

INEIGHT WHITE PAPER:

THE FUTURE OF CONSTRUCTION PROJECT MANAGEMENT TECHNOLOGY: POINT SOLUTIONS VS. INTEGRATED PLATFORM SOLUTIONS



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INTRODUCTION

Among the rich data captured in InEight's recent [Global Capital Projects Outlook, 2021](#), one particular truth surfaced time and time again: the idea that smarter insights yield better project outcomes. This is largely because technology continues to make actionable construction data more accessible and our industry recognizes that value. But what kind of technology? The debate persists between traditional point solutions, such as Oracle Primavera P6® and Microsoft SharePoint® and integrated platform solutions. This discussion seeks to put that debate into fresh perspective while exploring practical solutions to help our industry deliver improved project outcomes with better predictability.

GUIDING PRINCIPLES

In the interest of a fair and thorough discussion, it is helpful to keep the following ideas in mind:

Not an “Either/Or” Situation

Point solutions have a time and a place, but can integration between solutions ultimately lead to time and cost savings for your organization? Your business needs to take stock of what each system is intended for and what the end goal is for the data being entered. This will help you understand if the solutions are best standing alone, or if there is value to be gained by those functions existing within an integrated platform that connects the relevant data, workflows and reporting.

Asking the Right Questions

Following up with the right questions is critical. These might include: How would integration make our processes and teams more efficient, or how do we introduce integration among our systems so they can talk to each other? Looking at a process and simply asking, “where does this process get its information?” and “where is this information going to be used next?” is often a great place to start. When you ask the right questions in the context of your business process, you can begin to see potential efficiency gains that help formulate a strategy.

For example, a change order could originate from an issue that arose in the field, followed by a process to review the issue with the relevant parties, and ultimately turn it into a change order proposal complete with pricing and backup documentation. From there, once approved, the project budget and forecast must be updated, as well as the relevant subcontractor and vendor agreements. A single system that can manage this entire workflow could eliminate the distraction and wasted time that comes from moving information in and out of multiple systems.

A Positive Experience

Ideally, our journey to efficiency should be as easy as possible for employees and projects. This is why InEight favors a modular approach that facilitates an orderly rollout of an integrated platform over time, versus a “boiling the ocean” approach that could result in too much change too quickly. By utilizing a modular approach, you give yourself and your organization time to adapt to and implement new processes to ensure that you do it right the first time. New systems take time to set up. By taking things one step at a time, you minimize the moving parts and are better positioned to manage risk and respond to feedback from the organization.

INDUSTRY EVOLUTION WITHIN PROJECT MANAGEMENT TECHNOLOGY

Phase 1: Going From Analog to Digital

Admittedly, the construction industry has lagged in comparison to other industries in terms of adopting technology. The shift from not using technology at all to using home-grown spreadsheets to combine hand-collected data and create reporting was an important first step forward.¹

“The real problem now is not embracing technology but embracing the right technology.”

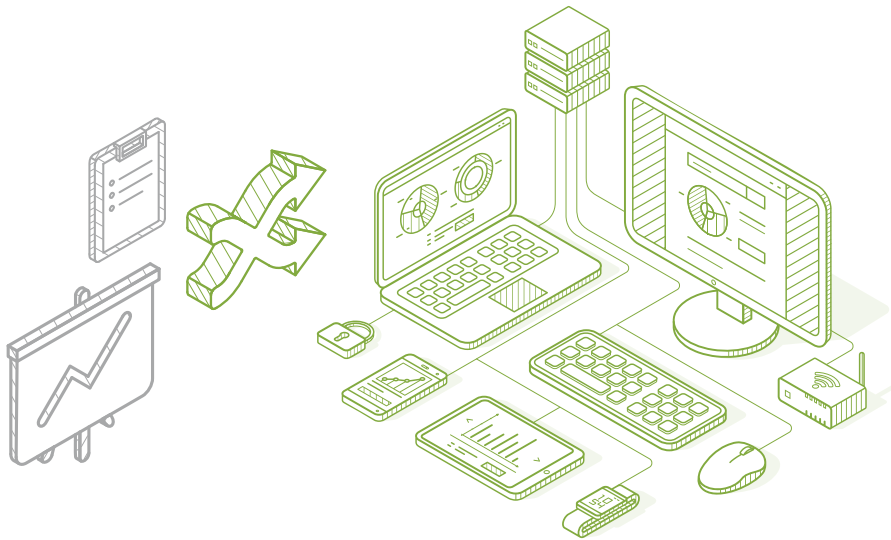
Phase 2: Adopting Point Solutions

According to a McKinsey & Company study on the future of technology in the construction industry, in the early to mid-2010s, companies began to adopt technical solutions to replace Microsoft Excel®-based timecards, safety inspections and even work planning that occurred daily on a whiteboard. Technology was soon introduced that started alleviating manual steps in business processes as well as capturing data from those processes to produce more reliable reporting.

Phase 3: Going From Digital to Digitalized

Taking a holistic, integrated view of your technology platform results in digitalized², integrated systems allowing users to utilize one source to pull the information they need to make timely, data-driven decisions. Data is entered into the system once and flows into the appropriate processes, all landing in one centralized place for dashboards and reporting. This takes away the work of passing the data among processes and people and combining it at the end. To put it simply, the data flows precisely to where it is needed, all the way to reports, without constant human intervention.

But to keep improving in our industry today, we must understand that the real problem now is not embracing technology but embracing the *right* technology.



¹ Rise of the Platform Era: The Next Chapter in Construction Technology, McKinsey & Company, October, 2020.

² Digitization refers to creating a digital representation of physical objects or attributes. Digitalization refers to transforming, enabling or improving processes by leveraging digital technologies for greater value opportunities.

DEFINING POINT SOLUTIONS AND INTEGRATED PLATFORM SOLUTIONS

Point Solutions

What They Are

Examples include Oracle Primavera P6® for scheduling, WinEst® or Sage Timberline® for estimating, Raken® for daily reports plus many others that capture and silo one business process and its collateral data.

How They Work

Point solutions specialize in one or two business processes or functions and require manual exporting of data to other processes, using proprietary reporting tools and leveraging multiple interfaces for the same data.

What They Do Well

Point solutions typically have deep functionality around one or two business processes, such as scheduling, estimating or field reporting. Point solutions are typically feature-rich and are designed with specific user personas in mind.

Where They Can Fall Short

Lack of Collaboration

The process of getting information sent back and forth with other business processes falls on the user (versus sharing in real time). Users must manually integrate siloed data across point solutions to get “the whole picture.”

“IT productivity increased by 46.7% after making the switch to an integrated platform.”

Lack of Access

Real-time project visibility helps identify areas that need attention and course correction. Lack of access to such information in a timely manner could jeopardize the success of your projects and lead to potentially dramatic oversights.

Lack of Awareness

It's crucial to understand the upstream and downstream links to each process. One small mistake could prove to be quite costly. Related costs may significantly rise without proper automation of your company's processes to decrease the margin of error.

Maintaining Separate Licensing

While point solution costs may not be large up front, acquiring multiple systems over time — and the teams to manage them — adds up. A study conducted by the International Data Corporation (IDC), which is based on a survey of organizations that utilize integrated systems, found that IT productivity increased by 46.7% after making the switch to an integrated platform.³

³ *Assessing the Business Value of Integrated Systems*, IDC Solution Brief, IDC, March, 2015.

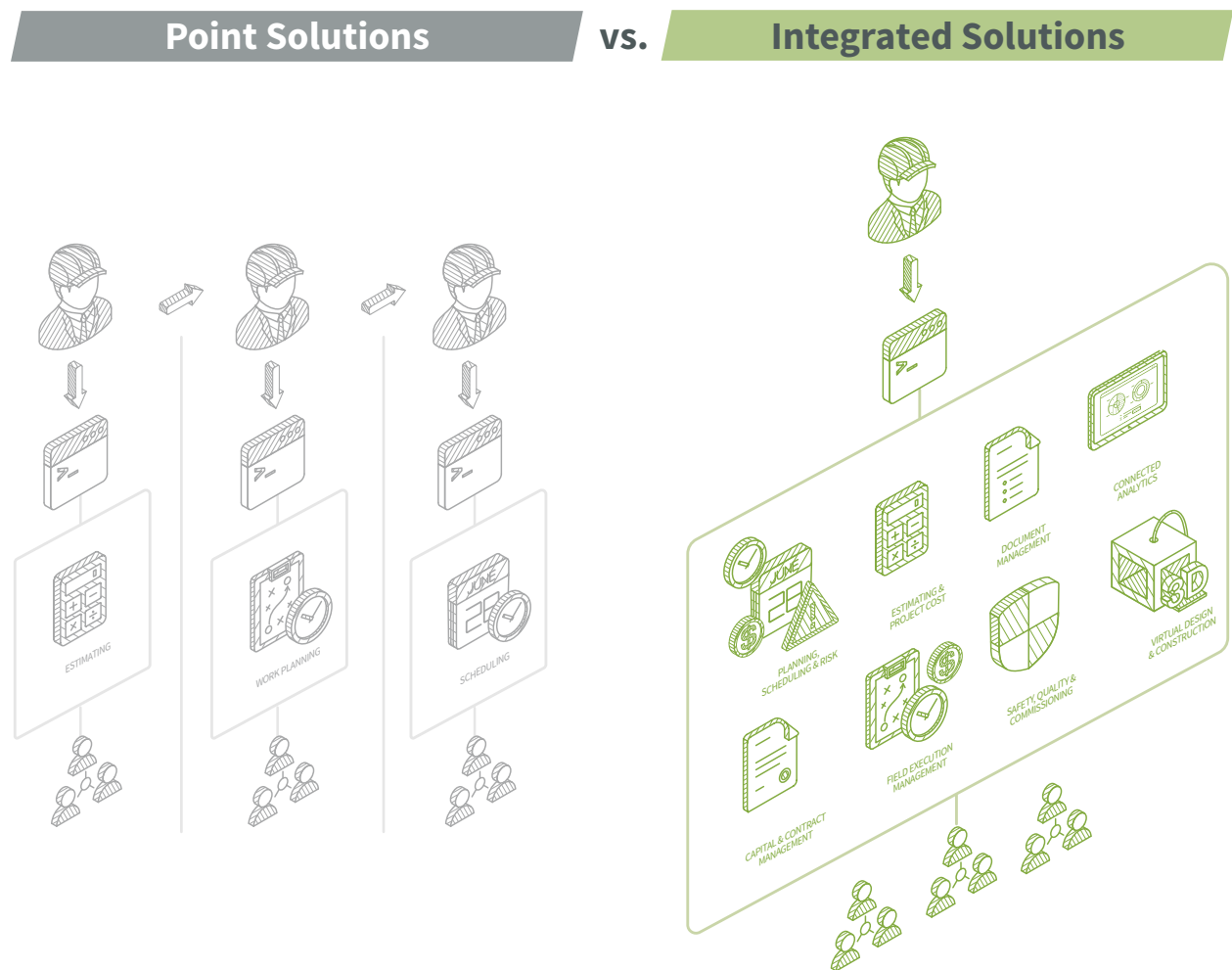
Integrated Solutions

What They Are

These are systems that seamlessly connect different business processes together without the manual intervention of the user. Integrated systems can serve two purposes. They can capture data and send it to another space where that data will be consumed and used for the next process. Or they can simply capture and consolidate data to report on multi-step processes.

How They Work

Integrated solutions can either replace point solutions, or work with them pulling information from a point solution to a point of consolidation in the integrated solution. The ultimate goal with an integrated solution is to eventually replace all point solutions. However, a modular approach allows you to continue to use some point solutions and gradually narrow them down over time to minimize business disruption as you pursue your integrated vision.



What They Do Well

Reporting and Dashboards

Perhaps the biggest benefit of an integrated solution is the ease with which data can be included in reports and dashboards, without the tremendous amount of time that often gets spent using Excel or some other tool to merge and clean up the data.

Real-Time Collaboration

This saves time, money, frustration and brings people together. It also creates similar user interface patterns and functions across processes, reducing the amount of time a new user will need to get up to speed.

Deeper Connections

Such connections of data and workflow across processes enable the use of more sophisticated technology such as artificial intelligence (AI) and machine learning to gain valuable insights. They also enable and automate multi-disciplinary processes like earned value management, risk management, cost-schedule forecasting and subcontractor-supplier management.

A Broader View

The more integrated your solutions are, the broader line of sight you will have across your business. This fuels smarter insights and ultimately better outcomes, as these systems were designed to work together, achieving one source of project truth.

Where They Can Fall Short

There can be some difficulty managing internal change when implementing everything at once. Therefore, a modular approach with a strong organizational change management methodology — such as that prescribed by InEight — is key to smoother onboarding and the successful, long-term digitalization of processes.

OVERCOMING COMMON BARRIERS TO DIGITALIZATION

Knowing Why

While the benefits of digitalization are great, the implementation and transformation journey can be challenging. Therefore, it is critical for an organization to articulate internally why they are embarking on a digital journey of change. This knowledge is essential, as you'll need to come back to that articulation again when the going gets tough to reinforce how it ties into your long-term business objectives and goals to get — and keep — teams onboard.

You also have to understand and be willing to make necessary changes in current processes to reap the full benefits of digitalization. Be honest about what you need to do and tie that to recognizable milestones and measures of success. Knowing why is critical because simply implementing technology for the sake of implementing technology can be a costly and time-consuming decision.

Time

Digitalization takes time, partly because understanding your current operations and the areas of focus for improvement may require some deeper research. Business processes must be assessed and will likely need to be updated. It's also important to know where your processes overlap and what you are working with before you embark on any change. It's a true evolution for most organizations, with a great deal of the work being done before the technology is even in the users' hands. Celebrate the wins and ensure you have good project management in place alongside solid change management best practices.

Cost

While it can seem more economical to stick with current processes and isolated point solutions than to embark on a digital transformation switch, is it really? Time wasted in manual data entry (and re-entry), errors, IT resources to maintain each solution, wasted labor and potential failures must also be considered. The cost of maintaining licenses for multiple different solutions isn't immediate, but it adds up. Additionally, these siloed systems create niche spaces within your organization, which can become devoid of precious knowledge and experience when resources leave or shift within the organization, taking that knowledge and experience with them.

Resistance to Change

This should be expected and planned for. First, you need to have a clear understanding of why the business is embarking on this journey. You need to have a plan for how long you expect it to take, and you must understand the business case for the investment. Only then will you be in a position to justify the demand in effort and purpose for the broader business. In addition, it is essential to have leadership fully committed to the journey. The goal, after all, is to make your teams' work lives easier and more productive and allow them to do their jobs quicker and with more satisfaction. To make sure that's happening, actions like checking in often to ensure that the goals of the new system are not only consistently communicated but also being realized at all levels of your organization will be to your advantage.

THE VITAL HUMAN ELEMENT

People Make Technology Work

No technology can guarantee that it will catch every user error. However, when specific data is passed along through an integrated platform system, the likelihood of the mistake being caught sooner is much higher because more eyes are on the data as it flows downstream.

“Connected systems allow teams to take gut instinct and good, old-fashioned intuition to the next level.”

Getting Time Back

Wasted effort from things like re-entry of data, searching multiple systems for information, and excessive repetition gets in the way of you and your team doing your best work. Shifting time and focus to the more strategic parts of each job and letting the integrated system do the mundane tasks is simply more productive.

Human Expertise and Intuition

The aim is not to replace human knowledge, but to greatly enhance it. Connected systems allow teams to take gut instinct and good, old-fashioned intuition to the next level, with knowledge libraries and historical data, all at your fingertips, all shared in real time. The data collected by these connected systems also allows your people to confirm their assumptions — or correct them quickly — to move forward more confidently. Integrated systems answer the question “what’s next?” but still give users the control to confirm or deny. This is the best intersection of the human element with AI: to help analyze and point out where you need to draw more attention, resulting in more streamlined processes.

Attracting Talent

Without a connected data platform, companies risk missing out on attracting the best talent. Why? When a potential employee is evaluating two or three different job offers, they are more likely to favor the company with a modern technology platform rather than the company that appears to be behind the times. This has become especially important today as employees entering the workforce have vastly different comfort levels and expectations of technology compared to the generation before them. Additionally, the introduction of different construction technologies is added to the curriculum in construction programs at the university level. Add in the current labor shortage, and the risk you run of missing out on the best and brightest if you don’t modernize your systems becomes even greater.

A JOURNEY THAT WON'T WAIT

Maturity of Purpose

There are so many benefits to integrated solutions, but it takes time to get there. It also takes a willingness to break down how you run your business: a maturity of purpose. Then and only then can you start the conversation about adopting integrated solutions because you'll know where your gaps are and how to address them.

“If you haven't started your digital journey, chances are, your competition already has.”

Consequences of Waiting

The main takeaway from all of this is a clear call to action. Performance gains from integrated platforms are such that if you haven't started your digital journey, chances are, your competition already has. The time to plan and act is now.

A Tough, Resilient Industry

The data from the Global Capital Projects Outlook confirmed what we see every day at InEight about this amazing industry — no challenge is too great. This particularly applies to the challenge of understanding and adopting integrated platforms to serve our growing industry and its business needs as we move into the next exciting phase of construction project management.

ABOUT INEIGHT

InEight provides field-tested project management software for the owners, contractors, engineers and architects who are building the world around us. Over 400,000 users and more than 850 customers worldwide rely on InEight for real-time insights that help manage risk and keep projects on schedule and under budget across the entire life cycle. From pre-planning to design, from estimating to scheduling, and from field execution to turnover, InEight has powered more than \$400 billion in projects globally across infrastructure, public sector, energy and power, oil, gas and chemical, mining, and commercial. **For more information visit [InEight.com](https://ineight.com)**