

Challenges of Global Supply Chain & How InterSystems IRIS Addresses Them



Speakers



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Ltd



Agenda



- State of Supply Chain Today
- InterSystems IRIS – Accelerating Time to Value
- Benefits in Action - Use Cases from M-Tech
- Product Roadmap for the Future
- Key Takeaways
- Q&A





State of Supply Chain Today

Supply Chain Business Challenges Faced Today

The top 5 business challenges identified:

Lack of accurate end-to-end visibility and reporting with actionable insights

Data silos and difficulty integrating and normalizing disparate data

Difficulty performing analytics to support the business. Need predictive and prescriptive recommendations/options

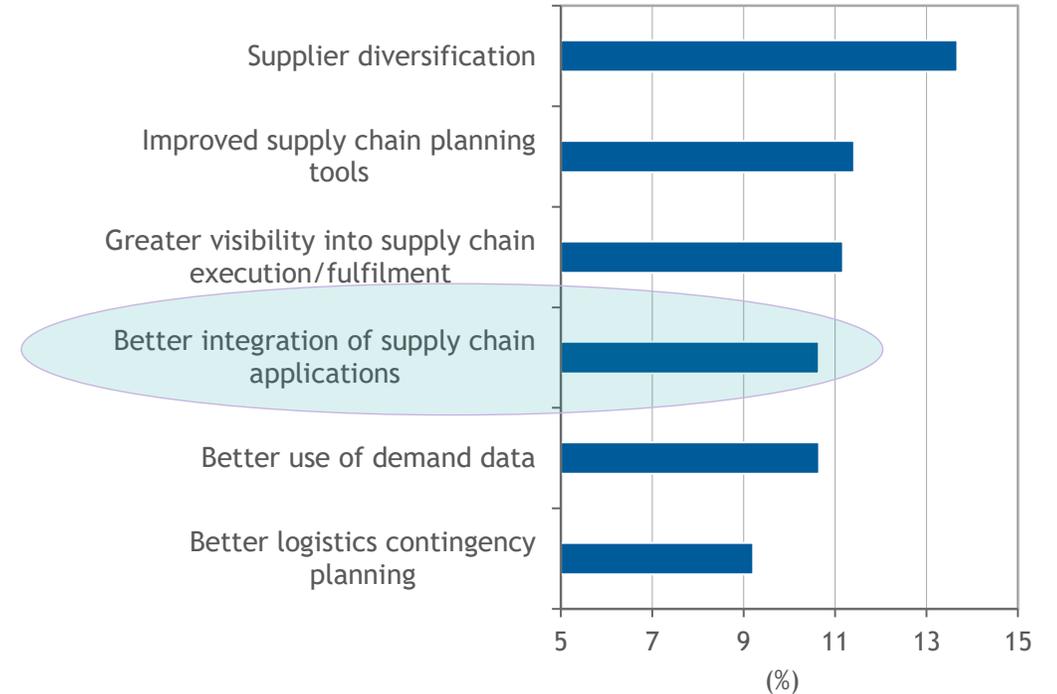
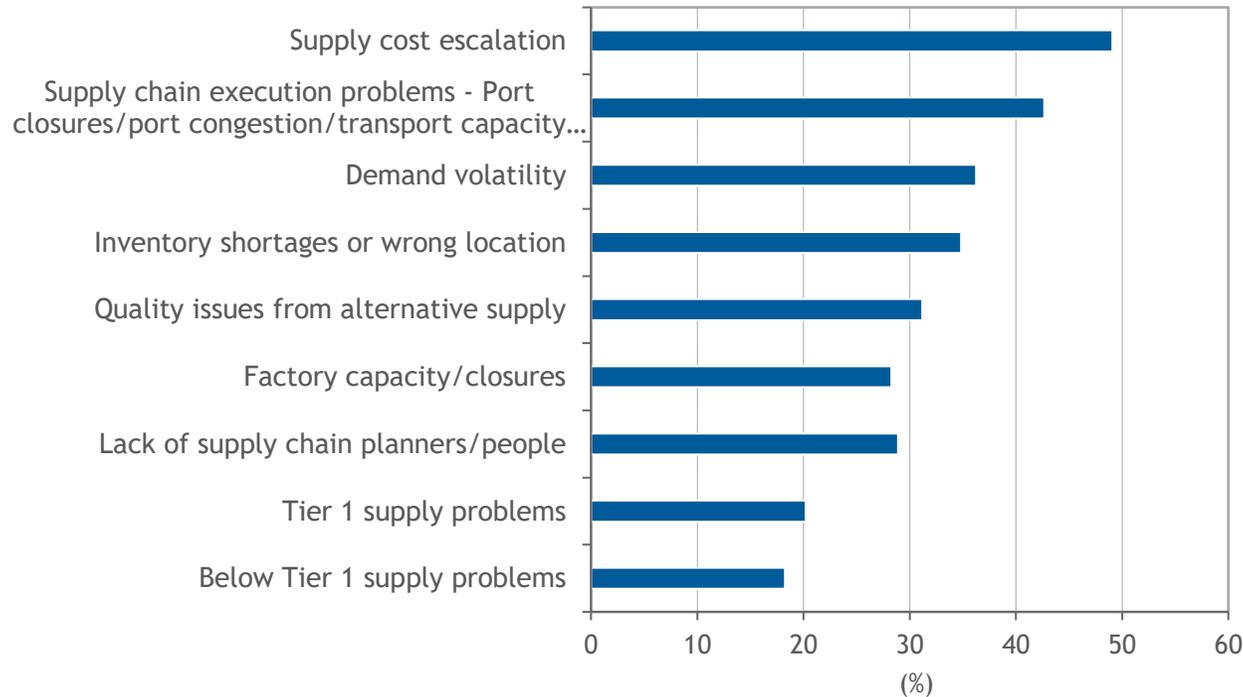
Significant manual processes which require data manipulation and corrections

Delays in accessing data with 15% waiting up to 3 days. Improved Time to Decision

*Based on InterSystems survey of more than 700 business leaders within Retail, CPG and Manufacturing organizations globally and confirmed by leading analyst firms.



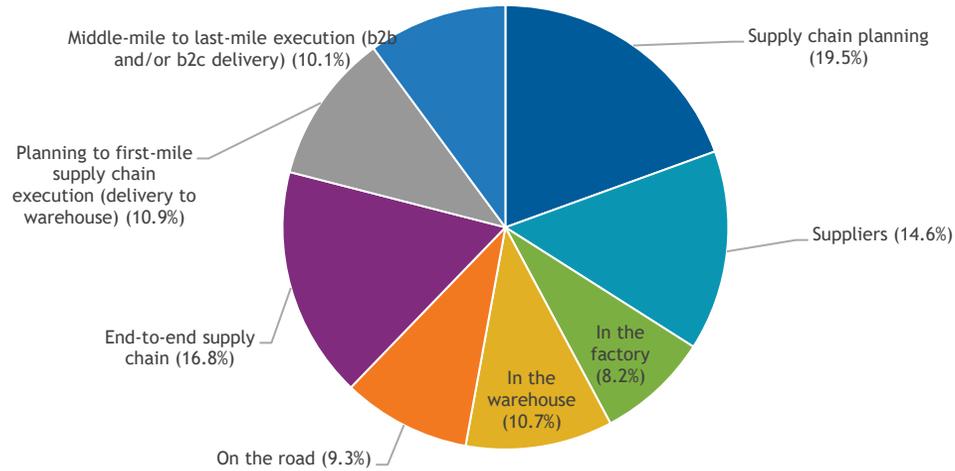
Supply Chain Challenges And What to do About it!



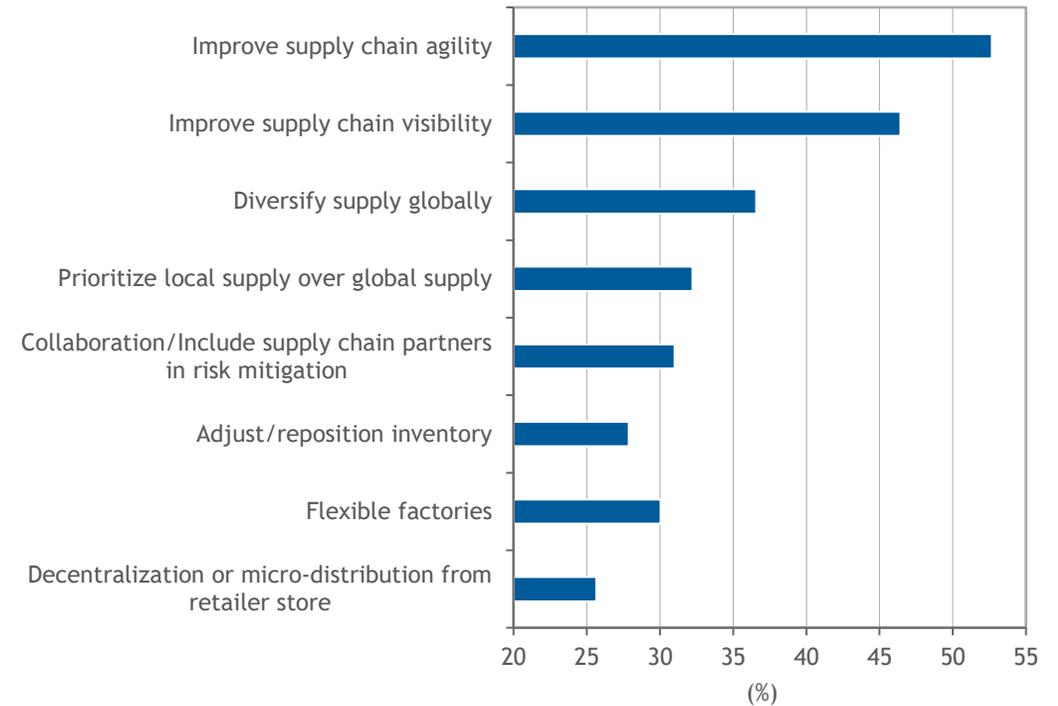
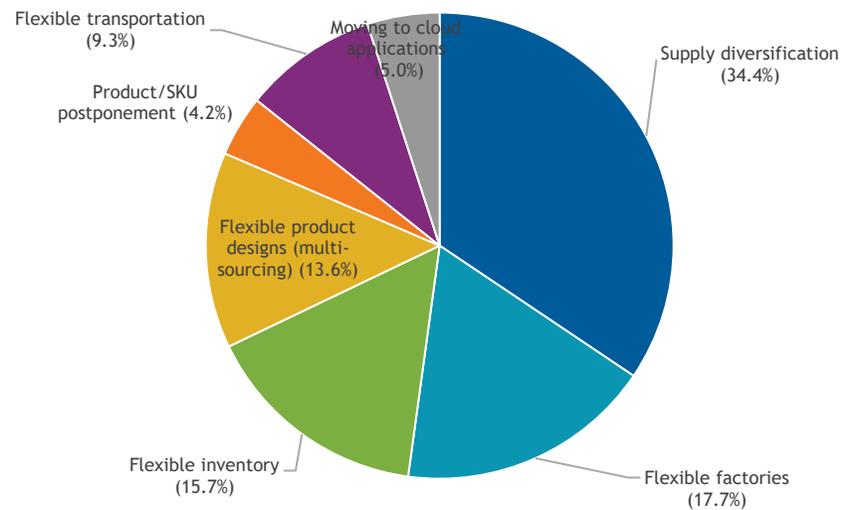
Managing Risk



Visibility

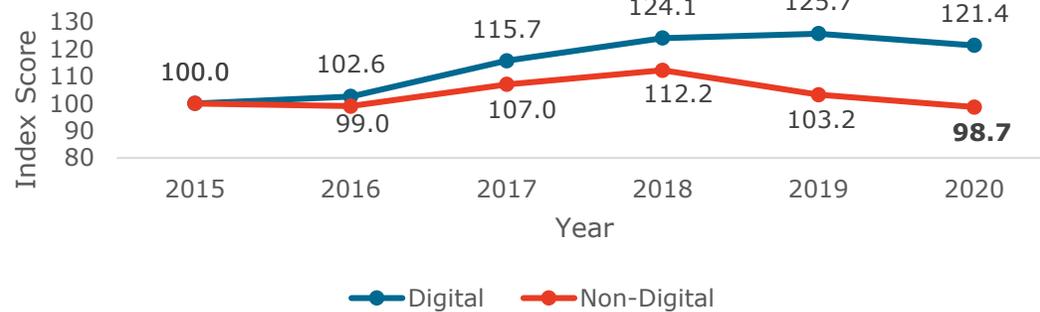


Agility



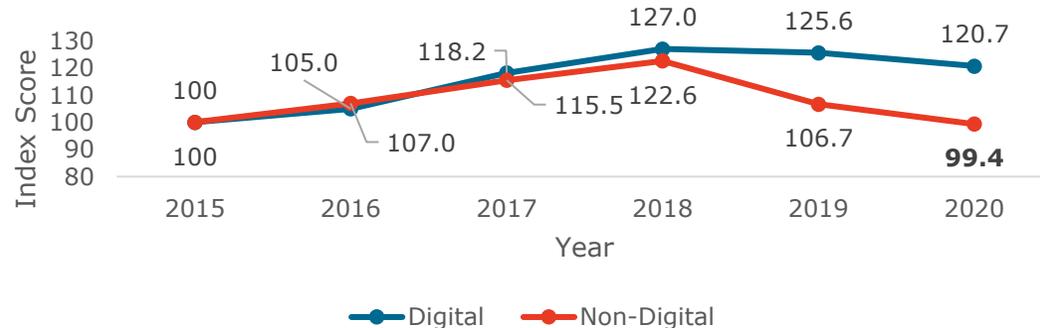
DX Correlates with Performance

RPI - Digital vs Non-Digital Manufacturing Organizations



- The RPI (Revenue Performance Index) for the Digital Organizations has shown an improvement from 100 to **121.4** from 2015 till 2020. On the contrary, the RPI for the Non-Digital Organizations has shown a decline from 100 to **98.7**.

PPI - Digital vs Non-Digital Manufacturing Organizations



- The PPI (Profit Performance Index) for Digital Organizations has shown an improvement from 100 to **120.7** from 2015 till 2020. On the contrary, the Non-Digital Organizations has shown a decline from 100 to **99.4** in the same period.



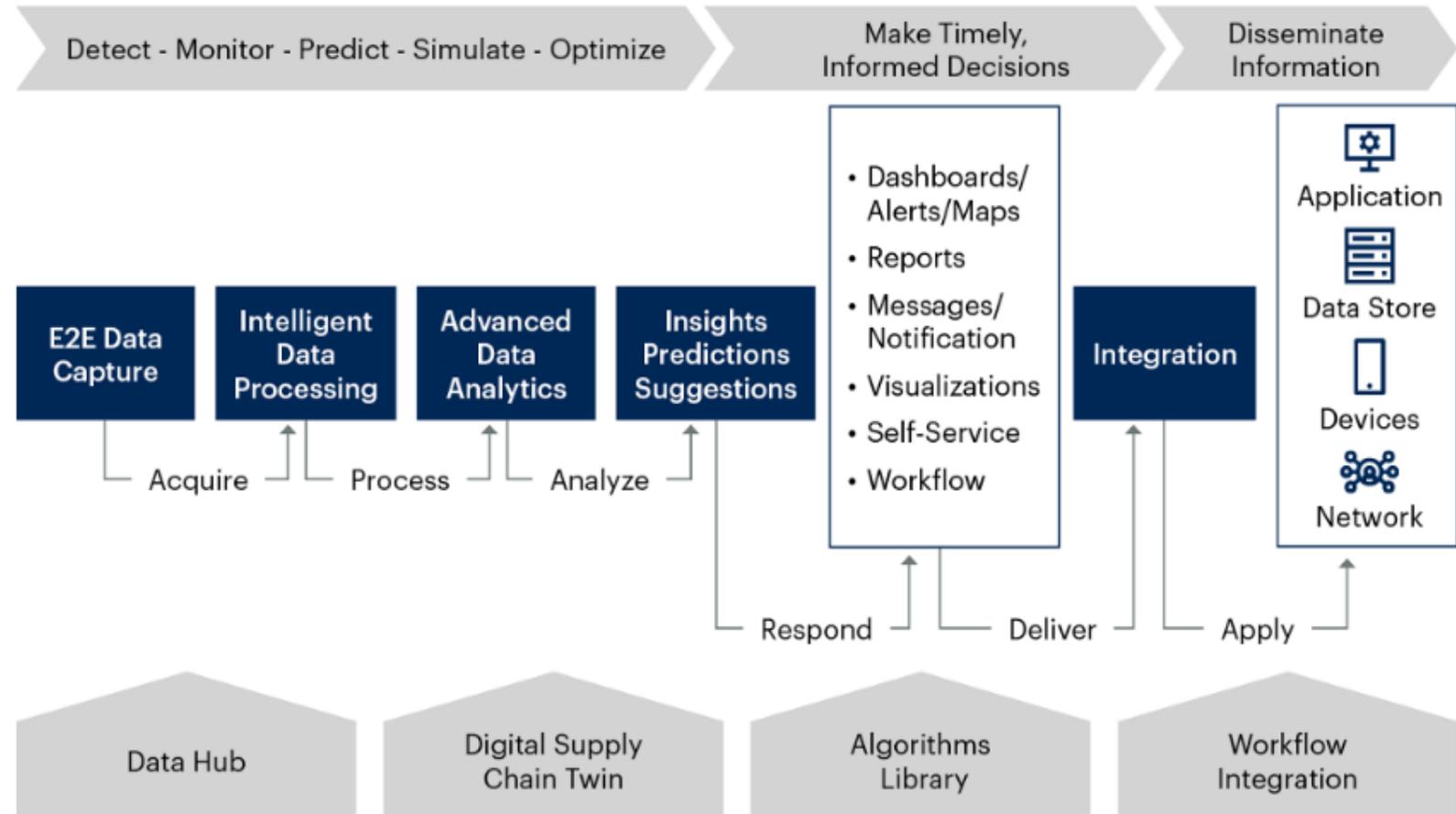


The Future of Supply Chain

- Data through analytics to action
- Resilient to both internal and external disruptions
- Collaborative at Scale
- Predictive/Prescient where possible
- Fast where not possible

Supply Chain Digital Transformation – What’s Missing

Supply Chain Command Center



No connective horizontal data layer.

Source: Gartner
757414_C





InterSystems IRIS - Accelerating Time to Value

InterSystems IRIS - Accelerating Time to Value

InterSystems provides the **connective tissue** to integrate disparate data and sense disruption and opportunity in real time to support various applications, analytics and provide intelligent prescriptive insights.



InterSystems **IRIS** Smart Data Fabric

The only platform for supply chain with **smart data fabric** architecture

MULTI-MODEL DBMS

Data Integration

Harmonize and normalize disparate sources and formats for consistent data representation.

MULTI-WORKLOAD DBMS

Data Ingestion

Utilize any type of data, including real-time event and transactional data as well as data at rest.



INTELLIGENT PROCESSES

Interoperability

Enable seamless, accurate real-time SC orchestration and optimized, intelligent business processes.

ADVANCED ANALYTICS

Insights

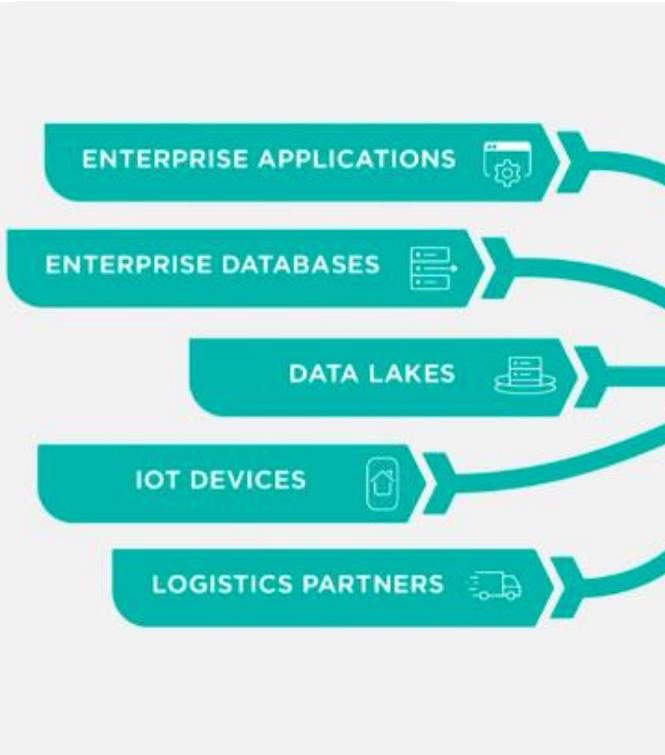
Real-time processing—BI, ML, AI, NLP—for descriptive, predictive and prescriptive insights.



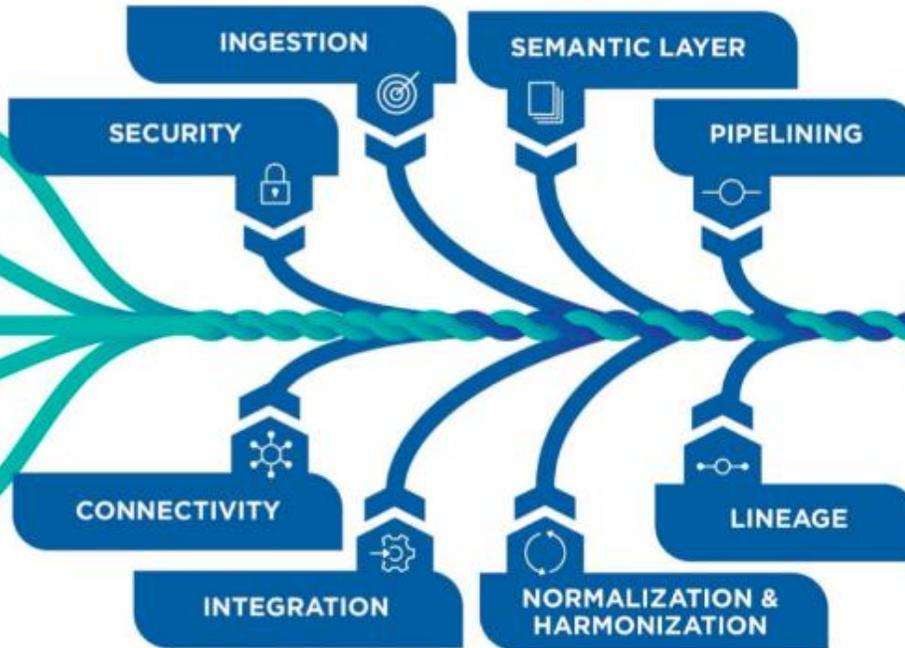
InterSystems IRIS Smart Data Fabric Architecture

A connective thread to enable supply chain operational excellence

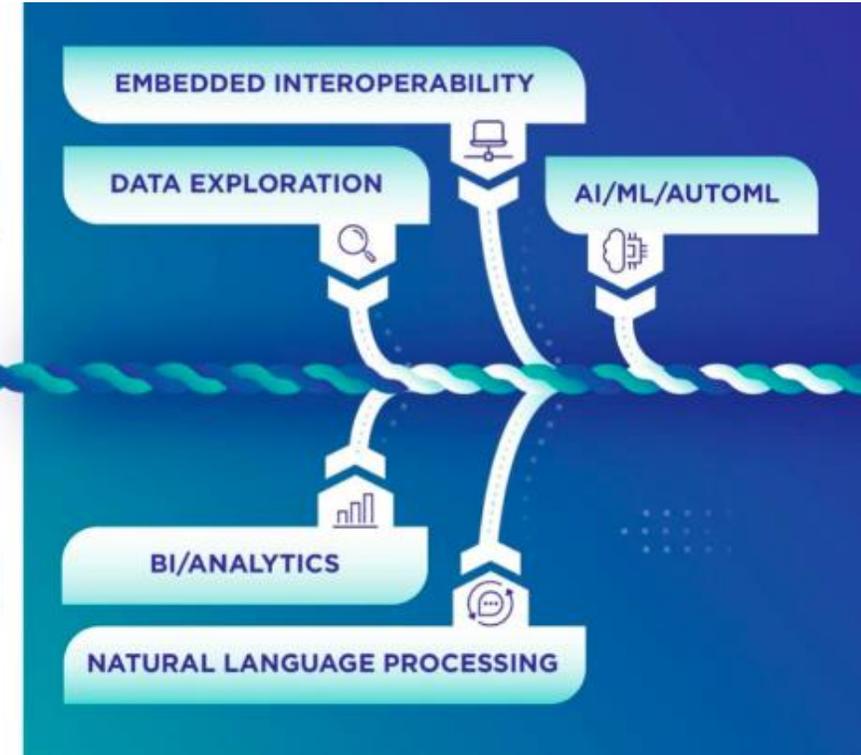
Data Source



Data Fabric



Smart Data Fabric



Challenges We Solve

**ACCELERATE
TIME TO VALUE
with Integrated
Decision
Intelligence**



Optimized fulfillment

Intelligent fulfillment optimization maximizes order fulfillment for delivery of products based on business constraints and business objectives while minimizing costs



Demand sensing and forecasting

Picking up on short-term trends immediately so you can better predict what consumers will want, when and where



Supply Chain orchestration

The ability to attain a truly agile and resilient end-to-end supply chain model, from sourcing to delivery. InterSystems Ultimate Control Tower enables optimized supply chain orchestration by providing end-to-end visibility (“see”), data-driven insights (“understand”), end-to-end prediction and orchestration (“optimize”) and ultimately, end-to-end aligned decision making (“act”).



Benefits in Action

Paul Martin, Operations Director
M-Tech

M-Tech Computers Ltd

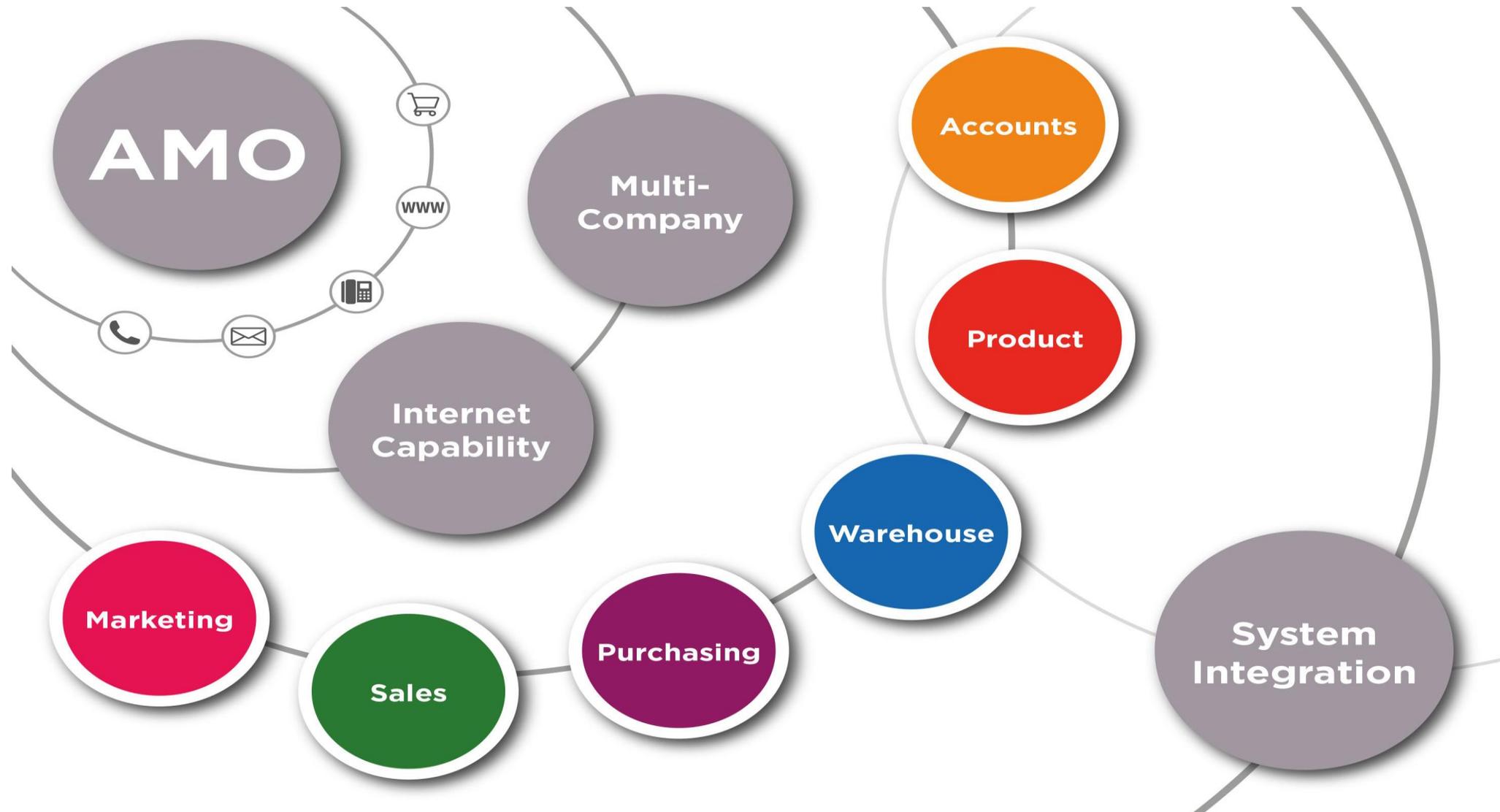


Lifetime Multi-Channel Software Solutions

- 27+ years of multi channel experience with InterSystems technology
- We have used InterSystems technologies to provide ERP solutions to a wide range of market sectors including:
 - Pharmaceutical
 - Fashion Industry
 - Mobility and Accessibility
 - Home and Gardening
 - Consumer Goods
 - 3PL and Fulfilment



Integration Capabilities



Websites Seamlessly Integrated



OmniChannel



Click & Collect



Click & Try



Home Delivery



Shipping Integration



LA POSTE



YODEL



Multichannel & Payment Integration



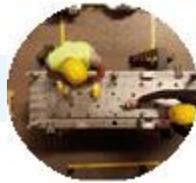
Working Through the Storms



Changing environmental targets/regulations



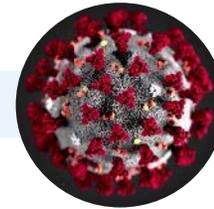
Inflationary Pressure



Supply Chain Disruption



Cybersecurity Threats



Poor Covid Vaccination rates and/or new variants



Talent Skills Gap



Political Risks/Government Interventions



Gonçalo Caseiro

Chair, INCM
(Portuguese Mint and Official Printing Office)

'This is not about managing one crisis. It's about being **prepared for anything** – and being able to **adapt** to any disruption to the business.
And **technology is critical** to make this a reality'



OUT OF STOCK

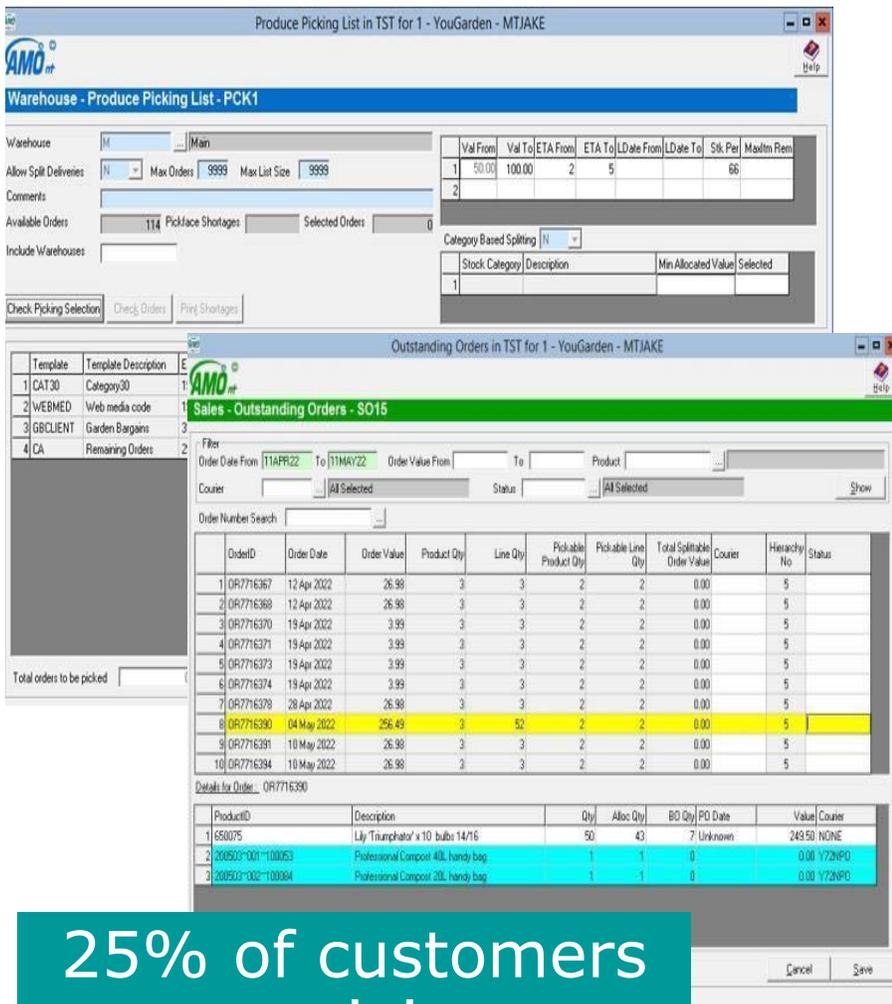
100,000+
outstanding
orders that
could not be
completely
fulfilled

The Challenge – Supply Shortages

Increased demand for products combined with shipping delays caused immediate and unforeseen supply shortages.

- International shipments delayed and/or suspended leading to product shortages
- National shortages due to increased demand which could not fulfil the increased demand
- Larger average order volumes and values as customers purchase more and different products.





25% of customers receiving previously held up orders

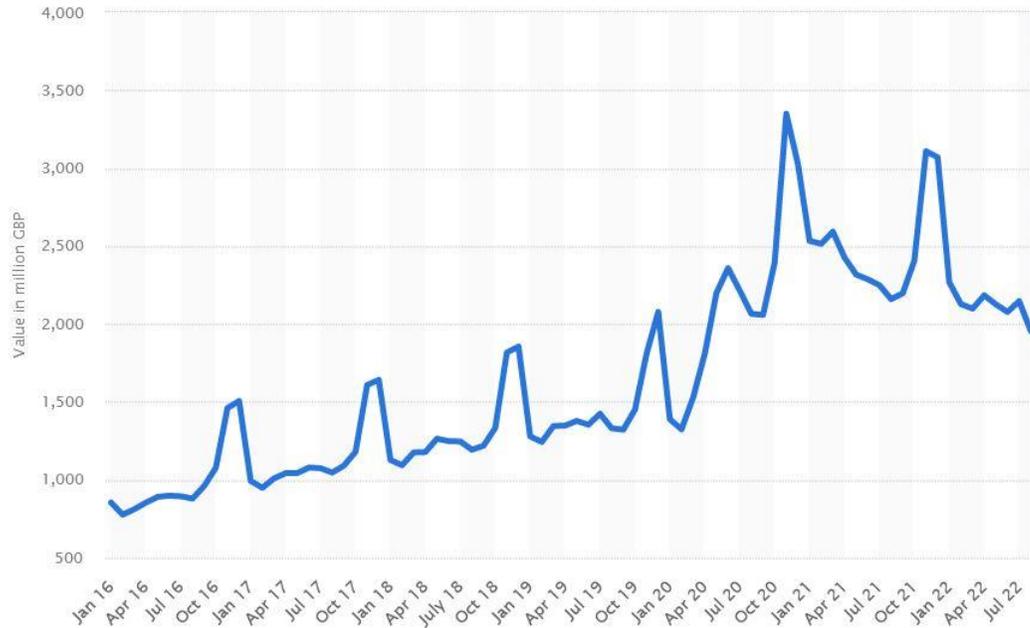
The Solution – Actionable Insight

Using the InterSystems IRIS Platform we were able to analyse patterns in the data to identify the most effective options to split and pick orders economically to alleviate the backlog.

- Dashboards to display scenarios and their respective results
- Actions to re-allocate products from orders that could not be shipped to help other orders.



The Challenge – Changing Consumer Behaviour

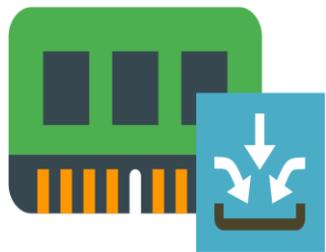


Average weekly value of internet retail sales in Great Britain from January 2016 to August 2022. Source: Office for National Statistics (UK)

With consumers forced to stay at home, on-line demand increased significantly across many market sectors.

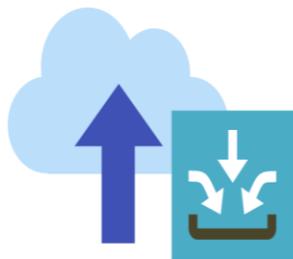
- Traffic on eCommerce Web grew significantly
- Performance, agility & scalability of websites tested to the max
- One client faced **100% increase in demand** in just weeks.





65% more

records ingested with simultaneous querying than in-memory DB



15x more

records ingested with simultaneous querying than cloud RDBMS



5.6x more

records ingested with simultaneous querying than traditional RDBMS

The Solution – Unrivalled Performance

- The InterSystems IRIS Web Add On enabled our websites to cope with the high peaks in customers whilst some of our clients competitors struggled.
- The inherent efficiency of InterSystems IRIS due to it's post relational structure provides the speed and scalability required to meet the consistent demand experienced

<https://gettingstarted.intersystems.com/speed-overview/speed-test/>



Digital Transformation

User Experience Use Case

Due to the inability to travel to stores and showrooms during the pandemic, clients focused on providing new & improved online solutions

A mobility client had to shut all their showrooms countrywide.

They switched the focus on providing a rich online experience including

- online mobility advisors
- full view reviews of products

The screenshot displays the CareCo website interface. At the top, there is a navigation bar with the CareCo logo, a phone number (0333 015 5000), a search bar, and icons for Contact, Account, and Basket. Below the navigation bar, a horizontal menu lists various product categories: New, Bathroom, Bedroom, Living Aids, Transfer, Incontinence, Mobility Scooters, Powerchairs, Seating, Walking Aids, Wheelchairs, and Stairlifts. The main content area features a large blue banner with the heading "Our story" and a "Shop now" button. Below this, there is a section titled "Why we exist" with a paragraph of text. On the right side, a "Mobility Advisor" chatbot window is open, showing a conversation with the user. The chatbot has a profile picture and a name "Mobility Advisor". The conversation starts with the chatbot saying "Hi there! I'm CareCo's interactive advisor." and the user asking "How can I help you on the website today?". The chatbot provides several options: "I'd like a brochure", "Find a showroom", "I'd like help choosing a product", "I have a question about an order", and "I have a different question". At the bottom of the chatbot window, there is a small disclaimer: "* By clicking or typing you accept our Terms Of Use".

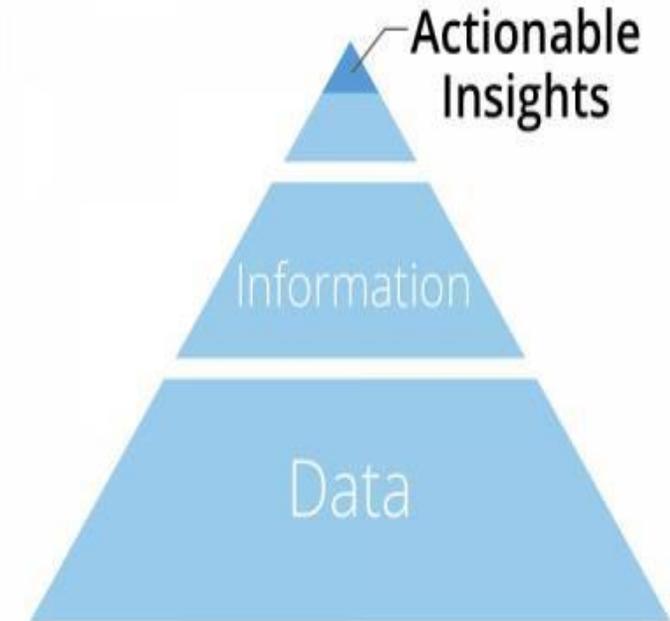
Leading to an increase of 25% of online orders



What for the Future?

Clients are having to be more responsive and flexible with regards to the supply chain; being prepared for any unforeseen events.

- We are working on more tools to provide insights via custom dashboards to enable our clients to analyse the impact of supply issues rather just report on them.
- With additional developments to be able to perform actions on those insights, changing parameters for order picking, selection, re- allocation providing more flexibility.





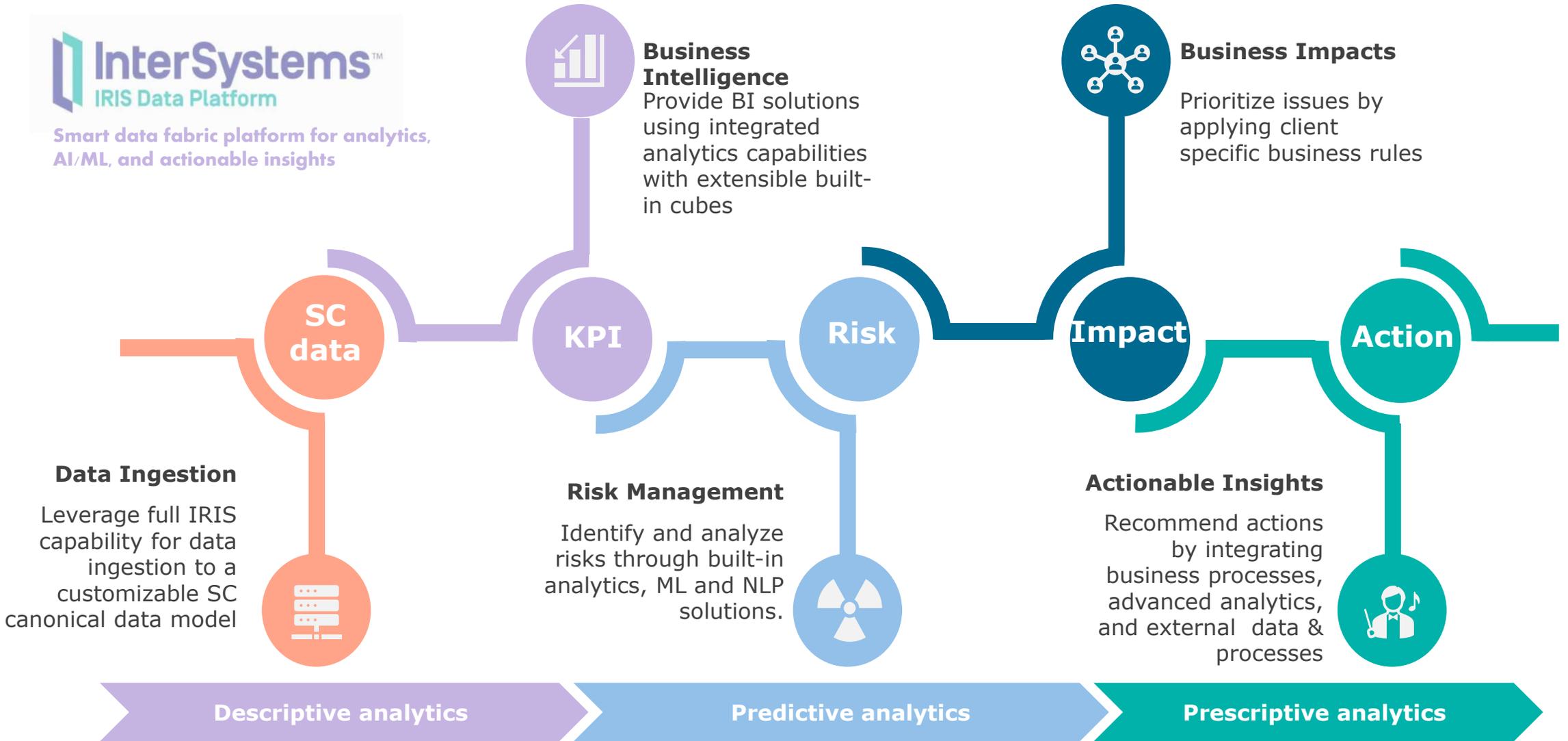
InterSystems IRIS Supply Chain

Product Roadmap

Our Approach



Smart data fabric platform for analytics, AI/ML, and actionable insights



InterSystems IRIS Supply Chain Capabilities



Configurable cloud service for specific supply chain functions by InterSystems, our partners, and our clients



Common supply chain services & infrastructure which simplify the implementations of client specific use cases



Smart data fabric platform with data persistence, data ingestion & integration, built-in analytics & interoperability



IRIS for Supply Chain Framework



IRIS data platform speaks supply chain language

Allows users focus on business use cases rather than technology

- Canonical data model for Supply Chain
 - Easily customizable
 - API for model discovery and customization
- Pre-built analytics cubes based on the data model
- KPI framework
 - Custom KPI definitions
 - APIs for KPI values and listings
- Issue lifecycle management
 - Issue/risk identification/creation
 - Issue analysis and resolutions
 - Issue stats and reporting
- Full REST API support
- Common utilities for supply chain use cases

IRIS For Supply Chain with SDS

SDS Catalog



Pick,
Click,
Deploy

Multi-Cloud

Smart Data Services (SDS)

Works seamlessly with IRIS for SC
in a secure and scalable way

Tracking
service

Forecasting
service

External
events

Other SC
services

Cloud native services

- Supply chain data model
- Pre-Built analytic cubes
- KPI framework
- Issue management
- Full REST APIs

IRIS for
Supply Chain
(Framework)

- Descriptive analytics
- Predictive analytics
- Prescriptive analytics



Biz Users



SCM Applications



Enterprise
Applications



Application
Gateways

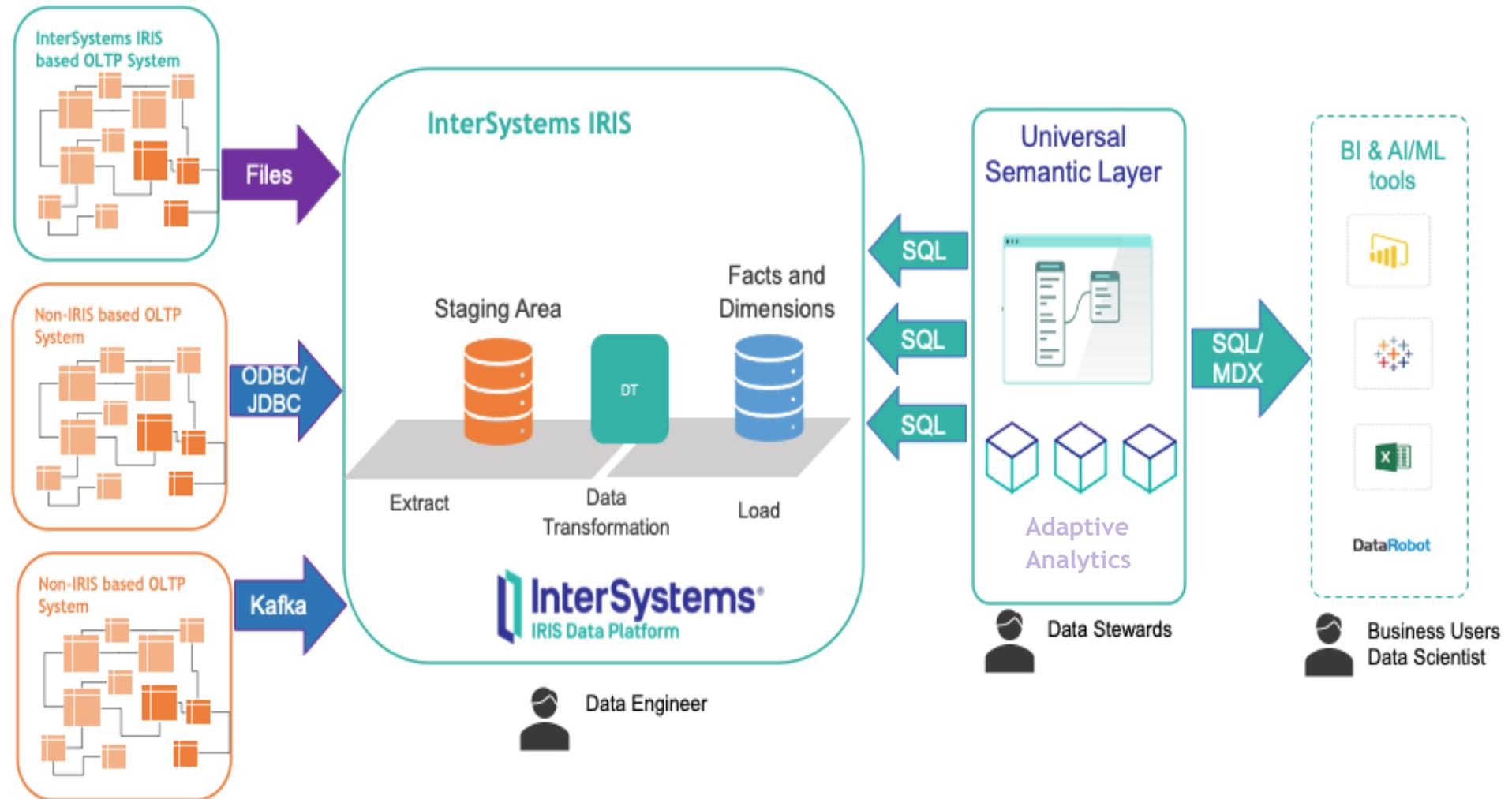


SC Control Tower

Adaptive Analytics



- **Cloud first infrastructure**
- **Analytics on live cloud data**
- **Bridging AI & BI**
- **Single source of truth**
- **Open platform**



Demo: Actionable Insights



InterSystems IRIS for Supply Chain demouser

Home > Order Dashboard > Issues > Order Details

Sales Order: c960646f-4421-4d0e-9483-320a75d9e8a2

Customer
Oi

Ship to
LOC-CUST-9
Rua Humberto de Campos 425
Rio de Janeiro, Rio de Janeiro 20000-000
BRA

Order Value
\$328,000

Order Status
Open

Order Placed Date
8/6/2022, 12:00:00 AM

Requested Ship Date
8/7/2022, 12:00:00 AM

Requested Delivery Date
8/12/2022, 12:00:00 AM

Committed Ship Date
8/9/2022, 12:00:00 AM

Committed Delivery Date
8/14/2022, 12:00:00 AM

Issue

Order impacted by predicted supply shipment delay

Analysis | 8/15/2022, 12:39:00 PM [Update Analysis](#)

Severity: 3 **Urgency:** 3

Root Causes
Late supply shipment

Impact Analysis
Unable to meet top client SLA. Potential loss of \$378,000 in revenue.

Recommendations

- Option A**
Use parts reserved for other client's orders.
Impact: \$192,750 of deferred revenue at risk. Order delivery will still be 36 hours late.
- Option B** RECOMMENDED
Fulfill the order by a different plant.
Impact: \$52,000 in extra shipping cost. On time order delivery.
- Option C**
Use alternative parts.
Impact: Negative margin of \$120,000 on the order. On time order delivery.

[Accept](#)

Demo Session

*Please join us to see a
live IRIS for Supply Chain
demo in the next session*



Key Takeaways



InterSystems IRIS for Supply Chain is a next generation data platform. It's built for implementing **real-time, intelligent, architectures** that drive **predictive and prescriptive actionable insights** throughout the supply chain.

The “**connective tissue**” for **integrating disparate data sources**.

Managing disruptions and constraints across the entire enterprise and global eco-system, is the key to **accelerating time-to-value**



QUESTIONS?





Connect with Us

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Thank you