Artificial Intelligence and Machine Learning

SOLUTION FACTSHEET

With the introduction of digital transformation and embracing new message streams from digitalization, a new approach to making sense of all this data is needed. Artificial Intelligence and Machine Learning (the engine behind AI) gives computers the ability to make sense of and learn from data to perform specific tasks without manual interference. It provides analysis and insights to users, addressing the large amounts of structured and unstructured business and industry data that companies increasingly need to consider as part of their decision-making process.

From AI to UI

SYSPRO's practical application of ML and AI provides an improved user experience and enables organizations to take advantage of these new technologies to become more efficient. SYSPRO understands that the use and benefits of these disruptive technologies must be introduced in a manner that companies can make use of them out-of-the-box.

- AI models can be attached anywhere in SYSPPRO's web based interface, Avanti, using our flexible cards infrastructure, binding a user UI and data context to an AI model. These cards become the 'mouthpieces' of ML/AI, surfacing insights, predictions or detecting anomalies directly to the users processing transactions, drawing their attention to aspects they may not have been aware of.

- The underlying machine learning and artificial intelligence engine is available for both **cloud or on-premise deployments.**
- A ML designer is made available so that non-technical users can design their own AI models simply.

How SYSPRO utilizes AI

Predictions | Use historical data to predict the future. Examples of these are from a seasonal perspective where we can predict when a customer might purchase a particular product or use historical data to predict when a customer might default on payments based on past behavior.

Anomaly Detection | This is where our AI engine listens to operator activity. This is typically used to capture fraudulent transactions or even incorrect key strokes. As an example, Joe Blogs ordinarily captures 10 sales orders with an average value of $7000. On one day Joe Blogs captures a sales order for $100000. The AI engine will flag this transaction as an anomaly for someone in the organization who can determine whether this is valid or fraudulent.

Computer Vision | Used currently by the Autonomous car to detect objects. With SYSPRO ERP, this capability can assist with health and safety regulations on the factory floor, for quality assurance. For example, using facial recognition to detect who is authorized to use machines or forklifts; or taking pictures of products as they come off the production line to provide real-time quality checks.

Product Version:

SYSPRO 8 (2020 R1)

Related Modules:

- Accounts Receivable
- Contact Management
- Inventory
- Logistics
- Procurement
- Purchase Orders
- Quotations
- Returned Merchandise
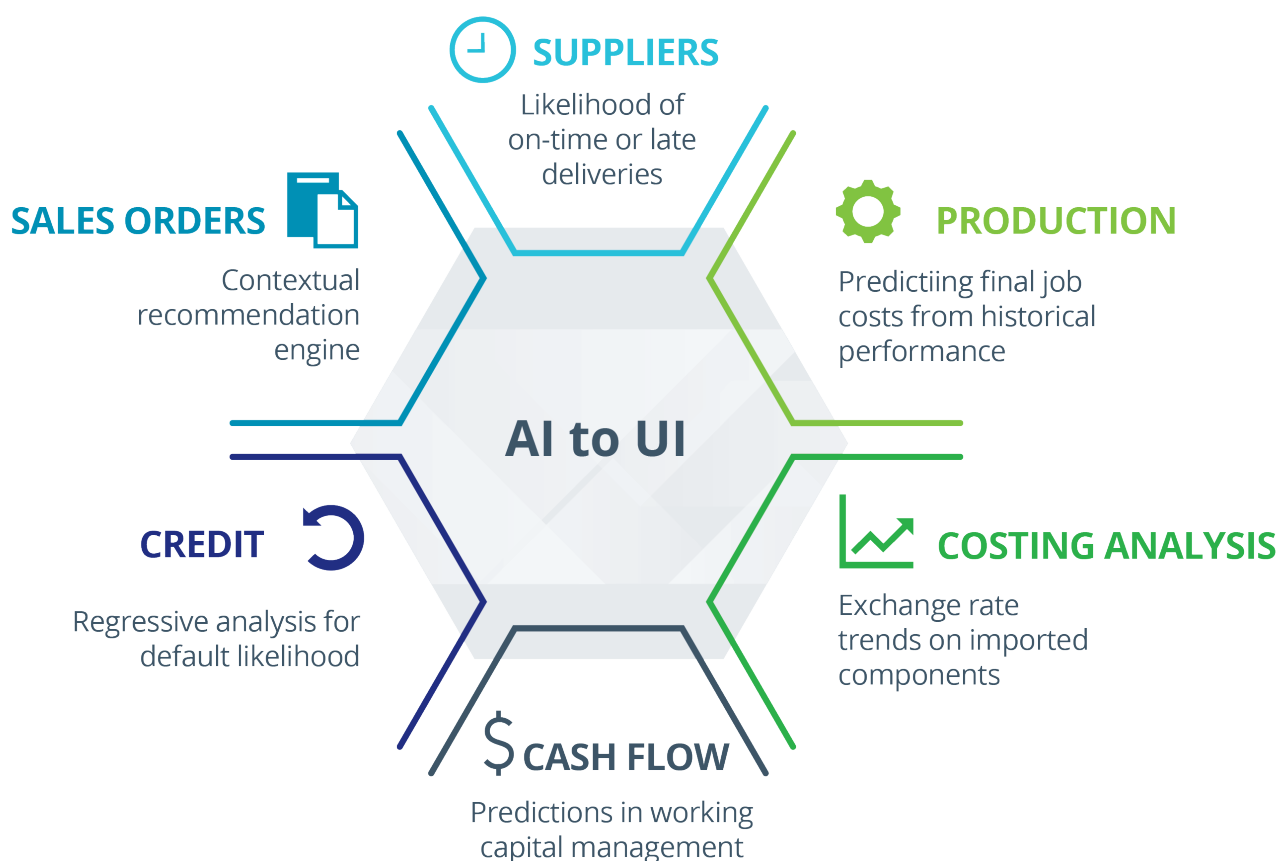- Sales Orders
- Stock Control
- Work in Progress

Sectors:

Manufacturing and Distribution

Industries:

- Automotive Parts and Accessories
- Electronics
- Fabricated Metals
- Food and Beverage
- Industrial Machinery and Equipment
- Packaging
- Plastics and Rubber

Additional practical applications of AI and Machine learning with SYSPRO include the following:

- **IN PROCUREMENT** AI can help your procurement teams be more efficient. Imagine you are creating a purchase order and you need to order 10 new laptops for 10 new staff members starting on 1 December. As you are capturing the order, the AI alerts you that the provider you have chosen won't provide laptops in December. It recommends that you select another supplier. If you had wanted that information previously, someone would have had to pull a report and do intense manual searching to see if that particular supplier had previously supplied laptops in December.

- **IN FINANCE** One of the most important aspects of any business is the ability to manage cash flow. What if you could predict when a customer would go into a 30, 60, 90 day age analysis? It would be more efficient if you received a warning that the customer was likely to go into a 60 day age analysis in the second quarter. As CFO, you can predict your organization's cash flow and prepare accordingly by managing your purchases so that you are able to pay your suppliers on time.

- **IN CUSTOMER ACCOUNT MANAGEMENT** AI can assist with trend and anomaly detection. As an account manager you need to keep a close eye on what's happening with your various accounts. In the past, you would pull sales reports to see what a customer had purchased and a separate merchandise report to see what they had returned. You would pull a credit report to monitor their invoicing and credit levels, and to understand whether they had reached their threshold.

- **IN SALES** AI can help with clustering too. This means that when you are capturing a sales order, the AI will come up in the interface and say 'people who buy bikes also buy helmets'. The sales person can then make this suggestion to the customer, potentially creating an additional sale.

SUPPLIERS
Likelihood of on-time or late deliveries

PRODUCTION
Predictiing final job costs from historical performance

SALES ORDERS
Contextual recommendation engine

AI to UI

COSTING ANALYSIS
Exchange rate trends on imported components

CREDIT
Regressive analysis for default likelihood

CASH FLOW
Predictions in working capital management

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