

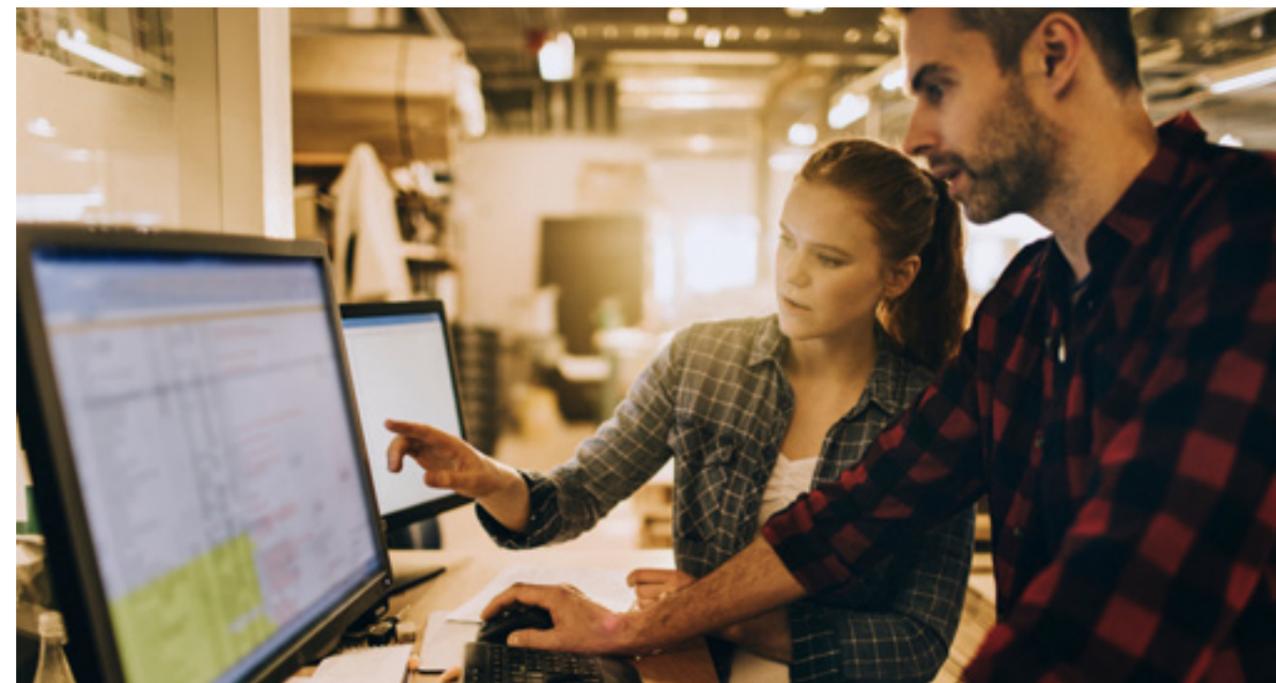
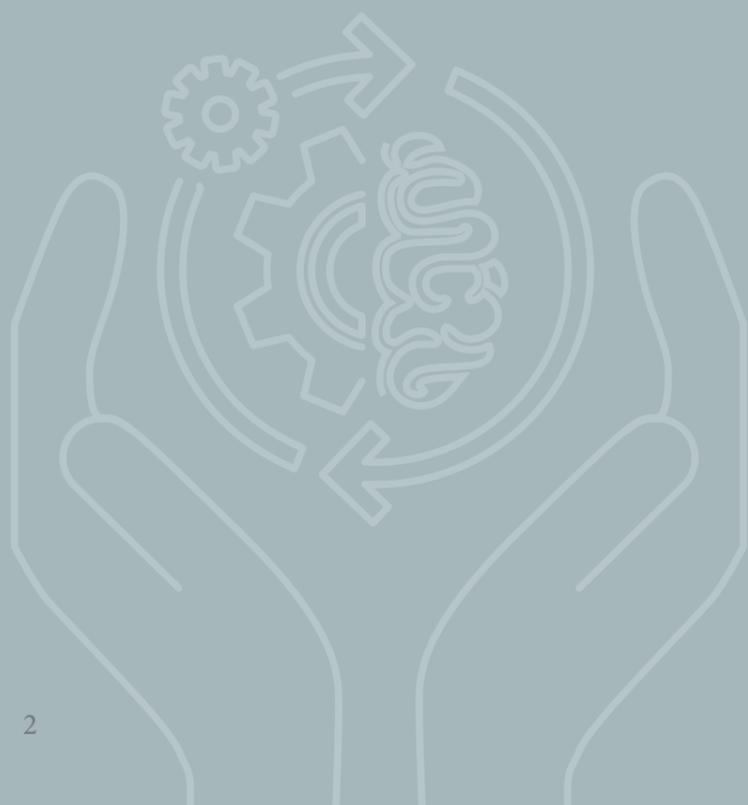
Focus on Automation within the next generation Application Development and Maintenance proposition



next generation
**Application Development
and Maintenance**

Business owners increasingly expect a greater business contribution from their IT departments, nearly always for the same budget or less. The same expectation then cascades to Service Providers. To address this, Capgemini's next generation Application Development and Maintenance proposition is built around fulfilling client goals & objectives, as follows:

1. Increased effectiveness in IT Service Delivery combined with delivering pervasive and permanent cost reduction
2. Deliver superior Service Integration and Experience
3. Enhance the effectiveness of Business Processes
4. Future Proof the IT Landscape



Automation

One facet of delivering on Capgemini's next generation Application Development and Maintenance proposition is the ongoing application of Automation in client engagements whereby certain business processes and tasks can be carried out more efficiently using a combination of in-house and external tools that span the various focus areas of Automation and extract value in-line with the sphere of influence. big data implementations with Cloudera Enterprise as the underlying data and analytics management platform.

Automation Focus Areas in Application Development and Maintenance Client Engagements:

Automation Drive represents our approach to harness existing and new technologies such as, Artificial Intelligence, Robotics, Autonomic Computing, DevOps to deliver impact

across multiple dimensions, besides merely eliminating labor in repetitive functional and technical tasks. The impact from Automation Drive approach is outlined below:

As a part of our next generation ADM proposition we use our Speed To Value framework to structure a relevant value proposition collaboratively with clients implementing multiple performance enhancement levers covering Industrialization (which encapsulates ~105 Automation in-house and market tools) and IT Transformation.

Unlike some of our competitors, we have deliberately chosen not to rely on a single internal or vendor provided automation tool. Our more holistic approach to Automation combined with other next-gen industrialization constructs (based around Organization Structure models, Process and People) leads to deeper and more effective cost reduction. This coupled with the commercial impact associated with the benefits from IT

AUTOMATION DRIVE

Machine Powered, Business Reimagined

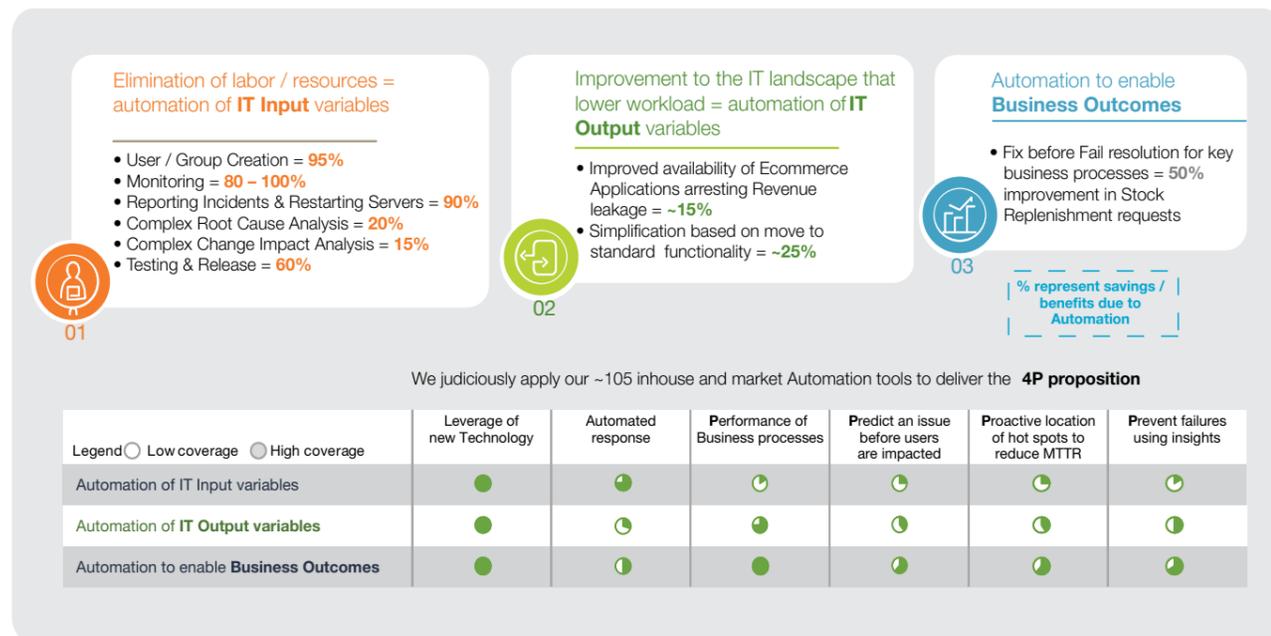


Figure 1: Automation Focus Areas

transformation, helps our ADM value proposition deliver more commercial impact per \$ or € or £ of existing client spend.

Caselets:

- Effective RUN of a key business process and fix before fail resolution** for a leading Global Manufacturer: ERP Planning Manager is in use 24x7 and performs critical tasks in Supply Chain Management. The Planning Manager ran into errors on a regular basis due to data issues (being a standard ERP, the functionality could not be changed). A solution was developed to predict streams of incoming data most likely to fail in the Planning Manager based on recognition of failure patterns. Once such data is located in the system, the faulty records were updated to be excluded from processing and the support team alerted for proactive resolutions. This led to 50% increase in efficiency of processing Stock Replenishment Requests.
- Our Monitoring and Reporting tool provides capabilities for **Order to Cash business metrics** reporting, highlight SAP IDOC failures aligned to the business process and metrics, along with key reasons for failure and resolution workflows for a leading North American Media client.
- Our tool iKON (Information Knowledge Object Nanobot) applied **Natural Language Processing (NLP)** to reduce the average time to resolve repetitive issues by 33% for a Media client. Our Service Analytics tool applied NLP

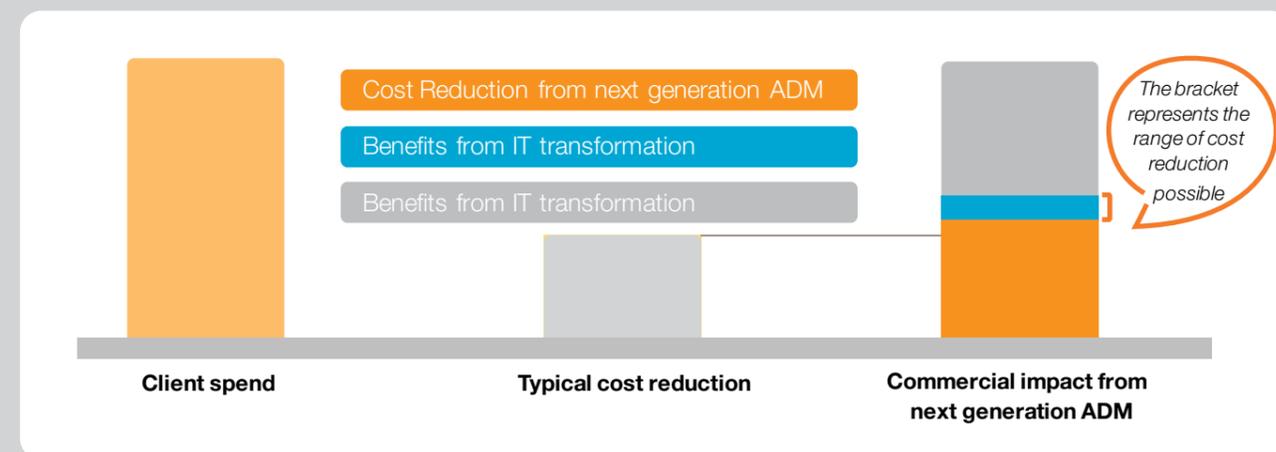


Figure 2: Typical benefit from next generation ADM

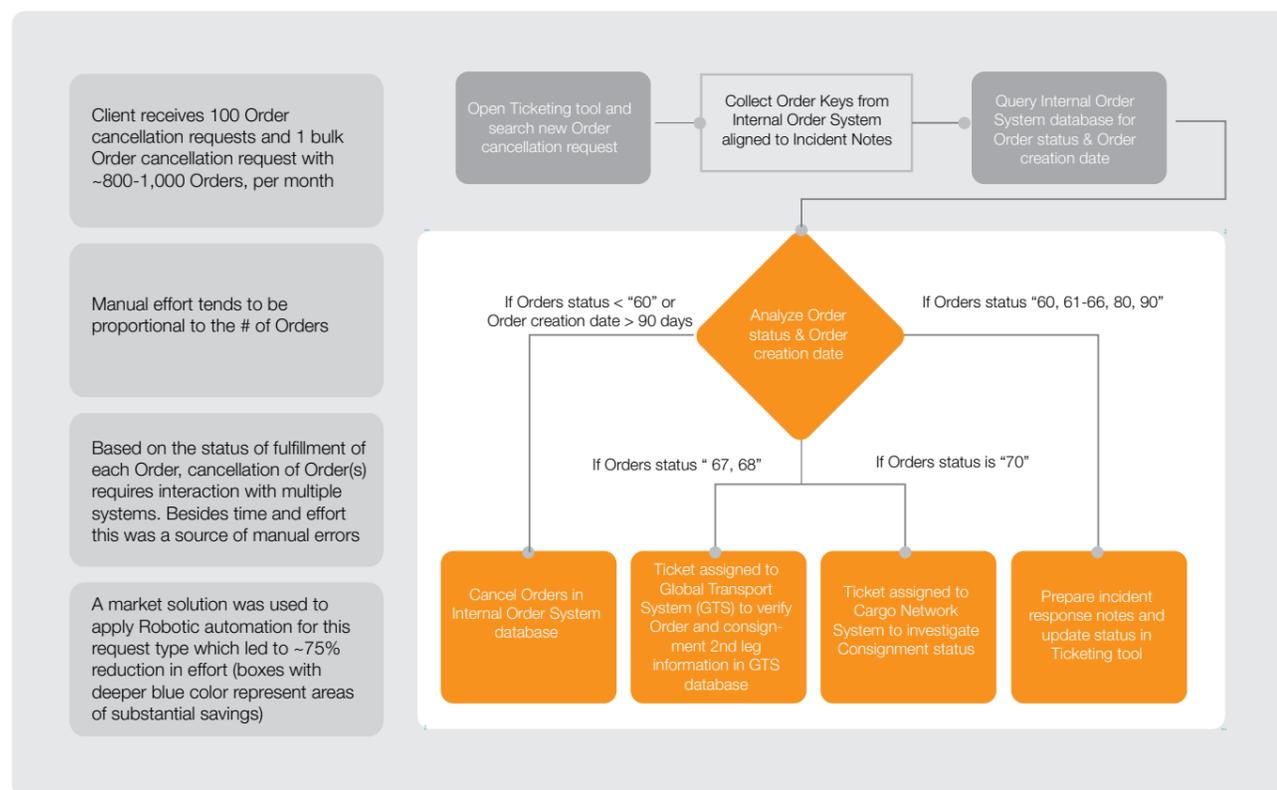
and **Neural Network** forecasting techniques to predict incident volume with ~93% accuracy for a Consumer Products client. An additional capability of the tool is to use **NLP** and **simulation techniques** to identify the likely linked failures of applications (for ease of understanding it can be viewed as a Domino effect).

interventions for a leading North American Financial Services client:

- 90% savings on tasks related to Reporting Incidence and Restarting Servers,
 - 90% savings on Database Query to fetch records and notify admin tasks,
 - 60% savings on tasks related to checking connection to multiple databases, and so on
4. Use of **autonomic resolution methods to drive labor reduction across a range of service**



5. Robotic Automation drove ~75% effort reduction for a Retail company as outlined below:



6. Monitoring and deep diagnostics using Application Performance Management tool (2,500+ application server processes and 2,000+ machine agents were instrumented and brought under APM) in conjunction with Event Correlation and Predictive Analytics tools, helped reduce false alerts to the tune of 40%, reduce incidents by over 30%, and drive 10x faster resolution of incidents for an Entertainment company in the US. These measures also ensure high availability of the integrated set of complex custom developed systems, better user experience and end-to-end visibility of transactional health across business processes.
7. A Distribution company's Digital assets consisted of: 4 Online brands, 86 applications, 200+ interfaces and

APIs, 25 external systems, ecosystem of 18 partners, 7 Million registered Users and 20+ Million unique visitors per month. The company faced weakness in time-to-market for new products because of long development & release cycles and so on. An integrated team across Business and IT implemented Agile and DevOps for continuous integration and deployment leveraging automation that delivered 75% reduction in release cycle time, zero downtime for maintenance and so on.

8. A leading Retailer ecommerce suite of applications runs on infrastructure that includes 100+ Web, Content and Application servers, and six network appliances running complex AIX and LINUX platforms in multiple

data centers around the globe. The system is driven by complex systems integration between the client's custom-built and third party systems hosted outside of the client landscape. Multiple vendors need to work together to support systems, applications, access channels, payment gateways, etc. to provide a seamless user experience for the client's online customers. As one of the key dimensions of DevOps, Capgemini used APM tools to enable Operations team to provide run-time insights concerning design and engineering flaws for rectification. This has resulted in:

- More effective coordination with the Infrastructure Service Delivery Team, who are now more involved and informed when threshold alerts are raised – and these alerts are aligned better to application health issues
- Better availability of the ecommerce suite of applications based on proactive monitoring of each individual component of application and infrastructure
- A 20% reduction in the turnaround time for Application Issue Analysis

Bringing it all together, our approach to deploying Automation across IT Inputs + IT Outputs + Business Outcomes in a manner relevant to the engagement helps clients realize benefits encapsulated by the 4Ps acronym:

- Performance of every instance of key business processes to ensure fulfillment of business KPIs
- Predict business / technical issues and try to resolve them in an automated manner before they become a ticket
- Proactive response (deep-diagnostic down to code level) leading to identification of hot spots and reduced MTTR (Mean Time to Repair)
- Preventive (run-time insights around engineering / design flaws based on deep-diagnostics) to drive RCAs (Root Cause Analysis), FMEAs (Failure Mode and Effects Analysis), App renovation, etc. efforts to raise the baseline code quality

Capgemini's next generation Application Development and Maintenance proposition:

Capgemini's next generation Application Development and Maintenance proposition is a business value-oriented, industrialized approach for managing client applications that provides always-on business transactional capability while pervasively reducing costs by creating a business aware and future proof IT application landscape. Already deployed across multiple sectors, Capgemini's next generation Application Development and Maintenance proposition is proven to increase the effectiveness of clients' business processes, provide them with superior Service Integration and deliver a better customer experience.

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About Capgemini

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Together with its clients, Capgemini creates and delivers business, technology and digital solutions that fit their needs, enabling them to achieve innovation and competitiveness.

A deeply multicultural organization, Capgemini has developed its own way of working, the Collaborative Business Experience™, and draws on Rightshore®, its worldwide delivery model.

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