

Exploring AI in the food and beverage supply chain

Thank you for waiting, the webinar will commence shortly

Kelvyn Sampson - Retail, Food, Beverage, and Leisure Industry Leader, Marsh UK

James Crask - Head of Strategic Risk, Marsh UK



Today's speakers



Kelvyn Sampson

Retail, Food, Beverage & Leisure
Industry Practice Leader
Marsh UK



James Crask

Head of Strategic Risk
Marsh UK

- How AI solutions can inform visibility throughout the supply chain
- A look at potential risks associated at using AI in supply chain operations
- Case studies showcasing the successful AI adoption in the food and beverage industry, highlighting best practice and lessons learned

Agenda



Q&A

Audience members can submit questions for the panel by typing them into the Q&A window at the bottom of your computer screen.

If a question is not answered during today's programme, someone from Marsh will respond as soon as possible.



The future is not fixed. A multiplicity of different futures is conceivable over the next decade.

Although this drives uncertainty in the short term, it also allows room for hope.

– Saadia Zahidi, Managing Director, World Economic Forum

Global Risks Report 2024



Over the longer-term environmental risks dominate the list of top 10 most concerning risks



Near-term (2 years)

- 1 Misinformation and disinformation
- 2 Extreme weather events
- 3 Societal polarization
- 4 Cyber insecurity
- 5 Interstate armed conflict
- 6 Inequality or lack of economic opportunity
- 7 Inflation
- 8 Involuntary migration
- 9 Economic downturn
- 10 Pollution (air, soil, water)

Longer-term (10 years)

- 1 Extreme weather events
- 2 Critical change to Earth systems
- 3 Biodiversity loss and ecosystem collapse
- 4 Natural resource shortages
- 5 Misinformation and disinformation
- 6 Adverse outcomes of AI technologies
- 7 Involuntary migration
- 8 Cyber insecurity
- 9 Societal polarization
- 10 Pollution (air, soil, water)

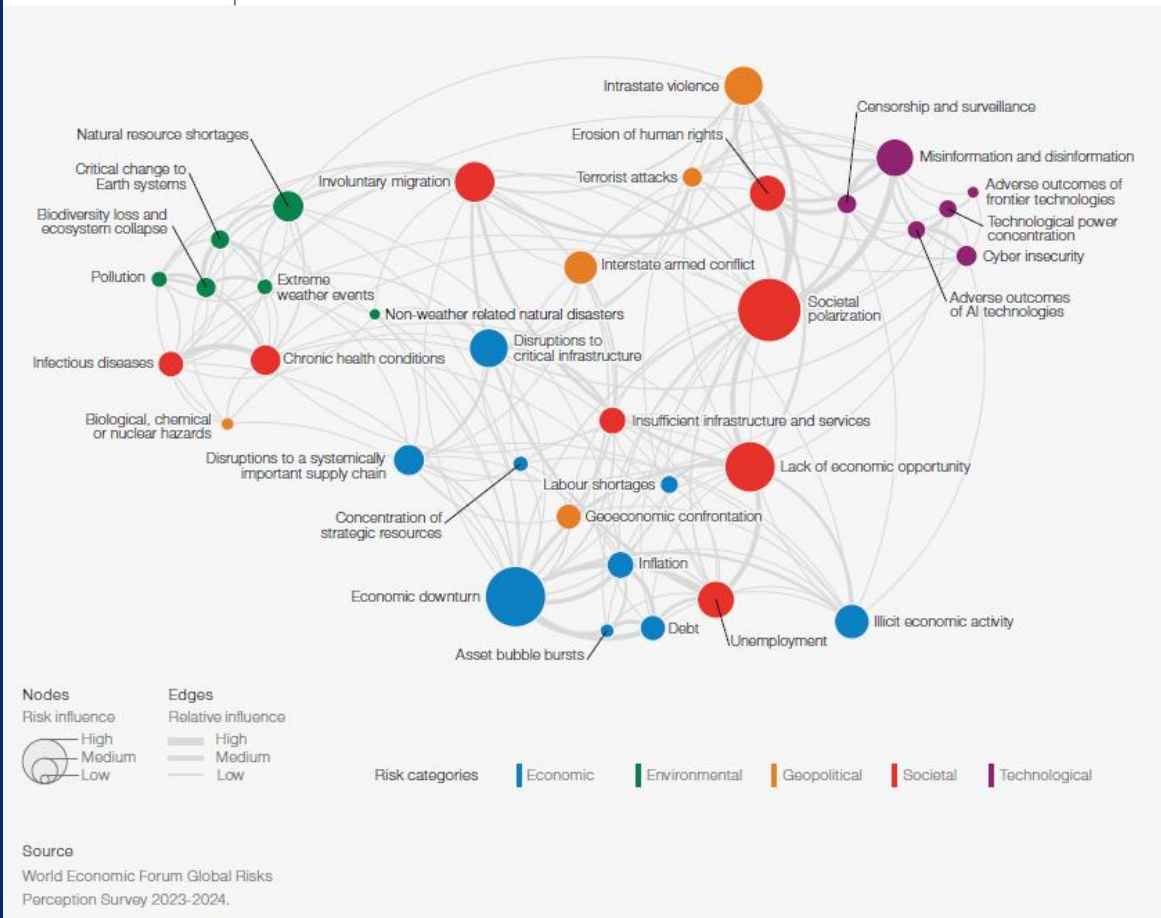
Note: WEF Global Risks Perception Survey 2023
Source: World Economic Forum; Marsh McLennan analysis

But the picture is much more complex

Key perceptions from the survey

1. Deteriorating Global Outlook.
2. Environmental Risks could hit the point of no return.
3. As polarisation and technological risks remain unchecked, 'truth' is under pressure.
4. Economic strains on low- and middle-income people and countries are growing.
5. Simmering geopolitical tensions combined with technology will drive new security risks.
6. Ideological and geoeconomic divides will disrupt the future of governance.

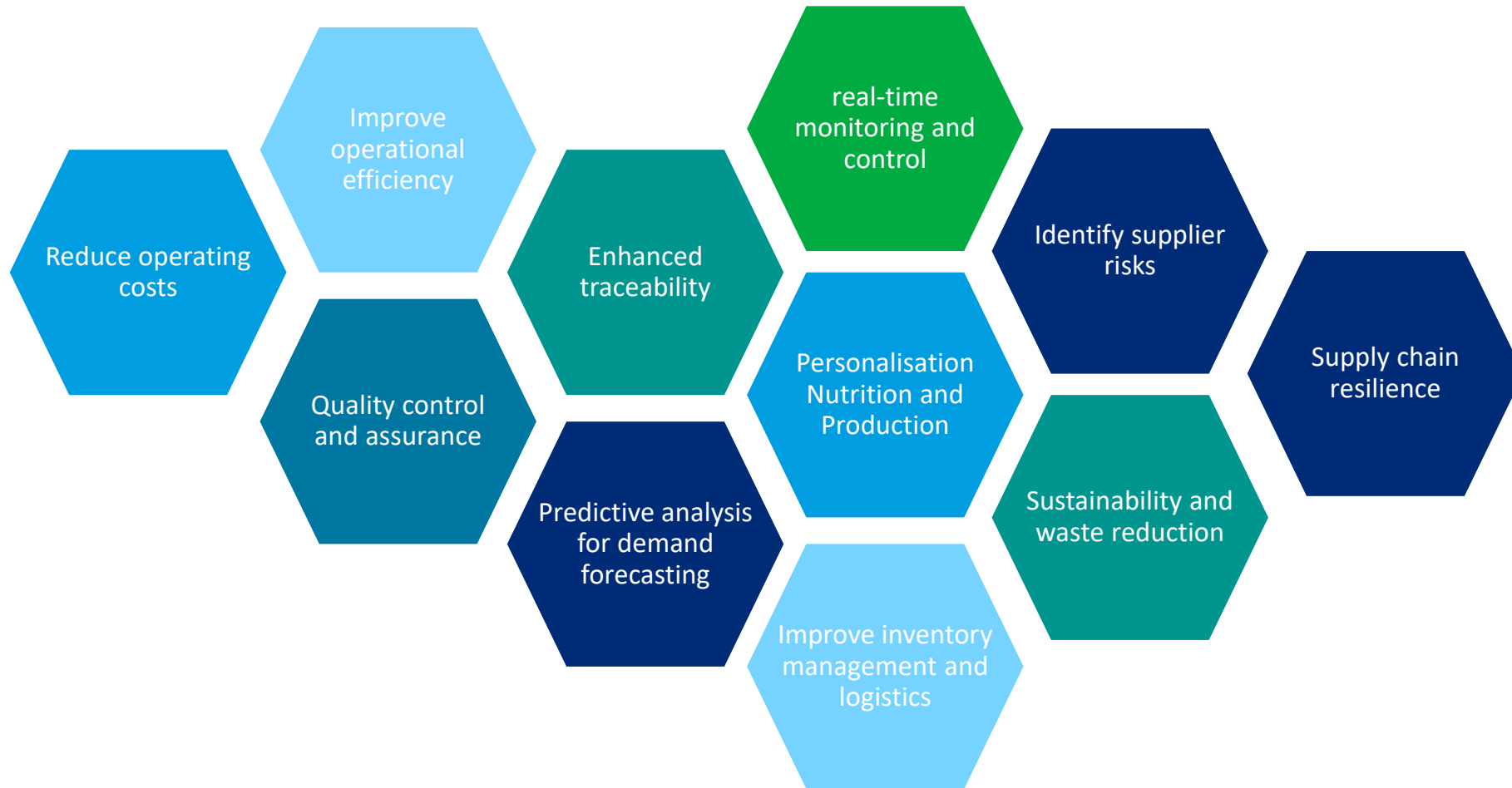
FIGURE 1.7 | Global risks landscape: an interconnections map



In summary

Compounding simultaneous and sequential risk events are driving disruption, destruction and division.

Benefits of AI in the Food and drink supply chain



Risks associated with using AI in supply chain operations

Data-Related Risks

- Data quality and integrity
- Bias and discrimination in training data
- Data privacy and security

Model-Related Risks

- Model bias and fairness
- Interpretability and transparency in AI algorithms
- Unreliable or inaccurate predictions



Governance and Ethical Risks

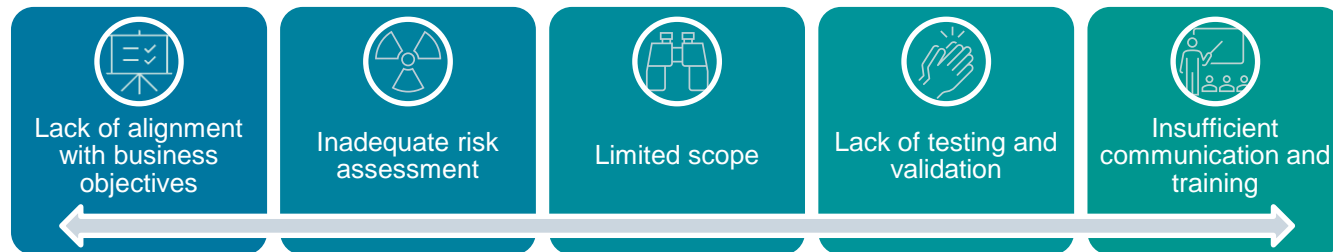
- AI governance frameworks and standards
- Overreliance on AI systems without human oversight
- Unintended consequences or ethical dilemmas arising from AI decisions
- Change management

Regulatory and Legal Risks

- Compliance with upcoming AI regulations and data protection rules
- Intellectual property rights and ownership of AI-generated outputs
- Liability for AI-related errors, harm or accidents

Crises are now regional, not just site-level – necessitating a move away from traditional approaches

Traditional approaches are typically characterised by...



A shift is needed towards a **strategic and integrated resilience capability** through an **enterprise-wide strategy** bringing governance to assets, processes, functions, business units, and 3rd parties.

The result is a capability that can:

- make **effective decisions** in uncertainty,
- **pivot resources** to where they are most needed delivering **agility**,
- ensure staff and suppliers are **ready to react** when needed
- **communicate** in a timely and thoughtful manner, and
- help to safeguard an organisation's **reputation**

Risk Drivers



Geo-politics and geo-economics



Cybersecurity and emergent tech



Extreme weather and climate change



Supply chain vulnerabilities



Social activism

What do manufacturers need to think about?

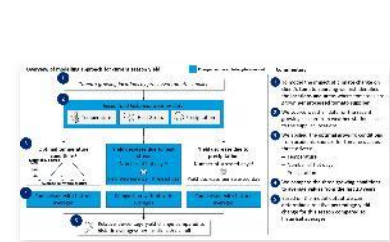
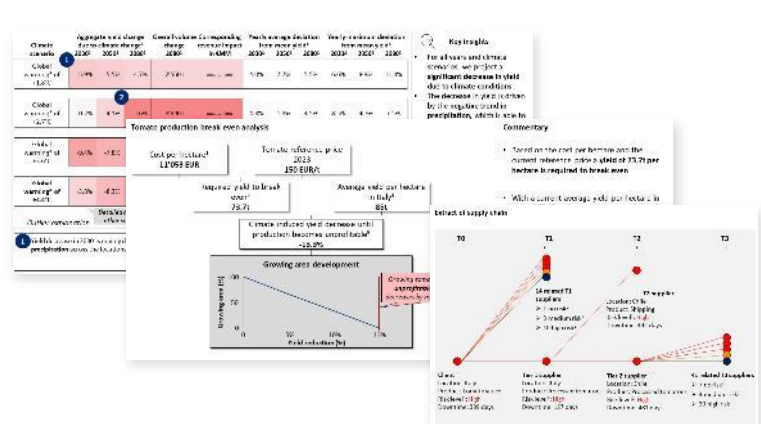
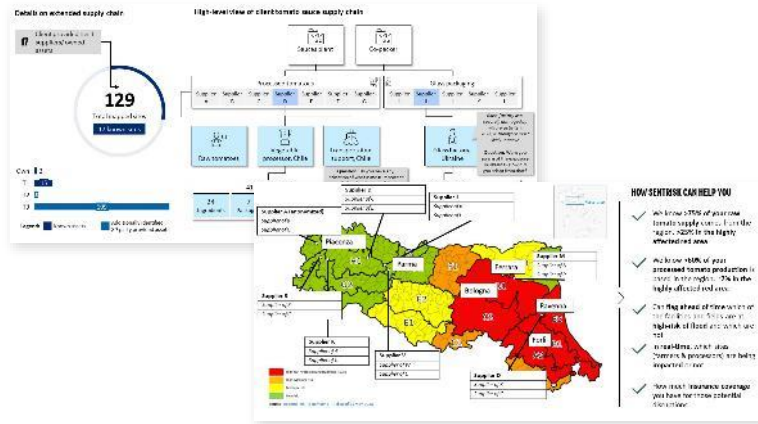
- Determine the priority use cases for AI within the organisation e.g. improve transparency of previously hidden risks within your supply chain
- Review whether existing risk management processes are robust enough to take account into AI risks
- Ensure crisis response mechanisms are adaptable to AI related risks
- Improve transparency of previously hidden risks within your supply chain

Mapping global tomato supply chain to uncover chronic risks to sourcing and availability

Uncover risks

Contextualise for the business

Drive decision making



Predicting tomato yields for the current season, leveraging Sentrisk

- Identified **previously unknown upstream supplier exposure in Chile and Ukraine**, incl. a factory which was severely damaged by military activity in 2022
- Identified **large flood risk exposure** across client's tomato sauce supply chain

- Deep-dived on impact of **climate change on tomato growing conditions in Italy** – incl. insight on how yields will be lower as growing areas dedicated to tomatoes decrease
- Identified a **tier 1 supplier depending on a chain of high-risk tier 2 and tier 3 suppliers**, with two of the affected tier 2 suppliers having individual possible downtimes of > 1 year

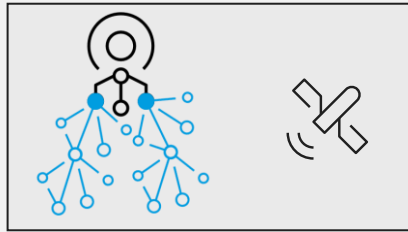


Discuss mitigating strategies with suppliers in high-risk value chains

Assessing site-level deforestation risk

1. Identify

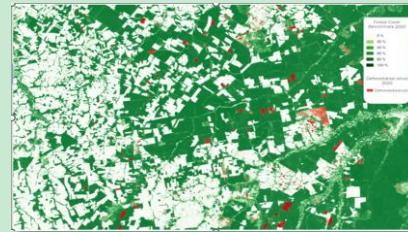
Identify upstream suppliers and sourcing areas



- Automated upstream (T2, T3) identification of supplier sites
- Verification and characterisation based on exchange components / goods of deforestation relevance (e.g. paper pulp)
- Geolocation and verification of exact sites and polygons¹

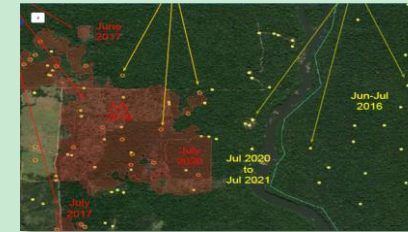
2. Assess

Assess historical deforestation and human rights abuses around each relevant supplier site



- Identify forest coverage at cut-off date
- Assess deforestation areas and quantity (ha) since cut-off date
- Assess associated human-rights violations
- Determine EUDR compliance of each plot of land

Identify and monitor high-risk areas and suppliers



- Where high-risk of deforestation is detected, deploy ongoing monitoring (monthly) of deforestation and fire detection

3. Action

Inform EUDR and sustainability reporting

- Directly inform and prepare reporting submission



Take mitigating actions with suppliers

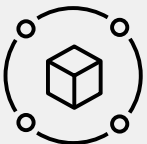
- Work with potentially affected suppliers to establish appropriate policies, controls, and procedures

Front-end software

Offline sharing of insights and reports

1. Polygons (exact areas) required for regulation, not only coordinates.

Sentrisk identified a very risky sourcing area surrounded by primary forests with high deforestation rate



Supplier Name:
Test supplier

Location:
[Town], Brazil

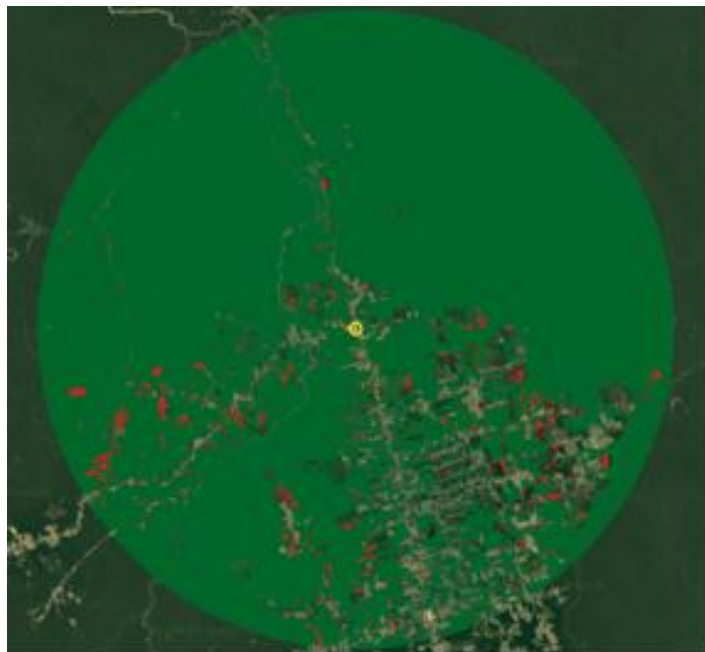
Upstream connection:
International Forestry Products

Component supplied:
Wood & wood products

Deforestation risk assessment:
It seems highly probable that at least some of the wood processed here comes from recent deforestation.

Probable non-compliance

Geospatial analysis



Forest extent in 2020

Deforested area after the cut-off date

Level of deforestation risk

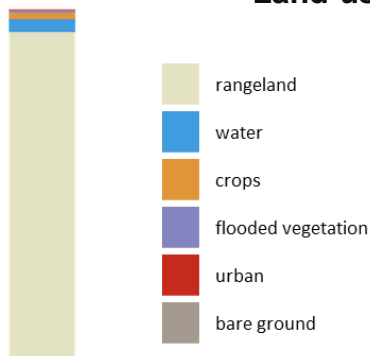
High

Forest type¹:
Primary forest

Description

The sawmill is surrounded by primary forest. A significant (2.2%) part of the woods have been converted to pastures after the cut-off date.

Land-use of deforested areas¹



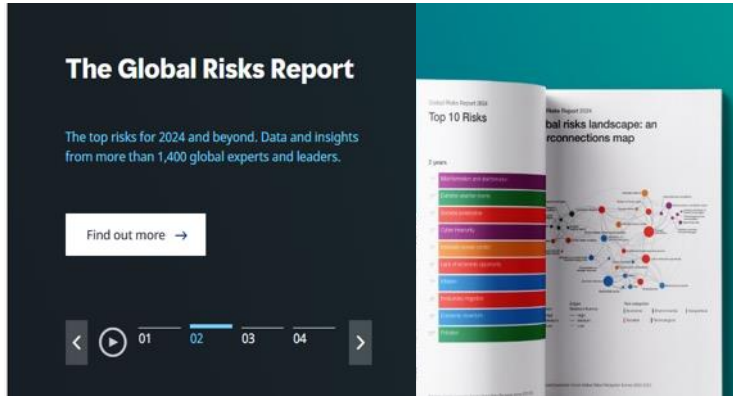
93.5% of the deforested areas are now **rangelands**

The analysis enables to design a customized report for the client fitted to the business and regulatory requirements

1. Required piece of information for EUDR

Our thought leadership

Global Challenges



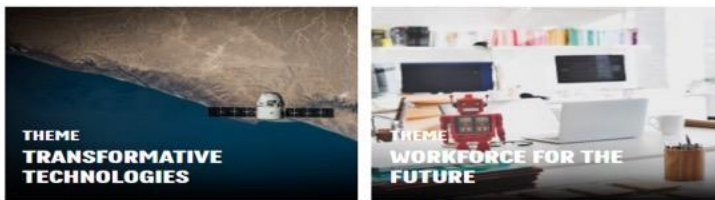
Global and Local Reports



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