ICxA
Outcome Assurance
for Capital Projects

OPERATIONAL READINESS

A Two-Dimensional Organizational Capability for Sustained Value Realization

David Tain, MSc., P.Eng, ORS
ICxA | Chairman of the Technical Committee |
VP LATAM & Mediterranean Region

From Practice to Capability

Operational Readiness has become an increasingly important discipline in the delivery of major capital projects. Across all sectors and industries, organizations have invested substantial effort in improving the transition from project execution to sustained operations through structured planning, governance, commissioning, training, assurance, and operational integration (Merrow, 2011; ISO 21502:2020). These practices have contributed significantly to reducing transition risk and improving operational outcomes, establishing the discipline as an increasingly recognized component of successful project delivery. However, an important question remains largely unexplored: **What, fundamentally, is Operational Readiness?**

Existing approaches have predominantly described the discipline through the activities performed, the deliverables produced, the governance processes established, or the milestones achieved during transition. These perspectives provide valuable operational guidance, yet they primarily explain how organizations prepare for operations rather than what organizations are progressively developing through those efforts. This distinction becomes particularly apparent when viewed alongside broader theories of organizational readiness, where readiness has been examined primarily as a collective organizational state supporting the successful implementation of change (Weiner, 2009). Within major projects, however, the underlying organizational capability that transition activities are intended to develop has remained comparatively underexplored.

This distinction matters because projects and operations fulfill fundamentally different organizational purposes. Projects create or modify assets, whereas operations generate the sustained performance and value those assets are intended to deliver throughout their operational lives (ISO 55001:2024). Consequently, successful project delivery does not, by itself, ensure successful operational performance. Value is ultimately realized only when organizations possess the capability to assume operational responsibility and consistently deliver intended outcomes.

Viewed from this perspective, Operational Readiness extends beyond the successful completion of transition activities to become an organizational capability that enables capital investments to realize their intended value through sustained operational performance (Teece, 2007). Addressing this conceptual gap requires a shift from practice to capability.

Rather than asking only what activities comprise Operational Readiness, it becomes equally important to understand how organizations progressively develop the capability required to achieve it. This perspective provides the foundation for a new conceptualization of Operational Readiness: one that distinguishes the organizational architecture through which capability is constituted from the developmental progression through which that capability is deliberately cultivated.

Operational Readiness as a Two-Dimensional Organizational Capability

Operational Readiness can be understood as a two-dimensional organizational capability through which organizations translate capital investments into sustained operational value. Instead of viewing readiness as a transition process or a collection of transition activities, this perspective explains how this organizational capability is progressively developed and ultimately sustained.

Fundamentally, Operational Readiness can be understood as the integration of two complementary dimensions:

The **Structural Dimension** defines the organizational architecture in which Operational Readiness Capability resides and is constituted by four interdependent core capabilities:

- **People** - the knowledge, competence, leadership, behaviors, and culture required to perform operational responsibilities effectively.

- **Organization** - the governance structures, operating model, decision-making processes, organizational alignment, and accountability necessary to support sustained operational performance.
- **Systems & Processes** - the management systems, operational procedures, digital technologies, workflows, and supporting processes that enable reliable, repeatable, and resilient execution.
- **Assets** - the physical facilities, infrastructure, equipment, operational technologies, and supporting resources through which operational performance is ultimately delivered.

Together, these four core capabilities define the organizational architecture through which Operational Readiness is established.

Where the Structural Dimension defines the organizational architecture, the **Developmental Dimension** explains how organizational capability progressively matures across each structural core capability. Rather than representing project phases, administrative gates, or schedule milestones, **Awareness, Preparedness, and Readiness** describe the deliberate progression through which organizations cultivate operational capability. Each developmental state builds upon the previous one, progressively strengthening the organization's ability to assume and sustain operational responsibility.

The **Developmental Dimension** progresses through three developmental states:

- **Awareness** establishes a shared understanding of future operational requirements, intended operating outcomes, principal risks, and the conditions necessary for successful operations.
- **Preparedness** progressively develops that understanding into organizational capability through the establishment of competencies, governance arrangements, organizational alignment, systems, operational processes, and asset readiness.
- **Readiness** represents the demonstrated capability to assume operational responsibility with confidence and sustain the intended operational outcomes.

Figure 1 below summarizes the proposed conceptual model

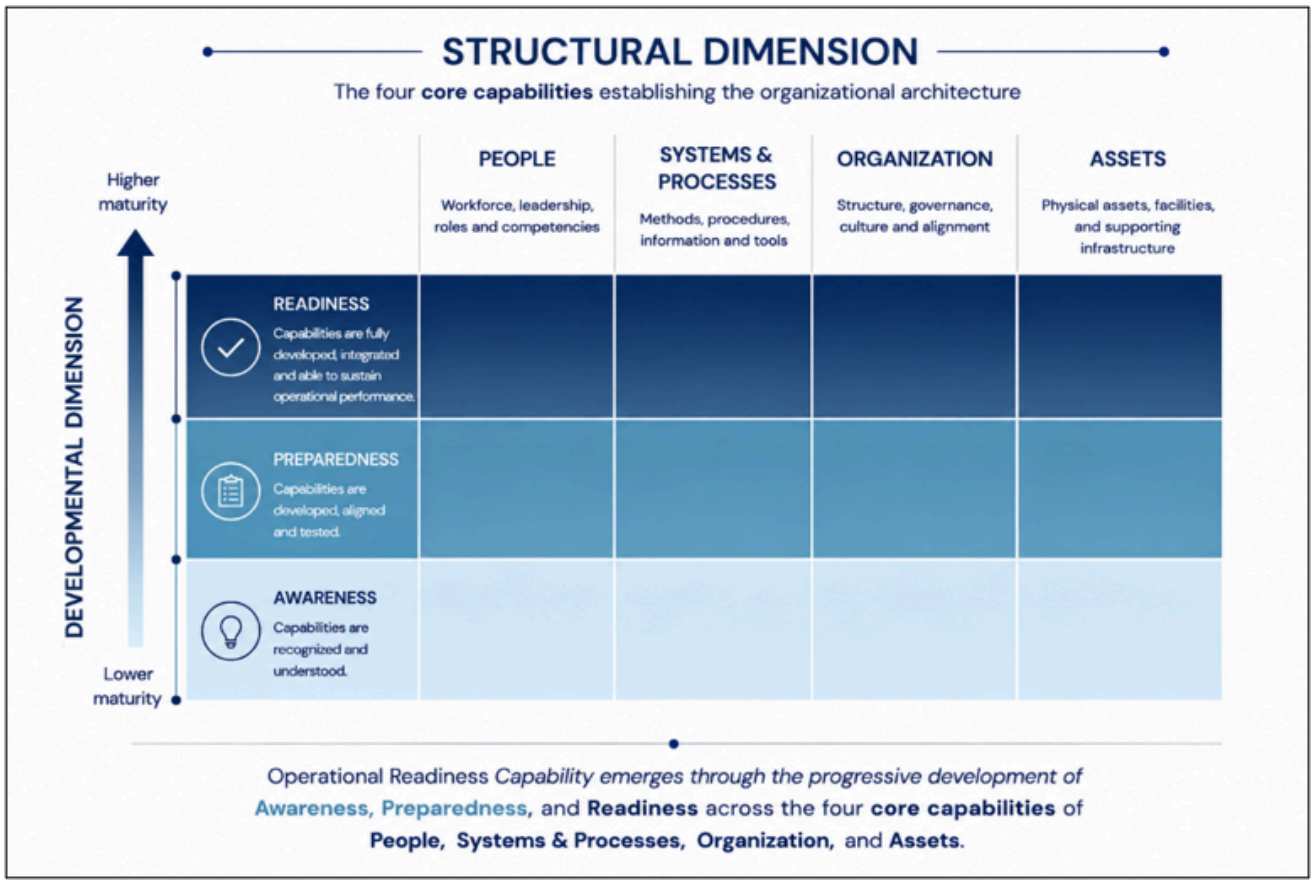


Figure 1. Operational Readiness: the interaction between Structural and Developmental Dimensions.

Each progression from Awareness, through Preparedness, to Readiness progressively develops the capability embedded within People, Organization, Systems & Processes, and Assets. Operational Readiness therefore emerges not from the completion of isolated transition activities, but from the deliberate and coordinated development of capability across the entire organizational architecture.

This perspective represents far more than the completion of transition activities or the achievement of a project milestone. It reflects the progressive development of the organizational capability required to assume operational responsibility with confidence, sustain operational performance, and realize the intended value of capital investments. This shift from measuring activity completion to evaluating organizational capability fundamentally changes how Operational Readiness is

governed, assessed, and continuously developed, establishing the foundation for a broader capability perspective that extends well beyond project transition and into sustained operational performance.

Why a Capability Perspective Matters

Organizational capabilities are not abstract organizational attributes; they are embedded within the structures, processes, people, and assets through which organizations consistently achieve operational performance (Teece, 2007). Viewed through this lens, traditional descriptions of Operational Readiness have largely focused on managing the transition from project delivery to operations through activities, governance processes, commissioning, and project milestones (Merrow, 2011; ISO 21502:2020). While these practices remain essential, they explain transition more effectively than the development of the enduring organizational capability required to sustain operational performance. Distinguishing between the Structural and Developmental Dimensions addresses this conceptual limitation by repositioning Operational Readiness as a progressively developed organizational capability rather than a condition achieved at transition.

From an organizational capability perspective, Operational Readiness is demonstrated by the progressive development of the four core capabilities, People, Organization, Systems & Processes, and Assets, through the developmental states of Awareness, Preparedness, and Readiness. Established practices such as planning, commissioning, assurance, governance, operational integration, training, and transition management, remain indispensable. Rather than defining Operational Readiness, however, they are more appropriately understood as the mechanisms through which organizational capability is intentionally developed.

From a project and asset lifecycle perspective, Operational Readiness extends well beyond the transition to operations. It progressively develops throughout the investment lifecycle as organizations strengthen the four core capabilities required to achieve and sustain operational performance. Readiness therefore becomes a continuous organizational capability that supports value realization from project inception through ongoing operations, rather than a temporary project function activated immediately before handover.

Finally, **from an Outcome Assurance perspective** (that is, judging readiness by sustained operational outcomes rather than transition outputs) Operational Readiness is demonstrated not by the successful completion of transition, but by the organization's sustained ability to operate safely, reliably, and effectively while consistently realizing the intended value of its capital investments (ISO 55001:2024). Mechanical completion, commissioning milestones, documentation, and operational handover remain important achievements, yet they represent intermediate outputs rather than the ultimate objective. Transition therefore becomes one milestone in the continuing development of organizational capability, rather than its endpoint.

Taken together, these perspectives broaden the understanding of Operational Readiness without diminishing the importance of established industry practices. Instead, they provide a coherent conceptual foundation for governing readiness, assessing its development, and strengthening the organizational capability through which capital investments consistently realize their intended value.

An Invitation to Practice

Operational Readiness has evolved considerably through decades of practical experience. Across industries, organizations have continually refined the methods, governance processes, assurance practices, commissioning activities, and transition strategies that support successful project delivery and operational startup. Collectively, these efforts have shaped an increasingly mature discipline. Viewing Operational Readiness as a two-dimensional organizational capability does not replace these practices; rather, it provides a coherent conceptual foundation through which they can be more clearly understood, integrated, and further advanced.

This perspective also creates new opportunities for practice. By distinguishing between the Structural Dimension, which defines where readiness resides, and the Developmental Dimension, which explains how readiness evolves from Awareness, through Preparedness, to Readiness, organizations can move beyond evaluating the completion of transition activities toward understanding how readiness is progressively developed across the enterprise. In doing so, Operational Readiness becomes an organizational capability that can be intentionally governed, assessed, and continuously strengthened throughout the investment lifecycle.

More importantly, this perspective invites practitioners to ask a different question. Rather than asking whether transition activities have been completed, organizations may ask whether those activities have collectively developed the organizational capability required to achieve safe operations, sustain operational performance, and consistently realize the intended value of their capital investments. If this perspective encourages organizations to ask better questions, make more informed decisions, and strengthen the capabilities that underpin operational success, then it will have fulfilled its intended purpose.

The emerging generation of Operational Readiness may be defined not by performing more readiness activities, but by recognizing that their enduring purpose is to progressively build the organizational capability through which capital investments consistently realize their intended value.

References

International Organization for Standardization (2020) ISO 21502:2020 – *Project, Programme and Portfolio Management - Guidance on Project Management*. Geneva: International Organization for Standardization.

International Organization for Standardization (2024) ISO 55001:2024 – *Asset Management - Asset Management System - Requirements.* Geneva: International Organization for Standardization.

Merrow, E.W. (2011) *Industrial Megaprojects: Concepts, Strategies, and Practices for Success.* Hoboken, NJ: John Wiley & Sons.

Teece, D.J. (2007) 'Explicating dynamic capabilities: The Nature and Microfoundations of (Sustainable) Enterprise Performance', *Strategic Management Journal*, 28(13), pp. 1319–1350.

Weiner, B.J. (2009) 'A Theory of Organizational Readiness for Change', *Implementation Science*, 4, Article 67.