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PRESIDENT MESSAGE

By Paul Turner, P.Eng., PMP

Transforming the Project Industry: A New Name, A Clear Vision

The project delivery landscape is evolving rapidly, influenced by groundbreaking technological advancements and shifting industry demands. At ICxA, we recognize that this evolution calls for more than incremental adjustments—it demands a fundamental shift in how we approach project outcomes.

To lead this transformation, we are proud to announce our new identity: **The Institute of Commissioning & Assurance.**

Why this Change Matters

Historically, projects have been managed in distinct silos—engineering, procurement, construction, commissioning—each optimized independently. But optimizing individual phases rarely guarantees successful outcomes. Today's projects are more complex and ambitious than ever, and require integrated leadership from the outset.

Our mission is clear: to ensure the project's successful outcome is the primary goal right from the start.

For too long, project phases have operated independently, hurting overall outcomes. A new approach is required to align all groups to the project outcome, rather than optimize for each

phase. The goals and initiatives of the ICxA are to improve the governance and objectives of projects to achieve project outcomes.

Outcome Assurance: The Solution

As the industry grows and evolves, especially with new AI technologies that continue to increase capabilities, these powerful technologies will most certainly impact how projects are delivered. In the industry's current state though, these technologies are most likely to optimize for each phase, rather than optimize for the outcome. Project Managers will use AI to optimize project management, consultants will use AI to optimize engineering, and EPC contractors will use AI to optimize for construction. The problem is nobody is aligned to use these new technologies to optimize for the project outcome. Project Managers will have better methods to track cost and schedule, engineering groups will have more efficient methods to create design packages, and construction groups will have improved methods to manage procurement and workforces. When these new AI technologies are used to optimize each phase of projects, this will only reinforce the siloes that exist, and make it even more difficult, if not impossible, to break down these barriers in the future for better project collaboration.

The projects industry is standing on the edge of major change. But change will not likely take the industry in the right direction. Unless there is a group with authority to assure the project outcome, each group will continue to optimize for their role. This isn't anyone's fault, it's human nature, and there needs to be a new system to incentivize groups to deliver for the outcome. Until there is a group starting at the beginning of projects with the authority and focus to assure that the project outcome is protected and achieved, the industry will continue to underperform. Technology will not save the industry until this fundamental misalignment is fixed.

What's needed is Outcome Assurance. Outcome Assurance isn't new, but it has been overlooked by many industries. Successful projects have quietly leveraged this integrated approach for decades. It starts by defining and aligning around the final outcome at the very beginning—long before financial commitments and construction mobilization – with an Outcome Authority at the start of projects to protect the outcome and assure that it is achieved.

Research by Professor Bent Flyvbjerg analyzing over 16,000 projects reveals that 90% of major projects run late and exceed budgets. Clearly, traditional project management alone is insufficient.

An Outcome Assurance approach is the missing link. It's about integrating engineering, procurement, construction, and commissioning from day one, ensuring everyone remains aligned to achieve the project's true objectives. Outcome Assurance from the start is the proven method to ensure project outcomes align with initial expectations.

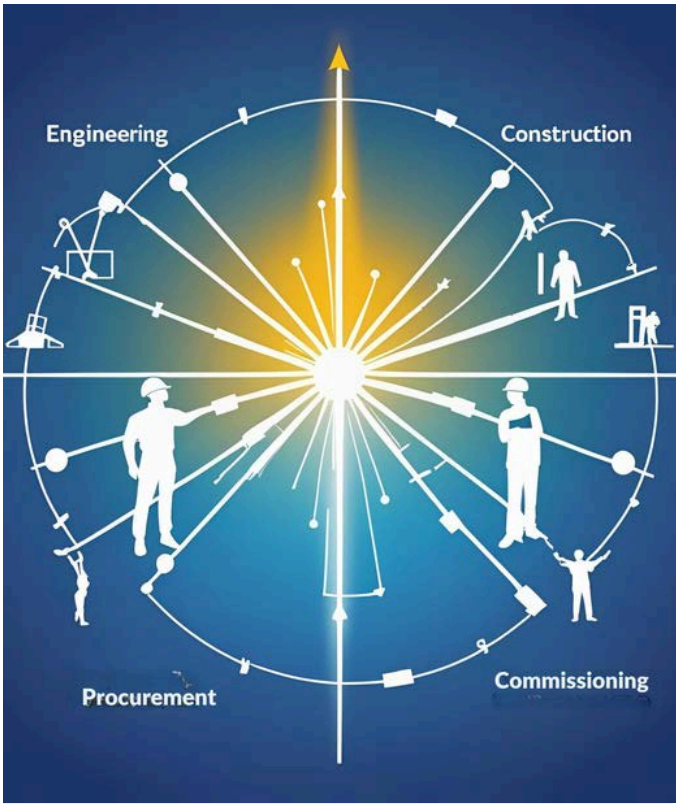
Real-World Examples

In the case of a bridge, the outcome is straightforward - construction must be completed for a well-built bridge that can withstand harsh conditions and stand the test of time for many decades.

In the case of an LNG facility, the outcome isn't just construction – it's reliable production and operational efficiency.

Power islands, liquefaction trains, and off-loading systems, must be seamlessly integrated to deliver the promised liquefied natural gas. This is the true outcome objective of why the project was started in the first place. Unless there is a group starting right at the beginning of projects (before any financial commitments are made) with the sole purpose of ensuring the project achieves this outcome, then 9 times out of 10 this objective is lost along the way and the project fails to deliver the outcome in alignment with initial expectations – late, over-budget, and not meeting production targets. Without early Outcome Assurance, these projects regularly experience delays, budget overruns, and operational shortfalls.

The power industry is well aligned to the intended outcome right from the start. Due to the nature of power projects where 90% of



"An Outcome Assurance approach is the missing link. It's about integrating engineering, procurement, construction, and commissioning from day one, ensuring everyone remains aligned to achieve the project's true objectives."

systems are electrical, everything must be integrated for these systems to function. Electricity doesn't flow without an interconnected route for it to follow. In fact, power projects don't start unless integration is proven at the beginning. A neighbouring utility will simply say "no, you're not connecting", unless reliability is proven beforehand – no utility will risk stability connecting to a poorly developed system. The integration-driven model ensures operational readiness from day one and should be a model for other industries.

These Problems are Not New

The construction industry has been plagued with delays and cost overruns for decades – these are not new problems. The lack of productivity gains and underperforming industry metrics have been documented and written about for a long time. The problems are well understood. What these past articles and books that have been written on these topics are missing though is the solution. The difference with what we're doing at ICxA is we have the solution. And not only do we have the solution, but we've documented the solution in an easy to follow standard so you can apply Outcome Assurance to your projects as well.

The ICA Global Commissioning Standard

The ICA Global Commissioning Standard is your blueprint for assured outcomes. Proven across global industries, this standard provides the integrated framework and alignment needed to successfully deliver complex projects.

By adopting this standard, your projects gain a clear path to achieve their intended outcomes, eliminating the guesswork and ensuring each phase contributes directly toward the final goal.

Join Our Mission

Become part of this transformational movement to achieve project outcomes. ICxA is redefining how projects are delivered, shifting from isolated excellence to integrated, assured outcomes.

Contact us today at info@icxa.net to join the movement and start assuring your project's success from the outset.

Paul Turner, P.Eng, PMP

THE ANALOGY CORNER

Distilling key ICxA themes into clear, concise, and engaging perspectives

by Peter Foxley
ICxA *Commissioning Government Policy Director*

THE PROJECT SYMPHONY — TRANSLATING INTENT INTO PERFORMANCE

The Project Symphony — Translating Intent into Performance

In delivering complex infrastructure, each project discipline performs like a section of a symphony orchestra - distinct in tone, yet united by a shared intent. But harmony is not automatic; it takes more than a conductor. It requires an orchestra manager - someone who ensures the right players, tools, and score are aligned before the first note is played.

At the heart of infrastructure lifecycle performance is integrated commissioning-led outcome assurance—binding intent, design, and delivery into measurable value. It's more than maintaining tempo; it's enforcing conformance with purpose, ensuring resonance, precision, and strategic alignment across every movement. Yet even the finest execution requires a prepared stage. That's where Systems Engineering steps in - quietly orchestrating the backstage architecture that enables clarity, cohesion, and performance to unfold by design.

Key Professional Roles in the Infrastructure Symphony

Business Analysts (IIBA-certified) **compose** the score's central theme: the why. They translate stakeholder needs into a clear melodic line—Stakeholder Requirements articulated in a precise and unambiguous narrative form.

Asset Managers (IAM-certified) are the **producers** that arrange this theme into structured performance. Through the Concept of Operations and Strategic Asset Management Plans, they define the what - codified in System Requirements Specifications that shape the socio-technical composition.

Systems Engineers (INCOSE-certified) act as the **orchestra managers** - strategic integrators who ensure the symphony is ready to perform. As custodians of the Systems Engineering Management Plan (SEMP), they orchestrate the conditions for success: aligning the instruments (disciplines), arranging the score (subsystem coordination), and verifying that each technical section is prepared to perform in harmony.

The Systems Engineer innovates seamlessly with:

THE ANALOGY CORNER CONT'D...

- **Civil Engineers** (Institute of Civil Engineers – ICE certified professionals),
- **Electrical and Computing Engineers** (Institute of Electrical and Electronics Engineers – IEEE certified professionals), and
- **Socio-technical Systems Specialists** (Institution of Engineering and Technology – IET certified professionals).

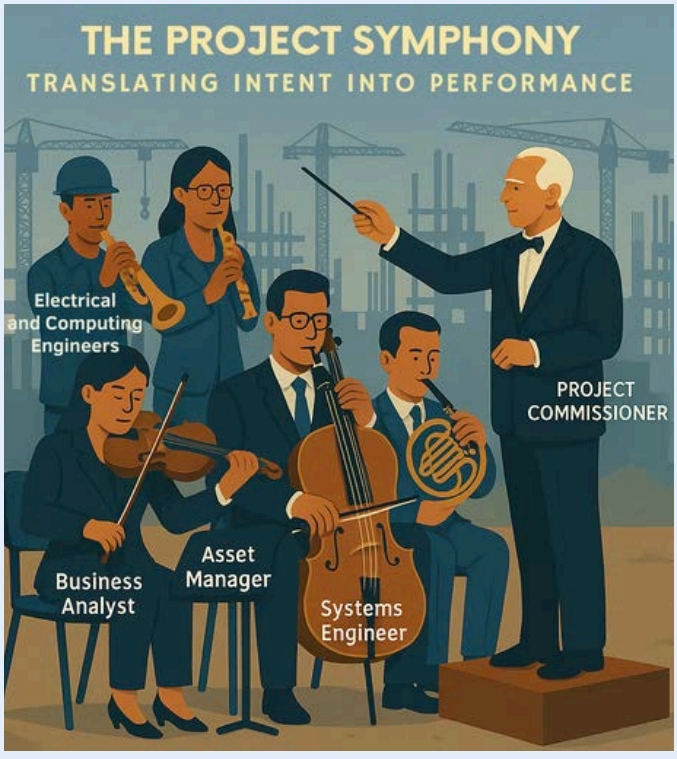
If the Business Analyst is the composer and the Asset Manager the producer, then Systems Engineers form the ensemble—translating the what into the how, and designing integrated, resilient Subsystem Requirement Specifications that deliver both performance and purpose.

Yet even with the most expert preparation, without a conductor, even seasoned performers can drift.

That's where the **Project Commissioner** steps onto the podium as the maestro - ensuring the why, what, and how remain harmonized across the infrastructure system. Through **commissioning-led outcome assurance**, each stage is governed with intent - verifying that stakeholder needs are not only specified and engineered, but also measurably realized through structured, governance-led oversight.

With accreditation, adaptability, and accountability as its time signature, commissioning transforms socio-technical delivery into strategic achievement.

Just as a symphony isn't judged by isolated notes, infrastructure success is not measured by milestones alone. It is the harmony across disciplines - enabled by the orchestra manager and conducted through integrated outcome assurance - that brings the full performance to life.



THE "SILENT HEROES" OF HANDOVER: WHY YOUR COMMISSIONING TEAM DESERVES A SPOTLIGHT

UNPACKING THE VITAL ROLE OF THE UNSUNG CHAMPIONS OF PROJECT SUCCESS

by Manoj Segamoney,
Senior Control Engineer,
Australia East ICxA Chapter Lead

In the vast symphony of industrial project, countless hands contribute to its completion. We have the architects' vision, the engineers' designs, and the construction crews' tireless efforts. But there's a crucial phase, and a dedicated team, whose silent diligence often goes unnoticed, yet whose impact is paramount to a project's true success: Project Commissioning.

And within that vital phase, it's the commissioning team that stands as the Silent heroes of project handover.

More Than Just a Checklist: The Complexity Navigators

Too often, commissioning is mistakenly perceived as a simple "punch list" – a final check before keys are handed over. In reality, it's a dynamic, intricate process of verification, adjustment, and integration. This team takes the theoretical designs and the physical installations, and through meticulous testing and problem-solving, ensures every single system not only functions independently but also interacts flawlessly with all others.

Think of modern automated warehouse systems: lighting controls, fire suppression, IT infrastructure, conveyor systems, automated storage and retrieval equipment, each is designed to perform a specific task. The real value of these systems are only truly revealed when they work together harmoniously and efficiently. This is where the commissioning team shines. They are the detectives who uncover subtle design flaws, the surgeons who perform critical adjustments, and the orchestrators who bring all disparate elements into a cohesive, operational whole. They untangle the unforeseen issues that inevitably arise when complex theories meet real-world installation imperfections, often under immense pressure.

The Power of Communication: Maestros Behind the Scenes

Perhaps one of their most understated, yet critical roles commissioning teams play, is that of a centralised communications hub. The commissioning team frequently serves as the vital link between often siloed groups, like the original designers, the contractors who built the systems, the various equipment vendors, and crucially, the future operations and maintenance (O&M) staff who will live with the asset long-term.

They translate highly technical jargon into understandable terms, mediate disputes between parties with conflicting priorities (e.g., speed of construction vs. long-term maintainability), and ensure that all

stakeholders are aligned on the ultimate performance goals. This constant, clear communication ensures that knowledge is transferred effectively, preventing costly misunderstandings and ensuring operational readiness.

Future-Proofing Your Investment: The Long-Term Visionaries

Beyond immediate functionality, the commissioning team plays a pivotal role in "future-proofing" your investment. Their thorough testing, performance validation, and meticulous documentation are invaluable assets for the operational team. They ensure that facilities are not just ready for "day one" but are sustainable, efficient, and easily maintainable for years to come. By verifying energy performance, indoor air quality, and system reliability, they lay the groundwork for reduced operational costs and increased occupant comfort.

Furthermore, by identifying and rectifying issues before handover, they proactively mitigate risks, preventing costly downtime, safety hazards, and performance deficiencies that could emerge during live operation. Their diligence saves owners significant headaches and money down the line, demonstrating true long-term value.

The Tireless soldiers:

Commissioning teams on average work longer hours than their design counterparts, clocking anything from 12 to 15 hours a day during peak periods. They have to operate in the demanding, high stress environment on site.

Being on-site, away from core office support structures, can sometimes lead to feelings of isolation and a lack of immediate social support.

The Art of Knowledge Transfer:

A successful handover isn't just about functional systems, it's about empowering the operational team.
Commissioning teams are central to transferring vital explicit knowledge (documentation, procedures) and tacit knowledge (experiential insights, troubleshooting tips) to those who will manage the asset daily. They often lead training sessions, develop user-friendly manuals, and provide hands-on guidance, ensuring the operational team feels confident and competent. Without this critical human-to-human knowledge exchange, even a perfectly functioning system can quickly become an operational headache.

Managing the Psychological Pressure Cooker:

The commissioning phase is inherently high-stakes.
Tight deadlines, complex problem-solving, long hours, and the pressure to deliver a fully functional asset can create immense stress on the team.
The "Silent heroes" must possess not only technical acumen but also strong personal resilience, emotional intelligence, and a capacity for teamwork.
Project leadership must acknowledge this psychological toll and actively foster a supportive environment, promote psychological safety, and provide clear leadership to manage conflict and maintain morale during this intense period.

Recognizing Their Value: An Investment, Not an Expense

In an era where project timelines are tight and budgets are scrutinized, it can be tempting to view commissioning as an optional extra or a task to be rushed through.
However, recognizing the commissioning team as the "Silent heroes" they are – and providing them with the necessary resources, authority, and early involvement – is not an expense; it's a strategic investment that pays dividends in operational efficiency, asset longevity, risk reduction, and overall project success.

Next time a project successfully transitions from a complex construction site to a fully operational warehouse, remember the quiet dedication, deep expertise, and crucial coordination efforts of the commissioning team.
They are the true champions making your designs not just built, but truly *work.*

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PRACTICAL DIVISION OF RESPONSIBILITY – COMMUNICATING BOUNDARIES VISUALLY

by Paul Donnelly,
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Setting the Stage for Project Success

The Division of Responsibility (DoR) matrix, as outlined by the ICA standard, is a cornerstone for defining responsibilities across a project's lifecycle, from construction to commissioning. A well-crafted DoR, developed with commissioning input from the outset, ensures clarity and sets projects up for success. Remember – Projects don't fail at the end, they fail at the start! The ICA's DoR template is an excellent starting point, fostering discussions that clarify who does what. However, lengthy workshops and dense Excel spreadsheets can overwhelm project teams, leading to disengagement.

The Limitations of Excel-Based DoRs

While Excel is a powerful tool, its use for DoRs has the potential to lead to:

- **Text Overload:** Hundreds of rows with

dense, technical descriptions (e.g., “System panel wiring by Systems Vendor”) are hard to parse, especially for teams unfamiliar with the document’s structure.

- **Version Control Issues:** Multiple revisions circulated via email create confusion about which version is current, risking miscommunication during critical project phases.
- **Lack of Visual Context:** Text alone fails to connect responsibilities to physical project layouts, making it difficult to spot gaps.
- **Limited Field Accessibility:** Excel files are cumbersome on mobile devices or in field environments, reducing their utility for on-site teams during commissioning.
- **Workshop Fatigue:** Lengthy discussions to refine Excel entries can disengage stakeholders, leading to oversights or incomplete agreements.

These issues can result in costly errors, such as unclear responsibilities for critical tasks, delaying commissioning and impacting project timelines.

From Spreadsheets to Visual Clarity

To enhance the DoR’s impact and overcome Excel’s limitations, consider complementing the Excel matrix with visual representations using PDF editing software.
By transforming text-based responsibilities into annotated project drawings, you create an engaging, intuitive tool that resonates with engineers familiar with technical diagrams.
This visual approach drives deeper collaboration, as teams can better grasp and discuss responsibilities in the context of familiar project layouts.

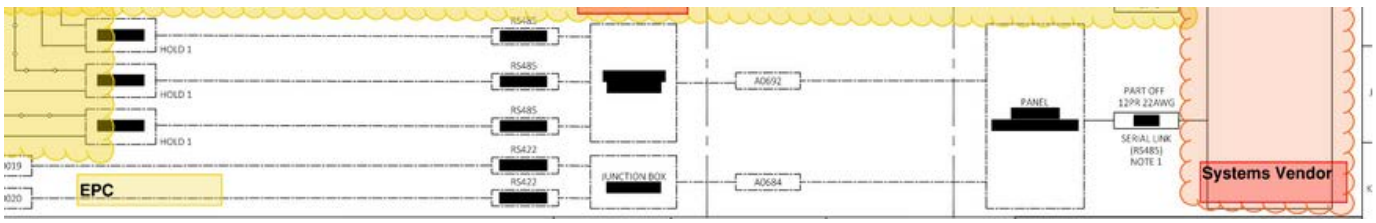
A Real-World Example

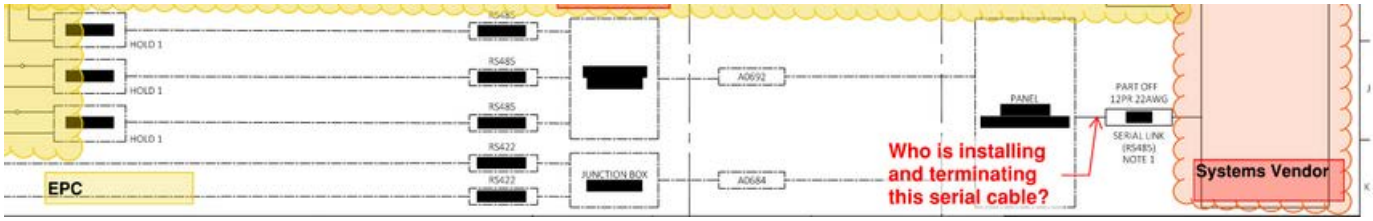
Consider an instrument block diagram where responsibilities are visually marked: yellow clouds for the EPC’s scope and red clouds for the Systems Vendor’s areas.
This visual distinction highlights critical boundaries—especially important since construction is often area-based, while commissioning focuses on systems or subsystems.

For instance, a typical DoR matrix might state: “System panel wiring by Systems Vendor; field wiring by EPC.” At first pass, this seems clear.

However, during commissioning, system-level testing may reveal issues, such as a serial link cable left unterminated at one end.
Inspection records show the EPC completed their wiring to where they always terminate to, and the Systems Vendor powered up the panel and verified configurations.
Yet, no one terminated or even installed the serial link cable.

Now Let’s mark the original statement up in a typical pdf editor.
(Refer to the diagram below)





Do you notice what has been missed within the cable block diagram?
Both of the DoR statements are true, the EPC has indeed completed the field wiring, which is typically all the way up to a panel field terminal. Existing cable is denoted by the dashed lines. New cable is a solid line. The Systems vendor would also make good on his responsibility of terminating panel wiring.

The issue is that no new serial link cable has been installed.
Would you identify this during the workshops without visual representation? Would you get down to this level of detail having already talked about potentially 30+ other scopes? It would be very difficult.

When we utilise the pdf editing software you can quickly see what would stop that system from working.

A visual DoR, overlaid on a drawing, makes this gap immediately apparent.
A two-minute discussion during planning can prevent hours of on-site troubleshooting and costly delays. These insights can then be documented in the DoR matrix for clarity and accountability.

Why Go Visual?

- **Enhanced Engagement:** Visuals resonate with engineers, making discussions more productive than navigating Excel rows.
- **Clearer Boundaries:** Annotated drawings reduce ambiguity, especially for system-based commissioning.
- **Proactive Problem-Solving**: Visuals highlight gaps early, avoiding delays and costly rework.
- **Field-Friendly:** PDF-based visuals are easily viewed on mobile devices, supporting on-site teams.
- **Version Simplicity:** A single, annotated drawing is easier to update and share than multiple Excel versions.

Call to Action

Next time you're developing a DoR, integrate visual tools alongside the ICA template. Use PDF editing software to annotate drawings with clear responsibility markers. This approach not only clarifies boundaries but also fosters collaboration and minimizes errors. Share your experiences with visual DoRs at our next ICxA meeting—let's drive smarter commissioning together!