



Ingredion.

Be what's next™

# Unlocking Customer Value through Supply Chain Excellence

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## Let's talk about ...

- Ingredion: Who we are and what we do
- The “Path Forward”
- Supply Chain
- IPS and Reliability
- Q&A



# **Ingredion: Who we are**

A leading global ingredients solutions company



We make sweeteners, starches, nutrition ingredients and biomaterials that are used by customers in everyday products.



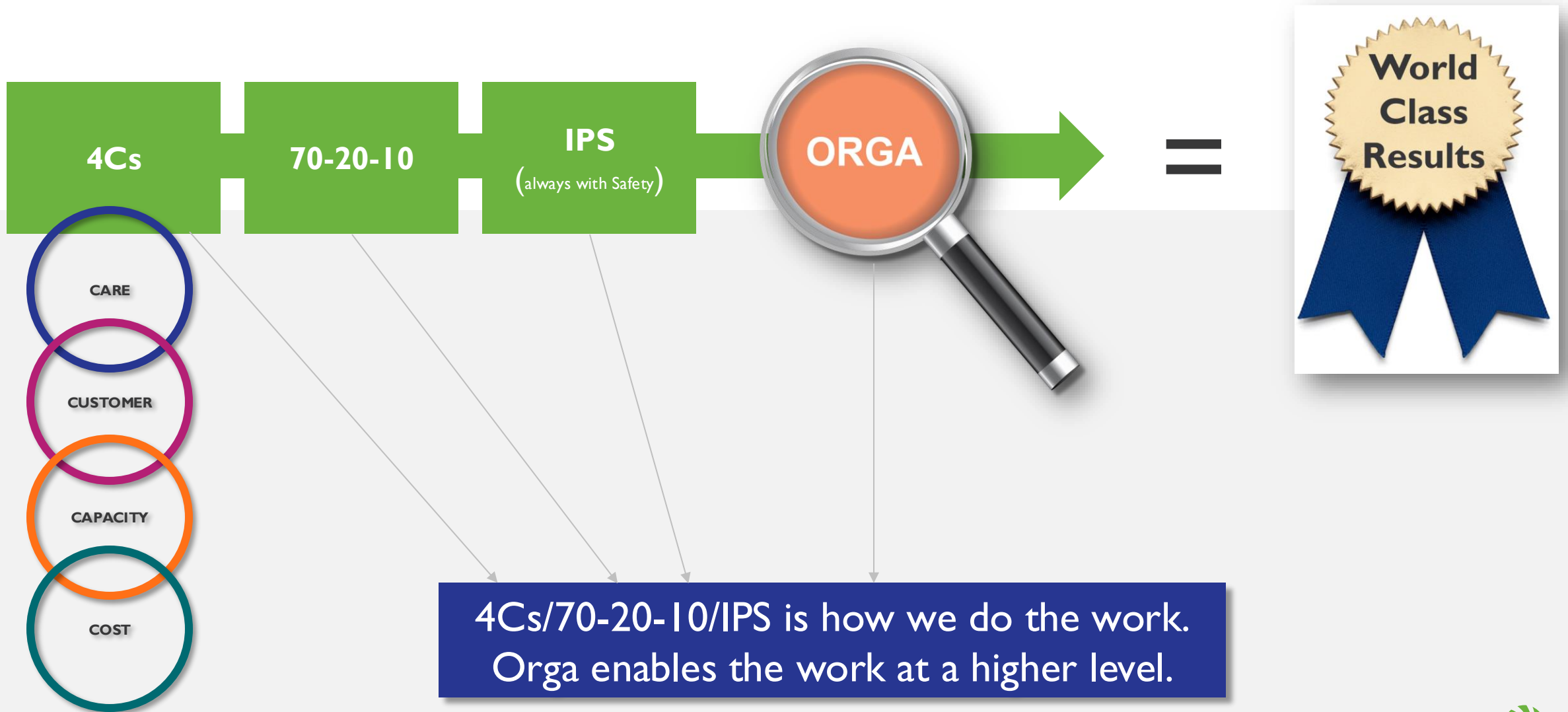
# Ingredient Manufacturing Locations

46 plants, 14 countries

Each day, **2.3 billion** people around the world consume a product with an Ingedion ingredient in it.

- Food & Industrial Ingredients
- Texture & Healthful Solutions
- PureCircle, Protein Fortification, Pakistan

# The Path Forward



# The Four “Cs”

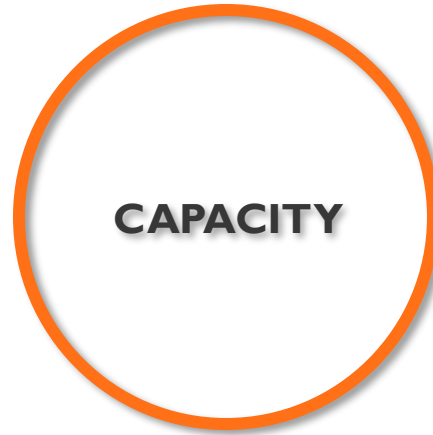
We must be great in all four areas — and we stick to this order of priority



Ultimate demonstration of our Care First value is Safety: ensuring our employees and contractors can go home the same way they come into our facilities. Care also includes environmental stewardship/compliance.



Understanding & anticipating expectations, partnering with customers to provide and delight. Providing assurance of supply always with service & quality combined.



Identifying ways to maximize equipment output to meet customers' product needs when they need it.



Having an owner's mindset as individuals, teams and as a company to minimize waste in our processes and procedures. Our Ingestion Performance System (IPS) is how we work.

**When CARE is right, everything else will flow.**

# Safety: Recognized by National Safety Council as Green Cross Finalist

In 2018, Ingredion's global recordable incident rate was best-in-class for our industry — yet we plateaued and wanted to know why.

## Focused on:

- Leadership engagement
- Preventing Serious Injuries and Fatalities (SIFs) and Potential Serious Injuries and Fatalities (PSIFs).
- Reducing and preventing Thermal Events (our most frequent PSIF).

In 2023, Ingredion had its **best Safety year on record.**



## R E S U L T S

Employee total recordable incident rate  
**Improved by 27%**

TRIR  
0.26 in 2018



0.19 in 2023

Ingredion's **best safety performance** in the history of the company.

Employee Lost Time Incident Rate



56% since 2018

Number of slips, trips, and falls recordable incidents (employees, contractors, and visitors)



56% since 2021

*There were direct financial benefits from reducing the severity and frequency of injuries. Our workers' compensation costs decreased in the United States during this period.*

SIFs  70%

Overall PSIFs  86%

Comparing 2019 baseline data to 2023 year-end, through **phenomenal teamwork**, we delivered a

**72% reduction in thermal events.**

We are continuing this work by exceeding expectations in 2024.

## The reality of Supply Chain:



**SUPPLY CHAIN DISRUPTION**







Baltimore bridge collapse



### Chart of the Week

International trade

## Red Sea Attacks Disrupt Global Trade

In the first two months of 2024, Suez Canal trade dropped by 50 percent from a year earlier while trade through the Panama Canal fell by 32 percent, disrupting supply chains and distorting key macroeconomic indicators



Data challenges

- **How do we best serve our customers — before they seek out our competitors?**
- **How do we rebuild trust?**

# Process Capability: Evolution of Supply Chain

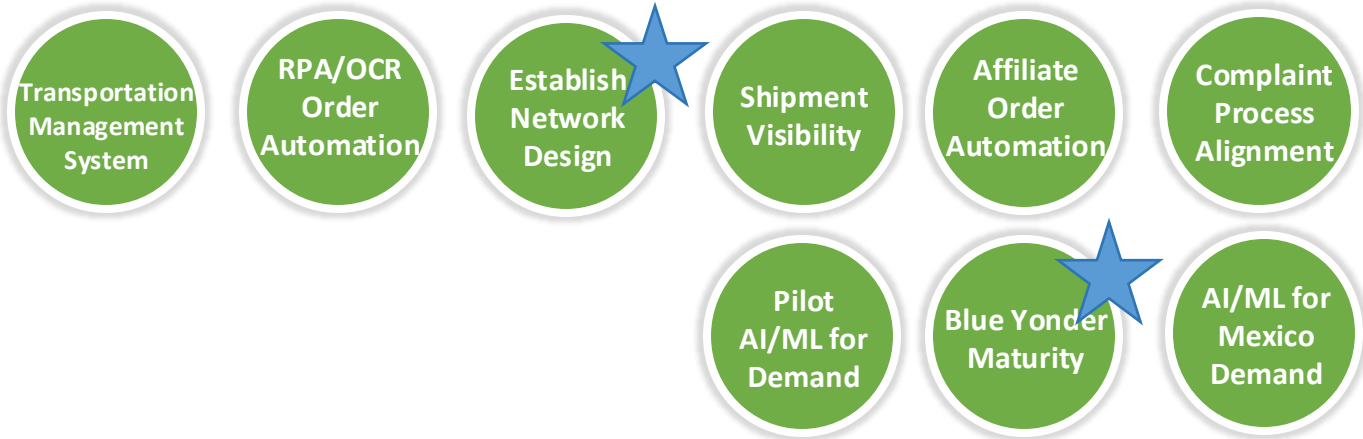
Global Supply Chain (GSC) was formed in 2021. We've come a long way in a short time.

## Metric Evolution



2014 2017 2019 2021 2022 2023 2024

## Process Evolution



 2024 External Recognition

# BlueYonder: Greater visibility into our Supply chain

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BlueYonder modules have helped Ingredion:

- Increase reliability of statistical models and refined demand planning processes, leading to an increase in forecast accuracy
- Leverage the power of ESP (Blue Yonder's Supply module) to optimize inventory levels/minimize financial risks associated with excess inventory
- Get a clearer picture of how material flows across our organization
- Develop global Resource Utilization Reports that have helped save on cost

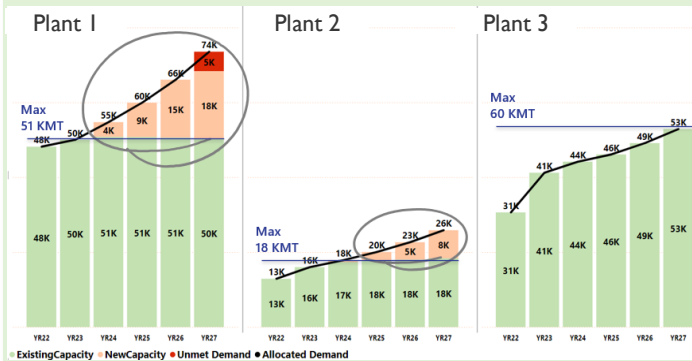
Differentiating via service for our customers



- Ingredion Global Planning and Logistics team honored for Supply Chain Resiliency.
- Recognized for using digital planning to solve some significant challenges and unlock opportunities for our customers' benefit.

# Supply Chain network strategy applications at Ingredion provide cost, service, and sustainability benefits

## Long-Term Capacity Planning in support of the Capex Cycle



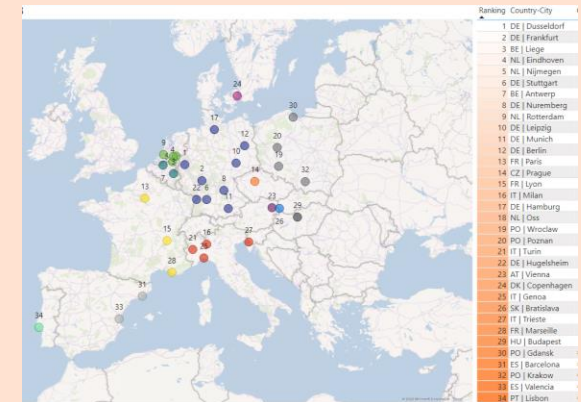
- Maximize the use of current assets before new investments
- Informs decisions on new capacity needs (where, when, how much)

## Distribution Network Design and Service Territory Realignment



- Reduction of warehousing and transportation costs
- Lower lead times and carbon emissions reductions

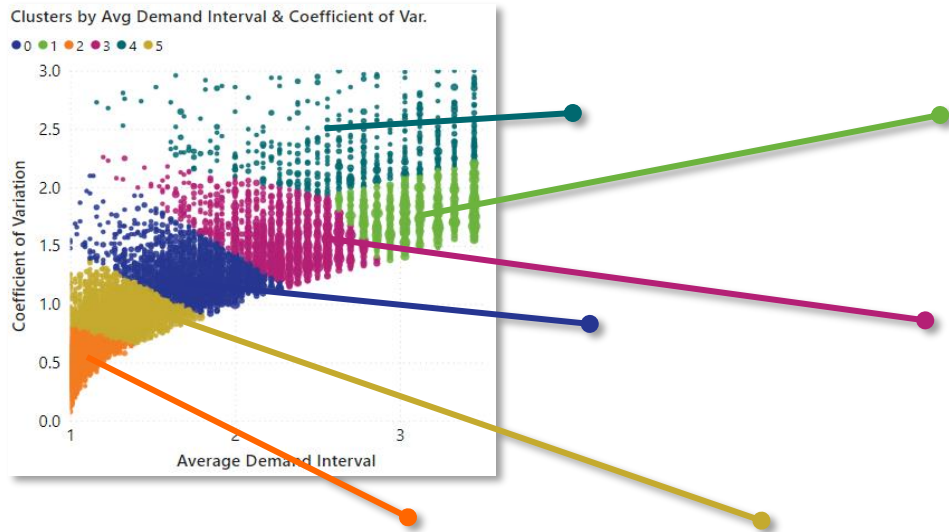
## Various What-if Network Scenarios for Special Projects



- Allows for simulation of impacts on the network under special circumstances
- Supports quantify strategic initiatives

# Demand forecasting with AI and Machine Learning (AI & ML)

A sophisticated, data-driven approach to foresee future demand — with greater accuracy



- Looks at product variability by frequency and quantity, and
- Helps independently select/combine suitable production methods for different products and levels.

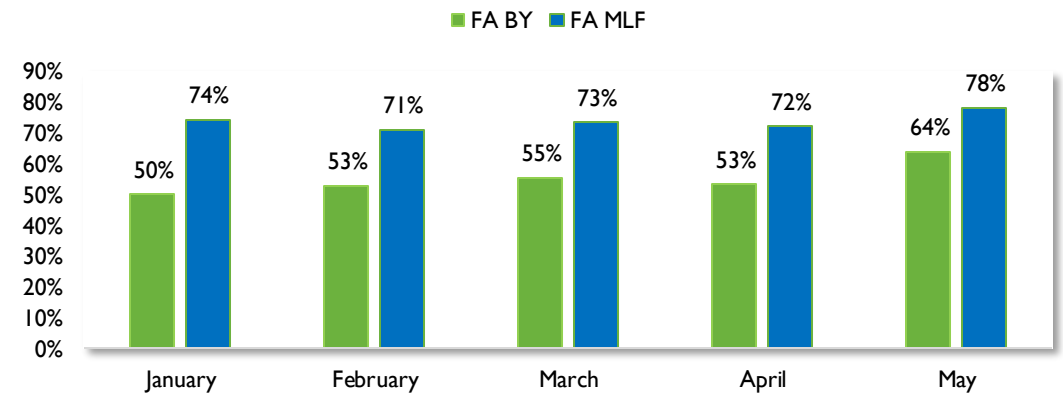
Can help businesses make better decisions—  
and better meet customers' needs.

## Example: 7 customers, 3 products

Machine learning test runs incorporating data related to clients, product and location demonstrated a


**3% - 20% boost in forecast accuracy.**

## Forecast Accuracy 2024



# Ingredion Performance System (IPS):

Reliability journey



RELIABILITY

# Ingredion Performance System (IPS) is HOW we work

Ingredion's version of the Toyota Production System with strong emphasis on daily **routines**.

**It's all about waste elimination & standardization.**



## PILLARS

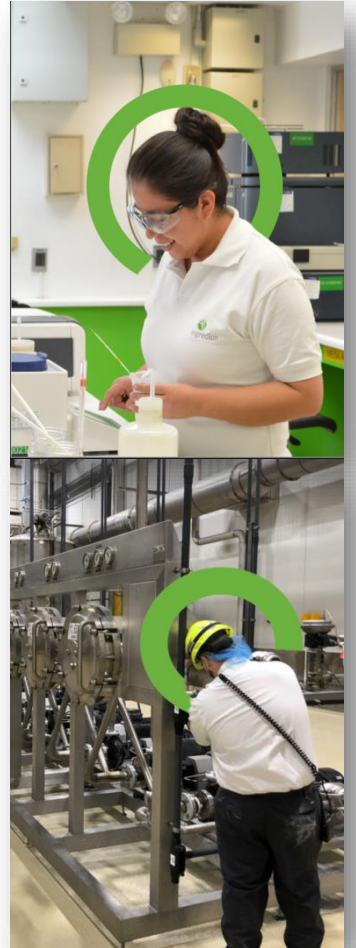
Management

Quality

Reliability

People

EHS & Sustainability



# Conclusions

- Get the **strategy** right

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- **Simplify and align goals** through some form of Hoshin planning process

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- **Build/recruit** the **capabilities** needed

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- **Grind through the details** and get the basic building blocks right first

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- **Celebrate successes**

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- **Bring your business partners with you on the journey**





