AIR LIQUIDE

Solutions for Fish & Seafood

ALIGAL™

www.airliquide.com

Your needs

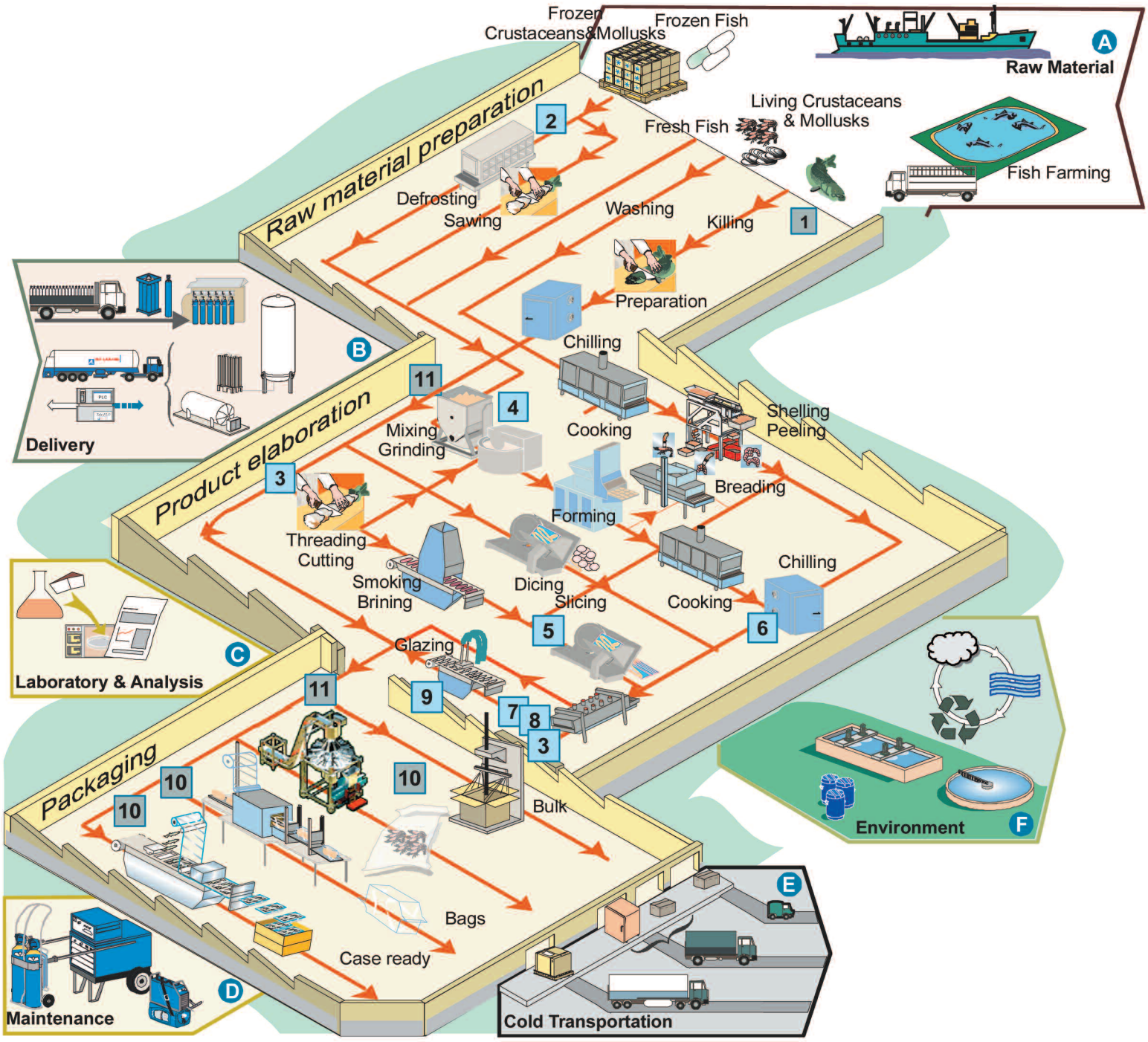
Whether launching a new product, looking for a new packaging concept, implementing a new process or optimizing your cost, Air Liquide has the answers for you. Need a competitive advantage in your fish & seafood market ? Become an Air Liquide customer.

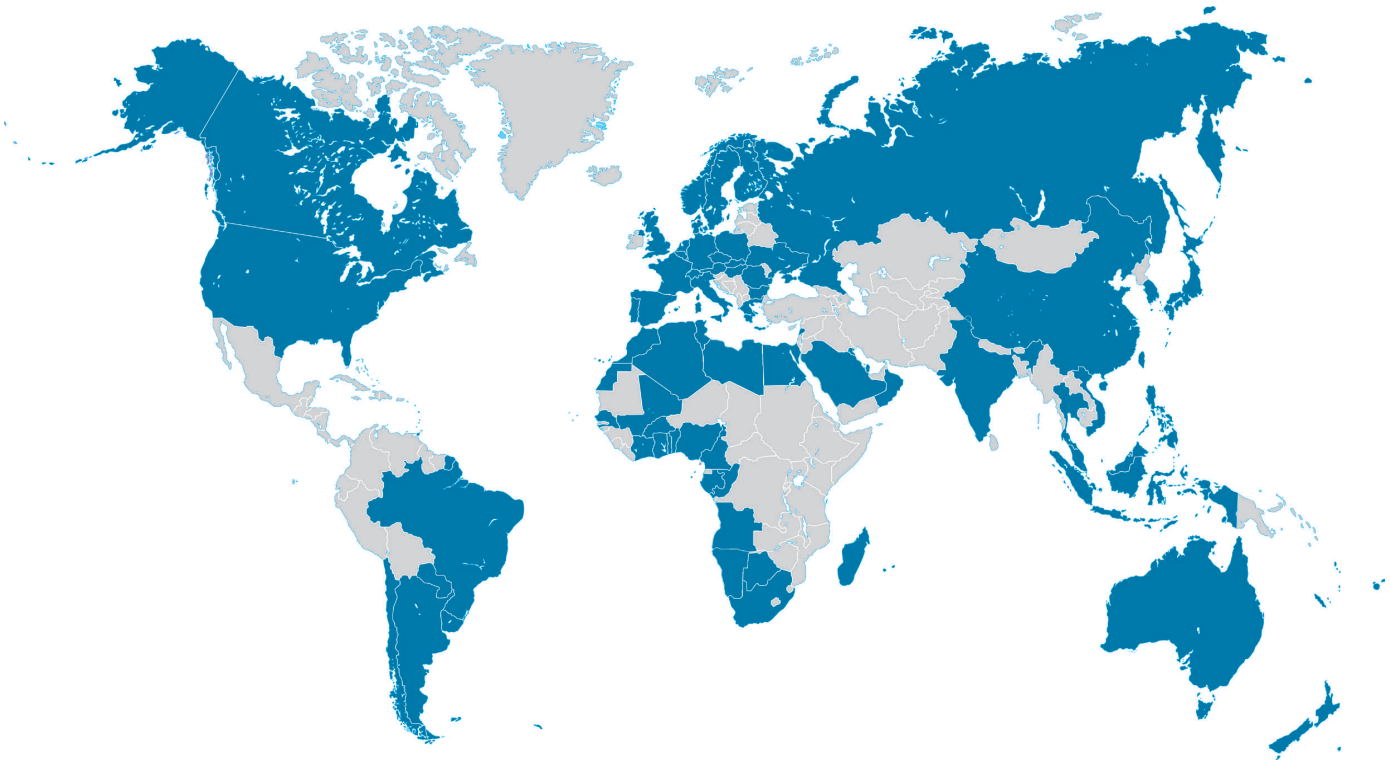
Your needs...	...Expected functionalities...	...Our solutions
Process innovation	Improve micro-wave thawing efficiency and limit product losses	Crusting before micro-wave defrosting
Food safety	Fine temperature control in tumbler / mixer / grinder / cutter	Temperature Control
Preservation	Protect your product against oxidation	Modified Atmosphere Packaging (MAP)
		Inerting
	Extend your product shelf-life	Quick chilling
		Freezing
		Modified Atmosphere Packaging (MAP)
Low additives	Reduce the use of chemical additives	Modified Atmosphere Packaging (MAP)
Appearance	Enhance product brightness	Crust freezing before glazing
	Enhance packaging visual	Modified Atmosphere Packaging (MAP)
Convenience	Elaborate ready-to-eat / IQF products	IQF freezing
Processing	Limit product loss and increase production yield on a small footprint	Quick chilling
		Freezing
		Fish anesthesia
	Boost mechanical refrigeration	Crust freezing
	Improve production line efficiency	Crust freezing before glazing
	Increase farming yield	Oxygenation of fish pools and during transportation
	Efficient slicing and limit product loss	Hardening before slicing
Transportation	Distpatch quickly your products at controlled temperature	Cryo-transportation / Carbofresh
Food compliant gas	Use gas as an additive	ALIGAL Atmosphere
	Use gas as a processing aid	ALIGAL Freeze
Pure gas	Use gas for quality control analysis	Laboratory & Analysis
Waste water treatment	Enhance activated sludge treatment	ASPAL Clean
Animal welfare	Limit injuries	Fish anesthesia
Cleaning	Limiter water use for cleaning	Dry ice blasting
Transportation	Reduce pollution (noise, CO_2 emission, CFC) while controlling the cold chain	Cryo-Transportation / Carbofresh

RESPECT ENVIRONMENT | DELIVER SOLUTION | OPTIMIZE PROCESS | ELABORATE PRODUCT | BENEFIT TO HEALTH | PRESERVE QUALITY | BE INNOVATIVE

Your process

Air Liquide is working with all kind of Fish and Seafood actors, whatever the size of the operation, manufacturing method and products.
As an innovative solution provider, Air Liquide support you throughout your process, from raw material preparation to finished product transportation.





Contacts

Your local Air Liquide representative

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Present in 77 countries, Air Liquide provides industrial and medical gases and related services. The Group offers innovative solutions based on constantly enhanced technologies. These solutions, which are consistent with Air Liquide's commitment to sustainable development, help to protect life and enable our customers to manufacture many indispensable everyday products. Founded in 1902, Air Liquide has more than 40,000 employees. The Group has successfully developed a long-term relationship with its shareholders built on trust and transparency and guided by the principles of corporate governance. Since the publication of its fisrt consolidated financial statements in 1971, Air Liquide has posted strong and steady earnings growth. Air Liquide is listed on the Paris stock exchange and is a component of the CAC 40 and Eurostoxx 50 indices (ISIN code FR 0000120073).

Réalisation / Impression : Galbe
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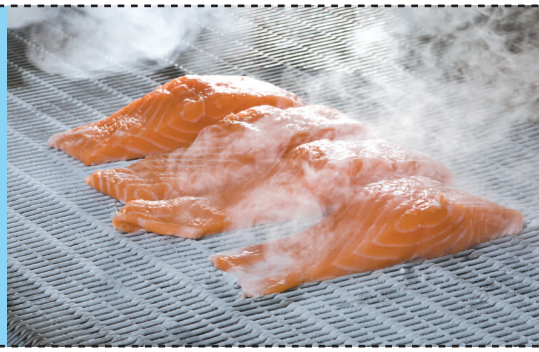
Our solutions

Air Liquide offers you a full range of solutions in an unique package that is customized to meet your quality, hygiene, safety and process requirements. Our offers are compatible with any need and any kind of production set-up



- **ALIGAL encompassing a food compliant range of gases**

Whether its cylinders, on-site generation or liquefied bulk gases, ALIGAL ensures the highest quality and safety standards and meets all local regulations in-force (e.g HACCP certfication and traceability programs in Europe). It also provides the right specification for your process.

- **a full range of equipment and support services**

Air Liquide's « total solution » offers include a collection of innovative, gas related equipment and services to meet your productivity requirements. Choose among a range of audits, training programs, web reporting or installation & maintenance services.

...Our solutions	Gas	Equipment
1 - Fish anesthesia	ALIGAL 2 or 9	
11 - Inerting	ALIGAL 1	
10 - Modified Atmosphere Packaging (MAP)	ALIGAL 1/2/3/12/13/15	Gas mixing station
2 - Crusting before micro-wave defrosting	ALIGAL Freeze 1 or 2	
4 - Temperature Control	ALIGAL Freeze 1 or 2	Carbospay B2, nitrogen injector
5 - Hardening before slicing	ALIGAL Freeze 1 or 2	Tunnel / Batch Freezer
6 - Quick Chilling	ALIGAL Freeze 1 or 2	Tunnel / Batch Freezer
8 - Freezing	ALIGAL Freeze 1 or 2	Tunnel / Batch Freezer
3 - Crust Freezing	ALIGAL Freeze 1 or 2	Tunnel / Batch Freezer / Crust Flow P / Carbospray L
9 - Crust Freezing before Glazing	ALIGAL Freeze 1 or 2	Tunnel, Batch Freezer / Crust Flow P
7 - IQF Freezing	ALIGAL Freeze 1 or 2	Crust Flow V / Zip Roll
E - Cryo-Transportation / Carbofresh	N_2 or CO_2 / Dry Ice	Cryo-Transportation / Carbofresh
A - Oxygenation of fish pools and during transportation	Oxygen	
C - Laboratory & Analysis	ALPHAGAZ	ALPHAGAZ
F - ASPAL Clean	Oxygen	ASPAL Turboxal or Ventoxal
F - Dry ice blasting	CO_2 or dry ice balls	Cleanblast

ALIGAL Atmosphere ALIGAL Freeze

Our value creation

Fish & Seafood solutions by Air Liquide are driven by the specific needs of fish and seafood players. Air Liquide capitalizes on strong technical expertise and food industry knowledge developed via our worldwide network throughout our 100 years plus history.

Providing innovative and added-value solutions:

Better control of your process through temperature control at different steps, enhanced products characteristics and extended shelf life through specific gas atmospheres, new crustfreezing technologies to optimize your productivity and create new products… Air Liquide is giving the benefit of its continuous R&D and field developments. The experience of our food specialists will help you to differentiate in your fish and seafood market.

CRYOVAC BDF® system ©2009 Sealed Air Corporation - all rights reserved

Sharing the same challenges:

With a long history of more than 100 years, we understand very well the fish & seafood industry key drivers like productivity, quality, innovation and safety. As an industrial company we are facing the same challenges to generate profitable and sustainable growth. Air Liquide solutions in refrigeration, packaging and transportation fields are concrete solutions to reach this goal.

Deeper in your process:

In Fish & Seafood industry, Air Liquide is the right partner of all your projects. We provide you with all the support, expertise, processing knowledge and industry know-how you need to find and implement the best solution to meet your operational and quality requirements. We propose you to meet one of our 120 in-house food specialists and help you to differentiate in your specific market.

Preserving life and the environment:

About 33% of Air Liquide's sales is directly tied to applications and businesses that help preserve the environment and ensure human safety. There are, of course, the environmental applications of gases (in waste water treatment) but also the solutions that help reduce energy consumption and products wastage.