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The Information Advantage

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Introduction

The pace of change is accelerating.

Technology. Information. Disruption. The world is moving faster than ever before at unprecedented scale.

Businesses today are operating in the next industrial revolution, and the rules have changed. This is Industry 4.0. It is imposing new demands on the organizations of all sizes—and creating new opportunities.
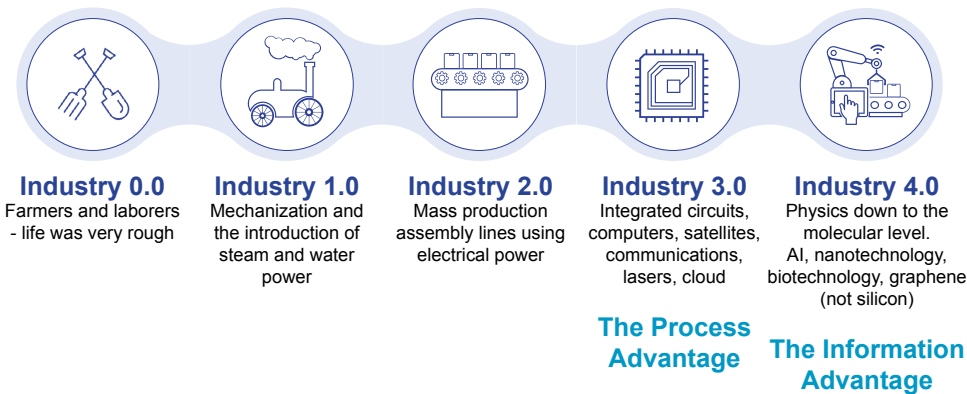

Industry 0.0
Farmers and laborers - life was very rough

Industry 1.0
Mechanization and the introduction of steam and water power

Industry 2.0
Mass production assembly lines using electrical power

Industry 3.0
Integrated circuits, computers, satellites, communications, lasers, cloud

The Process Advantage

Industry 4.0
Physics down to the molecular level. AI, nanotechnology, biotechnology, graphene (not silicon)

The Information Advantage

Figure 1:

The Five Industrial Revolutions

Industry 3.0 generated great wealth with the introduction of technologies like the integrated circuit, computers and satellites. It was the era of the process advantage, where Enterprise Resource Planning (ERP) technology was king.

Industry 4.0 is different. Industry 4.0 is an age of extremes. Extreme connectivity. Extreme volumes of data generated and transmitted in real time. Planetary scale. Nanotechnology, graphene and quantum computing. It is down to the atom.

In Industry 4.0, organizations need a new agenda. Businesses are facing strong headwinds such as information overload, the proliferation of cybersecurity threats, changing customer expectations and global regulatory shifts. Process advantage is not enough. To thrive, we must all unlock the full potential of our information and transform into Information Companies.

The Information Opportunity

The Digital Era is over. We have entered the Information Era.
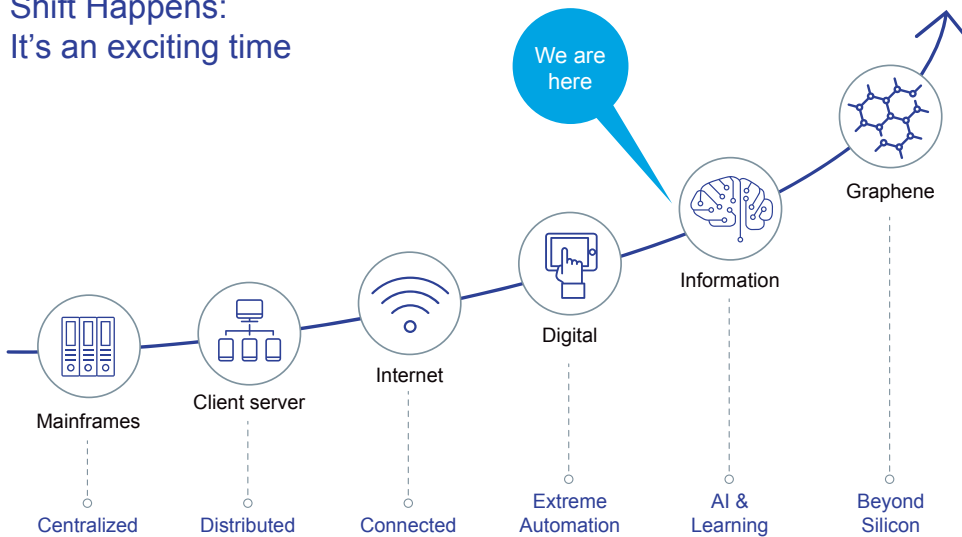
Shift Happens:
It's an exciting time

We are here

Mainframes
Client server
Internet
Digital
Information
Graphene

Centralized
Distributed
Connected
Extreme Automation
AI & Learning
Beyond Silicon

Building on the groundwork of automation, connectivity and computing power that defined digital, the Information Era is characterized by our unprecedented ability to capture, store and make sense of masses of information. By next year, humans will have accumulated around 40 zettabytes (40 trillion gigabytes) of data. To put this into context, this number represents 40 times more bytes of data in our digital universe than there are stars in the observable universe.[1] Ninety percent of that data has been created in just the last two years.[2]

In the Information Era, the growth curve is exponential. We are simultaneously generating more information than we ever have… and substantially less than we ever will again.

Technologies like artificial intelligence (AI), APIs, the Internet of Things (IoT) and cloud are at the heart of this new information paradigm. They create huge amounts of data. Likewise, they are fueled by data. Businesses must find ways to harness this information and embrace the insights it will bring to how we consume, work and live.

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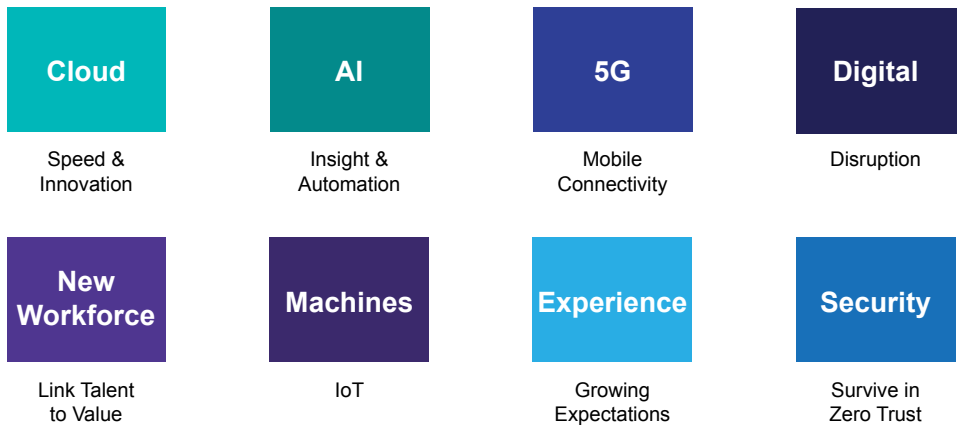**What impact will these transformational technologies have?**

Cloud	**AI**	**5G**	**Digital**
Speed & Innovation	Insight & Automation	Mobile Connectivity	Disruption
New Workforce	**Machines**	**Experience**	**Security**
Link Talent to Value	IoT	Growing Expectations	Survive in Zero Trust

Today, the destination for innovation is indisputably the **cloud**. It is the platform for new technologies and disruptions. Businesses of all sizes rely on a combination of public and private clouds, managed services and off-cloud solutions—but what remains constant is the imperative to modernize technology infrastructure and leverage existing investments. The cloud is fast. The cloud is agile. The cloud reduces cost. The cloud is scalable. But most significantly, the cloud opens the door to growth and potential.

Automation is no longer enough. It is necessary, but it is not sufficient. The next horizon is **artificial intelligence and machine learning technology**. Machine learning is forecasted to receive an influx of capital, growing from $1.58 billion globally in 2017 to $20.83 billion in 2024.[3] AI can achieve information processing feats impossible for humans alone. That is why raw data assets must be—and can be—made completely machine-readable. AI will enrich our data, delivering vital insights to businesses and consumers alike.

5G is going to change the world. Information will be immediate, and we will see an explosion in big data. Every industry, from healthcare to transportation to manufacturing, will be vying to adopt technologies to leverage 5G capabilities. Connections between information, people and machines will be seamless.

From the post-digital vantage point, the fallout from the massive **digital disruption** of the last decade is apparent. Business empires have risen and fallen. Disruptors have replaced slow-to-adapt incumbents at breakneck speed. What information disruptions will shake the world in this new Information Era?

There is a **new workforce.** In the next five years, 61 million Gen Zers will enter the workforce, outnumbering both Baby Boomers and Millennials.[4] Having grown up digital with the sum of humanity's knowledge at its fingertips, this generation moves faster and innovates like no other. Furthermore, up to 800 million jobs will be filled by robots by 2030.[5] The workforce of the future will live and breathe information. Competition for top talent will be fierce. To flourish in this future, businesses must adopt new ways to work.

Connected machines are now ubiquitous. Thermostats—connected. Vehicles—connected. Manufacturing robots—connected. Wearable technology—connected. And so on. The Internet of Things is reshaping every industry and consumer space, which will only be accelerated by 5G connectivity. Each machine will generate hordes of information that can be used to improve everything from businesses to cities to human lives.

Customer experiences were once one-size-fits-all. No longer. With the Internet of Me, customers have come to expect personalized experiences. Data allows recommendations and customer journeys to be tailored to each person's unique interests and taste. Information powers successful customer relationships.

Information is an organization's most valuable resource and wherever it resides, it must be secure. Consider the frequency of large-scale, high-profile information security breaches; **the security environment has become Zero Trust**—with good reason. Firewalls and traditional security measures are outdated. Information must be protected in new ways in a society of Zero Trust.

This technological tsunami presents both the greatest challenges and greatest opportunities of the Information Era. The future of business is inextricable from the future of technology—and by extension, the future of information. Businesses are saturated with information. It is time for the Chief Information Officer to shine, leading the charge to turn information overload into a true Information Advantage.

Information can be an organization's greatest asset, if it can learn how to engage meaningfully with it. This is the secret to success in the next wave of transformation.

In the Information Era, businesses need the Information Advantage.

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What Is the Information Advantage?

The Information Advantage is competitive superiority founded on using information to its full potential. It is the outcome achieved when a business successfully transforms the way it manages and leverages information.

Digital transformation is no longer a stretch goal. Today's businesses are using information as the fuel to create exceptional customer experiences, superior operational effectiveness and differentiated business models. Intelligent information management solutions—particularly systems of engagement and systems of record—are powering the Information Advantage.

Many companies start with **customer-centric digital transformation**, which aims to improve every customer interaction by focusing on individual needs, frustrations and desires. It removes friction from the buying process. It provides more personalization and engages customers on their terms. These efforts yield increased customer acquisition, reduce the cost of support and marketing, and drive increased loyalty, retention and Net Promoter Scores.

Forward-thinking organizations are strategically choosing customer-centric transformation projects that also deliver operational efficiency. Operational benefits are easier to predict and quantify than return on customer experience alone.

This is why **operational excellence** often quickly follows or is concurrent with customer-centricity. It can even be the starting point. Reaching new heights in operational effectiveness relies on improved productivity and efficiency. These initiatives involve automating routine tasks, driving visibility and insight from the supply chain, streamlining collaboration, reducing governance risk or augmenting human processes with machine assistance.

For example, discover how the Human Resources department of a major county transformed its operations:

Los Angeles County, Department of HR

The County of Los Angeles is the most populous county in the U.S., with 35 departments, close to 110,000 employees and more than 1,000 facilities across nearly 4,000 square miles. Each department maintains its own personnel files and records, with most documents stored in file cabinets and spare offices, and house close to 25 million pages of paper. The storage areas are part of limited space available to departments. When storage space runs out, some departments incur off-site storage fees. As such, a uniform application of records retention policies proved challenging.

That was until the County decided to establish a central online repository of countywide personnel records with OpenText™ Documentum. This transformation helped to replace the manual process of maintaining paper files with an automated, central and trusted system of electronic employee personnel records. The County ultimately turned to OpenText to govern all aspects of content management for its integrated Electronic Personnel Digitization and Records Management system (ePR): OpenText™ Captiva™ Capture to digitize paper documents, OpenText™ Documentum™ xCP for business process management and OpenText™ Records Management to automate retention and disposition.

The County of Los Angeles realized substantial return on investment for their ePR deployment, such as producing timely, verified audits and reliable disposition, and an estimated cost-savings of nearly $3.4 million per year.

Unlocking the Information Advantage is a self-perpetuating cycle that delivers incremental value with every rotation. As information is used to improve a business, the amount of information it generates grows. This presents an opportunity to derive exponential value. It is a two-fold feedback system: data begets data, and the more data available, the more valuable it becomes. Through this cycle, organizations drive closer and closer to the Information Advantage.

As new information is rapidly generated, organizations have limitless potential to capture, integrate and apply it—all they need is the right technology.

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Information Management Provides the Information Advantage

Information Management (IM) allows organizations to capture, govern, exchange and enhance information while keeping it secure. IM brings together key technologies to enrich information and processes from end-to-end.

Both unstructured and structured information flow across the extended enterprise. Through IM, businesses can consolidate and integrate information so it can be managed transparently throughout its entire lifecycle. The most complete IM technology portfolios deliver ways to collaborate, automate processes, integrate with open APIs, extract new value from existing data and ensure all information and devices are securely managed—on and off the cloud. IM is a foundation from which raw data can be transformed into valuable information and intelligent action using automation, AI and analytics-based algorithms.

Where Enterprise Resource Planning (ERP) provided a process advantage, IM provides an information advantage. In Industry 4.0, there is unlimited potential to apply new business models and new technologies such as 5G, IoT and machine learning. As every company looks to become an information company, IM uniquely positions customers to ride the wave of innovation.
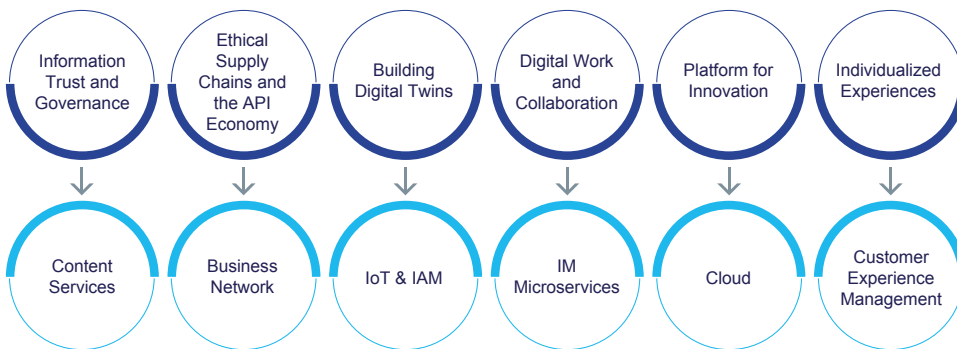

Figure 5:

Reimagine Information Management

Fundamental to an IM portfolio are its robust **platforms** that manage and integrate business information at scale—including Content Services, Business Network, Experience Management, and Security and Discovery. When these platforms are combined with IM **accelerants**—such as cloud, artificial intelligence, automation and analytics—organizations gain access to exponential benefits. When information is harnessed by IM, the whole becomes greater than the sum of its parts.

This is how IM delivers the Information Advantage.

See how IM enabled the Black Sea Trade and Development Bank to achieve the Information Advantage:

Black Sea Trade and Development Bank

The Black Sea Trade and Development Bank (BSTDB) supports economic development and regional cooperation by providing trade and project finance, guarantees and equity participation for development projects in the private and public sectors in its 11 European member countries. BSTDB has a cumulative portfolio which includes more than 280 operations in infrastructure, energy, transport, manufacturing, telecommunications and the Financial sector.

Managing the ever-increasing volume, flow and complexity of information and documentation required to operate Bank operations, BSTDB turned to OpenText to implement the OpenText™ Content Suite platform. The prime objective of the Bank is to have a single view and monitoring capability of operations in a single place, by building an Information Management (IM) system.

The Black Sea Trade and Development Bank has supported and developed solutions from the diverse portfolio of OpenText IM products for more than 15 years to implement state-of-the-art solutions to meet its business needs. Its IM program delivers on its corporate strategic goals of increased productivity by automating processes, reduced decision times, content security and accountability, and simplified business processes. Significant business benefits include improved quality of service, reduced costs, simplified internal and external collaboration, better content accessibility via a diverse range of devices and increased compliance with international standards.

OpenText continuously innovates to ensure our customers are armed with the technology they need to increase the value of their data assets and turn them into a strategic competitive advantage. Ultimately, IM is helping organizations transform their operations, workforces and business relationships for success in the Information Era.

At OpenText, we call the roadmap from raw data to organizational transformation "The Information Advantage Value Path."

The Information Advantage Value Path

Information Advantage means different things to different organizations—and even different departments—because information's form and purpose varies by use-case. Defining a company's ultimate vision for the Information Advantage and what it means to the business is critical to a successful IM strategy. Although gaining the Information Advantage is the goal, there are also rewarding short-term wins to be had along the way.

The **path to information advantage** starts with IM. These technologies integrate, manage and automate enormous amounts of operational and experience information. In so doing, data by-product is created: preference, behavior, relevance, sentiment, click stream, performance and risk are all examples. This data exhaust is not waste. It can be collected, synthesized and analyzed to generate new insights. Using this data to create new offerings or business models is how organizations unlock the true value of their information.
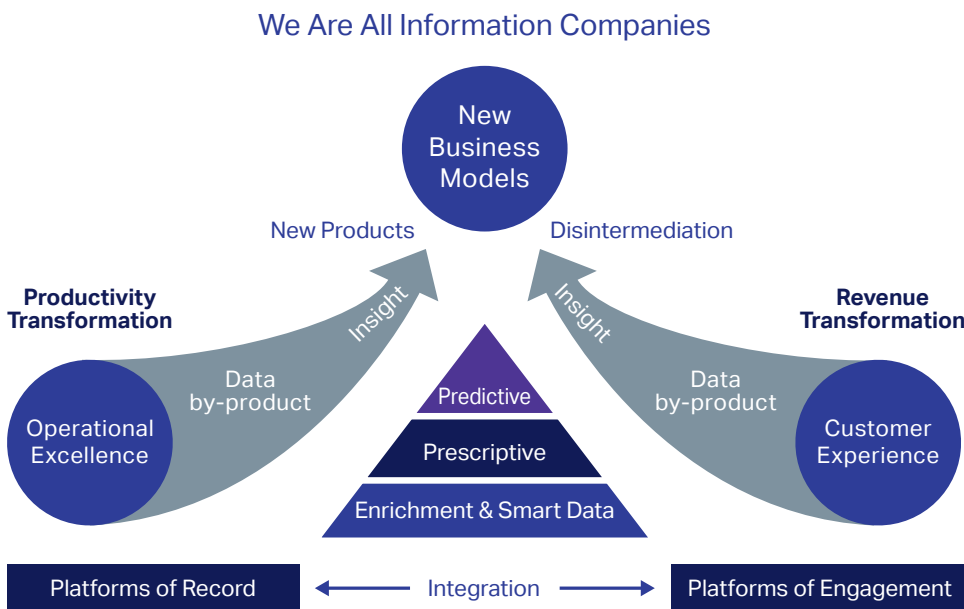

Figure 6:

The Information Advantage Value Path

With the help of accelerants like cloud, AI, analytics and automation, organizations can derive additional value from their information platforms and benefit from a cycle of ongoing improvement.

The first step is to integrate raw data from various sources and make it machine-readable. This dynamic data set can then be synthesized with AI and analytics, and enriched with insight. That information and insight can be intelligently automated so that it is delivered to the parts of the business that need it. Each interaction produces more data, which is fed back into the cycle to produce even more sophisticated insights and continuously enhance customer experience, operational efficiency and security.

How can organizations leverage intelligent automation? First, processes become prescriptive for well-defined scenarios, and eventually, the **automation becomes predictive**. For example, organizations could start by automatically prescribing a repair when a manufactured part fails.

As more data is collected, the system could then predict when the part *will* fail based on factors such as use, external conditions, previous maintenance and past performance. The system would automatically flag the part for maintenance, so the failure never occurs, potentially saving lives or catastrophic environmental impacts. Likewise, behavioral and sentiment models can be built and tested to predict the impact of segmented customer communications or business decisions. Becoming predictive is how companies will reduce risk and optimize their assets.

The same principles can also be applied to security and governance, which must be embedded in all digital transformation efforts from the beginning. All information represents both opportunity and risk. Only when the risk is properly managed, through strong security, discovery and governance, can the full potential of information be safely extracted.

The job of **securing business data** has never been more challenging, and the financial exposure of a breach has never been as great as it is today. Many organizations receive over one million security alerts per day and are required to detect, remediate and recover from a breach as soon as it is identified.[6] Post-breach, company examiners must quickly prioritize, forensically collect, and then assess this evidence—efficiently, repeatably and defensibly. When organizations leverage the data from these security processes, they can intelligently automate and improve the quality of their threat detection, remediation, forensic collection and review. In a society of Zero Trust, this is job one.

Consider the Auto Club Group (ACG), which is on a journey of digital transformation towards its secure "Connected Member Vision":

Auto Club Group
(ACG)

The ACG represents over 9.4 million members and is one of the largest AAA clubs in the national association.

Using OpenText Identity and Access Management, ACG will create a single digital member identity across all business units to reduce complexity, increase security and streamline the digital experience for customers. ACG wants its members to be able to securely access any of its products and services from any digital channel, whenever and wherever they choose. By securely connecting ecosystems of people, systems and things, ACG believes it can enable new service offerings, optimize operations, develop new business models and ultimately take advantage of the connected economy business model.

The platform will be a game changer for the organization operating in today's digital ecosystem where identity awareness and secure access are at the core of managing all interactions, whether human or machine generated.

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Many organizations are already experiencing the benefits of the Information Advantage Value Path: the exponential growth of data and its value, opportunities for new information products and disruptive business models, to name a few. Today, consumer services are being offered predictively through AI and automation based on past behavior and current circumstances.

To prosper, the company must take the journey toward becoming an information-centric business; however, the path is not always easy.

Obstacles to Attaining Information Advantage

While the future for information-driven organizations is bright, many challenges must be conquered for a business to realize the Information Advantage.

Modernizing Information and Infrastructure

Information must be modernized, along with the infrastructure that supports it.

Today's (and tomorrow's) workforce expects fast, uninhibited access to information regardless of where it lives. They demand modern and easy-to-use interfaces. They need new applications, features and insights to serve evolving needs and use-cases— and they won't wait for them.

Our information management strategy needs to be modernized to meet modern problems.
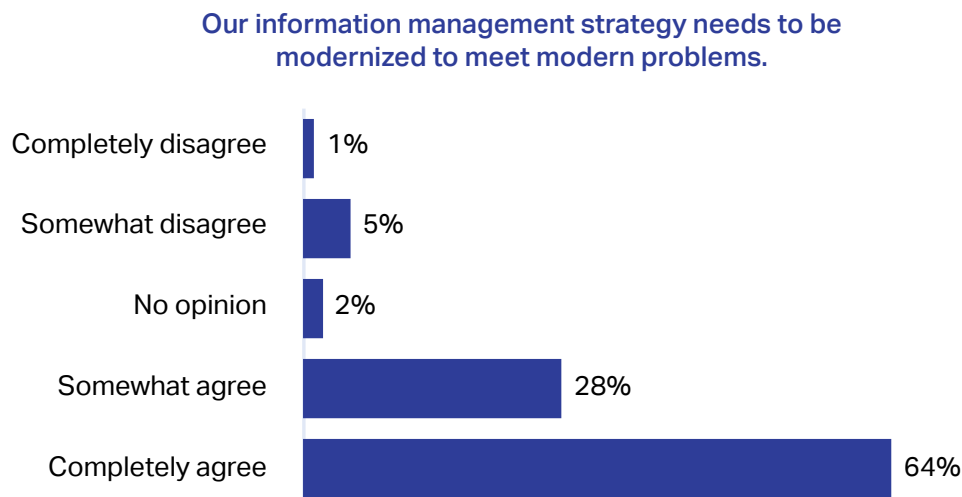
Source: AIMM, 2018, Getting Ahead of the Digital Transformation Curve

Figure 7:

Getting Ahead of the Digital Transformation Curve

To modernize information, data across the organization must be digitized and democratized. This improves access and makes information easier to understand, leading to faster decision-making. For some organizations, this may involve digitally capturing information stored on paper. For others, it means extracting metadata to gain insight, improve collaboration, or simplify governance and security.

When information is digital, it is easier to capture, store, share, analyze and destroy. Modernized information also underpins both the Information Advantage Value Path and the ability to leverage IM accelerants such as automation, analytics and AI.

Meanwhile, businesses must also modernize legacy processes and systems that are inhibiting innovation, while integrating with their existing investments along the way (regardless of where they are hosted). The outcomes speak for themselves. Greater infrastructure agility and security. Reduced cost and risk. A digital platform for future innovation.

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Cloud-based solutions and Platform-as-a-Service (PaaS) microservices are making this transition easier. Organizations must seek strategic technology partners that can look at information holistically across the entire business and support a flexible and integrated journey to the cloud.

Snohomish County Public Utility District

Snohomish County Public Utility District (SNOPUD) is the second largest publicly owned utility in Washington, and is committed to delivering power and water to its customers in a safe, sustainable and reliable manner.

SNOPUD has implemented OpenText Suite for SAP across the utility's business departments. The implementation consists of a fully scalable SAP ECM cloud solution that integrates with its on-premises SAP ERP/EAM supporting real time access to information in the office or in the field, such as Easements, Materials, Equipment, Contracts, Purchase Orders and Requisitions. Currently underway is the implementation of records management and email management capabilities to meet business, compliance and legal requirements for this publicly owned company.

SNOPUD's migration from on-premises to OpenText Cloud Managed Services will provide business value and agility by ensuring the organization is up-to-date on upgrades and patches, along with providing expediency for project implementation and deployment timeframes. In addition, the company can leverage OpenText expertise and enable its staff members to focus their efforts on value-added activities such as deploying new business functionality versus technical environment setup and troubleshooting. Moving to a Cloud Managed Services environment is a key next step in SNOPUD's digital transformation journey.

Managing the Flow of Information End-to-End

The end-to-end integration of information sources within business processes and value-chains may be the single most challenging—and most important—initiative for achieving the Information Advantage. Information flows from people, businesses, processes, applications and endpoints both inside and outside the organization. It is an organization's lifeblood. It encompasses everything from corporate records, to customer and partner data, to endpoint statistics, to intellectual property.

Integration is challenging because most information lives in isolation. It is siloed where it can only be used within the application or process where it was created. It is hard to access, mostly ungoverned and difficult to distribute to the people and processes that would benefit from it the most. Businesses are struggling to manage and extract value from this information as volumes increase and formats diversify.

Through integration, information sources add context to one another and can be delivered to the processes and applications where people work. Integration is the backbone for information automation, reducing reliance on human intervention and the likelihood of human error. Content can be analyzed as soon as it is created. Metadata classifications and governance policies can be automatically applied. Dynamic connections can be generated, allowing content to be extracted and shared across the organization. Intelligent devices can trigger processes such as service requests, inventory orders, customer communications or security remediation. Insights can drive smarter decision-making and enable the business to become predictive.
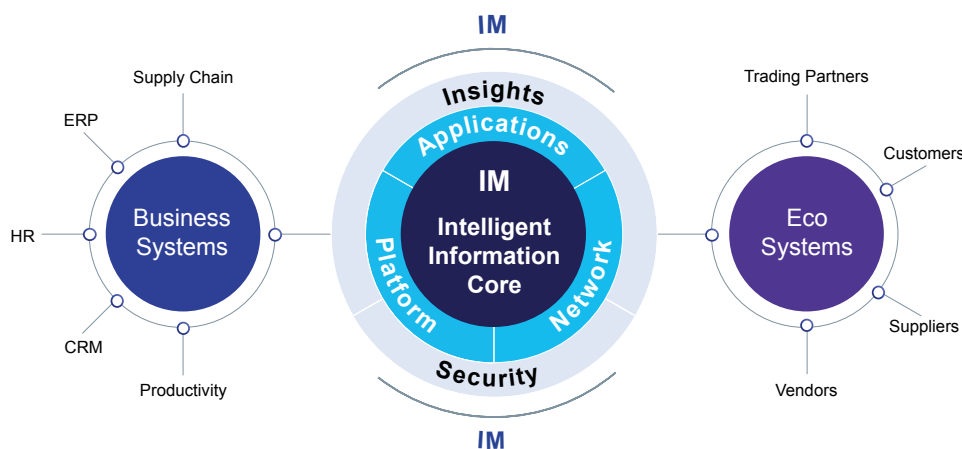

Figure 8:

A Central Hub for Data Integration

IM technologies help to solve this challenge by becoming a single hub for information. They excel at integrating information sources and connecting them to process, whether business to business, business to customer, application to application, or devices and people. Deep integration is essential to the Information Advantage.

Ensuring Success and ROI on Large Scale Initiatives

IM is not a single solution. It is a range of interrelated and complementary systems that, together, handle all information that powers business processes across the extended organization. As a result, the scale and complexity are often perceived as insurmountable.

The secret to success is a long-term vision and strategy. Approach it in small steps, not giant leaps. Identify a roadmap of specific challenges and opportunities within a function or process that will deliver value in the short-term. Then, move on to the next one.

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Content Services	Business Process
Manage, store and share all the content and data within your organization.	Adapt and optimize business processes and workflows across your organization.
Customer Experience	Analytics
Deliver positive omni-channel engagement for every customer interaction along the customer journey.	Gain control and actionable insights from all your organization's data to drive improved decision-making.
Security and Discovery	B2B Integration
Quickly and efficiently secure, search, extract, classify and review content. Find and protect sensitive data.	Deliver effective communication and collaboration with customers, trading partners and your supply chain.

Large IT programs are not easy to implement successfully. In fact, nine out of ten digital transformation programs fail to meet expectations.[7] Why do these projects so often fail to deliver? Three major culprits, each rearing its head at a different point in the project's lifecycle. Firstly, projects can fail to get off the ground during implementation due to complexity and a lack of expert resources. Next, they can fail after launch due to poor adoption. And finally, they can slowly wither and die due to a lack of maintenance and innovation. The good news is these can all be overcome, with the right support.

An organization needs a strategic technology partner that can help develop its long-term IM roadmap, select projects that will deliver short-term value and guide progress toward the ultimate vision. The key is to find a partner with an exceptional track record that supports customers with similar requirements, has deep industry knowledge and offers dedicated experts.

One of the most common mistakes business leaders make is tying all expectations solely to the performance of the new technology. They fail to realize that the people involved have a huge impact in determining the project's success or failure. The value of a new technology is nothing without the new behaviors and practices adopted by employees. In short, businesses need buy-in at all levels. Value builds when people willingly change the way they behave and understand why the software offers better ways to do their work.

Empowering Internal IT

Organizations that implement IM technology can expect accelerated return on investment, peak operational performance, improved agility and enhanced customer experiences. However, with this immense potential comes immense expectations and pressure on the IT department. They are faced with talent gaps, limited resources and shrinking budgets. Their top people are stuck maintaining older systems that are not core to the business, rather than innovating to drive the business forward.

Managed services can help bridge the gap between internal IT capacity and the demand for high-performance, scalable and stable business technologies.

- **Business value:** Managed services can provide access to innovative systems that act as competitive differentiators, enabling the business to release new products, enter new markets and quickly exploit new opportunities.

- **Cost control:** Capital expenditure can be virtually eliminated. Investing in new hardware and software is unnecessary if systems are moved to a cloud implementation. Operating costs become more predictable and internal staffing costs, particularly in IT and systems teams, are either reduced or removed.

- **Workforce optimization:** Internal IT employees will be released from mundane tasks while gaining access to specialized IT expertise and business skills. This will free them to focus on strategy and innovation.

- **Simplicity of management:** Optimized IM systems, fully managed by the software provider, alleviate the complexity of managing and growing the solution as time goes on. Never go through the hassle of upgrading again.

- **Security and compliance:** Managed services providers bring the technology, security and software expertise to minimize risk and meet compliance requirements by customer, industry and country. Security and compliance are areas most managed services providers focus on, often with significant resourcing and expertise.

- **Business flexibility:** The company can choose any combination of public or private cloud, off-cloud, hybrid and Software-as-a-Service. When deployment model priorities change, the managed services team can help manage the transition and continuity of service.

Armed with an awareness of the challenges the business must surmount, the next step is to examine how specific IM platforms and accelerants pave the way to the Information Advantage.

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Technology for Information Advantage: IM Platforms

Agile, centralized and integrated IM platforms are essential to unlocking the Information Advantage and reaching digital transformation.

Four key IM platforms help businesses manage growing data volumes and complexity: Content Services, Business Network, Experience Management, and Security and Discovery. These platforms offer seamless integration with key applications, including Enterprise Resource Planning (ERP), Customer Relationship Management (CRM) and Human Resources (HR). This allows information to flow and create end-to-end business processes that improve operational performance, customer satisfaction and risk management.

Content Services	Business Network	Experience Management	Security & Discovery

Figure 10:

IM Platforms

Content Services

Information is the lifeblood of every organization, and content makes up the majority of this extremely valuable asset. The enterprise cannot operate without content. Content touches all processes across the business, and all processes across the business generate content (and content-related data exhaust). Managing all of this information—capturing, accessing, distributing and governing it—is a critical and ever-expanding undertaking.

Content Services is the evolution and extension of traditional Enterprise Content Management (ECM) platforms. Layered onto existing content management systems, Content Services allows organizations to manage all structured and unstructured data, connecting content to processes to accelerate productivity and improve governance. It enables integration with processes to bridge silos. Users have real-time access to relevant information in lead applications such as SAP, Microsoft and Salesforce. It automatically classifies information and facilitates information flow inside and outside the organization.
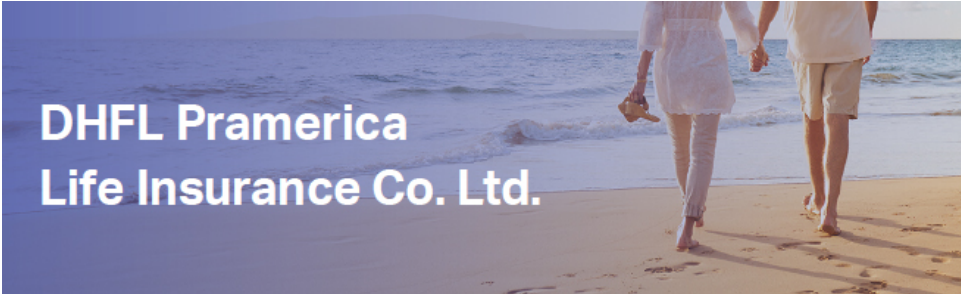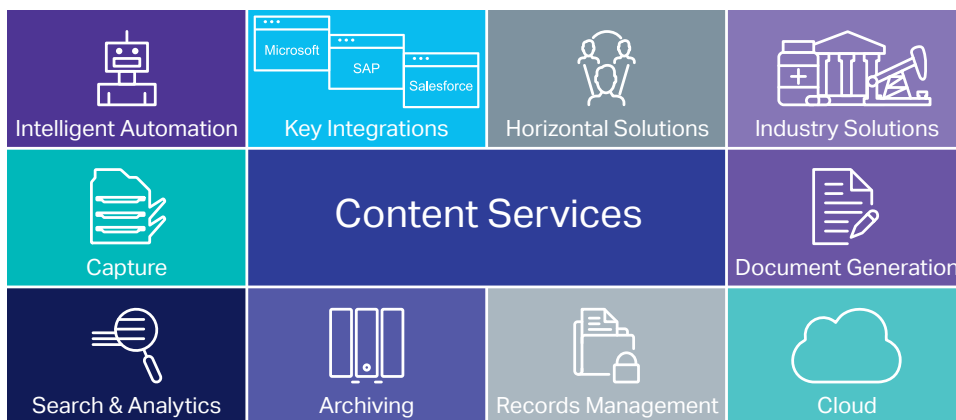
Intelligent Automation	Key Integrations (Microsoft, SAP, Salesforce)	Horizontal Solutions	Industry Solutions
Capture	Content Services		Document Generation
Search & Analytics	Archiving	Records Management	Cloud

Figure 11:

Content Services—Connecting Content to Digital Business

Content Services provides complete lifecycle management of information from capture to use, archiving and disposal. A content platform can capture data from paper documents, electronic files and other sources and transform it into machine-readable digital content at scale. It can extend the reach of this content to environments where it is needed—including in-house team collaboration, remote field locations and external partners. This is all done while complying with industry, regional and global governance requirements. Finally, a strong Content Services platform provides a scalable and flexible foundation for a future based on the cloud, automation, analysis and AI.

DHFL Pramerica Life Insurance Co. Ltd.

DHFL Pramerica Life Insurance Co. Ltd. (DPLI) is one of India's most progressive life insurers, offering a comprehensive suite of products to cater to the varied insurance needs of its customers. It has a focused and segmented approach to distribution and is a leader in certain niche markets, such as the armed forces, micro-financing and housing finance segments.

In a bid to ensure even more people can access the right level of life insurance quickly and easily, DPLI looked to OpenText to complete a large-scale transformation project to digitize its key business processes. This included supporting the creation of insurance policy documents and managing new insurance agents and channel partners. The OpenText deployment at DPLI includes the development of end-to-end workflows to support critical business applications, such as new business processing, receipting and collections and its channel management system. The applications extend across the company's 126 branches in India, its processing centers, contact center and head office. The solution also provides more than 120 integration touchpoints aligned with DPLI's core policy administration system (PAS), providing a seamless data exchange and near real-time information for processing and viewing.

The integrated solution provides productivity gains in the company's day-to-day business processing, while also retaining operational controls, and has decreased processing costs by approximately 25–30%.

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Business Network

Within the organization and beyond, information must be fluid while remaining secure and compliant. The Business Network centralizes any-to-any integration and manages the flow of information across the extended business ecosystem of people, systems and things. It simplifies B2B interactions and application integration while generating insights and driving efficiency.
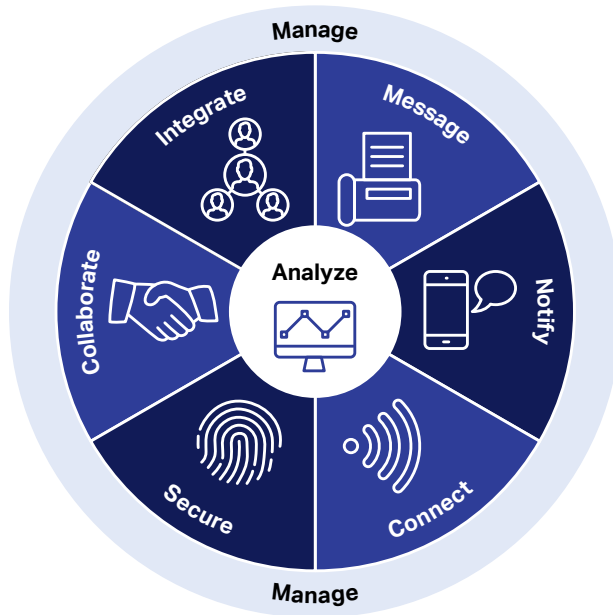
The Business Network is essential for the digitization of supply chains and trading communities. It delivers deep integration with backend systems to streamline trading partner onboarding, as well as Procure-to-Pay (P2P) and Order-to-Cash (O2C) cycles. From digital fax to integrated scheduling, messaging and payments, the Business Network streamlines omni-channel communications, file exchange, cash management, collections and inventory harmonization.

Business networks are the backbone for taking advantage of the IoT, unifying Identity and Access Management (IAM), and integrating information sources across the business. They can leverage IoT data to optimize field asset uptime and operations. They can integrate multiple cloud apps for a seamless employee experience. Further, business networks help create and manage user accounts, roles, and access rights for users, systems and things across the entire digital business ecosystem.
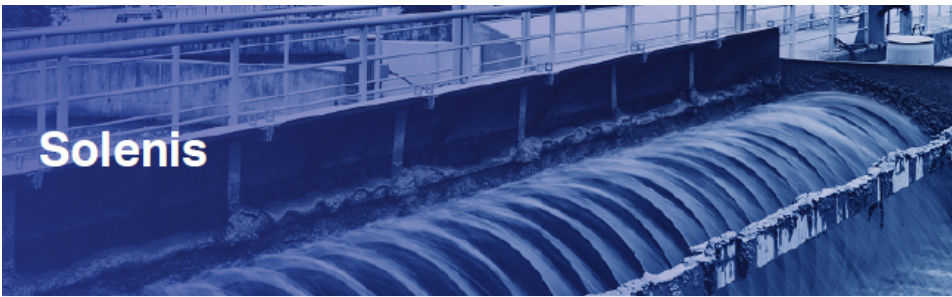
Solenis

Solenis is a leading global supplier of water treatment and process chemicals, and supports customers with application insights and practical expertise. They produce chemicals that go into the manufacturing process for primarily heavy industries. Solenis' global supply chain previously relied on manual processes using legacy systems that made the company's B2B process and supply chain management complicated and cumbersome. They were seeking a solution to help build a digitized conversation where systems can be managed from beginning to end so they could focus their attention on top line growth, innovation and sales.

Solenis turned to OpenText for a solution to simplify and automate their internal processes, such as managing the flow of transactions with their suppliers and customers. OpenText also enabled Solenis to quickly onboard new customers and suppliers to Solenis' new cloud-based platform. By choosing B2B Managed Services, the company leverages OpenText to lead the implementation and help manage the everyday operations of the solution, freeing up Solenis staff to focus on their core business and new opportunities.

Experience Management

One of the most compelling benefits of the Information Advantage is the ability to deliver highly personalized content to create exceptional experiences for customers, employees and partners. Experience platforms deliver better engagement, insight and scalable personalization, which fuel loyalty and translate to revenue.
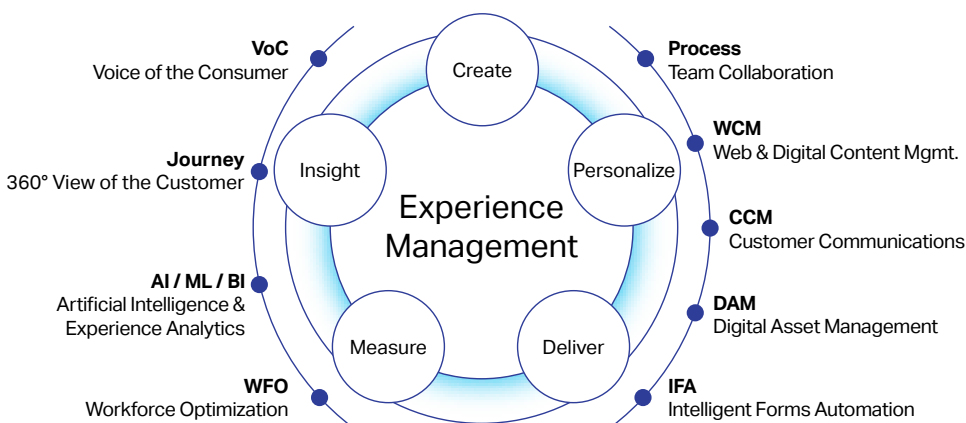
Figure 13:

Experience Management—
Create Exceptional Experiences

VoC
Voice of the Consumer

Journey
360° View of the Customer

AI / ML / BI
Artificial Intelligence &
Experience Analytics

WFO
Workforce Optimization

Create

Insight

Personalize

Experience
Management

Measure

Deliver

Process
Team Collaboration

WCM
Web & Digital Content Mgmt.

CCM
Customer Communications

DAM
Digital Asset Management

IFA
Intelligent Forms Automation

Companies can take the burden off communications managers to deliver individualized omni-channel experiences by augmenting the capabilities of systems of record with IM accelerants like automation, analytics and AI. A good experience platform should centralize the ability to create, personalize, manage, deliver, measure and analyze customer touchpoints—leading to streamlined processes, less friction, unique experiences and happy customers.

Security and Discovery

With cybercrime evolving rapidly, data security is no longer an optional component to IM. A strong Security and Discovery platform is now critical to protect these incredibly valuable and vulnerable assets. Without the capabilities to detect, defend against, investigate and remediate security threats, organizations are left wide open to breaches, fines and litigation.

While Security and Discovery platforms are distinct, they both aim to protect business information—proactively and reactively. Security is focused on upfront defense, threat response, remediation and forensic collection, while Discovery handles internal investigations and post-incident legal hold, review, analysis and redaction.

Take endpoints as an example. Endpoints are involved in virtually every digital attack. Organizations can minimize risk by allowing security teams to remotely quarantine compromised endpoints and remediate the threat as soon as an incident is identified. Organizations also need to be able to discreetly and defensibly preserve and collect all potentially-responsive data deemed relevant to an incident as soon as it is uncovered. All this can be accomplished with the right platform.

The best information security solutions provide deep visibility into data security and investigate risk across all endpoints as it emerges. Triage is faster with greater automation and contextualization of security events. Decision-making power, data loss prevention and remediation can be made even more effective as machine learning capabilities are introduced.
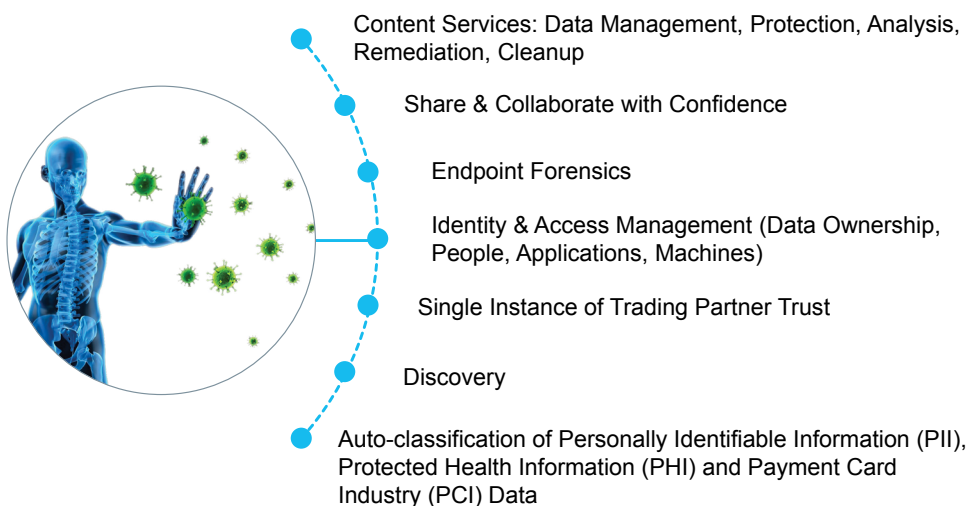

Content Services: Data Management, Protection, Analysis, Remediation, Cleanup

Share & Collaborate with Confidence

Endpoint Forensics

Identity & Access Management (Data Ownership, People, Applications, Machines)

Single Instance of Trading Partner Trust

Discovery

Auto-classification of Personally Identifiable Information (PII), Protected Health Information (PHI) and Payment Card Industry (PCI) Data

Figure 14:

Security—The Immune System for Business

A robust security platform will secure sensitive information, find evidence faster, reduce risk and respond to cyberthreats with powerful digital forensics and discovery capabilities. It should also be able to manage the entire eDiscovery lifecycle end-to-end, from legal hold and collection to review, analysis and production—while integrating with other IM platforms, automation and AI capabilities.

IM platforms have impressive capabilities on their own, but their capabilities multiply when combined with the power of IM accelerants.

Technology for Information Advantage: IM Accelerants

IM platforms are the foundation for managing information but when innovative horizontal technologies are added to the mix, these platforms can be built upon to truly fast-track business transformation. The major IM accelerants are: automation, cloud, AI and analytics. Other accelerants include technologies like mobile, 5G connectivity and the IoT.

Combined with IM platforms, IM accelerants process and enrich data to create enormous derivative value. They capture and synthesize data exhaust at incredible scale. IM accelerants generate insight that can inform decision-making, automate processes and deliver information where it is needed, augmenting human capacity and empowering creativity and innovation.

IM accelerants have a cumulative effect. They are often used together in the cloud and combined with one or more IM platforms for maximum impact. Cloud provides vast resources for other accelerants to operate at scale and deliver on rapid innovation. Cloud is the connective tissue for information to flow easily across systems.

Mobile communications extend an organization's reach and add hundreds of billions of endpoints that generate and consume information. AI synthesizes this massive amount of information, producing insight and predictions, fueling deeper automation.

Figure 15:

Creating Derivative Value from Data Exhaust
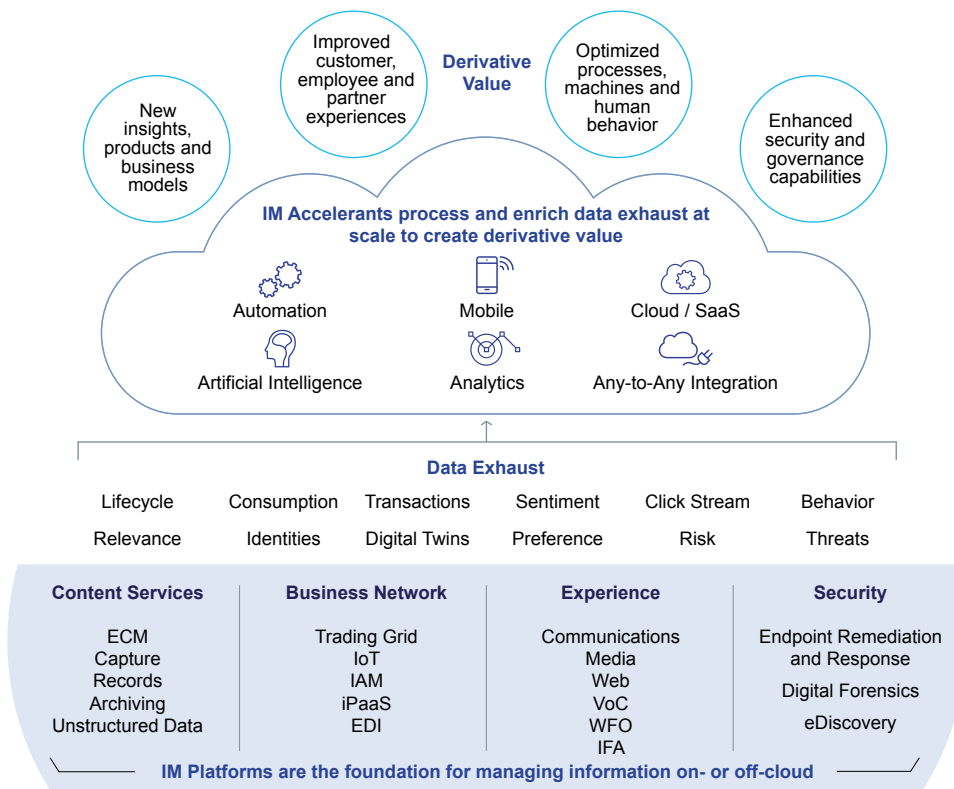
This ongoing cycle is impossible without IM accelerants to lift organizations toward the Information Advantage. This is where information yields new products and business models. Value chains are simplified. Security and governance are intelligently automated. Customer experiences are made exceptional.

Automation

Process automation is a cornerstone of operational effectiveness. In the past, businesses turned to Business Process Management software to automate complex processes in the quest to cut costs. Today's emphasis on customer experience is forcing organizations to look at automation from a different perspective: how can automation be used to drive superior customer experiences, improve data quality and free up employees' time so they can be innovative?

According to Forrester Research, software selection often requires evaluating the trade-off between power and simplicity; the emerging market for digitally transformative process software is no exception.[8] Digital Process Automation (DPA) is an arena of technology that lives between the highly robust and complex Business Process Management (BPM) market and basic workflow tools.
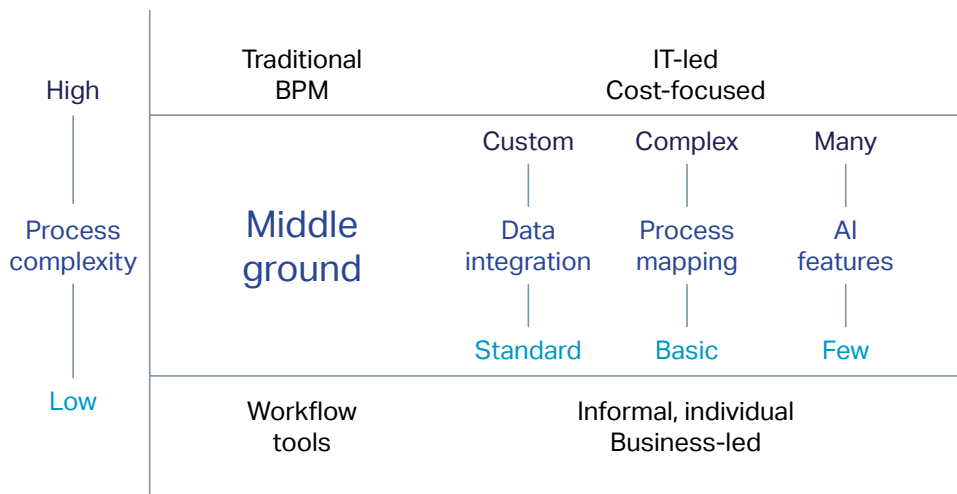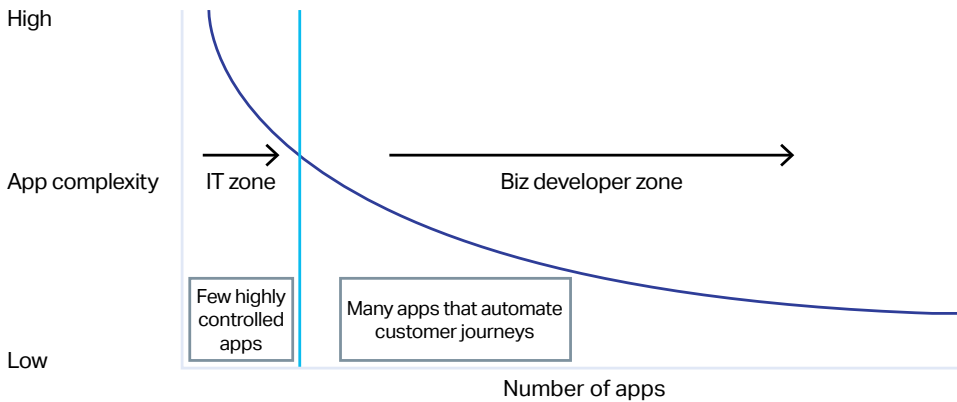

Figure 16:

DPA Platforms Occupy the Middle Ground of Process Automation

Source: Forrester, May 2018, Refocus Process Automation To Rescue Your Digital Transformation

Automating processes to improve customer, partner and employee experiences requires strategic direction and involvement from lines of business that manage these relationships. They are closest to where the processes occur, and so are best equipped to automate them. Low-code DPA platforms are enabling business analysts to quickly prototype, model and iterate applications to ensure required information is incorporated, presented intuitively and that processes flow efficiently. The result is that customers can do more online, and employees and partners are empowered to deliver differentiating customer service.

Source: Forrester, May 2018, Refocus Process Automation To Rescue Your Digital Transformation

IT and developers are stretched thin and often have a large backlog of projects. Having the business analysts develop a prototype speeds delivery. It works best when the business designs, prototypes and models (they know what the screens need to look like and where the process gaps are) while IT is freed up to focus on more challenging development like security, governance and integration.

Low-code DPA platforms include drag-and-drop interfaces to quickly build prototypes or minimum viable applications, delivering faster value to users. Existing applications can be extended, and IM platform microservices can be used to iterate and expand apps in the cloud to meet growing business needs.

Consider a campaign marketing manager, who could leverage a DPA platform to optimize their digital media supply chain across content writers, creatives, developers and executive reviewers. This complex supply chain can be simplified by tapping into a broad set of content production, management, integration and workflow services. Additionally, it can be automated to distribute content to the right people, channels and devices.

Payment and reimbursement are common scenarios that impact both employees and customers. For example: Before deploying tightly integrated DPA, ERP and content platforms, Bangkok Airways manually processed cash compensation to passengers for irregularities or inconveniences. After implementing a low-code development platform and Content Services, they were able to address complex process automation and case management challenges, and deeply integrate process and documents with transactions in SAP. The result increased efficiency, which allowed employees to concentrate on improving the customer experience—by getting customers their compensation faster, along with other ways to delight and differentiate.

The number of organizations adopting DPA platforms with low-code capabilities is growing rapidly because of how the technology empowers businesses to improve both operational efficiency and customer experience—at a scale that would not otherwise be possible.

Cloud

The migration to cloud is no longer compelled by cost savings and business agility alone. Cloud accelerates business transformations.[9] With its near limitless resources and ability to connect the entire business ecosystem, cloud has become the destination for innovation. It is where brilliant ideas turn into successful solutions or new business models, faster than ever before.

For example, by securely connecting devices, patients and hospital networks, a medical device manufacturer can now sell patient services such as heart-monitoring-as-a-service, in addition to its core business of selling devices to hospitals.[10] Subscribers and medical professionals can access the same information in real time.

Cloud simplifies the interactions between applications, businesses, people and things. Through microservices and APIs, authorized systems and applications can consume any API-enabled capability as it is needed. Technology partners can easily integrate with the unique capabilities of a customer's software, and vice versa. An independent software vendor (ISV) could build a custom solution for a mutual customer that pulls in Content Services from one platform, Identity Services from another and Security from yet another. Being able to simply call these services from the cloud helps businesses quickly develop new and customized use-cases rather than rebuilding the foundations from scratch. A modern developer platform allows customers to create hybrid cloud applications in days, or even minutes—with a focus on innovation, rapid prototyping and the end-user.

To optimize performance, meet regulatory requirements and transition workloads to the cloud responsibly, organizations need flexible options for public, private or hybrid cloud deployments. Both off and on-cloud applications must work together seamlessly within a common framework.

There is no question that cloud has introduced new complexities in technology investment. Lines of business have been empowered to buy their own solutions while developers build their own in-house applications. IT departments are also under pressure to simplify and standardize.

Cloud services offer many opportunities to extend processes and workflows to employees, customers and partners. To get the most out of cloud, organizations should seek vendors who can deliver hybrid IM microservices, compelling applications for business users and a modern developer platform with low and high code options to accelerate time-to-market.

AI and Analytics

Businesses constantly generate information. Artificial intelligence and analytics uncover the hidden value of that information. Advanced analytics enables organizations to generate insights on current business processes, and even predict outcomes based on historical information. AI acts as a force multiplier for these insights by incorporating machine learning capabilities.

Artificial intelligence can further augment Content Services with capabilities such as natural language processing, sentiment analysis and complex concept classification. Using these abilities, it can intelligently automate redactions throughout content for privacy, legal or security use-cases. The same capabilities can also be used to better understand the voice of the customer by identifying patterns in social media and the press.

Group of Seven (G7) Summit

During the 2018 Group of Seven (G7) Summit, its host, Canada, wanted to keep a real-time pulse on the public opinion on each of the five global hot topics: economic growth, gender equality, climate change, peace and security, and training for the jobs of the future. However, traditional means of analyzing public opinion (such as polls, call campaigns or letters) were either too delayed, ineffective or labor intensive. Canada needed a technology solution that could process and analyze news, social media and all digital communications to representatives as they occurred.

Canada turned to OpenText™ for its AI-powered analytics platform that combines open source machine learning with advanced analytics, enterprise-grade Business Intelligence, and the ability to acquire, merge, manage, and analyze big data and big content in a wide range of formats. Digesting thousands of articles, tweets of news and social media commentary every week, the My G7 site, powered by OpenText, enabled visual monitoring, comparisons and discovery of interesting facts around global opinions of the 2018 G7 Summit's topics. It showed what the public was saying in near real time—by topics and keywords, countries, dates and tone of the coverage (positive, negative or neutral). It was even sophisticated enough to interpret sarcasm, emojis and other nuances.

The site provided G7 representatives with accurate and up-to-date knowledge about the feelings and desires of the people they represented. This point-in-time use-case for this technology represents a major leap forward in how elected officials can leverage technology to better understand the will of the people they represent.

The use-cases do not stop there. OpenText knows making sense of unstructured content is a challenge for many organizations. Whether it is spotting clues in insurance claims that could indicate fraud, searching for patterns in contracts that could help a company negotiate more consistent and profitable deals, or taking the temperature of consumer sentiment about product changes, organizations now have the opportunity to use content analytics solutions that are more precise and scalable.

Connected to an Experience platform, AI and analytics can provide intelligent communications and product recommendations directly to customers based on the structured and unstructured data related to them. This can help attract and retain customers, increase engagement and drive profitability. For example, a utility company can predict power outages in a given area based on current weather data and historical outage data. Personalized, automated communications can then be delivered to at-risk customers, letting them know about possible or confirmed outages, and setting expectations on when power will be restored.

This level of engagement builds trust (both in the company and in the underlying technology). It also presents an opportunity to solicit customer feedback, which can be managed and triaged by AI chatbots. This engaged base would be ripe for personalized offers. The utility company could deliver targeted communications for alternative energy products and power-backup solutions to customers who experience frequent outages, driving both profitability and customer satisfaction.

When AI and analytics are integrated with IoT on a Business Network platform, they can optimize inventory management and asset performance as well as deliver predictive maintenance. They can process big data and big content made up of IM systems, intelligent endpoints and external data to improve decision-making related to unplanned downtime, safety, and asset and operational efficiency.

To gain the Information Advantage, organizations must seek technology vendors that offer horizontal accelerants with deep integration into critical IM platforms. This is the path to an information transformation that expands the boundaries of what is possible.

We Are All Information Companies

Commodity capital is being replaced by a new wave of capital: information capital. And unlike commodities, the worth of information is exponential. Commodities deteriorate with use; information becomes invaluable and even generates additional information. More information means more possibilities, more connections and a greater advantage.
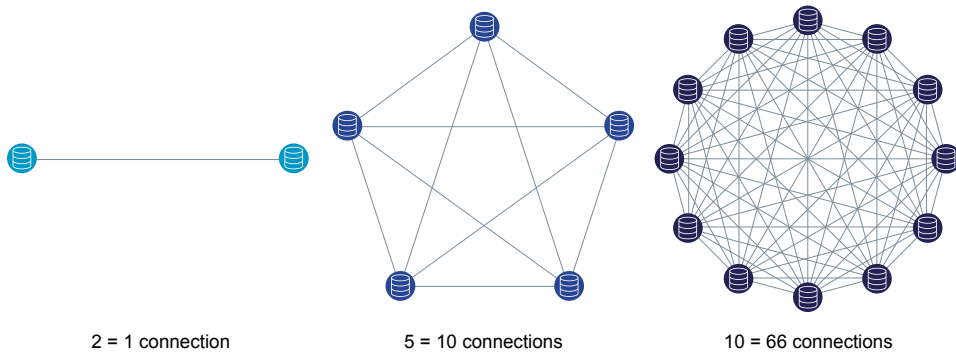

2 = 1 connection   5 = 10 connections   10 = 66 connections

Figure 18:

Metcalfe's Law[11]—The Exponential Power of Data Abundance

That is why we are all Information Companies. It is the future of business and only those who make the transformation will survive. The alternative is to become obsolete.

Every business must use its data to disrupt—disrupt its own relationship with information, disrupt its business models, disrupt its competitors, disrupt its industry. Information disruption requires an information-first business model and culture.

What does this look like?

The future of the automobile industry perfectly illustrates the disruptive power of the Information Advantage. This entrenched and often slow-moving industry is on the brink of massive change. To stay relevant, top automakers must transcend their mindset about everything from production processes, to fuel sources, to who (or what) drives the vehicle, to the very essence of what an automobile company is.
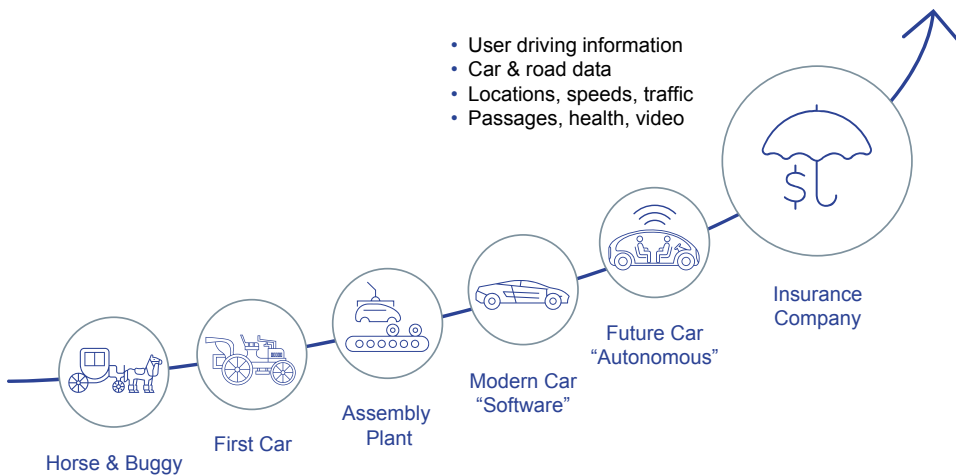

- User driving information
- Car & road data
- Locations, speeds, traffic
- Passages, health, video

Insurance Company

Future Car "Autonomous"

Modern Car "Software"

Assembly Plant

First Car

Horse & Buggy

Figure 19:

Information Disruption—Automotive

An automotive company's top competitors are no longer other automotive companies. The true competition? Software companies like Apple, for the design of the user experience within the vehicle. Anti-car companies like Uber, for making vehicle ownership irrelevant. And insurance companies, for the wealth of information they collect.

Automotive companies will become insurance companies. Leveraging the Internet of Things and 5G connectivity, among other technologies, they will have access to data on how many people are in the car, the speed at which the driver takes a corner, how fast the driver accelerates, the vehicle's location, current traffic, whether music or videos are played and how often, whether the GPS is on, and so on…

Building a great car is only the beginning. The next steps are capturing and analyzing the host of data available, becoming predictive, and using that Information Advantage to transform into an Information Company.

Every industry must think like this. A payroll company is not a payroll company—it is an income distribution analytics company. A wearable technology company is not a software and hardware company—it is a national health trends analysis and prediction firm. Amazon is not a retailer—it is a data-driven logistics, AI and cloud company that knows what consumers want before they do.

A bank is not simply a financial services provider, but financial experience cultivator:

The Royal Bank of Canada (RBC) is a Canadian multinational financial services company and the largest bank in Canada by market capitalization. The bank serves over 16 million clients and has 80,000 employees worldwide.

RBC leverages OpenText™ TeamSite™ and OpenText™ LiveSite™ to accelerate change to optimize internal processes within its organization. By implementing digital innovation, such as personalization, and standardizing its high-performance architecture as a foundation to the platform, RBC has exceeded targets around employee satisfaction, increased productivity and improved time to market to implement the next generation of digital tools.

Similarly, RBC's investments in digital transformation streamline the processes within the bank. Its work enables collaboration that reduces silos and improves time to market by leveraging AI to predict information users will want and customizing their online experiences for each individual user across the enterprise.

The rules of every major industry have been rewritten. With that comes new ways to work.

The Information Company must support the next generation workforce, apply new technologies, leverage information, attract new skillsets and engage with new roles: the Digital Nomad, the Data Officer, the Data Scientist and the Developer.

The Digital Nomad—championed by Millennials and Gen Z—is remote, mobile and must be able to collaborate effectively within and outside of the organization. Enabling the Digital Nomads requires platforms that make it easy to find, share and update content securely regardless of location, device or application.

The Data Officer's chief focus is the security, privacy and compliance of information. With IM, information is centralized in a secure and intelligent hub so the Data Officer can enforce compliance policies, manage identities and access, and protect against threats.

To use information to its fullest potential, organizations—and **the Data Scientist**—need unparalleled access to business insights. AI augments the work of the Data Scientist by helping make sense of rich data lakes through visualizations, machine learning algorithms and predictive suggestions.

The Developer is central to the API economy and the development of applications that are secure from day one. To enhance an organization's ability to respond to market shifts and customer needs, The Developer needs a platform for process automation, case management and low-code application development.

This confluence of forces—the workforce of the future, information capital, Industry 4.0 technologies—has changed the nature of competition.

Figure 20:

Information Drives Disruptive Models

Information is driving new and exciting opportunities to change the way we conduct business, run governments and go about our personal lives. Led by technologies like IM, cloud, 5G, AI and the IoT, the capacity for organizations to generate, collect and enrich information is extraordinary.

This new world requires a new mindset. Data is not a by-product of doing business. Data is *the* product, *the* service and *the* method of doing business. Each company needs information-driven processes, people, technologies and business models—an end-to-end transformation.

Think big, start small, scale fast, disrupt. We are all Information Companies.

Technology for the Good

Amid information disruption, the responsible business sees an opportunity in technology for the good. Thanks to the disruptive power of the Information Advantage, businesses can become Information Companies—and use their information to improve our world.
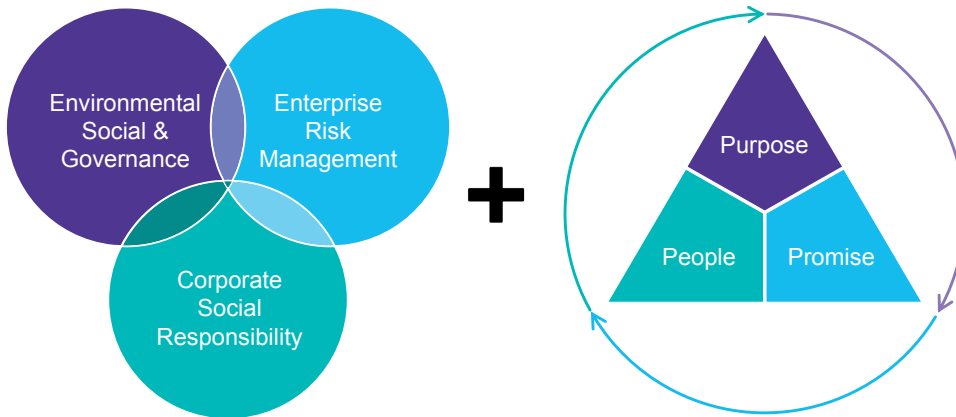
We all have a larger role to play. We know that information can disrupt business models. Why not use information to disrupt the critical issues the world is facing today? **It is time to use technology for the good**. There has never been a more important time for purpose and impact in the world.

The responsible business encompasses three approaches: 1) Environmental, Social and Governance, 2) Enterprise Risk Management, and 3) Corporate Social Responsibility. To face the challenges ahead, these three approaches must align. Combined with the Information Advantage, they have the power to solve the world's biggest problems, including world hunger, poverty, disease, inequality and climate change. The Information Advantage empowers organizations to do good in unprecedented and extraordinary ways.

The United Nations Global Compact (UNGC) 17 Sustainable Development Goals target these problems and more with an all-in approach.[12] It is not about reducing poverty—it is about zero poverty. Zero hunger. Good health. Quality education. Gender equality. It is about creating the world we aspire to live in. There is work to do, and the responsible business can take the lead.

It is an amazing time to be a citizen of the world. Advances in digital technology are having a profound effect on our lives, changing the way we live and work in dramatic ways. Technology is being used to fight crime.[13] It is bringing digital agriculture to the world, combatting fraud, and improving lifestyles.[14] It is helping to eliminate poverty.[15]

Effective solutions depend on having the most accurate and up-to-date information, expertly collected and analyzed to identify trends, and leveraged with the predictive power of AI and machine learning. Information can be used to eradicate disease. Biotechnology and gene therapy are helping to fight disease and slow the aging process to help us live longer, healthier and happier lives.

Technology can help facilitate life-saving treatments, as is the case with Philips Radiation Oncology:

Philips Radiation Oncology

Philips Radiation Oncology is a leading healthcare technology company focused on improving people's health and enabling better outcomes across the health continuum from healthy living and prevention, to diagnosis, cancer treatment and home care. Philips Radiation Oncology provides end-to-end solutions combining diagnostic equipment with imaging and treatment planning software to hospitals and clinics across the globe for cancer treatment.

The Philips Radiation Oncology team chose OpenText™ Exceed™ TurboX to provide remote access to their therapy planning application stack, enabling doctors and clinicians to view, prescribe and plan treatments remotely over hospital networks as it is critical to provide their clinicians access where they do their work throughout the healthcare enterprise and community, which improves the quality and timing of care.

Exceed TurboX meets Philips' strict requirements for pixel-perfect 2D display and responsive sessions, ensuring accurate analysis and fast turnaround for doctors and clinicians who interact with Philips software remotely from their workspaces. This combined solution helps hospitals improve the treatment planning of cancers through seamless integration of tasks and better communication throughout the treatment preparation process. With Exceed TurboX, Philips Radiation Oncology is also able to increase the security and privacy of patient data, by enabling strong encryption, integrated authentication and idle session logout for remote interactive sessions.

There is an urgency to many challenges. Technology can help us enjoy a better quality of life—but it is all in vain if our planet is uninhabitable. Global warming has made the world 1 degree Celsius (or 1.8 F) warmer since pre-industrial times, and this increase is having a major economic impact.[16] Climate change and wars are escalating the refugee crisis. Global food loss and waste (1.3 billion tons worth) costs almost $1 trillion per year and generates 8% of global greenhouse gas emissions.[17] Flood damages for the world's 136 largest coastal cities could cost $1 trillion annually over the next 20 to 30 years.[18] Sustainable environmental solutions are urgently needed.

Top companies are taking note. Nestlé is committed to protecting and distributing water resources.[19] Coca-Cola is moving away from plastics and using alternatives that support the circular economy.[20] Companies are using IM technology to build the next generation of ethical supply chains.

OpenText knows how to bring software to the battle. IM solutions equip organizations to use **technology for the good**—to create the world's best businesses, design and market life-changing products, fuel top talent, empower people, and improve health, safety and quality of life. IM can help companies to build, maintain and cultivate a diverse and inclusive culture and workforce that fuels strategies for growth and innovation, and maximizes the potential of employees, customers and brands. It can help also companies track and trace their processes from the source of raw goods through to delivery to the consumer, creating ethical supply chains. Companies can take pride in supporting suppliers and customers who make a difference, enabling them to engage and improve their communities, develop smart cities, and impact the planet in positive ways through sustainable energy.

Information plays an essential role in the fight for good. We can solve the world's problems through technology.

ZOLL Medical Corporation

ZOLL Medical Corporation is a leader in medical devices and software solutions that help advance emergency care and save lives, with products for defibrillation and monitoring, circulation and CPR feedback, data management, fluid resuscitation, therapeutic temperature management, and ventilation. In 2006, ZOLL acquired LifeVest—the world's first wearable defibrillator (WCD) worn by patients at risk for sudden cardiac death. To fit a new patient with a LifeVest WCD requires a prescription from a healthcare provider, as well as documentation to support the diagnosis and medical need for LifeVest. On a daily basis, ZOLL receives hundreds of faxed orders along with supporting documentation for the LifeVest WCD. For patients at risk for sudden cardiac death, receiving a LifeVest WCD as quickly as possible is vital.

To manage the growing volume of these critical LifeVest faxes, ZOLL deployed the OpenText RightFax with RightFax Connect enterprise fax solution. In addition, ZOLL also utilizes OpenText Capture Center and Content Suite, allowing them to triage inbound information and store it securely for easy access in the future.

OpenText RightFax Connect provides secure information exchange, which is critical for ZOLL. It lets them know exactly what's coming in and exactly when and how it's received, which enables ZOLL to be confident in their HIPAA (Health Insurance Portability and Accountability Act) compliance.

To get patients' insurance approved and get them fit for LifeVest in a timely manner, it is critical for the company to have the ability to transmit information quickly and disseminate it into the right hands within their organization. Having a tool like OpenText RightFax with RightFax Connect helps give the company the ability to meet that commitment to patients.

It is time to act. The idea of technology for the good must transcend people, organizations, companies and borders to improve businesses and the world. This is a new way of working and a new way of thinking.

We live in an explosion of information and within that data lies unlimited potential. Let's tap into that potential with our creativity—our most powerful innate tool. With IM, we can transform data into insights and create novel solutions in ways we are only beginning to imagine. We can use the masses of information at our disposal to benefit our greatest enterprise: humanity.

The responsible business sees the world's problems as opportunities. It is time to put decades of research, discoveries and advancements toward the greater good, and use the Information Advantage to make the world a better place.

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