Planet Tracker

From Catch to Cash

Four seafood giants could increase operating profit by 2% to 9% via improved traceability

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Contents

1	**Executive summary**	2
2	**Improved traceability means improved returns**	4
	Box 1: Certification vs traceability	7
	How traceability improves returns	9
	Why the modelled uplift differs between the four companies	13
3	**Nissui could raise its operating profit by 9% by investing in traceability**	14
4	**Umios could raise its operating profit by 9% by investing in traceability**	22
5	**Thai Union could add 2% to operating profit by expanding its traceability coverage**	30
6	**Nomad Foods could add 2% to its operating profit by complementing certification with traceability**	37
7	**Investor action**	43
8	**References**	44

Executive summary

KEY FINDING

The four seafood companies analysed could increase their operating profits by 2% to 9% by investing in digital, interoperable, full-chain traceability.

Traceability, the ability to systematically identify products, track their location and movement through the supply chain,[1] is a necessary condition for seafood sustainability. It also has the potential to add 60% to global seafood profits through reduced costs, as per our previous report on the topic.[1] But how could it affect individual companies' earnings?

In this report, Planet Tracker calculates the financial implications of investing in digital, interoperable seafood traceability for four large, listed companies: **Nissui**, **Umios** (formerly Maruha Nichiro), **Thai Union**, and **Nomad Foods**.

This research found that companies that fail to invest in full-chain traceability risk leaving significant value on the table. Specifically, the four companies analysed could increase their operating profits by 2% to 9%.[2] The potential profit uplift is the highest for companies with limited existing traceability investment (**Nissui** and **Umios**). It is lower for the other two companies, due to a lower exposure to seafood (**Nomad**) or already high traceability coverage (**Thai Union**). The associated returns on capital are high since the necessary capex is relatively low: most of the investment is in the form of opex, e.g. additional staff or increase in cost of raw materials.

This is a function of multiple assumptions that can be adjusted in our interactive model.

Planet Tracker therefore recommends investors ask seafood companies to invest in digital, interoperable traceability systems covering the full supply chain and their entire portfolio. Investors can coordinate this engagement via the Seafood Traceability Engagement led by FAIRR in collaboration with Planet Tracker, UNEP FI, WWF and WBA.

1. The ability to systematically identify seafood products, track their location and reveal any treatments or transformations they undergo.
2. This is less than previously calculated for the entire sector due to a combination of more conservative assumptions and companies already implementing some form of traceability.

The financial case at a glance

NISSUI · OPERATING PROFIT

+9.0%

Modelled 76% target traceability coverage

UMIOS · OPERATING PROFIT

+8.6%

Modelled 83% target traceability coverage

THAI UNION · OPERATING PROFIT

+1.9%

Coverage already at an estimated 74%; 100% target modelled

NOMAD FOODS · OPERATING PROFIT

+1.6%

Seafood is c. 33% of sales; 100% seafood coverage modelled

Table 1: Financial benefits of investing in seafood traceability for Nissui, Umios, Thai Union and Nomad Foods

Impact on...	Nissui	Umios	Thai Union	Nomad Foods
Revenue	+0.2%	+0.5%	+0.1%	+0.2%
Operating profit	**+9.0%**	**+8.6%**	**+1.9%**	**+1.6%**
Net income	+7.5%	+6.2%	+2.1%	+2.2%
Total investment	JPY 8.1bn / (USD 51mn)	JPY 9.0bn / (USD 57mn)	THB 10.7mn / (USD 0.3mn)	EUR 2.7mn / (USD 3.1mn)
Scope / traceability coverage	Planet Tracker modelled a 76% target traceability coverage	Planet Tracker modelled an 83% target traceability coverage	Traceability coverage already at an estimated 74%. PT modelled a 100% target coverage.	Seafood accounts for only c. 33% of sales. PT modelled a 100% target seafood traceability coverage.
Link to interactive model	Download the interactive model			

Estimates based on 2024 financials, source: Planet Tracker.

HOW TO READ THIS REPORT

Section 2 sets out what robust seafood traceability is, how it was modelled, and the shared assumptions behind these estimates — including the causal pathway from traceability investment to financial returns and a comparison of why the modelled uplift differs between the four companies. Sections 3–6 then apply the same analysis, in the same structure, to each company in turn: current state of traceability, the actions required, the modelled investment, and the resulting financial statements.

Improved traceability means improved returns

The need for traceability

Seafood traceability is the ability for companies along the supply chain to systematically identify seafood products, track their location as the products change hands, and reveal any treatments or transformations they undergo.

Without traceability, seafood supply chains are exposed to:

Operational risks	Unsustainable fishing practices and poor supply chain visibility can lead to supply volatility, increased costs and even stranded assets as key fish stocks collapse or become restricted.
Regulatory risks	Tightening global regulatory frameworks, such as the EU Illegal, Unreported and Unregulated (IUU) Fishing Regulation and the US Seafood Import Monitoring Program (SIMP), require verifiable data on the origin and legality of seafood products. Companies without robust traceability risk market exclusion, supply seizures and financing restrictions.
Reputational and social risks	Links to human rights abuses, illegal fishing and opaque sourcing practices can result in loss of brand integrity, consumer boycotts, supply chain disruptions and litigation costs. 68% of countries assessed by the Seafood Certification and Ratings Collaboration show evidence of forced or child labour or human trafficking in seafood supply chains, amplifying reputational and compliance risks.

All these risks have already materialised, and yet many seafood companies have limited traceability systems with substantial gaps. Instead of full, company-wide systems, many businesses rely on species-specific programs (focusing only on tuna or shrimp, for example) or third-party certifications (like the Marine Stewardship Council – MSC).

A leading seafood traceability system

Companies should aim for group level, full chain, interoperable, digital traceability systems that align with the Global Dialogue on Seafood Traceability (GDST) standards[3]. A robust traceability supply chain system requires companies to fulfil four main criteria:

SCOPE

Cover 100% of inputs

The system should cover 100% of the seafood, stock/species inputs and, in the case of aquaculture operations, any marine and terrestrial feed ingredients.

DEPTH

Full chain, point of sale back to source

The system must be full chain, allowing a product to be traced completely through the value chain from the final point of sale back to vessel, farm or feed source. This helps to close gaps by improving transparency within the seafood industry whilst ensuring that all stages of the supply chain have preserved and accessible data. This data benefits companies by reducing their exposure to risk as it can be audited and checked and made available to external parties who need it.

BREADTH

Sufficient data at each stage

At each stage in the value chain, the system should collect sufficient data about the seafood product and align with standards such as the GDST.

FORM

Digital and interoperable

The system should utilise and transmit data in a format that is digital and interoperable, so all actors in the supply chain have access to the data.

Traceability is important as it is the key to ensuring the seafood industry as a whole works toward adopting ethical and sustainable practices, dealing with corruption, IUU and unsustainable fishing practices such as overfishing. Implementing robust traceability systems means improving transparency whilst also acting as a core risk management tool for companies and investors alike.

To make seafood traceable, its journey must be tracked from ocean to plate:

1

Assign a unique tracking code

A unique tracking code must be assigned when the fish is caught or farmed.

2

Record every handover

Records should be kept every time it changes hands or is processed.

3

Keep and share the data

These details must be kept and shared throughout the supply chain.

For more information, please see How to Trace $600 billion.

3. Global Dialogue on Seafood Traceability (GDST) standards are the key standard for seafood traceability. The GDST standards were designed to achieve interoperability alongside the seafood supply chain.

Challenges: not all seafood is traceability-ready

Barriers to scaling traceability include lack of digitalisation or paper-based records, fragmented data, breaks in the traceability chain (where one company is traceable but another further down the supply chain is not), species mixing during handling, and corruption. In some cases, there are also no incentives to disclose the origin of unsustainably harvested seafood.

Our standards for robust traceability

Planet Tracker, as a part of a Seafood Traceability Engagement alongside FAIRR, UNEP FI, the World Benchmarking Alliance and WWF, asks seafood companies to invest in **fully digital, interoperable, GDST-aligned traceability covering 100% of a company portfolio**.

THE ASK IN PRACTICE

In practice, this means recording what happens to products at each key step — landing, processing, packing, transport — in a consistent digital way. This requires defining GDST Critical Tracking Events (landing, processing steps, shipping/receiving, aggregation, etc.) and capturing the full set of Key Data Elements (species, product ID, location, time, ownership, fishery/farm/vessel data and legality information) at each event in a standardised, machine-readable format.

The company needs systems capable of generating and consuming GDST-compliant messages, upgrading existing traceability tools where necessary, and putting in place governance so data quality is checked and traceability outputs feed into recalls, risk management and customer reporting.

This requires a combination of software and hardware, as well as changes to existing processes, discussed below for four different companies at different stages on their traceability journeys.

Modelling the financial impact of investing in traceability at four companies

The rest of this paper examines the financial impact of investing in such traceability at four large, listed seafood companies: **Thai Union**, **Nomad Foods**, **Nissui** (Nippon Suisan Kaisha) and **Umios** (previously known as Maruha Nichiro).

BOX 1

Certification vs traceability

Sustainability certifications and traceability systems serve as complementary mechanisms for managing environmental and social risks and impacts in seafood supply chains, but they are not interchangeable.

Certifications can provide a degree of supply chain traceability through their Chain of Custody (CoC) programmes, which ensure that products labelled as sustainably certified originate from certified fisheries or farms. Traceability requirements under CoC certification programmes such as MSC and ASC (Aquaculture Stewardship Council) typically require “one step up, one step down” traceability, whereby each supply chain actor must provide information from the actor immediately upstream, and to the actor immediately downstream. CoC certifications therefore confirm the identity of a product through each transaction in the value chain. However, no actor has an end-to-end view of the product value chain.

In addition, not all seafood certification programmes require CoC certification, and not all companies that source certified seafood participate in CoC programmes.

Encouragingly, there is a growing cooperation between certifications and digital traceability:

May 2024 **GDST × MSC joint statement**	The GDST and MSC issued a joint statement highlighting the differences and synergies between their respective traceability and sustainability standards, and their future ambition to collaborate and align closely. The MSC’s Traceability Enhancement Project is aiming to implement a digital CoC based on the GDST standard by 2030.
TraceASC **Digital criteria in certification standards**	Certification providers are also increasingly incorporating digital traceability criteria into their certification standards. For instance, the ASC’s digital platform, TraceASC, is used to track certified seafood batches throughout supply chains. TraceASC uses software to capture and share GDST-aligned KDEs from ASC-certified farms to retailers.

This box is referenced in the **Nissui** (Section 3) and **Nomad Foods** (Section 6) chapters, where certification currently substitutes for full-chain digital traceability.

Methodology

We use 2024 as the baseline year for consistency since 2025 accounts were not all ready at the time this research was started. The same structure is used in each of the four cases and covers four points:

1 · CURRENT STATE
What is the company's current level of seafood traceability maturity?

2 · PATHWAY
What would moving toward full-chain traceability entail?

3 · FINANCIALS
What financial implications would this have?

4 · ASSUMPTIONS
What key assumptions were made?

Although we would have preferred to use published company data when estimating the financial impact of traceability on each company's financial statements, a lack of available data from companies meant that we had to rely on assumptions for some of our calculations.

Initially, these assumptions were based on previous industry average values, highlighted in the Planet Tracker report, How to Trace $600 billion and presented in the next sub-section as 'shared assumptions'. We also considered each company individually, analysing how traceability-ready they were, based off the species they fish/farm/process, where the fish is sourced and any systems they already had in place. This allowed us to adjust these assumption values to be more conservative and produce a more realistic estimate on a company-by-company basis, instead of an average. It also means that the scope of each company's revenue impacted by traceability varies.

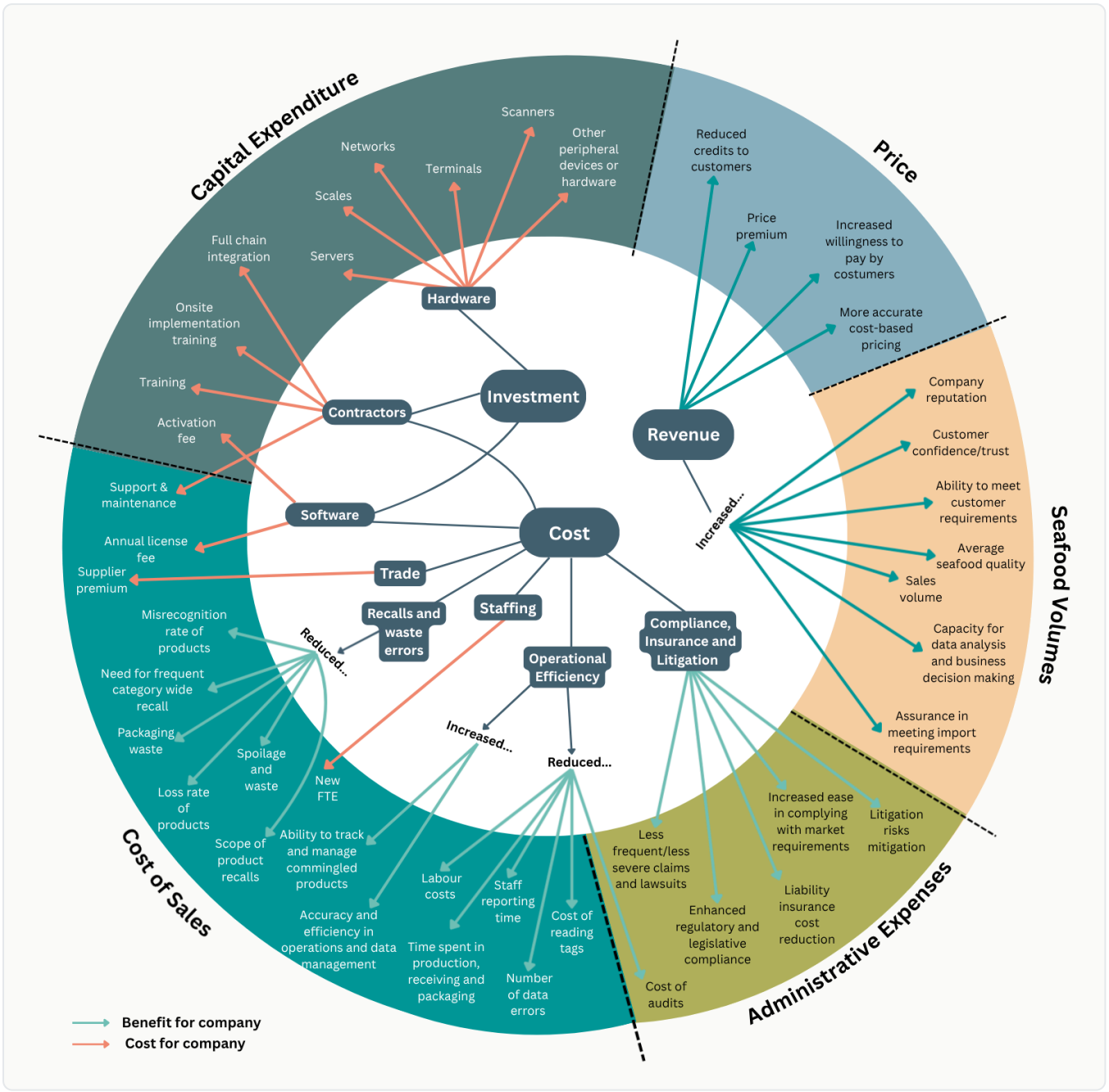
The linkage between traceability investment and financial impact was modelled the same way for all companies. Below we present the financial case for seafood traceability in general, before outlining the pathways through which it affects companies.

How traceability improves returns

In previous research, Planet Tracker showed that traceability can reduce risks and reduce costs, thus increasing margins. This is the case for seafood processors (see 'Traceable Returns') but is also true for the wider seafood value chain (see 'How to Trace $600bn').

The figure overleaf presents the multiple ways in which traceability affects the financial health of a seafood company, discussed in greater detail later.

Figure 1: How investing in traceability affects the financials of seafood companies



Source: Planet Tracker.

Quantifying the financial implications of seafood traceability

Some of the key implications of traceability on financials are described below. See 'How to Trace $600bn' for more details or case studies. In general, we have assumed the following impact of traceability on financials:

Table 2: Shared assumptions used to calculate the financial impact of traceability on company financials

Item *(scope = seafood that becomes traceable only)*	**Assumed change in item**
Seafood volumes	+0.5%
Price	+0.2%
Cost of raw materials	+0.2% (+0.5% linked to volume increase)
Staff cost	+2 FTEs per division, plus 1 head of traceability
Food recalls cost	−25%
Food waste cost	−5%
Packaging waste cost	−1%
Cost of lost and misrecognised products	−10% to −20%
Cost of insurance, claims and lawsuits	−5%
Audit cost	−10%
Software & hardware capex	Varies based on scope, and number of divisions/facilities

Source: Planet Tracker.

The above assumptions are used for every company analysed, unless there is a specific reason not to. In the rest of this document, we refer to them as 'shared assumptions'.

Details for each company can be found in the relevant company section. Because the scope of each company's products that could be affected by seafood traceability widely differs, the overall financial impact on each company differs significantly.

The shared assumptions explained

Volumes

Traceable seafood can lead to market share gains vs other producers by selling 'storied fish', i.e. using traceability as a marketing tool to promote the traceable product vs others. This could lead to a rise in volumes. We assumed a 0.5% increase for each company, for products that become traceable only.

Prices

Local studies (e.g. in Japan[2] and China[3]) show that consumers are ready to pay more for traceable seafood. This is not the case everywhere though (e.g. in Spain[4]). We assumed small price increases for products that become traceable (+0.2%), as the four companies pass on an increase in the cost of raw materials.

Cost of raw materials

Where costs of traceability are passed on by suppliers, this could lead to an increase further down the supply chain. We have assumed that this is the case for all four companies. Based on conversations with different traceability experts including providers of traceability solutions, we assumed an increase in data costs of about one cent of a dollar for every five fish, or about 0.2% for each company (or 0.7% in total, including the increase due to higher volumes). It is then passed on to clients.

Staff

Implementing traceability is likely to necessitate the hiring of additional staff. Except for **Thai Union**, where traceability is already well advanced, we have assumed the hiring of a group head of traceability, plus one data analyst and one compliance auditor for each relevant division for each company. For instance, we assumed eleven new hires for **Umios** to operate and oversee traceability systems across its different divisions.

However, digital traceability systems can also reduce staff cost, especially overtime costs. This is achieved by reducing the number of data errors, increasing the ability to track and manage commingled products and making it easier to comply with national and international market requirements. For instance, thanks to traceability data that directly connects to its operating systems, Norpac Fisheries Export, a Honolulu-based seafood processing and distribution company, reduced overtime by c. 95%.

Food recalls

Traceable seafood is easier and quicker to locate and therefore recall if needed, which reduces the cost of the recall by up to 90% for fresh seafood and 95% for frozen seafood[5]. This is through improved frequency of successful trace backs and reduced frequency of category wide recalls (the scope of product recalls is narrowed). Enabling a traceability system that warns processors or harvesters when a product is close to spoiling ensures less recalls of these products occur. However, when these recalls do occur, due to spoilage, health concerns etc. an enforced traceability system can ensure these products can be found and dealt with accordingly. We have assumed a reduction in the cost of food recalls of 25% for each of the companies, for relevant products only.

Waste

Traceable seafood is easier and quicker to locate, reducing quality-related issues for this highly perishable product, and thus waste. We have assumed a 5% reduction in the cost of food waste at each company for relevant seafood products, and a 1% reduction in the cost of packaging waste.

Lost production and misrecognised products

By definition, traceability lowers the frequency and therefore cost of lost or misrecognised products[4]. We have assumed a reduction in these two costs of 10–20% depending on the company and division.

Insurance, claims and lawsuits

Traceability links food (safety) data to insurance and lawsuits. Precise batch tracking allows seafood companies to isolate contaminated items quickly, proving liability boundaries during claims, reducing recall expenses, and defending against third-party lawsuits. We have assumed this lowers the cost of insurance premia, claims and lawsuits by 5%.

Audit costs

As per Deloitte research[6], companies closing their books in five days or fewer see audit fees c. 40% lower than others. When a company provides clear, organised evidence of how data became reports, the auditor spends less time requesting information and reconstructing data flows independently. Data traceability helps. We have therefore assumed that product traceability improves data traceability, reducing audit costs by 10% for the relevant products.

Software and hardware

Digital traceability systems require a combination of software licenses, terminals, servers, scanners, etc. The exact investments required are a function of the existing state of traceability at each company.

4. Items that are incorrectly identified, labeled, or scanned within the supply chain. This leads to inventory mismatches, misplaced shipments, and severe compliance failures.

Why the modelled uplift differs between the four companies

The same shared assumptions and the same modelling approach are applied to all four companies. The wide range of outcomes — from +1.6% to +9.0% of operating profit — is driven by how much of each company's business the new traceability investment actually touches.

+9.0%
Nissui

Limited existing traceability investment. Nissui has no comprehensive, group-wide traceability commitment and relies heavily on MSC certifications. We estimate 80% of its sales are seafood or seafood related, and modelled a 76% target traceability coverage — so the shared assumptions apply across a large share of the group's costs and revenue (Section 3).

+8.6%
Umios

Limited existing traceability investment. Umios currently relies on paper-based traceability, with a first electronic pilot only run at the beginning of 2026. Planet Tracker modelled an 83% target traceability coverage across a portfolio of c. 2.7 million tonnes of seafood handled annually (Section 4).

+1.9%
Thai Union

Already high traceability coverage. An estimated 74% of Thai Union's portfolio is already covered by a traceability system — its tuna portfolio (c. 50% of volumes) is, or will very soon be, fully traceable. The model assumes no change to the tuna portfolio, so the remaining upside comes only from digitising shrimp systems and covering other wild-caught seafood (Section 5).

+1.6%
Nomad Foods

Lower exposure to seafood. Seafood accounts for only c. 33% of Nomad Foods' sales, and our analysis covers the seafood portion only. Nomad also already has one of the highest efficiency rates in the industry, so we adjusted down our calibration of the financial benefit relative to the baseline (Section 6).

Nissui could raise its operating profit by 9% by investing in traceability

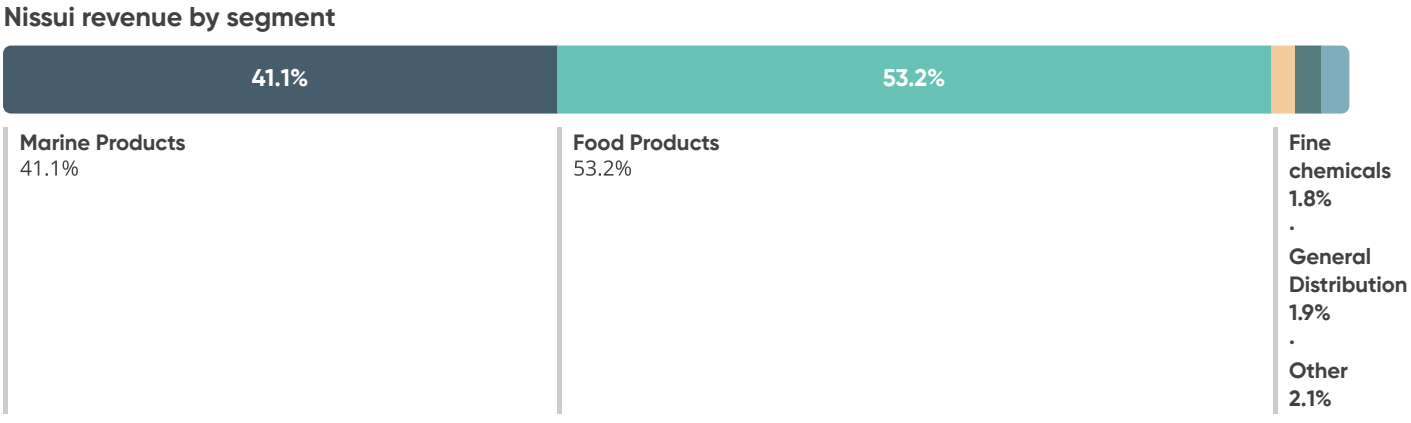
REVENUE	OPERATING PROFIT	NET INCOME	TOTAL INVESTMENT	COVERAGE MODELLED
+0.2%	**+9.0%**	**+7.5%**	**JPY 8.1bn**	**76%**
Impact of traceability (Table 1)	Impact of traceability	Impact of traceability	(USD 51mn)	Target traceability coverage

Estimates based on 2024 financials, source: Planet Tracker (Table 1). Download the interactive model

Nippon Suisan Kaisha, commonly known as **Nissui**, is Japan's and the world's second largest seafood company (behind **Umios**), with 2.76 million tonnes of fish handled per year.[7] It harvests wild-caught fish and operates aquaculture sites globally, with processing and trading operations across Asia, Europe and North and South America. It operates under five segments:

- **Marine Products:** fishing, aquaculture, purchasing, processing, and selling of marine products.
- **Food Products:** manufacturing and selling of processed foods and chilled businesses (not just seafood).
- **Fine Chemical Products:** manufacturing and selling of pharmaceutical raw materials, functional materials, functional foods and related items (typically made with fish-derived ingredients).
- **General Distribution:** cold storage and transportation of frozen and refrigerated goods (typically but not only seafood).
- **Other Business:** engineering (planning, design, construction of plants and equipment) business, ship operation business, etc.

Figure 2: Marine Products and Food products are Nissui's largest divisions by revenue



Source: Company segment reporting, Planet Tracker analysis.

Whilst **Nissui** does not disclose the breakdown between seafood and non-seafood operations, we estimate that 80% of its sales are seafood or seafood related. The remainder comes from the manufacture, sale, distribution, cold storage, and transportation of non-seafood foods, along with the entire Other Business division.

Current state of traceability at Nissui

As it currently stands, despite acknowledging the importance of traceability, **Nissui** has no comprehensive, group-wide traceability commitment. The lack of a clear, timebound, groupwide commitment to putting a robust traceability system in place results in a low traceability score from FAIRR.

Nissui relies heavily on Marine Stewardship Council (MSC) certifications as a key component of its sustainability reporting. While certifications are important for credibly sourcing sustainable seafood, they should be complementary to digital and interoperable GDST-aligned traceability systems, not a replacement for them.

Certification is not a substitute for full-chain digital traceability — see **Box 1: Certification vs traceability**.

By matching **Nissui**'s reporting to our existing estimates of traceability-readiness, Planet Tracker estimated that approximately 76% of Nissui's seafood is 'traceability ready'.[8]

This includes 75% of its wild-caught seafood and its entire aquaculture portfolio, as detailed in Table 3 overleaf.

NISSUI AT A GLANCE

No group-wide commitment — but an estimated 76% of its seafood volumes are already traceability-ready.

The gap between readiness and commitment is where the modelled financial upside sits: Planet Tracker modelled a 76% target traceability coverage for Nissui.

Table 3: An estimated 76% of Nissui seafood volumes are traceability-ready

Species category	Volume (thousand tonnes)	% of traceability-ready seafood in given category	Estimated wild-catch traceability-ready volumes for Nissui by category (in thousand tonnes)
Herring, sardines, anchovies	950	81%	773
Cods, hakes, haddocks	850	78%	667
Miscellaneous pelagic fishes	450	65%	292
Tuna, bonitos, billfishes	300	79%	236
Miscellaneous demersal fishes	100	42%	42
Miscellaneous coastal fishes	50	45%	22
Salmons, trouts, smelts	40	84%	34
Clams, cockles, arkshells	20	59%	12
Scallops, pectens	20	96%	19
Shrimps, prawns	20	27%	5
Total wild-caught	**2,800**	**75%**	**2,101**
Salmon and trout (outside Japan)	34	100%	35
Salmon and trout (Japan)	3	100%	3
Japanese amberjack	11	100%	11
Greater amberjack	1	100%	1
Tuna	3	100%	3
Total aquaculture	**53**	**100%**	**53**
Total Nissui	**2,853**	**76%**	**2,154**

Source: Planet Tracker based on Nissui and FAO data.

Towards further progress in traceability at Nissui

Nissui needs to:

1 **Disclose a commitment**	Disclose a clear, group level commitment to full chain, interoperable, digital traceability systems that align with the GDST standard for all its seafood products, aquaculture and agricultural feed ingredients that cover both the wild caught and farmed supply chains. In practice, it should start with the species already deemed traceability-ready (as per above), with the ambition to reach 100% in time.[5]
2 **Design an implementation plan**	Design an implementation plan to reflect the commitments made to traceability. This plan should be time bound, including achievable milestones to track progress whilst addressing the key species (e.g. tuna or Alaska pollock). This should expand beyond the current focus on 'resource management data' to full KDE coverage across the business segments.
3 **Commit to third party verification**	Commit to third party verification of its newly implemented traceability systems and disclose the outcomes of said verification. This will give investors and stakeholders confidence that the systems meet regulatory and market expectations.

Modelling additional traceability investment at Nissui

To calculate the financial implications of improved traceability at **Nissui**, we proceeded as follows:

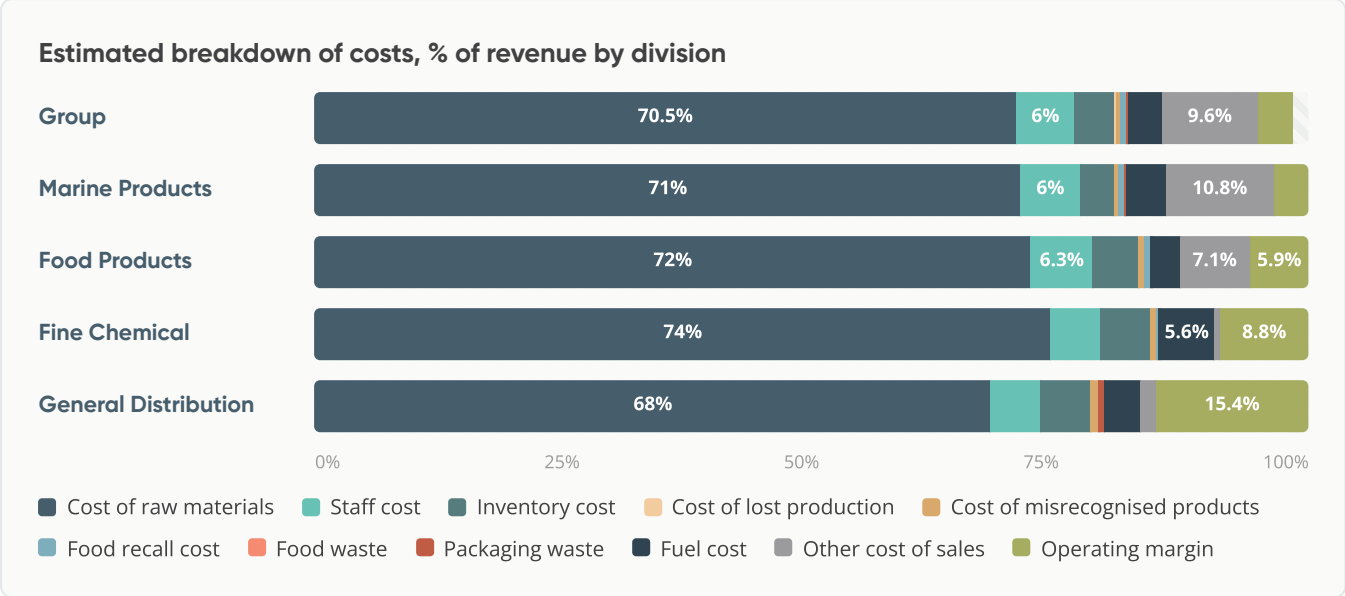
- established a baseline of the existing breakdown of costs.
- determined the financial impact of further traceability on each cost and other financial items, using the items listed in Figure 1 and the shared assumptions mentioned earlier.

These can be modified in the 'Assumptions' sheet of our interactive model.

Given that **Nissui**'s divisions differ widely (e.g. from fishing to primary and secondary processing, and from aquaculture to distribution and cold storage), we have modelled the company's existing breakdown of costs in each division.

5. It is possible that the traceability-readiness of Nissui's species has been underestimated (since exact species are not disclosed). It could therefore be that more than 76% of its portfolio is already traceability-ready.

Figure 3: Raw materials and staff are assumed to be the largest types of operational expenses at Nissui



Estimates, source: Planet Tracker.

For each division, the estimated impacts of traceability on the financials are listed and explained in the model and are in line with those outlined in the previous section. The main ones include:

- The requested change in traceability would lead to an estimated 0.2% increase in cost of materials (excl. any volume increase), passed on to clients via a 0.2% price increase. This is conservative since Japanese consumers appear willing to pay on average more than 10% more for traceable fish.[9]
- It would also lead to a 0.5% increase in volumes (sustainability-driven share gains in a Japanese market where retailers increasingly care about sustainability).[10]
- A total of JPY8.2bn investment is needed, broadly split between opex and capex, as per the table overleaf. Key assumptions include the number of facilities covered (65, based on relevant subsidiaries data), the type and number of hardware items purchased, as well as the time needed for supply chain mapping, software licenses and configuration, networks and system integration, and change management.

Table 4: Nissui's investment in seafood traceability costs an estimated JPY8.2bn, of which half in capex and half in administrative expenses

Item	Volume	Unit	Unit cost (¥mn)	Total cost (¥mn)	Capex/ Admin expenses	Rationale
Enterprise platform	1	company-wide	2,000.0	2,000	Capex	Assumes that some but not all companies already have an ERP, some efficiencies but also roll-outs of ERPs at some subsidiaries
API integration & mapping	65	facilities	15.0	975	Admin expenses	500 hours to be conservative, at c. USD 200 per hour, for each facility
Mobile app enhancements	65	facilities	15.0	975	Capex	Assumed to require similar time to API integration
IoT sensors	65	facilities	0.1	5	Capex	Assumes a unit cost of USD50 and 10 sensors per facility
Rugged tablets/scanners	65	facilities	0.8	49	Capex	Assumes a unit cost of USD500 and 10 tablets per facility
Server/networking upgrade	65	facilities	11.3	731	Capex	A middle estimate for the incremental cost of scaling enterprise-class servers or major cloud plans in global food manufacturing IT deployments when extending to new business units
System integration	65	facilities	45.0	2,925	Admin expenses	1,500 hours to be conservative, at c. USD 200 per hour, for each facility
Pilot rollout	1	company-wide	500.0	500	Capex	
Total				**8,160**		

Estimates, source: Planet Tracker.

Financial implications for Nissui

The capex required for this investment represents 14% of the group capex (or 0.45% of group sales).

Under the assumptions previously described, this investment would have increased FY25[6] revenue by 0.5%, gross profit by 2.0%, operating profit by 9.0% and net profit by 7.5%.

6. The 12 months ending 31/03/25.

Table 5: Improved traceability would lift Nissui's FY25 operating profit by 9.0%

Financial metric (¥mn unless stated otherwise)	FY2025 (old)	FY2025 (new)	% change	Absolute change
Seafood volumes (tonnes)	2,852,600	2,863,369	0.4%	
Seafood price (Yen/kg)	127.62	127.82	0.2%	0.19
Revenue	**886,126**	**890,716**	**0.5%**	**4,590**
Cost of raw materials	−624,719	−627,999	0.5%	−3,280
Staff cost	−53,340	−53,420	0.1%	−80
Inventory cost	−35,445	−35,179	−0.7%	266
Cost of lost production	−886	−802	−9.5%	85
Cost of misrecognised products	−4,431	−3,771	−14.9%	659
Food recall cost	−4,643	−4,151	−10.6%	492
Food waste cost	−247	−237	−3.8%	9
Packaging waste cost	−981	−971	−1.0%	10
Fuel cost	−30,860	−30,860	0.0%	—
All other costs of sales	−85,071	−85,071	0.0%	—
Gross profit	**139,250**	**142,001**	**2.0%**	**2,751**
Selling expenses	−107,471	−107,362	−0.1%	109
Liability insurance cost	−886	−842	−5.0%	44
Audit cost	−443	−434	−2.0%	9
Claims and lawsuits cost	−1,046	−993	−5.0%	52
All other admin expenses	−21,141	−21,141	0.0%	—
Operating profit	**31,779**	**34,639**	**9.0%**	**2,860**
Net profit	**27,213**	**29,265**	**7.5%**	**2,052**

Estimates, source: Planet Tracker.

Figure 4: Increased revenue, lower food recalls and fewer misrecognised products are the key drivers of traceability-related change in Nissui's FY25 net profit

Estimates, source: Planet Tracker.

Umios could raise its operating profit by 9% by investing in traceability

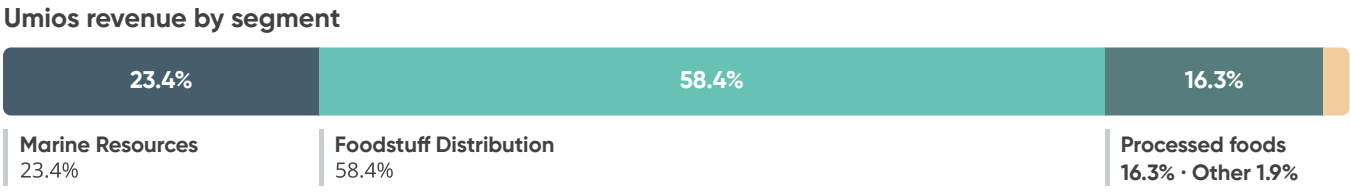
REVENUE	OPERATING PROFIT	NET INCOME	TOTAL INVESTMENT	COVERAGE MODELLED
+0.5%	**+8.6%**	**+6.2%**	**JPY 9.0bn**	**83%**
Impact of traceability (Table 1)	Impact of traceability	Impact of traceability	(USD 57mn)	Target traceability coverage

Estimates based on 2024 financials, source: Planet Tracker (Table 1). Download the interactive model

Umios, previously known as Maruha Nichiro, is a major Japanese food group. Its activities include offshore and coastal fishing, aquaculture, seafood processing (particularly frozen and chilled foods), and food distribution globally. It handles approximately 2.7 million tonnes of seafood annually across 150 group companies in 65 different countries. Its business has four main segments:

- **Marine Resources** (catching, farming, purchasing, processing, and selling fish and other seafood)
- **Foodstuff Distribution** (manufacturing and selling canned, frozen, meat, and other processed foods)
- **Processed foods** (trading, wholesale, and distribution of food products, including marine products trading and agricultural foods and meat)
- **Other business** (including logistics, real estate and other ancillary business)[7]

Figure 5: Most of Umios net sales are derived from the processing and manufacture of food including seafood



Source: Company segment reporting, Planet Tracker analysis.

7. Before the publication of this research Umios sold its logistics business and no longer reports the Other segment separately.

Current state of traceability at Umios

Umios currently has no comprehensive, group-wide traceability commitment to fullchain, digital, interoperable traceability. Despite the scale of the company, it currently operates by relying on paper-based traceability. This is not aligned with the GDST standards. The company openly acknowledges this issue. During a roundtable at the Sustainable Fisheries Conference in 2024, Umios CEO, Masaru Ikemi, stated that traceability is the biggest issue for wild and farmed products, highlighting that the current systems are insufficient, and the importance of it for solving issues such as being unable to prove that a company is not involved with IUU.[11]

In March 2025, **Umios** set a KPI to establish electronic traceability methods as a part of its *'For the ocean, for life 2027'* mid-term management plan. These include a FY2027 target to start this traceability operation with some fish species. It is unclear which species have been chosen for this.

THE FUJITSU PILOT, 2026

At the beginning of 2026, **Umios** ran a pilot project with Fujitsu Limited, introducing an electronic traceability system to track seafood from harvest through to retail. The target species of this study was bluefin tuna farmed at Umios. The results highlighted that not only did the electronic traceability add value to the consumer through an increased 'sense of security and trust' but it also indicated a potential unquantified price premium since 77% of customers said they would be "willing to pay higher prices for products with traceability information".[12]

Towards further progress in traceability at Umios

Whilst the pilot is very welcome, expanding it to other farmed species and to wild-catch species is needed.

Similarly to **Nissui**, for which the proportion was an estimated 76%, 83% of **Umios**' portfolio is 'traceability-ready'. Whilst Umios discloses exact species and associated volumes caught/acquired for most of its portfolio, it groups together under 'Other' a significant volume (421,600 tonnes) of wild-caught species[8], not all of which are traceability-ready. Because the volume breakdown between these 'Other' species is not specified, an exact proportion cannot be calculated.

8. Greenland halibut, snow crab, bluefin tuna, Patagonian toothfish, shrimp, snapper, hoki, horse mackerel, white warehou, silver warehou, neon flying squid, punctuated eel snake, southern blue whiting, and squid.

Table 6: An estimated 83% of Umios seafood volumes is traceability-ready

Species	Volume (tonnes) caught and acquired	Percentage of total	Traceability-ready?
Wild capture			
Alaska Pollock	516,800	38%	Yes
Japanese sardine	122,400	9%	Yes
Skipjack tuna	81,600	6%	Yes
Albacore tuna	54,400	4%	Yes
Pacific chub mackerel	40,800	3%	Partially
Yellowfin tuna	40,800	3%	Yes
Scallop	27,200	2%	Yes
Jumbo flying squid	27,200	2%	Yes
Anchovy	27,200	2%	Yes
Other	421,600	31%	Partially
Total wild capture	**1,360,000**	**100%**	
Aquaculture			
Bluefin tuna	4,098	40%	Yes
Yellowtail	3,807	37%	Yes
Amberjack	2,334	23%	Yes
Red sea bream	83	<1%	Yes
Salmon	52	<1%	Yes
Total aquaculture	**10,374**	**100%**	
Estimated total traceability-ready		**83%**	

Source: Planet Tracker based on Umios.

To improve its seafood traceability, **Umios** needs to:

1 **Disclose a commitment**	Disclose a clear, group level commitment to full chain, interoperable, digital traceability systems that align with the GDST standard for all its seafood products, aquaculture and agriculture feed ingredients that covers both the wild caught and farmed supply chains. In practice, it should start with the species already deemed traceability-ready (as per above), with the ambition to reach 100% in time.
2 **Design an implementation plan**	Design an implementation plan to reflect the commitments made to traceability. This plan should be time bound, including achievable milestones to track progress whilst addressing the key species (e.g. Alaska pollock or various species of tuna).
3 **Commit to third party verification**	Commit to third party verification of its newly implemented traceability systems and disclose the outcomes of said verification. This will give investors and stakeholders confidence that the systems meet regulatory and market expectations.

Modelling additional traceability investment at Umios

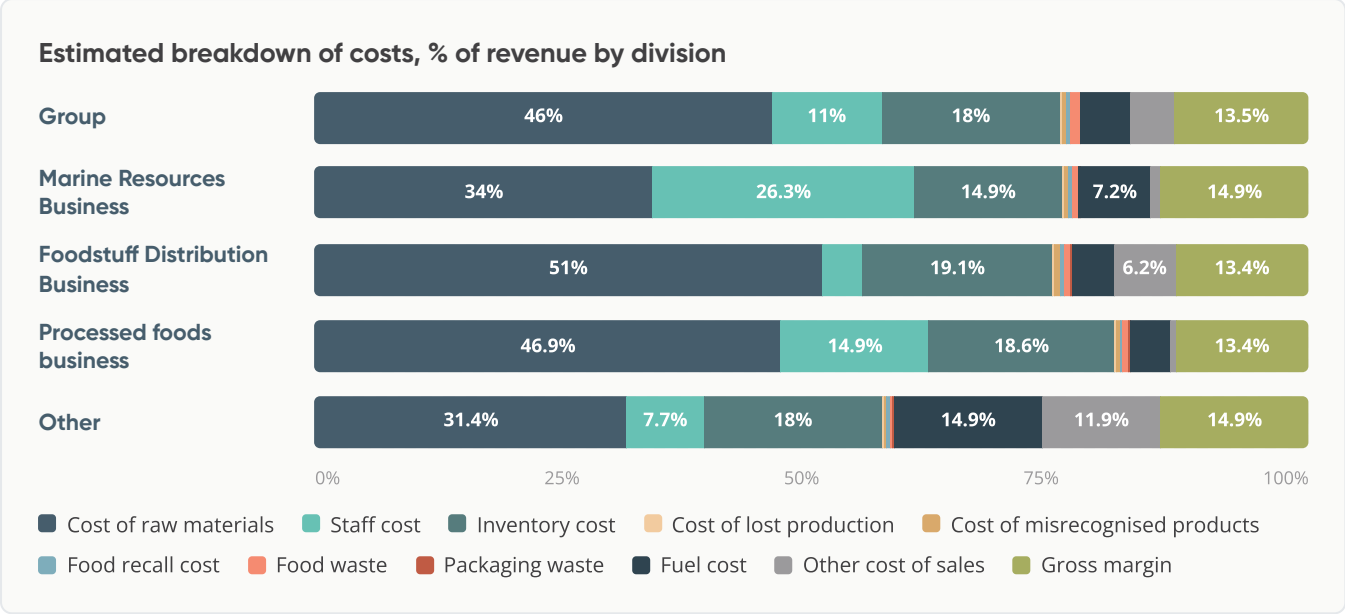
To calculate the financial implications of improved traceability at **Umios**, we proceeded as follows:

- established a baseline of the existing breakdown of costs.
- determined the financial impact of further traceability on each cost and other financial items, using the items listed in Figure 1 and the shared assumptions mentioned earlier.

These can be modified in the 'Assumptions' sheet of our interactive model.

Given that **Umios** divisions differ widely, we have modelled the company's existing breakdown of costs in each division.

Figure 6: Raw materials and staff are estimated to be Umios' main operational expenses



Estimates, source: Planet Tracker.

For each division, the estimated impacts of traceability on the financials are listed, explained in the model and are in line with the assumptions outlined earlier. The main ones include:

- The requested change in traceability would lead to an estimated 0.2% increase in cost of materials (excl. the impact of a change in volumes), passed on to clients via a 0.2% price increase. This is the same price increase as assumed for **Nissui**.
- Like for **Nissui**, it would also lead to a 0.5% increase in volumes (sustainability-driven share gains in a Japanese market where retailers increasingly care about sustainability).[13]
- A total of JPY9.0bn investment is needed, broadly split between opex and capex, as per the table overleaf. Key assumptions include the number of facilities covered (75, estimated based on relevant subsidiaries data), the type and number of hardware purchased, as well as the time needed for supply chain mapping, software licenses and configuration, networks and system integration, and change management.

Table 7: Umios' investment in seafood traceability would cost JPY9bn, split evenly between capex and administrative expenses

Item	Volume	Unit	Unit cost (¥m)	Total cost (¥m)	Capex/ Admin expenses	Rationale
Enterprise platform	1	company-wide	2,000.0	2,000	Capex	Assumes that some but not all companies already have an ERP, some efficiencies but also roll-outs of ERPs at some subsidiaries
API integration & mapping	75	facilities	15.0	1,125	Admin expenses	500 hours to be conservative, at c USD 200 per hour, for each facility
Mobile app enhancements	75	facilities	15.0	1,125	Capex	Assumed to require similar time to API integration
IoT sensors	75	facilities	0.1	6	Capex	Assumes a unit cost of USD50 and 10 sensors per facility
Rugged tablets/scanners	75	facilities	0.8	56	Capex	Assumes a unit cost of USD500 and 10 tablets per facility
Server/networking upgrade	75	facilities	11.3	844	Capex	A middle estimate for the incremental cost of scaling enterprise-class servers or major cloud plans in global food manufacturing IT deployments when extending to new business units.
System integration	75	facilities	45.0	3,375	Admin expenses	1500 hours to be conservative, at c USD 200 per hour, for each facility
Pilot rollout	1	company-wide	500.0	500	Capex	
Total				**9,031**		

Estimates, source: Planet Tracker.

Financial implications for Umios

The capex required for this investment represents 24% of the group capex (or 0.44% of sales).

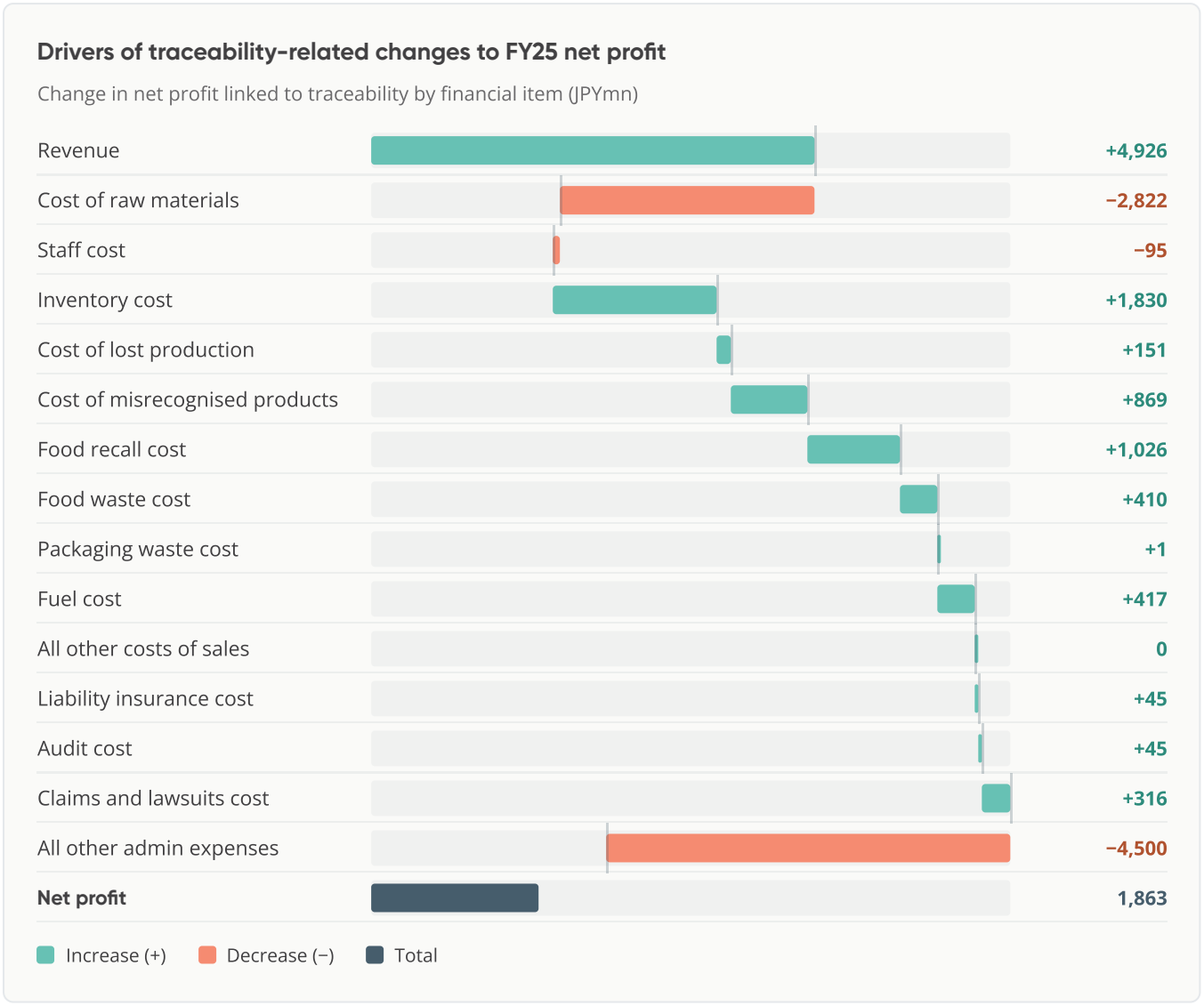
Under the assumptions previously described, this investment would have increased FY25 revenue by 0.5%, increased gross profit by 4.6%, and increased operating profit by 8.6%. Net profit would rise by a lower proportion (+6.2%) as we assumed no change in extraordinary income. The investment would have had a positive JPY2,555mn impact on the group cash position.

Table 8: Improved traceability would boost Umios' FY25 operating profit by 8.6%

Financial metric (all in ¥mn unless otherwise stated)	FY2025 (old)	FY 2025 (new)	% change	Absolute change
Volumes (tonnes)	1,700,000	1,707,038	0.4%	7,038
Price (JPY/kg)	634.49	634.76	0.0%	0.27
Revenue	**1,078,631**	**1,083,557**	**0.5%**	**4,926**
Cost of raw materials	−496,170	−498,992	0.6%	−2,822
Staff cost	−118,649	−118,745	0.1%	−95
Inventory cost	−194,154	−192,324	−0.9%	1,830
Cost of lost production	−1,079	−927	−14.0%	151
Cost of misrecognised products	−5,393	−4,524	−16.1%	869
Food recall cost	−5,293	−4,267	−19.4%	1,026
Food waste cost	−10,786	−10,376	−3.8%	410
Packaging waste cost	−120	−119	−0.8%	1
Fuel cost	−53,932	−53,515	−0.8%	417
All other costs of sales	−47,457	−47,457	0.0%	—
Gross profit	**145,598**	**152,311**	**4.6%**	**6,713**
Liability insurance cost	−1,079	−1,034	−4.1%	45
Audit cost	−539	−495	−8.3%	45
Claims and lawsuits cost	−1,273	−957	−24.8%	316
All other admin expenses	−112,325	−116,825	4.0%	−4,500
Operating income	**30,381**	**33,000**	**8.6%**	**2,619**
Net profit	**29,825**	**31,688**	**6.2%**	**1,863**

Source: Planet Tracker.

Figure 7: Increased revenue and lower opex would more than offset the additional administrative expenses associated with traceability, leading to an 11% increase in Umios FY25 net profit



Estimates, source: Planet Tracker.

Thai Union could add 2% to operating profit by expanding its traceability coverage

REVENUE	OPERATING PROFIT	NET INCOME	TOTAL INVESTMENT	COVERAGE MODELLED
+0.1%	**+1.9%**	**+2.1%**	**THB 10.7mn**	**100%**
Impact of traceability (Table 1)	Impact of traceability	Impact of traceability	(USD 0.3mn)	Coverage already at an estimated 74%

Estimates based on 2024 financials, source: Planet Tracker (Table 1). Download the interactive model

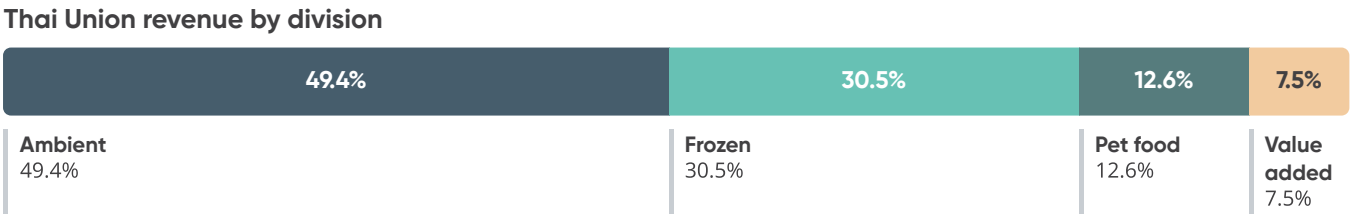
Current state of traceability at Thai Union

Thai Union is one of the world's largest seafood processors, based in Thailand. It sources both wild-caught (e.g. tuna) and farmed seafood (e.g. shrimp) globally, with processing facilities across Thailand, Europe, Ghana, the Seychelles, the US, Vietnam, and more.

Thai Union operates through four divisions:

- **Ambient (canned/shelfstable) seafood:** tuna & sardines via brands like Chicken of the Sea, John West, Petit Navire, Mareblu, King Oscar, Rügen Fisch, SEALECT.
- **Frozen & chilled seafood:** frozen fish, shrimp, seafood meals under Chicken of the Sea Frozen Foods, plus Petit Navire chilled lines.
- **Valueadded & pet care:** prepared meals and pet food (e.g. PetCare through US Pet Nutrition LLC).
- **Ingredients & nutrition,** via Thai Union Ingredients: DHA, nutritional oils, supplements, crude tuna oil refined for infant formula.

Figure 8: Ambient and Frozen seafood are Thai Union's largest divisions by revenue



Source: Company segment reporting, Planet Tracker analysis.

Overall, Planet Tracker estimates that 74% of **Thai Union**'s portfolio by volume is currently covered by a traceability system, of which 50% is in line with our ask (digital, interoperable, GDST-aligned):

50% **Tuna portfolio**	Thai Union's tuna portfolio (which we estimate accounts for 50% of group volumes) is, or will very soon be, fully traceable.
24% **Farmed shrimp**	The group's farmed shrimp products (an estimated 24% of volumes) are traceable but using paper-based systems.
26% **Other wild-caught seafood**	The group's wild-caught seafood other than tuna (an estimated 26% of volumes) is currently not demonstrably in line with our ask on traceability.

More details on the company's traceability commitment and implementation plan can be found in **Thai Union**'s FAIRR Assessment.

Towards further progress in traceability at Thai Union

On March 16th, 2026, **Thai Union** announced a two-year plan to deploy digital, interoperable traceability across its entire portfolio.[14] It is the second seafood giant to do so, after Mars[9].

To reach its target of 100% portfolio coverage and be compliant with our asks on traceability, **Thai Union** primarily needs to:

- implement digital and interoperable traceability for its portfolio of wild-caught seafood (other than tuna).
- digitise the paper-based traceability systems used in shrimp aquaculture.
- commit to third party verification of its newly implemented traceability systems and disclose the outcomes of said verification. This will give investors and stakeholders confidence that the systems meet regulatory and market expectations.

9. Mars announced in 2025 a commitment to seafood traceability "across its supply chains" for its pet food business.

Modelling additional traceability investment at Thai Union

To calculate the financial implications of improved traceability at **Thai Union**, we proceeded as follows:

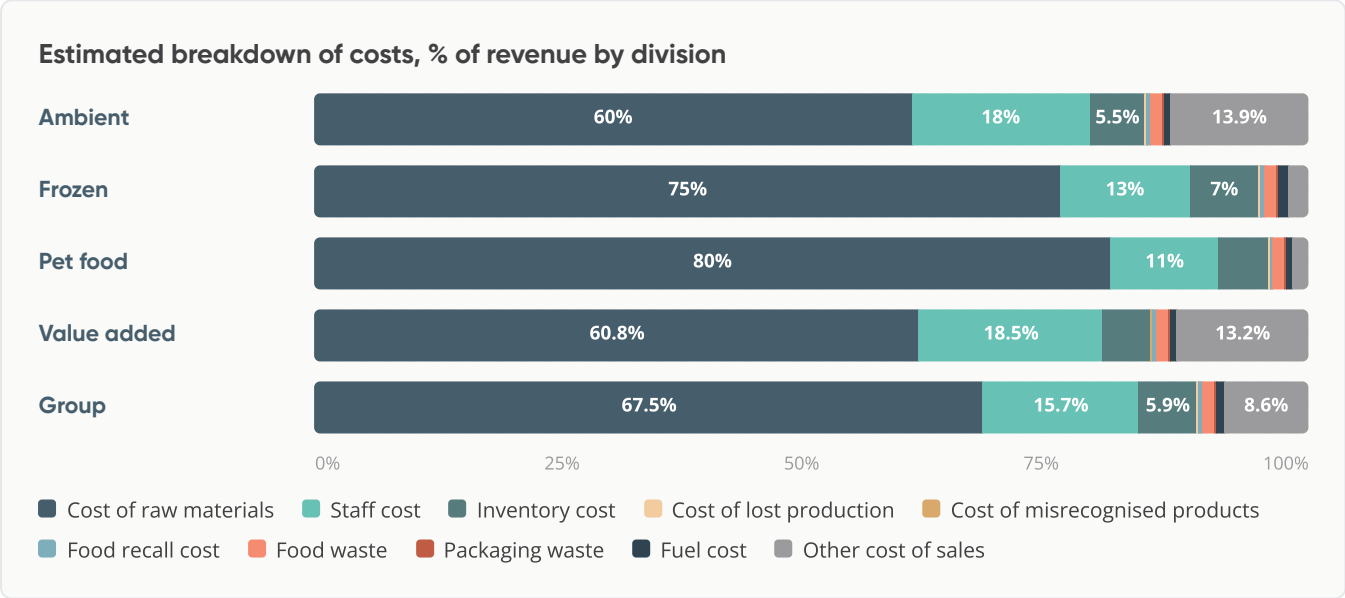
- established a baseline of the existing breakdown of costs.
- determined the financial impact of further traceability on each cost and other financial items, using the items listed in Figure 1 and the shared assumptions outlined earlier.

These assumptions can be modified in the 'Assumptions' sheet of our interactive model.

Because improved traceability would impact each division differently, we have modelled changes at the divisional level.

The estimated breakdown of costs by division is presented below. **Thai Union** discloses only some of the group costs (e.g. staff and cost of sales), with the rest estimated based on either reported sustainability data (e.g. fuel costs) or industry reports.

Figure 9: Raw materials and staff are estimated to be the largest costs across Thai Union's divisions



Source: Planet Tracker, estimates for 2024.

The key assumptions used to estimate the impacts of improved traceability on the financials are listed below:

- No change to the tuna portfolio.
- For the digitisation of shrimp traceability systems (currently paper-based), we model a 15%–20% reduction in the cost of lost and misrecognised products depending on the division.
- For all other products besides tuna and shrimp, we estimate changes in line with the shared assumptions outlined earlier.
- An increase in staff costs linked to:
  - the extension of existing infrastructure to shrimp and other species,
  - data and process design including mapping shrimp-specific Key Data Elements (KDEs), as well as KDEs for other species,[10]
  - re-engineering plant workflows,
  - supplier onboarding,
  - change management and training.

Financial implications for Thai Union

Under the assumptions previously described, this investment would have increased 2024 revenue by 0.1%, increased gross profit by 0.6%, increased operating profit by 1.9%, and increased net profit by 2.1%.

THAI UNION AT A GLANCE

A modest THB 10.7mn investment against an estimated +1.9% uplift in 2024 operating profit.

Because Thai Union's tuna portfolio is already (or will very soon be) fully traceable, the modelled upside comes only from digitising shrimp systems and extending coverage to other wild-caught seafood.

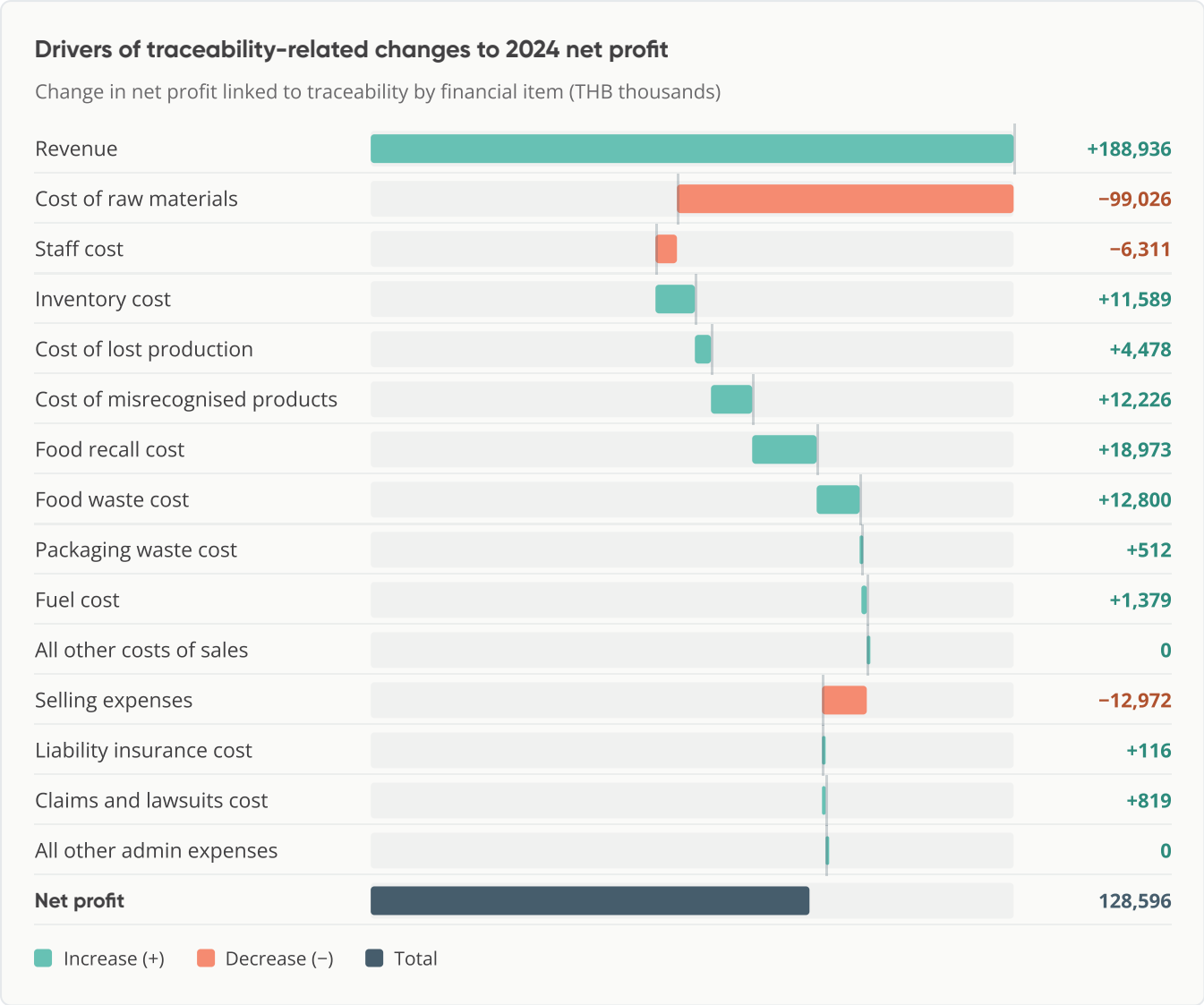
10. The minimum pieces of information required to track products through Critical Tracking Events (CTEs) in a supply chain.

Table 9: Improved traceability would boost Thai Union's 2024 operating profit by 1.9%

Financial metric	2024 (old)	2024 (new)	% change	Absolute change (THB thousands)
Volumes	886,218	887,387	0.1%	1,169
Price (THB/kg)	156.21	156.21	0.0%	0.01
Revenue	**138,433,059**	**138,621,995**	**0.1%**	**188,936**
Cost of raw materials	−76,108,656	−76,207,682	0.1%	−99,026
Staff cost	−17,694,705	−17,701,016	0.0%	−6,311
Inventory cost	−6,670,870	−6,659,281	−0.2%	11,589
Cost of lost production	−68,600	−64,121	−6.5%	4,478
Cost of misrecognised products	−137,199	−124,973	−8.9%	12,226
Food recall cost	−428,418	−409,445	−4.4%	18,973
Food waste cost	−1,371,991	−1,359,191	−0.9%	12,800
Packaging waste cost	−274,398	−273,886	−0.2%	512
Fuel cost	−780,000	−778,621	−0.2%	1,379
All other costs of sales	−9,755,408	−9,755,408	0.0%	—
Gross profit	**25,623,693**	**25,771,631**	**0.6%**	**147,938**
Selling expenses	−9,504,866	−9,517,838	0.1%	−12,972
Liability insurance cost	−8,897	−8,781	−1.3%	116
Audit cost	−69,217	−67,417	−2.6%	1,800
Claims and lawsuits cost	−10,498	−9,679	−7.8%	819
All other admin expenses	−8,807,908	−8,807,908	0.0%	—
Operating profit	**7,222,308**	**7,360,008**	**1.9%**	**137,700**
Net profit	**6,073,891**	**6,202,487**	**2.1%**	**128,596**

Source: Planet Tracker.

Figure 10: Increased revenue and reduced food recall costs, food waste costs and inventory costs are the main drivers of traceability-related change in Thai Union's 2024 net profit



Estimates, source: Planet Tracker.

Compared to the additional THB 196mn in profit, the necessary investment is low (THB11mn), mainly comprised of additional hardware and associated system integration for the non-tuna part of the portfolio.

Table 10: Improved traceability at Thai Union requires a relatively modest investment estimated at THB 11mn

Item	Volume	Unit	Unit cost (THB)	Total cost (THB thousands)	Rationale
Enterprise platform	0		—	0	Already in use.
API integration & mapping	500	hours	7,000	3,500	500 hours to be conservative, at c. USD 200 per hour.
Mobile app enhancements	2	modules	875,000	1,750	Assumes one module for raw material intake and one for finished goods/shipping,
IoT sensors	200	units	5,250	1,050	Major food plants typically require 10–30 sensors per facility (for zones, lines, cold rooms). With 7–12 non-tuna/shrimp facilities needing new sensors, 200 units would provide moderate coverage.
Rugged tablets/scanners	50	units	21,000	1,050	Assuming 12–14 sites to equip (non-tuna/non-shrimp), with 3–5 new tablets/scanners/site needed for full coverage across new lines and shifts, this yields 40–60 units.
Server/networking upgrade	1	bundle	2,625,000	2,625	A middle estimate for the incremental cost of scaling enterprise-class servers or major cloud plans in global food manufacturing IT deployments when extending to new business units (based on a USD 75,000 midpoint).
System integration	500	hours	7,000	3,500	Assumed to be similar to API integration time and cost.
Pilot rollout	12	sites	350,000	4,200	
Total investment				**10,675**	

Source: Planet Tracker.

Nomad Foods could add 2% to its operating profit by complementing certification with traceability

REVENUE	OPERATING PROFIT	NET INCOME	TOTAL INVESTMENT	COVERAGE MODELLED
+0.2%	**+1.6%**	**+2.2%**	**EUR 2.7mn**	**100%**
Impact of traceability (Table 1)	Impact of traceability	Impact of traceability	(USD 3.1mn)	Seafood only — c. 33% of sales

Estimates based on 2024 financials, source: Planet Tracker (Table 1). Download the interactive model

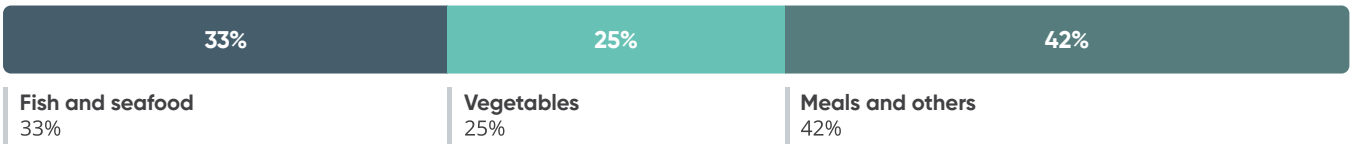
Current state of traceability at Nomad Foods

Nomad Foods is one of Europe's leading frozen food companies, headquartered in the United Kingdom and operating across more than 20 countries. It sources fish, vegetables, and other ingredients globally, with major production facilities in the UK, Germany, Italy, Norway, and several Central and Eastern European countries.

Nomad Foods operates through three main product categories:

- **Fish and seafood (33% of sales):** frozen whitefish, salmon, and coated fish products marketed under brands such as Birds Eye, Findus, Iglo, and Lutosa.
- **Vegetables (25% of sales):** frozen peas, spinach, mixed vegetables, and vegetable blends offered through Birds Eye Green Cuisine and related ranges.
- **Meals and others (42% of sales):** prepared frozen meals, pizzas, meat and poultry products, potato specialties, and plantbased lines.[15]

Nomad Foods sales by product category



Fish and seafood	Vegetables	Meals and others
33%	25%	42%

Source: Company segment reporting, Planet Tracker analysis.

Currently, **Nomad** does not disclose whether it has any operational traceability systems in place for its seafood portfolio, nor any details of its traceability coverage including scope, depth or breadth of the data.

Instead, **Nomad** is currently relying on external certifications and does not have a traceability commitment for seafood or feed ingredients. In 2024, 99.6% of its sourced fish and seafood volume was MSC or ASC[11] certified. These certifications differ from full chain, digital and interoperable traceability as seen in Box 1 earlier. For example, Nomad Foods does not have access to the underlying data, which instead stays within each actor in the supply chain and therefore cannot easily be shared up or down the supply chain.

See **Box 1: Certification vs traceability**.

Towards further progress in traceability at Nomad Foods

To assess whether **Nomad Foods** could achieve 100% traceability coverage for its portfolio, analysis of its species and geographic exposure is required, since some supply chains face bigger challenges than others on the road to full traceability. This is, for instance, the case for fisheries that are either overfished, where IUU[12] fishing frequently occurs, or those running on paper-based records. **Nomad Foods** predominantly sources wild-caught Alaska pollock, Atlantic cod, haddock, hake, saithe and farmed Atlantic salmon and pangasius. In previous research, Planet Tracker considered all these species to be 'traceability-ready'. Planet Tracker has therefore modelled below an ambition to achieve 100% traceability.

Modelling additional traceability investment at Nomad Foods

To calculate the financial implications of improved traceability at **Nomad Foods**, we proceeded as follows:

- established a baseline of the existing breakdown of costs
- determined the financial impact of further traceability on each cost and other financial items, using the items listed in Figure 1 and the shared assumptions outlined earlier.

These assumptions can be modified in the 'Assumptions' sheet of our interactive model.

Unlike for **Thai Union**, **Nissui** and **Umios**, we have modelled changes at the group level because **Nomad**'s divisional reporting (by geography) does not help make the traceability analysis more accurate.

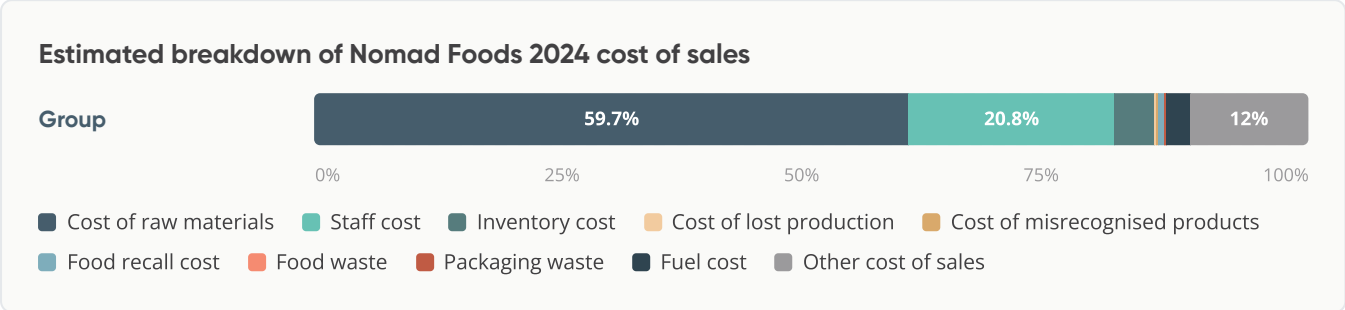
Our analysis only covers the seafood portion of **Nomad**'s business, which accounts for c. 33% of sales. Nomad already achieves traceability for meat.[16]

11. The Marine Stewardship Council and the Aquaculture Stewardship Council, the leading certification bodies for respectively wild-caught and farmed seafood.
12. Illegal, Unreported and Unregulated fishing.

Two major assumptions include:

- eight sites across Europe (those handling seafood) are equipped with the necessary hardware and software.
- raw materials and staff together account for 80% of the cost of sales – see below.

Figure 11: Raw materials and staff are estimated to be the main components of Nomad Foods 2024 cost of sales



Source: Planet Tracker.

Nomad already has one of the highest efficiency rates in the industry, and so the cost-saving benefit of adopting traceability may be less than for peers. As a result, we adjusted down our calibration of the financial benefit for Nomad relative to the baseline. Overall, the main assumptions include:

- a 0.5% increase in seafood volumes as **Nomad Foods** markets its increased traceability credentials to retailers.
- a 0.2% increase in price resulting from the passing on of a similar increase in cost of raw materials as suppliers charge for slightly higher costs due to traceability.
- an increase in staff cost linked to the hire of a dedicated traceability person.
- a 15% reduction in the cost of misrecognised and lost seafood products.
- additional investments totalling EUR 2.7mn, covering supply chain mapping, software licenses and configuration, hardware (scanners, tablets, etc), networks and system integration, and change management, as per the table overleaf.

Table 11: Nomad Foods investment in seafood traceability is assumed to cost EUR2.7mn

Cost component	Unit number	Total cost (EUR)	Comment
Discovery & Design	1	32,500	Supply chain mapping, CTEs/KDEs definition, standards selection (GS1/EPCIS/GDST), vendor RFP
Software Platform – Licenses	1	95,000	SaaS or perpetual licenses for traceability/ERP modules, EPCIS layer, portals
Software Platform – Configuration	8	500,000	Workflows, master data, critical tracking events, user roles, dashboards (mix of external and internal IT time)
Hardware & IoT Devices	8	480,000	Assuming a cost for a full kit (scanners, tablets, printers, smart scales, sensors, etc) of EUR 2-5k and 10 to 20 kits for each of the 8 sites
Networking & Infrastructure	8	100,000	Wi-Fi upgrades, edge computing
Systems Integration	8	720,000	Connect to ERP, warehouse management system, QA, production equipment; (complex in multi-vendor environments)
Change Management & Training	8	340,000	Production & QA team training, documentation, pilot runs
Compliance & Validation	8	240,000	Audit preparation and regulatory alignment
Cybersecurity & Access Control	8	140,000	User authentication, data encryption, role-based access, vulnerability testing
Internal Project Management	1	80,000	Dedicated PM, cross-functional steering, vendor management. Assumed to be 1 FTE
Total (EUR)		**2,727,500**	
Total (% of sales)		0.09%	
Total (% of seafood sales)		0.27%	
of which capex		580,000	
of which opex		2,147,500	

Estimates, source: Planet Tracker.

Financial implications for Nomad Foods

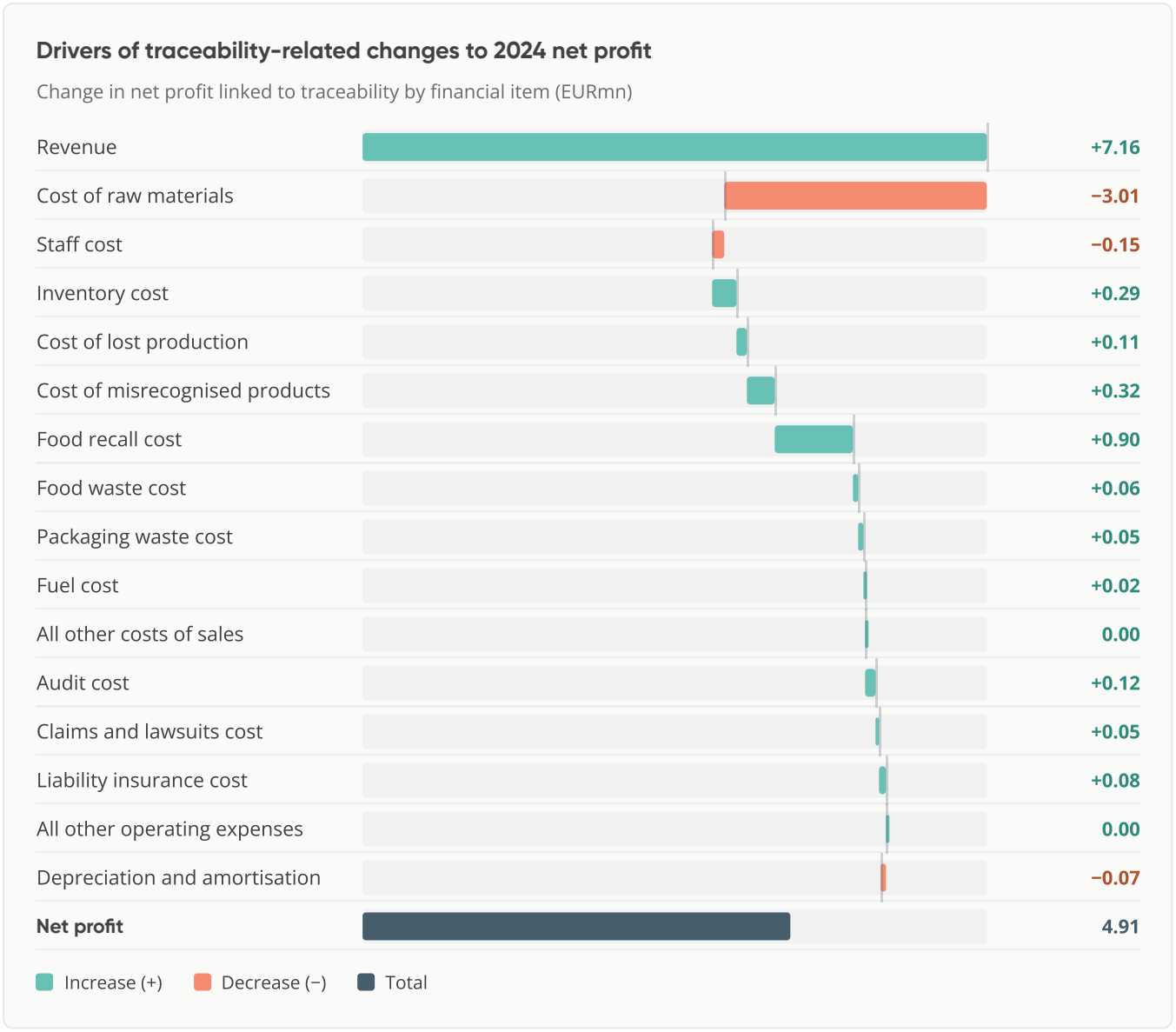
Like for **Thai Union**, seafood-related traceability is a modest investment for **Nomad Foods** — at 0.3% of seafood sales or 0.1% of group sales. Yet given its potential to reduce costs and increase revenue, it nonetheless results in an estimated 1.6% increase in Nomad Foods' operating profit based on 2024 numbers. This equates to a 2.2% increase in net profit.

Table 12: Improved traceability could add 1.6% to Nomad Food's 2024 operating profit

Financial metric (EURmn)	2024 (old)	2024 (new)	% change	Absolute change (EURmn)
Volumes	104,000	104,172	0.2%	
Price (EUR/kg)	29.81	29.83	0.1%	
Revenue	**3,100**	**3,107**	**0.2%**	**7.2**
Cost of raw materials	−1,303	−1,306	0.2%	−3.0
Staff cost	−454	−454	0.0%	−0.1
Inventory cost	−87	−87	−0.3%	0.3
Cost of lost production	−2	−2	−5.0%	0.1
Cost of misrecognised products	−7	−6	−5.0%	0.3
Food recall cost	−11	−10	−8.2%	0.9
Food waste cost	−3	−3	−1.7%	0.1
Packaging waste cost	−3	−3	−1.7%	0.1
All other costs of sales	−262	−262	0.0%	—
Gross profit	**918**	**924**	**0.6%**	**5.8**
Audit cost	−4	−4	−3.3%	0.1
Claims and lawsuits cost	−1	−0	−9.9%	0.1
Liability insurance cost	−5	−5	−1.7%	0.1
All other operating expenses	−452	−452	0.0%	—
Depreciation and amortisation	−97	−97	0.1%	−0.1
Operating profit	**387**	**393**	**1.6%**	**6.0**
Net profit	**227**	**232**	**2.2%**	**4.9**

Source: Planet Tracker.

Figure 12: Increased revenue, reduced food recall costs and waste costs are the main drivers of traceability-related change in Nomad Food's 2024 net profit



Estimates, source: Planet Tracker.

Investor action

Planet Tracker recommends investors ask seafood companies to invest in digital, interoperable traceability systems covering the full supply chain and their entire portfolio.

01

Make the ask

Ask seafood companies to invest in **fully digital, interoperable, GDST-aligned traceability covering 100% of a company portfolio**. In each company analysis in this report, the same three steps recur:

- Disclose a clear, group level commitment to full chain, interoperable, digital traceability systems that align with the GDST standard.
- Design a time-bound implementation plan with achievable milestones, addressing the key species first.
- Commit to third party verification of newly implemented traceability systems and disclose the outcomes.

02

Coordinate the engagement

Investors can coordinate this engagement via the Seafood Traceability Engagement led by FAIRR in collaboration with Planet Tracker, UNEP FI, WWF and WBA.

The financial case is set out in Sections 3–6: the four companies analysed could increase their operating profits by 2% to 9%, with high returns on capital since the necessary capex is relatively low.

+9.0%
Nissui operating profit

+8.6%
Umios operating profit

+1.9%
Thai Union operating profit

+1.6%
Nomad Foods operating profit

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About Planet Tracker

ABOUT PLANET TRACKER

An independent financial think tank

Planet Tracker is an independent financial think tank working to align capital markets with planetary boundaries. Through data-driven and investigative research, we assess the financial risks and opportunities arising from natural capital degradation and the transition to a nature-positive economy. Our work focuses on key global value chains across food, land and ocean systems, helping investors, policymakers and companies understand nature-related risks, challenge corporate behaviours, improve capital allocation and support more sustainable economic outcomes.

SEAFOOD TRACEABILITY

From catch to cash

This report calculates the financial implications of investing in digital, interoperable seafood traceability for four large, listed companies — Nissui, Umios, Thai Union and Nomad Foods — and supports the Seafood Traceability Engagement led by FAIRR in collaboration with Planet Tracker, UNEP FI, WWF and WBA.

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