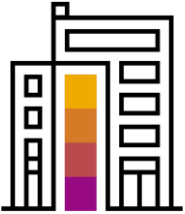




SAP® Innovation Awards 2020 Entry Pitch Deck

Smart SAP operation flow with ignio™ using AI & ML

Roche Pharma



Company Information

Headquarters	Switzerland
Industry	Pharma
Web site	https://www.roche.com/

Roche Pharma at a glance:

- Focused on translating excellence in science into breakthrough medicines for patients
- One of the leading developers of targeted treatments combined with corresponding diagnostics
- The world's largest biotech company
- The world's leading provider of cancer treatments

Pharma Division uses SAP ERP operations for all across the regions EMEA, NA, APAC, LATAM & globally supported by peripheral/global systems. Planning ,Quality management , procurement , Logistics , sales and distribution ,warehouse management and Finance & Controlling are being carried out in all Core SAP systems.

This POC is carried over one Global system which is a SAP ECC Implementation used for Chemical and Biotech Drug substance manufacturing supporting the business processes on all sites. It is used for manufacturing and supply of Drug substance to CMO (contract manufacturing organization) Vendors which place Orders in different systems.

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Challenge

- **Impact to Business Cycle** : CFC(Certificate for Customer) Generation was delayed because of various issues causing business impact
- **Compliance to Audit requirements**: ICFR(Internal Control over Financial Reporting) audit issue as there was no trace of who opened and Closed SAP Client
- **Enabling Smarter Enterprise**: Alerts are worked upon in a reactive way and there is no mechanism to predict alerts

Solution

The following are implemented using ignio™ AI.ERPOps , a cognitive automation platform:

- End to End Error detection and resolution in CFC system improving the turn around time. This improved the delivery process and **faster Business cycle**
- All the Client Open and Close alerts are monitored and ITSM tickets are created for Audit resulting in **100% audit compliance**.
- Future alerts are predicted using ML and AI from past alerts resulting in better management of issues **resulting in proactive operation process and a smarter enterprise**.

Outcome

The project resulted in a smarter and Agile enterprise which could predict the future events and plan for preventing it, compliance to Audit , resulting in Business stability and Growth

98%

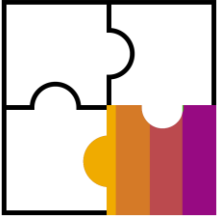
Reduction of
CFC fix time from
4 hours to 5 min

100%

ICFR Audit
compliance

90%

Accuracy in predicting
future alerts



Participating Partner Information



Digitate, Strategic BU, TATA Consultancy Services

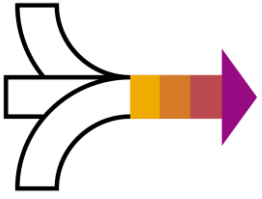
Digitate owned the end to end POC from the use case design phase to implementation and Demonstration phase. Multiple discussions were planned with stakeholders to finalize the requirement, study the progress and present the values provided by the POC.



“We are glad to see that for all selected use cases the results were satisfactory what positions Ignio as a promising technology supporting Roche's IT productivity agenda”

Sebastian Gospodarek

Senior Team Manager, Roche Global IT Solution Centre



Business Challenges and Objectives

- Impact to Business Cycle because of delay in identifying and fixing errors in the system
- Challenges in Complying to Audit requirements as it involved manual effort from the team
- Need to have a smarter system to handle alerts in a cognitive way

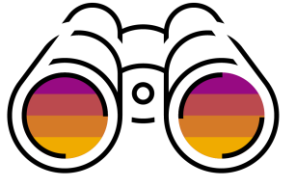
The following are the objectives of the POC using ignio™ AI.ERPOps , a cognitive automation platform:

- Reduction of Business cycle by proactively sensing the issues, identifying the cause and fixing them
- Build an automated smart way to handle the Audit requirements for Client open/close operation
- Develop a smart system using ML and AI Algorithm that could predict future alerts by doing the behavioral analysis of the historical alerts



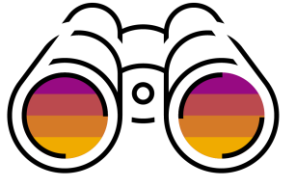
Project or Use Case Details

Problem	Solution	Expected Benefits
<p>Roche Pharma generates Certificate for customer for usage and certificate of analysis with LAB details are generated so that batch was manufactured in compliance with international and national required GMPs.</p> <p>Drug Substance Manufacturing Supply Chain System(SAP) contacts CFC Generator(Java based) system which creates the certificate and passes it back to Drug Substance Manufacturing Supply Chain System. A pdf is generated and passed to Third Party Logistics using Middleware.</p> <p>Problem Scenario:</p> <p>Delay in generation of Certificates of customer and Certificate of analysis for material batches for approx. 50 deliveries in a year .</p> <p>Productivity loss of business colleagues(approx. 10 days per business user in a year) for major issues in CFC generation.</p> <p>No Proactive Monitoring</p> <p>Min. 12-14 hrs. required to resolve the any connectivity, certificate issue .</p> <p>Impact on revenue if invoices for such delivery documents are not processed on time.</p> <p>Customer Dissatisfaction</p>	<p>ignio™ AI.ERPOps</p> <ol style="list-style-type: none">1.Proactively Identifies failed Delivery number with Data issues2.Sends notification mail to stake holders3.Self heals the data issue and reprocesses the Delivery number4.Proactively monitors if the file is picked by TIBCO and sends notification mail to stakeholders	<ol style="list-style-type: none">1. Reduction of manual efforts / errors in identifying and fixing issues.2. Faster resolution (with in 2-4 minutes) compared to manual.3. Increase system availability by rapid and proactive anomaly detection.4. Improved Customer satisfaction due to reduced MTTR because of Self heal.



Project or Use Case Details

Problem	Solution	Expected Benefits
<p>SAP Client is open by BASIS team for maintenance on a regular basis.</p> <p>As per the Audit requirement, all the client related operation should be logged as a Service Now ticket. But this is not created causing Audit issues.</p> <p>All the Client that are open should be closed within 48 hours to avoid any business impact. But there are problems of client open more than 48 hours.</p>	<p><u>Client Open scenario:</u></p> <p>ignio™ AI.ERPOps checks for the Service Now ticket for this operation and creates a Service Now ticket if not created.</p> <p>ignio™ AI.ERPOps sends a warning mail to the Line manager for the person who opened the Client.</p> <p>ignio™ AI.ERPOps sends a security alert if client is open by an unauthorized person</p> <p><u>Client Close scenario:</u></p> <p>ignio™ checks and sends warning mail if the client is not closed within 48 hours.</p>	<ol style="list-style-type: none">1. 100% Audit compliance for Client Open and Close.2. Avoiding security issue and allowing Client open only by authorized person.3. Reduction in Audit effort.



Project or Use Case Details

Problem	Solution	Expected Benefits
<p>Roche Pharma does not have any mechanism currently to predict the future alerts.</p> <p>Main objective is to have a prediction system based on Analytics/Machine learning on Historical data to identify issue before it actually hit the operations.</p> <p>The historical data from SolMan (Solution Manager) is used.</p>	<p>ignio™ AI.ERPOps analyzed the historical data and extracted the Issues and Configuration items using its Machine language and AI Algorithm.</p> <p>Duplicate alerts are identified and Suppressed</p> <p>Alerts are correlated based on the historical patterns to identify the root causes.</p> <p>Future alerts are predicted based on ML and AI Algorithm to an accuracy of 90%</p>	<p>Prediction of future alerts in SAP resulting in better planning and avoidance of potential outages and failures.</p> <p>Self heal mechanism can be configured for known predicted issues in SAP resulting in reduction of MTTR.</p> <p>Stable system leading to Business growth.</p>



Benefits and Outcomes

Business or Social

- Reduction in failure leading to improved business
- **100%** audit compliance
- Ability to be pro active to future alerts based on prediction algorithm

IT

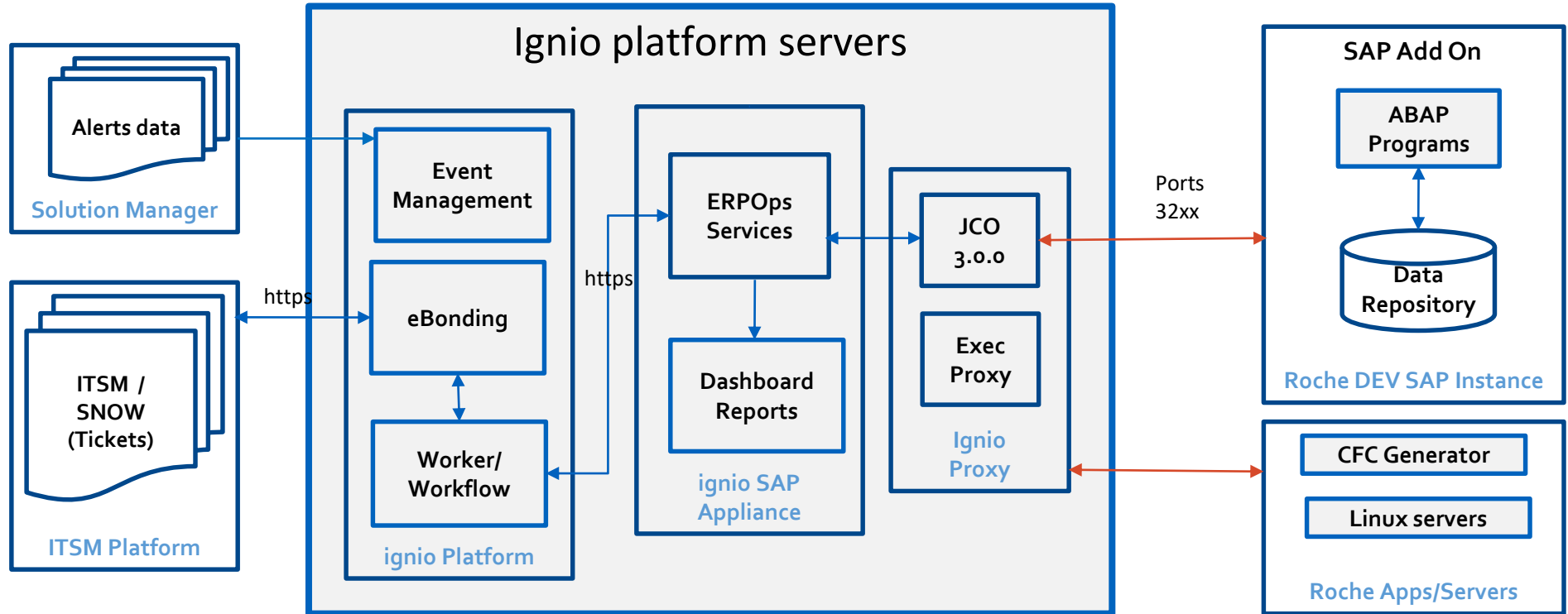
- Stable IT system reducing the cost of ownership and providing business assurance

Human Empowerment

- Employees can focus on improving the business rather than running the business



Architecture





Deployment

Deployment status

POC

Date

25-Sep-19

Number of users

To be implemented in PROD

SAP® technologies used:

	SAP product	Deployment status (live or proof of concept [POC])	Contribution to project
1	SAP ERP Central Component	POC	Automation of ERP system function
2	SAP Solution Manager	POC	Suppressing the monitoring alerts

If you have used one of SAP’s services or support offerings from SAP Digital Business Services during the implementation or deployment phase, please select with ☒ one or more of the following offerings:

- ☐ SAP MaxAttention™ services
- ☐ SAP ActiveAttention offerings
- ☐ SAP Advanced Deployment service
- ☐ SAP Value Assurance program
- ☐ SAP Model Company service
- ☐ Others:
- ☐ SAP Innovation Services portfolio
- ☐ SAP Innovative Business Solutions organization



Advanced Technologies

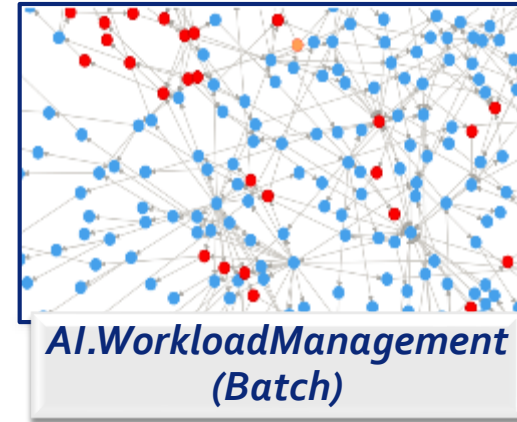
The following **advanced technologies** were part of the project.

	Technology or use case	Yes or No	Contribution to project
1	3D printing	No	
2	Blockchain	No	
3	Internet of Things (IoT)	No	
4	Machine learning or AI	Yes	ML and AI Algorithm from ignio™ used in alert de-duplication, correlation & prediction
5	Conversational AI	No	
6	Robotic process automation	Yes	ignio™ automation procedures are used to automate critical process
7	Data anonymization	No	
8	Augmented analytics	Yes	ignio™ analytics algorithm is used for alert de-duplication, correlation & prediction

Why ignio™?

- ❑ Automated digital labour has allowed ignio's customers us to reduce SG&A (selling, general and administrative) costs significantly. This is usually 25% of total costs in most companies and even higher in financial services, healthcare and retail – **as high as 40%**
- ❑ ignio's focus is on what's **high value** for its customers – business assurance and reliability, peak season readiness, faster check-out at points of sale, less abandoned customers on website, service availability
- ❑ ignio's key value proposition is **eliminating customers pain minutes** rather than efficiency
- ❑ ignio is being used by customers **in every market** – across geographies, industries and business segments. It gives us the benefit of best practices and new use cases deployed elsewhere

ignio's Cognitive Automation Suite

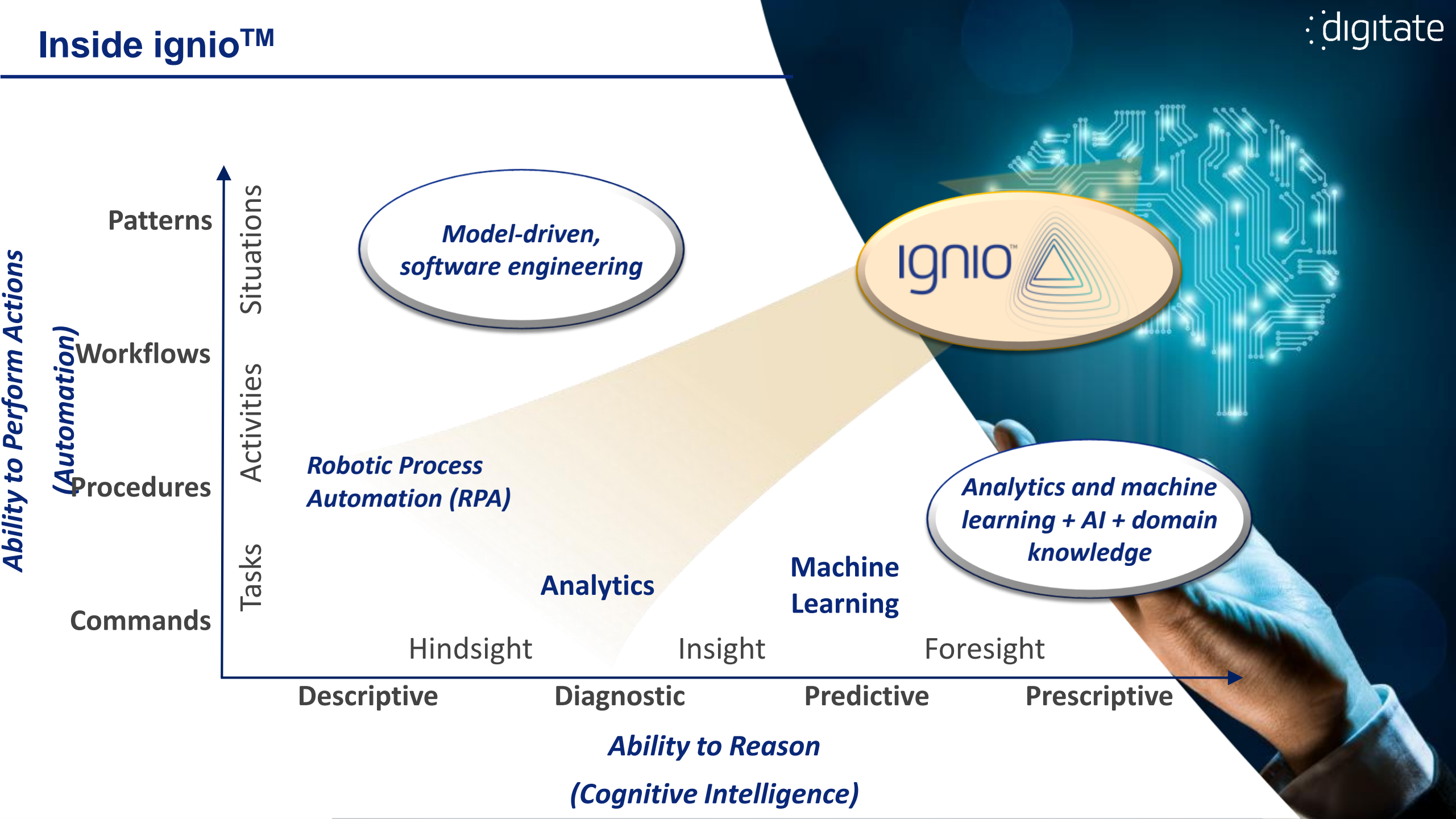


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Improved Efficiency



Scaling AI/ ML in Enterprise IT

