



Organic, Sustainable, Only
...Because Nature sets the Standards



1st International Symposium on Shrimp Farming in Europe
Eric Bernard
R&O Seafood Gastronomy
April 4th & 5th
Bremen, Germany

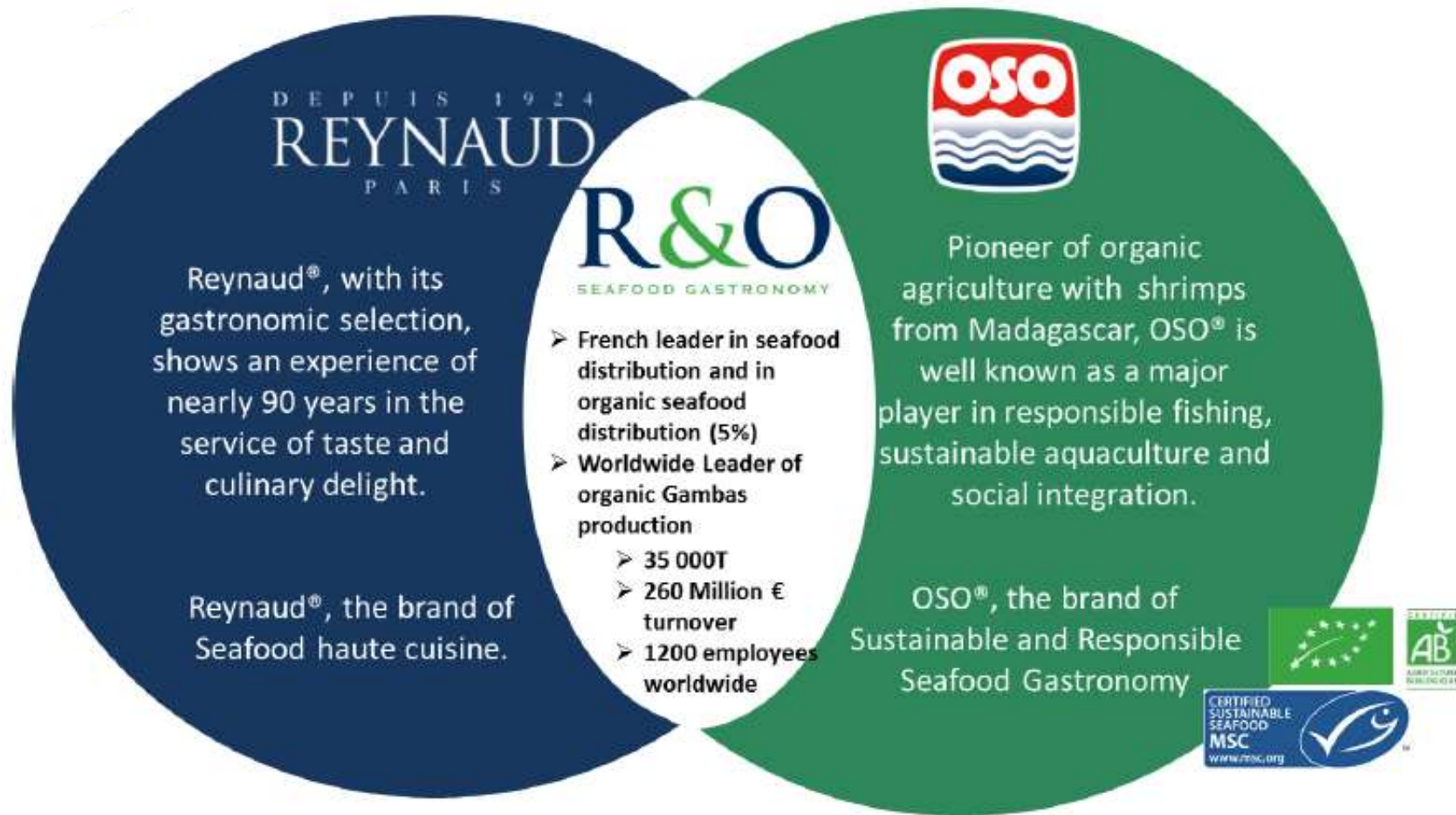


by **R&O**
SEAFOOD GASTRONOMY





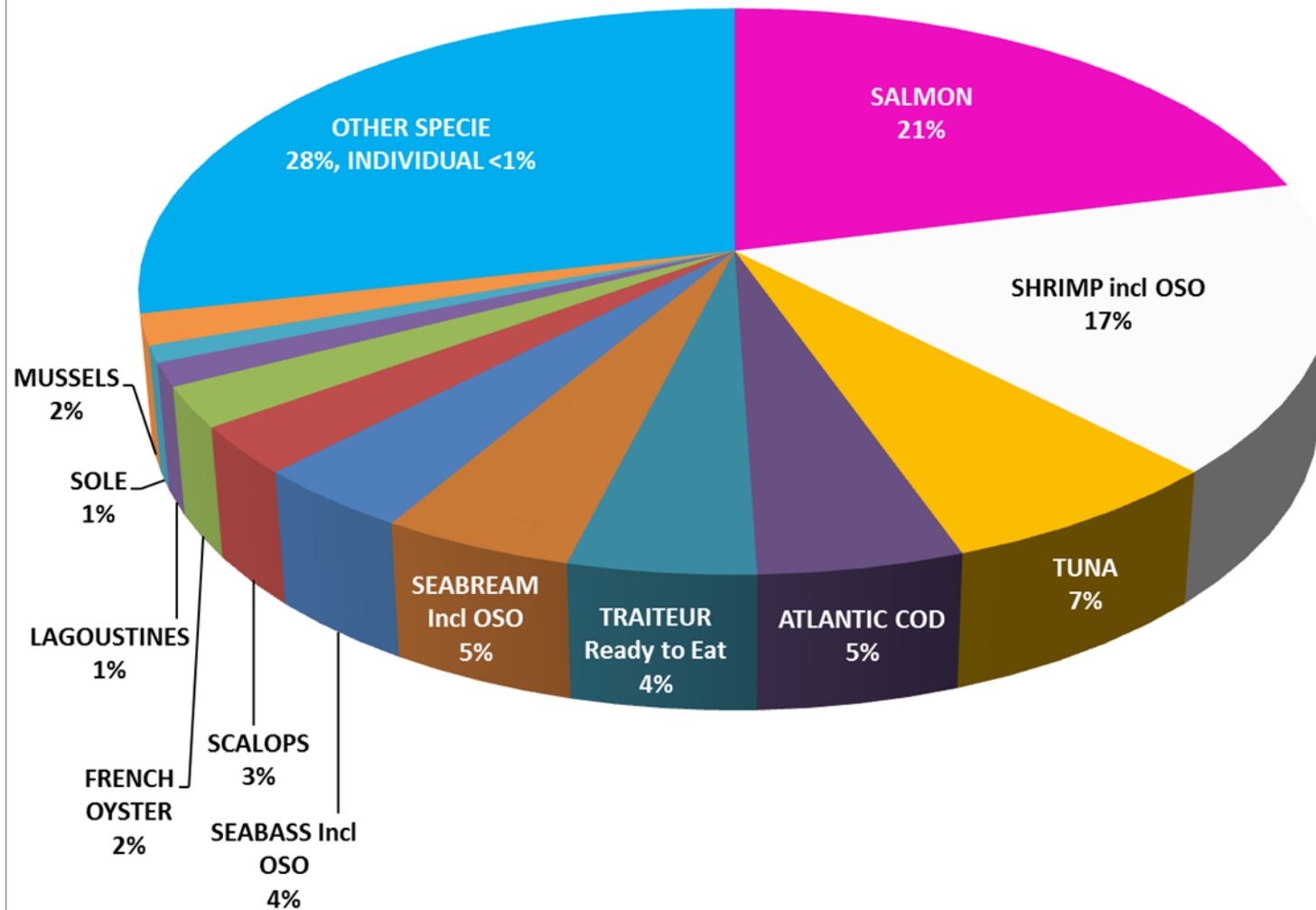
Brief on OSO and R&O, Seafood Gastronomy





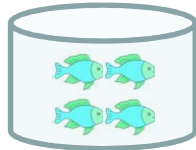
Brief on OSO and R&O, Seafood Gastronomy

-> R&O, Seafood Gastronomy, Specie distribution (% of total Volume)





Brief on OSO and R&O, Seafood Gastronomy



Aquaculture



PRODUCER



PROCESSOR



DISTRIBUTOR



ACTIVE VERTICAL PLAYER



**OSO®, Organic Prawns
from Madagascar**



**OSO®, Wild Prawns
from Madagascar**



**OSO®, Organic
Seabream from Gulf of
Corinth**



**OSO®, Organic
Seabass from Gulf of
Corinth**



**OSO®, Organic
Mussels from Pénestin**



Outlook on our Product Range

**REYNAUD®, Polar
Circle Salmon®**



**REYNAUD®, Seabass
from Gulf of Corinth**



**REYNAUD®,
Seabream from Gulf of
Corinth**

**REYNAUD, La Perle
Blanche® Oysters**





OSO organic shrimp is a drop in an ocean of shrimp

World farmed shrimp
production: 4,2 million MT

50%+ is *L. vannamei*





OSO, Organic shrimp from Madagascar





History of OSO® Organic Shrimp Project in the Ankarana Region

- 2000-1: Initial Environmental & Social Impact Studies (2 years)
- 2002: First 180 Ha of ponds erected, First 80 T of export to Europe
Setting of Social & Environmental Dept. Installation of on site Medical Center and Free access to Medecine for employees and population on the region.
- 2003: 1st Extension – Total Ponds area: 220 Ha
Launch of 1st Primary School project in Ampapamena.
- 2004/5: 2nd Extension – Total Ponds area: 320 Ha
1st Organic / BIO Certification audit by Bureau Veritas / Min. of Agriculture of France
14 Km Water Pipelines and Distribution systems installed in Ampapamena
Village Community services fully operational (Selective Waste management)
- 2006: Extension of the OSO Factory processing plant to 20 Tons/Day capacity





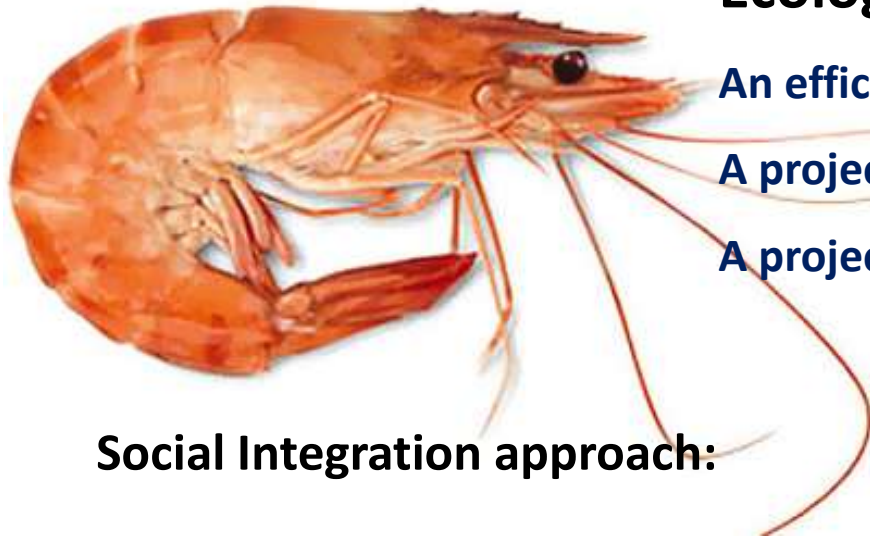
History of OSO® Organic Shrimp Project in the Ankarana Region

- 2008: Finalization of 3rd Extension – Total Ponds area: 425 Ha
ETHICAL TRADING INITIATIVE Certification (EU / OIT Social Standards)
- 2009: OSO is elected **SEAFOOD CHAMPION** by the International NGO Seafood Choices All.
- 2011/2: Launch of “**ECOLE DE FELIX**” project in Ampapamena (450 pupils)
- 2011: White Spot Virus strikes in Mozambique shutting down the country’s 3 farms.
- 2012/7: White Spot Virus strikes in Madagascar: 6 Malagasy Farms will be directly affected
OSO invest in BIOSECURITY, RESISTANCE R&D, DOMESTICATION CENTER to fight against the WSSV Virus.
OSO initiates an exclusive R&D with Taiwan Universities and OIE Ref.Center. on WSSV
OSO & the DIANA Region + Gov. of Madagascar implement BIOSECURITY Rules
OSO proactively reduces its production to minimize the stress on the animals to avoid Virus contamination. All effort are put in the RESISTANCE R&D.





OSO Farming and its environment



Ecological « organic certified » approach:

An efficient use of Natural Ressources

A project integrated in its natural settings

A project aimed at minimizing its Ecological Impact

Social Integration approach:

A project integrated in its social and cultural Environment

A project contributing to Local and National development

The challenges of tomorrow for a sustainable local development

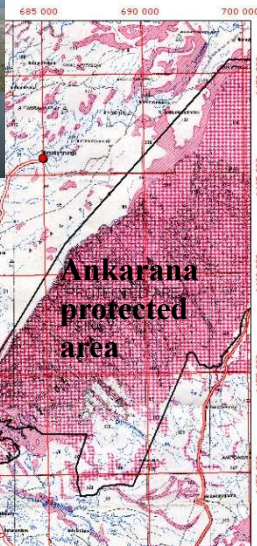




OSO Farming and its environment

An efficient use of natural resources

The « tannes », otherwise unusable, are used for pond construction.



The Tsingy of Ankarana National Park & the richness of the natural and cultural heritage offer a great tourism potential to this small region.





OSO Farming and its environment

A project integrated in its natural setting



A high quality mangrove environment with +650 Ha around Ambavanakarana.

Preservation of the existing mangroves and its biodiversity as well as replanting mangrove trees and surveying specific avifauna are of permanent concern.



Lumitzera



Ceriops Tagal



Avicennia



Heritiera



Rhizophora





OSO Farming and its environment

A project at minimizing its ecological impact

Water quality and effluents monitoring program in compliance with National Environmental Office (ONE) & EU requirements

Location of control points



Organic Farm

Bi-monthly sampling & analysis of:

Physico-chemical parameters

(O², pH, suspended solids, Ammonia, Nitrate and Nitrite, total phosphorus) +

Microbiological parameters (coliforms)



Organic Hatchery

Processing plant





OSO Farming and its environment

A project focused on sustainable local development

Installation of a « fresh water » tree nursery at Ampampamena,

- Production of 35 000 seedlings of firewood species per year
- Diversification to agro-forestry systems (multi-use and fruit trees) and technical transfer to communal nursery trees in the villages





OSO Farming and its environment

A project focused on sustainable local development



**Community reforestation with participation of local population
and school children**





OSO Farming and its environment

A project integrated in its social and cultural fabric

Respect of customs and traditions and participation in local ceremonies



A continuous and open dialogue with local communities



OSO Farming and its environment

A project contributing to local development



Potable Water

Community water supply system



Health and Hygiene

Medical center and doctor's housing
Garbage dump and waste incinerator
Collection of household garbage in villages



Acces and security

Trails to the villages
Protective dikes
Police station
Air strip



Education

Schools & Teachers



Enhancing local communal organization





...Because Nature set the Standards

OSO Farm Location, Design & Infrastructure

- **OSO Organic Farm (grow-out ponds) – At a Glance:**
 - Advanced and innovative Zootechnology Farming System (Organic).
 - 21Km south of OSO Hatchery – approx 400Ha Grow Out ponds, 25 Ha Nursery/Pregrow
 - 42 ponds of 10Ha (average), engineered for 1,6m depth water column, Dual Water Inlet/Outlet, **Dual Screen - Mechanical Filtration down to 200 mic.**
 - Natural Earth Bed pond, gravity fed, Fully dry-able during all season.
 - Clear geographic separation between Pumped Water (North) and Farm outlet discharge water location (South)
- 1 Environmental & Ecology Lab (200 measurement/day)
- 1 Molecular Biology Lab (**PCR – capacity 178 PCR tests / day**) – Cross Calibrated / OIE RefLab
- 2 Microbiology Lab
- 211 Farm Associates.
- 2005 to 2017: 12 years of Ecological Data Collection and “Nature” Understanding.





...Because Nature set the Standards

OSO Farm Location, Design & Infrastructure





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OSO Farm Location, Design & Infrastructure



**Off the ponds Advanced Processing plant,
Capacity 20T/day in 2 shifts.**

*-> Less than 30 Mins from “Live in the pond to the
OSO Processing Plant”*

- 30 T/day of ice production
- EU Organic Reg. Certified Water Treatment Plant
- From 100g to 6 Kg flexible OSO brand packs.
- 400 MTons capacity Coldstore
- 198 Production & Quality Dpt Associates





Microbiological standards to enter EU market

MICROBIOLOGICAL PARAMETERS								
Criteria	m	M	c	n	Interprétation des résultats selon un plan à 3 classes (dénombrement)			
FTM/g	10 ⁴	5m	2	5				
CT/g	5	10m	2	5				
E. Coli/g	1	10m	2	5		$R \leq m$	Satisfaisant	
ASR/g	2	10m	2	5		$m \leq R \leq M$	Acceptable	
Salm. /25g	Abs.		0	5		$R > M$	Non Satisfaisant	
Vibrio path./25g	Abs.		0	5				
CHIMICALPARAMETER								
SO ₂ résiduel					≤150 ppm			





Importance to know your market



Photo; Carson Roper, Consultant indépendant



Importance to know your market



Photo; Carson Roper, Consultant indépendant



Importance to know your market



Photo; Carson Roper, Consultant indépendant



Specific pack for specific market





Specific pack for specific market

- Restauration & traditionnal market





Specific pack for specific market

- Frozen market





Team work for a “unique” shrimp





Thank You

