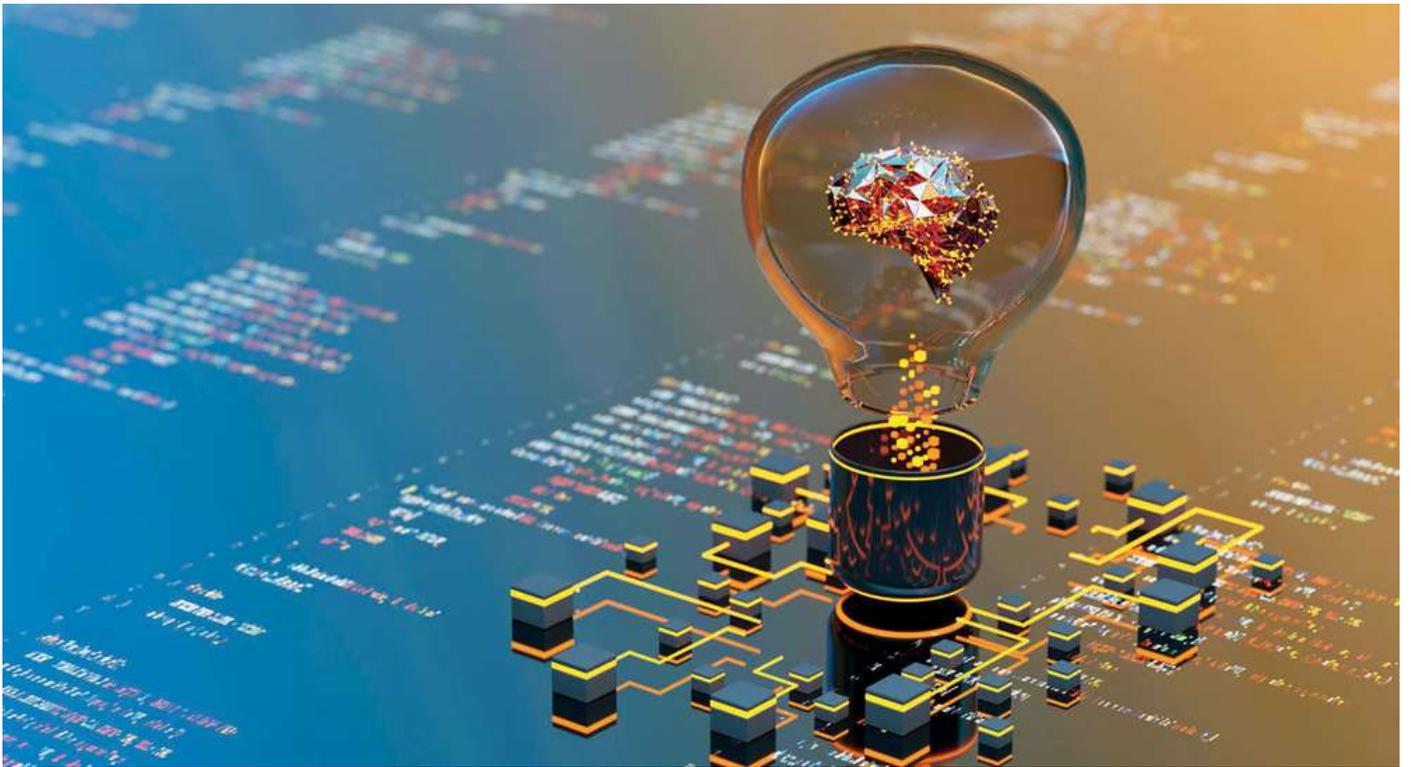


A Digital Mindset: Harnessing & Maximizing Data

By Dr. Perry Daneshgari & Jennifer Daneshgari



Transforming your company's tacit knowledge into a digital form fosters a digital mindset, which includes "learning new technological skills ... [and] be[ing] motivated to use [those] skills to create new opportunities. A digital mindset is a set of attitudes and behaviors that enable people and organizations to see how data, algorithms, and AI open new possibilities and to chart a path for success in a business landscape increasingly dominated by data-intensive and intelligent technologies."¹

This article explores how to leverage data effectively to enhance company insights, integrate diverse data sources, and manage risks proactively.

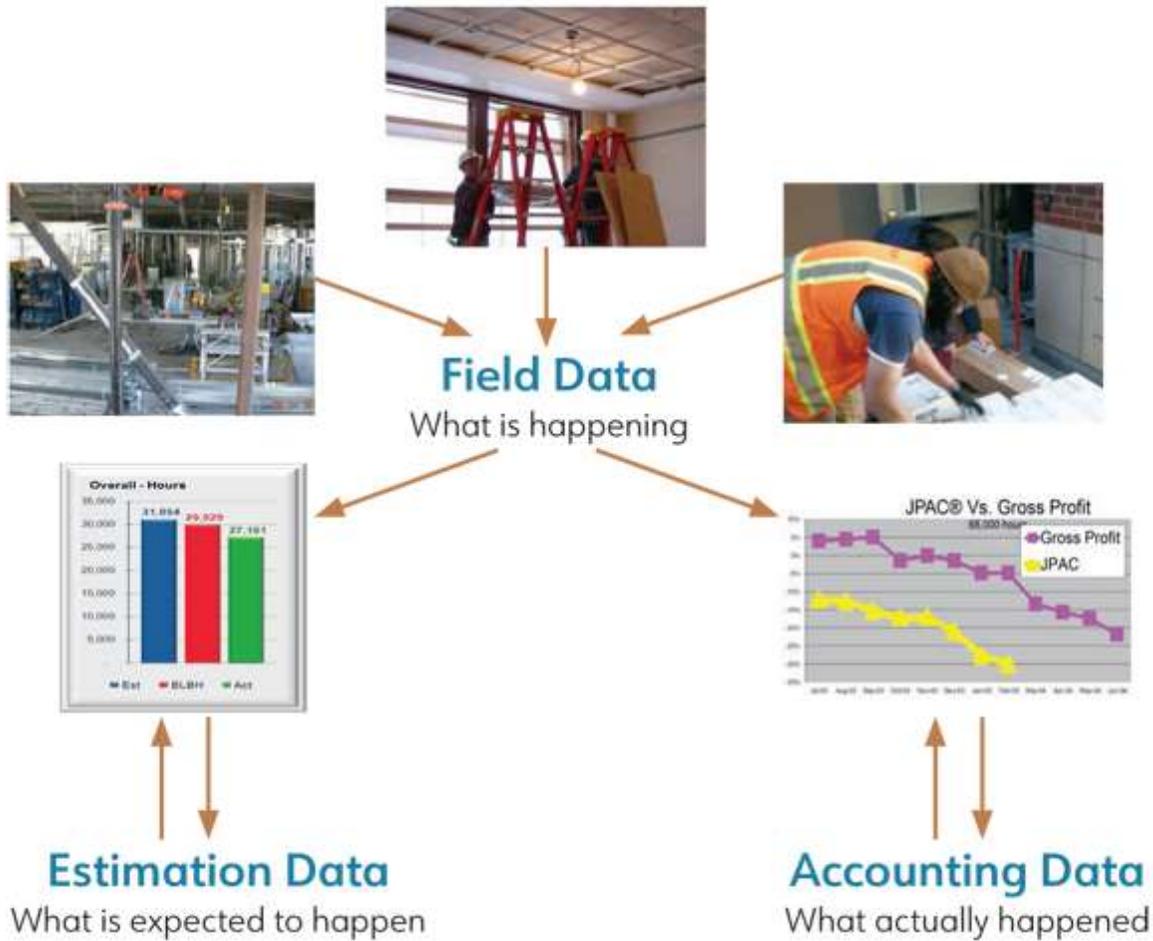
INTEGRATING DATA SOURCES FOR ACCURATE RESULTS

Construction financial professionals (CFPs) who spend enough time with their teams know which project managers (PMs) struggle to get their billing right, which customers are the most rigorous in holding your team to the plan, and which jobs are going to be tight. They know who's going to pull through in the end and who's likely not going to make it.

The future depends on how that data is used to create intelligence within a business. "It's simple: A good person plus a good algorithm is far superior to the best person or the best algorithm alone," says Katrina Lake, CEO of mail-order clothing company Stitch Fix. "We aren't pitting people and data against each other. We need them to work together."²

Just as her company took data inputs and used algorithms to choose clothing that customers liked, in construction, we can use data from previous jobs, financial statuses, and dashboards over time to link the estimating, field, and accounting databases (Exhibit 1). Bringing these databases together by using experience and technology can set your company apart. But let's be clear, it's not about the tools — it's about the data.

Exhibit 1: Accounting, Estimating & Field: The Third Database Source



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To achieve accurate results, it's essential to utilize these three databases (estimating, field, and accounting) together. Relying solely on estimating and accounting won't provide a comprehensive triangulation. Using only budgets that are based on previous estimates without field support (i.e., estimation data) is akin to driving with only a rearview mirror. And, relying exclusively on past accounting data focuses your judgments on historical outcomes without verifying current reporting accuracy.

The reality is that the labor in the field often reports their actual work based on what they believe is expected in estimating or accounting, rather than actual activities. Accurate reporting would occur if they could utilize the data themselves. Therefore, it's crucial for them to develop a database they can use to correct and improve their work.

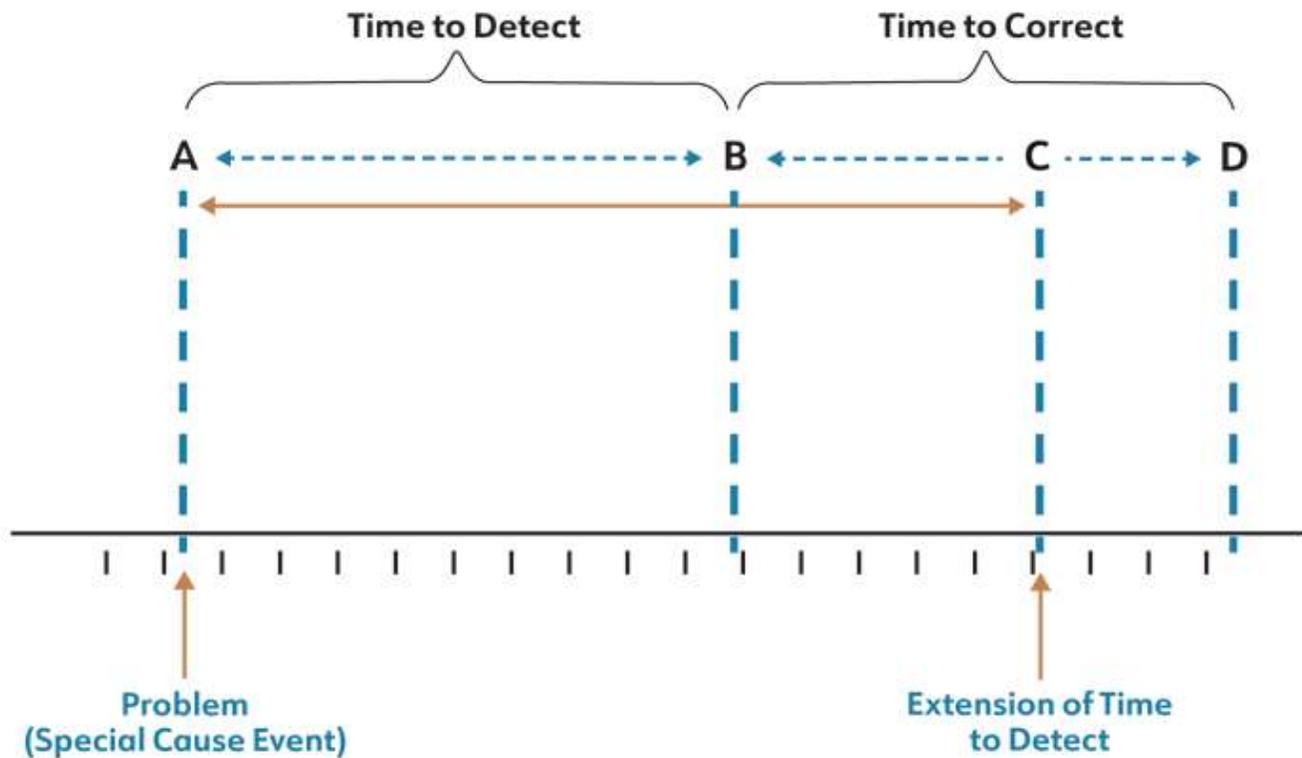
Creating a field database is critical for accurately tracking project progress. To test the reliability of your field data, analyze 1-2 years of project performance data and check if the last 5-10% of the job reporting on cost-to-complete, percent progress, and labor overrun show the same thing as the first 90% of the reports. Often, projects lose all their “gains” during the last 5-10% of a job due to the lack of a field reporting database.

MANAGE RISK PROACTIVELY

If you don't have specific files, think about how you and your leadership team know what you know. It's likely that there's data you remember, but data also exists from tacit knowledge. The sooner you can recognize patterns and apply what you know, the faster you can act — whether it's to work with PMs on their billing or to communicate more with tough customers.

Exhibit 2 illustrates how leveraging data will help identify problems earlier (moving back from B to A), giving you more time to correct them (increasing the time between B and D). The key to effective information sharing is visibility. Adopting a preventer mindset vs. a hero mindset (that intervenes at the last minute) is crucial. Ideally, a hero should never be necessary.

Exhibit 2: Components of Response Time



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The preventer mindset is possible by using data, documenting items through digitalization, and then systemically commonizing and interconnecting them to make information visible and reduce risk.

Financial leaders should strive for visibility through planning in all areas, including business, technical, and integration risk. As a preventer, a CFP can reduce risk by:

- Monitoring company financial health using dashboards and key indicators
- Monitoring market financial indicators such as interest rates, investment choices, and outcomes
- Monitoring job profitability via accuracy in projection, volatility in end-of-job gross profit, and gain and fade
- Overseeing change order management (asking for, getting paid, and recovering cost) with key indicators³

Recognizing and managing risk is a key part of the CFP and leadership team's responsibility. Effective risk management can be achieved through experience, knowledge, and wisdom by using data. In construction, data is collectively held by field leads and the project management team and supplemented by accounting information.

The CFP is uniquely positioned to leverage past data and integrate it with insights from the PM and the field team. Obtaining this information before the job's completion is critical, as is applying your business intelligence effectively.

Have you ever heard from the team that the "job will be fine" even when you see signs of trouble? You may know the job costs and what has been billed, but what information do you use to predict the job's outcome? Where's the source of truth?

Information on job/project profitability and integration risk management is often not shared at the company level until the job's end.⁴ The CFO's significant role is in integrating risk elements and understanding the degrees of freedom available to PMs and project participants. The key question is: how can you, as an experienced CFP, best distribute your data to various stakeholders for optimal use within your company? It's critical to obtain actionable intelligence from your business to inform future decisions.

Bringing these databases together by **USING EXPERIENCE AND TECHNOLOGY** can set your company apart. But let's be clear, it's not about the tools — **IT'S ABOUT THE DATA.**

MAKE WHAT YOU DO VISIBLE

What data do you have in your spreadsheets or systems and how do you use that data in your work? "Journey of Transformation: The CFO's Perspective" provides strategies that CFPs can employ to best help the organization. In one case study, the CFP organized and filtered all the information the operations team had to help other teams work more effectively and efficiently, including:

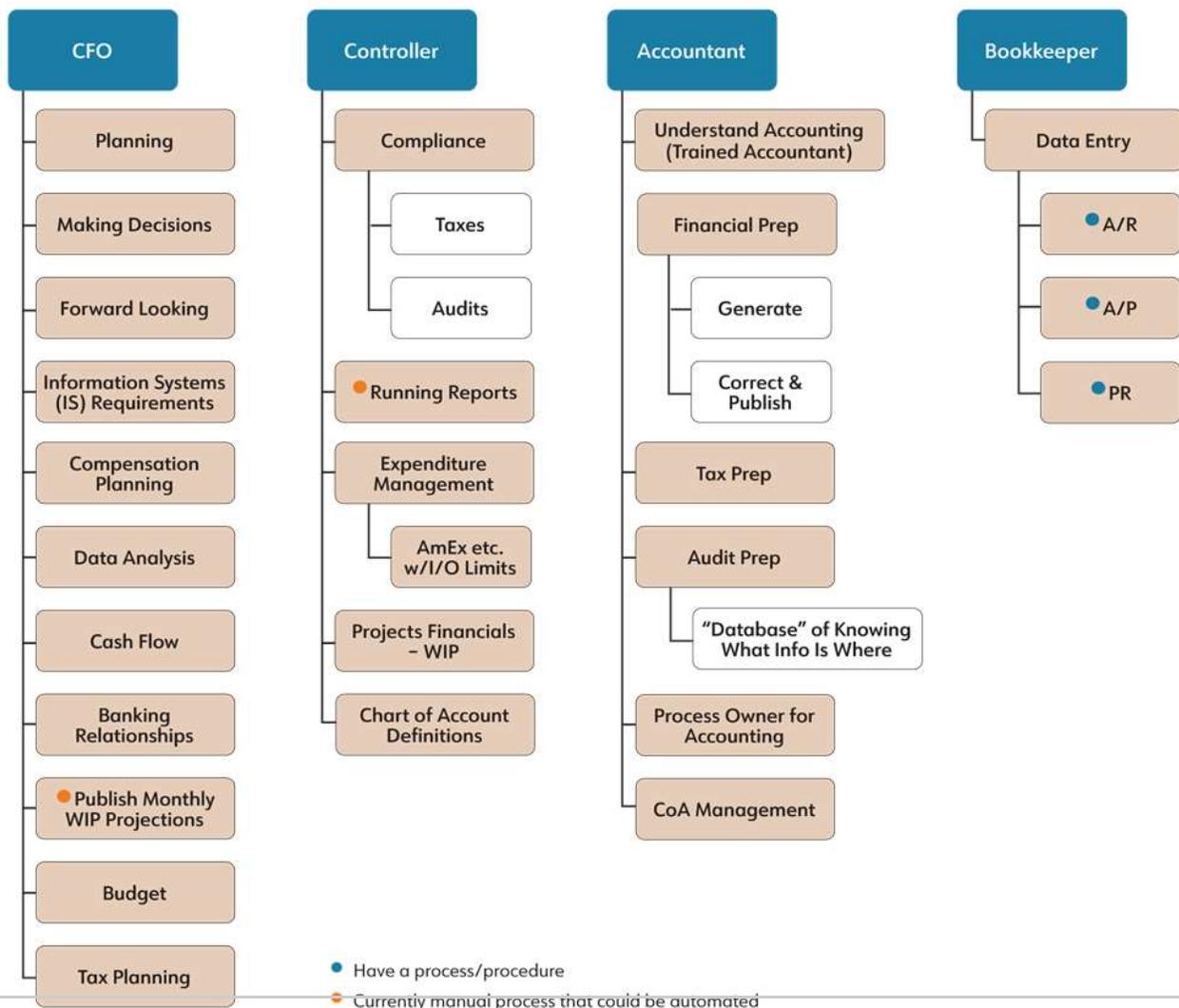
- Job productivity tracking in the field compared to completion status as tracked in the accounting software;
 - Trends in backlog;
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- A/R aging and collection issues;
- Cash flow trending on jobs; and
- Actual labor cost per hour vs. burdened labor cost per hour.⁵

Protecting the future and planning for successful transitions is important; CFPs are responsible for using data to create and store intelligence in their businesses by mapping what they *know* and what they *do* so that it's visible.

Exhibit 3 illustrates an example of one CFP's map with categorized tasks according to role (CFO, controller, accountant, and bookkeeper), which allows them to identify essential tasks and what work could be transitioned to others. Without this documentation, who will understand their roles and responsibilities?

Exhibit 3: Accounting Department Roles & Responsibilities

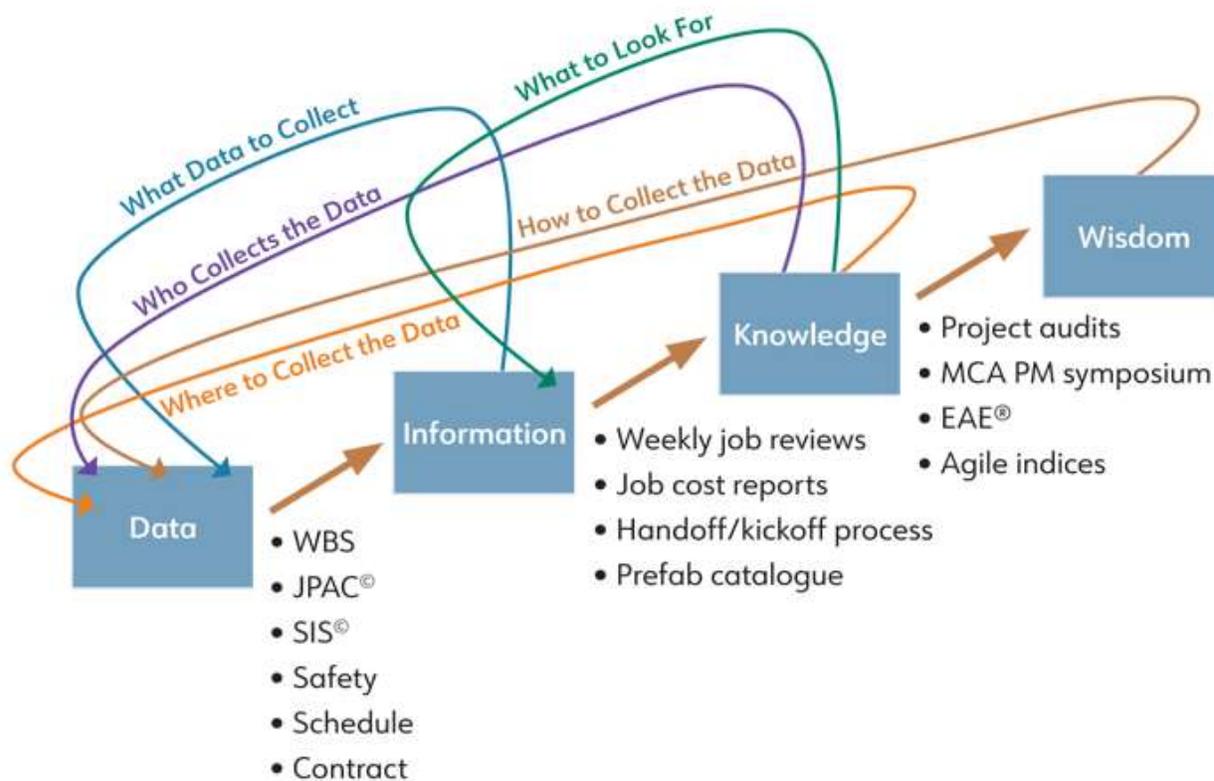


There is the work of your role, your knowledge of the flow of information within the company, and the data from jobs, projects, divisions, subsidiaries, and the entire company. Without capturing this data and applying Agile Intelligence™, you risk losing all the information that you know. However, with this data, the company can succeed by learning from the past and projecting to the future.

DATA, INFORMATION, KNOWLEDGE & WISDOM

Where does the human intelligence come from to create artificial intelligence (AI)? AI is based on knowledge, of which the source is not artificial — it's based on data. Exhibit 4 illustrates how intelligence and experience can guide data collection.⁶ Those with knowledge can guide others on what to look for, who can collect the data, and where it can be collected. Your human intelligence and experience becomes a methodology for data collection.

Exhibit 4: Learning-Based Organization



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In order to use information most effectively, it must be categorized and codified for action. It's important to gather all of your data sources to convert them into usable

information. Digitalizing, commonizing, and interconnecting that data will create an information repository. Then, document the processes for how you use this information to help manage your time as well as support your successors (who may have less experience). Once compiled, you will have a veritable safety net for your company's future.

AI IS ABOUT DATA

It's not just about the tools, it's about using digitalization, commonization, and interconnection to harness your knowledge. AI isn't about robots; it's about data. By systematically capturing what you know and using it to enhance your efficiency enables those around you to understand your methodology and practices based on your experience. Use what you know and know what you use to manage risk by implementing detection, suppression, and containment in your process.

By implementing AI, CFPs can predict and prevent the ultimate risks in the business, integration, and technical areas of their companies and projects.



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