



Ocean to Table

Tokyo Bay Traceability Project

‘Tokyo Bay Fish Passport Fair’

「江戸前フィッシュパスポートフェア」
ご紹介

June 29, 2022

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Member of Ocean To Table Council





Tokyo Bay Fish Passport Fair

Overview

- Provide fish which has “honorable history and quality” caught by “Daiten-maru” and “Nakasen-maru” : certified as fishing companies implementing recourse management and promoting sustainable fishery (by FIP) in Tokyo Bay
- Digitize ‘traceability’ : the value chain of catch, processing shipping and sales with technologies including blockchain
- Provides a QR code solution : for consumers at store or restaurant to recognize ‘when, where, by whom the fish was caught and where it came from’— for their safety and security
- Period: Sep. – Oct, 2021, by Ocean To Table (O2T) Council

[Click here for a media announcement \(Japanese only\)](#)

- The experimental project was financially supported by Fishery Agency in 2021
- Our long-term goals:
 - Promote awareness of sustainable fishing,
 - Add Value by traceability,
 - Increase fish consumption (but balanced with sustainability)

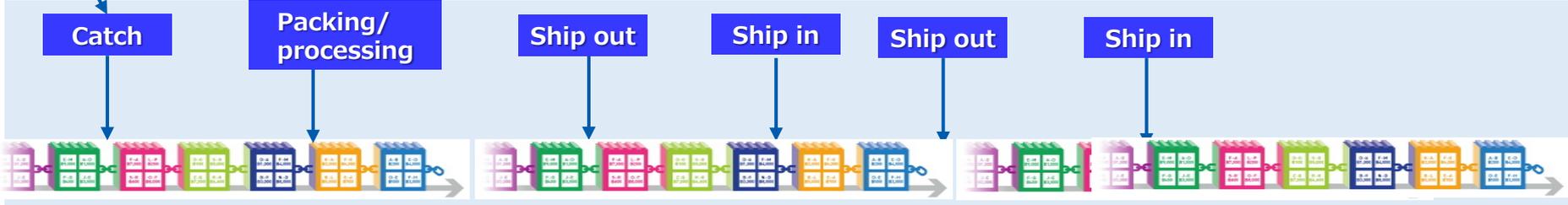
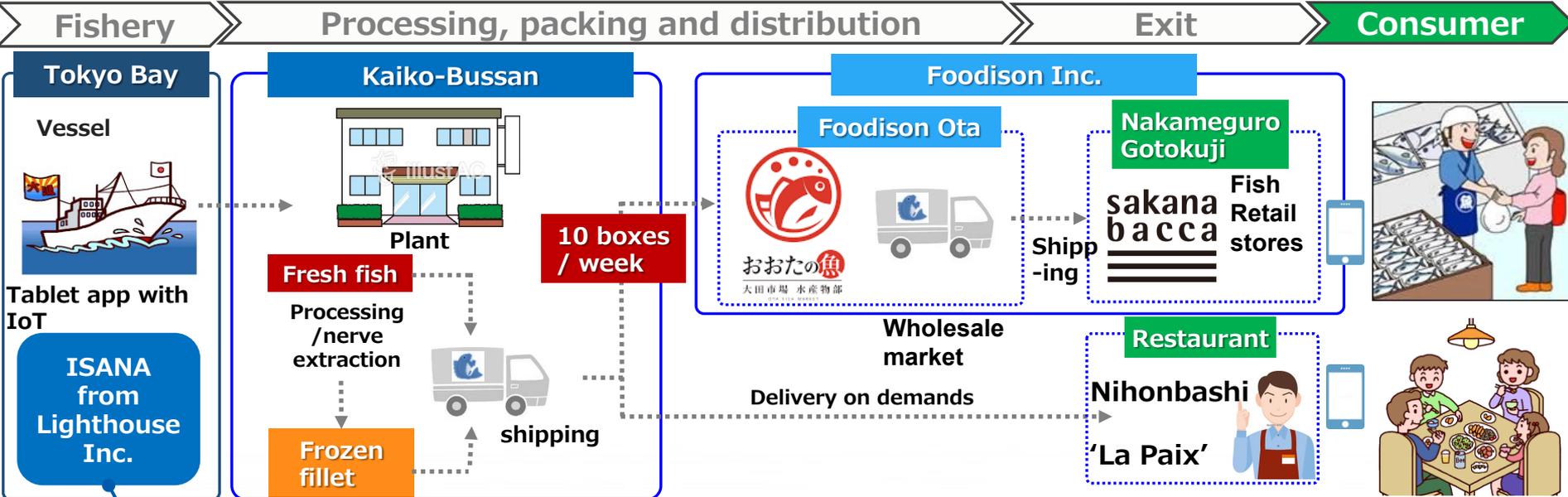


Supply Chain Scope

‘when, where, and by whom the fish caught and where it went’

Products: Fresh high-quality sea perch / Frozen fillet
 Stores: ‘sakana bacca’ (in Gotokuji and Nakameguro)
 Restaurant: ‘La Paix’ (in Nihonbashi)

Link for store experience



IBM, IX Knowledge Inc.

Ocean to Table (O2T) Application on IBM FoodTrust providing ‘hyperledger fabric’ type of blockchain



Data Standards and Platform for the app.

- GS1 – standardized code for products, companies, pallets, asset etc.
<https://www.dsri.jp/standard/identify/>
- EPCIS – standard for creating and sharing visibility event data
<https://www.dsri.jp/standard/epc/epcis.html>
- Global Dialogue on Seafood Traceability (GDST)
standards to allow for interoperability across seafood traceability
platforms (version 1 available since March, 2020)
<https://traceability-dialogue.org/what-is-the-global-dialogue/>
- IBM Food Trust (revised name 'IBM Blockchain Transparent Supply')
<https://food.ibm.com/ift/docs/>
In operation since 2019, with 300+ companies including Walmart,
Carrefour and Kvarøy Arctic, for 22,000+ products
(Note) It is a SaaS providing APIs for traceability using GS1/EPCIS on 'Hyperledger fabric'
blockchain)



ISANA – Tablet on Vessel for Fishers

catch tracking record window for fishers

①



select date and time

②



confirm the catch data

③



input the catch of species

Simple 3 steps enable catch recording with SONAR and fish finder data

操業中の魚探やソナーの画面と水揚げの成果を記録できます。各操業日の航跡と成果を簡単に振り返ることができるようになります。

On vessel

- Records sites and weight of catch per fish species

Future plan

- Fishery ground forecasting
- Resource evaluation
- Certification approval assistance

Return to port



Selected catch data automatically transmitted To O2T app by API (daily)

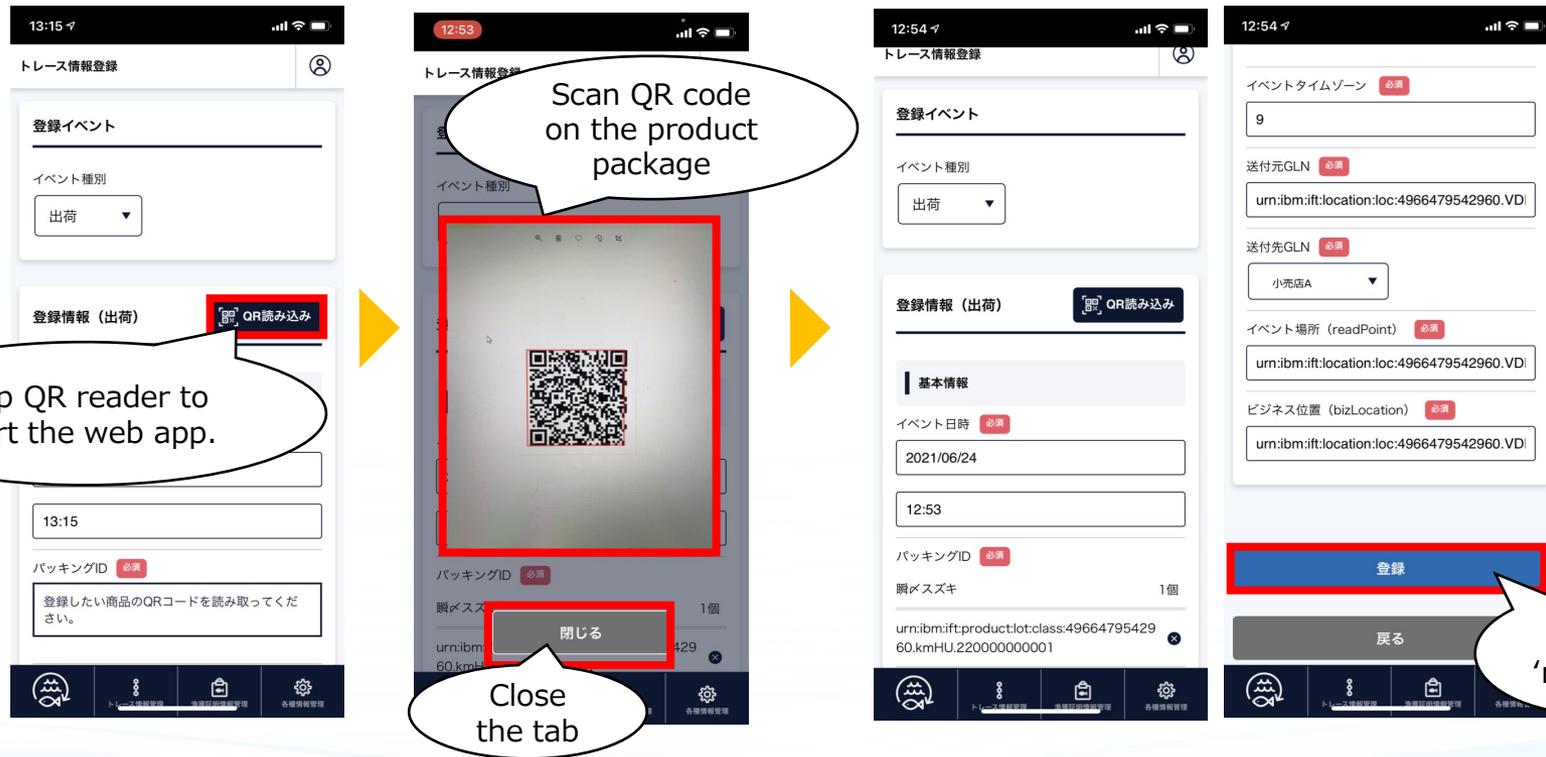




Traceability Data Entry

Operation at processing, packing and distribution

Shipping out example with tablet or smartphone (browser app)





Operation with QR Code - 1/4

- GTIN defined by GS1/GDST included
Company code + product code + lot/serial number
- The pre-assigned number is identical to each 'catch' on vessel
- Kaiko-bussan (Packing plant at landing port) generates the number



Sea perch (fresh)

QRコード形式: <https://consumer-front.wild.o2t.app/trace?epclId=urn%3Aibm%3Aift%3Aproduct%3Alot%3Aclass%3A4966479542960.Ywzu%25<ロット番号>>

| GTIN | Lot/serial | 採番日 | 発行依頼日 | 発行依頼枚数 | 受け取り日 | 貼り付け日 | 貼り付け枚数 | コピペ用QRコード |
|--------------------|--------------|-----|-------|--------|-------|-------|--------|---|
| 4966479542960.Ywzu | 000000000001 | | | | | | | https://consumer-front.wild.o2t.app/t |
| 4966479542960.Ywzu | 000000000002 | | | | | | | https://consumer-front.wild.o2t.app/t |
| 4966479542960.Ywzu | 000000000003 | | | | | | | https://consumer-front.wild.o2t.app/t |
| 4966479542960.Ywzu | 000000000004 | | | | | | | https://consumer-front.wild.o2t.app/t |
| 4966479542960.Ywzu | 000000000005 | | | | | | | https://consumer-front.wild.o2t.app/t |
| 4966479542960.Ywzu | 000000000006 | | | | | | | https://consumer-front.wild.o2t.app/t |
| 4966479542960.Ywzu | 000000000007 | | | | | | | https://consumer-front.wild.o2t.app/t |
| 4966479542960.Ywzu | 000000000008 | | | | | | | https://consumer-front.wild.o2t.app/t |
| 4966479542960.Ywzu | 000000000009 | | | | | | | https://consumer-front.wild.o2t.app/t |
| 4966479542960.Ywzu | 000000000010 | | | | | | | https://consumer-front.wild.o2t.app/t |
| 4966479542960.Ywzu | 000000000011 | | | | | | | https://consumer-front.wild.o2t.app/t |
| 4966479542960.Ywzu | 000000000012 | | | | | | | https://consumer-front.wild.o2t.app/t |

瞬メズキ (鮮魚) 瞬メズキ (冷凍フィレ)



Operation with QR Code - 2/4

- Multiple QR code seals printed and packed with product lot so that the downstream stores can stick them on sliced packages

Fishery

Processing, packing and distribution

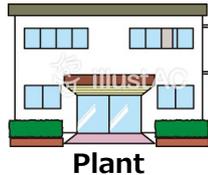
Exit

Consumer

Tokyo Bay

Kaiko-bussan

Vessel



Plant

ISANA from Lighthouse Inc.

Catch



IBM, IX Knowledge Inc.

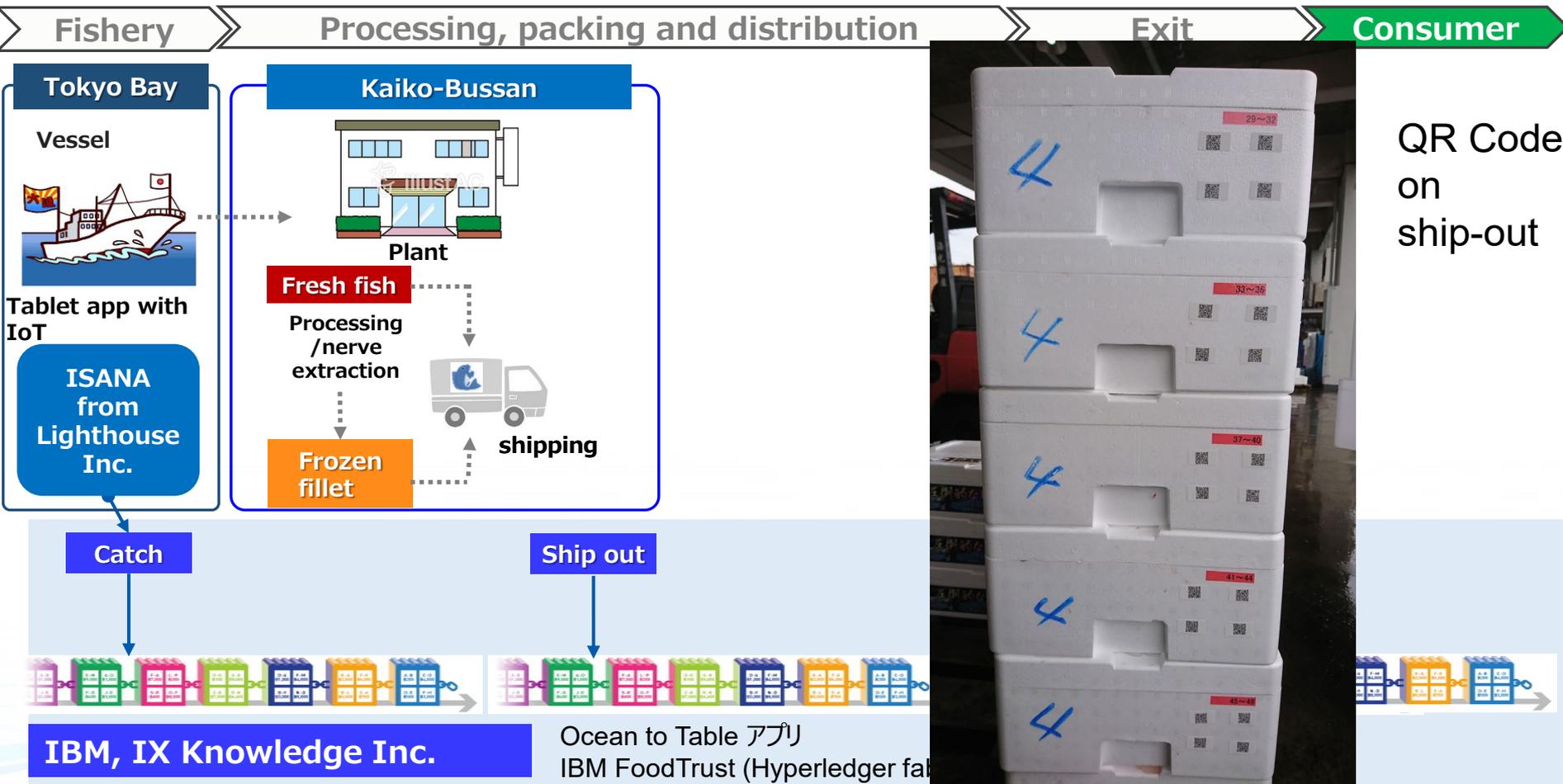
Ocean to IBM Food





Operation with QR Code - 3/4

- Container also go with Lot No. QR codes for downstream ship-in and ship-out operators at the downstream

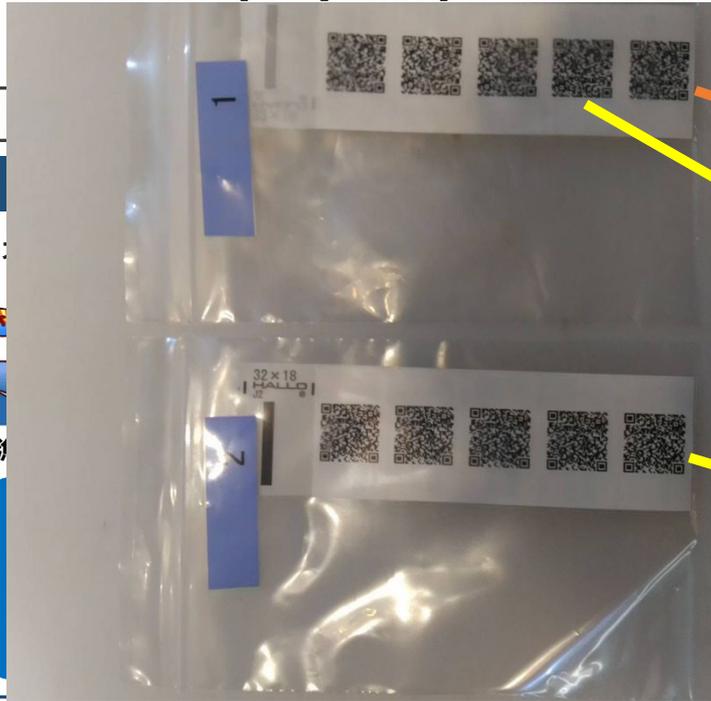


QR Code on ship-out



Operation with QR Code - 4/4

- 'Fish passport' certified processed products:
displayed/packed with QR code with certification at store



g and distributio

Foodis



おおたの魚
大田市場 水産物部



er

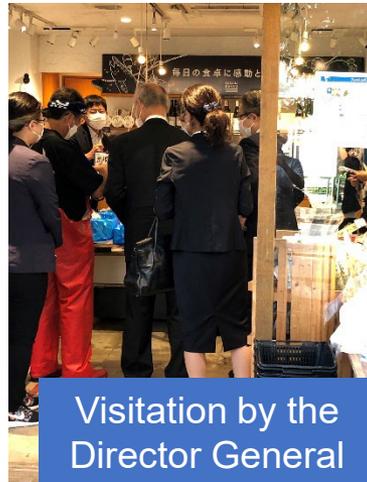


Snapshots during the Fair

School students were particularly interested in what we do with the QR code, since this generation have been studying about SDGs and overfishing.



WWF Webinar
IBM blog report



Visitation by the
Director General
of the Fisheries
Agency



Visits of TV and
news papers



Promotion by
Ocean To Table
Council member



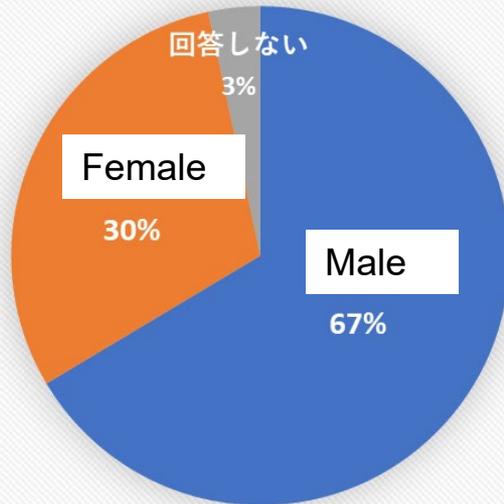


F2F Consumer Survey at Store

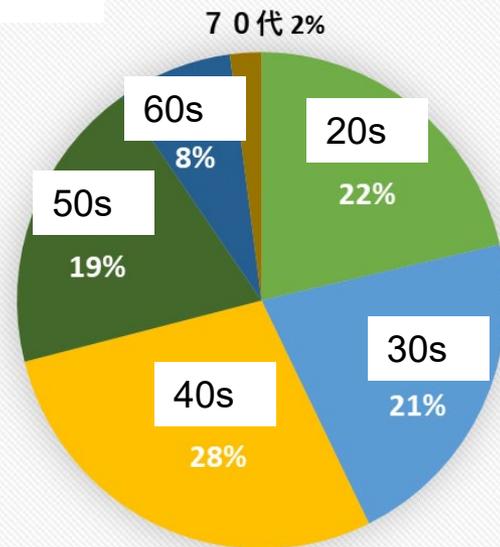
- During the Fish Passport Fair
- At sakana bacca fish stores
- Answered by visitors including families of the council
- By face-to-face or online survey
- 149 persons responded

Attributes of responders

Gender



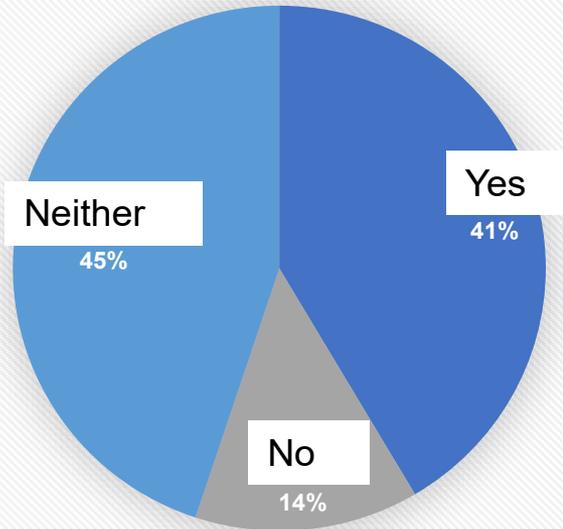
Age



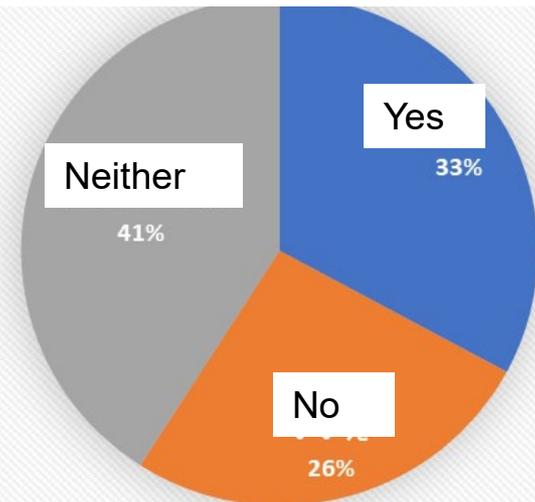


F2F Customer Survey Feedback - 1/2

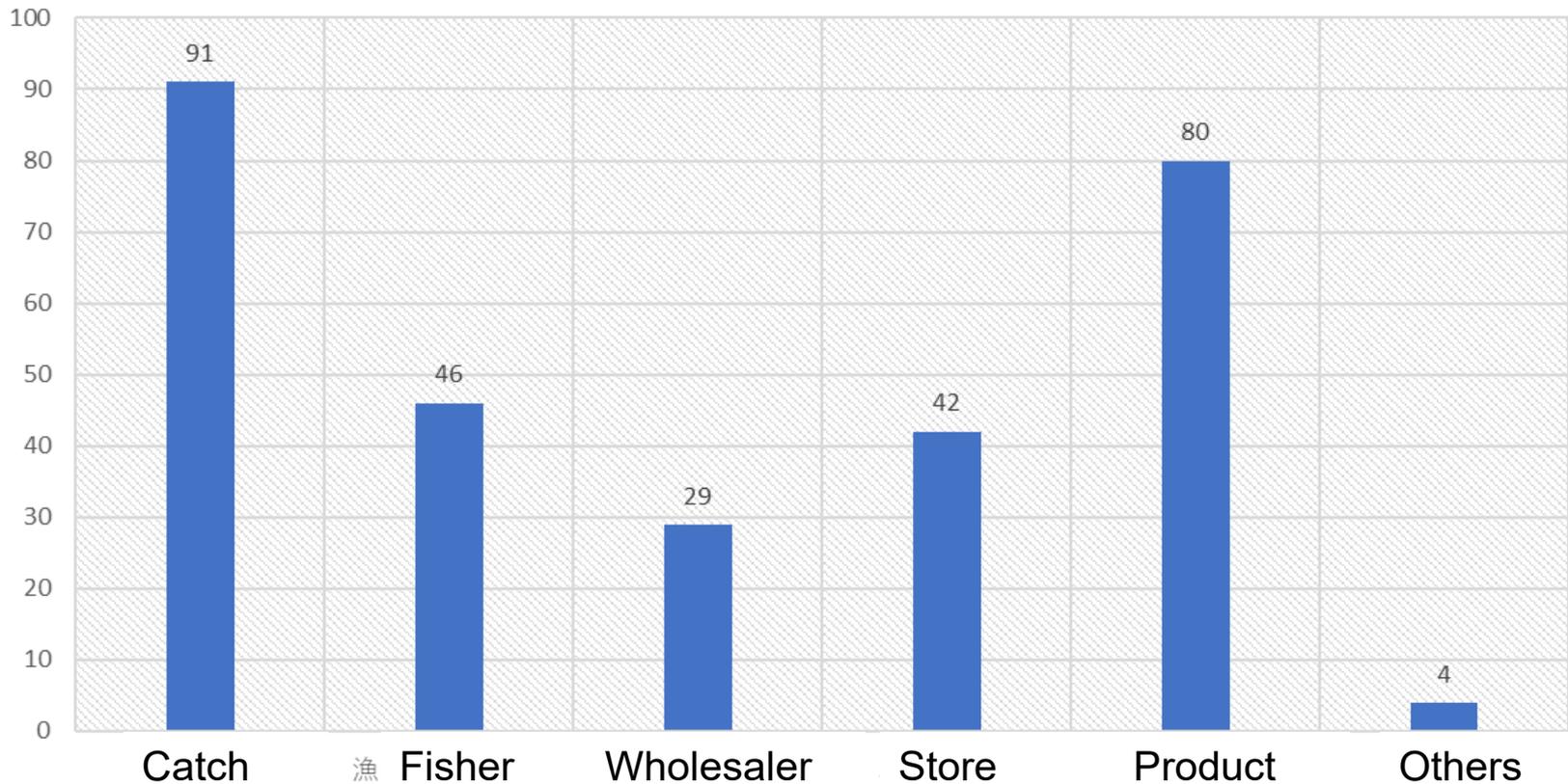
Q1. Did you feel like buying the product which has the Fish Passport certification?



Q3. Will you buy the product with “Fish Passport” information rather the one without it, even if you have to pay slightly more?



Q2. Which information on 'Fish Passport' was valuable?





Further Research

“ Consumer’s Willingness to Pay ”

**In the next presentation by
Mr. Hajime Tanaka,
Ocean Policy Research Institute**



Thank you!



Ocean to Table

Appendix



Ocean to Table (O2T) – who we are

■ Seafood supply chain consortium “from ocean to table” since Sep. 2020

| |
|------------------|
| Fishery |
| logistics |
| Business support |
| IT |

- Coastal fisheries – Daiden-Marū, Nakasen-Marū
- Processing plant – Kaiko Bussan
- Online and real stores – Foodison, Rakuten
- Consultation for sustainable fishing – Umito Partners
- Business process support / digital signage – Nikko Technical Service
- On-vessel fishing management system – Lighthouse (ISANA)
- Speech recognition system for landing – Techno Mind Corp (TMC).
- Blockchain based food traceability platform – IBM (IBM Food Trust)
- Seafood traceability apps on IBM FoodTrust – IX Knowledge





Variety of Blockchain Technologies

- Ocean to Table (O2T) Application / IBM Food Trust use **Hyperledger fabric** blockchain that does not require 'mining' that causes the global warming.
- Currently bitcoin and Ethereum still needs 'mining'





O2T app. provides 'sustainable' evidence with GDST

Trace Window for Consumer displays GDST KDEs

O2T app. can internally store all the KDEs

GLOBAL DIALOGUE
on Seafood Traceability

GPS coordinates
of catch available via
data transmission from
ISANA

Weight of seafood
only stored in ISANA
and not indicated in O2T
app. to reduce operation

O2T app. Covers data fields of GDST
KDEs for both wild and aqua fishery

| Category | KDE | Usage for Tokyo Bay Fish Passport Fair | |
|---------------------------|-------------------------------------|--|--|
| | | Info. Available | Value |
| GDST | Vessel Name | ○ | No.17,No.18 DAIDENMARU |
| | Vessel Registration | ○ | C B 2-50072, C B 2-50073 |
| | Unique Vessel ID | N/A | - |
| | Fishing Authorization | ○ | Large purse seiner |
| | Vessel Flag | ○ | JP |
| | Public Vessel Registry Hyperlink | ○ | NONE |
| | Species | ○ | BAJ |
| | Item / SKU / UPC / GTIN | ○ | 商品識別コード (GTIN) |
| | Linking KDE | Internally stored as QR code | - |
| | Date(s) of Capture | ○ | Date/time info. From ISANA |
| | Vessel Trip Dates | ○ | Date/time info. From ISANA |
| | Catch Area | ○ | FAO61 |
| | Product Form | ○ | 魚獲イベント : WHL 加工イベント 瞬みずずき (鮮魚) : OTH、瞬み 瞬みずずき (冷凍ファイル) : FIL、瞬み |
| | Gear Type | ○ | FAO Surrounding nets |
| | Expiry / Production Date | ○ | 消費期限日または生産日 |
| | Production Method | ○ | MARINE_FISHERY,WC |
| | Product Origin | N/A since it is domestic coastal | - |
| | Harvest Certification | ○ | MSC |
| | Harvest Cert. Chain of Custody | ○ | JFRCA 20C3500011 |
| | Landing Authorization | N/A since it is domestic coastal | - |
| Date(s) of Landing | N/A since it is domestic coastal | - | |
| Landing Location | N/A since it is domestic coastal | - | |
| Weight / Quantity | Only stored in ISANA | N/A | |
| Additional Domestic Info. | Human Welfare Policy | ○ | YES |
| | HW Policy Standards | ○ | 労働基準法 |
| | Availability of GPS | ○ | YES |
| | Satellite Vessel Tracking Authority | ○ | https://isana.lighthouse-frontier.tech/ |
| | Fishery Improvement Project | ○ | Japan Tokyo Bay sea perch - purse seine https://fisheryprogress.org/ |
| | 漁業許可 (免許) :番号 | ○ | No.24,25 |
| | 母港または国内漁業根拠地 | ○ | Funabashi |

O2T App. screen flow - 1/2



Scan the QR code

Company



海光物産株式会社

海光物産の看板商品「江戸前船橋 鯛めずき」[千葉県ブランド/プライドフィッシュ認定]！東京湾の漁師がその日のうちに獲った新鮮な魚介類を現地から直送させて頂きます。我々は日本の大切な資源である魚を獲るとして、常にその恵みに感謝しつつ、採肉つ価値を最大限に引き出す努力を怠りません。『いへん 命のかけがえのない海産物』海光物産は目指します。

tap

取り扱い商品

取り扱い

Products



鯛めずき
「江戸前船橋鯛めずき」は、スズキの旬である5月～10月に水揚げされるものの中から、形や色、大きさ、活きのよさなどの基準から厳選されたスズキを「鯛め」処理したものです。「鯛め」とは活魚を水揚げしたスズキを「鯛め」することができ、コリコリ・プリプリの食感をながく保ち、更に旨味成分を示すイノシン酸量のピークがでるのが遅くなり、おいしく食べられる期間も通常より長くなります。『千葉県ブランド水産物』に続き、JF全漁漁が運営する「漁師が選んだ、本当に美味しい魚」として全国展開している「プライドフィッシュ」にも認定

tap to contents on next page

Traceability Window

← トレース情報

sakana bacca 豪徳寺店 →

2018/01/11 16:05
2021/8/26 6:30
八戸

株式会社フーディソン大田 →

2018/01/11 14:23
2021/8/26 4:30
八戸

2018/01/11 13:50
2021/8/26 4:00
八戸

海光物産株式会社 →

2021/8/25 17:00
出荷

2021/8/25 14:00
荷捌・梱包

株式会社大傳丸 →

2021/8/25 2:00
漁獲
大傳丸17号・18号
漁獲物
魚種： すずき
漁獲量：
最小サイズ：
最大サイズ：

tap

漁獲場所

緯度： 35.5182589
経度： 140.0348596
網・魚深さ：



ルートを見る

Tap to look route on map

route





O2T App. screen flow - 2/2

物産は目指します。

Products

取り扱い商品 取り組み



瞬べスズキ

「江戸前船橋瞬べスズキ」は、スズキの旬である5月～10月に水揚げされるものの中から、形や色・大きさ・活きのよさなどの基準から厳選されたスズキを「瞬べ」処理したものです。「瞬べ」とは活魚で水揚げしたスズキを活（放血）神経抜き処理をしたものです。瞬べスズキは鮮度を長く保つことができ、コリコリ・プリプリの食感をながく保ち、更に旨味成分を示すイノシン酸量のピークがくるのが遅くなり、おいしく食べられる期間も通常より3倍ほど長くなります。『千葉県ブランド水産物』に続き、JF全漁連が運営する「漁師が選んだ、本当に美味しい魚」に認定されています。

Certifications

Y!mobile 16:49 79%

consumer-front.wild.o2t.app

より3倍ほど長くなります。『千葉県ブランド水産物』に続き、JF全漁連が運営する「漁師が選んだ、本当に美味しい魚」として全国展開している『プライドフィッシュ』にも認定されています。

 MEL認証取得商品です。

 漁師が選んだ、本当に美味しい魚
PRIDE FISH
<http://www.pride-fish.jp/>

Nutrition and allergen

栄養成分

| | |
|-------|---------|
| エネルギー | 346kcal |
| たんぱく質 | 346g |
| 脂質 | 27.2g |
| 炭水化物 | 0.8g |
| 食塩相当量 | 1.2g |
| カルシウム | 392mg |
| EPA | 800mg |
| DHA | 1,100mg |

アレルギー情報

By tapping this area and scrolling, it displays

- Product detail
- Certifications such as MEL, PRIDE FISH
- Nutrition and allergen information