

# New products from well-known fish species of traditional Croatian aquaculture

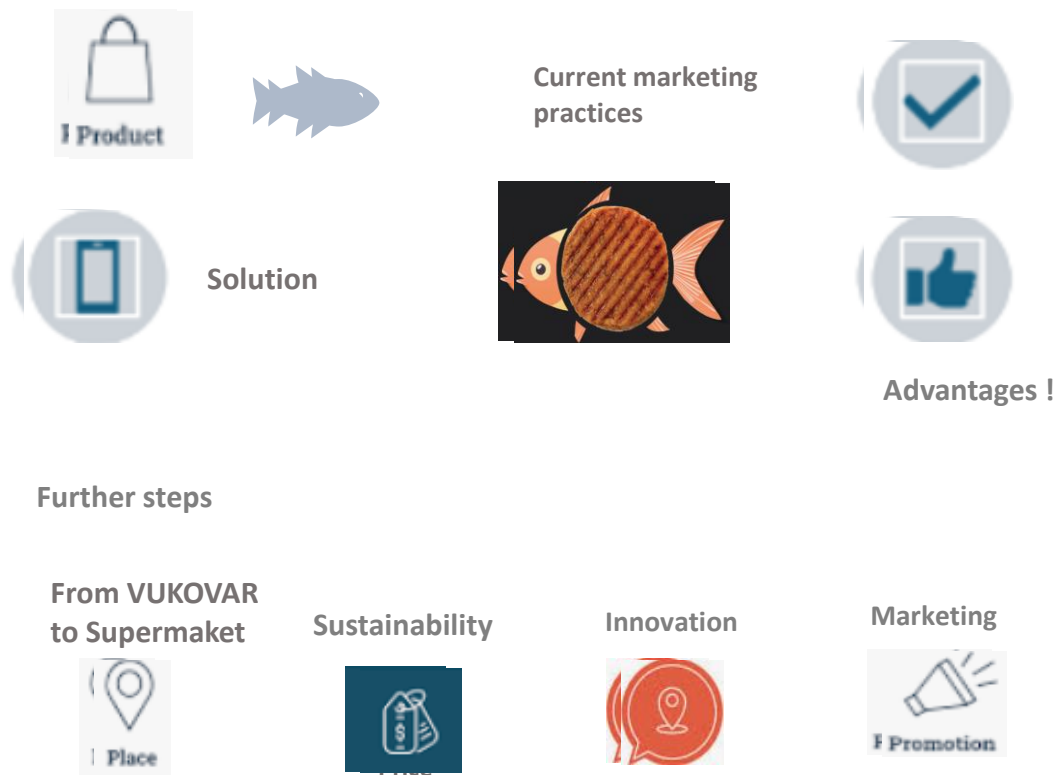
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# Presentation content

- Global Fisheries and Aquaculture surroundings
- Adding Value to Local Aquaculture Products



New flavors from pond fish

Ac A Aquaculture Pond Farms



fish kebab



sausages



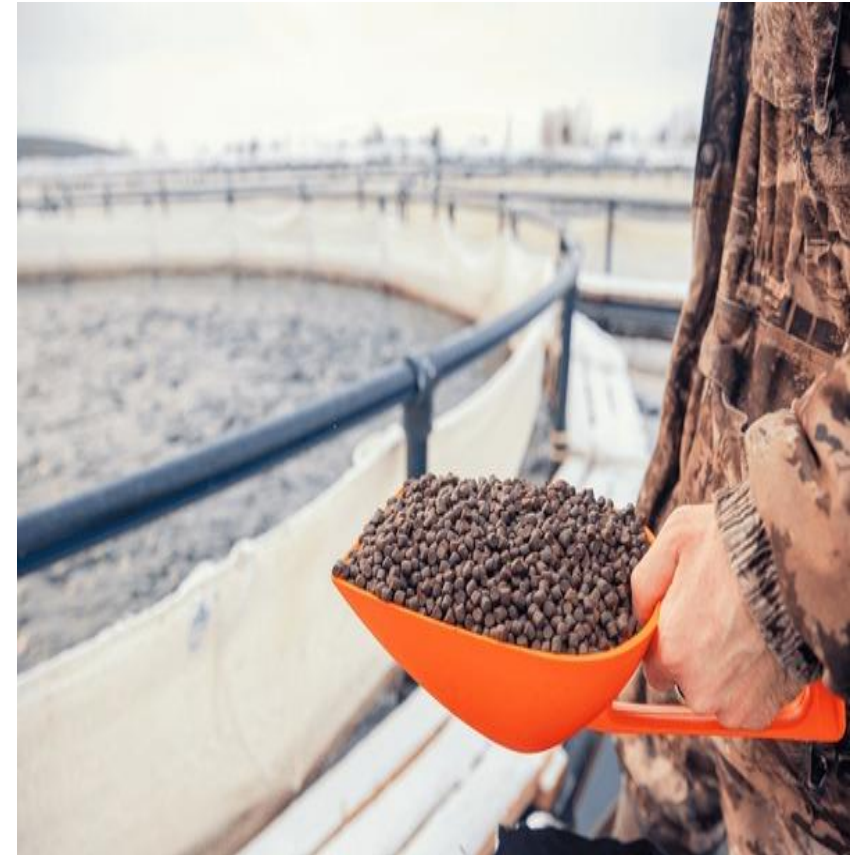
burgers

Fish products for everyone's taste !

# A well-known saying: „*Aquaculture is the fastest-growing food industries in the World*”

## What's behind?

- Intensive farming plays a dominant role in global fish production of **carnivorous fish**
- **Fish –in fish – out**; one historical dependence on wild stock
- Sustainability of such a practice is questionable , primarily due to its dependency on fish meal and fish oil, requiring **extensive small pelagic fish consumption**
- A dramatic **decrease of wild caught fish** rapidly changing aquaculture industry worldwide
- Research on **no-fish protein feed** is intensifying.....
- Environmental implications of intensive aquaculture is a subject of a broader analysis suggesting a **shift towards more sustainable farming practices!**





Last update: 30-01-2025

## CROATIA IN THE WORLD AND IN THE EU

2022, sources: Eurostat and FAO

In 2022, Croatia ranked 15<sup>th</sup> among EU-27 countries for fishery production and 9<sup>th</sup> for aquaculture production.

(1.000 tonnes)	World	EU-27	Croatia	% World	% EU-27
Catches	92.020	3.466	64	0.07 %	4 %
Aquaculture	130.885	1.089	27	0.02 %	1 %
Total	222.936	4.554	91	0.04 %	2 %

**EU vs World:** EU participates with lesss than 1% in aquaculture production and less than 4% in capture fishery!

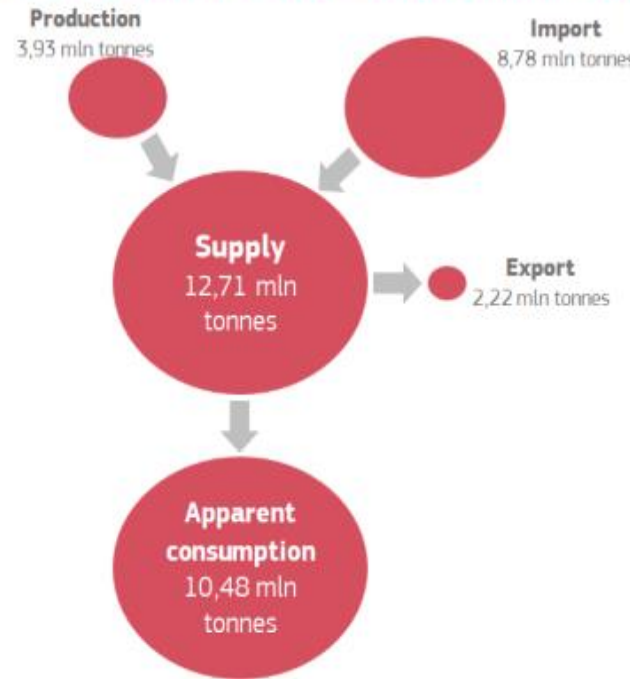


# Europe needs more fish!

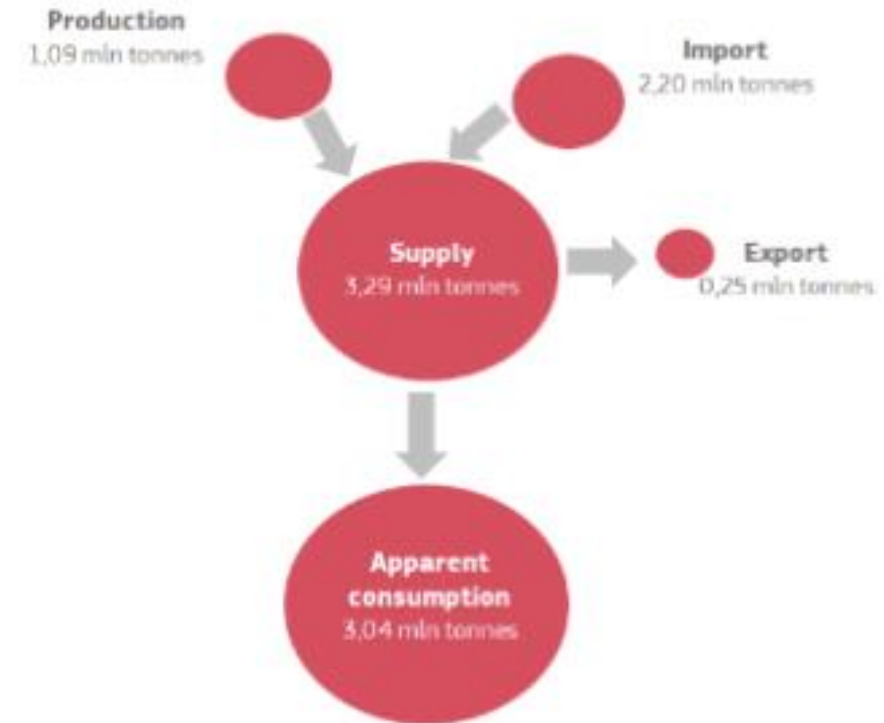
## EU SUPPLY BALANCE

- ❑ The EU is a major world market for fishery and aquaculture products, and this market continues to grow
- ❑ Around 70% of total supply is imported
- ❑ Compared to 2018, own production was reduced by 20%
- ❑ In the 2014-2023 decade EU deficit (*exports minus imports*) grew by 30%
- ❑ Apparent consumption amounted to 10,60 million tonnes in live weight, corresponding to 23.52 kg per capita in 2022., which is 1% decrease from 2021
- ❑ Wild product accounted 16.70 kg and farmed the remaining 6.82 kg
- ❑ Consumption, however, varies greatly across the EU, from 56 kg per capita in Portugal to 6 kg per capita in Hungary.

## TOTAL FISHERY AND AQUACULTURE PRODUCTS



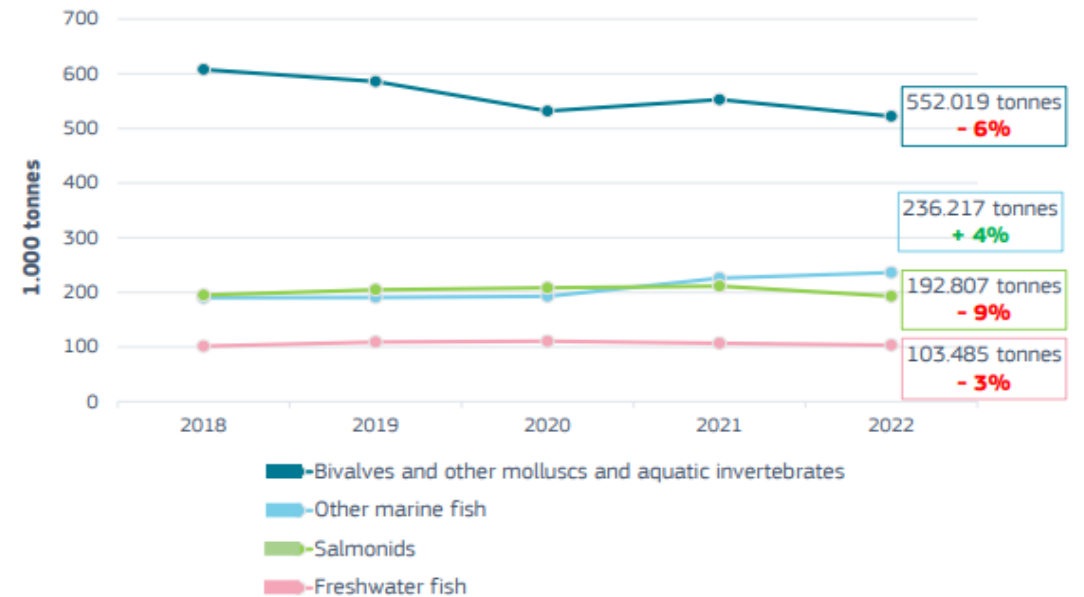
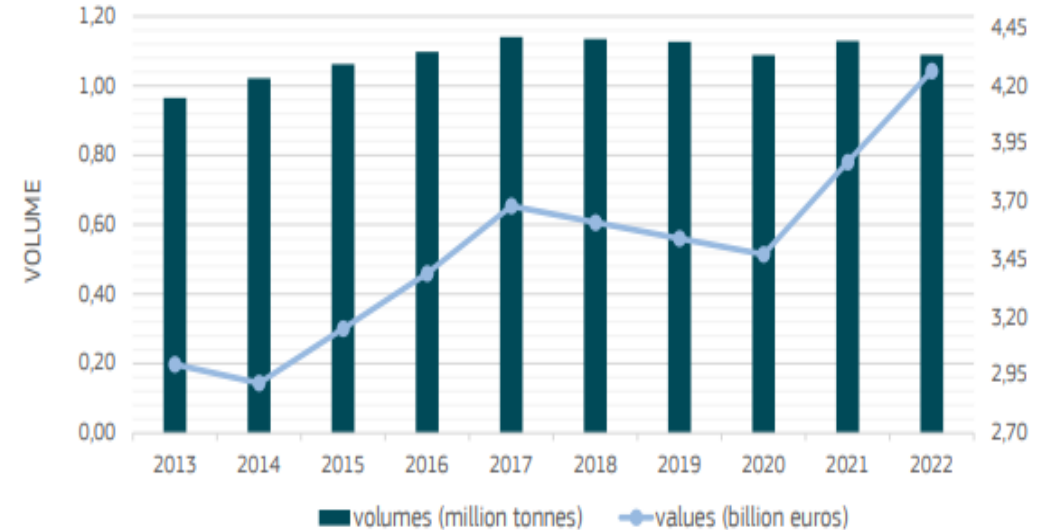
## AQUACULTURE PRODUCTS



Source: EUMOFA system, 2024 edition of the EU Fish Market

# EU - Fact findings

- There is no noticeable increase in production, but financial effects are on the rise due to the **strong increase in prices** and partly due to **the effect of added value to aquaculture products**
- **Taste and consumer habits change over time:** more consumers dislike of fresh whole fish giving an advantage to **easy-to-use products!**
- **Large supermarket chains** in the sale of fish products varies from 60% to 80% of volume consumed
- Despite dependence on imports high number of producers face **difficulties when selling fresh fish**
- **Adding value** would appear to be one of options available to increase production and meet current and future challenges

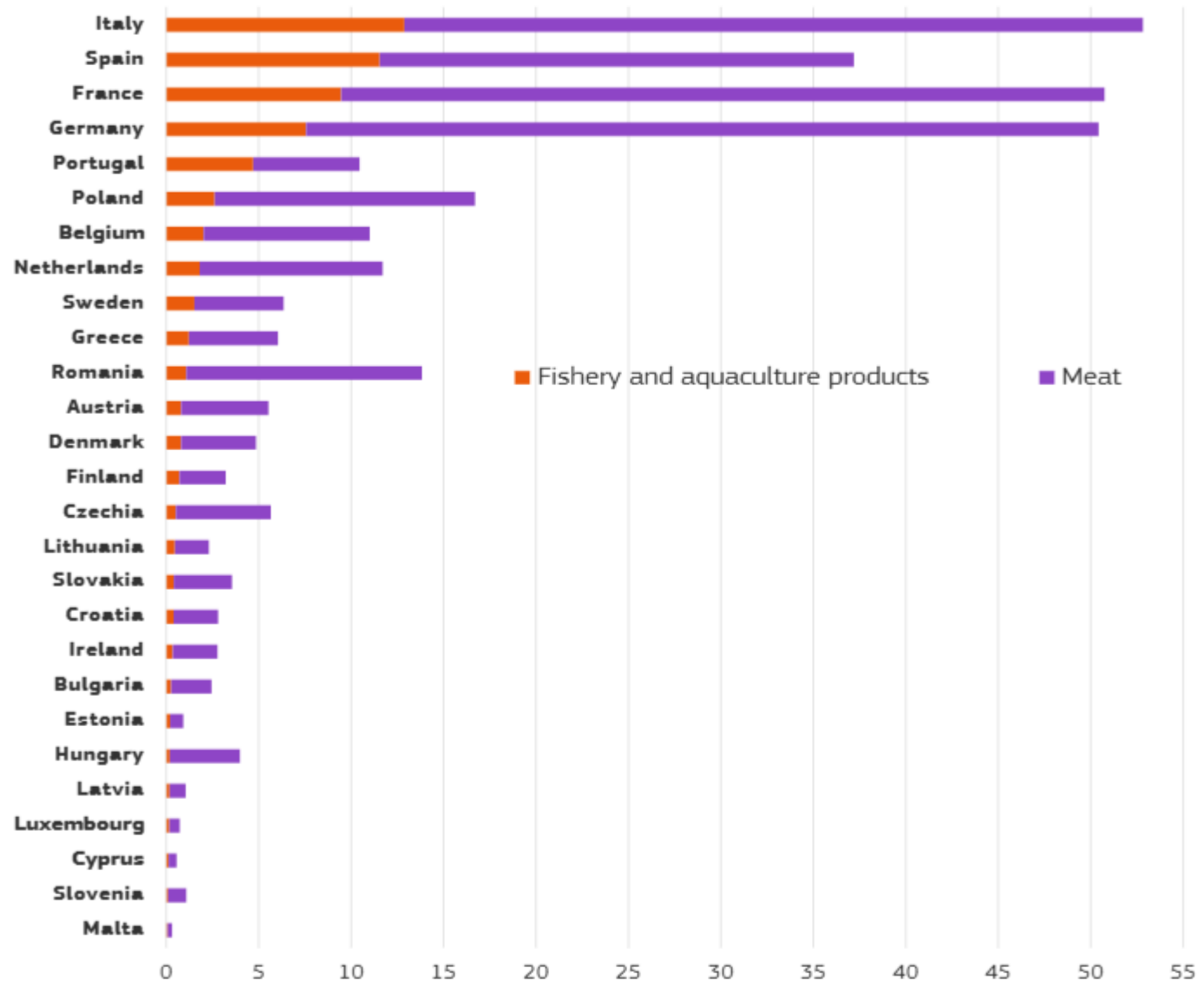


Source: EUMOFA, based on EUROSTAT (online data code: fish\_aq2a) and FAO data

# FISH VS MEAT IN THE EU IN 2023

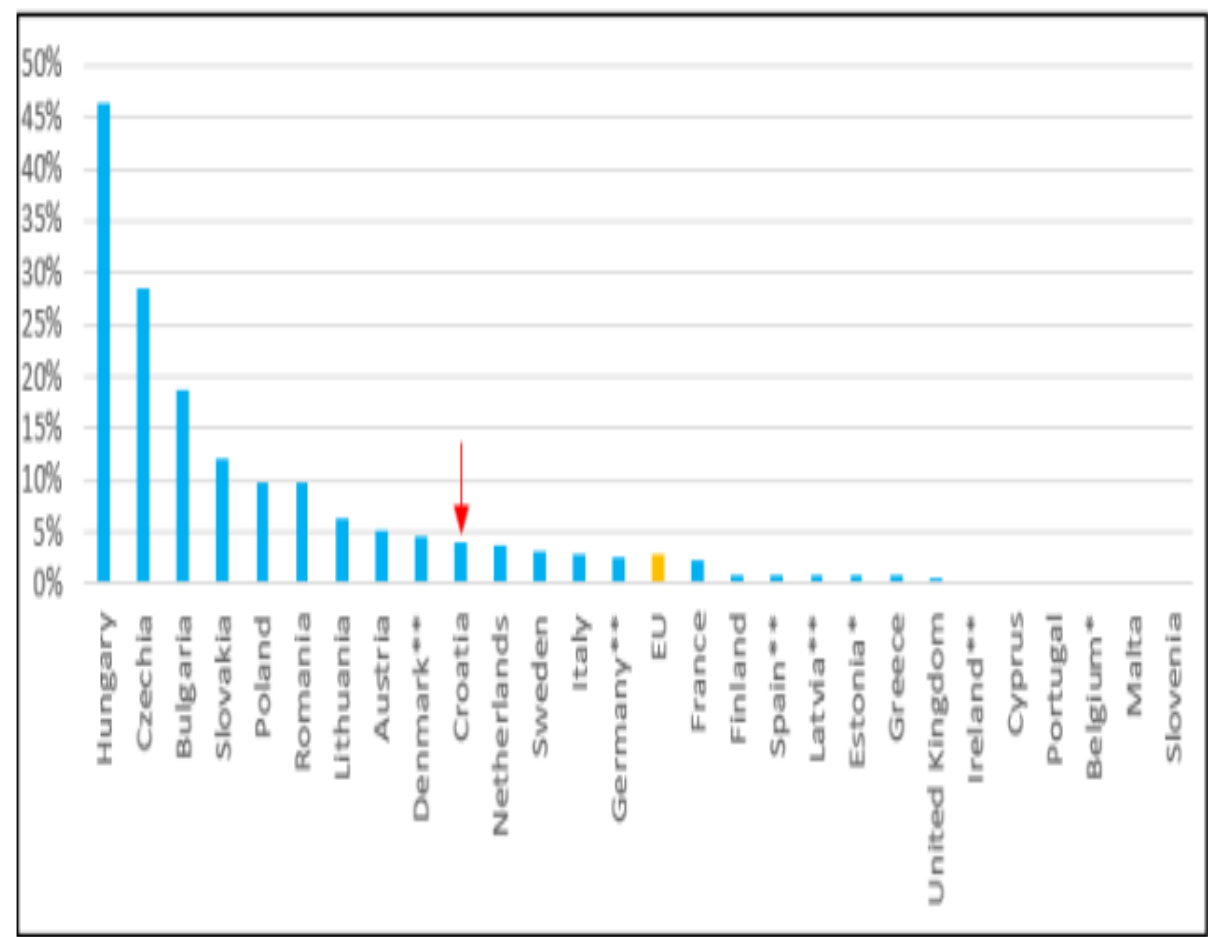
- On average EU households expenditure on fish and aquaculture products is about **one fourth** of what they spend on meat in 2023.
- **Portugal, Spain, France** showed the **most balanced ratio** between these two categories
- In the last decade, starting from 2014, the **price of fish has increased by 40,5%**
- During the same time, meat prices increased by 36,4 %

Source: EUROSTAT



# Market dimension of the EU freshwater aquaculture

% of freshwater aquaculture in apparent fish consumption



Source: EUROSTAT

Croatian freshwater production by aquaculture methods

Method	%
Ponds	86%
Tanks and raceways	13%
Recirculation systems	1%

Source: EUROSTAT

Aquaculture Pond Farms





❑ Value-added fishery production methods support the expansion of fish consumption !



- It is a common practice to transfer fish as one of the healthiest foods to a variety of „**convenience products**” such as gutted and gilled, scaled, boneless, fish stakes, fillets etc.
- In the fish value chain, several **processing methods** can be used to convert primary production into value-added products such as **salting, drying and smoking**. These processing technologies are mainly used to extend the shelf life and diversify the product
- Some **value-added fish products based on chopped fish** known as minced fish used to make fish cutlets, fish balls, and fish nuggets that all **have an enormous potentiality**, especially in the export oriented fish processing industry

# A New Production Scheme - Main focus:



## Product



Quality  
Design  
Branding  
Packaging  
Waranty  
Service

## Market



Wholesale  
Retail  
Direct sales  
e-Commerce

## Price/Affordability



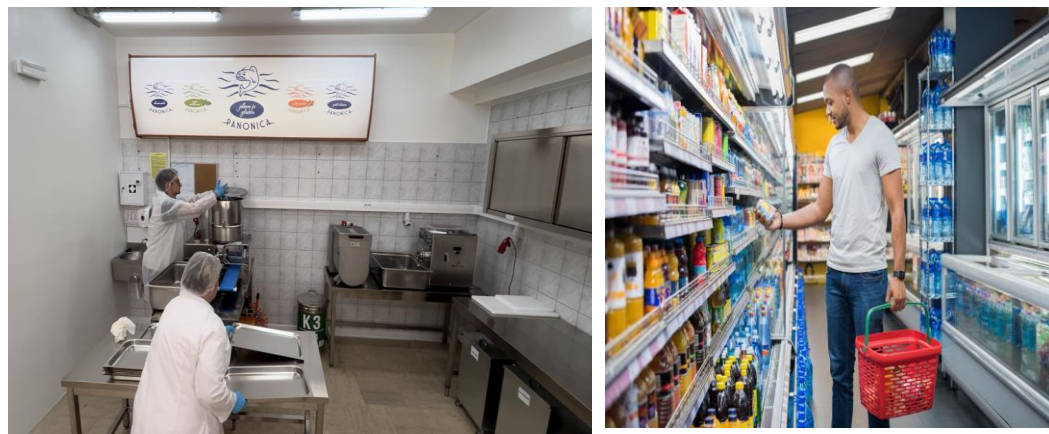
Availability  
List price  
Credit Terms  
Discounts

## Promotion



Advertising  
Direct market  
Mailing  
Special offers  
Liflets/Posts

## Advantages and disadvantages of fish processing



Advantages	Disadvantages
Eliminates certain disadvantages of the fresh product (smell, taste)	Investment in equipment is required
Stabilisation of the product	Extra work and employment
Value added	Preliminary R&D phase
Practicality	
Opens of the new markets	

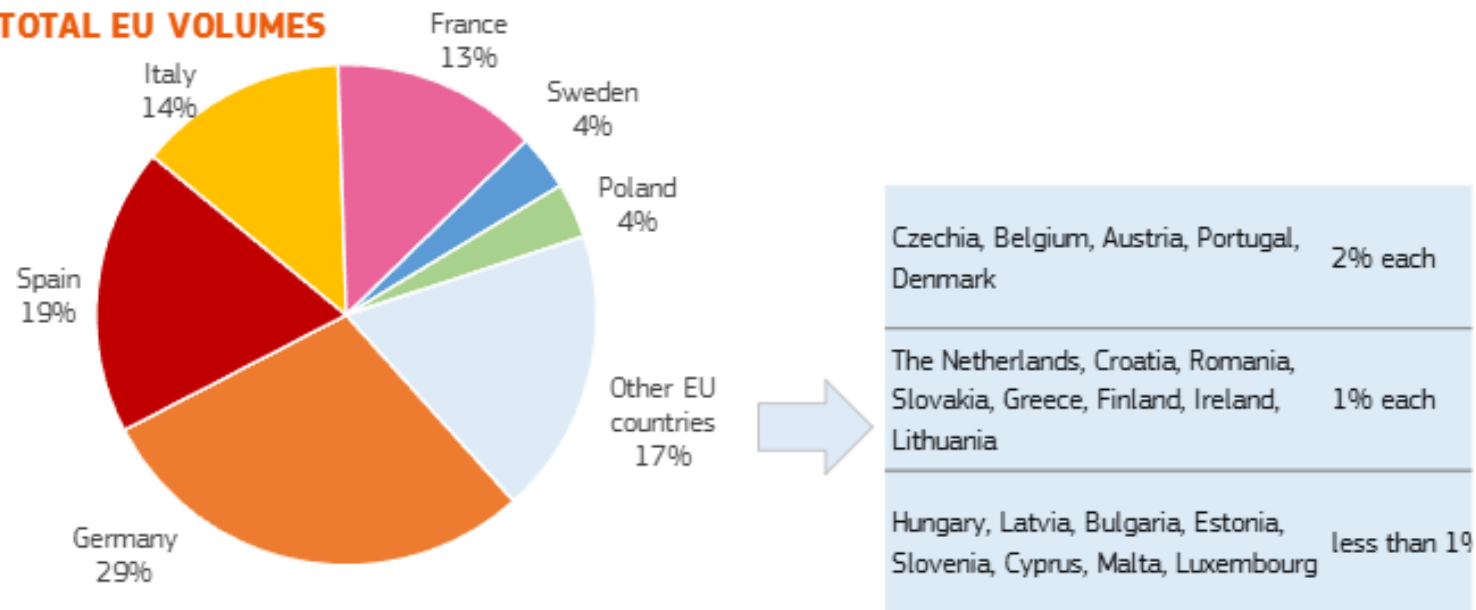
## Advantages and disadvantages of the various distribution channel

Sales <i>via</i> ...	Advantages	Disadvantages
Direct sales	<ul style="list-style-type: none"> <li>- Direct contact with consumers and therefore control over information and knowledge of the market</li> <li>- Possible higher price</li> </ul>	<ul style="list-style-type: none"> <li>- Investment in equipment – transport, storage, presentation, all in time</li> <li>- High constraints</li> <li>- Need to diversified products</li> <li>- Limited volumes</li> <li>- Changeable local regulations</li> </ul>
Short channels	<ul style="list-style-type: none"> <li>- Higher prices</li> </ul>	<ul style="list-style-type: none"> <li>- Need to offer a diversified , regular range</li> <li>- Limited volumes</li> <li>- Financial risk in the event of non-payment or payment delays</li> </ul>
Long channels	<ul style="list-style-type: none"> <li>- Pooled offer</li> <li>- Constant level of demand</li> <li>- Sale of large quantity</li> <li>- Little investment in actual selling</li> </ul>	<ul style="list-style-type: none"> <li>- Many middlemen</li> <li>- Negotiating difficulties with large supermarket chains</li> <li>- Sales terms and conditions of large supermarket chains are very tough; penalties, short ordering deadlines, responsibility for volume of sales</li> <li>- Reduced profit margins</li> <li>- Limited control over communication</li> </ul>

Source: Farnet Guide 3 \_ Adding Value to Local Fishery and Aquaculture Products (Adjusted)

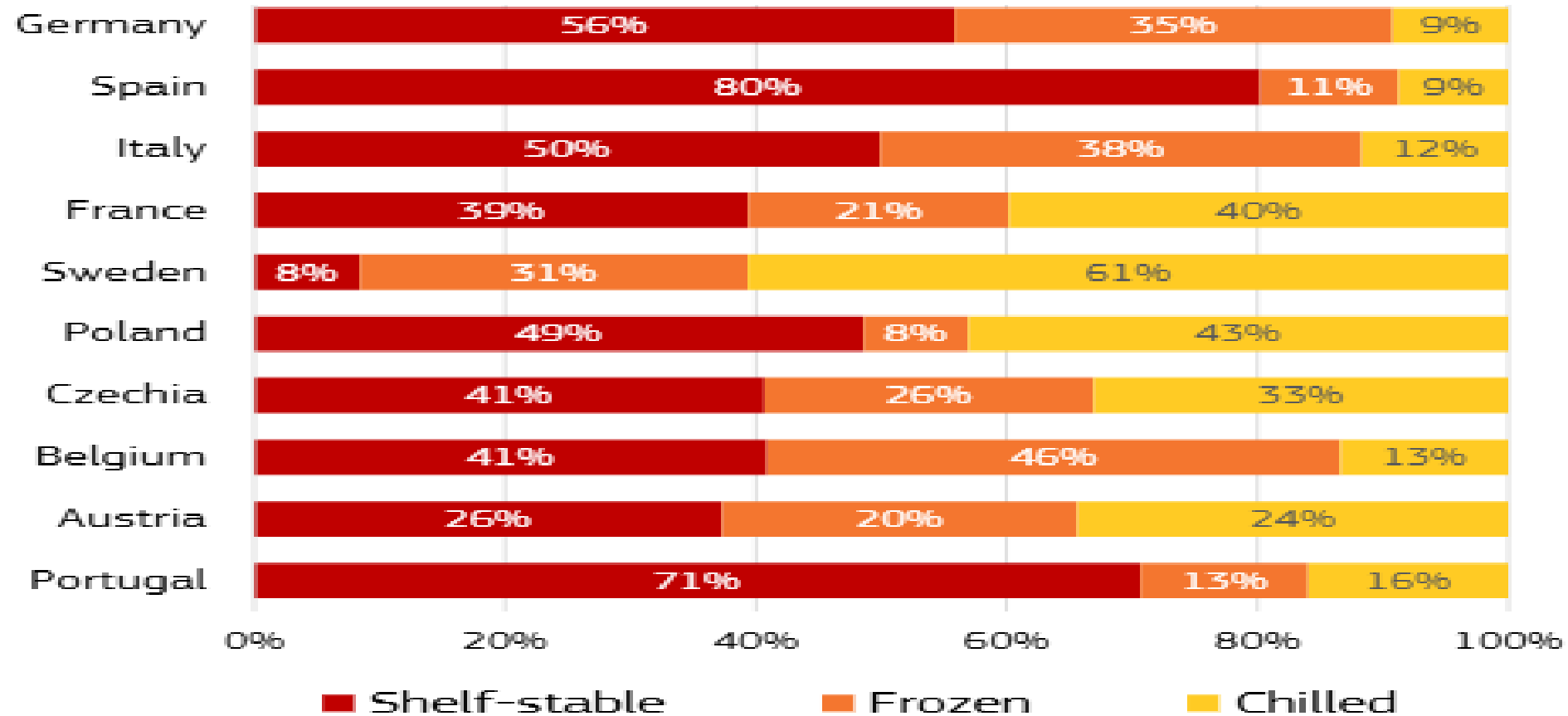
# LARGEST EU CONSUMING COUNTRIES OF PROCESSED FISH PRODUCTS IN 2023

% OF TOTAL EU VOLUMES





# MAIN CATEGORIES OF PROCESSED FISH PRODUCT IN TOP-10 EU COUNTRIES IN 2023



Source: Euromonitor International, Staple Foods, Industry Edition, 2024

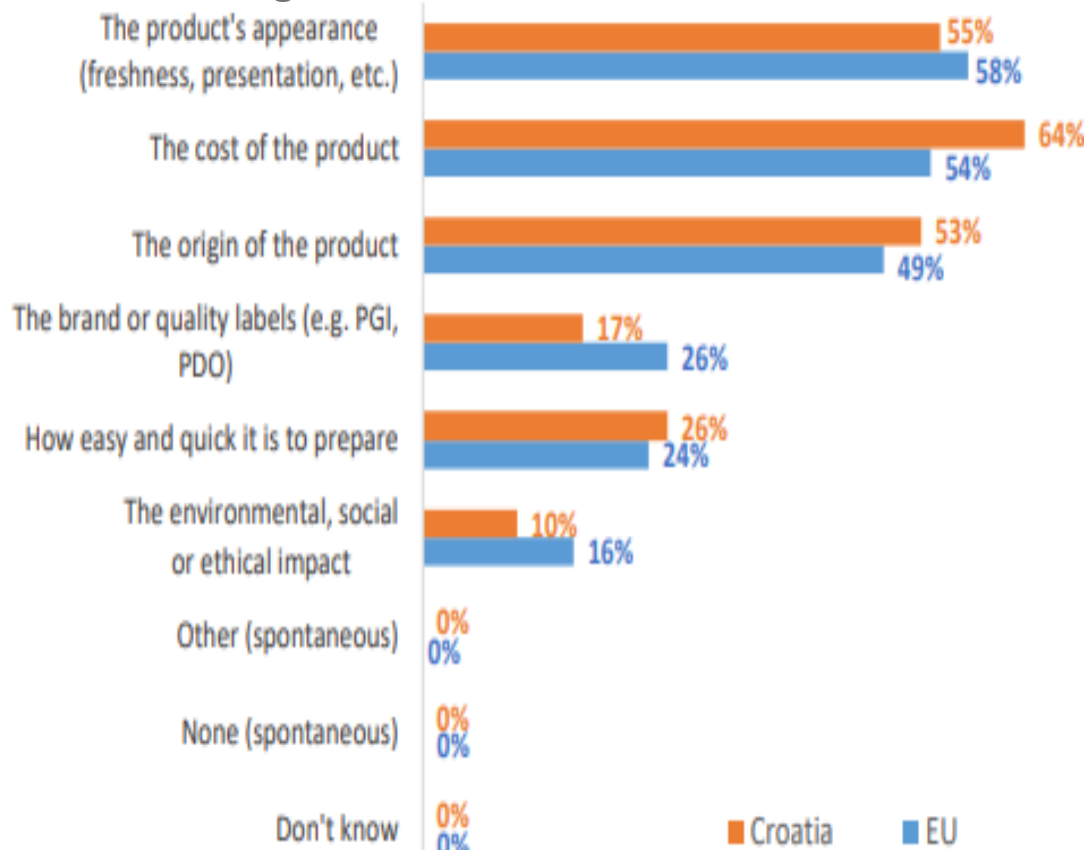
\*Shelf-stable include fish products sold in cans, glass jars or aluminium packaging and usually preserved in oil, brine, saltwater or with a sauce



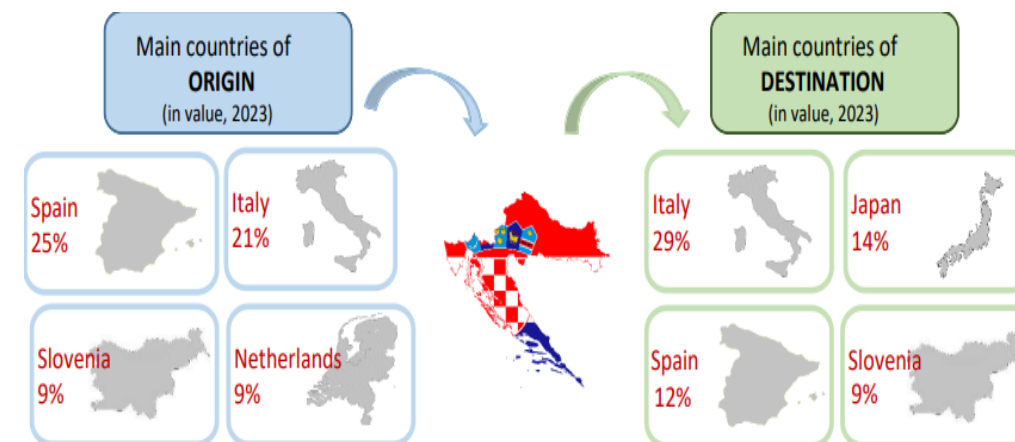
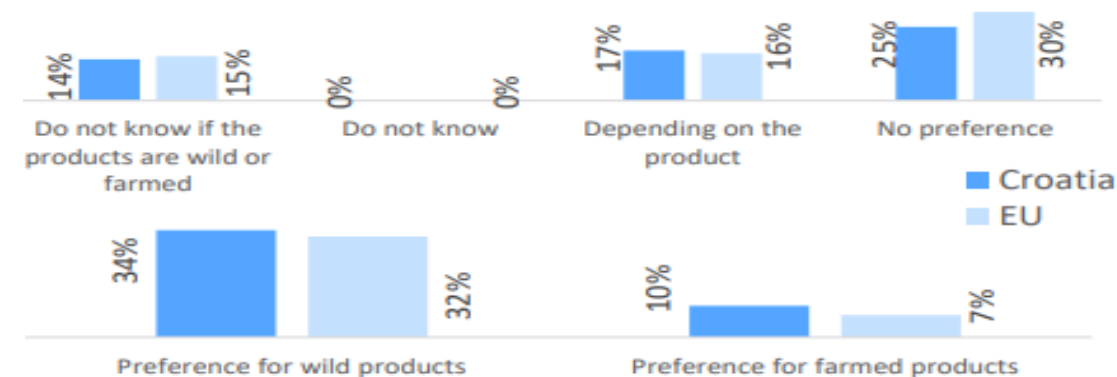
Last update: 30-01-2025

## Preferences regarding aquaculture products in Croatia in relation to the EU market

### Purchasing factors



### Preferences regarding wild and farmed products



## Factors that will determine the future of pond aquaculture:

- The future of pond aquaculture relies on a balance of **sustainable practices and innovations** that will be applied
- Advances in processing and **adding value** to freshwater aquaculture products will play a key role in the evolution of the sector
- There is no doubt that consumers welcome **year-round availability** of high quality fish products
- Most of consumers value **environmentally friendly products**
- **Young consumers** are more likely to try new products, thus making pond fish a relevant and desirable choice for the time to come
- With increasing market demands , product availability, education, promotion, the pond fish sector can secure its place on the EU food market



## Remark:

A successful inovative project from Vukovar have already been presented, and we hve tested some of the product

Many thanks indeed!





# NAJBOLJE OD RIBE



15. Međunarodna konferencija o akvakulturi  
Vukovar, 2. 4. 2025.

# ŠTO JE PANONICA?

- ime za novo poimanje i inovativnu preradu riječne ribe
- burgeri, ćevapčići i kobasice proizvedeni od tolstolobika



# PROIZVODI PANONICA

## RIBLJI BURGER



## RIBLJI BURGER - OBLIK RIBE





# PROIZVODI PANONICA

## RIBLJI ČEVAPČIĆI



## RIBASICA HOT DOG





# PAKIRANJE



# OKUSI

PANONICA CLASSIC



PANONICA PICCANTE – panonica s  
dodatkom chillia



PANONICA AROMATICO - panonica s  
dodatkom mediteranskog bilja



# OBILJEŽJA NAŠIH PROIZVODA

- kvaliteta
- inovativnost
- jednostavna priprema
- trajnost
- dostupnost
- pozitivni učinci na zdravlje



# NAŠI PROIZVODI NA POLICAMA TRGOVAČKOG LANCA SPAR

- kvaliteta naših proizvoda potvrđena zadovoljavanjem strogih kriterija projekta Startaj Hrvatska
- uspješna suradnja s trgovačkim lancem SPAR
- promotivne aktivnosti





# PROIZVODNI PROCES



# PANONICA – JUČER, DANAS, SUTRA

- Trenutno se poduzeće nalazi u fazi uvođenja proizvoda na tržište
- Izazovi:
  - poticanje potražnje kod kupaca za proizvodom koji je nepoznat
  - visoki početni troškovi uz niske prihode
  - najzahtjevniji period poslovanja poduzeća

# PANONICA – JUČER, DANAS, SUTRA

- Ciljevi:
  - prebroditi sve izazove početne faze poslovanja
  - povećati količinu proizvodnje i prodaje
  - proširenje mreže kupaca
  - širenje vlastite maloprodaje
  - povećanje ulaganja u istraživanje i razvoj

# PANONICA I ZAJEDNICA



Panonica je neodvojiva od Vukovara i rijeke Dunav.



Doprinos razvoju grada Vukovara – Grada heroja koji uvijek zaslužuje više!

Radimo zajedno na stvaranju radnih mjesta i kvalitetnih proizvoda.



Predanim marom i žarom stvaramo prepoznatljive proizvode od slatkovodne ribe.



# PANONICA - BUDUĆNOST

*In hoc signo vincam.*

*“U ovom ću znaku pobijediti.”*



# PODACI O PROIZVOĐAČU

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Proizvođač posjeduje sve potrebne standarde za plasman robe na tržište.