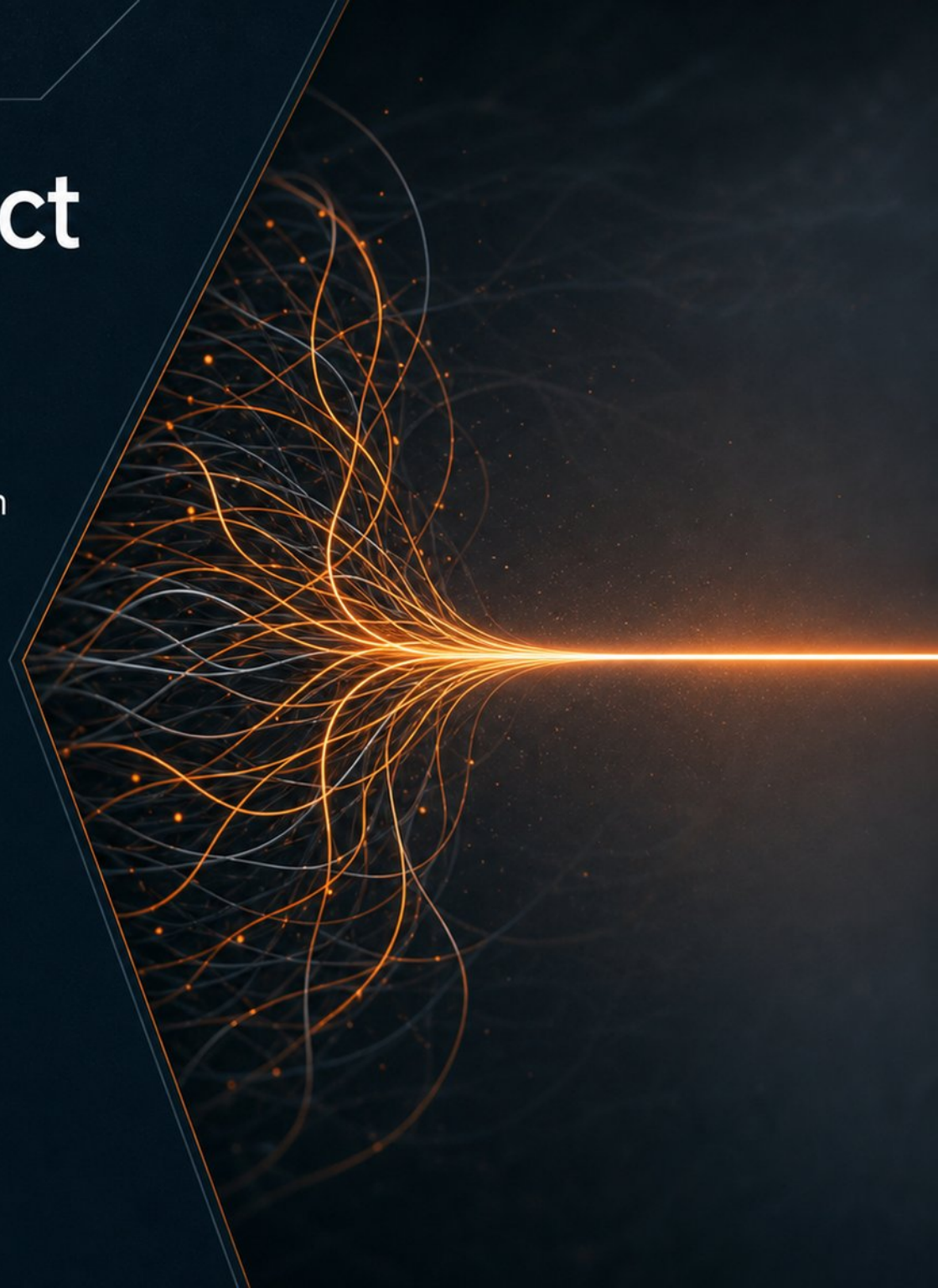
Managing Project Dependencies

Dependencies: when one task, team, or system relies on another before progress continues

Poor management causes cascading delays, rework, silos, and hidden bottlenecks

This training connects to reliable delivery, flow efficiency, and cross-team collaboration

Dependency types: finish-to-start, handoffs, resource, technical, and knowledge



The Real Cost of Unmanaged Dependencies

- Dependencies kill flow: idle time, waiting, and cascading delays across teams
- Flow efficiency often drops to 10–15% in dependency-heavy organizations
- Coordination overhead compounds: meetings, boards, politics, and rework
- Reframe dependencies as systemic design flaws, not inevitable facts

Dependency Types and Classification

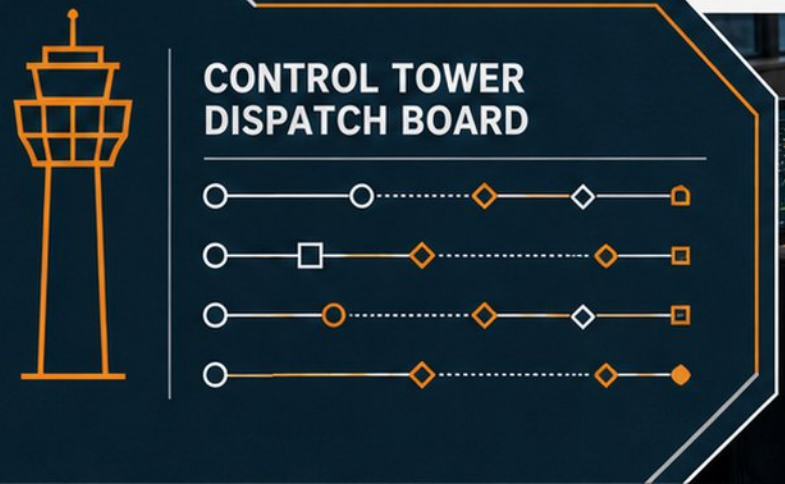
- **Structural:** FS, SS, FF, SF — model real constraints, not just sequences
- **Source:** internal vs. external, mandatory vs. discretionary
- **Agile patterns:** technical (APIs, shared code), resource (specialist skills), temporal (sequencing), knowledge
- Different types demand different handling strategies

Mapping Your Dependency Landscape

- Find dependencies during planning and refinement, not mid-sprint firefighting
- Build a dependency inventory: what is needed, from whom, by when, and risk level
- Use lightweight visuals: dependency boards, program boards, value stream maps
- Classify by risk level to focus on critical-path and high-complexity items

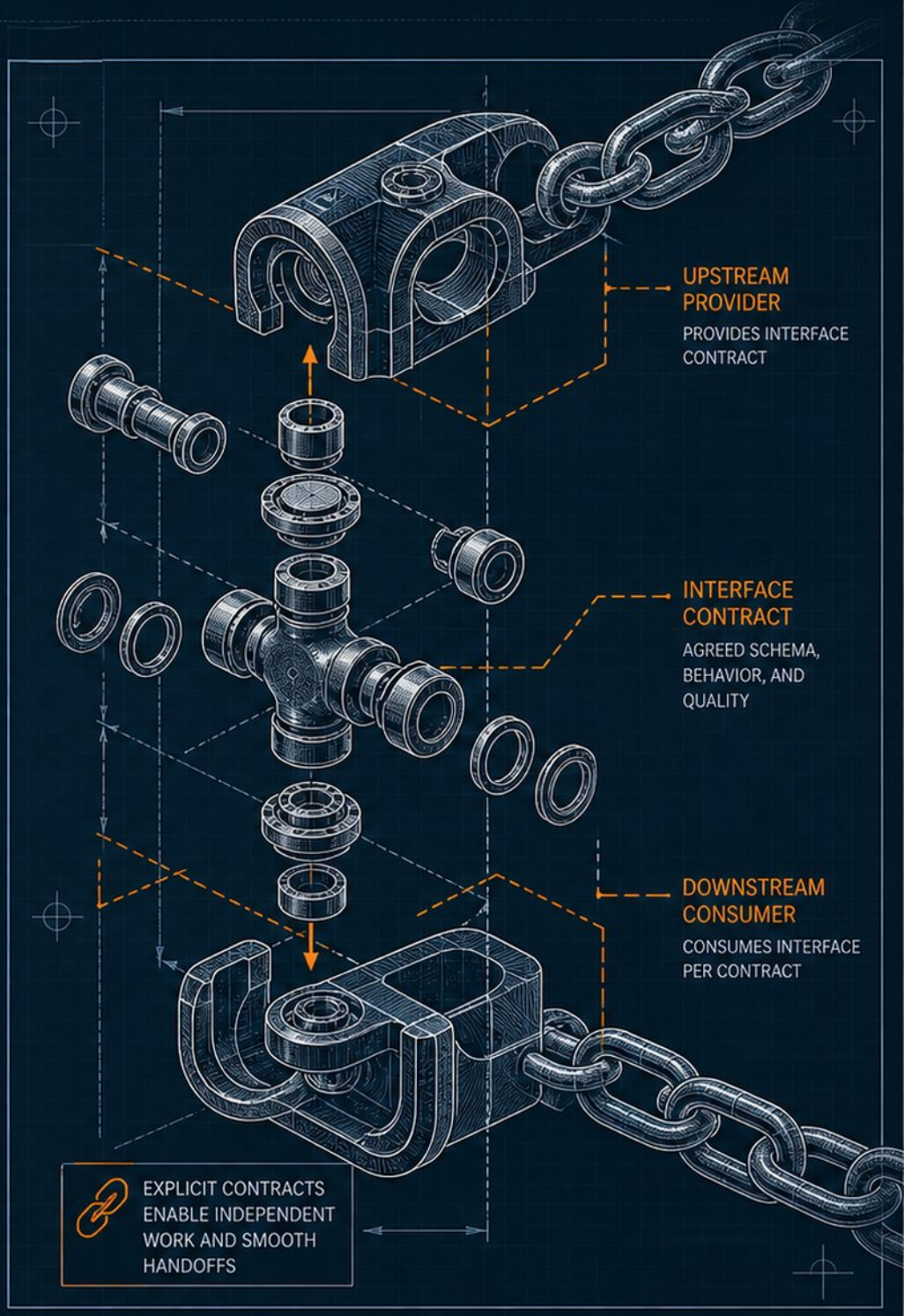
Coordination Tactics That Work

- “Align cadences: synchronize sprints, PI planning, and release cycles across teams”
- “Run lightweight syncs: Scrum of Scrums, dependency check-ins, and tech lead huddles”
- “Use communication patterns: ambassadors, liaisons, or temporary embeds for complex work”
- “Establish the dependency handshake: explicit agreements with named owners, timelines, and escalation paths”



Making Dependencies Explicit with Contracts and Handoffs

- Define interface contracts early: APIs, shared schemas, consumer-driven contracts
- Establish handoff standards: definition of ready, definition of done, checklists
- Use contract testing and mock implementations to enable parallel development
- Treat dependencies as first-class backlog items with clear ownership and resolution targets



Reducing Unnecessary Dependencies

- Don’t manage dependencies — remove them; they signal poor system design
- Feature teams owning vertical slices of value eliminate handoffs
- Loosely coupled services, event-driven architectures, and self-service platforms
- Cross-functional teams, T-shaped skills, and team topology reduce structural drag

Proactive Risk Management for Dependencies

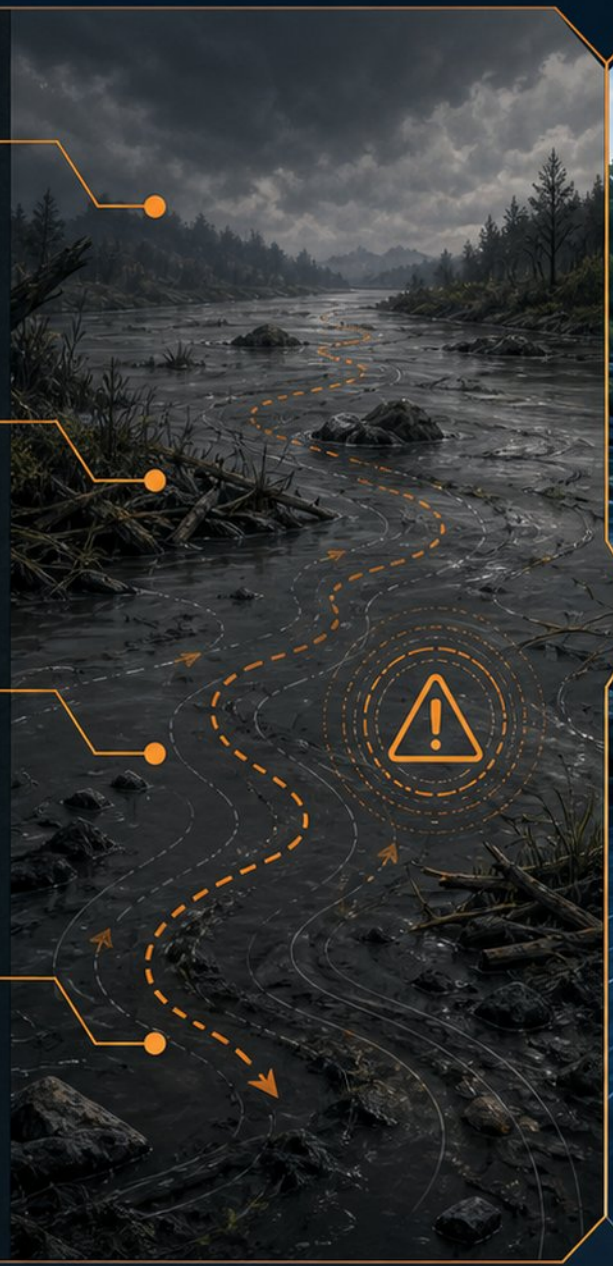
- Map every cross-team touchpoint before project kickoff — not mid-sprint
- Build 20–30% buffer into timelines that depend on external teams
- Run scenario planning and what-if analysis for critical-path dependencies
- Escalate early with options, not complaints: frame it as shared prioritization

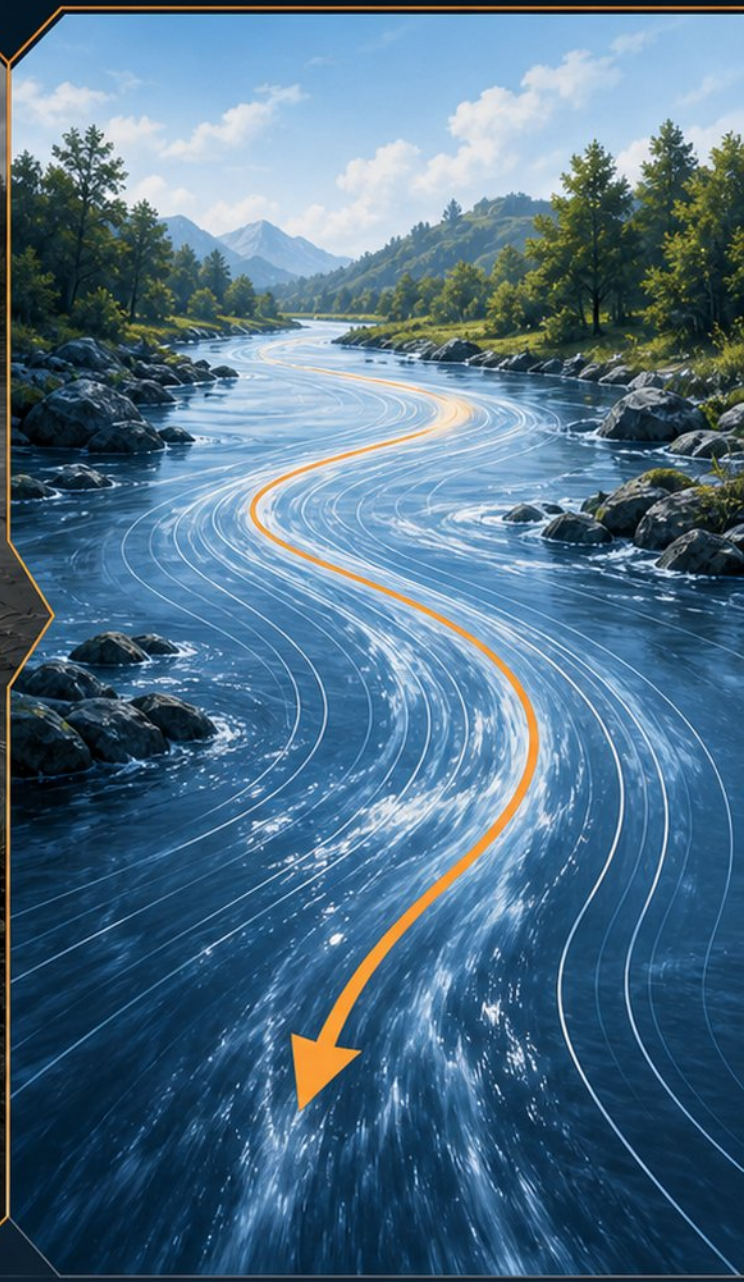
Tools and Tracking for Dependencies

- Integrate dependencies into existing tools (Jira, Azure DevOps, Linear, monday.com)
- Build living dependency maps with real-time status as single source of truth
- Track metrics that matter: lead time, wait time, resolution time, blocker count
- Automate blocker detection, status alerts, and cross-project dependency views

Metrics That Reveal Hidden Bottlenecks

- **Flow efficiency:** active time vs. total elapsed time — low % signals excessive waiting
- **Handoff frequency & cycle time:** compare solo-team vs. multi-team work
- **Dependency resolution time & blocker count:** measure responsiveness and systemic drag
- Use metrics to shift from reactive firefighting to structural redesign

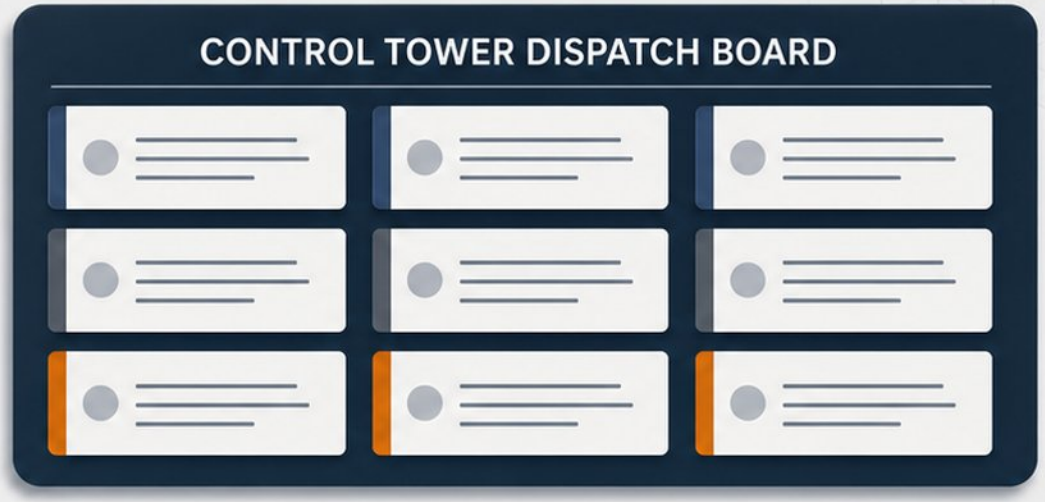




Building a Dependency-Conscious Culture

- “ Shift from blame to shared ownership: dependencies are systemic design flaws, not individual failings”
- “ Reward early flagging of risks and treat slippage as a team problem”
- “ Leadership must prioritize redesign over heroics—removing causes, not managing symptoms”
- “ Treat coordination as real, measurable work; make it visible and valued”

Escalation and Conflict Resolution



- "- Escalate constructively: present objective situations with options, not complaints"
- "- Use tiered escalation: team → program → portfolio with clear criteria"
- "- Address persistent non-delivery through root causes and data-driven impact"
- "- Explore creative solutions: temporary workarounds, MVPs, and parallel-path approaches"

Action Plan: Assessing Your Team's Dependency Health

- "Run a dependency health scorecard covering visibility, ownership, responsiveness, and reduction efforts"
- "Perform a dependency audit before any project start: map every touchpoint and confirm commitments"
- "Ask four weekly check-in questions to catch drift early during sprint planning"
- "Target improvement experiments where complexity spans teams, wait times are longest, and ownership is fuzzy"

Your 30-60-90 Day Dependency Improvement Roadmap

- **First 30 days:** Make dependencies visible—map, classify, assign owners to all cross-team dependencies

- **Days 30–60:** Establish coordination rhythms—lightweight syncs, explicit handoff standards, and escalation paths

- **Days 60–90:** Tackle structural reduction—eliminate one recurring dependency via architecture or team structure changes

- **Sustaining momentum:** Treat remaining dependencies as design debt to be resolved, not normal operating procedure

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