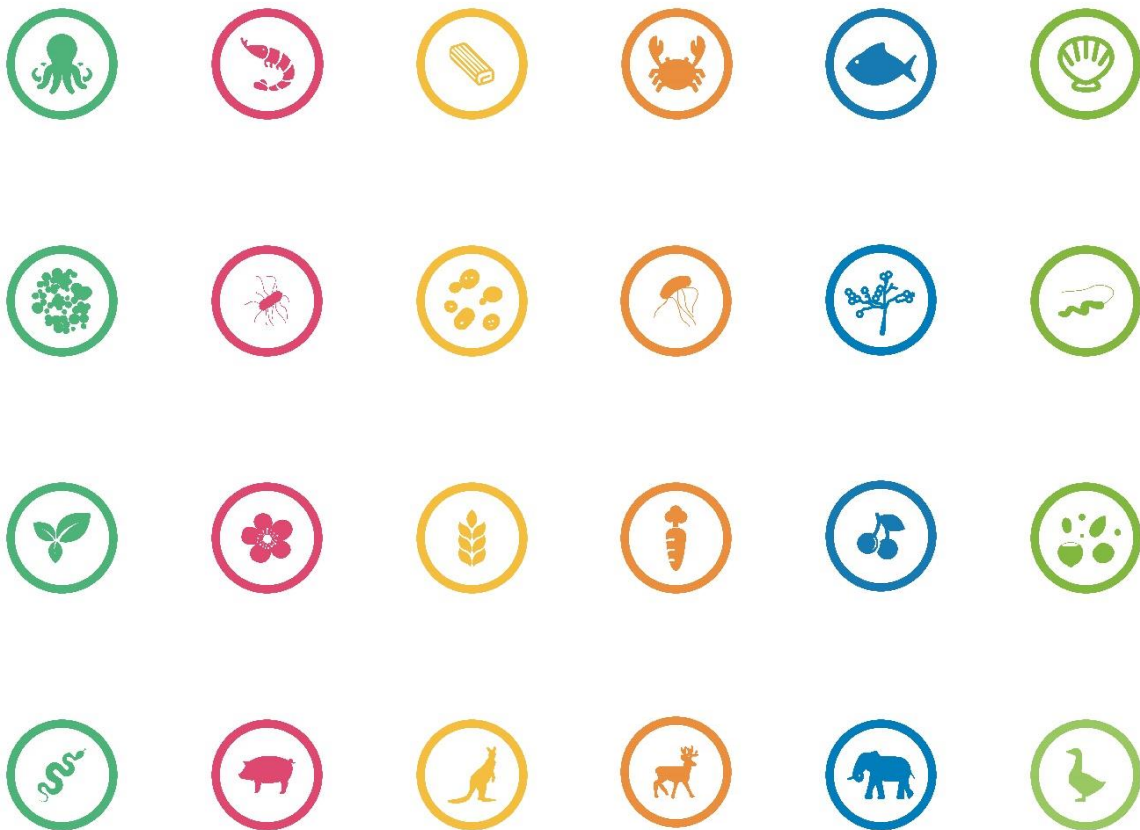


NEXT GENERATION SEQUENCING (NGS) AUTHENTICITY AND TRACEABILITY



Multiple ingredients



DNA Analysis



Food DNA Analyzer
ALLspeciesID

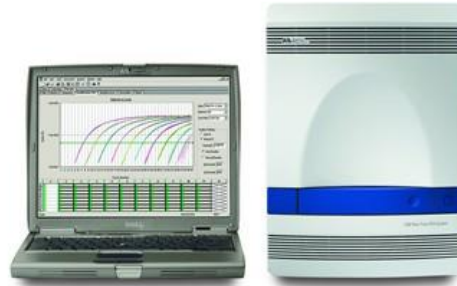


Untargeted ...

Thousands of species ...

- All targets detected in a single run
- Reliable results in complex and processed samples
- High specificity
- High sensitivity
- Quick answers at fair price

Real Time PCR



- **Limited number of Targets**
- Results only for the targets screened – You only detect what you are looking for !
- Cross reactivity between species may not be detected – the result is a fluorescent signal –false positive results are not detected
- TAT of 4-6h
- Price depending on number of targets to detect

NGS



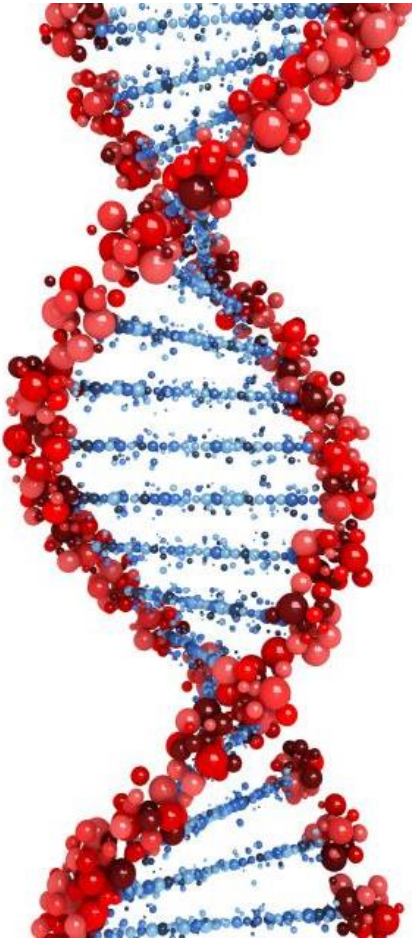
- **Untargeted approach**
- Hundreds of targets can be detected simultaneously – You can detect any kind of species, even unexpected ones !
- Cross reactivity between species (if present) is excluded– the result is a DNA sequence
- TAT of 24-36h
- Same price regardless the number of species

Why detect just one when you can get all ? ...

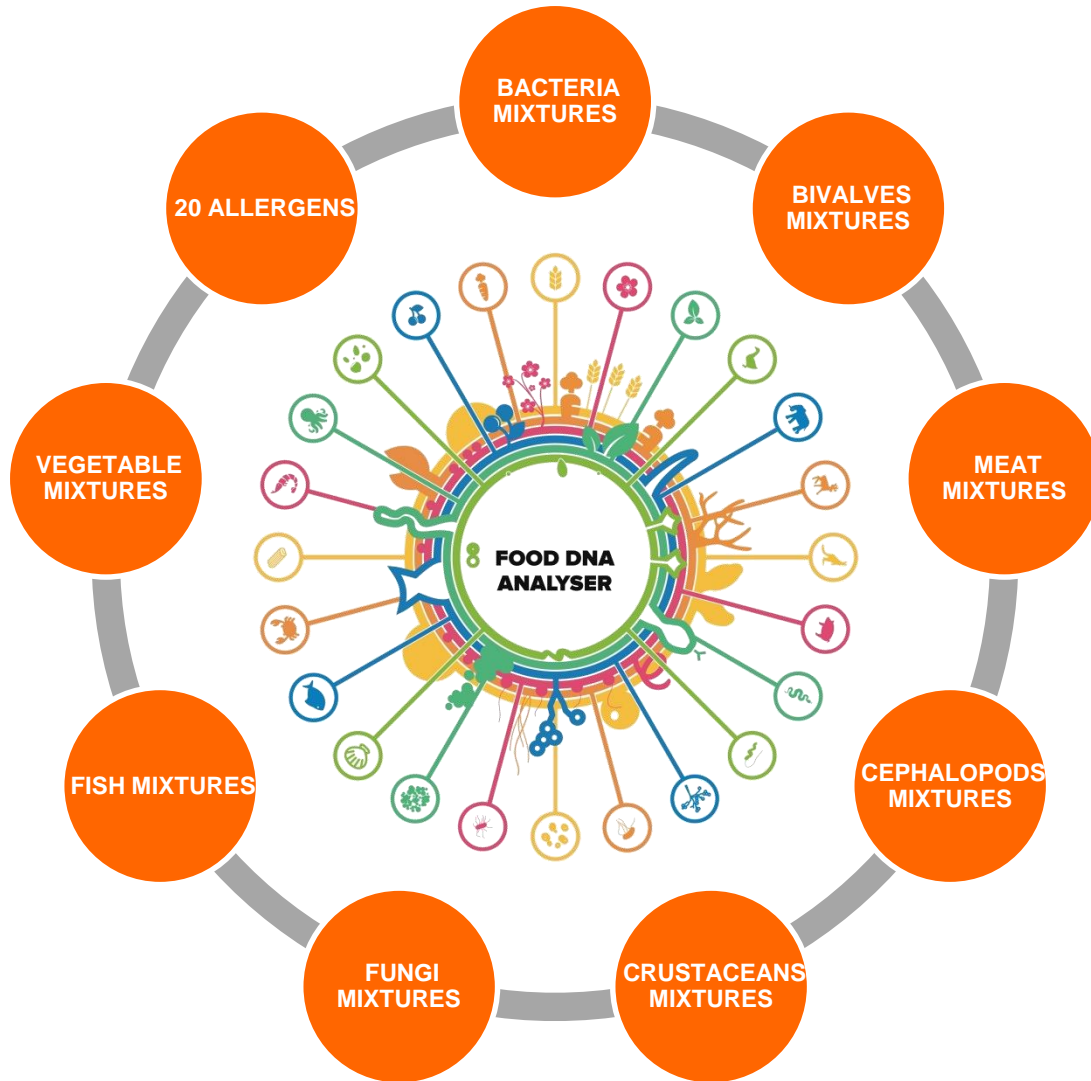


- NGS is a DNA diagnostics tool to identify the biological content of a sample

- General questions about ingredients:
 - WHAT **KINDS OF MEAT** ARE IN A SAMPLE?
 - WHAT **MICROORGANISMS** ARE IN THE SAMPLE?
 - WHAT **PLANTS** ARE IN THE SAMPLE?
 - WHAT **SEAFOOD** ARE IN THE SAMPLE?
 - Etc...



- NGS is a DNA diagnostics tool to identify the biological content of a sample – The Kosher example
 - WHAT **KINDS OF MEAT** ARE IN A SAMPLE?
 - All species can be detected (including exotic species)
 - Applicable for any mammal, bird, reptile and amphibian
 - IS THERE **SEAFOOD** IN THE SAMPLE?
 - All kind of seafood can be identified (eg. Shrimp, crab, mussel, squid, etc). Fish species with/without fins and scales.
 - ARE THERE **INSECTS OR LARVAE OR OTHER PARASITES** IN THE SAMPLE?
 - Can identify all kind of insects/parasites even from eggs or larvae stage



■ 9 categories :

- Meat
- Fish
- Seafood - Crustaceans
- Seafood - Cephalopods
- Seafood – Bivalves
- Plants
- Micro-organisms - Bacteria
- Micro-organisms – Fungal
- Allergens (20, DNA based)

■ In the pipeline for 2017

- Algae
- Insects
- Virus

TYPE OF SAMPLES



- Reliable results in complex and processed samples
- Samples from any step of the production chain (food and non-food)
- Almost any kind of food product can be analyzed:
 - Canned food (meat, fish, vegetables, fruits...)
 - Cooked food
 - Highly processed complex food containing multiple ingredients (lasagna, pizza, raviolis, meatballs, sausages, nuggets, nems, surimi, dough, sauce, mozzarella...)
 - Pet food (flour...)
 - Gelatin and other highly processed ingredients
- Etc...

Service Lab



Food DNA
Analyzer
(FDA)



You send the sample and receive the report

Technology transfer

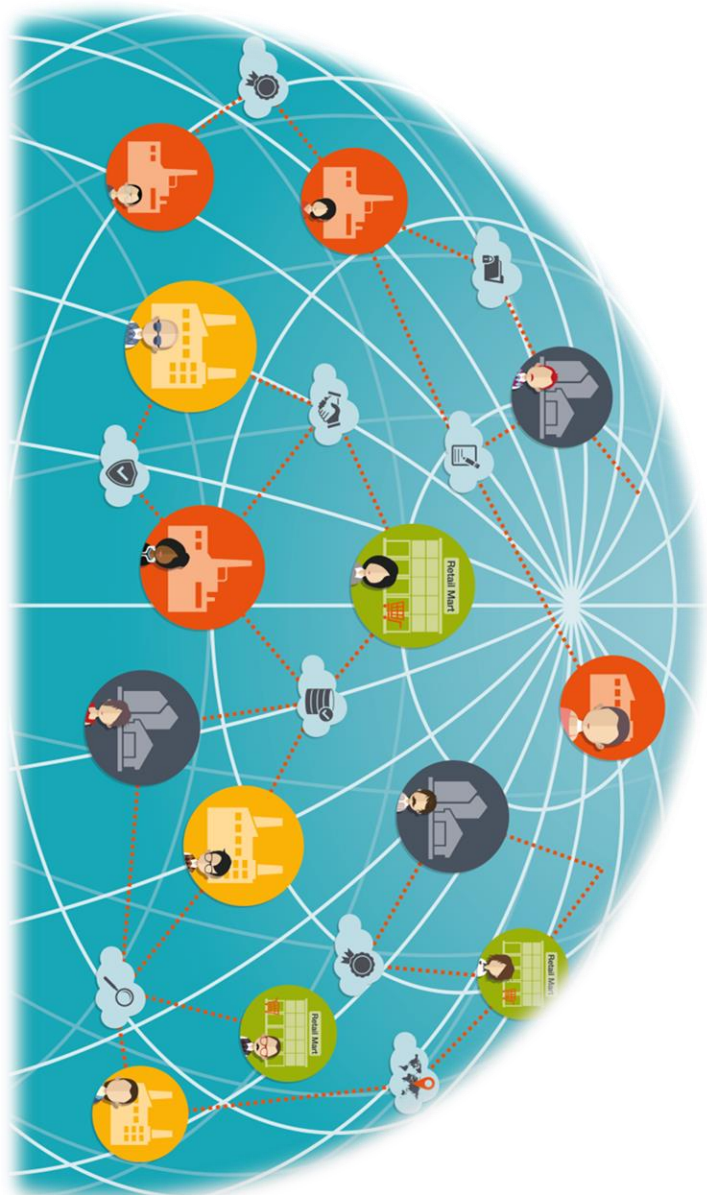


AllSpeciesID
FDA + NGS kits

You perform the analysis yourself:

Includes training and all technicals (entire solution is provided)

Already in use by 3 world Top industrials and more are coming during 2017



GLOBAL DIGITAL PLATFORM FOR E2E* SUPPLY CHAIN VISIBILITY

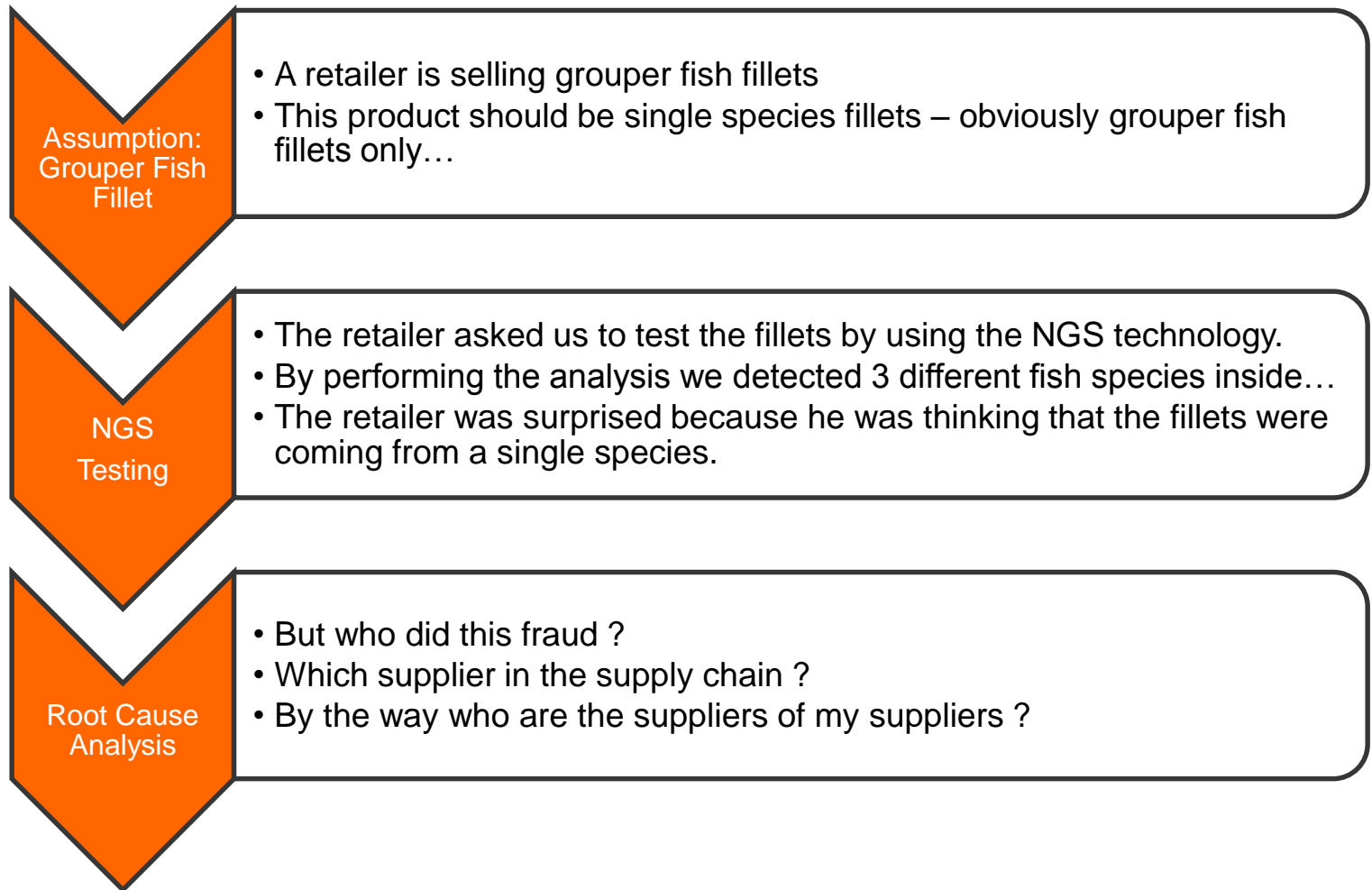
(* END TO END)

Powered by
 Transparency-
One

WHEN YOU NEED TO BE SURE

 **SGS**

BUSINESS CASE – FRAUD DETECTION





The risks often lie
below the surface

WHAT CAN'T I SEE?

Transparency means
knowing the full
supply chain not just
direct suppliers

MAP THE SUPPLY CHAIN FROM SOURCE TO STORE



Visibility Barrier

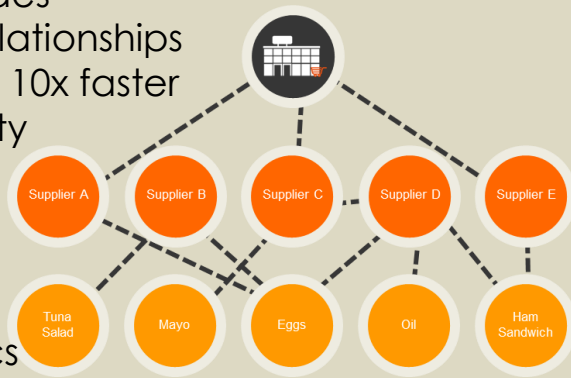
- Know all suppliers, ingredients & facilities
- Capture facility & product certifications
- Capture ingredients / countries of origin
- Track sensitive ingredients
- Fast reaction in case of crisis



+

Platform / Graph Network

- 10+ Billion nodes
- All types of relationships
- Queries up to 10x faster
- Interoperability
- Supply Chain mapping
- Dashboards
- Data analytics



Onboarding & Services

- Network of onboarding & Customer Care Centers
 - help self onboarding by the suppliers
 - proactively contact suppliers to onboard them
 - verify the Certificates uploaded by the suppliers
- Field data collection / Local experts
- Help suppliers to be compliant to import regulations



- CGF : Consumer Goods Forum partner
- IFC : Special finance for suppliers (GTSF program) - under development
- Blippar : visual recognition augmented reality / Analytics

Tier

Description

Example

BRAND

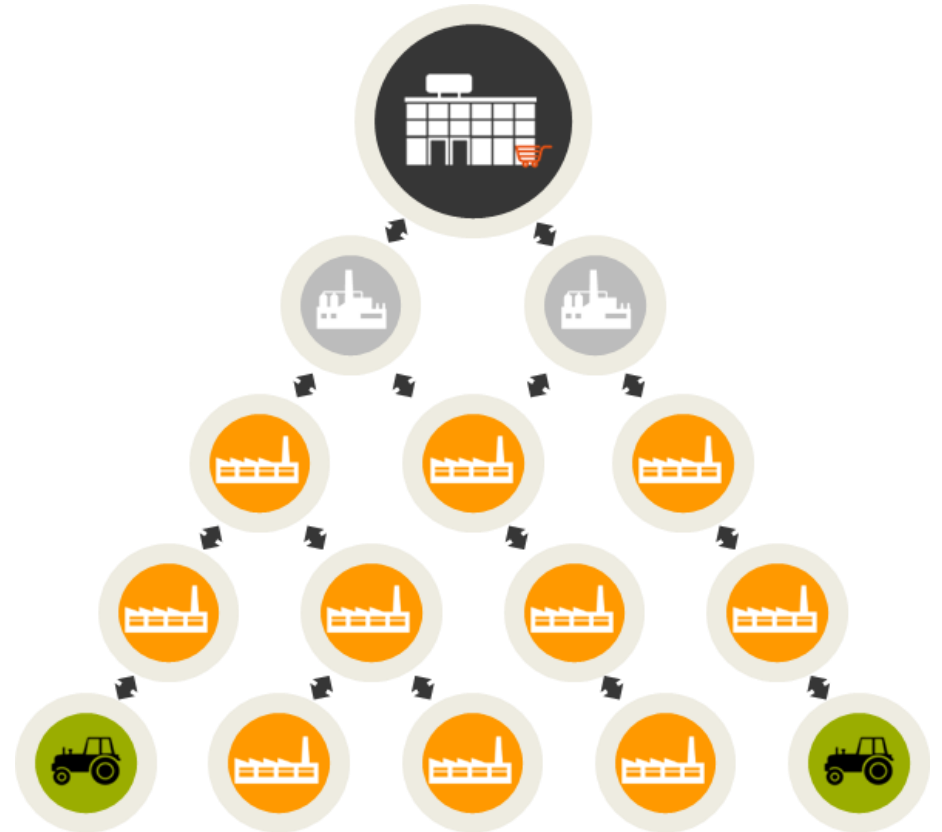
...provides supply chain information, invites and informs suppliers

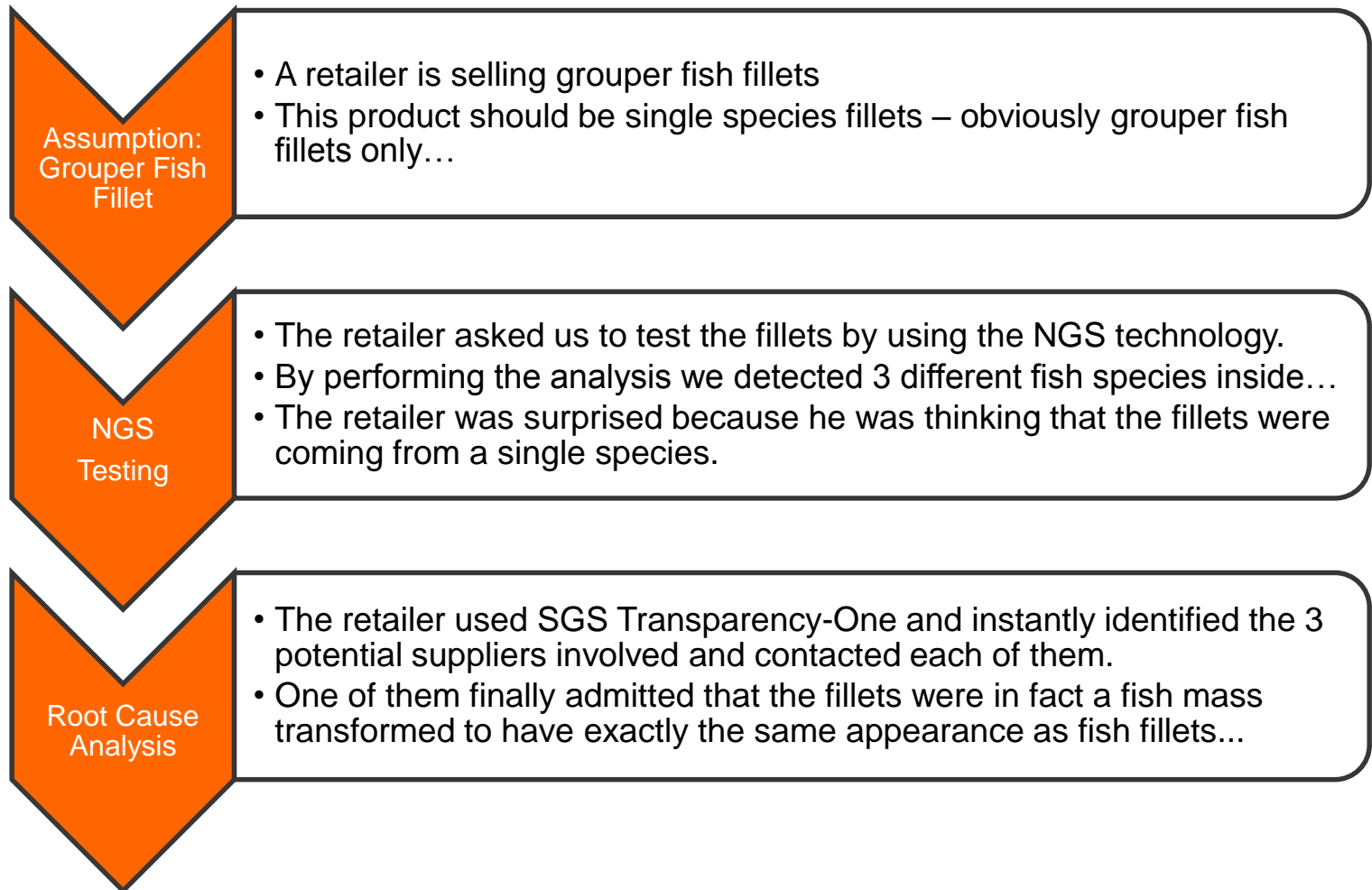
Tier-1+2

are managed by BRAND supplier base policies – will self onboard with the support of SGS

Tier-3+

... will self onboard with the support of SGS and provide Supply Chain information on next tier

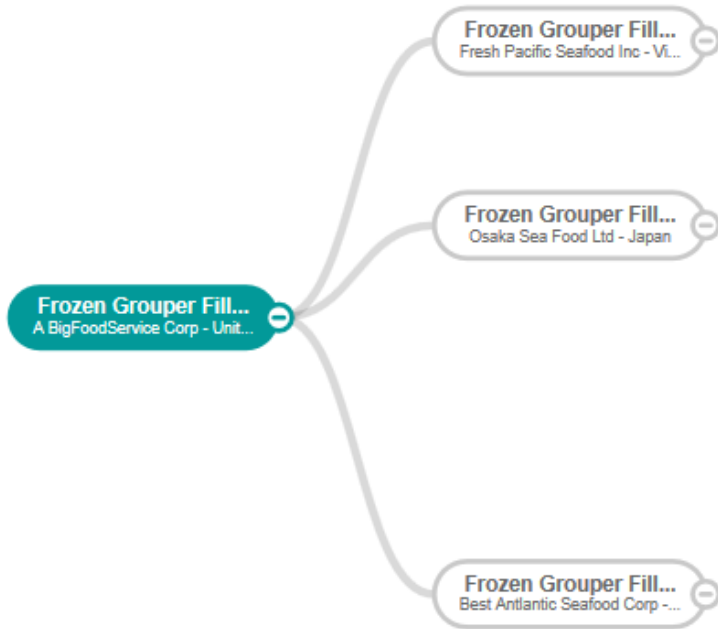


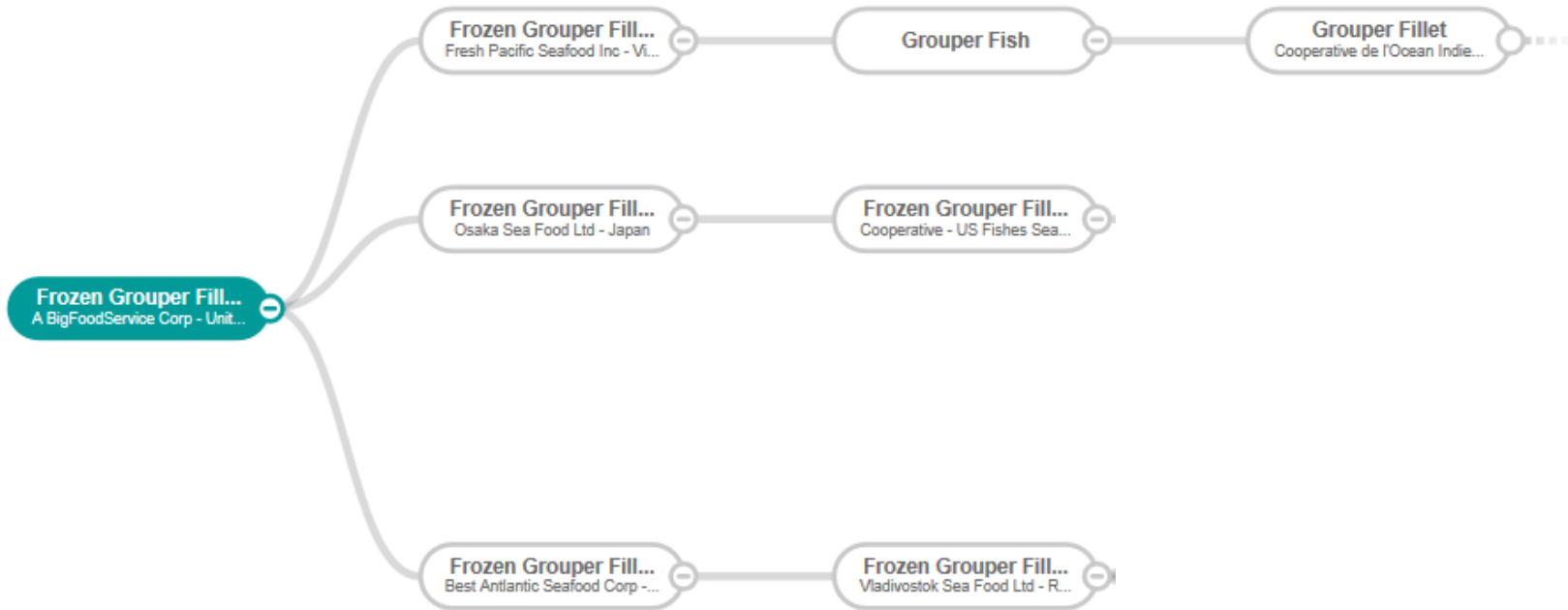


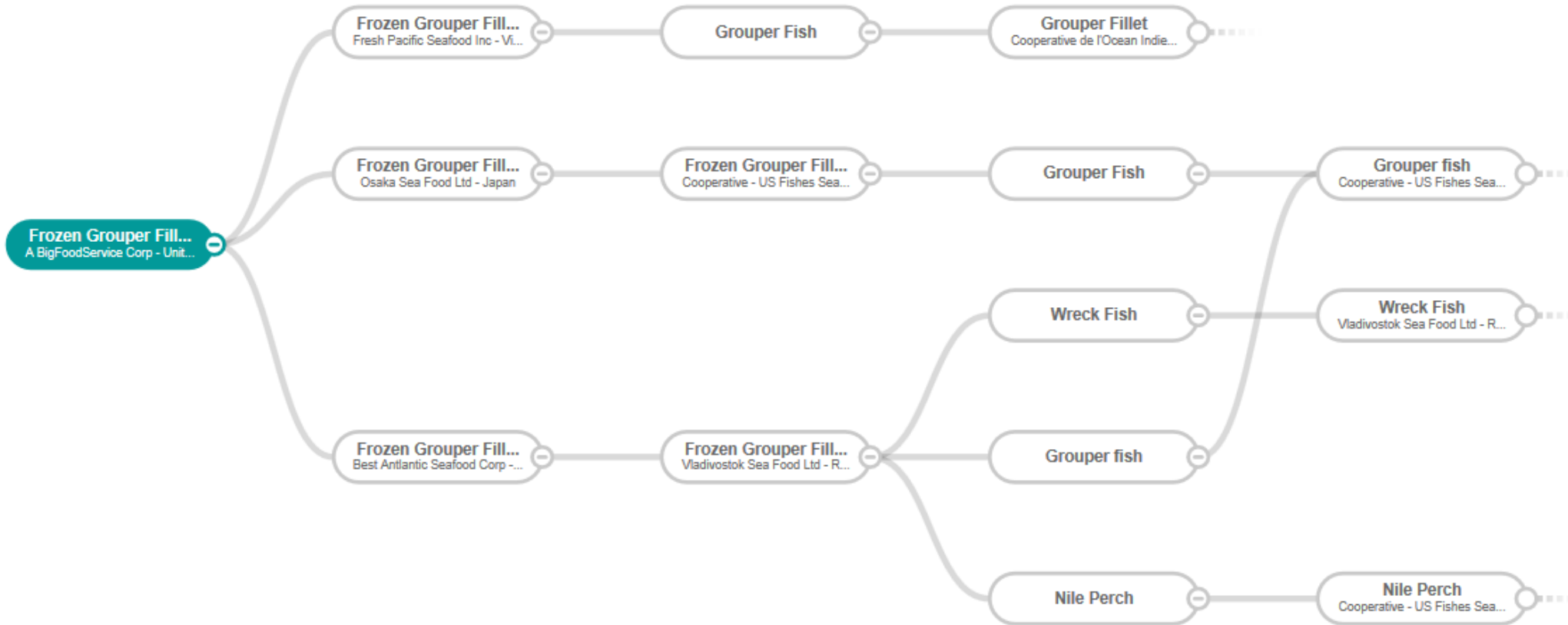


SUPPLY CHAIN MAPPING

Frozen Grouper Fil...
A BigFoodService Corp - Unit...









Filters

Any level My level Tier 1 Tier 2+

Product

Product name

Select a product type

Add a raw material name

▼ Add a raw material category +

▼ Add a product category +

Composition

Add a raw material name

▼ Add a raw material category +

Products 1842

Q IMPACTED PRODUCTS ▾ ... ▾

<input type="checkbox"/>	▼ Visibi.	▼ Distance	▼ Product name & Reference	▼ Company	▼ Version	▲ Last Update
<input type="checkbox"/>	0%	2	Grouper Fillet	Cooperative... Madagascar	Undisclosed product - Active	04 May 2017
<input type="checkbox"/>	0%	2	Frozen Grouper Fillet 2 lb.	Cooperative... United State...	Undisclosed product - Active	04 May 2017
<input type="checkbox"/>	0%	1	Grouper Fish Fillet	Indonesian fr... Indonesia - J...	Undisclosed product - Active	04 May 2017
<input type="checkbox"/>	0%	1	Frozen Grouper Fillet 2 lb.	Fresh Pacifi... Vietnam - H...	Undisclosed product - Active	04 May 2017
<input type="checkbox"/>	0%	1	Frozen Grouper Fillet 2 lb.	Osaka Sea F... Japan - Tokyo	Undisclosed product - Active	04 May 2017
<input type="checkbox"/>	0%	2	100% Laurel	The World o... United King...	Undisclosed product - Active	02 May 2017
<input type="checkbox"/>	0%	1	Mild Curry Powder 79g	Vigil Spices... India - New...	Undisclosed product - Active	02 May 2017
<input type="checkbox"/>	10%	0	Mild Curry Powder 79g	A BigFoodS... United State...	May 2017 02 May 2017 - Active	02 May 2017





Filters

Any level My level Tier 1 Tier 2+

> Product

> Composition

▾ Facility

Vladivostok sea Food ✕

GLN

Select an activity ▾

Add a facility country ▾

Filter

< Products 4

Q IMPACTED PRODUCTS ▾ ⋮ ▾

<input type="checkbox"/>	▾ Visibi.	▾ Distance	▾ Product name & Reference	▾ Company	▾ Version	▾ Last Update
<input type="checkbox"/>	100%	1	Shrimp - Crate of 5 kg	Vladivostok... Russia - Mos...	PV1_Shrimp - Crate of 5... 07 Dec 2016 - Active	08 Dec 2016
<input type="checkbox"/>	100%	2	Irish Moss - Box of 10 kg	Vladivostok... Russia - Mos...	PV1_Irish Moss - Box of... 07 Dec 2016 - Active	08 Dec 2016
<input type="checkbox"/>	100%	2	Irish Moss - Box of 10 kg	Vladivostok... Russia - Mos...	PV1_Irish Moss - Box of... 07 Dec 2016 - Active	08 Dec 2016
<input type="checkbox"/>	100%	2	Irish Moss - Crate of 5 kg	Vladivostok... Russia - Mos...	PV1_Irish Moss - Crate o... 07 Dec 2016 - Active	08 Dec 2016



4 Products




5 Impacted products

EXPORT

Visibility	Types	Product name & Reference	Version	Last update
93%		Shrimp & Penne - Box of 150 g Shrimp & Penne - Box of 150 g	PV1_Shrimp & Penne - Box of 150 g - published 07 Dec 2016 - Active	08 Dec 2016
89%		Vanilla Ice Cream - Bag in Box of 300 g Vanilla Ice Cream - Bag in Box of 300 g	PV1_Vanilla Ice Cream - Bag in Box of 300 g - ... 07 Dec 2016 - Active	08 Dec 2016
84%		Chicken & Four Cheese Ravioli - Box of 150 g Chicken & Four Cheese Ravioli - Box of 150 g	PV1_Chicken & Four Cheese Ravioli - Box of 1... 07 Dec 2016 - Active	08 Dec 2016
91%		Premium Ice Cream Double Strawberry - Bag in Box of 150 g Premium Ice Cream Double Strawberry - Bag in Box of 150 g	PV1_Premium Ice Cream Double Strawberry - ... 07 Dec 2016 - Active	08 Dec 2016
100%		Creamy Raspberry Bars Soy Milk Dairy-Free Frozen Dessert - Box of 300 g Creamy Raspberry Bars Soy Milk Dairy-Free Frozen Dessert - Box of 300 g	PV1_Creamy Raspberry Bars Soy Milk Dairy-F... 07 Dec 2016 - Active	08 Dec 2016





Chris Chan

- Home
- Dashboards
- Products
- Facilities
- Connections
- Admin
- Help

Transparency-One
In products

Filters

Product

Product name

Select a product type

Add a raw material name

Add a raw material category

Add a product category

Composition

Add a raw material name

Add a raw material category

Facility

Facility name

GLN

Select an activity

Add a facility country

Filter

Purchased Products 582

[+ CREATE](#)
[EXPORT](#)
[SEND VISIBILITY REQUESTS](#)

	Visibility	Product name & Reference	Supplier	Information	Last request	Last update
<input type="checkbox"/>	20%	Carrot Powder - Bag of 5 kg Carrot Powder - Bag of 5 kg	Almonte Veg... Albania - Tirana	Link Info Map		08 Dec 2016
<input type="checkbox"/>	36%	Apple Cider Vinegar - Brick of... Apple Cider Vinegar - Brick of 200 l	Whirling Seas... India - New D...	Link Info Map		08 Dec 2016
<input type="checkbox"/>	46%	Chicken Rib Meat - Bag of 10 kg Chicken Rib Meat - Bag of 10 kg	Poultry Worl... Denmark - C...	Link Info Map		08 Dec 2016
<input type="checkbox"/>	46%	Monterey Jack Cheese - Bag of... Monterey Jack Cheese - Bag of 10 l	Nice Cow Corp China - Beijing	Link Info Map		08 Dec 2016
<input type="checkbox"/>	46%	Citric Acid - Bag of 5 kg Citric Acid - Bag of 5 kg	Kaur Fruits Inc. Micronesia - ...	Link Info Map		08 Dec 2016
<input type="checkbox"/>	48%	Vinegar - Bottle of 100 l Vinegar - Bottle of 100 l	Mighty Seaso... Ireland - Dublin	Link Info Map		08 Dec 2016
<input type="checkbox"/>	54%	Caramel - Jar of 100 l Caramel - Jar of 100 l	World of Sug... Bermuda - Ha...	Link Info Map		08 Dec 2016
<input type="checkbox"/>	60%	Cultured Pasteurized Milk - Ba... Cultured Pasteurized Milk - Bag of !	Niza Vaca Corp Spain - Madrid	Link Info Map		08 Dec 2016
<input type="checkbox"/>	60%	Nonfat Milk - Bottle of 200 l Nonfat Milk - Bottle of 200 l	Smooth Butt... Mexico - Mex...	Link Info Map		08 Dec 2016
<input type="checkbox"/>	60%	Chicken Stock - Bag of 10 kg Chicken Stock - Bag of 10 kg	Bouncy Poult... Kazakhstan - ...	Link Info Map		08 Dec 2016

Show by:

[1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [11](#) [12](#) [13](#) [14](#) [15](#) [16](#) [17](#) [18](#) [19](#) [20](#) [21](#) [22](#) [23](#) [24](#) [25](#) [26](#) [27](#) [28](#) [29](#) [30](#) [31](#) [32](#) [33](#) [34](#) [35](#) [36](#) [37](#) [38](#) [39](#) [40](#) [41](#) [42](#) [43](#) [44](#) [45](#) [46](#) [47](#) [48](#) [49](#) [50](#) [51](#) [52](#) [53](#) [54](#) [55](#) [56](#) [57](#) [58](#) [59](#) [60](#)

Sign out



Filters

Product

▼ Add a product category +

Composition

▼ Add a raw material category +




STRAWBERRY [FRAGARIA]
 COCOA [THEOBROMA CACAO]
 COTTON [GOSSYPIMUM] COFFEE [COFFEA]
 PALM [ELAEIS] BOVINE [BOS] FISH MILK

Filter

Global dashboard

Fully visible products	MY PRODUCTS	PURCHASED PRODUCTS	Fully transparent suppliers	TIER 1 SUPPLIERS	TIER 2+ SUPPLIERS
	16% →0% 7 out of 45	78% →0% 452 out of 582		89% - 2% 274 out of 307	69% →0% 292 out of 426

Certified facilities

 <p>477</p> <p>Product Safety certified ⓘ</p> <table border="1"> <thead> <tr> <th>MY FACILITIES</th> <th>TIER 1 FACILITIES</th> <th>TIER 2+ FACILITIES</th> </tr> </thead> <tbody> <tr> <td>0% 0 out of 4 →0%</td> <td>57% 379 out of 668 →0%</td> <td>24% 183 out of 758 →0%</td> </tr> </tbody> </table>	MY FACILITIES	TIER 1 FACILITIES	TIER 2+ FACILITIES	0% 0 out of 4 →0%	57% 379 out of 668 →0%	24% 183 out of 758 →0%	 <p>480</p> <p>Social certified ⓘ</p> <table border="1"> <thead> <tr> <th>MY FACILITIES</th> <th>TIER 1 FACILITIES</th> <th>TIER 2+ FACILITIES</th> </tr> </thead> <tbody> <tr> <td>0% 0 out of 4 →0%</td> <td>57% 382 out of 668 →0%</td> <td>24% 184 out of 758 →0%</td> </tr> </tbody> </table>	MY FACILITIES	TIER 1 FACILITIES	TIER 2+ FACILITIES	0% 0 out of 4 →0%	57% 382 out of 668 →0%	24% 184 out of 758 →0%	 <p>480</p> <p>Environmental certified ⓘ</p> <table border="1"> <thead> <tr> <th>MY FACILITIES</th> <th>TIER 1 FACILITIES</th> <th>TIER 2+ FACILITIES</th> </tr> </thead> <tbody> <tr> <td>0% 0 out of 4 →0%</td> <td>57% 382 out of 668 →0%</td> <td>24% 184 out of 758 →0%</td> </tr> </tbody> </table>	MY FACILITIES	TIER 1 FACILITIES	TIER 2+ FACILITIES	0% 0 out of 4 →0%	57% 382 out of 668 →0%	24% 184 out of 758 →0%
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WHEN YOU NEED TO BE SURE

