THE IT/OT HANDBOOK

CHAPTERS 5 & 6 — QUICK REFERENCE GUIDE

SEVEN PATTERNS OF IT/OT COOPERATION

COMPLEXITY ASSESSMENT — THREE FACTORS THAT DRIVE PATTERN CHOICE

1 · WORK COUPLING

LOW: INDEPENDENT | MEDIUM: COORDINATED | HIGH: CONTINUOUS

Does the work cross the IT/OT boundary? If you can go a month without talking to the other domain, coupling is low. If you need them in every decision, coupling is high.

2 · SYSTEM COUPLING

LOW: ISOLATED | MEDIUM: SHARED PLATFORMS | HIGH: CASCADING FAILURES

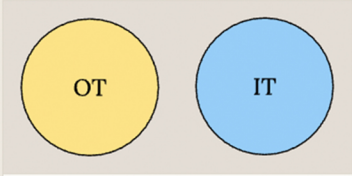
How tightly are IT and OT architectures connected? When systems go down, does one team handle it alone — or do both have to scramble together?

3 · CHANGE VELOCITY

LOW: STABLE & KNOWN | MEDIUM: INCREMENTAL | HIGH: RAPID & UNCERTAIN

Is the solution stable and predictable? Can you define all requirements upfront — or are you preparing for fast learning and frequent adjustment as you go?

COOPERATION PATTERNS — FROM ISOLATION TO DEEP INTEGRATION



01 — IT AND OT IN SILOS

LOW COMPLEXITY

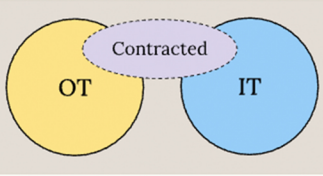
RECOGNISING THIS PATTERN

- "Submit a ticket" is the default answer to every cross-domain request
- No shared roadmaps, no joint projects
- Networks are black boxes to the other side

STRENGTHS & CONSTRAINTS

Fast execution, clear boundaries, zero coordination overhead — optimal for routine work. Fails the moment initiatives require sustained cross-boundary cooperation.

→ Cybersecurity pressure or data needs will force the move. Consider Pattern 3 or 4 as a first step.



02 — OUTSOURCED INNOVATION

LOW COMPLEXITY

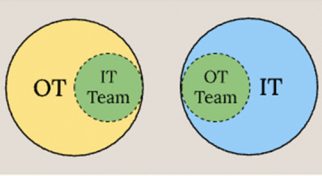
RECOGNISING THIS PATTERN

- Suppliers manage IT/OT integration internally
- Your teams operate tools; vendors own the architecture
- No internal digital capability is being built

STRENGTHS & CONSTRAINTS

Fast to value and frees internal focus. But you trade control for ease — suppliers accumulate architectural knowledge while your teams learn only to operate their tools.

→ When integration complexity or roadmap conflicts mount, start internalising capability.



03 — SHADOW TEAMS

MEDIUM COMPLEXITY

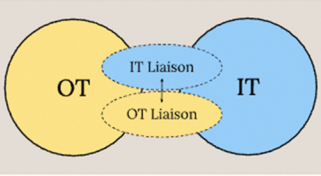
RECOGNISING THIS PATTERN

- Operations builds digital solutions without IT involvement
- Fast delivery, but absent governance and architecture
- High key-person dependency

STRENGTHS & CONSTRAINTS

Speed and autonomy; proves value fast. Shadow teams signal that formal cooperation doesn't match operational urgency — but duplication costs and political friction grow over time.

→ Use shadow team members as facilitators to build the foundation for Pattern 4 or 6.



04 — FACILITATION

MEDIUM COMPLEXITY

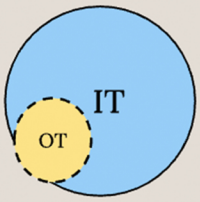
RECOGNISING THIS PATTERN

- Named individuals hold a mandate to bridge IT and OT
- Language shifts from tickets to people
- Architecture improves incrementally, no restructuring needed

STRENGTHS & CONSTRAINTS

Builds cooperation muscle cheaply. Facilitators translate requirements and smooth decisions. Cannot scale to high-complexity work — no shared ownership or joint delivery.

→ Foundation is in place. When strategic initiatives demand it, move to Pattern 6.



05 — IT/OT CONVERGENCE

EDGE CASE

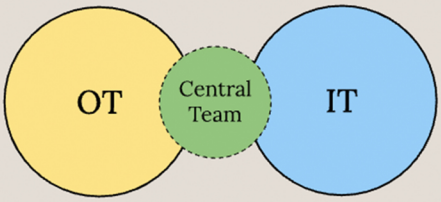
RECOGNISING THIS PATTERN

- No separate OT function — IT holds lightweight OT competencies
- One function manages both domains with unified governance
- Coordination complexity is not the primary challenge

STRENGTHS & CONSTRAINTS

Simple governance and unified ownership. An edge case that only works when OT complexity genuinely stays low — for example, connecting to vendor-supplied machines without deep operational specialisation.

→ Monitor OT complexity. If it grows, structured cooperation models become necessary.



06 — CROSS-FUNCTIONAL PROJECT TEAMS

HIGH COMPLEXITY

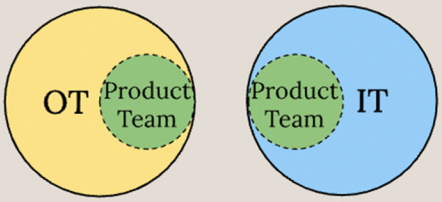
RECOGNISING THIS PATTERN

- Mixed IT and OT team with shared goals and joint budget
- Temporary by design — built around a defined deliverable
- Dual IT/OT leadership; steering committee in place

STRENGTHS & CONSTRAINTS

Delivers on hard problems; builds shared language and mutual trust. Core risk: knowledge walks out the door when the project closes — or the team becomes a permanent third silo by accident.

→ Plan Pattern 7 from day one. Decide permanent ownership before anyone writes a line of code.



07 — PRODUCT TEAMS

HIGH COMPLEXITY

RECOGNISING THIS PATTERN

- Permanent team owns a digital capability end-to-end
- They build it, run it, evolve it — no handover required
- Backlog balances new rollouts, support, and feature requests

STRENGTHS & CONSTRAINTS

Sustained evolution, clear ownership, no handover problem. Overhead for stable or simple capabilities. Requires complete capability mapping — partial transitions create the exact problems Pattern 6 was meant to solve.

→ Continuously reduce work coupling, system coupling, and change velocity to free capacity for value creation.