

## SeaPort-e Team KCA Partner Case Studies

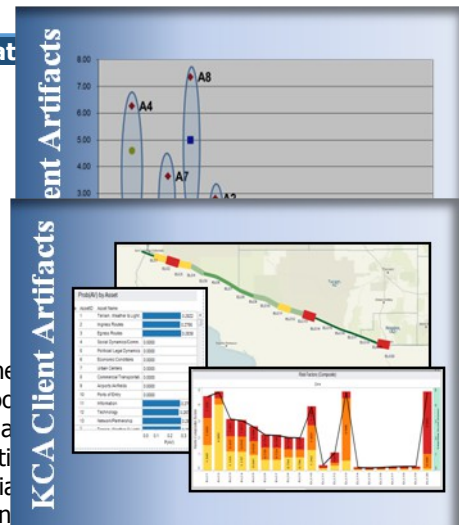
### Knowledge Capital Associates, LLC (KCA)

#### Case Study 1 (KCA): Maximize Cost Effectiveness, U.S. Border Patrol

**The need.** USBP needed to develop an enterprise process for analyzing the cost-effectiveness of alternative technology, infrastructure and personnel solutions for border security.

**The solution.** Knowledge Capital Associates (KCA) provided technical and analytical support to deliver policies, processes, procedures, metrics, training and decision support tools required for conducting annual Analysis of Alternatives supporting USBP's budgeting, resource allocation and operational capability investments. KCA developed a suite of enterprise tools that allowed agents to conduct integrated mission analysis, cost estimation, and operational cost effectiveness analysis.

**The benefit.** This effort enabled USBP to base budgeting and investment (solution sets) in meeting critical threats, vulnerabilities and risks. Top leadership at all levels to rapidly and confidently determine optimal alternative capabilities and efficiently allocating resources to maximize the operational assessments were completed identifying millions of dollars of potential support better positioned the USBP for responsible governance by focusing based cost effectiveness analysis to support resource allocation; and 2) tracing investments decisions to their contributions to National Strategy objectives.



#### Case Study 2 (KCA): Maximize Cost Effectiveness, U.S. Border Patrol (USBP)

**The need.** With dynamic, ever-changing threats to homeland security, USBP needed a reliable, defensible approach for assessing its operational capabilities and the specific risks to the nation's nearly 6,000 miles of border. It initiated its Risk-Based Approach (RBA) to implement its strategic plan and characterize and effectively communicate the complexities of the border operational environments. The intent of the RBA is to generate "actionable" analysis and compelling rationale for allocating constrained resources, meeting urgent operational needs and investing in future operational capabilities.

**The solution.** Because of its years of proven support to CBP, USBP tasked KCA with designing, developing, documenting and implementing the RBA. KCA's solution blended data and quantitative analysis with enterprise information and knowledge to generate expert data, conduct qualitative analysis, and inform judgments required for quality decision making. The goal was to maximize the operational impact of security investments by providing a well-documented, reproducible, transparent and defensible approach for assessing risk and prioritizing operational capability gaps. In a four-month period, KCA leveraged agile development techniques to deliver:

- ≡ A comprehensive RBA analytical framework that included: a probabilistic risk analysis methodology, operational and mathematical border security models, performance measures, integrated business processes, work-flow procedures and an RBA lexicon
- ≡ A prototype Integrated Mission Analysis Tool (IMAT) consisting of comprehensive electronic capability and risk assessments, a border risk mathematical simulation, and dynamic charting dashboards for commanders.
- ≡ A suite of multi-media training and training support materials to include: online, on demand videos, tool demonstration screencasts, assessment guidebook, tool user handbook, reference guides and job aids.
- ≡ Nearly 400 pages of initial functional requirements documentation for a web-based integrated RBA decision support system.

**The benefit.** KCA provided a common analytical foundation on which to build effective methods and efficient means by which to achieve business, operational and organizational goals and objectives of all border security partners. The RBA now provides the foundation for successful USBP operational planning and resource allocation and will inform CBP's enterprise investments in acquisition, procurement and research and development.

[Return to homepage](#)

## Lockheed Martin Corporation

### Case Study 3 (LMC): Reduce Direct Labor Costs, U.S. Marines (MARCORSYSCOM)

**The need.** To reduce customer costs and increase its best-value position, Lockheed Martin needed to focus Continuous Process Improvement (CPI) initiatives on increasing the productivity of its teams to reduce required staffing for meeting customer requirements.

**The solution.** To achieve significant reductions in direct labor to the MARCORSYSCOM Program Manager, Optical Systems, LMC aggressively initiated a host of process improvements. Notably, as its technical staff became more familiar with and more proficient conducting repetitive tasks. LMC translated these "learning-curve" efficiencies into real customer cost savings through personnel reductions in its support team over time during the contract option years. Targeting warehouse/distribution operations at Marine Corps Logistics Base, Albany, GA for cost savings, LMC implemented the use of wireless, hand-held mobile computer laser barcode/IUID scanners and new software, dramatically reducing the manpower required to conduct daily receiving, shipping, and fielding operations. Other CPI initiatives reduced task error rates resulting in improved quality control and reduced the need for manpower-intensive re-work. Consequently, LMC was able to deliver the same quality, for the same work, to meet the same deadlines, with less people. LMC also developed and deployed multi-media on-demand web and computer-based technical training allowing Marines to complete asynchronous, distributed sustainment training on their own. This resulted in significant cost-savings passed on to the Marine customer by drastically reducing contractor and Government team travel. LMC leaders continued to implement value-driven services. Simply stated, LMC got rid of "swim-lanes" and created an environment where its entire staff "did windows." To achieve this, it provided a "top-down" leadership approach focused on problem-solving and implemented a formal Professional Development Program allowing managers to cross-train their employees to promote critical redundant team proficiency. This allowed the LMC team to continuously cross-level resources to balance customer work-load requirements and priorities and increased team responsiveness and agility in meeting the dynamic needs of warfighters. Finally, to maintain these high-levels of productivity, LMC managers focused their attention on employee retention as demonstrated by their 98% retention rate on this team this past year.

**The benefit.** Lockheed Martin has delivered significant cost savings to PM Optical Systems by providing the same scope of required professional services and high levels of customer satisfaction while simultaneously reducing its direct labor staff by 23%.

### Case Study 4 (LMC): Reduce Indirect Costs, U.S. Marines (MARCORSYSCOM)

**The need.** To reduce customer costs and increase its best-value position, Lockheed Martin needed to focus CPI initiatives on increasing the productivity of its teams to reduce required staffing for meeting customer requirements.

**The solution.** LMC implemented a series of improved corporate processes, best practices and management software solutions allowing greater efficiencies and productivity and a reduction of its indirect staff. Management also consolidated office locations, negotiated better lease terms and found economic approaches for procuring office equipment and supplies. This combined with reducing expensive, non-competitive employee fringe benefits programs allowed the company to reduce its indirect rates and pass on real cost savings to its customers.

**The benefit.** LMC has reduced its overhead rates by 8% over the last few years resulting in direct cost savings to its Marine Corps and Navy customers.

[Return to homepage](#)

## Microsoft

### Case Study 5 (MS): Achieve Economies of Efficiencies, U.S. Navy

**The need.** The US Navy wanted to automate deployment and configuration management of hundreds of thousands of seats to modernize and save manpower.

**The solution.** The customer worked with Microsoft Consulting Services to create an enterprise Windows 7 deployment

---

solution using the Microsoft System Center Suite.

**The benefit.** The customer reduced the amount of time required for seat deployment from several years to less than one year. Additionally, the configuration management and workflow associated with seat management has enhanced security posture and enabled IT personnel to focus on other capabilities in the enterprise. The customer has been able to significantly reduce the number of domain experts required to participate in the configuration management process, resulting in a **40 percent reduction** in project costs.

---

[Return to homepage](#)

## Robbins Gioia, LLC

### Case Study 6 (RG): Reduce Direct Labor & Material Costs, U.S. Army

**The need.** The Corpus Christi Army Depot (CCAD) repairs and overhauls Army Aviation helicopters, engines and components. It was suffering from lengthy production and repair times.

**The solution.** Robbins-Gioia utilized Lean/Six Sigma tools and training to improve repair processes, integrated Lean/Six Sigma into the CCAD process, and trained 35 employees on Lean/Six Sigma integration.

**The benefit.** This resulted in \$2.2M in savings for critical-to-delivery (CTD) designated labor and \$5M in material. Overhaul time for the General Electric T700 engine was reduced by 83%.

---

### Case Study 7 (RG): Implement Standard Procedures and Systems, DLA

**The need.** The Defense Logistics Agency wanted to improve inventory accuracy while delivering productivity enhancements and process improvements across 21 distribution depots.

**The solution.** Robbins-Gioia implemented a Project Management Organization to link processes designed to institutionalize program management disciplines with technology in: Configuration Management; Work Breakdown Structure; Cost analysis; and Management Information Services.

**The benefit.** This project maximized the distribution process and reduced supply chain bottlenecks. On-time deliveries increased 48% and saved \$6.3 million in productivity by eliminating redundancies and improving efficiency.

---

### Case Study 8 (RG): Process Improvement, Department of Veterans Affairs

**The need.** The Department of Veterans Affairs wanted to reduce the costs of its operations by strengthening its Lean/Six Sigma tools & streamlining its processes.

**The solution.** RG provided Practice Area Expertise in Lean/Six Sigma in order to develop customer skills to a Green Belt level. As part of their 3 weeks of training, students were required to run their own lean/six sigma events, designing them in class and conducting them outside of class. By focusing on process improvement, the quality use of data and changes from running lean/six sigma events, students improved organizational process improvement metrics.

**The benefit.** Process Improvement metrics led to significant cost savings. Savings are estimated at between \$220K and \$300K per month for a yearly aggregate savings of \$3.4M.

---

[Return to homepage](#)

## Armstrong Process Group (APG)

### Case Study 9 (APG): Achieve Economies of Scope, Nationwide

**The need.** Nationwide wanted to create an enterprise architecture repository that would improve the consistency, completeness and availability of IT information used in impact analyses.

**The solution.** The company worked with IBM Advanced Business Partner [Armstrong Process Group, Inc. \(APG\)](#) to create an enterprise architecture repository using IBM® Rational® System Architect software.

**The benefit.** Nationwide has reduced the amount of time required for impact assessment from three months to less

---

than one month. Cost estimating, which in the past required an entire month, now takes just one day. The company has been able to significantly reduce the number of domain experts required to participate in the impact analysis process. The data in the repository is more trustworthy, complete and consistent. And it is now used company-wide, improving consistency. Improvements resulted in a *20 to 30 percent reduction in project costs*, along with an increased understanding of the scope of proposed changes.

**See additional information:** <http://www.aprocessgroup.com/case-studies/nationwide-cuts-project-costs/>

[Return to homepage](#)

## Robotics Engineering Excellence (RE2)

**See additional information:** <http://www.resquared.com/about-us/news-events/press-releases/>

[Return to homepage](#)

## Perigean Technologies, LLC

**See additional information:** <http://www.perigeantechnologies.com/case-studies.php>

[Return to homepage](#)

## Incite Decision Technologies (IDT)

The below table identifies the depth and breadth of modeling, simulations and analysis support IDT has provided across the commercial sector in addition to its experience in supporting Government contracts as outlined in our relevant experience section.

Industry	Concerns & Objectives	Results	Client
Petroleum Exploration & Development	Develop a strategy for Enhanced Oil Recovery of tertiary reserves using carbon dioxide flooding.	Appropriate strategy selected and currently being developed.	Anadarko
Nuclear Waste Management	Develop fee adequacy models to forecast the feasibility of funding the operations of the Yucca Mountain nuclear waste project with current utility fee structure over 120 years. Case study at <a href="http://www.lumina.com/cases/tudies/BechtelSAIC.htm">http://www.lumina.com/cases/tudies/BechtelSAIC.htm</a>	Model completed and tested by Booz-Allen-Hamilton. Model is currently being used for scenario analysis by the DOE.	Bechtel-SAIC & US Department of Energy
Chemicals	Determine most economically productive chemical reactor technology and marketing & logistics strategy to deliver three chemical product families to world-wide markets.	Client selected indicated technology and marketing & logistics strategy. Strategies in progress.	Braskem
Electronics, Document Management	Develop product development strategy for three major market segments.	Client implemented new product development portfolio analysis model and process.	Canon Copiers

Industry	Concerns & Objectives	Results	Client
Airline, Logistics	Determine viability of continued operations. Reverse profit losses of ~\$20M/yr if company to continue to operate.	Identified new market services, optimized fleet of aircraft for profit maximization, purchased new fleet members.	Caribbean Sun & Star
Chemicals, R&D	Develop competitive R&D strategy to maximize long-term competitive position of bio-lubes.	Strategy selected by bio-lubes R&D group. Follow-on work in R&D portfolio management.	Chevron
Petroleum Development	Capital cost estimation for facilities and pipelines construction project that takes into account unforeseen rapidly escalating materials and equipment costs in order to submit urgent supplemental funding request.	Contingency funding estimated from probabilistic model and funding request submitted.	Chevron
Environmental Remediation	Optimize portfolio of existing liabilities and develop a map to classify future liabilities to reduce overall risk to company.	Reduced number of environmental liabilities from 6000 to 1000 in ~6 months.	Chevron
Environmental Remediation	Develop a strategy for site remediation for ~100 environmentally impacted sites.	Strategies selected and in progress.	Chevron
Environmental Remediation	Define legal strategy for site remediation examples involving litigation.	Strategies selected and in progress.	Chevron
LNG <sup>u</sup> Commercialization	Optimize for economics LNG holding tank volume.	Client revised earlier volumetric design by doubling the required facility size. Client developed the largest LNG holding tank in the world.	Chevron
LNG Commercialization, Logistics	Determine viability of strategies to capture LNG spot cargoes in the Atlantic and Pacific basins. Determine optimal fleet and ship size to implement strategy.	Atlantic basin purchased two new ships. Pacific basin maintained existing fleet. Efforts were established to include spot cargoes into long-term contracts' provisions to reduce overall system risk.	Chevron
LNG Product Refinement	Assess economic and strategic value of developing a LNG-to-MeOH-to-olefins production facility.	Recommended project termination - neither economically nor strategically viable.	Chevron
Petroleum Commercialization	Optimize the portfolio of market opportunities that are coming online to the market.	Strategies defined and in progress.	Chevron
Petroleum	Develop R&D portfolio	Initial portfolio was trimmed	Chevron

<sup>u</sup> LNG = Liquid Natural Gas

<b>Industry</b>	<b>Concerns &amp; Objectives</b>	<b>Results</b>	<b>Client</b>
Development, Technology R&D	management process and tools.	by 50% while retaining 98% of original value. Rather than expanding budget requests, initial budget was maintained and focused.	
Petroleum Distribution	Develop insurance strategy to cover take-or-pay exposure of product in pipeline.	Established premium level required to cover take-or-pay losses in pipeline.	Chevron
Petroleum Distribution, Information Technology	Identify appropriate structure for worldwide ERP trade management & integration system, determine business value, and identify critical causes of risk and success to obtain value.	Client adopted recommended system and implemented measures to improve user adoption, system reliability, and data reliability. Initial estimates imply that a change of perspective from cost substitution to business support may add \$350M/yr - \$1B/yr of benefits.	Chevron
Petroleum Distribution, Information Technology	Develop pipeline project portfolio management system to prioritize projects and balance resources against risk and strategic fit.	Client employed system and is currently expanding effort to other business units.	Chevron
Petroleum Exploration & Development	Develop OPEX and CAPEX models for Nigerian petroleum field.	Developed understanding of significant uncertain variables for cost control over life of petroleum field.	Chevron
Petroleum Exploration & Development	Develop capital strategy for Gulf of Mexico, Chinese, and Nigerian exploration and petroleum fields.	Developed budgetary estimate for overall cost of production, reduced expected cost of production by \$500M, developed confidence intervals for capital items, and benchmarked against historical precedent.	Chevron
IP Networks, Electronics	Develop video-on-demand and IP-Gateway capacity sizing and economic models for use in network architecture planning and sales support.	Model used to understand the cost per stream to deliver various communication architectures in client networks. Insights were used to develop product lifecycle plans and competitive pricing schedules.	Cisco Systems
Logistics, Manufacturing	Improve awareness among downstream management team of potential risks of rail service disruptions and their impact on refinery operations and finances. Enable optimum site operations by minimizing slowdown or shutdown resulting from inability to effectively ship products.	Developed model that incorporates site parameters of various refinery locations to provide managerial guidance on effects of changes to existing schedule of truck and railcar arrivals and refinery production.	ConocoPhillips
Airline, Logistics	Develop and optimize ground	Increased annual capital	Delta Airlines

<b>Industry</b>	<b>Concerns &amp; Objectives</b>	<b>Results</b>	<b>Client</b>
	fleet capital plan.	spending to offset escalating maintenance costs and deferred revenue created by maintenance delays.	
Energy Utility	Develop generator capital strategy for power development in New Hampshire.	Client purchased generator in New Hampshire.	Emera/Nova Scotia Power Company
Energy Utility	Develop LNG monetization strategy.	Client entered new market.	Emera/Nova Scotia Power Company
Energy Utility	Develop overall corporate strategy to move utility from regulated to competitive environment.	Client reorganized company to participate in both competitive and regulated markets.	Emera/Nova Scotia Power Company
Chemicals, Real Estate	Determine appropriate real-estate location, relocation plan, and personnel migration strategy to maximize business value to R&D business unit.	Hybrid strategy adopted that minimizes early retirement and resignations while improving development efficiencies among scientists and engineers for overall business value.	ExxonMobil
Airline, Express Package Delivery	Identify best market strategy for Latin America, including product mix, lane selection, and asset allocation.	Client recognized that current strategy was not aligned with market demand. Client developed new market development strategies based on the portfolio model for Latin America.	FedEx
Defense, Satellite Telecommunications	Develop a model to facilitate understanding the uncertainty present in competitor bid prices in order to offer bids priced to win. Provide a means to store historical data for review in comparable bid opportunities.	Model accepted and in use. Improved ability of marketing department to understand bid price, margin, and component selection trade-offs to maximize likelihood of bid capture.	General Dynamics - SATCOM Technologies
Energy Production	Develop model to forecast economic value of implementing specific generator settings and fuel decisions to run a hydrogen power generator.	Model accepted and approved. Greatly improved insights and efficiency over former deterministic analytics. Engineering sales group actively employs model for client determinations.	General Electric
Family Owned Business	Founder wanted a way to expand her jewelry business in a way that emphasized her social responsibility concerns for third world artisans and women business owners.	Designed and now implementing a franchise conversion strategy of fifteen stores.	Handpicked Jewelry
Federal Government	Develop model of sources and relative size of transportation threat risks posed by foreign and domestic terrorist agents.	Developed portfolio analysis of transportation threat risks that allows Transportation Security Administration to allocate efficiently resources to limit	Homeland Security Institute, TSA

Industry	Concerns & Objectives	Results	Client
		threat exposure from terrorist efforts.	
IP Commercialization	Assist in the development of intellectual property valuations to augment pricing and negotiating strategies with target customers.	Client gained clarified understanding of the critical contributors of value to specific IP assets, developed optimized commercialization strategies, and balanced portfolio of IP assets to optimize risk-return profile for the firm. Ongoing support.	IP2Biz
Insurance	Determine value of newly considered market segmentations compared to traditional markets and understand critical uncertainties that could cause failure of new offerings.	Client developed strategy to monetize new market segmentations and maximize value of remaining lifecycle of current offerings.	Insurance Farm Bureau of Indiana
Pharmaceuticals, Information Technology	Develop IT Project portfolio management system, initially to prioritize and balance the portfolio of 900 IT projects.	On an ongoing basis client tests and manages the business value of current IT system projects for go-no go/continue decisions.	Johnson & Johnson
Biomedical Devices	Provide training & coaching to new product development staff on project selection and portfolio management. Develop decision support models to assess value of new products.	Client is currently incorporating the principles of decision & risk analysis in their NPD functions. Several projects have been assessed with this approach, and in each case, an alternative hybrid strategy was selected that incorporated previously unconsidered insights.	Kinetic Concepts
Network Content Distribution	Develop architectural alternatives and estimate of value for delivery of network access services in multi-dwelling unit facilities.	Client assumed use of digital gateway system.	Multiple System Operator owned by McCaw family of Seattle, WA
Chemicals	Develop schedule & cost risk assessment of the development & construction of new chemical manufacturing system.	Client developed prioritized risk mitigation techniques which included a highly parallelized development schedule and multiple approved equipment fabricators.	Milliken
Pharmaceuticals	Develop new product R&D strategy and portfolio management system.	On an ongoing basis client implements recommended therapeutic indication and compound combinations for all of its product opportunities based on strategic planning process and models developed.	Novartis, Centechor, Guidant, Powderject
Internet Start-up	Determine the value of a new	Model demonstrated some	PrepSportsNet



Industry	Concerns & Objectives	Results	Client
Company	social media website and capital requirements required for the next phase of expansion.	unrecognized risks to successful expansion as well indicated that nearly four times as much capital will be required for expansion as previously thought. Client developed capital raise campaign from insights gained from the analysis.	
Network Communications, Electronics	Develop engineering sales support models for hybrid-fiber coax (HFC) and multi-point, multi-distribution systems (MMDS).	The models provided guidance on economic viability of architectural assumptions.	Scientific-Atlanta
Commercial Real Estate	Develop model to demonstrate various lease versus buy options for acquisition of real estate.	Client assumed a creative lease option on new space and subleased current space.	Staubach
Satellite Telecommunications	Develop alternative uses for two satellites that revealed a compromise in expected lifespan due to a design flaw.	Client divested assets.	TSAT
Chemicals, Manufacturing	Develop value-based pricing model for bag house Teflon filter product.	Model adopted by sales department to demonstrate economic value of product over competing products.	W. L. Gore & Associates
Chemicals, Manufacturing	Developed strategic portfolio assessment of specialty chemicals business expansion.	Simulation model in use by client and pursuing the recommended portfolio.	Westlake Chemicals

See additional information: <http://inciteddecisiontech.com/casestudies.shtml>

[Return to homepage](#)