higher Assurance Plans



Two Approaches

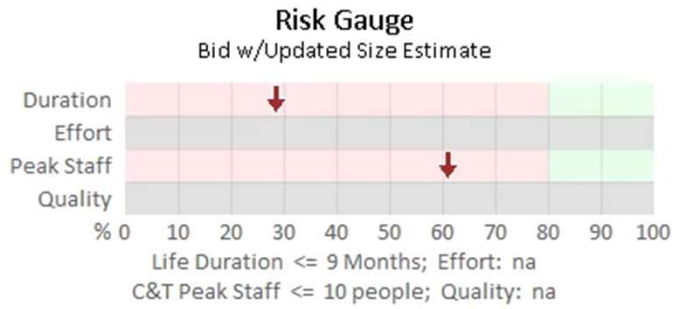
- **Target Probability:**
  Based on MCS results
  65%, 80%, 90% confidence
- **Fixed Percentage:**
  Proportional buffer
  Easier to communicate

TRANSFORM ESTIMATION INTO STRATEGIC ADVANTAGE

OPTIMIZE PROJECTS WITHIN REAL WORLD CONSTRAINTS

Input Up to Four Constraints

- Schedule (Duration
- Budget (Effort or Cost)
- Staff
- Quality



Automatic Solutions for Over-Constrained Projects

“What if I can only have one thing?”

- Prioritize single constraint
- Understand implications

“What would it take to succeed?”

- Balanced compromise solutions
- Programs emulating domain expertise

DEFENSIBLE ESTIMATES BUILD STAKEHOLDER TRUST

Transform estimation from guesswork to strategic advantage with AI-powered analysis of thousands of similar projects

- Test SLIM against your historical data
- Compare with your current methodology
- Connect with other SLIM users
- Arrange a guided demonstration