

The Dynamic E&C Firm: Designed and Built for Change

Microsoft in Engineering & Construction



Built for change

Buildings evolve with occupants' intended uses, within physical and economic constraints. When designed to accommodate "upgrades" in various component elements, buildings can achieve longer and more productive lifespans.* By analogy, this principle applies also to the design of organizations and the people, process, technology and culture elements that comprise them – elements that accept change at varying rates and thereby constrain overall change. Thus, sustained growth depends on flexibility, agility and adaptation to changing business objectives at many levels or layers within an organization.†

With owners demanding faster project completion and burdening providers with more risk, Engineering and Construction (E&C) firms have responded with innovations in prefabrication, building information modeling (BIM), integrated project delivery (IPD) and design-build (D-B) practices. However, each innovation takes time to take root as "front office" professionals specify needs for translation into new operational processes that must then be embedded into "back-office" administrative systems – all subject to acceptance by prevailing firm culture. So, change takes at least as long as the slowest or least flexible participant in the chain.

How often have great ideas died slow deaths waiting for operations and administration to accommodate enabling process or transactional changes? How often has inflexible technology been the root cause? Far too often. This is why more E&C firms are upgrading or replacing outmoded business systems to improve end-to-end process alignment, control and risk management across front- and back-office activities.

Microsoft embraces the proposition that technologies should enable business process flexibility, support organizational change, and foster rapid adaptation to evolving operational and market needs. Indeed, this is a guiding principle fueling the Microsoft approach to modern business solutions and our vision for the Dynamic E&C Firm, designed and built for change.

Proactive and forward-looking technology can connect people to their work, bringing forward insights that enable better decisions and guiding processes that optimize results. Agile software empowers adaptation to changing economic and market conditions. It supports a firm that can anticipate rather than react to rapid change, and supports the optimal alignment of people, assets, systems, and data. Microsoft Dynamics delivers a system of engagement that helps firms stay current with leading edge practices and value-chain integration in the E&C industry.

* Frank Duffy articulated and Stewart Brand further developed a concept called "shearing layers," the idea that buildings may be designed to anticipate and tolerate change at various time horizons for component elements. For more, see Stewart Brand's book *How Buildings Learn: What Happens After They're Built* (Penguin Books, 1995).

† In the world of information technology, IBM as well as research and advisory firm Gartner adapted shearing layers to outline principles for design of software and systems that adapt with the needs of businesses.

Shifting industry topology

Distinguishing between engineering and construction firms used to be a simple question of whether the firm assumes responsibility for the physical build-out of structures. Engineering firms invest work-in-process professional hours on projects but do not perform project buyout with subcontractors or tie up capital in materials procurement. Construction firms assume responsibility for the latter, turning designs into physical structures and incurring both materials carrying and labor-related work-in-process costs.

With rapid expansion of D-B practices, general contractors (GC) have acquired or contracted design capabilities to move into upstream phases, offering Owners a single contract and “single throat to choke.” Meanwhile, engineering firms that were already providing estimation and procurement services are pushing further into Construction Management (CM) to take on end-to-end project oversight. Contiguous to the E&C space, many GCs are also well down the path of developing downstream facilities maintenance and management services to build stable annuity revenue flows. As a result, demarcations between E&C, Facilities Management and Real Estate services providers are beginning to blur.

This softening of traditional boundaries is perhaps an inevitable result of vertical integration for economies of scale and entry into adjacent markets for economies of scope. However, owners are playing a very active role in fostering change by testing different approaches to bundling of outsourced services for improved efficiencies and risk management in the end-to-end building lifecycle. Market and competitive forces have come together in the pressure-cooker economic environment of recent years to break down boundaries and accelerate value-chain integration. Survival favors adaptable organizations that can flex to new opportunities, manage risk and align people, process, technology and culture.

Tactical fundamentals

Macro shifts in the industry inform business direction and executive decision-making, but they are not highly actionable. The need for process flexibility and ability only becomes real at tactical operational levels where E&C firms share a common set of persistent business challenges:

Business Development: Not all revenue is good revenue; the right clients and projects yield better, more sustainable business results; and the best deals are those where you help the client shape the project and RFP. But ambitious sellers and dedicated problem solvers want to respond to every new opportunity and interesting client challenge, so it takes sophisticated cultural alchemy to channel all of that individual initiative into productive activities.



To generate profitable growth, firm leaders need to establish clear priorities and risk controls, aligning opportunity management, review and escalation protocols. And once processes are in place, leaders need to equip marketers and seller-doers with the tools necessary to determine who-knows-whom and who-knows-what to assemble the right pursuit teams rapidly, influence project formulation, create outstanding execution plans,

and deliver compelling proposals that distinguish the firm from the competition.

"We had no real visibility on our sales pipeline and we were just relying on the data that was passed up in monthly reports."

**Les Cate, Business Manager
Norfolk Electrical Communications**

Documents & Resources: Project proposals, contracts, designs, transmittals, submittals, subcontractor certifications, change orders and so many more digital and hardcopy documents flow through E&C firms every day. Unfortunately, jurisdiction-specific forms, non-standard document formats and owner- or contractor-specified technology requirements impede that flow of project-related content. Project progress regularly founders on the shoals of document completion and transmittal challenges.

"Even though we are in the construction business, we are also in the information management business. The longer it takes to find and share documents, the longer it takes to finish projects, so creating a top-notch ECM [enterprise content management] system became a mission-critical objective for us."

**Patrick Miller, Vice President –
Director of Application Development
JE Dunn Construction Company**

More critically, project viability hinges on having the right professionals, subcontractors and equipment to get the job done. Challenges in capacity planning and tactical resource scheduling therefore have the most visible day-to-day impact on an E&C firm's ability to execute. Translating pipeline and backlog into expected design skill and trade labor needs as well as associated recruiting and subcontracting plans over the next six to twelve months requires experienced human

resources or practice management professionals with integrated insight into sales and operations.

Projects & Job Sites: On-time, on-budget and profitable delivery demands the right client engagement, project scope, plan, leadership, resources, execution, oversight and more. So much has to be done right, and so little need go wrong for failure along any critical vector.

E&C firm leadership recognize that consistent application of proven methodology and best practice is an important factor in getting projects right at every step. In practice, however, many architects feel a creative calling, engineers seek technical improvement on past results, and tradesmen optimize for throughput. Moreover, even the best-laid plans and standard operating procedures encounter project- and context-specific realities at the job-site that require flexibility and adaptation rather than mindless adherence to protocol.

Pursuit of excellence in project execution necessarily becomes a balancing act between mindful application of repeatable practices and intelligent innovation in response to local feedback. Which places individual professionals, intermediate managers and the project manager solidly in charge of delivering results. Leadership's responsibility then is to provide the tools, rules and exception paths to support efficient and effective project execution at every level in the organization.

"To gauge and manage our performance, we need to be able to get project details recorded and distributed to our project managers as soon as possible. Without this vigilance, even a small project that veers off track can become a big problem for our profitability."

**Jim McAleer, Controller
EwingCole**

Financial Controls: Project cost, time, quality, safety, risk and other controls are de rigeur and broadly accepted methods like Earned Value Management (EVM) offer quantitative foundations for monitoring and oversight. Easy availability and transparency of measures and targets help push decision-making closer to where execution takes place, accelerating project delivery. Unfortunately, discipline- and role-based decisions still tend to happen in siloes that mask interdependencies and cascading effects. So for both technical and financial decisions, empowerment requires guardrails or collaborative methods like IPD to bubble decisions up to the right logical level to avoid unintended consequences.

At the business group and firm-wide level, challenging economic times and owner buying-power in a competitive market have left many E&C firms holding portfolios of projects that were won at higher than desired risk levels. Whether looking at aggregate utilization, realization and staff retention rates across an engineering practice or broad liquidity, margin and committed cost ratios in a construction company, CFOs and line leaders need to know which levers to pull to find solid

Strategic concerns

As E&C firms successfully address core operational challenges, leadership attention quickly shifts to broader market and strategic concerns. While issues vary by region and offering portfolio, four transformational trends will shape the competitive survival and success of firms:

Client Expansion: Industrial and manufacturing enterprises are becoming increasingly multimarket, multiregional, and global as competition drives a blend of specialization and economy of scale. Where process standardization is furthered by consistency in structural design, as for example in petroleum processing or chip fabrication, clients demand consistent design and CM expertise from global engineering firms and, where practical,

ground. For many firms, the next few years will be a time to build a backlog of higher margin and lower risk deals at various durations that bring Key Performance Indicators (KPIs) back into the green and balance an uneven scorecard.

“Our project managers need up-to-date information on labor and materials costs so that they can preserve margins on our projects... We wanted to standardize the procedures and reports used in our 15 affiliate companies.”

John Jordan, CFO
The Truland Group

These combined challenges—capturing the right projects, coordinating content and resources, balancing repeatability with adaptation in project execution, and stabilizing overall business economics—are practical areas where E&C firms can invest in designing and building for process flexibility and in laying a foundation for improved organizational agility and risk management.



global GCs operating across far-flung jobsites. These clients value provider alignment to their energy or high-tech manufacturing needs on a global scale.

By contrast, commercial and public sector entities seek efficiencies by working repeatedly with a short-list of E&C providers that have deeply local

design, construction, manufacturer and code compliance expertise. As these owners and operators consider new projects, they value the predictability that comes from working with increasingly multi- and full-service local providers.

Whether a global, regional or local operator, E&C firms often need to decide if they should follow a major client into a new market. Staying close to the firm's best clients helps ensure access to future projects and reduces competition at bid or tender. If a firm decides not to bid on a key client project, this may give a strong player in a contiguous market a beachhead for relationship development and competitive entry into the firm's core market. But expanding operations to serve a client in a contiguous geographic market or in a new class of project can be a huge drain on resources with an uncertain return. Whether growing through partnership, acquisition or organic expansion, firm leadership need to balance near-term liquidity concerns against longer-term competency-development opportunities.

This client-driven and strategic decision-making challenge is fueling adoption of business intelligence tools that provide a 360-degree view into clients and project portfolios. And these insights are in turn setting the priorities and risk management practices that guide business development efforts toward sustainable results for the firm.

"We ended up having all this knowledge sitting just in senior managers' heads. Besides the inherent inaccessibility, there was always the risk of them walking out the door and taking all the knowledge with them."

Jenni Campbell
Business Systems Manager
Decmil

Changing Workforce: While market-facing leaders wrestle with demand-side challenges, delivery-oriented leaders are concerned with supply-side trends, where a changing workforce adds complexity to the growth equation. Difficult economic conditions notwithstanding, a generation of skilled engineers and construction professionals are retiring or will soon retire in many developed economies. In industrializing and emerging economies where large infrastructure and development projects are underway and more are expected, educational systems cannot deliver trained talent quickly enough to keep up with demand. And even then, no level of classroom learning can fill the need for people with years of on-the-job experience.

"We are seeing growth all over the world and it's difficult to transfer knowledge to all these locations, especially remote locations... The cost of fixing poor decisions is extremely high in our business."

Joar Handeland, CIO
Aker Solutions

Engineering firms are capitalizing on increasingly digital generations of professionals to make expertise available virtually around the world, improving global utilization of a limited talent pool. However, even the most networked organization still faces cultural diversity and inclusion challenges, and most engineers need to be feet-on-the-ground at jobsites at some point. Meanwhile, construction companies face intensely local challenges as they contend with generational divides in trade and labor pools, and rapid technological changes in building techniques that can quickly obsolete established practice. This pace of change tends to benefit next-generation talent that is motivated to learn and apply new methods, but it also fosters mobility and talent churn as individuals jump between employers in rapidly growing markets.

Engineering firms, GCs and subcontractors alike all face this human capital challenge. And the combination of demand-side “client expansion” and supply-side workforce demographics is forcing E&C firm leadership to find new ways to recruit, assign, develop and retain expertise.

Collaborative Execution: At a tactical project level, technology-driven improvements in joint access to digital design documents (e.g., BIM and IPD), real-time tracking of building materials in transit to the jobsite, and other information-sharing capabilities are enabling more dynamic project teams that cut-across architect, engineer, builder, subcontractor and owner boundaries. With growth in D-B practices, projects are seeing increasing overlap between design, detailing, estimation and buyout activities, which serves to compress time to project completion and asset utilization.

“In competitive bid situations, fees are always under pressure, so we needed to find a way to achieve a new level of remote collaboration that would also be cost-effective... What was different with the [project] was enabling both the Zeidler and Snøhetta teams to work on the same BIM model at the same time, as if they were in the same office.”

Ian Fairlie, Network Architect
Ziedler Partnership Architects

The challenge for E&C firm leaders is that this reduction in time between initial outlay and first economic return – a measure called “time to value” (TtV) in the technology industry – is of growing importance to owners. Just as E&C firms hate to see capital tied up in unbilled Work-in-Process (WIP), owners want to see accelerated returns on invested capital and will differentially reward those firms that can commit to shorter project timelines. This growing emphasis on speed may simply reflect the business realities of most industries

today, but the trend is certain to force evolution in the way that all construction industry participants operate.

Agile Adaptation: E&C firms that used to plan for and execute change on their own timetable find that today’s complex market dynamics deliver many disruptive surprises. Indeed, deep project planning competencies honed in capital projects can get in the way of the rapid adaptation required to compete and succeed as a business.

Recognizing this, many firm leaders are asking this question: how can we identify problems early and act quickly, delivering operational visibility and decision-making authority to front-line managers while implementing policies and controls that can evolve rapidly with market demand and changes in the available talent pool? In short, how can we create an agile and resilient organization that flexes to its environment?

The right executive vision and commitment to cultivate aligned cultural norms comes first. However, at operational and administrative levels, there must also be the right supporting processes and enabling systems – systems designed and built for change. This is where Microsoft and our solutions for the Dynamic E&C Firm can help firm leadership build for the future.

“Although we certainly had to fulfill the requirements of a construction business, our strategic goals were about meeting the needs of a complex enterprise, while providing a catalyst for organizational change through standard operating procedures enabled and enforced by the ERP.”

Brian Seymour, CIO
Keller Foundations

Building the Dynamic E&C Firm

Microsoft is uniquely positioned to help E&C firms transform into dynamic organizations that are market responsive, collaborative, and able to realize the full potential of their people. To ensure that we build for the future, Microsoft focuses on delivering innovative, proactive, modern business solutions that offer flexibility and interoperability. Firms can deploy individual elements to meet specific needs or a fully integrated business suite, and can add and subtract functionality to meet tomorrow's challenges. Taken in sum, Microsoft business solutions deliver on the promise of enabling people to do their best work whether in the office or on the job site and whether in project delivery, functional or administrative roles.

Freeing individuals to drive results

At the heart of every organization are the people who make things happen. People garner insight from business applications to drive decisions that advance organizational objectives. They manage relationships internally and externally to drive relevant actions forward. The most successful firms are powered by individuals who are contributing fully, able to make a difference, and committed to their organization's success. Microsoft can help individuals and organizations realize their full potential and drive significant impact by offering an end-to-end business solution that is flexible and easy to use.

Microsoft is deeply committed to helping professionals and staff perform at their best and achieve greater job satisfaction through improved ability to collaborate with colleagues and productively serve clients. For this reason, we emphasize easy-to-use tools designed to work the way people work. Our tools are built to work together seamlessly, supporting and linking key levers of the business and enhancing both individual performance and firm-wide operations.

Capitalize on talent and catalyze innovation

Today, our E&C industry solutions can help firms capitalize on all available talent by enabling job scheduling and balanced resource utilization across time zones

and business units. For example, we give human resource directors the ability to maintain central profiles of employees and subcontractors that can be shared across subsidiaries and locations to make it easier to identify human capital assets that may be tapped to deliver services. With powerful competency and availability-based search capabilities, practice managers and schedulers can rapidly find and assign the right person for the

right job at the right time and place. And at an even deeper level, resources can be hard-booked or soft-booked to jobs or proposals-in-process to manage the human capital supply chain that is at the heart of every E&C operation.

We support increasingly virtual and diverse project teams with rich planning and collaboration environments that help reduce administrative overhead and focus the project team on the job at hand, catalyzing creativity and innovation. And we help firms harness these capabilities to cultivate unique client experiences and evolve repeatable yet highly distinctive and client-responsive service experiences across distributed teams. So project managers can focus on client relationships while easily delivering job estimates based on vetted and adjusted templates for common design and build requests. Project managers, in turn, can focus on team dynamics while taking advantage of work-breakdown structure templates for project planning, sophisticated budgeting and cost controls, time and expense entry and approval workflows, and

Cultivate unique client experiences

project analytics. And team members can spend less time onboarding and more time getting to know each job and executing on tasks.

Compress
time to insight
and action

We then embed increasingly industry-specific information and performance measures into our solutions to help compress time to insight and action. By putting richly

contextual and role-specific information at their fingertips, we help individuals ranging from office-based to job-site tradesmen and from project accountants to compensation analysts work smarter, streamlining and accelerating project execution and firm operations. Financial leaders in particular can build on integrated project management and accounting, sales and marketing, and human capital management functionality to obtain a complete and holistic view of their business. They can streamline reporting and improve accountability across the organization while ensuring compliance with risk management practices through consistent business processes and policies across all locations.

Importantly, Microsoft constantly strives to deliver reduced total cost of ownership for organizations that adopt our solutions. To this end, our solutions build on the business processes and technology investments that many firms already have in place—the everyday business practices and associated productivity tools like Microsoft Project, Excel, Outlook, SharePoint, and Windows that users are already familiar with. This reduces the time needed for training and change management through easy and intuitive user experiences that foster productivity, firm-wide adoption, and a faster return on investment.

The result is a portfolio of integrated-by-design solutions that equip and indeed free individuals to do their best work within an increasingly connected organization and wider ecosystem. With this holistic approach to business solutions, Microsoft can help E&C firms design and build for change and thereby elevate both individual and organizational performance.

Building blocks for the Dynamic E&C Firm

To execute on our vision, Microsoft presently focuses on five solution areas or logical sets of business capabilities that are core to how E&C firms operate and to how they may design and build for change:

Business Development: *Prioritize among project opportunities and make risk-appropriate pursuit decisions with consistent pipeline and proposal management processes.*

Our objective is one seamless end-to-end experience from lead generation to opportunity management to project scoping and initiation, including tactical management of proposals, contracts and change orders for projects already in execution. Like all others in our portfolio, this solution works directly with standard Microsoft authoring and collaboration tools to offer a familiar user experience that improves adoption and thus adherence to organizational processes and stage-gate

“Effectively tracking and managing key accounts and opportunities is a core success factor for our business development. Microsoft [Dynamics] CRM and the SharePoint integration support this goal. The system also organizes data so that there is clear ownership and accountability.”

**Thomas Doerr, Project Delivery
Director in Corporate Marketing and
Communications
CH2M HILL**

controls for risk management. Adoption drives pipeline data, which improves leverage of business development resources, backlog estimation, and forecasting of capacity requirements and revenue results. Adoption also improves firm-wide insight into who-knows-whom and who-knows-what, making it easier to out-network the competition and grow next-level client relationships. In short, a more cohesive approach to business development.

Document Management & Collaboration: *Streamline project execution across distributed internal and external teams with secure role-based content management and real-time communications.*

Taking the familiar client- and project-centric collaboration portal as the foundation, this solution improves team coordination and communication around proposal, contract, project plan, design document, building model, transmittals and other materials – governed as appropriate by version control, change audit history, and formal records management. In

“I’m using a tablet device with Lync paired to a Bluetooth keyboard on a high-speed train in England while talking to someone in Pune, India, 5,000 miles away. These collaboration tools are fantastic!”

David Nietz, CIO
MWH

keeping with IPD objectives, the solution enables extranet and cloud-based exchanges with subcontractors, joint-venture partners, owners and facility operators. It also enables real-time communication with instant messaging, screen sharing, voice-over-IP calling and video conferencing capabilities accessed contextually within a given project team site or a specific document undergoing concurrent edits by multiple subject matter experts.

“All sites share the same look, feel, and navigation structure, so owners, architects, and subcontractors involved in more than one project will always know exactly where to find what they need.”

**Patrick Miller, Vice President –
Director of Application Development**
JE Dunn Construction Company

People & Equipment: *Optimize utilization of all available assets with firm-wide tools and processes for identification and assignment of resources.*

Value creation starts with people. The right person assigned to the right project at the right time. Of course, the right person also needs the right tools and equipment to arrive at the job site in time for the appointed task. This solution addresses the recruit-to-retire lifecycle for employees as well as tracking of education, certification, expertise, project experience and other factors that inform best-fit project assignment.

Equipment and broader asset management follows with implementation-specific variations by AEC domain and application. By incorporating enterprise social for rich interest group connections and search capabilities that traverse Human Resources, Project Management and Accounting, as well as Project collaboration systems, the solution delivers powerful capabilities to identify and leverage the right expertise for any given situation.

“If employees need expertise on concrete used in North Sea drilling rigs or research on high-stress bolts, they can find it quickly, no matter where it’s located or what form it’s in.”

Joar Handeland, CIO
Aker Solutions

Projects & Job Sites: *Drive repeatability and profitability into every project and job site activity with reusable planning templates, configurable cost controls, and standard as well as ad hoc reporting.*

From the high-level handshake with business development during scoping and budget quotation, through project detailing, contract and buyout, job-site construction and final handover, the Project Manager bears the burden of profitability. Our solution works to lighten that burden by giving PMs the tools they need to streamline the entire process. Whether working on a small residential or a major capital project in civil engineering, PMs, accountants, site superintendents and the myriad of specialists and subcontractors on the project can enter data and transactions into one unified project management and accounting system that delivers real-time views into the status and trajectory of the project. With the ability to publish projects and subprojects as best practice templates for reuse or just search for, find and reuse a successful past project, the solution offers a wide array of time saving capabilities and process automations that help team members design and execute profitable projects.

Financial Control: *Know how your complex business is performing with "anytime anywhere" access to essential metrics and role-specific business processes.*

Most E&C firms have a complex portfolio of legal entities and larger organizations need to support employee activities in multiple locations and countries with the attendant exposure to multiple currencies and compliance regimes. Settlement of cross-charges for intercompany resource assignments can complicate roll-up of project costs and revenues. Moreover, reporting by project type, industry, geography and other perspectives can be challenging, especially for firms that are operating on multiple niche or geo-specific financial systems. Microsoft's solution combines project accounting and financial management in one system, enabling drill-

"Acquisitions are quite difficult in the HR and Finance areas, but when we have [Microsoft Dynamics AX] in place then we can say in 90 days you're on AMEC standard systems."

Russ Harker
MDAX and Convero Program Advisor
AMEC plc

down from general ledger to underlying project-level transactions. With consolidation reporting and analysis for hierarchies of companies, the system delivers deep visibility into operations while also offering configurable project and financial controls through key performance indicators, notices and escalations, and workflows for automated procedural review and management approval. Power, flexibility and a familiar user experience in one package – a foundation for the Dynamic E&C firm.

"With our new Project Wizard system, we can create a budget for a new project in just one-tenth of the time it took us previously. Microsoft Dynamics AX and Office SharePoint Server 2007 work together to eliminate many of the inefficiencies in our processes so that people can focus on tasks that add value to the business."

Jim McAleer, Controller
EwingCole

"Employees can do a lot more with the new solution themselves. Our controller experiments with the reporting functionality, creating new reports to investigate various scenarios. With our old system, we had to get a database administrator to modify reports, but now we can do it faster by ourselves."

John Jordan, CFO
The Truland Group

At the heart of each of these solutions are a set of direct-from-Microsoft offerings that include Microsoft Dynamics products with capabilities purpose-built for E&C and project-centric enterprises. We also extend these foundational products with specialized and complementary features from industry partners to address the unique needs of specific disciplines within the engineering and construction community. For reference purposes, the matrix below drills one level deeper into our solution offerings.

Business Development	Marketing Automation	Opportunity Management	Proposal Management	Customer Relationship	 Performance Management
Document Mgmt. & Collaboration	RFI/Bid Management	Team Workspaces	Change Orders	Content Management	
People & Equipment	Recruitment & Onboarding	Resource Management	Performance Management	Equipment Mgmt. & Rental	
Projects & Job Sites	Project Mgmt. & Budgeting	Subcontractor Management	Field Services	Time, Expense & Invoicing	
Financial Control	Compliance	Project Accounting	Union Payroll	GL/AR/AP/FA & Procurement	

Customer experiences on the path to the Dynamic E&C Firm

Many E&C firms are using integrated business solutions from Microsoft to further strategic business objectives while designing and building for change. For a cross-section of customer stories based on quotes captured in preceding sections, please follow the links embedded in case study titles below:

- **Norfolk Group Limited:** CRM System Streamlines Sales Process for Electrical Services Provider
- **JE Dunn Construction Company:** National Construction Firm Manages \$1 Billion in Projects with New Collaboration Solution
- **EwingCole:** Architecture Firm Strengthens Project Management with Integrated Solution
- **Truland Group:** Electrical Contractor Improves Visibility Across 15 Business Units with Centralized ERP System
- **Aker Solutions:** Oilfield Expert Supports Rapid Growth, Quality Decisions with Global Knowledge-Sharing Platform
- **Decmil:** Engineering Firm Rides the Resources Boom More Professionally with Microsoft's CRM
- **Zeidler Partnership Architects:** Architectural Firms Collaborate Virtually, Avoid \$90,000 in Hardware and Travel Costs
- **Keller Foundations:** Construction Company Supports End-to-End Processes, Growth with ERP
- **CH2M HILL:** CH2M HILL Optimizes Business Development Performance with New CRM Solution
- **MWH:** "Wet Infrastructure Firm" Uses Collaboration Solution to Achieve Competitive Edge
- **AMEC plc:** Global construction giant speeds consolidation of acquired businesses to achieve tighter company integration

The power of choice

Business solutions from Microsoft are designed to give E&C firms the power of choice, through a flexible adoption model. Firms have the opportunity to acquire and implement different solution elements as their own specific business needs and timetables require. For example, a firm could start by deploying solutions for Projects & Job Sites (including project management and accounting) and Financial Controls (including core financials), or by deploying more generic components such as expense management or employee profile, competency, and performance management.

Microsoft also offers organizations a choice in technology. E&C firms may choose to deploy a solution on premise, in the cloud, or as a hybrid of both, depending on needs and budgets. And IT leaders can often accomplish similar business outcomes using different combinations of software, selectively building on an existing installed base of Microsoft products to reduce the incremental cost of new solutions.

Conclusion

Microsoft solutions for the Dynamic E&C Firm have evolved over many years, with a number of key elements falling into place recently to create what we submit is the strongest and most integrated enterprise solution offering in the market today – further distinguished by unmatched business flexibility, time-to-value and low total cost of ownership results for customers. When assessing Microsoft as a strategic technology provider for your next operational excellence or business transformation initiative, we invite you to consider the following:

- **Dedicated R&D Industry Team:** Our Microsoft Dynamics unit has a dedicated team charged with building out the roadmap and industry-specific functionality for project-centric organizations. Furthermore, there are dedicated resources charged with looking 5 to 10 years into the future to identify major market trends that will affect this industry and to assess how we can help customers prepare to address them.
- **Industry-Dedicated Partners and Partner Management Team:** A number of partners have built their business around delivering Microsoft industry solutions to E&C firms, and they are vitally important collaborators in Microsoft's industry strategy. We ensure ongoing alignment between these partners and Microsoft R&D through a team of dedicated partner management professionals.
- **Industry-Specific and Microsoft Certified Partner Solutions:** We often work with partners to build targeted software features that extend our code base for niche uses while eliminating the need for costly integration services. For example, we take advantage of partner code to deliver equipment rental solutions. To ensure that these solutions are of the highest quality, we require partners to certify their offerings through the Certified for Microsoft Dynamics (CfMD) program, which includes code reviews and sets precise standards.
- **Dedicated Industry Marketing and Business Development Teams:** We continue to invest in industry-aligned marketing programs and resources to engage more closely with customers, trade associations, and thought leaders and to improve the industry-specificity and relevance of our offerings over time.



Microsoft Solutions for the Dynamic E&C firm

Microsoft Dynamics is a line of integrated, adaptable business management solutions that enables you and your people to make business decisions with greater confidence. Microsoft Dynamics works like and with familiar Microsoft software, automating and streamlining financial, customer relationship, and supply chain processes in a way that helps you drive business success.

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www.microsoft.com/dynamics

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