

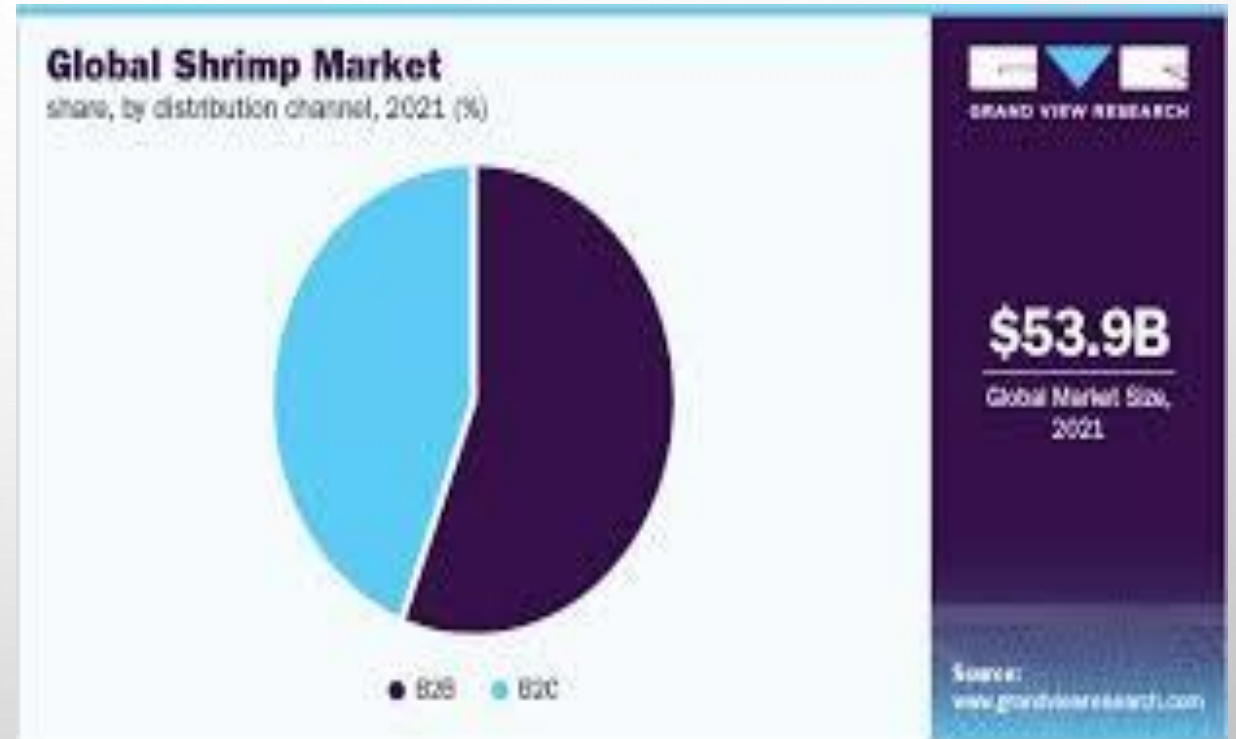
The background of the slide is a light gray gradient with several realistic water droplets of various sizes scattered across it. The droplets have highlights and shadows, giving them a three-dimensional appearance.

THE CURRENT STATUS AND FUTURE PROSPECTS OF INDOOR SHRIMP FARMING IN EUROPE

BY :

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THE COMPETITION



HOW SHRIMP ARE GROWN.

- 90 % OF THE WORLD



- EUROPE (USA AND NOW CHINA).



A QUICK COMPARISON

TRADITIONAL PRODUCTION

- HIGHLY DEPENDANT ON LOCAL CONDITIONS.
- LARGE LAND FOOTPRINT.
- BIOSECURITY DIFFICULTIES.
- HIGH WATER REQUIREMENT PER UNIT PRODUCTION.
- SUBJECT TO SEASONAL VARIATION.
- LOW ENERGY REQUIREMENT.
- LOW INITIAL INVESTMENT.
- VERY LOW OPEX.
- OFTEN HIGHLY PROFITABLE.

INDOOR PRODUCTION

- INDEPENT OF LOCAL CONDITIONS.
- SMALL FOOTPRINT.
- COMPLETELY BIOSECURE.
- STABLE YEAR ROUND PRODUCTION.
- HIGH ENERGY REQUIREMENTS.
- HIGH INITIAL INVESTMENT.
- OPEX RELATIVELY AND VERY SCALE SENSITIVE.
- PROFITABILITY CAN BE ELUSIVE.

WHY THE INTEREST IN SHRIMP FARMING IN EUROPE

?

- NEGATIVE ASSOCIATIONS WITH IMPORTED FROZEN SHRIMP.
- INCREASED PREFERENCE FOR LOCAL PRODUCTION.
- FRESH HIGH QUALITY PRODUCT AVAILABLE IN INLAND MARKETS.
- 'TECHNICAL INOVATIONS.
- LOCALLY AVAILABLE SEED AND FEED.
- PROOF OF CONCEPT HAS NOW BEEN DEMONSTRATED.



PRODUCTION OPTIONS

BIOFLOC

- LOWER CAPEX
- HIGH ENERGY DEMAND .
- BIOLOGICALLY DEMANDING.
- OXYGEN LIMITED PRODUCTION.
- CAN BE OPERATED ON A SMALL SCALE.



RAS

- HIGHER CONTRUCTION AND MAINTENANCE COSTS.
- HIGH ENERGY DEMAND
- MECHANICALLY DEMANDING.
- SPACE LIMITED PRODUCTION.
- SCALE SENSITIVE.



CURRENT REQUIREMENTS

- **IDENTIFICATION :**
 - POTENTIAL SITES.
 - POTENTIAL MARKETS.
 - POTENTIAL SYNERGIES.
- **OPTIMISATION :**
 - PRODUCTION METHODOLOGY.
 - SIDESTREAM PRODUCTS.
 - MARKETING AND DISTRIBUTION
- **EXPANSION.**
 - HORIZONTAL EXPANSIÓN
 - VERTICAL INTEGRATION



FUTURE CHALLENGES

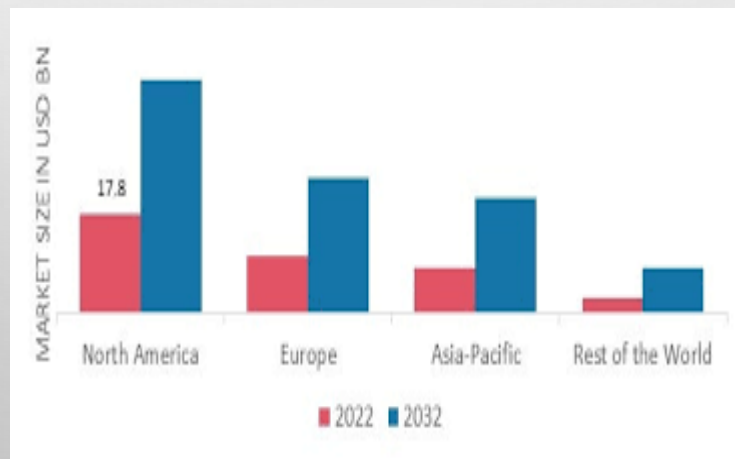
TECHNICAL

- COST CONTROL
- OPTIMUM PRODUCTION SCALE
- EFFLUENT MANAGEMENT
- STRAIN DEVELOPMENT



COMMERCIAL

- VIABLE BUSINESS MODELS
- SIGNIFICANT, STABLE AND CONSISTANT PRODUCTION.
- MADE IN EUROPE BRAND AWARENESS



AMBIENTAL

- DISEASE CONTROL.
- ENVIRONMENTAL PROTECTION
- RATIONALISATION OF ENERGY CONSUMPTION



FUTURE SCENARIOS

- **WHAT IS PROBABLY NOT GOING TO HAPPEN :**

- COMPETITION WITH FROZEN IMPORTED SHRIMP.
- LARGE SCALE CONSOLIDATION OF KEY PRODUCTION ACTIVITIES.
- CONTINUED DISEASE FREE STATUS.

- **REALISTIC EXPECTATIONS (NEXT 5 YRS) :**

- OPTIMIZED PRODUCTION METHODOLOGIES.
- IDENTIFICATION AND PENETRATION OF ALL PREMIUM MARKETS ACROSS EUROPE.
- “MADE FOR EUROPE” SHRIMP.
- “MADE IN EUROPE” LARVAE WIDELY AVAILABLE.
- SEASONAL PRODUCTION IN CLIMATICALLY SUITABLE AREAS.

THANKYOU ALL.

