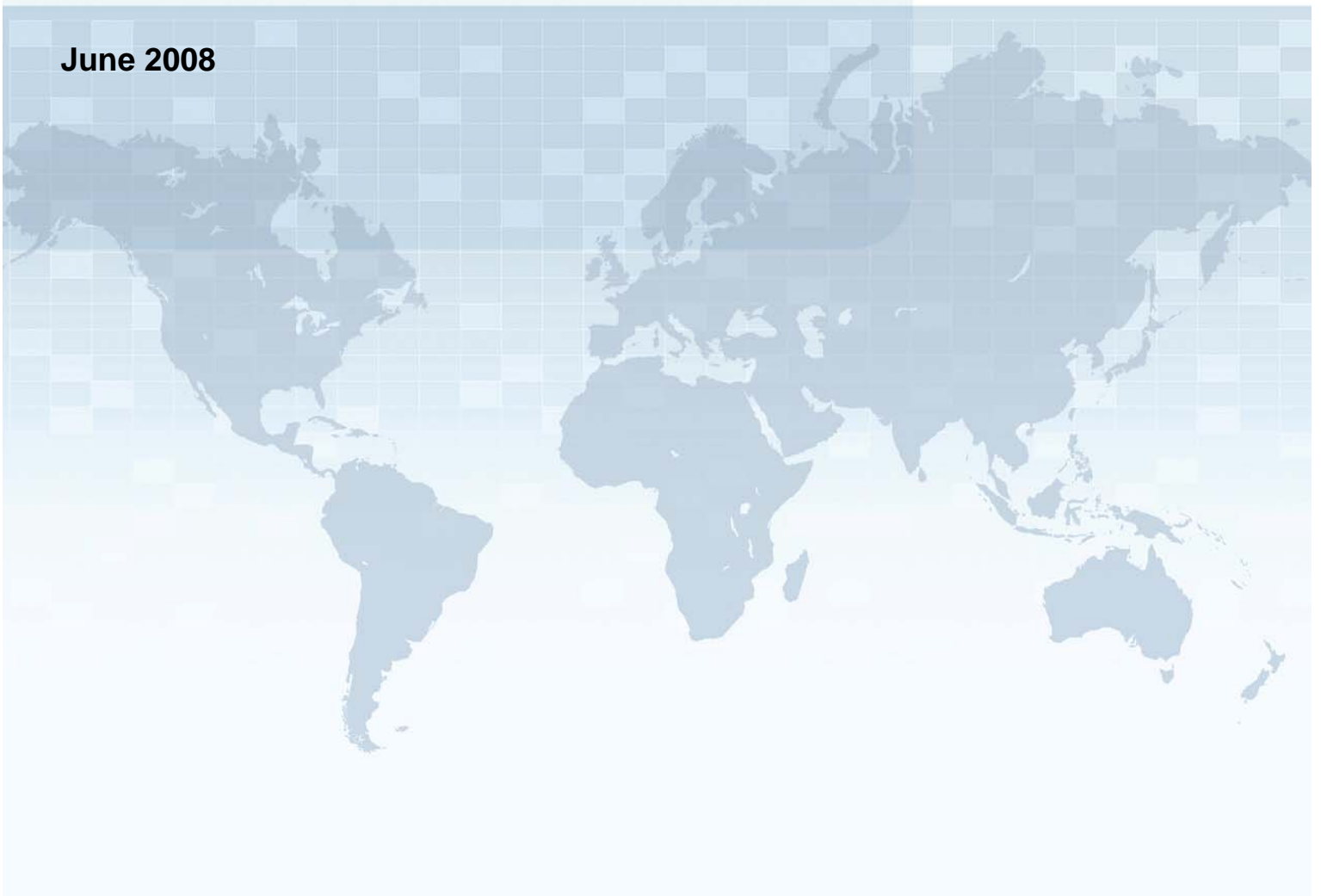




**INTELLIGENT
RISK SYSTEMS**

**BUSINESS RESILIENCY FOR THE
GLOBAL MARKETPLACE:
TRANSFORMING OPERATING RISK
INTO COMPETITIVE ADVANTAGE**

June 2008



EXECUTIVE SUMMARY

Launching headfirst into danger is counterintuitive. Businesses have spent hundreds of billions of dollars on insurance, disaster recovery and business continuity efforts. These organizations were dedicated to minimizing exposure of their people and operations to elevated risk. Until now.

Today's international business community is experiencing an awakening. Mainstream multinationals are becoming aware of a reality that defense contractors, broadcast media and energy companies have embraced for years: The global marketplace offers tremendous opportunity for organizations that can overcome the obstacles of conducting business in higher risk environments.



What's changed? In a nutshell, the world is growing up. International workflow has become commonplace. Communications, transportation and technologies seamlessly cross borders, time zones and cultures to deliver products and services. With operations and business partners in more countries than ever before, companies have been exposed to both the benefits and the risks of operating in dangerous places. Even companies operating in "safe" locations have had to manage through such tragic disruptions as the attacks of September 11th, the London bombings, Hurricane Katrina and the SARS outbreaks.

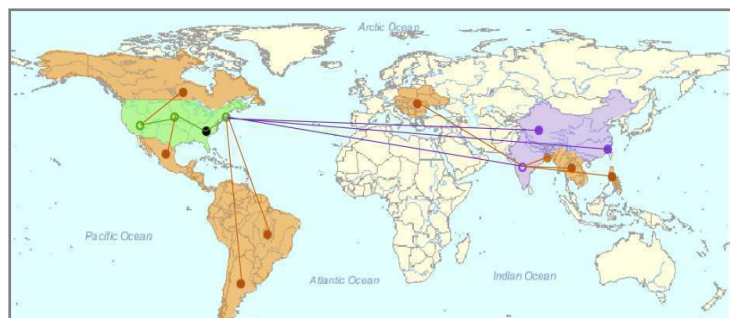
Building on confidence born from successfully managing through a broad set of threats to operations, companies are shifting their approach to the global market. By harnessing disaster response and business continuity best practices, many organizations are actively pursuing new opportunities in places they previously avoided. In so doing, companies are also discovering that lessons and tools applied in high-risk markets can assist them in achieving greater resilience at home.

OPERATING RISK IN THE GLOBAL MARKETPLACE

International expansion has been an attractive way to achieve growth for decades, providing access to lower cost supplies or less mature/higher growth markets. More recently, global expansion – especially in emerging markets – has become an essential component of economic performance. Goldman Sachs has boldly predicted that economies of the BRIC countries (Brazil, Russia, India and China) could together be larger than the G6 by 2050¹. As today's advanced economies have diminished impact on the world economy, expanding operations into emerging markets is becoming a strategic mandate.

In pursuit of global competitiveness, the very structure of traditional business has changed. No longer do most organizations operate within one country or region. Instead, major companies routinely rely upon a network of business partners to build, review, transport or otherwise deliver a better, less expensive, faster-to-market product or service than they could on their own. Even smaller companies can have a global network of partners that perform many of their important functions. The result is a complex web of organizations that serve and support each other in disconnected geographies around the world.

Take China, for example, which has assumed the role of manufacturing floor for thousands of companies. China provides an expansive workforce of skilled employees at an extremely competitive wage. Flexible and efficient manufacturing processes have been honed to deliver products to exact specifications, quickly and inexpensively. It is no surprise that China's economy has averaged nearly 10 percent annual growth for the past three decades. By 2006, China accounted for 35 percent of the global steel production; half of the world's cement and flat glass; and about one third of its aluminum production. In 2006, China overtook



China makes 50% of the world's cement and flat glass and about 33% of its aluminum.

¹ "Dreaming with BRICs: The Path to 2050," Dominic Wilson and Roopa Purushothaman, *Global Economics Paper No: 99*, 2003.

Japan as the second-largest producer of cars and trucks after the United States². Major manufacturing companies around the world almost certainly have operations or business partners in China today.

Similar stories are told of the other BRIC markets:

- **RUSSIA**, whose economy is driven by oil production and other key commodities, rivals only Saudi Arabia as the world's top oil producer, thus solidifying the country as a global player in the world's energy market.
- **INDIA** controls 44 percent of the global offshore outsourcing market for software and back office services³. Even though the global economic downturn will surely impact India, the country's economy is still anticipated to maintain a 7 percent (or higher) GDP growth pattern.
- **BRAZIL** has been expanding its presence in world markets through its large and well-developed services industry and exports (from manufacturing, mining and agriculture). The country's near-term economic and political outlook is generally positive, with low inflation and economic growth on the rise. Investment in ethanol and other new technologies, high prices of several export agricultural goods and the discovery of a major offshore oil field, combine to create an expectation of Brazil's stable contribution to the global economy.

Clearly, businesses today cannot afford to engage with others in only one or two regions of the world. Instead, organizations are now routinely conducting business in places where they may not have envisioned operating 10 or 20 years ago.

Yet the lure of the global marketplace is a double-edged sword. Where there are geographic hubs of business opportunity, so too, are there costs to adequately managing new risks and disruptions. Just as world energy prices are reaching record highs, geopolitical risks in Russia have become central issues for global energy companies that believed they had well-structured Russian partnerships in place. India continues to struggle with internal security threats due to religious and class distinctions as well as a breadth of health and environmental challenges that are already affecting the economy.

Meanwhile, kidnapping remains a growth industry in Latin America, including Brazil. In the past year, Brazil also experienced a period of systematic targeted attacks – organized by prison gangs – in which more than 100 civilians were killed. The gangs were flexing their muscles in a show of contempt for the government. Finally, China is struggling to mitigate dire toxic threats to basic necessities such as water, land, and air quality as a result of the unbridled growth in its manufacturing sector. Health risks and other environmental issues, such as severe weather and earthquakes, make operating in China increasingly challenging. Perhaps the most troubling risk of operating in China has been the perceived threat to an organization's intellectual property.



As this timeline above illustrates, risks are not limited solely to emerging markets. The September 11th attacks, Anthrax, SARS, the London bombings, and Hurricane Katrina have cost industry billions in response and recovery, lost revenue, mitigation and litigation. The combination of risk and opportunity has caused organizations to rethink the strategic importance of those functions responsible for preparedness: business continuity, corporate security, supply chain and enterprise risk management. It has also led to a shift in focus toward creating the

² "As China Roars, Pollution Reaches Deadly Extremes," Joseph Kahn and Jim Yardley, *The New York Times*, August 26, 2007.

³ "India Extends IT Outsourcing Boom," BBC News, June 2, 2005, <http://news.bbc.co.uk/2/hi/business/4603765.stm>.

“resilient” organization – one that survives, adapts and grows in the face of turbulent change.

THE COSTS OF (MIS)MANAGING RISK

Multinationals accept that disruptions impact their operations every day, and they have matured their disaster response, business continuity and risk management initiatives to address such concerns. Still, **over a one-year period, one in five companies suffered significant damage from failure to manage risk**; and more than half experienced at least one near miss⁴.

And disruptions can be costly. One Deloitte Research study found that most companies are exposed to multiple types of risk (strategic, operating, market and financial) and generally fail to manage the relationships among them. The study reported that nearly half of the one thousand largest global companies suffered **declines in share prices of more than 20 percent** in a one-month period between 1994 and 2003 due to failure to manage risk on an enterprise basis. Roughly one-quarter took more than a year for their share prices to recover, and for some, it took much longer⁵.

Modern supply chains are particularly vulnerable to risks. Most manufacturing plants operate with only a few hours' worth of excess inventory, relying on communications with suppliers and transportation carriers to avoid running out of stock. Such lean manufacturing environments are the models of efficiency, enabling flexibility and lowering costs in ways that were unimaginable 10 years ago. Yet, these supply chains rely heavily on each link – any one of which may be half the globe away. When disruptions occur, costs are high. More than 800 companies that announced a supply chain disruption between 1989 and 2000 experienced **33-40 percent lower stock returns** than their industry peers, regardless of industry, cause of disruption or time period⁶.

It need not take an incident or disruption that adversely affects a company stock price to garner senior management attention to risk procedures. Costs for managing risks and disruptions are high and extend well beyond shareholder value. There are costs associated with lost revenue; responding and recovering from a disruption or crisis; risk mitigation – especially, insurance; tools and processes required for adequate control and compliance; and liability. Many of these are interrelated. For example, the cost of potential liability has been a contributor to ensuring that organizations have adopted appropriate risk practices, particularly in the United States, which is perceived to have less favorable tort standards. In the past year, the U.K. Corporate Manslaughter Act lowered the bar for potential liability from negligence resulting in death or injury to employees, vendors or clients.

COSTS OF OPERATING DISRUPTIONS

- ✓ Mitigation
- ✓ Response and Recovery
- ✓ Control and Compliance
- ✓ Liability
- ✓ Lost Revenue

Going one step further, Standard & Poor has recently announced the formal integration of an “enterprise risk management scorecard” as part of its credit assessment process⁷. Thus, the perceived quality of risk management practices – regardless of whether an incident has occurred – may have a direct impact on the cost of raising debt capital as well.

Effective management of risks is a shareholder issue, drawing scrutiny from business leaders within and outside the boardroom. Inevitably, the need to invest in risk management processes and tools is turning focus to return on investment (ROI). Business leaders are eager to measure their ROI in risk mitigation, risk management and business continuity. They have started asking if those investments can be leveraged or repurposed to drive revenue or new opportunities.

RESILIENCY: A SHIFT IN THE CONVERSATION

This reality has spawned a new field: **Business Resiliency**. Business Resilience is the ability to rapidly adapt and

⁴ “Taking Risk on Board,” Lloyd’s in association with the *Economist Intelligence Unit*, 2006.

⁵ “Disarming the Value Killers,” Deloitte Research, February 2006.

⁶ “An Empirical Analysis of the Effect of Supply-Chain Disruptions on Long-Run Stock Price Performance and Risk of the Firm,” K.B. Hendricks and V.R. Singhal, *Productions and Operations Management*, 2005.

⁷ “Enterprise Risk Management: Standard & Poor’s to Apply Enterprise Risk Analysis to Corporate Ratings,” Steven J. Dreyer, David Ingram, May 7, 2008.

respond to risks as well as opportunities in order to maintain continuity of business operations, remain a trusted partner and enable growth. The evolution of such an approach can be captured in the conversations leading up to resiliency.

DISASTER RECOVERY: “WHAT IF SOMETHING HAPPENS?”

Incident management and disaster recovery initiatives are designed to answer the question of “what if” something happens to the company’s operations. This question centers on reacting quickly to disruptions. Answers included **insurance** (to transfer risk and pay for recovery), **incident reporting** (to learn about disruptions as quickly as possible), **response plans** (to identify appropriate response and recovery procedure) and **response services** (to provide aid to people and operations in need).

Response teams are masters of putting out fires – literally and figuratively. Response professionals, tools and processes are intended to act quickly and decisively. Conversations about incident management and disaster recovery tend to be **reactive** in nature. They usually occur in response to something that has just happened.

BUSINESS CONTINUITY: “WHEN OUR BUSINESS IS DISRUPTED...”

Business continuity as a discipline assumes that operations *will* be disrupted – somewhere, every day. Practitioners are skilled at answering the question, “*When* our business is disrupted, how can we continue service to our customers?” In addressing this question, the organizational focus shifts from response and recovery to continuity of service with the least amount of interruption possible. Organizations utilize **all-hazard, real-time intelligence** (for situational awareness and predictive indicators), **business continuity plans** (which identify alternate resources when physical assets, IT systems or personnel are not available), and **decision support technology and services** (to guide fast, informed decisions about what to do next).

Business continuity practitioners are collaborators. It is their responsibility to facilitate central access and visibility into organizationally dispersed interests under one standard practice. Business continuity defines the ingredients of sound procedures and practices. Business units and departments own the plans themselves.

As a result of such successful collaboration, business leaders understand the possibilities associated with achieving a global perspective on their overall risks and response plans – across geographies, business units, departments and assets (people, facilities, technologies). Business continuity conversations are generally **proactive** – designed to plan for (inevitable) disruptions.

BUSINESS RESILIENCE

The ability to rapidly adapt and respond to risks and opportunities in order to maintain continuity of business operations, remain a trusted partner and enable growth.

BUSINESS RESILIENCY: “HOW CAN WE ACT FOR COMPETITIVE GAIN?”

In answering a question about competitive gain in the face of risks and threats, conversations naturally shift from loss prevention to revenue protection and development. Resilient organizations actively monitor the world (risks, organizational changes, market changes) for changing threats *and* opportunities.

Utilizing **predictive intelligence** for early warnings and situational awareness, they actively strive to *avoid* the negative impact of disruptive events by acting before people or assets are impacted. They also leverage predictive, real-time and **historic intelligence** to identify and seize new opportunities ahead of competitors. Resilient organizations desire a **common operating platform** across departments and business units for a global perspective on risk and opportunities. Resilient organizations routinely **communicate** with employees, partners and customers, reinforcing their reputation as a trusted resource.

In short, resilient organizations foster a **culture of adapting and thriving** in the face of complex change. Conversations in resilient organizations are **adaptive** – routinely stretching beyond response and recovery to identification of business opportunities those disruptions represent.

THE RESILIENCY EVOLUTION

Building upon the successes of experiences, tools and processes across their extended enterprises, organizations are evolving from being in a REACTIVE to PROACTIVE to ADAPTIVE stance in the face of threats

or disruptions. The progression is one of being *prepared* for disruptions to happen, to being *proactive* in planning for or avoiding the impact of disruptions, to *adapting* business processes so that the organization can gain a competitive edge.

REACTIVE

To adequately respond quickly to a threat or incident, organizations must be prepared. Take the example of one government agency whose tools and processes enabled it to respond quickly upon learning that employees may have been poisoned.

In November 2006, a group of employees visited London on business and returned home from what they believed was an uneventful trip. Not until days later did the world learn that Alexander Litvinenko had been poisoned by Polonium-210. Patrons of several London hotels and restaurants – and many international flights – were potentially exposed to the life-threatening substance.

When the agency’s travel risk management service notified travel and security personnel of the possibility that their employees had been exposed, the agency was immediately able to identify, contact and support the employees at risk.

In the end, all employees received a clean bill of health, and the agency personnel were recognized for their speedy and efficient response.

PROACTIVE

Getting ahead of disruptions requires proactive collaboration. Cross-functional planning, training and monitoring of threats to people and assets across geographies and business units are all key to pulling off a coordinated response – or better yet, a coordinated effort to orchestrate a change that makes a response unnecessary.

The case of one medical supply company illustrates this point clearly.

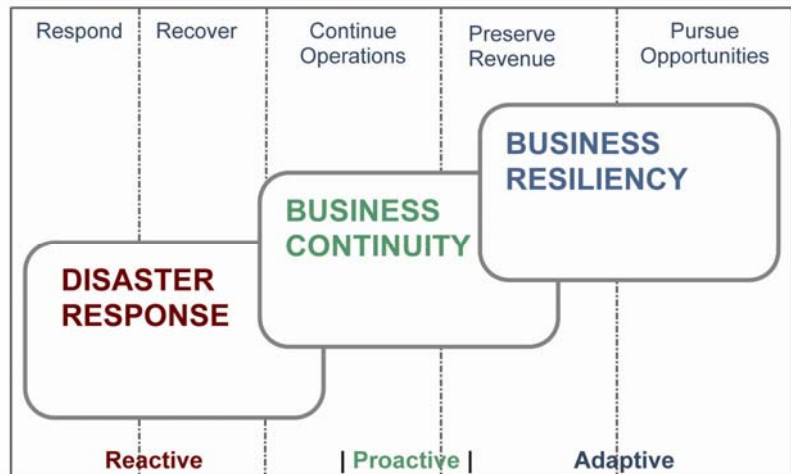
Utilizing an asset risk management service that relates near real-time threats to more than 300 of its global facilities and supply chain assets, the company monitored threats to assets 24x7. When brewing unrest in Israel and Lebanon triggered a series of notifications to the company’s security and logistics professionals in 2006, they acted quickly. They established a temporary office for employees who were close to the center of the unrest, moving them to a new location in anticipation of violence.

When the missiles started to fly, employees were safely out of harm’s way, focused on customers and supply chain partners, thereby ensuring uninterrupted service critical to the delivery of lifesaving products/services.

ADAPTIVE

Extending such best practices beyond protection became an obvious next step for one global oil and gas services company.

When looking for new business opportunities, this energy company revisited the possibility of conducting business in regions that it had previously avoided due to perceived intrinsic risk. After analyzing historical, real-time and predictive intelligence – and engaging intelligence analysts for additional insight – the company concluded that some of the locations in question presented a similar level and scope of risk as those locations where it currently maintained operations. An assessment of its risk management and business continuity best practices further solidified the company’s decision. The company would pursue new business in new markets, leveraging the intelligence services and proven best practices that were helping protect its assets elsewhere in the world.



"We saw a business opportunity," said a senior company official. "We could get a foothold and make substantial margins." Indeed, the business development team uncovered new sources of revenue in untapped markets.

The oil and gas company is not alone in its success at generating additional business in the face of operational risks or disruptions. Examples of resiliency are many and growing. **Wal-Mart** opening 66 percent of its stores in Hurricane Katrina affected region within 48 hours is one such well-documented story⁸. RFID tags, software and staging areas put into place to improve supply chain efficiency were quickly tapped and repurposed to serve the people in the hurricane-wracked region – earning Wal-Mart both additional revenues as well as kudos for its agility and purpose in the face of catastrophe.

Following the earthquake in Northridge, Calif. in 1994, which disrupted 300,000 daily commuters to the Los Angeles airport, Los Angeles County's public rail system (**Metrolink**) and its intra-city bus system (**MTA**) collaborated to respond to the twenty-fold increase in the number of daily riders. Yet instead of simply focusing on the short-term needs of the riders who would be displaced until the freeway was prepared, Metrolink and MTA set their sites on a grander goal – to retain riders beyond the time that the freeway was re-opened. In fact, their collaboration worked. After adding parking lots, expanding schedules, adding connector buses between systems and encouraging bike riders to use their systems, ridership was four times higher than at pre-earthquake levels – four years after the disruption⁹.

Nokia has another well-documented story of resiliency¹⁰. In March 2000, lightning sparked a fire at a semiconductor fabrication plant in Albuquerque, NM. In less than 10 minutes, the fire was out. However, fire, smoke and water damage severely damaged multiple clean rooms of the facility. Philips communicated the incident and a delay to its customers, including Nokia and its primary competitor **Ericsson**, which combined accounted for 40 percent of the affected orders. Nokia's response was proactive and engaged. The company assembled a team to find alternate sources key mobile phone parts. It worked with Philips to reroute production capacity to other facilities and find new ways to boost production for the parts it could not procure elsewhere.

Ericsson responded differently. The company received the same phone call from Philips, but did not widely communicate potential disruption internally. By the time Ericsson realized the magnitude of the problem, it was too late. Philips' facilities were already commandeered by Nokia, and alternate suppliers were already producing for Nokia. Ericsson's delay was costly. One year after the fire, Ericsson exited the mobile phone handset market. In the end, Nokia received the parts it needed and was able to deliver its cell phones to market as planned, tapping the lucrative summer months for increased new sales. Within six months of the fire, Nokia increased its share of the mobile handset market from 27 to 30 percent.

What Wal-Mart, Nokia, Metrolink, MTA and at least one oil and gas services company have learned is that solid disaster response and business continuity practices – coupled with an adaptive approach to business disruptions – can sometimes result in meaningful gain to a company's bottom line.

CONCLUSION

Most companies have a strong foundation upon which to build a resilient organization. One recent study shows that all but a handful of multinationals have emergency response plans and business continuity plans in place¹¹. Fifty-one percent of those with existing plans activated them in the previous year. As companies expand globally, they are starting to tap into these plans and experiences for competitive gain.

Organizations operating in both high-growth emerging markets and lower threat environments alike must mitigate and manage through a broad set of operating risks. Costs to enterprises for failing to systematically manage risks are high and can even translate into higher cost of capital for the business. Such high stakes have elevated corporate disaster recovery, risk management and business continuity initiatives to strategic scrutiny – inside and outside the boardroom, prompting resilient organizations to identify opportunities to adapt best practices across the enterprise for competitive gain.

⁸ "Transform. The Resilient Economy: Integrating Competitiveness and Security," Debra van Opstal, Council on Competitiveness, 2007.

⁹ "The Resilient Enterprise: Overcoming Vulnerability for Competitive Advantage," Yossi Sheffi, MIT Press, April 30, 2007.

¹⁰ See note 9.

¹¹ "2008 Business Resiliency Survey Results: An Insider's Look at the Current State of Risk Management, Continuity and Resiliency in Multinational Organizations," iJET Intelligent Risk Systems, June 2008.



ABOUT iJET

iJET® Intelligent Risk Systems (www.ijet.com) is a leading provider of global intelligence and business resiliency services, helping multinational corporations and government organizations monitor, protect against and respond to global threats. Integrating world-class open source intelligence with patented technology, iJET's award-winning Worldcue® solutions help clients monitor and assess global threats relative to their key people, facilities and supply chain assets; automatically track and communicate with travelers and expatriates; and deploy emergency response services throughout the world at a moment's notice. Providing a unified view of threats to assets, iJET enables clients to mitigate risks, reduce corporate liability and prepare for and respond to crises.

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