



## ***Refining Asset Management: Financial Strategies for the Oil and Gas Industry***

**Manhattan Software Whitepaper # 5  
by Nancy Johnson Sanquist**

### **Introduction**

These are halcyon days for the oil and gas industry. In the third quarter of 2005, the Big 5 companies (ExxonMobil, Royal Dutch/Shell, BP, ChevronTexaco and TotalFina) reported \$33 billion in earnings. Obviously, cash is not the problem, as \$90 billion had been predicted to be on their books by the end of that quarter. However, in this 150 year old industry known for both boom and bust cycles, it is still suffering shock waves from the collapses of 1986 and 1998 when in just a few weeks the price of a barrel slid to \$10. Many companies were wiped out and those that survived the last downturn were gobbled up in a frenzied round of consolidations. Various estimations state that between 50-70% of the industry's resources are now controlled by the Big 5. What oil and gas companies are faced with, however, is increasing complexity as they strategize on decisions on their future. This white paper addresses how Integrated Workplace Management Solutions (IWMS) can assist energy organizations in adapting to this complexity and allow them to be more prepared to respond when they have to make multi-million dollar decisions on their asset investments.

### **The Problem: Complexity**

This current state of complexity is reflected in these two photographs of Shell Oil company's facilities. On the left is a typical type of asset deployed in the upstream part of the business, exploration and production (E&P), the foundation of the petroleum industry. These E&P assets are aging and it is predicted that \$100 billion will have to be pumped into them for repair and replacement in the next decade.<sup>1</sup> And that was before the deadly Hurricanes Katrina and Rita wiped out or severely damaged 190+ oil and gas rigs and production facilities on the hard stricken Gulf Coast. This wounding of production facilities drove up crude-oil and natural gas prices and threatened interruption of business for energy reliant industries. Furthermore, new infrastructure will be required to be built for the new exploration and production areas which need to be developed to meet the energy demands which are predicted to increase by over 50% by 2025.<sup>2</sup> Yet there are not many of those on the horizon, as new construction has been hampered

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<sup>1</sup> 'Energy Asset Optimization,' IBM Business Consulting Senior Executive Brief, 2004.

<sup>2</sup> Greg Caruso, Energy Information Administration, Department of Energy presentation ('International Energy Outlook 2005') in Dubai, November 13, 2005.

by environmental opposition, community fear of accidents and terrorist attacks and increased regulations. .

The photo to the right (on the previous page) is a newly completed building in the Netherlands built to deal with these complex issues, as well as others for Shell Oil. EpiCentre is the 'knowledge hub' for the global energy company. It has been compared to a mid-size university where 5,000 students take courses every year and share knowledge with each other as they congregate in this collaborative space. It is also the central hub for Shell's research and technology functions. The creation of this building demonstrates their strategy to focus more on the "upstream" and try and retain the valuable knowledge that could walk out of the door as half of their workforce (and other oil companies) retires in the next decade. Only 15% of the workforce is in their 20's to mid 30's.<sup>3</sup> And finding a new workforce will not be easy since enrollments of petroleum engineers have declined from a height of 11,000 in 1983 to only 1,700 today. Yet thousands of engineers and geoscientists will be needed in the next five years to replace their retired brethren and meet increased production demands. Many will be getting their advanced degrees from places like EpiCentre, as programs for petroleum industry engineers have been greatly reduced on US campuses. In addition, training these new workers in new technologies, like nanotechnology, which could revolutionize the energy industry is critical to keeping up with all of the scientific changes. Knowledge management for Chevron has been extremely successful and has saved the company \$650 million since it was implemented in the early 1990's.<sup>4</sup>

While the human resource and knowledge loss problem is a critical issue to upper management, a discussion of real estate is often not even on the table until some traumatic event occurs, like bad financial transactions which cost the company millions of dollars in unnecessary expenses or following a mergers/acquisition when the financial markets were expecting massively reduced cost of operations which did not happen. We believe real estate needs to be recognized now, not as a problem, but as an enabler for the energy business. The value of the rigging asset in the left picture is apparent to management as it is equipment employed for revenue generation. But the value of the asset in the right picture is equally as important as it built and managed to support the employees charged with operations and innovation generation for the company both now and in the future.

## **The Solution: Adaptability**

In order to respond to all of the above drivers, real estate organizations have to investigate new ways of adapting to the changing requirements of their customers (the business units), as well as continuing the quest to reduce costs. As mentioned previously, one area that has been repeatedly overlooked is non-retail real estate; the buildings, land, equipment on the land and in the buildings, and even rights of way and mineral rights that an organization leases and/or owns. There is now a new attitude toward these assets today as the value of real estate alone has risen substantially and can no longer be ignored. Nor can the value of the knowledge about these assets, which is about to walk out the door if no formal system is in place to capture this valuable information. *"Economic conditions in a post-Enron world have energy companies focusing on assets. In addition, many of these assets are going to require major investments in repair and maintenance. After looking at assets strictly from a financial valuation standpoint, some companies are exploring what it takes to maintain the asset as well. The cuts in spending and capital investment have hit Energy particularly hard, and companies are seeking to get more life out of existing assets while reducing costs of maintenance and repair."*<sup>5</sup>

This white paper addresses how executives in the energy industry should apply their same level of fiduciary analysis that they apply to their revenue producing assets to other critical assets.

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<sup>3</sup> 'Holes in the Pipeline,' *New York Times*, October 28, 2005.

<sup>4</sup> This was stated in Dr. Nick Bontis speech 'Knowledge as a Competitive Weapon' during the CoreNet Global Spring Fall Summit in Las Vegas, 2005.

<sup>5</sup> Jill Feblowitz, Energy & Energy Research Director, AMR Research, Inc. March 17, 2003.

There are enterprise technological tools available today to give executive management, along with their real estate and asset management teams, the information to make informed decisions as they determine where, when and how their capital should be deployed. We explore new strategies and technologies, like the Manhattan IWMS solution, which can raise the financial intelligence of the real estate function to help create a highly productive workplace for the energy industry. Two strategic approaches will first be described and then we present a definition of the metrics which can be utilized to measure the success of these strategies for the business.

## **Strategies to Support Adaptability**

IWMS solutions support two critical real estate strategies for reduction in operating, occupancy and capital costs while at the same time, improving the efficiency and effectiveness of the management of real estate and assets from an investment point of view. Some solutions, like Manhattan, are utilized by both corporate occupiers and investors in real estate to standardize data and processes leading to more accurate and timely financial and business metrics. Two real estate strategies discussed in this white paper are asset management and location analysis.

### **Asset Management**

Asset Management deals with the financial aspect of providing and maintaining resources for the organization. Corporate Real Estate professionals are now called upon to have an even stronger financial skill set than they currently have. The goal of asset management is to:

- Increase the performance of the portfolio;
- Reduce operating and capital costs;
- Mitigate operational risks;
- Ensure accurate financial reporting.

In power generation, asset owners have been changing at such a fast rate, it is difficult for the acquiring company to adjust the business processes and systems of the acquisition quickly enough to not effect performance of the entire company. By implementing an IWMS with a strong financial core, such as Manhattan, previously manual and cumbersome processes can be integrated easily and both current and historical data on real estate and assets can be made available for immediate decision making.

In water and wastewater companies there has also been a frenetic rate of privatization and consolidation. In these companies, the problem is that the infrastructure is aging and investment decisions have to be made on which assets can still be repaired and which have to be replaced. An IWMS provides a framework for condition assessment analysis and prioritization of projects.

### **Increased Performance of the Asset Portfolio**

In terms of office real estate, most of corporate real estate assets are currently underperforming by as much as 50%, as space remains underutilized on a daily basis in our mobile world of work. There have been reports that typical middle managers in organizations are not in their offices 30-40% of the time. This can cost an organization millions of dollars in operating expenses it does not need to spend. Manhattan allows a CRE executive to get a complete profile of the entire real estate portfolio, including information on which assets are owned or leased, which spaces are occupied and which are vacant, where space is utilized to full capacity and where it is underutilized. It also provides a chart of accounts to calculate the operating cost of each of the buildings so that each organizational unit can be charged appropriately. All costs associated with providing and maintaining the workplace and their associated assets are tracked, not only for

accountability, but also to benchmark those costs with other properties and real estate portfolios of other companies.

The IWMS can also cross functional lines, and include the tracking and managing all the asset data for an energy organization such as production and delivery (turbines, power plant equipment, pipes, substations), structures (, plants, office buildings, service and training centers, maintenance shops, grounds, parking complexes, wind energy components), pipelines, rights of way, mineral rights, fleet and information technology assets (microwave towers, terminals, laptops, printers). In many large organizations there are hundreds of systems created to track these assets separately and an IWMS can be used to support an enterprise-wide asset portfolio strategy. With Manhattan, an organization now has the data to measure the critical financial data associated with all of these assets for the business units. Examples of Key Performance Indicators (KPIs) which can be tracked include measuring the profitability of customer-facing resources (retail establishments), defining the Return On Net Assets (RONA) and/or Return On Assets (ROA) per asset, and comparing the revenue/employee/location versus the cost/employee/location.<sup>6</sup>

In the following sections, we define some of the benefits of managing the asset portfolio with an IWMS which includes reduction in costs and risks and increased compliance and transparency.

### **Reduced Operating and Capital Costs**

Gartner has estimated that an IWMS can reduce asset operating and capital costs by as much as 26%. Savings can be substantial in using Manhattan to:

- Tightly integrate the administration of leases with accounts payable to minimize time and increase accuracy;
- Reduce the time it takes to execute projects which lowers costs due to improved workflow and coordination;
- Increase process improvements by identifying trouble areas and remediating the problem immediately;
- Increase cash flow through componentized depreciation by being able to segment a building by subsystems which each have their own depreciation schedule.

Many of Manhattan clients have gained savings of tens of millions of dollars year after year by not only taking advantage of the improvements and savings listed above, but by simply better managing space and the movement of the employees throughout the space. Valuable space has been found to be unused or underused (in one case by as much as 30% of the portfolio) and the information about this potentially revenue producing space (amount, function, asset value, occupancy) was non-existent or spread across multiple systems and multiple service provider organizations. By implementing Manhattan IWMS and a business intelligence system, static data about space is transformed into “actionable intelligence, enabling decisions that significantly reduce vacancy rates, decrease current costs and support planning that will keep costs down over time.”<sup>7</sup>

### **Reduced Operational Risk**

Strategic risk has been defined as “an unexpected event or set of conditions that significantly reduces the ability of managers to implement their intended business strategy.” A key risk which can have a large financial impact on an organization is operational risk. This is most significant when it impacts the core business activities of a company. Having a fully implemented IWMS can

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<sup>6</sup> RONA=Return on Net Assets and ROA=Return on Assets

<sup>7</sup> Ed Lubieniecki and John D’Angelo, “CRE Business Intelligence: A New Tool for Strategic Effectiveness.” 2004. [www.realfoundations.com](http://www.realfoundations.com)

be critical to both continuing operations or returning to business following an emergency or disaster.

By conducting periodic condition assessments of buildings and entering the data on the status of building components into Manhattan, remediation can be proactively identified and a capital plan can be prepared with the required projects prioritized. This not only prevents costly emergency repairs (which can represent 20-60% in savings), but can prevent lost productivity due to downtime. A roof leaking over a critical operation in a building on an oilfield site can cause the energy company expensive loss which can be as much as a structural failure in a building housing financial trading activities. Unanticipated disasters do happen and with the implementation of a system like Manhattan (with offsite redundancy) can ensure an organization is back and doing business as quickly as possible.

### **Increased Sarbanes-Oxley (SOX) Compliance**

SOX was created to foster transparency and accountability in corporate business processes and accounting practices and restore confidence in the public markets. As Deloitte Consulting has pointed out: *"If you leverage your SOX compliance efforts to include a hard look at business processes and systems, you will find complexities that, if eliminated, can cut costs, sometimes dramatically.*

Therefore every executive in the oil and gas industry will want to be assured that a CRE executive can answer the following questions:

- Can CRE provide an accurate, up-to-date and consistent summary of the company's real estate portfolio? How much is owned and leased? Where is each asset located? What commitments have been made in the future? What is it costing?
- Is there a rigorous, well-documented process in place that tracks acquisitions and dispositions across the portfolio?
- Are transactions completed in different geographical locations subject to the same definitions, assumptions and metrics and carefully documented?
- Can the company document its comprehensive real estate expenditures, including costs managed by vendors, consultants or business partners?
- Are accounting standards for excess space in the portfolio-and potential impairment costs-rigorously documented and consistently followed?
- If the company uses synthetic leases to finance any part of its occupancy, are these structures consistent with SOX provisions for these "special purpose entities?"<sup>8</sup>

There is no way to answer these questions confidently without having access to a system like Manhattan. Before implementation, usually a business process analysis has also been conducted to ensure that the system supports the correct standardized procedures. Manhattan has teamed with the specialist consulting company, CTS, to review both processes and data requirements for their oil and gas customers.

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<sup>8</sup> This list of questions is taken from "SOX, CRE and the CFO: How the Sarbanes-Oxley Act Impacts Corporate Real Estate and the Chief Financial Officer," by Michael A. Billing, Vice President of Strategic Consulting for Jones Lang LaSalle

## Asset Location Analysis

For both CRE executives' internal customers and for the organization's external customers, location strategies will remain critical to decision making. While much of the way we work today may be virtual, place continues to play a critical role in most business unit strategies whether it is a sales/marketing organization (where are existing customers and markets, as well as future ones located?), operations (where do we have existing service centers, call centers, and workforce groupings and where do future ones need to be located?), R&D (where are the best locations to find the researchers we need?), finance (where can I locate/consolidate facilities to satisfy the business units at the lowest operating costs?) and retail (where is the most potentially profitable location for service stations in X area?).

By integrating Manhattan with a Geographical Information System (GIS), not only can the existing locations be graphically represented on a map, but other data pulled from the database can be associated with each location (costs, org unit, performance, personnel per city, building, floor, space, revenue etc.). GIS can also provide valuable demographic and logistics data for strategic decision making. Whatever databases, documents, drawings or maps they may need can be easily retrieved from this one screen. Questions can be answered such as: Which locations do you keep and which do you dispose of after a merger/acquisition? For those locations you do keep, what costs will have to be incurred to bring them up to the quality or performance level of the acquiring company? All of these questions can be considered when data is collected on the inventory of the new properties and input into Manhattan. Then condition assessment data can be associated with each of the buildings or environmental assessments attached to land records.

After implementing a program for asset management and integrating IWMS with graphical data, the next step is integration with business intelligence (BI) tools to determine how well assets are performing for your organization.

## Business Intelligence and IWMS

Mike Napier, head of corporate real estate for Shell, has discussed how important it is to understand the business issues and drivers intimately and have real estate become part of the business planning cycle.<sup>9</sup> When he was asked about the corporate real estate organization in 2010, Mike mused, *“The successful organization of the future is going to be heavily tech based, and clearly one of our priorities continues to be our database and just having complete knowledge of the portfolio together to make the right decisions. You can't make decisions without the information. And then how that information is used in terms of sharing across networks and being able to use different databases and tools to analyze in different ways.”*

Manhattan's IWMS is the database (interfaced to other databases such as SAP, AutoCAD and HR) that Mike uses for the management of Shell's real estate portfolio which consists of 65,000 properties scattered in some 140 countries around the globe. He now has the information to be able sense what the business units will need to perform and can respond with the appropriate asset strategy. He also can use a BI tool such as BusinessObjects to mine the data and monitor the performance of these assets at all locations.

Only organizations like Shell, who have the data in their IWMS, can effectively demonstrate how real estate can have a positive influence on business-related performance measures by analyzing the metrics such as these listed below:

- **Operational Metrics: Improving the Efficiency and Affordability of Operations:** By being able to capture total cost of occupancy (TCO) of the buildings associated with each

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<sup>9</sup> *“Shell International's Mike Napier: We're Business People First, Real Estate People Second.”* By Tim Venable. [Corporate Real Estate LEADER.](#)

of the business units, a KPI of TCO/revenue ratio (E/R) can result in increased performance. By measuring the actual costs of CRE, inefficiencies can be driven out of the TCO. Metrics include total occupancy cost per square foot and per person, square feet per person, net present cost of surplus space and surplus space to total space. Keith Perske of Sun Microsystems has observed, *“If an increase in revenue causes an associated increase in expense, better management of facility resources that leverage existing investments can create a wider profit spread with less ongoing expenditures. A 4% reduction in operating costs can result in the same profit as a 25% increase in sales because we’re able to shift the savings from RE actions to places in the company where it can be highly leveraged.”* John Suyker of Johnson Controls, in a recent review of internal infrastructure, described how a 10% occupancy cost saving resulted in a 28% EBIT increase.

- **Productivity Metrics: Improving the Productivity of People and Place:** By creating metrics that measure revenue/person (gross), EBIT/person (net) and comparing these to revenue/sf (particularly with retail space), the productivity of the employees can be measured by location and benchmarked with others both within the company and outside. In addition, metrics which determine how efficiently an organization is making use of its real estate include identifying total occupancy costs and doing a comparison with the company’s turnover and operating costs.
- **Value Metrics: Improving Return on Assets:** These metrics define how the real estate portfolio is affecting the value drivers in the organization. They include determining what the CRE cost of capital is and comparing it to the company’s cost of capital, as well as calculating the TCO as a percentage of the free cash flow the organization generates. Another metric would be to capitalize the value of the CRE’s debt and equity and measure it against the company’s enterprise value. The ROA metrics aid in setting key targets for measuring performance. The metrics include cost/occupant, cost/capacity, cost/sf, and cost/sales, goods and administration (SG&A) to determine how high their return on assets are, and then they compare the results with other similar oil and gas companies.

By investing in the implementation of IWMS systems and processes, corporate real estate management can be assured not only that controls are in place for more efficient and effective standardized business processes, but there is better financial reporting. This should ensure the decisions that are made on the real estate and asset portfolio are more transparent and are done so in light of the business strategies.

## CONCLUSION

Leveraging an IWMS like Manhattan increases the cost savings for real estate and infrastructure, and gives a real estate organization the ability to adapt to the complex and changing environment of the oil and gas industries. In one case study following a merger, Manhattan succeeded in helping improve the financial position of CRE and asset management leadership resulting in consolidation, disposition and efficiency projects saving millions of dollars. The implementation of a Manhattan Solution has followed business process improvement projects and supported these by embedding these new processes in their workflow tools and making the information available to anyone who needs it in the organization or external service providers through a web-based portal.

Before using Manhattan, many of the cost saving opportunities were identified by throwing darts, blindfolded! Maybe some ‘low hanging fruit’ would fall out. With the IWMS tool, it is like having a shot gun standing 8 feet from the target. And you can load it not only with critical data on the

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operating rig and the land it sits on at your Alaskan oil site, but also on the Dutch knowledge center which supports the learning, research and interactions of the future innovators of tomorrow. Manhattan gives you the power to make the right financial decisions at the right time and at the right cost no matter how complex the world gets for oil and gas companies.

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