

# "BUY + BUILD ENERGY SOFTWARE: LEVERAGING THE BEST OF BOTH WORLDS?"

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## The Challenge

We explored the various advantages and disadvantages of building or buying software within the Energy Industry, and the E&P approach to supporting clients in these areas, in our article and subsequent podcast last year.

This article takes the next step. In practice, many clients don't face a binary choice – they adopt a hybrid "Buy + Build" strategy. We explore what that looks like in the energy industry, and – given the rapidly evolving vendor landscape – how the emergence of AI is beginning to reshape both sides of that equation

## The "Buy + Build" (or Hybrid) Approach Explained

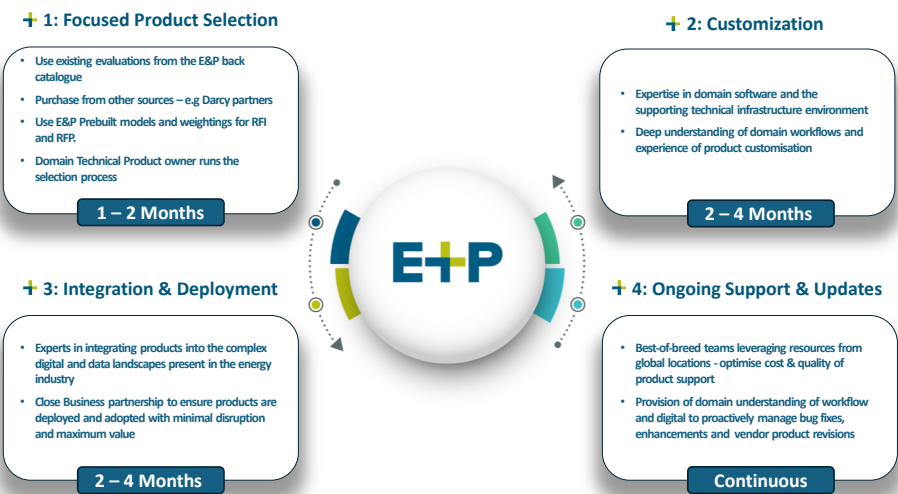
**The "Custom Buy":** The process starts by identifying and procuring a commercial off-the-shelf (COTS) software or platform that addresses a significant portion of the required functionality. This might cover 60-80% (70% is a common illustrative figure) of the core needs. This base could be:

- An ERP system (SAP, Oracle NetSuite)
- A CRM platform (Salesforce, HubSpot)
- Energy Industry Platforms (Petrel, Bentley Systems ALIM, Energy Components and Halliburton DS365).



A recap of the E&P approach to "Buy Only":

[Link to original post](#)



**At E&P Consulting,** we accelerate software adoption through four streamlined phases. We begin by selecting from a shortlist of vendors, running a selection model, and negotiating the deal. Next, we gather detailed functional and non-functional requirements and implement necessary customizations. We then manage product integration, deployment, and user adoption. Finally, we provide ongoing support and updates to ensure the solution continues to deliver value over time.

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**The "Buy":** Once the base platform is in place, development resources (internal or external) are focused on building the missing pieces. This "build" component typically addresses:

- **Unique Business Processes:** Workflows or features specific to the company's operating model that aren't standard in the market.
- **Integrations:** Connecting the base platform with other existing internal systems (legacy software, data warehouses, other COTS products) for seamless data flow.
- **Specific User Interface (UI) / User Experience (UX) Requirements:** Tailoring the look, feel, and interaction model for specific user groups beyond standard configuration options.
- **Advanced Reporting & Analytics:** Creating custom dashboards or data manipulations not available out-of-the-box.
- **AI-Powered Components:** Increasingly, organisations are now building custom AI layers on top of COTS platforms – predictive models, intelligent automation, and LLM-driven interfaces that go well beyond what any vendor offers as standard.

### Why Choose "Buy + Build"? Key Advantages

- **Faster Time-to-Value:** Leverages the pre-built functionality of the COTS product, reducing development time compared to building from scratch.
- **Reduced Development Cost (vs. Full Build):** While not eliminating development costs, it focuses resources on the differentiating 30% rather than reinventing the wheel for the standard 70%.
- **Leverages Proven Technology & Best Practices:** COTS platforms often incorporate industry best practices, security standards, and testing, reducing project risk.
- **Focuses Internal Resources:** Allows internal teams to concentrate on building unique, high-value features that differentiate the business, rather than on common infrastructure or standard functionality.
- **Access to Vendor AI Innovation:** Leading platforms are embedding AI capabilities at pace. A Buy + Build strategy lets organisations exploit these advances immediately while building proprietary extensions on top.



### Build + Buy Use Cases in the Energy Industry

#### Drilling, Completion & Wells

Halliburton's Well Construction Suite is a dominant platform that provides a digital environment for well construction. Operators can build custom functionality on top of the base product. In 2025-26 AI has moved to the centre of Halliburton's product strategy in this space. The Digital Well Program now incorporates intelligent automation that can reduce well programme design time by up to 80%,

What operators continue to build on top of this platform :

**Integration with other systems:** Building custom integrations to connect Halliburton's suite with other software used by the company, such as geological modelling tools, production management systems, or enterprise resource planning (ERP) systems.

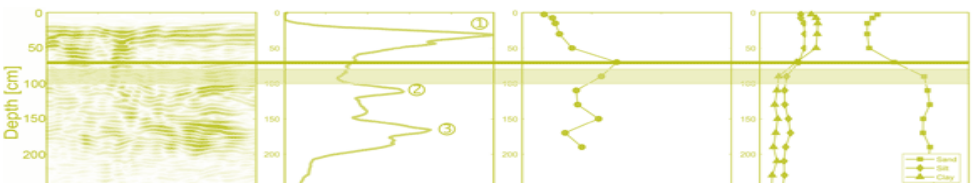
**Specialised calculations:** Implementing custom calculations or algorithms within the well construction suite to address unique engineering challenges or optimise specific aspects of the process.

**AI model fine-tuning:** Operators are beginning to build custom training datasets and feedback loops that improve the platform's AI recommendations based on their specific operational context

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### Considerations and Potential Challenges

- **Integration Complexity:** Seamlessly connecting COTS platforms and custom components is technically difficult, requiring precise API planning and data synchronization
- **Vendor Lock-in:** Heavy reliance on a single platform creates strategic dependencies. This risk intensifies as proprietary AI models increase switching costs by coupling capabilities tightly to the underlying platform
- **Intellectual Property (IP) Clarity:** Ownership must be established upfront. This now includes AI-generated outputs, specifically defining who owns insights and recommendations derived from your proprietary operational data
- **Data Governance & AI Risk:** Feeding sensitive subsurface or production data into vendor-hosted AI raises concerns regarding data residency, privacy, and model oversight. Operators must track where data flows and how it is utilized
- **Maintenance Overhead:** While vendors maintain the core, custom components require ongoing updates. Continuous SaaS delivery of AI features necessitates more frequent and rigorous compatibility testing
- **Cost Management:** Poor scope control or integration issues inflate TCO, which must include licenses, development, and long-term maintenance
- **Finding the Right Platform:** Choosing a foundation with high flexibility and robust APIs is essential. Evaluating a vendor's AI maturity and roadmap is now a fundamental part of the selection process
- **Skill Requirements:** Success requires expertise in both COTS configuration and custom development. Modern AI-augmented platforms demand data science and machine learning skills alongside traditional software engineering



## Build + Buy Use Cases in the Energy Industry

### Geoscience & Geophysics

SLB's Petrel subsurface platform remains the industry-leading solution for enabling geoscientists and engineers to analyse subsurface data from exploration to production. The platform has seen significant AI development since mid-2025. SLB has launched a Petrel AI Assistant that enables users to explore and analyse data within a Petrel project through natural, conversational requests – creating displays and advanced visualisations with simple prompts rather than manual configuration

What operators continue to build on top of this platform :

**Well Planning:** Bi-directional transfer of well target and trajectory data between Petrel and a client's system of record.

**Engineering Data Integration:** Transfer of crucial engineering data from the client's well engineering data model into Petrel.

**Drilling Events Analysis:** Transfer of NPT (Non-Productive Time) events from the client's drilling event system of record into Petrel, supporting the risk assessment process.

**AI workflow extensions:** Custom plugins that feed proprietary geological data or operational history into Petrel's AI models, improving interpretation accuracy for specific basins or asset types



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### Core Principles Remain Key

- **Clear Requirements Definition:** Understanding precisely what the standard platform must do and what needs custom development is paramount – and now includes understanding which AI capabilities the vendor delivers versus which require proprietary build.
- **Value Focus:** Prioritizing development efforts on the custom features that deliver the most significant business value.
- **Change Management and User Adoption:** Engage users early in design, Offer tailored training on both standard and custom components, communicate the “why” behind the hybrid model
- **Agile Methodologies:** Often, the "build" portion is best handled using agile approaches to allow for iterative development, feedback, and adaptation.
- **Strong Governance:** Clear decision-making processes are needed regarding platform selection, scope management for custom parts, and integration standards. As AI features proliferate, governance frameworks should explicitly address model oversight and data accountability.

In summary, the "Buy + Build" approach is a powerful, flexible strategy that acknowledges the reality that one size rarely fits all. By strategically combining purchased platforms with targeted custom development, organizations can often achieve a superior balance of speed, cost, functionality, and competitive differentiation compared to pure "Buy" or "Build" approaches.

With the recent rapid velocity of AI development within the major vendor platforms. The buy decision now carries an AI dimension – what models does the vendor embed, how configurable are they, and how much of your proprietary data can you leverage? The build decision is increasingly about extending and fine-tuning AI capabilities, not just filling functional gaps. For digital transformation leaders and C-suite decision-makers, understanding this shift is becoming a prerequisite for effective software strategy.



***In a future article, we will explore how AI is re-shaping the original Build vs Buy decision itself – and what that means for how energy companies should approach digital product strategy going forward.***



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## WHY CHOOSE E&P



### Industry Knowledge Integration

Leverages industry data and best practices for informed software decisions  
Aligns solutions with operational and regulatory standards



### Accelerated Implementation

Provides ready-to-use tools and frameworks to speed up deployment  
Delivers scalable solutions for complex operations



### Domain Technical Expertise

Employs experts with deep Oil & Gas operational knowledge  
Ensures solutions fit real-world challenges



### End-to-End Solutions

Integrates consulting services with software products for seamless adoption  
Focuses on smooth integration with legacy systems



### Continuous Optimization

Uses agile methods for ongoing improvement  
Balances innovation with operational stability



At E&P Consulting, we accelerate software adoption in the oil and gas industry by combining deep industry knowledge with specialised solutions. We leverage existing data and best practices to ensure software decisions align with operational and regulatory standards.

Our team of domain experts brings both technical and operational expertise, ensuring practical, real-world solutions.

We provide tailored product assurance, from specialised roles to full teams covering product management, analysis, and technical delivery. Supporting the entire lifecycle, we guide clients through strategy development (**Think**), build and deployment (**Build**), and continuous operations (**Operate**) for a seamless digital transformation.

Our approach has delivered proven results for clients in the Energy industry, documented in real-world case studies. We would welcome the opportunity to discuss these examples and explore how we can specifically help you advance your digital product ambitions.

