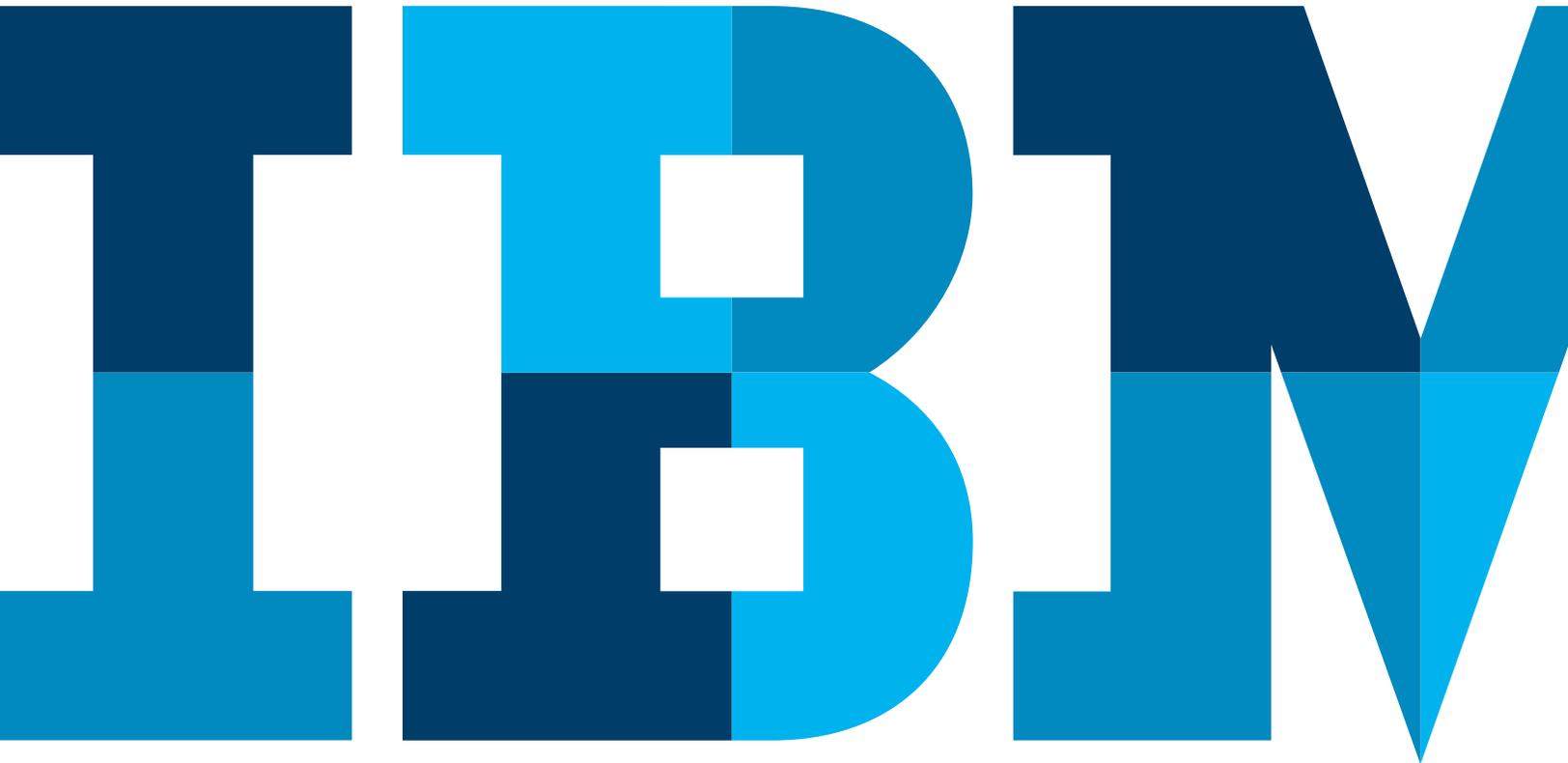


Next-generation governance, risk and compliance (GRC)

Transforming risk management and driving growth with advanced analytics and cognitive processing



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Executive Summary

In today's global marketplace, business leaders must not only deal with well-understood challenges—competition, increasing regulation and sustained volatility—but also the need to maintain profitability and growth in a world defined by rapidly-evolving disruptive technologies. Today, the value proposition of next-generation governance, risk and compliance (GRC)—driving growth through transformative business value, while seamlessly integrating domain-specific technologies such as advanced risk modeling and governance with business intelligence and advanced analytics—offers business the potential for enhanced profitability and competitive advantages over industry peers. The IBM OpenPages GRC Platform is helping business realize these advantages, incorporating regulatory change management, predictive analytics and cognitive processing to meet the emerging risk challenges of today and tomorrow.

Introduction: Emerging challenges and next-generation GRC solutions

Today, in the second decade of the twenty-first century, business decision makers are confronted by global economic and regulatory volatility on a scale that has not been seen in generations. Accelerated by disruptive innovation—especially in new Cloud technologies and social media—contemporary GRC challenges are evolving at an unprecedented rate, with transformative consequences for the global marketplace.

To address these emerging challenges, forward thinking risk specialists are pioneering a range of next-generation GRC solutions. Similar to innovation in the automotive industry, where crash avoidance technology has evolved from the bare-bones driver protections of yesteryear to today's solutions that assist drivers in making decisions and reducing risk (see Figure 1), next-generation GRC is evolving to help business leaders drive growth with decision support from new technologies such as predictive analytics and cognitive processing. These innovations will enable businesses to meet the GRC challenges of tomorrow, which can already be seen emerging at the intersection of two interrelated threat environments:

- **Regulatory environment**, with swiftly evolving regulations as well as increasing compliance penalties at regional, national and international levels.
- **Business environment**, with existing operational risk challenges complemented by new GRC threats, initiated and accelerated by disruptive technological innovation.

For business leaders, the potential costs associated with these emerging GRC challenges are no longer just about impacts to the financial bottom line. Increasingly, these challenges are becoming existential threats to the viability and continuing operation of a business itself.

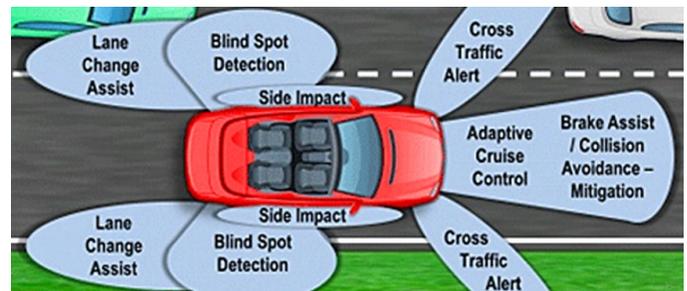


Figure 1: Supporting the driver—Crash avoidance technology has evolved to assist drivers in making better decisions and reducing risk.

Emerging GRC challenges: Regulatory environment

The regulatory environment for business has never been more challenging. This environment is characterized not only by rapidly evolving rules and regulations, but also by increasing monetary fines and a trend towards innovative enforcement penalties for non-compliance. For example, as the OECD and leading market observers have noted, the deterrence effect from fines for regulatory non-compliance pales in comparison to that of flexible regulation—which can range from using media and negative publicity to impact a non-compliant firm's reputation and market capitalization, to using regulatory powers to withdraw a firm's authorization to conduct business.¹

The accelerating rate of regulatory change is becoming an ever-more critical issue facing organizations across many industries. As a longtime GRC professional notes, this emerging GRC challenge is one of regulatory change management in the face of a “tsunami of change”:

Regulatory change is overwhelming organizations across industries. Organizations are past the point of treading water as it actively drowns in regulatory change from turbulent waves of laws, regulations, enforcement actions, administrative decisions, and more around the world. Regulatory compliance and reporting is a moving target as organizations are bombarded with thousands of new regulations and changes to existing regulations each year.²

For business, the challenge of managing regulatory change is complicated, and heightened in significance, by the increasing costs of non-compliance. In the five years following the global economic crisis of 2008, total annual fines levied by the UK Financial Services Authority increased from £26 million to over £474 million. Seen in a global perspective, these increasing costs of regulatory non-compliance are simply staggering. Today, monetary fines for large corporates are routinely calculated in the hundreds of millions and even billions. For example, a report by the London School of Economics assesses total non-compliance fines and damages, imposed on 10 leading global banks by their regulators since 2009, at an incredible £157 billion.³



Figure 2: Escalating costs of GRC gaps in today's financial marketplace.

While fines for regulatory non-compliance and/or misconduct can significantly impact a business' bottom line, this threat is comparatively insignificant when we consider the growing trend among regulators to withdraw, on a temporary or even permanent basis, a firm's ability to conduct a regulated business.

We can see this shift in regulatory practice evident in the observations on compliance enforcement delivered by New York's Superintendent of Financial Services, Benjamin Lawsky, in Washington D.C. in 2014:

We should also, I believe, think more creatively about corporate penalties in a way that will help move the needle when it comes to deterrence. To be clear, corporations will often end up having to pay fines in resolving certain cases. Violations of New York Banking Law, for example, provide for corporations to pay civil monetary penalties when they violate the law. But, in some cases, maybe a fine does not really deter all that much. As one alternative example, however, we could ban a company from conducting the type of business that was at the heart of its misconduct for an extended period. That's what DFS did when one well-known consulting firm white-washed a compliance report.⁴

Here we can see the significance of the emerging GRC challenges facing business: while the rules and standards of regulatory regimes are evolving and increasing at an unprecedented rate, so too are the potential penalties for even inadvertent non-compliance. Given these clear trends in global regulatory practice, it is safe to assume that the next-generation GRC challenges for many organizations will be defined—at the local, national and international levels—by increasingly complex and fast-changing regulations, as well as increasing penalties that not only impact a firm's financial bottom line but also present an existential threat to the continuing business operations of even the largest global institutions.

Emerging GRC challenges: Business environment

In today's business environment, we can see the outlines of emerging GRC challenges that are shaping the development of next-generation GRC solutions. Perhaps the most important of these challenges is that of “disruptive innovation” which—in the form of mobile and agile technologies such as Cloud computing and social media platforms—is emerging as a primary determinant of future business success.

The challenge of disruptive innovation

“Disruptive innovation”—like its antecedent “disruptive technology”—is a term coined by Harvard Business School professor Clayton Christensen. Christensen argues that few technologies are inherently disruptive; rather, it is in the business model or the implementation of a technology—its “disruptive innovation”—that a technology disrupts existing markets and drives economic and social change.

One of the primary disruptive innovations impacting global business today is Cloud computing. The enormous appeal of Cloud computing for business is that it offers outsourcing efficiencies and clear cost savings versus using traditional “On Premises” IT resources. With companies such as IBM providing cost-effective Cloud-based hosting services and business analytics—such as Watson Analytics—it is not surprising that recent surveys show a majority of senior executives around the world are looking to move more and more of their business processes to the Cloud.⁵

From a GRC perspective, however, the rise of Cloud computing also opens a range of new risk challenges. This can be seen today in the business area most impacted by Cloud computing: email. While current trends indicate that consumer email use is declining, email traffic in the business space is estimated to increase significantly in the years to come. By the end of 2017, there will be 1.1 billion business email accounts in use around the world, with over 132 billion business emails sent and received every day.⁶

Recently, GRC challenges from Cloud-based business email have been dominating global headlines. In September 2014 the largest Cloud business email provider—Gmail—had the account details and passwords of five million users leaked on a Russian forum. Weeks later, the large retail chain, Home Depot, revealed that a security breach on its payment platform had compromised the details of 53 million email addresses.⁷ Finally, 2014 ended with the high-profile hack of Sony Entertainment Pictures, resulting in tens of thousands of internal emails and financial documents leaked to the global media—a reputational risk exposure on a truly global scale, involving figures at the highest levels of government, celebrity and corporate politics.⁸

In this context, it is not surprising to see—in a KPMG survey of senior global executives—that data security, and regulatory and legal compliance, are their primary concerns as businesses move to the Cloud.⁹ Consider, for example, the exponential growth of social media. In 2014—during every minute, of every hour, of everyday—2.46 million pieces of content were shared on Facebook, 277,000 tweets were tweeted on Twitter, and 216,000 new photos were posted on Instagram.¹⁰ While this is a big data problem in terms of the sheer volume of social media content being shared, it is also a challenge in terms of the velocity at which this data is being created and its veracity or accuracy. As the accuracy of data is critical to business success, this is increasingly becoming a new GRC challenge.

This new GRC challenge was recently highlighted by the Federal Financial Institutions Examination Council (FFIEC)—including such bodies as the Federal Reserve, the Office of the Comptroller of the Currency, and the Federal Deposit Insurance Corporation (FDIC)—in its social media guidance for financial institutions, requiring that each have a “risk management program that allows it to identify, measure, monitor, and control the risks related to social media.”¹¹ This GRC problem is complicated, as the FFIEC acknowledges, by the “constantly evolving technology” of social media and by the sheer volume of its big data sets.¹² The FFIEC social media guidance also foregrounds another increasingly significant GRC challenge—regulatory change management.

For example, if a bank uses social media in its operations, the FFIEC requires that it must ensure all its social media content is created in accordance with a diverse range of regulations and laws, such as the Truth in Savings Act, the Truth in Lending Act, and Section 5 of the Federal Trade Commission (FTC) Act.¹³ In a world of Cloud computing and social media, businesses need to ensure compliance with an ever-increasing number of rapidly evolving regulations and standards at local, national and international levels. As we have seen, while meeting these evolving regulations may be a costly distraction from the primary business activities of a firm, non-compliance can be ultimately even more costly.

Next-generation GRC: Building on the IBM OpenPages GRC Platform

Next-generation GRC solutions are today taking shape, building on the risk technology of earlier generations, to meet emerging regulatory and risk challenges.¹⁴ These next-generation GRC technologies are being designed to address GRC challenges not only in isolated silos, but also in their metastasizing forms across an organization. These rapidly evolving regulatory and risk challenges can be extraordinarily difficult to address, as one well-known GRC specialist observes:

Each of these vortexes of change is hard to monitor and manage individually, let alone how they impact each other. Change in economic or market risks bear down on the organization as it impacts regulatory oversight and requirements. Internal processes, people, and technology are impacted as well. As internal processes, systems, and employees change, this impacts regulatory compliance and risk posture.¹⁵

Next-generation GRC technologies can meet these challenges through generational progression (see Figure 3)—building upon the mature, successful GRC technologies of previous generations. As the metaphor of evolving crash avoidance (see Figure 1) illustrates, next-generation capabilities are moving beyond the stage of driver/user protection—3rd Generation and Unified Governance in Figure 3—to more actively supporting the user with risk-informed decision making and advanced intelligence to accelerate growth.

Early (1st generation) GRC solutions were designed to address the need for a programmatic approach to risk management, to help firms with internal controls over financial reporting for compliance with legislation such as Sarbanes-Oxley (SOX). Over time, GRC systems matured, with the addition of components to address additional use cases such as operational risk (ORM) and IT governance (ITG). With each successive generation, the volumes of data needing to be addressed by GRC solutions increased in volume and velocity—moving beyond internal and partner data as the onset of Cloud technology and social media platforms heralded the era of big data.

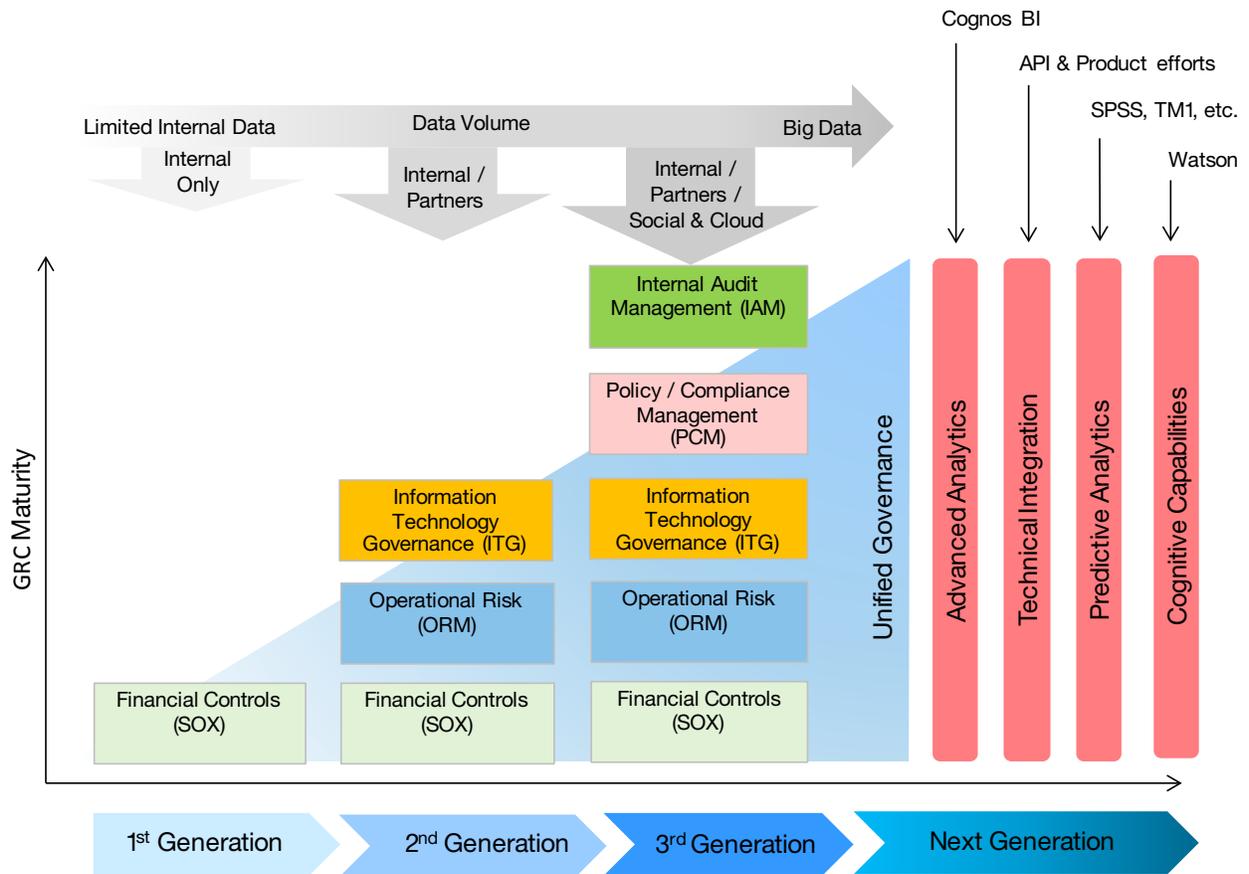


Figure 3: Generational progression of GRC & next-generation IBM solutions.

The value proposition of IBM next-generation GRC solutions lies, in part, in the fact that they are being built upon an industry-leading unified governance platform—the IBM OpenPages GRC Platform—offering clients:

- Milestone GRC technologies and capabilities of previous generations, integrated with an
- API that enables OpenPages GRC to pull in data from virtually any source, and
- Next-generation technologies to meet emerging GRC and business challenges.

The added value of these next-generation IBM GRC technologies is that they not only support business users with industry-leading GRC tools—to avoid costly “crashes” at the intersection of regulatory and business paths—but also offer new capabilities to meet emerging challenges while mapping avenues to growth and profitability. For example, key added value technologies integrated into the next-generation IBM OpenPages GRC Platform include:

- Cognos Business Intelligence
- API technical integration
- Predictive Analytics, including TM1 and SPSS
- Cognitive Computing, featuring IBM Watson

Advanced analytics: The competitive advantage of Cognos Business Intelligence

Business Intelligence (BI)—technology that transforms raw data into actionable information to answer business questions—is a critical element in next-generation GRC. As the GRC challenges facing global business grow in both number and complexity, decision makers require advanced business intelligence analytics with the capability to reduce this complexity and provide usable intelligence and insights to business users. With CFOs playing a much larger role in risk management, working closely with chief risk officers and chief operating officers, businesses are looking to the potential of next-generation GRC to not only help organizations address risk and avoid losses, but also to provide the insights essential to enhance operational efficiency and growth.

The OpenPages GRC Platform leverages the power of IBM Cognos Business Intelligence as an integral component of its next-generation offering, providing decision makers with the added value capabilities of a unified business intelligence workspace and powerful, yet flexible, reporting. This integration of OpenPages and Cognos technologies not only helps reduce complexity and provide usable intelligence but also—with Cognos dashboards, scorecards and even predictive modeling—yields critical business insights that can help decision makers improve the operations and competitive advantage of their entire organization.

Technical integration: API and optimizing data management

For global business in the era of big data, the defining operating principle is: whoever has the most trusted... highest quality... accessible data wins. It is no longer enough for a business to be able to collect data. Given the immense big data volumes—both external and internal—that are commonplace in today’s marketplace, business users demand technology that can aggregate and analyze this data. In this context, a key value proposition of next-generation GRC lies in enabling businesses to successfully integrate and analyze data from both organizational and external sources regardless of format. As decision makers face new GRC challenges already emerging on the horizon, risk-informed decision making necessitates analysis of as much trusted data as possible, with solutions that optimize existing investments in risk, compliance and data management.

The next-generation IBM OpenPages GRC Platform empowers decision makers with seamless integration into their existing systems, together with the capability to make use of internal and external market data from a variety of sources and formats. For businesses, this capability is not only cost-effective, but it also enables an organization to translate its existing compliance into transformative business value.

Predictive analytics: Identifying emerging trends and opportunities with SPSS & Cognos TM1

Next-generation GRC must not only meet today’s operational challenges, but also empower decision makers strategically so that they can better plan to meet the risk and regulatory challenges of tomorrow. This necessitates a significant leap in GRC capabilities, as a next-generation GRC solution must not only integrate predictive capabilities but also the power to model future trends from large data sets.

IBM OpenPages offers these advanced, next-generation capabilities to business today. Leveraging the industry-leading IBM SPSS and IBM Cognos TM1, the OpenPages GRC Platform provides business users with a fully-integrated GRC solution that is unprecedented and comprehensive in its scope and capabilities. SPSS predictive analytics help organizations make more informed business decisions, with capabilities to statistically identify and understand trends, and model patterns in the data. With SPSS enabling decision makers to more confidently understand an organization’s performance and market trends—and Cognos TM1 supporting the development of more reliable budgeting, forecasting and planning models—next-generation OpenPages GRC technology not only help businesses meet today’s risk and compliance challenges, but also empower them to model and overcome the GRC challenges of the future.

Cognitive capabilities: IBM Watson and advanced regulatory change management

Business decision makers face GRC challenges that are rapidly increasing in both number and complexity. For example, even within a single jurisdiction like the U.S., a bank faces increasing costs of compliance from overlapping agencies like the Federal Reserve, the Office of the Comptroller of the Currency, the SEC, the CFTC, the FDIC, the Financial Stability Oversight Council, the Bureau of Consumer Financial Protection, OFAC, and FINRA, just to name a few. To successfully meet these challenges, businesses require a next-generation GRC solution that can not only keep pace with rapid and often overlapping regulatory change, but also have the computing power to reduce this complexity and provide business leaders with the decision support they need.

IBM OpenPages offers organizations a next-generation GRC solution with end-to-end regulatory change management capabilities. Featuring continually updated and accurate regulatory data, this solution gives businesses the confidence that they will not only be able to meet the multiple regulatory challenges of today, but also that they will be in compliance with the emerging regulatory requirements of tomorrow. Of course, given the sheer number of different regulations that can impact global businesses, to be truly effective a next-generation GRC solution must also possess computing power on an unprecedented scale.

Today, IBM is integrating OpenPages risk analytics with the advanced cognitive computing power of IBM Watson—in partnership with Deloitte—as components of a next-generation regulatory risk solution. IBM Watson is a computing system—named after IBM founder Thomas J. Watson—designed with cognitive processing capabilities to rival that of a human being. Well-known for its capacity to answer questions in natural language with speed and accuracy, IBM Watson offers business a breakthrough technology enabling rapid analysis of vast volumes of structured and unstructured data to derive valuable business insights from big data. IBM is leveraging the cognitive computing capabilities of Watson and OpenPages risk technology, together with Deloitte, to give financial institutions the power to assess their existing internal controls coverage—in relation to both current and emerging regulations—with unprecedented speed and accuracy.

Conclusion

Next-generation GRC offers business decision makers the power to meet emerging governance, risk and compliance challenges, while also attaining the transformative business value and insights critical for growth in a highly competitive global marketplace. Building upon the unified and comprehensive IBM OpenPages GRC Platform, IBM is today leading industry innovation in this area by incorporating best-of-breed technologies such as predictive analytics and cognitive processing. Next-generation IBM GRC technology will further enhance the strengths of this platform, empowering business leaders with the confidence and risk-informed decision support critical to regulatory compliance and driving growth in the complex and volatile marketplace of tomorrow.

About IBM Business Analytics

IBM Business Analytics software delivers data-driven insights that help organizations work smarter and outperform their peers. This comprehensive portfolio includes solutions for business intelligence, predictive analytics and decision management, performance management, and risk management.

Business Analytics solutions enable companies to identify and visualize trends and patterns in areas, such as customer analytics, that can have a profound effect on business performance. They can compare scenarios, anticipate potential threats and opportunities, better plan, budget and forecast resources, balance risks against expected returns and work to meet regulatory requirements. By making analytics widely available, organizations can align tactical and strategic decision-making to achieve business goals.

For further information please visit ibm.com/openpages and ibm.com/grc.



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