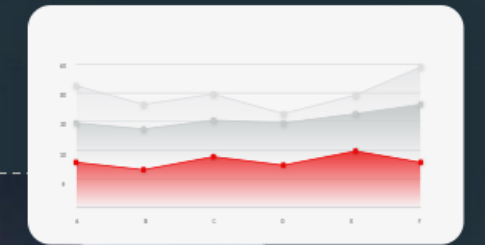




Infor OS – AI & ML

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Magnus Tallqvist
Hallgeir Øvrebust
Infor
2024.04



TECHNOLOGY



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An open architecture

Infor OS[®]

- Connect data from anything to anywhere
- Automate tasks across any applications
- Easily create apps for your unique needs
- Direct access to all your data for AI
- Ability to analyze, visualize and act on data



It's all there, pre-integrated and ready to use

Artificial Intelligence & Machine Learning

HOW DID YOU GET
BUDGET APPROVAL
FOR ALL THIS?

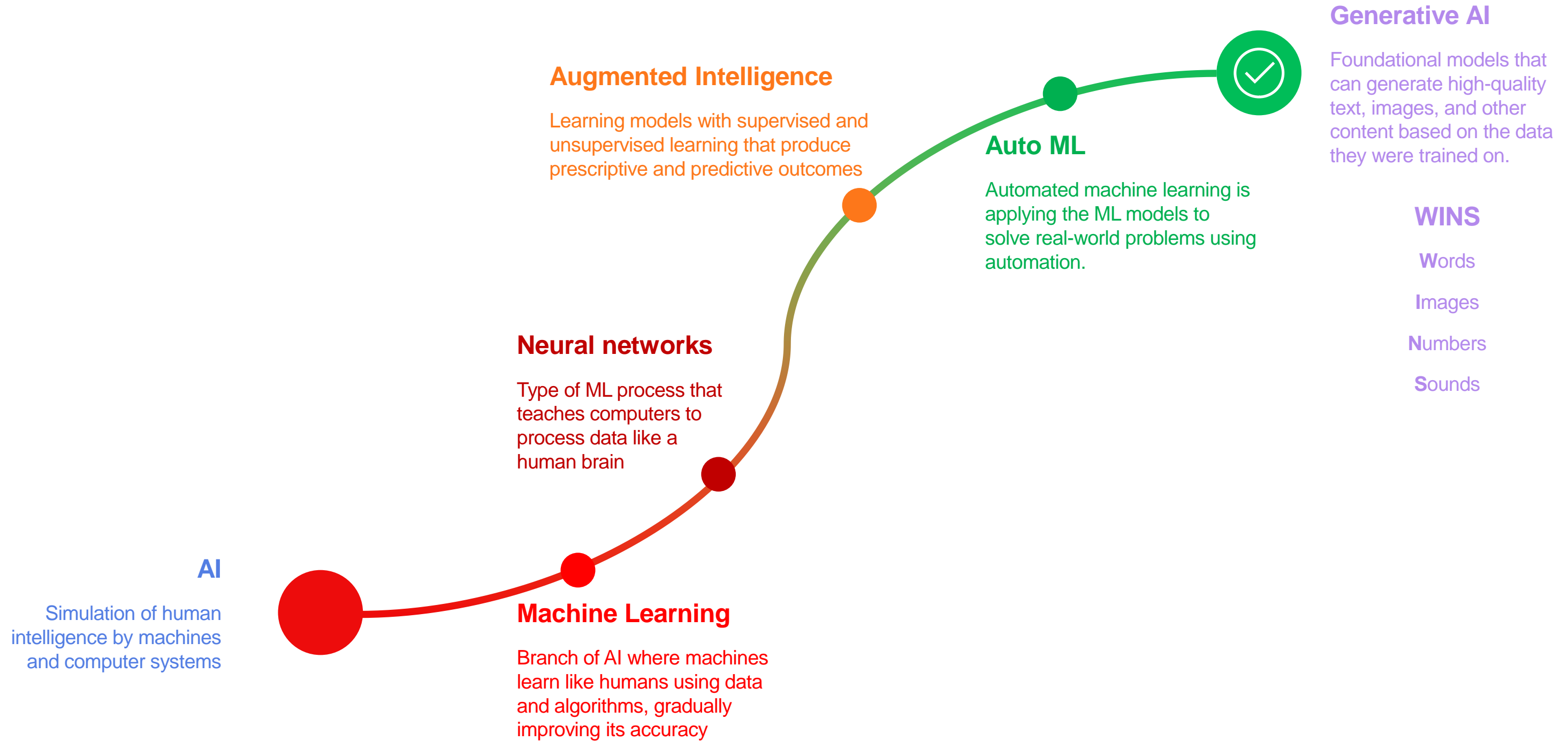
I JUST
TOLD THEM
THE NAME
OF THE
PROJECT.

AI

TOM
FISH
BURNE

©marketoonist.com

The AI Evolution



“A.I. IS AT THE CORE OF THE NEXT GENERATION APP ARCHITECTURE”

Therefore, Infor A.I. is an owned proprietary framework and solution by infor.

AI PLATFORM VISION

- A.I. is the future core logic for Infor (intelligent ERP), not an edge application
- Open to 3rd party for edge use cases
- Based on data in the Data Lake with cross domain connections
- Enabled for variety of consumption
- Embedded A.I. with ML libraries
- Shared service as part of Infor OS (not app specific)

Augmented Intelligence

What is it

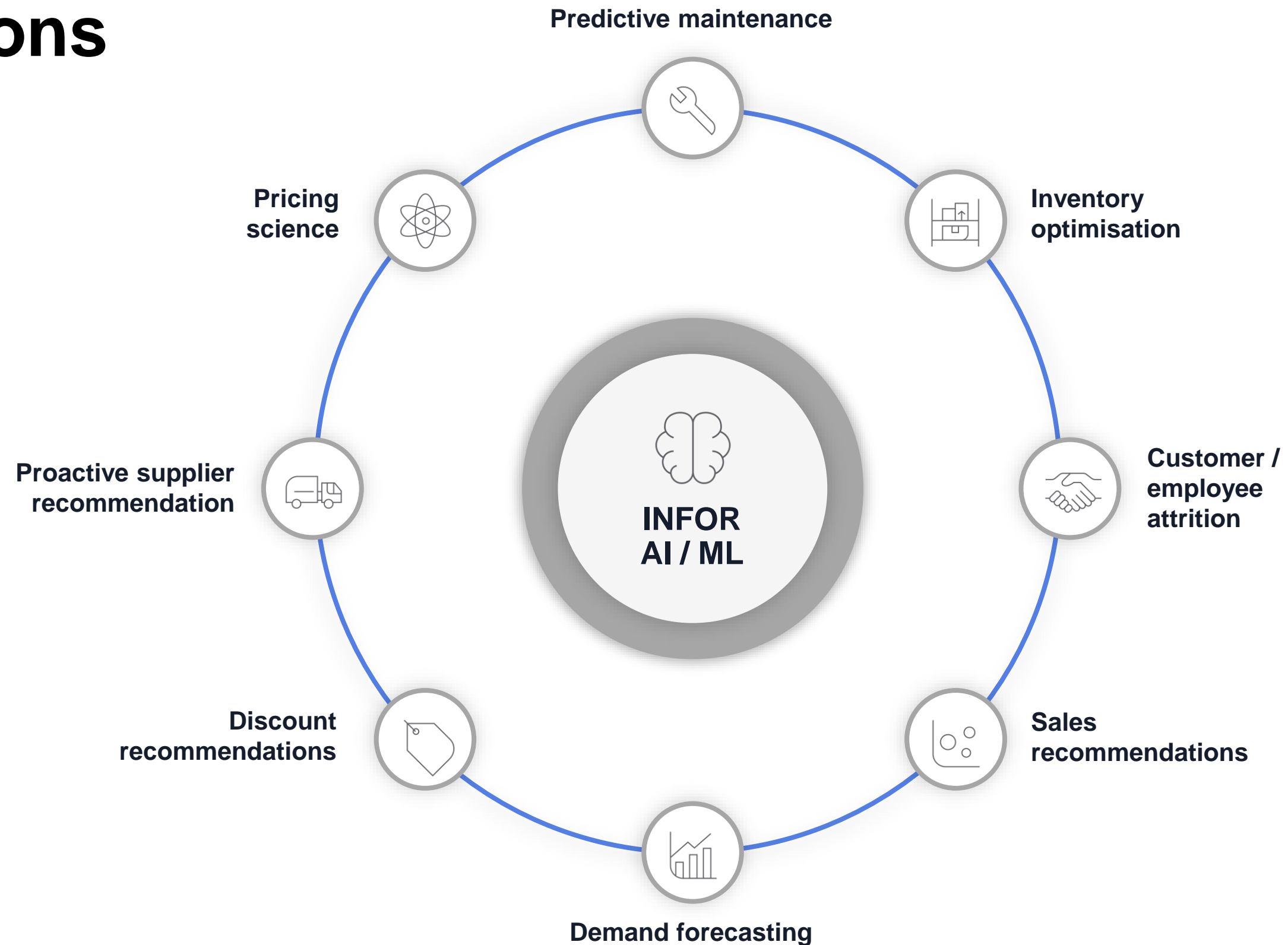
Augmented intelligence is a subsection of AI machine learning

- Enhance human intelligence rather than operate independently of or outright replace it.
- improving human decision-making and, by extension, actions taken in response to improved d
- If you've used Alexa, Siri, or another virtual assistant, you've used augmented intelligence. Virtual assistants don't make decisions for you. Instead, they provide the data you need when you need it.

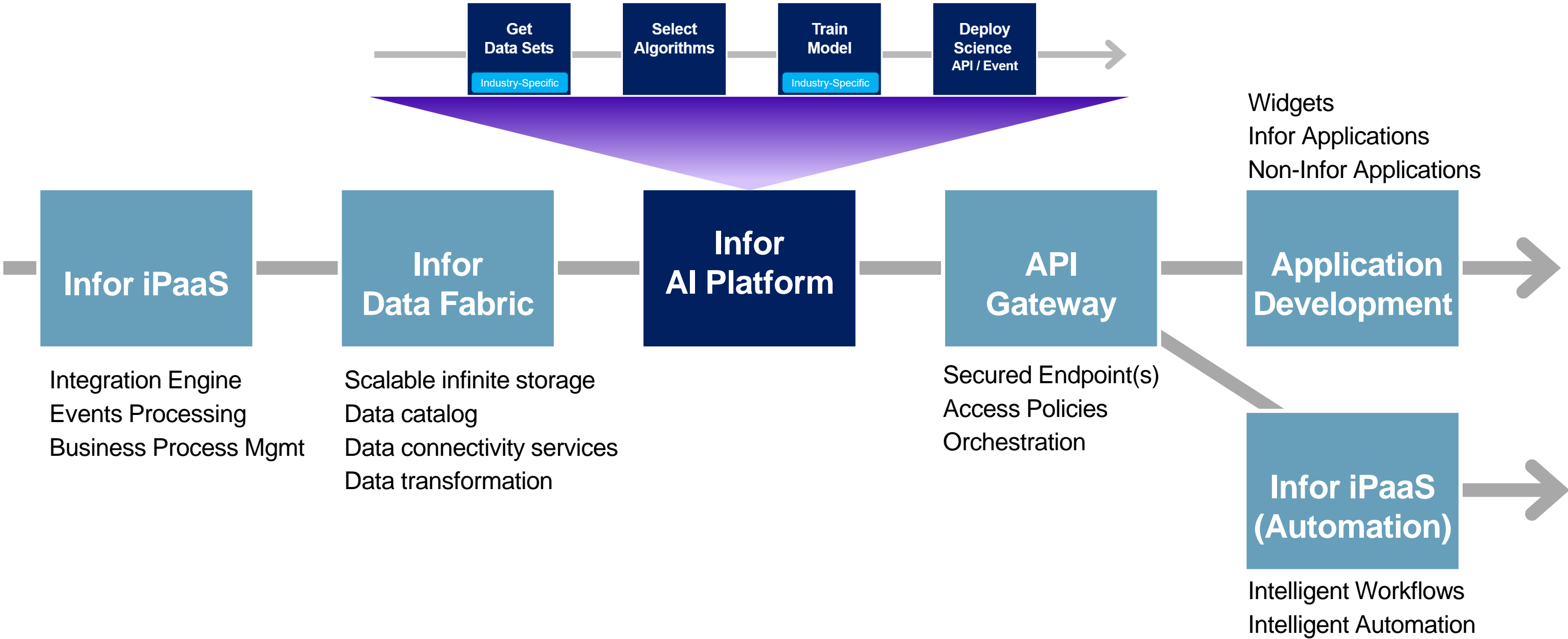
Infor is primarily focusing on Augmented intelligence for machine learning/optimization

Infor AI / ML Solutions

Common infrastructure and access to application data and schemas allows Infor the unique opportunity to create repeatable Machine Learning experiences across all industries, creating a library of solutions.



Enterprise AI ensemble – End to end



Machine Learning without coding



AI/ML PLATFORM

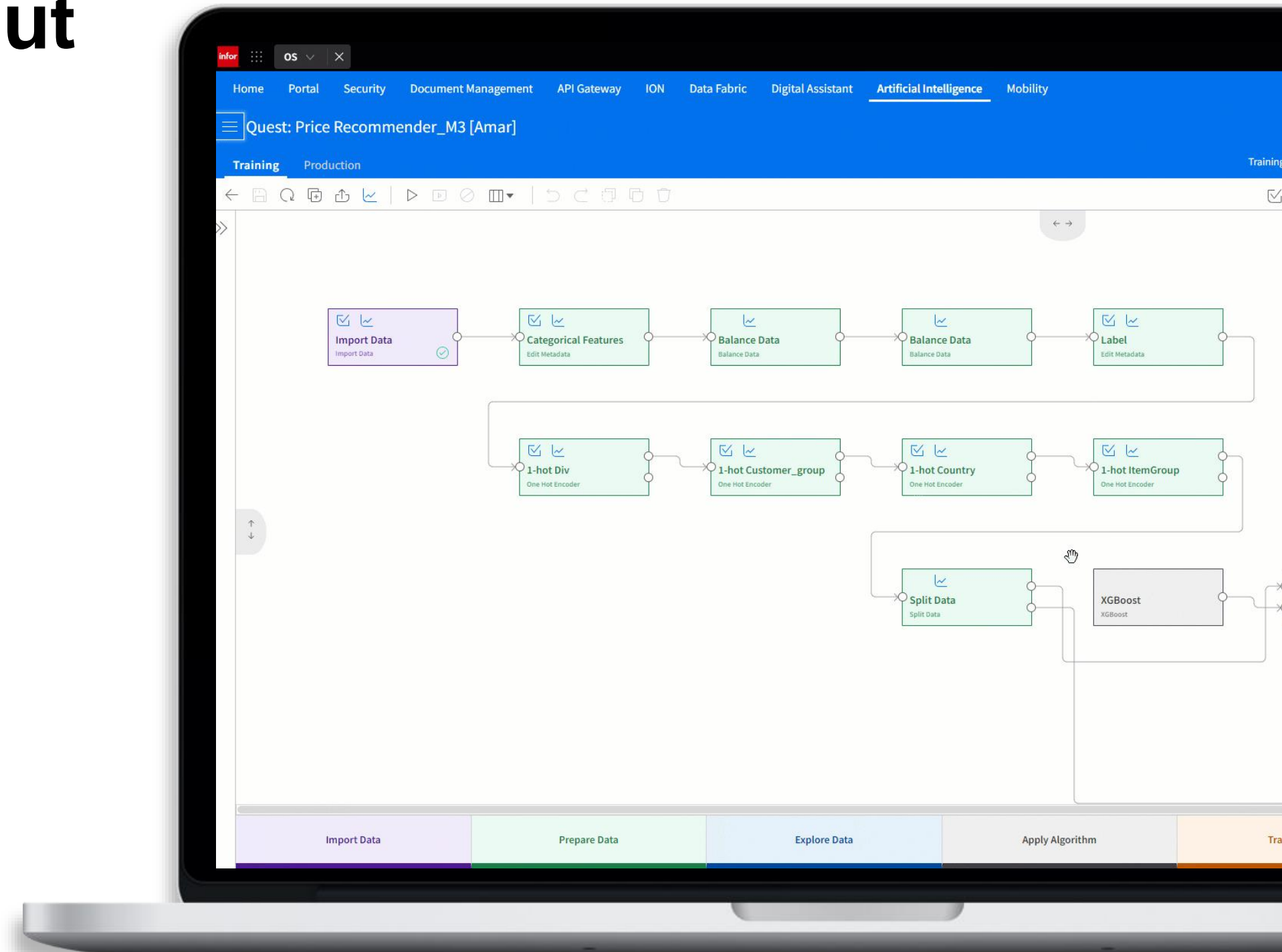
Used within a business process to help with better decision making – where a decision is similar to past decisions that were made

Visual tool to define, train and deploy AI models

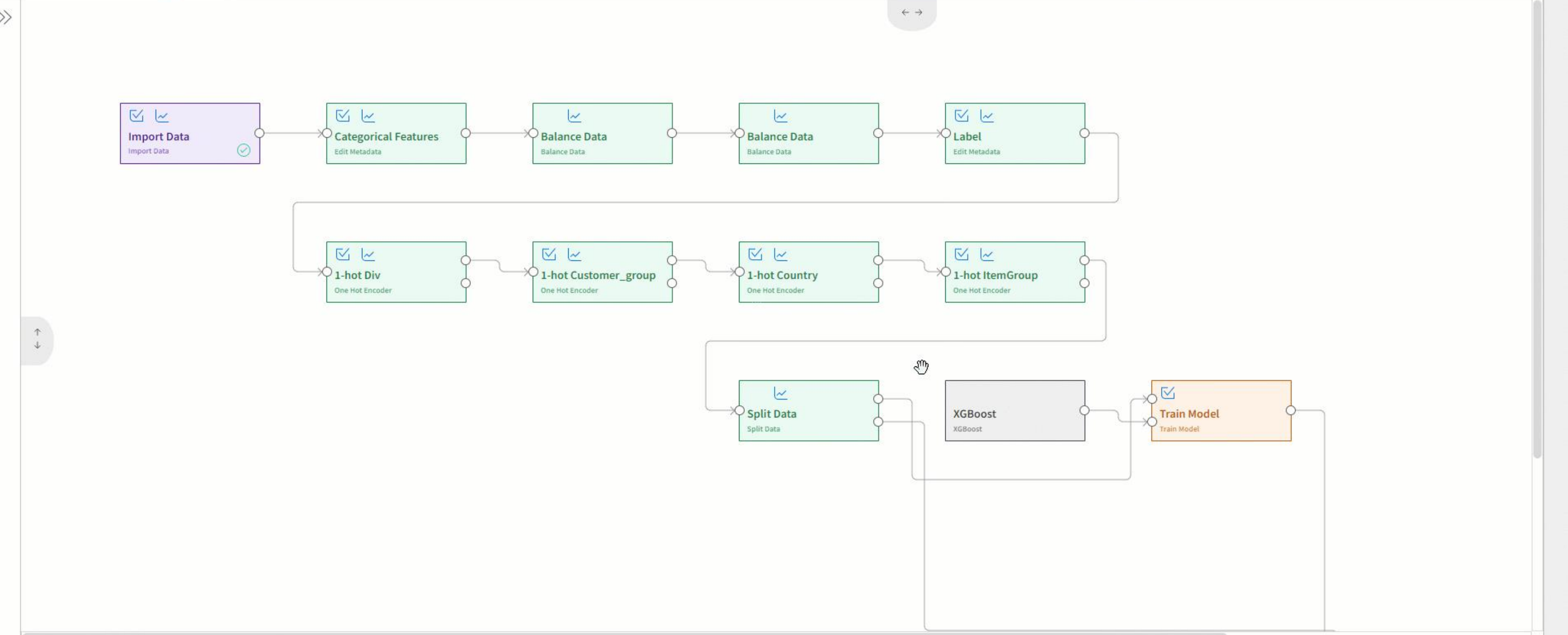
1. Import dataset (Infor Data Lake or File import)
2. Transforms data as required
3. Apply selected ML algorithm
4. Train & scores model
5. User revises model as needed in visual modeler
6. Publish models as REST APIs

Consumption of ML predictions

1. Embed predictions via widgets, workflows, integration, orchestrations...
2. Consumed by any application capable of making API calls



Quest: Price Recommender_M3 [Amar]



Artificial Intelligence – Machine Learning



Embed the AI / ML results in business processes through workflows, integration, applications, widgets

Some examples with M3

- Recommended Sales Order Line discounts
- Product up-sell
- Product Cross-sell
- Customer Classification

The screenshot shows the Infor M3 OIS337 Price Guidance. Display interface. The main data area includes a table with the following columns: Description, Net price, U/M, Spqty, Line amount, and Difference. The table lists various pricing scenarios and their differences from the current price.

Description	Net price	U/M	Spqty	Line amount	Difference
Current price	4.34	EA	1	8.67	
RRP	4.33	EA	1	8.65	0.23-%
Walk in Prices	4.12	EA	1	8.24	5.07-%
User Level Approval	3.90	EA	1	7.80	10.14-%
Manager Level Approval	3.47	EA	1	6.93	20.05-%
Director Level Approval	3.03	EA	1	6.06	30.18-%
Competitor 1 Pricing	4.73	EA	1	9.46	8.99 %
Competitor 2 Pricing	4.21	EA	1	8.41	3.00-%

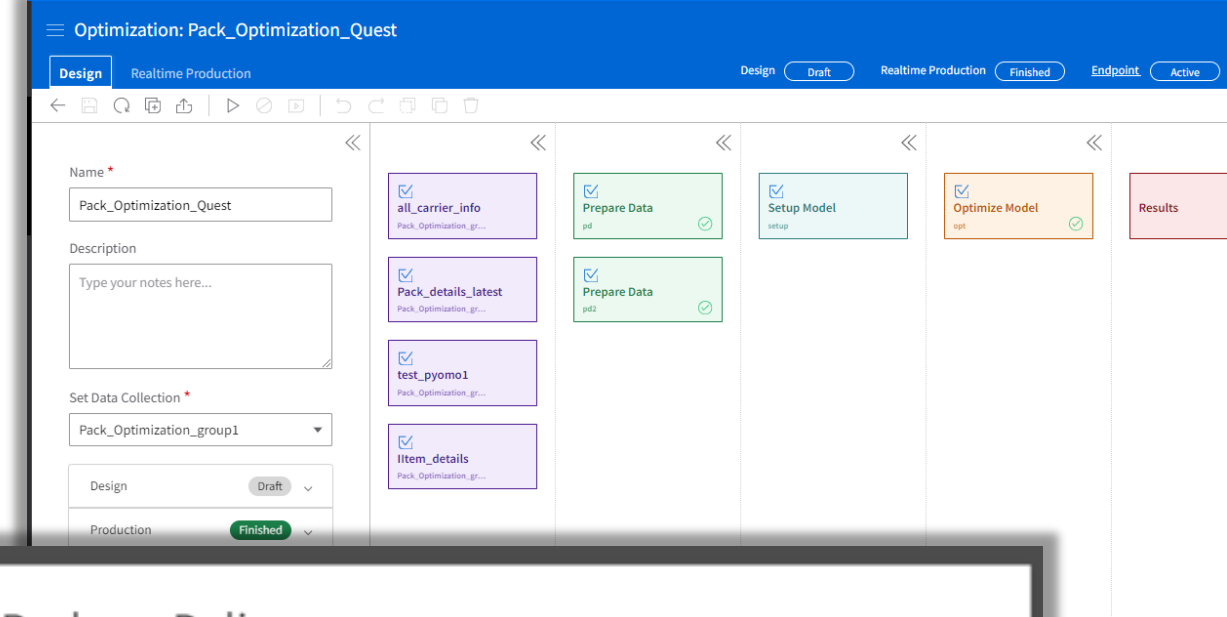
At the bottom right of the interface, a large blue box displays **18.81%** Discount.

Artificial Intelligence – Optimization



Used within a business process to help with better decision making – where the decision **is not** similar to past decisions that were made

- Use small amounts of master-data combined with transactional data to make recommendations of how to proceed.
- Example is:
 - Warehouse Packing Optimisation



Coleman Optimizer for Package Delivery

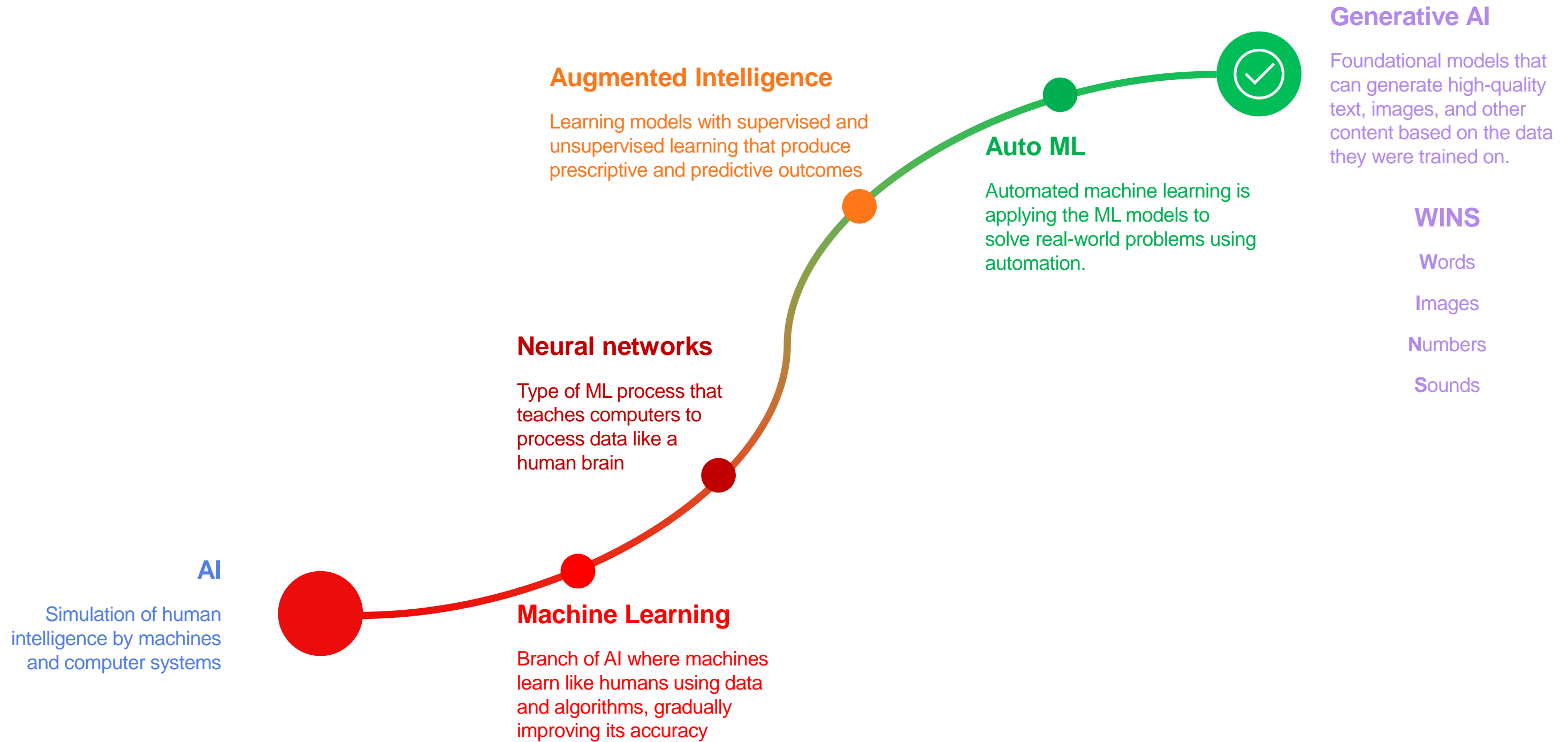
Pack Items	Package Details	Item Number	Item Name	Qty	
<input type="checkbox"/>	Package 1: Package Type YT1-04	100000511	Plasterboard Adhesive 25kg x	<input type="text" value="1"/>	
		100000512	Jointing Tape 100mmx20m	<input type="text" value="2"/>	
		<input type="text"/>		<input type="text"/>	
<input type="checkbox"/>	Package 2: Package Type YT1-04	100000511	Plasterboard Adhesive 25kg x	<input type="text" value="1"/>	
		100000512	Jointing Tape 100mmx20m	<input type="text" value="3"/>	
		<input type="text"/>		<input type="text"/>	
<input type="checkbox"/>	Package 3: Package Type YT1-04	100000501	Plasterboard 9.5mm 1200X800A	<input type="text" value="1"/>	
		100000511	Plasterboard Adhesive 25kg x	<input type="text" value="1"/>	
		100000512	Jointing Tape 100mmx20m	<input type="text" value="3"/>	
		100000513	Gold Screws 39mm (Pack 100)	<input type="text" value="4"/>	
		<input type="text"/>		<input type="text"/>	
<input type="checkbox"/>	Package 4: Package Type YT2-03	100000501	Plasterboard 9.5mm 1200X800A	<input type="text" value="2"/>	
		100000511	Plasterboard Adhesive 25kg x	<input type="text" value="1"/>	
		<input type="text"/>		<input type="text"/>	
<input type="checkbox"/>	Package 5: Package Type YT1-03	100000501	Plasterboard 9.5mm 1200X800A	<input type="text" value="1"/>	
		<input type="text"/>		<input type="text"/>	

Cancel Pack Items

What about Gen AI?



The AI Evolution



Machine learning vs Gen AI

What is it

Machine learning and generative AI are both types of AI, but they have different purposes. Machine learning analyzes data to make predictions, while generative AI creates new content

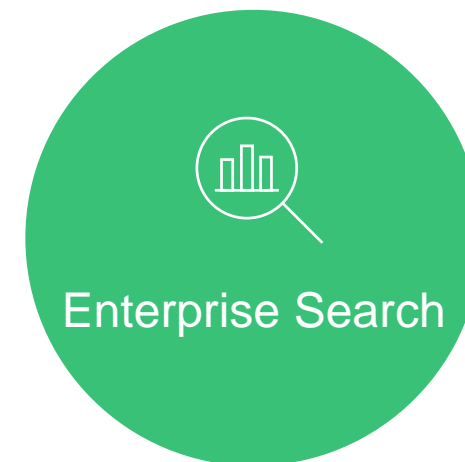
- Generative AI builds on the Machine learning foundation and adds new capabilities that attempt to mimic human intelligence, creativity and autonomy.

Generative AI @ Infor

Vision

“Jump start” anything

Code Generation for developers
Email/ text/ audio/ video generation
Draft designs/ models
Language Translations

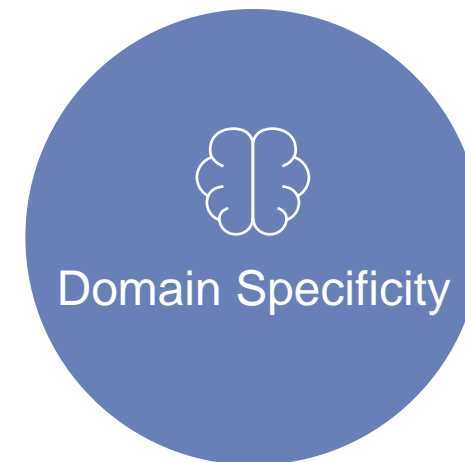


Enterprise Data Access

NLP based access to enterprise data
Look up, take actions with natural language
Gen AI for Text to SQL, Text to API
Application navigation with voice

Knowledge Base

Conversational Ux to access user manuals, wiki,
support incidents, employee handbook
Summarization of any content



Industry Specific

Decision based AI Automations
Document/ Image classification
Fine tuned LLMs per industry

Trained on type of data

Gen AI

Common data

Use case:
Text generation

Current

Infor AI

Infor data

Documentation
KB articles
Release reports

Use case:
Find & Ask

In development

Infor AI/ML

Tenant data

Use case:
Insights/reports on
large data sets

Roadmap (ML GA)

Enhanced Service Planning with ML and Gen AI Insights

The screenshot displays the Infor Service Planner Insights 2.0 interface. The main window is titled "Service Planner Insights 2.0" and features a navigation bar with options like "Open Orders w Predictions", "Job Que Predictions", "Open Orders by Tech", "Job Que", and "Documents/News".

The primary data view is "Open WOs incl Predicted Services", which includes a table with the following columns: WO no, Status, Customer, Product, Serial No, Service, Start date, Days to Failure, and Failure Probability. The table lists several work orders, with the last row (WO no 0006000114) highlighted in blue, showing a status of "85 - All services reported", a failure probability of 0.9, and 3 days to failure.

To the right, a "Predicted Jobs" table shows a single entry for "ADHOC-01" with a failure probability of 0.9 and 3 days to failure.

At the bottom, the "WO Operations" section is visible, with a table showing operation details for "103" on product "385C MH", including a description of "Machine Inspection Field" and a status of "90".

On the right side, a "Gen AI Insights" sidebar is open, containing two panels: "Equipment Health" and "Service Guidelines". Both panels have input fields for "Product" (385C MH) and "Lot number" (ADHOC-01), and a "Generate" button.

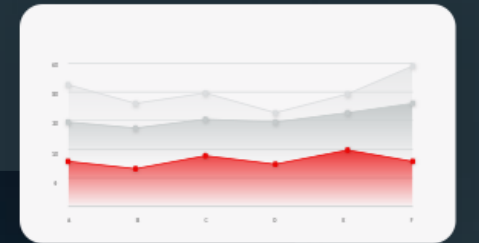


Demo



How to proceed?

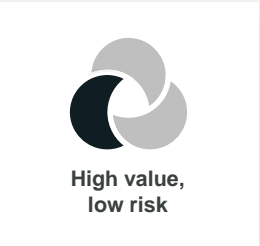
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Infor
2024.04



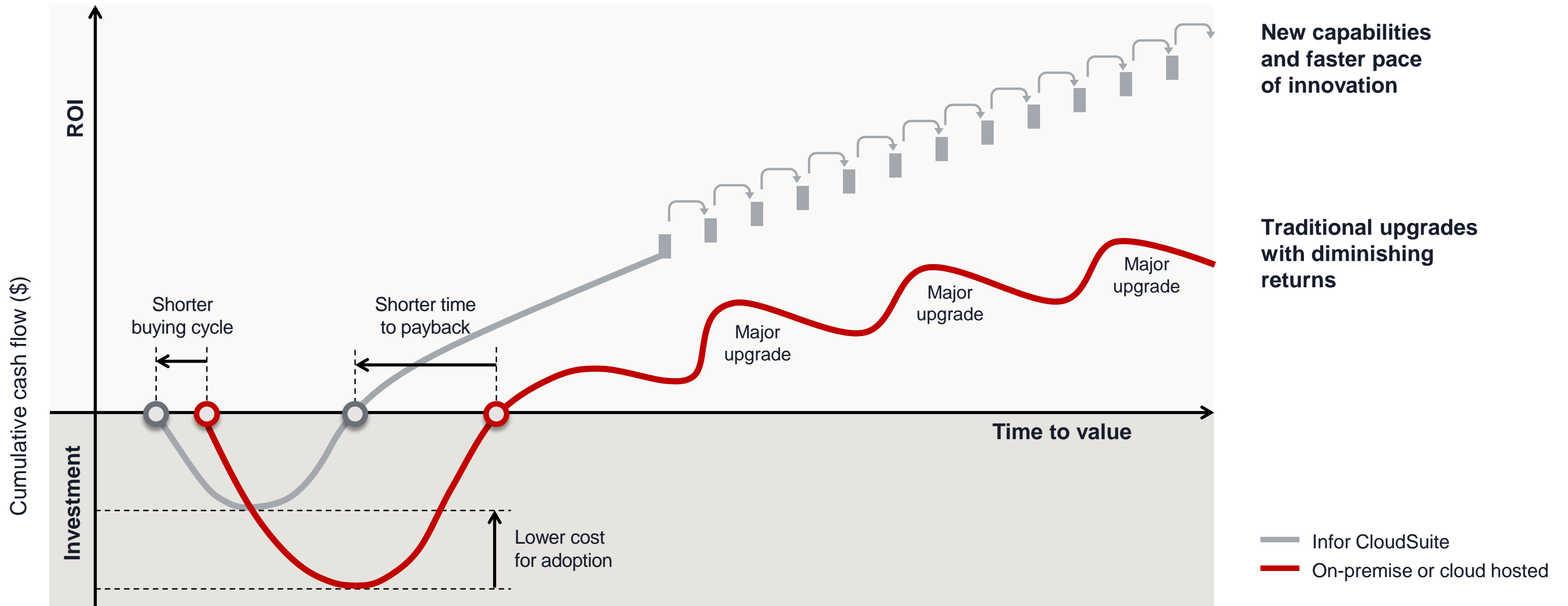
TECHNOLOGY



- Faster time-to-value



Economic impact across the lifetime of your investment



Example of Drivers for AI & ML

Operational excellence

Operational Intelligence

- Maximizing yield of ingredients
- Reducing any waste
- Hyper-automation

Quality and compliance

Process Intelligence

- Preventing non-compliance of processes
- Avoiding non-compliance of ingredients and products

Supply chain optimization

Predictive Intelligence

- Predicting future demand more accurately
- Predicting quantity and quality of supply of raw materials

Profitable growth

Customer & Market Intelligence

- Generating customer and market insights on what to sell for which price
- Improving customer interaction efficiency and retention

Innovation & transparency

Product Intelligence

- Evolving the product portfolio based on market preferences
- Developing successful and cost-efficient products

What are the perceived challenges to realising AI/ML value?

Many companies believe that advanced capabilities are out of reach



Data strategy

Specialised skills required to map data to create scalable results



Value identification

Impactful use case generation requires experience



Core skill sets

Data science teams are expensive and require significant investments



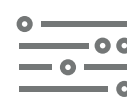
Time is money

Upfront costs and lengthy execution lead to elusive ROI and Time To Value



Pipelines

Integrating AI /ML tools to the data sources they require is complex



Data quality

Data consolidation, preparation, and cleansing is challenging



Platform decision

Multiple tools and vendors required make IT portfolio rationalisation challenging

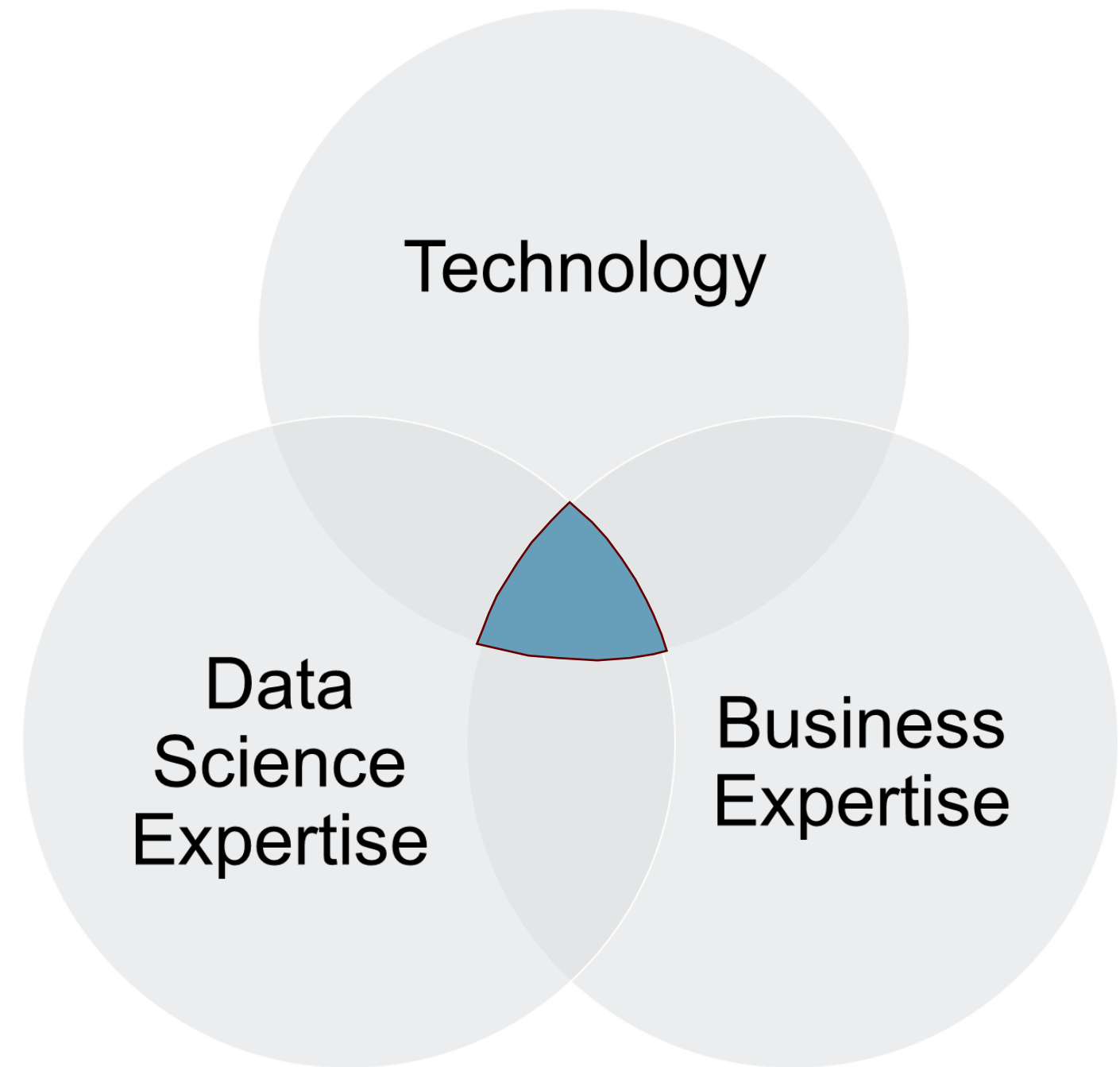


Model optimisation

To provide consistent value models must be maintained (hidden cost)

Infor AI Platform & Augmented Intelligence Service

AI Implementation



- Infor applied Innovation

Let's start applying Innovation

Innovation board

Key resources from IT and decision makers from the business to meet on regular basis

Innovation Workshop

To identify and high-level assess and prioritize areas and opportunities, where your business can gain substantial benefits or savings by utilizing innovation capabilities

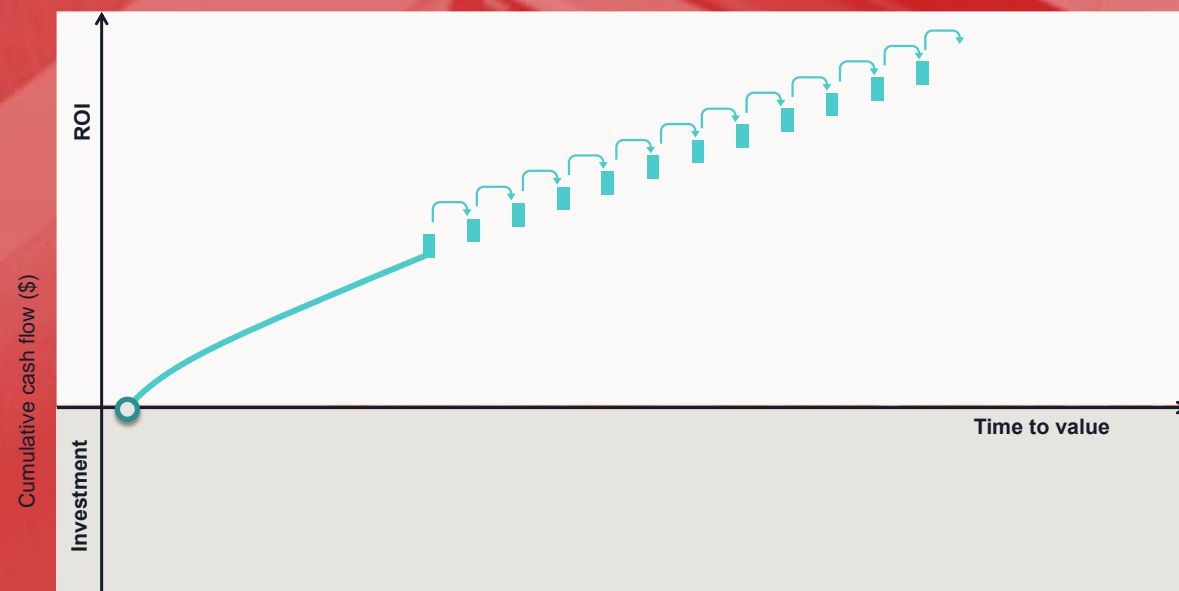
Innovation Roadmap

Prioritise identified areas of improvements or innovations into sprints for realization



However you measure it, innovation has to increase value and drive growth

Laura Furstenthal, McKinsey



Infor Team

Sol. Architect
OS expert(s)
Innovation adviser
Client Partner
PD management
CEM/ACL

AI
ML

SDK design

Java script

Workspaces

OS configuration

Customer Team

Sol. Responsible
Process owners
IT
Process lead
Management

Why not do AI/ML yourself?



People

Identify, manage, and train Data Scientists, Data Architects, and Data Engineers



Process

Identify, create, and implement use cases that will add value to current and future business processes



Technology

Create / implement tools to support AI/ML

- Integrations
- Data repository
- AI/ML platform
- Results visualisation



What is the benefit of Data Science as a Service*?



People

Experts who will work to **improve your processes and decisions** for **high ROI**



Process

Offers **proven methods** to achieve the results **cost effectively**



Technology

Investment in digital transformation to **rapidly** create competitive advantage by **leveraging on the power of data**

Infor Augmented Intelligence Service* – Fraction of the time, resources and costs of DIY

Summary

- Low upfront investment
- 6 to 8 weeks to initial value
- License based model that removes hidden costs

*Optional license not included with Infor OS

What's included in the Augmented Intelligence Service*?



Expertise

Team, technology & processes to realise value from AI/ML

- Scientist, Engineer, Solution Manager, Architect, Value SME
- Design, integration, deployment, iteration & support
- Continuous model management



High velocity

Capabilities to quickly deliver value from AI/ML

- Deliver in 6-8 weeks sprints
- Proven model library-based solutions
- Prebuilt pipelines reduce integration challenges



Value

Cost & value leveraging

- Reduce need for internal data science investment
- Capture enterprise knowledge
- Enhances decision making
- Business value tracking

* Optional license not included with Infor OS

- INFOR APPLIED INNOVATION

Innovation Library

Distribution



- Product Recommender
- Order Anomalies for Customer / Item
- Customer Segmentation



- Product Recommender
- Order Anomalies for Customer / Item
- Customer Segmentation
- CSD - Coleman DA skills



- Order Anomalies for Customer / Item
- Customer Segmentation
- C-Suite Analytics Adoption
- Portal V2 / IAD Early Adoption



- Shipping Container Cost Estimate



- Pricing Insights



- Customer Segmentation
- AP Invoice Match Compliance / Correction
- Bulk Excel Upload
- Supplier Creation WF
- Custom Workspaces



- Product Recommender



- Custom Workspaces
- Exploring AI usecase (customer/vendor science)

Manufacturing



- Customer / Item Forecasting
- Order Anomalies for Customer / Item
- ION / IDM - Expiring Contracts
- CSI Analytics - early adoption



- Sales Opportunities forecasting
- Predicting Win / Loss
- Vendor Performance Mgmt.



- Order Anomalies for Customer/ Item
- Customer Segmentation
- CSI Analytics – early adoption



- Asset Intelligence



- Product Recommender
- Vendor Performance Mgmt.
- Infor OS Homepages - Shopfloor Product KPI Visibility



- Infor OS Homepages
- Requisition ION Workflow

Public Sector / Services



- FSM – Coleman DA skills
- GHR – Coleman DA skills
- SAM (Compliance) Checklist
- Requisition Anomaly
- Invoice Anomaly
- Contract Depletion
- FSM – Coleman DA skills



- HR - Employee termination Dashboard
- FSM – Period end balances anomalies
- RPA – Invoice Processing



Healthcare



- GHR - Coleman DA Skills
- RPA – User Provisioning Automation for New Employee



- OIG (Compliance) Checklist
- Vendor Performance Mgmt.
- Requisition approval anomalies
- FSM – Coleman DA skills with Infor GO



- OIG (Compliance) Checklist
- Vendor Performance Mgmt.
- Smart Picking
- FSM – Coleman DA skills



- OIG (Compliance) Checklist
- Vendor Performance Mgmt.
- Item Requisition Patterns
- Requisition approval anomalies
- Match Tolerance
- FSM – Coleman DA skills



- Duplicate Employee Detection
- Job position workflow anomalies
- BIRST Compass Driver - EA
- GHR – Coleman DA Skills

Automotive



- Vendor Performance Mgmt.
- Clock in Kiosk App
- Birst – Coleman DA integration



- Pulley Tightening Failure Prediction

Food & Beverage



- Product Recommender
- Price Recommender
- CLM Recommendations
- RPA – Product Withdrawal Automation
- Sustainability Reporting



- Quality Sensing Tower



- GRC Implementation for IT organization



- Invoice Matching – Reason codes prediction



- Custom workflows – M3 to 3rd party

Retail



- Margin Anomaly Detection
- Sales Budget Forecasting

Other



- Demand forecasting (new/spare tires)



- Spare Parts Forecasting
- Inventory Optimization



- Asset Health prediction

Infor Technology Innovation Showcases

SUBSCRIBED



<https://www.youtube.com/c/InforTechnologyPlatform>



What now?

Possible actions?

- Innovation Web Survey?
- Discovery Workshop
- Suggest focus area in your business for improvements and innovation.
- Decide frequency of meetings (e.g per quarter as a start).
- Infor team to prepare suggestions for innovation/ optimisation.
- Based on discussions, decide on tasks/ Sprints/ projects.
- Team to be adjusted for type of areas to discuss.



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