

A hand on the left side of the frame points towards a digital interface. The interface features a glowing blue and white network of nodes and lines, with binary code (0s and 1s) visible in the lower right. The background is a dark blue gradient with a fine, grainy texture.

Intelligent Automation

Enabling digital transformation through accelerated
adoption of automation

CGI

Experience the commitment®

Contents

Intelligent automation overview	3
Business drivers	4
Intelligent automation strategy	5
Intelligent automation in practice	6
CGI's intelligent automation offering	8
Why CGI?	10



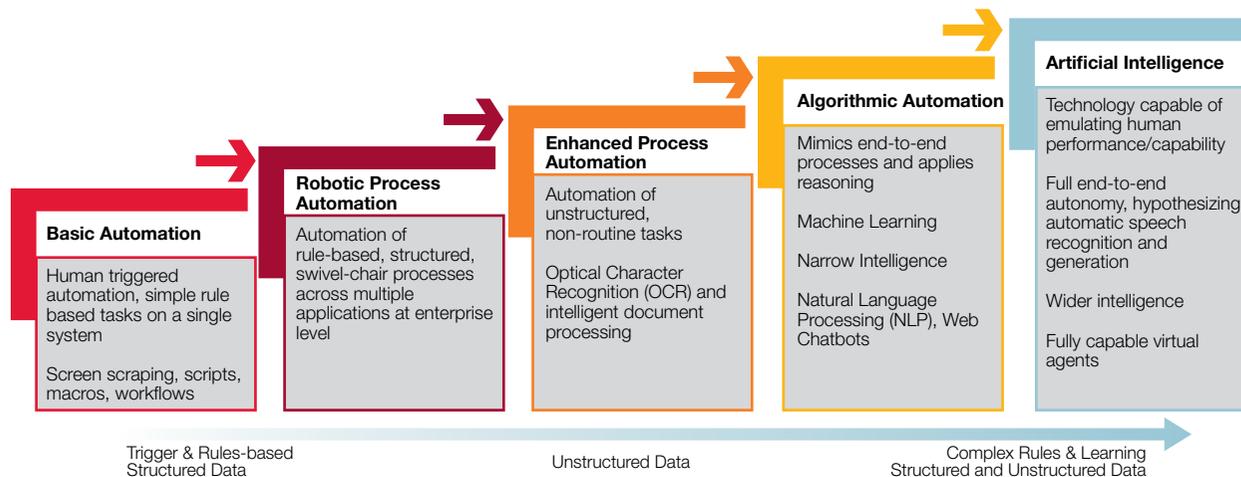
Intelligent automation overview

A key enabler of digital transformation

The CGI Global 1000 outlook* reveals that our clients are accelerating digital transformation to more efficiently manage their organizations and create new business models for a hyper-connected world. Many are seeking to advance these goals by introducing new generations of automation throughout the value chain.

Basic automation of simple human task sequences has been applied for some time. More recently, using robotic process automation (RPA) for repetitive, high-volume manual processes involving multiple applications has gained traction, enhancing employee productivity and lowering cost. The logical next step combines RPA with advanced technologies like OCR to enhance process automation for more complex tasks. Beyond this begins the realm of cognitive algorithms to mimic basic reasoning, and artificial intelligence (AI), which in the most sophisticated automation environments is beginning to allow virtual agents to emulate human reasoning and empathy.

With the virtually unlimited computing power of the cloud, exponential growth in data and digitalization of business and life in general, intelligent automation will profoundly change relationships between humans and machines—enabling entirely new business models and ways of working.



90%

cost savings can be achieved when a software robot replaces a human to perform a business process.

Source: Kinetic Consulting Services, 2016

45%

of work activities could be automated using technology.

Source: McKinsey Quarterly, November 2015

* The CGI Global 1000 outlook brings together the findings, insights and CGI's point of view on the strategic topics that emerged through face-to-face interviews conducted by CGI consultants with more than 1,000 business and IT leaders across 10 industries and 20 countries between January and April 2016.

Business drivers

Addressing key priorities with automation

As validated in the CGI Global 1000 outlook, government and commercial organizations are seeking ways to transform the entire digital value chain—from the front-end customer experience to back-end operations. Automation can contribute to digital transformation at all stages of what CGI calls “run, change and grow”: running legacy operations, driving change that supports new digital services and enhances the customer experience, and growing the business.

Key drivers of automation for our clients include:

- ▶ **Customers:** using contextual information to gain insights into customer behaviors and preferences
- ▶ **Cybersecurity:** digesting and understanding massive flows of network data and making automated judgements to identify cyber threats
- ▶ **Modernization:** automating systems and processes to support digital transformation
- ▶ **Efficiency:** reducing costs due to budget pressures and profitability goals
- ▶ **Speed/agility:** meeting rising customer demands for speed of service and new capabilities
- ▶ **Quality:** increasing standardization to ensure consistent compliance across the enterprise

Our clients' top automation priorities

- ▶ Meet digital customer expectations
- ▶ Drive efficiency in legacy operations
- ▶ Enable new digital business models
- ▶ Respond rapidly to changing requirements
- ▶ Improve service quality
- ▶ Speed time to market
- ▶ Optimize workforce productivity
- ▶ Do better with less (reduced talent pool)



Intelligent automation approach

CGI's Intelligent Automation framework and toolset help clients automate processes and workflows using best-fit technology to reduce costs, simplify management, increase productivity and launch new digital services faster and with higher quality. Key focus areas include:

Strategy: There already is a gap between the potential of intelligent systems and how they are used. To stay relevant, and gain an edge, leaders need to take steps to adopt intelligent systems at an accelerated pace. CGI assists clients with developing strategies, roadmaps and business cases through workshops and other facilitated activities.

Assessment: We also help assess the “automatability” and potential benefits of candidate business processes and functions. This includes evaluating core processes to determine whether people performance could be improved if they had intelligent advisors or tools.

Design/experimentation: We conduct pilots and proofs of value to advance the state of the art.

Implementation: Using proven frameworks for planning, roll-out and implementation, we apply practical, best-fit automation technologies—from robotic, to autonomic, cognitive and emerging AI—based on client needs.

Change management: Our change management approach recognizes that people will adopt what they can easily use and brings them value.

Optimization: We use a continuous improvement model to tune and optimize solutions.

How we work together

CGI collaborates with you to create an automation solution that works for your organization and regulatory environment. We also provide an environment for bringing insight and practical experience to promote meaningful dialogue between the business, operations and IT.

Finally, we can assist in making critical connections across industries, technologies and partners to link our business consultants to IT professionals and deliver greater value to customers, citizens, suppliers and employees.



Retail and consumer services

- ▶ Inventory management supported by Kiva robots and an automated warehouse significantly improves packing and shipping efficiency.
- ▶ With increased use of self-checkout technology, employees are assigned to tasks that cannot be automated.
- ▶ Online inventory and product information are updated automatically.
- ▶ Web and email orders are imported into back-end systems without human intervention.



Financial services

- ▶ Insurance claims and loan application processing are managed using automation solutions.
- ▶ Software robots are handling new account verification and data validation in banks.
- ▶ Chat bots are providing 24/7 advice.
- ▶ Automation is helping fraud analysis and investigations to spot and alert crime patterns.
- ▶ Securities and investments benefit from highly automated, algorithmic high-speed trading and using robo-advisors in client advice.



Manufacturing and consumer packaged goods

- ▶ Humanoid robots perform repetitive tasks and expand the automation airline assembly processes.
- ▶ Automation connects a consumer goods company's ERP and transport management systems to reduce transport and staff costs.
- ▶ Manufacturing firms generate bills of material automatically, saving time and effort.
- ▶ Cognitive technology is streamlining and improving supply chain management.



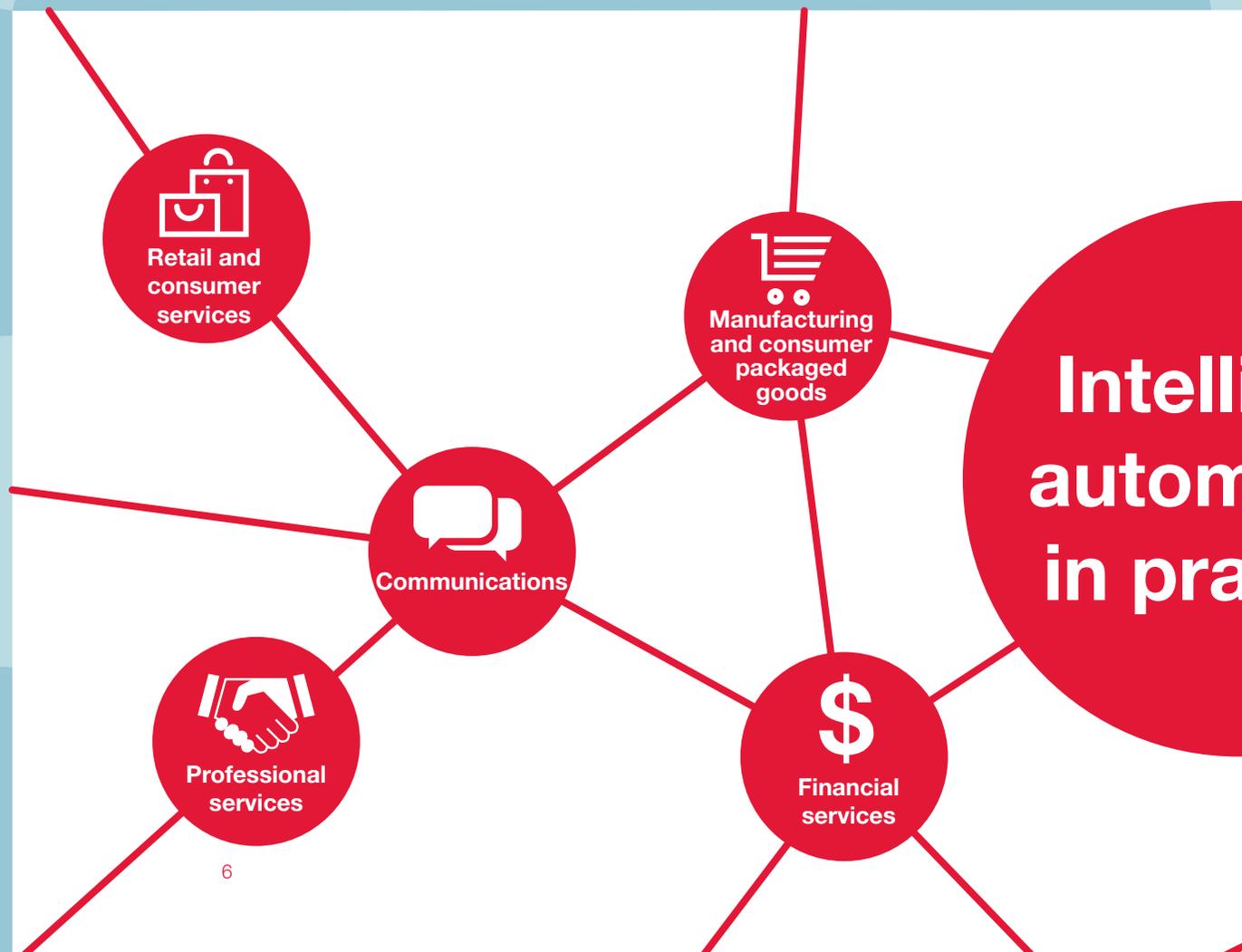
Communications

- ▶ Automated orchestration in infrastructure management platforms are automatically correlating and diagnosing incidents.



Professional services

- ▶ For new hires with common FAQs, automation is used to cascade workload and free up management time.
- ▶ As the life of a client contract progresses, relevant changes in the regulatory landscape are brought to the contract manager's attention automatically.





Government

- ▶ Processes being automated include verification, population of forms and assignment of sub-contractors to jobs.
- ▶ Software robots are managing the integration of legacy systems with new systems.
- ▶ Community clouds are automating incident identification and resolution.
- ▶ Big data, contextual data and machine learning are making it easier to prevent crime and injury.



Energy and utilities

- ▶ Utilities are using automated resource management to schedule work and increase completion rates for planned work.
- ▶ Meter reading validation automation alleviates human effort required for this task.
- ▶ Algorithms are predicting air conditioning required to cool servers to reduce energy costs in data centers.

Intelligent Automation Practice



Healthcare

- ▶ Disparate systems are being integrated using robotic orchestration and algorithm-based decision making.
- ▶ Image-recognition algorithms are helping to detect and rectify diseases.
- ▶ Waiting room and ward chat bots are freeing up clinical staff to focus on more valuable tasks.
- ▶ Question-answering technologies are supporting clinician's decisions, informed by the entire body of medical literature.



Transport

- ▶ Toll collection increasingly is being automated, improving efficiency and reducing cost.
- ▶ Smart transportation systems rely heavily on the automation of ticketing, parking management and audience information systems that save time and money.

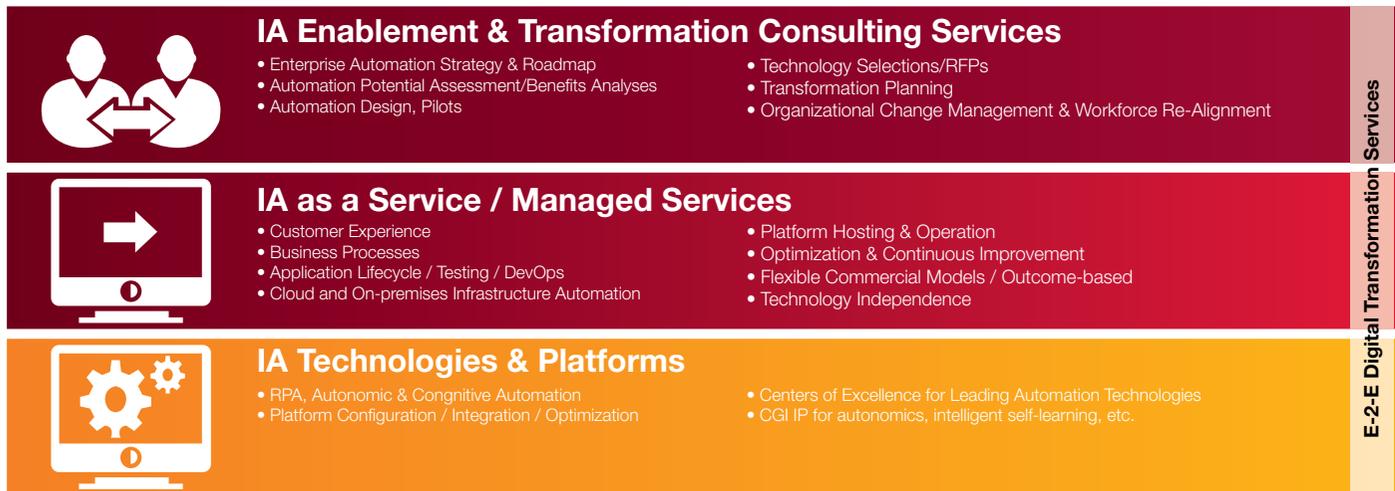
CGI's intelligent automation services

Automating throughout the digital value chain

CGI provides clients with the right automation technologies for their business needs, making sure they can maximize them in the future by pursuing opportunities for continuous improvement. We use leading third-party tools for robotic, autonomic and cognitive process automation, machine learning and more.

We also offer platforms such as our CGI Unify360 autonomic suite for intelligent event correlation, diagnostics and process orchestration, including self-healing systems. Our autonomics suite also is used to automate and optimize integrated infrastructure and applications operations, and, our HotScan intelligent self-learning module makes our watch list screening solution a learning filter.

CGI Intelligent Automation Service Framework



Cases in point: Autonomics in practice at CGI

- ▶ CGI uses IPsoft's IPcenter autonomics to deliver services within our U.S. operations. IPcenter has reduced labor costs by 30%, reduced mean-time-to-repair by over 50% and drastically reduced observed outages by responding to incidents at machine speed.
- ▶ For institutions needing to mitigate money laundering and terrorist payment threats, CGI's HotScan Intelligent Self Learning module makes our watch list filtering solution a learning filter to reduce false positives by up to 50%.
- ▶ For a global client, CGI's autonomics suite automatically correlates and diagnoses 35,000+ monthly monitoring events, reducing event load by 95% and invoking 50+ self-healing virtual engineers, freeing up human engineers to focus on value-creating activities.

Delivery model



CGI's end-to-end automation services can take you through assessing your readiness, building a business case, designing automations, managing business change and running the solution.

This includes helping you manage automation projects on your premises, to fully managed services, such as automation as a service, using the commercial pay-as-you-go-model.

Our approach balances customer experience at the front-end with the need for compliance and security at the back-end across an organization, to deliver innovative services anytime, anywhere, anyhow. We apply automation technology – from RPA to autonomic to cognitive, including emerging artificial intelligence – to drive value from the digital customer experience to the front, middle and back office, and across the application lifecycle, enterprise data management and infrastructure management.

Our services include:

- ▶ Digital customer experience
- ▶ Business processes
- ▶ Enterprise data management
- ▶ Application management
- ▶ Hybrid infrastructure management



Why CGI?

- ▶ A holistic, technology-neutral approach to automation that goes beyond point solutions to maximize overall benefits for clients
- ▶ Past experience helping leading organizations to improve flexibility and reduce costs by automating their end-to-end processes
- ▶ 40 years of experience in automating business processes, working across commercial and government industries, including development of CGI's own automation intellectual property
- ▶ Strategic partnerships with leading automation technology providers and related centers of excellence
- ▶ Integrated network of delivery centers throughout the world—blending onshore, nearshore and offshore delivery capabilities
- ▶ Expertise across legacy and digital environments, along with deep process knowledge of client domains and structures, that uniquely enable us to design and implement effective automation programs
- ▶ Commitment to long-term client relationships, with ongoing feedback through our Client Relationship Management Framework and our in-depth, in-person Voice of Our Clients program



A hand is shown pointing at a digital interface. The interface features several gears, a smartphone icon, and a document icon. The background is a dark blue gradient with a network of orange nodes and lines in the upper left corner.

Driving your digital transformation

CGI helps clients achieve superior value through end-to-end digital transformation. Our expertise across legacy and digital environments uniquely enables us to support clients at every point in their digital transformation journeys.

We have the methodology and capabilities to assist clients in defining their digital strategies and roadmaps, as well as the breadth and depth of experience to deliver their transformations through key enablers.

CGI's enterprise digital transformation capabilities and industry expertise help clients embark on their transformations and succeed in becoming customer-centric digital organizations.

Learn more about our digital transformation capabilities and industry expertise by visiting:

cgi.com/digital-transformation or by contacting us at info@cgi.com.

Visit cgi.com/automation or contact us at info@cgi.com to explore how CGI's intelligent automation framework can help you transform your organization.

About CGI

Founded in 1976, CGI is one of the largest end-to-end IT and business process services providers in the world, helping clients become digital organizations through high-end consulting, enabling IP solutions and transformational outsourcing. With a deep commitment to providing innovative services and solutions, CGI has an industry-leading track record of delivering 95% of projects on time and within budget, aligning our teams with clients' digital transformation strategies to help them better run, change and grow their businesses.

The CGI logo is displayed in a bold, white, sans-serif font. The background of the slide features a close-up of a hand with fingers slightly curled, set against a dark red background. A network of glowing orange nodes connected by thin lines is visible in the lower right quadrant, extending from the hand's reflection area.

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