



## BOUYGUES CONSTRUCTION

### SAP® SOFTWARE TIGHTENS PROJECT MANAGEMENT ACROSS WORK SITES

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**Olivier Miret**, Project Manager for SAP Solutions, Bouygues Construction

#### QUICK FACTS

##### Company

- Name: Bouygues Construction
- Location: Paris
- Industry: Engineering, construction, and operations
- Products and services: Commercial construction, public works, and installation and maintenance of electrical infrastructures
- Revenue: €9.5 billion
- Employees: 53,700
- Web site: [www.bouygues-construction.com](http://www.bouygues-construction.com)
- Implementation partner: IBM Global Business Services

##### Challenges and Opportunities

- Modernize site management
- Improve reactivity of business units
- Enhance collaboration with subcontractors
- Attract and retain experienced personnel

##### Objectives

- Implement a single technology platform able to scale smoothly for higher volume and new functionality
- Integrate manufacturing and financial processes across several dozen sites
- Streamline business operations to reduce manual data entry
- Provide one real-time operational view for all decision makers

##### SAP Solutions and Services

SAP for Engineering, Construction & Operations (SAP for EC&O) solution portfolio

##### Implementation Highlights

- Entered the 1st pilot with no unresolved high-priority issues
- Delivered a large amount of automatic data loading in first production run

##### Why SAP

- Demonstrated success in the construction industry and with sister company Bouygues Telecom
- Flexibility to interface with multisource legacy applications
- Integration of project portfolio management with enterprise resource planning functionality
- Best-in-class cash management and project execution functions

##### Benefits

- Faster, more efficient, and more agile project management
- Cost savings from simpler interfaces among applications
- Better strategizing through accuracy in reporting
- Higher revenues through repeatability of success
- Continued development of trusted partnership with SAP

##### Existing Environment

- Diverse hardware and middleware components
- Over 50 customized legacy applications
- Tools from Agile Software (since Oracle acquired) for legacy interface management
- Dollar Universe Software for batch scheduling from ORBiT Software



Bouygues Construction, a subsidiary of the French giant Bouygues Group, is a world leader in commercial construction, civil engineering, electrical contracting, and property development and maintenance. In the early years of the current millennium, internationalization and diversification highlighted the company's need for end-to-end billing functions, a unified view of subcontractor performance, and tighter forecasting and asset management. Bouygues Construction responded by devising a major application integration project called Edifice, which kicked off at 10 pilot sites. It implemented strategic enterprise management functions from the SAP for Engineering, Construction & Operations (SAP for EC&O) solution portfolio.

### Managing Construction Costs and Complexities

As globalization continues to define the market in an increasing number of industries, construction firms are pressed to centralize management across project sites without disrupting mechanisms for nimble local response to a rapidly changing business climate. Bouygues Construction wanted to coax the maximum benefit from the construction boom in the early years of the millennium and the attendant influx of new young engineers by modernizing their operations. They needed to interconnect 50 existing applications and ensure visibility within projects, across project portfolios, and among widely dispersed sites.

With its expertise in financing, designing, building, and operating major construction projects, Bouygues Construc-

tion was already offering clients and partners around the world a wide range of innovative solutions. Leaders in the company knew from the experience of their sister company Bouygues Telecom that SAP® software helps provide a solid foundation for business excellence and innovation. Bouygues Construction evaluated four integration proposals, two from SAP and two from competitor Oracle. "SAP for EC&O has a very strong integration potential," says Olivier Miret, Bouygues Construction project manager for SAP solutions.

Bouygues Construction wanted to integrate financial processes, accounting, materials procurement, asset management, subcontractor and client management, and performance reporting. "We chose SAP because we could see it would help us lower operating costs and monitor project performance against business strategies. And it

would scale to accommodate greater volume and additional functionality as the business diversifies," explains Miret. And the SAP implementation team, with assistance from the local IBM Global Business Services organization, provided the expertise for simplifying the Bouygues Construction web of legacy interfaces. IBM has a successful track record of implementing SAP solutions in the construction industry and brought local business knowledge and senior technical and functional expertise to the project. The scope of IBM's engagement covered solution design and build, pre- and postimplementation support, and the setup of an SAP Customer Competence Center location for Bouygues Construction.

### Architecting Cross-Functional Processing

The Edifice project at Bouygues Construction launched with two key objectives. The first was to enhance the financial management and profitability of individual construction sites. The second was to improve the reactivity of business units by providing them continual access to reliable information through the implementation of a unique tool that facilitates exchanges between business and operations.

Executive-level reporting since the advent of Edifice offers powerful forecasting and consolidation and is supported by a single cross-disciplinary view of the whole enterprise in the SAP NetWeaver® Business Warehouse component. Additional architectural choices included ORBIT Dollar Uni-



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verse as a batch scheduler and tools originally from Agile Software (since acquired by Oracle) and based on the SAP NetWeaver Portal component. Stakeholders gain access to the functions of these third-party software products through the SAP Solution Manager application management solution.

### Measuring Implementation Performance

Edifice is driving deep business process change at multiple Bouygues Construction business units in a wide geographical distribution. “Careful

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project governance is crucial,” continues Miret. “The project blueprint was designed by a team with representatives from every business unit in the company, and to boost buy-in we delivered a kickoff presentation to 300 company leaders.” Roles within the project are tightly defined, and resource usage and deliverables status closely tracked. Risks are identified and classified weekly. Issues are escalated as necessary at bimonthly meetings. SAP and IBM consultants provide guidance in strategic enterprise management to help participants at all levels maintain perspective.

The project team keeps communication lines to end users open through newsletters, videos, and a dedicated intranet. Project managers present information at the executive level through two channels: a weekly breakfast meeting with 10 rolling team members and a monthly meeting with the full 130-member executive team.

The team performed extensive testing over a two-year span, running functional tests, integration tests, and user acceptance tests in several cycles. “We launched the first pilot with very few open issues,” says Miret. “Data cleansing and preparation were tested

during three full dry runs, and the first production run showed large automatic data loading.”

### Evaluating the Progress to Date

Edifice successfully brought far-reaching change to Bouygues Construction. First, it replaced various legacy applications with SAP software, so integrated business processes are becoming a reality. All data on open projects is available across the enterprise for training and analysis. Audit trails are detailed, collaborators have appropriate access to the information they need, and closes are fast and accurate.

“Our accountants at the home office can instantly see client and task information entered by engineers on-site,” explains Miret, “and engineers on-site can check customer payment and credit status in real time.”

Given this consistent overview of logistics and accounting functions, integrated scheduling can reveal potential time and personnel shortfalls early and can help control risk in an industry where key talent is scarce, margins are low, business is cyclical, and subcontractors are responsible for large parts of the work. “SAP for EC&O helps us manage risk but also eases financial process reviews and improvement,” declares Miret.

Edifice also helps standardize business procedures and roles according to Bouygues Construction’s best practices. The project team members responsible for organizational change built new core roles through workshops with the seven business units that make up the company. Once the implementation went live, there were no role gaps and a three-tiered support structure was in place to support ramp-up and resolution of usage and design issues.

Through this extensive training and support, combined with features like transparent performance management and a fully automated payroll, Bouygues Construction is attracting and retaining the high-quality young workers it needs to succeed globally. “SAP and IBM have built us a foundation for full visibility within individual projects and across project portfolios,” says Miret. “We are looking forward to having exhaustive performance reporting and analysis and optimal management of assets.”

## Anticipating Additional Collaboration in the Future

The project team expects to deploy the software to all French construction sites and to add specific international functionality within a year. At pilot sign-off there were 300 active users of Edifice, and the project won a quality award at the SAPPHIRE® 2008 Berlin conference. Incremental rollout of the model will finish in two additional years. By then Bouygues Construction estimates that 6,000 users will be working with Edifice in the 50 largest sites in nearly as many countries. The corporate goals include adding to the revenue stream from infrastructure concessions and pursuing opportunities for sustainable construction.

Ever since the SAP advisory council on engineering, construction, and operations was founded in 2006, Bouygues Construction has been a member. The groundwork has been laid at Bouygues Construction for leveraging service-oriented architecture (SOA), and the integration of five smaller construction sites through deployment of the SAP Business One application has begun. "SAP and Bouygues Construction plan to cooperate well into the future," concludes Miret.



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