



**No.1 Seafood Hub Complex & No.1 Nation-wide & Professional
K-Seaweed [K-Gim] Industry Organization
by Ministry of Oceans and Fisheries in Korea [MOF]**

Mokpo Marine Food Industry Research Center [MMFIRC]



(재)목포수산물지원센터
Mokpo marine food-industry research center

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Introduction_History

2007. 03. • Designated as 1st Seafood Hub Complex by Ministry of Oceans & Fisheries

2015. 06. • Opened Mokpo Marine Food Industry Research Center

2016. 09. • Held Korean Seaweed Industry Development Conference

→ Organized Grand Seminar & Pitch Session of Korean Seaweed Industry Innovation and Globalization

2018. 01. • Conducted Oceans & Fisheries Investment Support business

2020. 05. • Registered as Official Food Analysis Center by KFDA

2021. 01. ~ 2022. 12. • Conducted Seafood Hub Complex Business
• Awarded as Supreme model by Presidential Committee for Balanced National Development

2022. 04. • Supported Quality Test for Jeonnam Seaweeds Quality Contest

2022. 04. • Conducted Project of QM & Specialized Industrial area of K-Gim

2022. 10. • Presented Center activities & K-Gim's Superiority in Global market

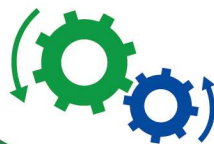
2022.12. • Designated as "No.1 Nation-wide & Professional K-seaweed (K-Gim) Industry Organization" by Ministry of Oceans and Fisheries

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VISION

Value-Added Seafood Business by Clean & Safe Ocean Resources Upcycling on Southwest Coast, Largest Production Amounted area in South Korea

R&D 혁신



Branded Local Seafood Commercialization

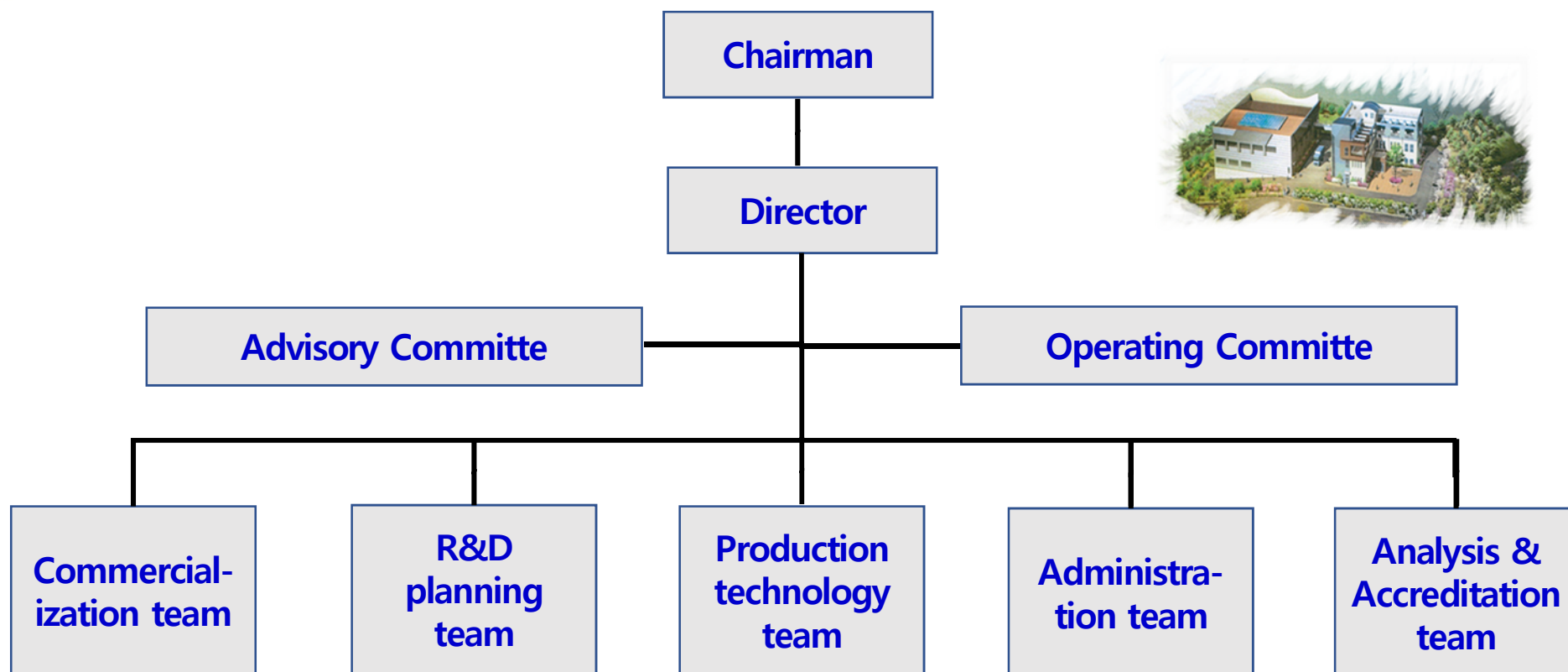
- Traditional Seafood Innovation
- Total Solution Provision of Fish protein [Amook], Sea vegetable [K-Gim], Dried Fish, Sauce & Seasoning

MISSION

Development & Application of Locally Unused Ocean Resources

- Seaweed for Bio-health and Pharma
- Ingredient Specialty Food business

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➤ **Total quota 23 persons / current 21 persons**

- Chairman (Mayor of Mokpo city), Director and 12 committee members
- 5 Ph.D degrees, 7 Master's degrees, 9 Bachelors' degrees (1 senior staff from Mokpo city)

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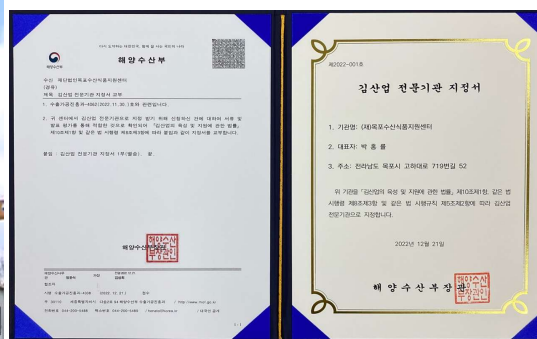
I.

Introduction_Core Competence

- Food technology innovation using unutilized seafoodstuffs like seaweed and fish.
- Quality standardization and safety evaluation of raw material and final product.
- Exploring & upscaling of in-land demonstration plant for seaweed seed cultivation.
- In-situ monitoring and control of residual hazardous components and microorganisms during cultivating, harvesting and processing of seaweed.
- Supporting new product development and commercialization of seafood.
- Business incubation of Local seafood SMEs and Start-Ups



The Ministry of Oceans and Fisheries(MOF) announced that Mokpo Marine Food Industry Research Center is designated as "No.1 Nation-wide & professional K-seaweed (K-Gim) industry organization" for the first time in Korea on 18 Dec. 2022.



Mokpo Marine Food Industry Center will conduct major projects such as quality improvement, safety evaluation and NPD(new product development) for K-seaweed(K-Gim) globalization under the support of MOF. (source : Mokpo MBC 22.12.21)

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Item	Construction status	Main equipment
Production equipment	51 types 66 units	Low temperature vacuum dryer drying machine, Freeze dryer, Spray dryer, Fermenter, Sterilizer, Extraction concentration system etc.
Production facility	18 types	Refrigeration & Freezer facility, Storage, Process development room, Drying room etc.
Research equipment	120 types 290 units	Electronic nose / eye / tongue, HPLC, LC-MS, Subcritical water extraction facility, GC, GC-MS, HR-GCMS, GC-MS/MS, ICP-MS, FT/IR-Microscope, Shaking incubator etc.



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Major performances (2022)

Seafood Hub Complex Business (Supporting Seafood SMEs & Start-Ups)

Performance index	Target	Performance	Achievement rate
No. of Beneficiary Companies	12	12	100%
No. of New Market Creation	5	20	400%
No. of New Product Development	12	17	141%
No. of newly Hired Employees	12	99	825%
Beneficiary Companies' Total sales amount (USD)	1 million (Export 0.4 million)	52 million (Export 39 million)	5,625%



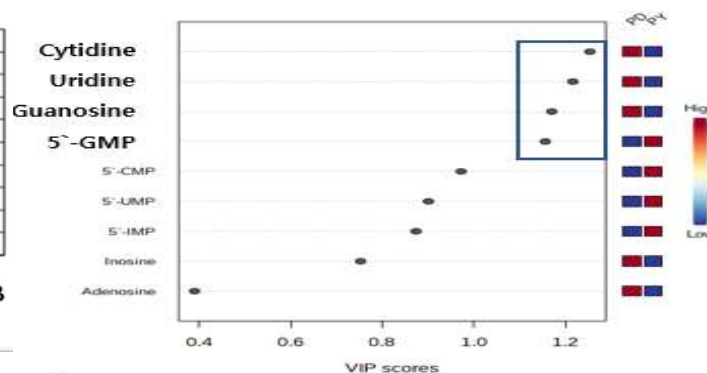
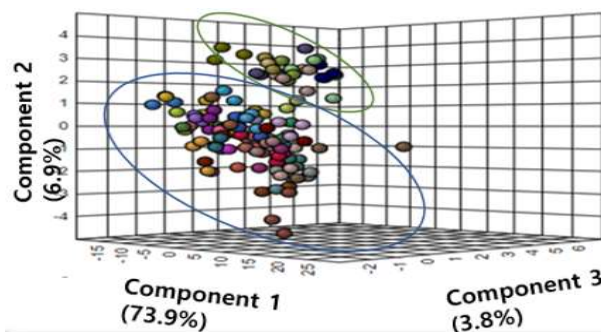
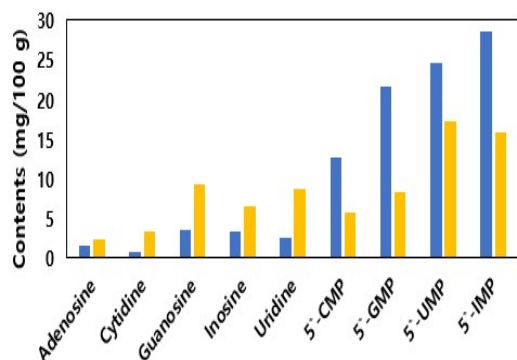
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Seafood Hub Complex Business

(Quality standardization & Safety evaluation of K-Gim(K-seaweeds))

Performance index	Target	Performance	Achievement rate
Product No. of Quality DB accumulation of K-Gim	1,260	4,960	394%
No. of pigment components of K-Gim	360	576	160%
Full system no. of metabolites DB extension of K-Gim	1	1	100%
No. of taste components of K-Gim	180	4,992	2,773%
No. of microplastics analysis	30	30	100%
Estimating safety evaluation index of microplastics	1	1	100%
Development of As detecting Biosensor	1	1	100%
Set-up of Cd analysis system	1	1	100%
Set-up of microbiome detection method	1	1	100%



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Major Performances (2022)



Seafood Hub Complex Business

(K-Seafood Showcase Promotion & Global R&BD infra build-up on Nordic Seaweed Conference 2022 sponsored by Innovation Center Denmark Korea)



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Major Performances (2022)

Local Creation Business Strategy (Amook industry business by K-fish)



Dedicates to Local Economy Activation by incubating local Amook business from MMFIRC and by producing local high-quality Amook & Amook paste(frozen) from smart HACCP factory in Mokpo industrial complex.



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Major performances (2022)

Oceans & Fisheries Investment Support Center Operation Business

Performance index	Target	Performance	Achievement rate
Total sales amount increase	8.7%	9.6%	110%
No. of newly hired employees	167	360	216%
No. of new Start-Ups	4	6	150%
Satisfaction degree of beneficiaries	5 points	5 points	100%
Participation rate of female	12%	31%	258%
No. of New Market Creation	13	83	638%
No. of New Product Development	13	67	515%
Improvement degree of production innovation	11	32	236%
Improvement degree of product innovation	11	129	1,173%
No. of investment relation	2	3	150%
Activation degree of the related support	12	41	342%
Improvement degree of export	5%	19.4%	387%



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Major performances (2022)

Official Food Analysis Center Operation Business by KFDA

Performance index	Total amount	No. of Samples	No. of Items
Product Quality Analysis	3,000 USD (1,800 USD in 2021, 70% ↑)	69 (24 in 2021, 65% ↑)	153 (48 in 2021, 220% ↑)
Reference Sample Analysis	25,000 USD (5,200 USD in 2021, 380% ↑)	303 (46 in 2021, 559% ↑)	734 (200 in 2021, 267% ↑)
Total	28,000 USD (7,000 USD in 2021, 300% ↑)	372 (70 in 2021, 431% ↑)	887 (248 in 2021, 258% ↑)

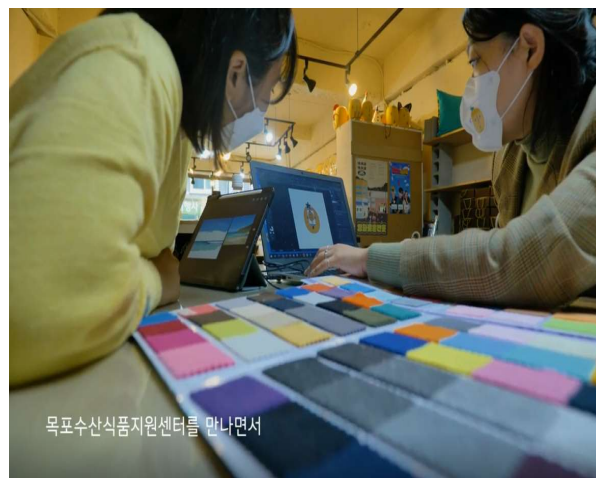


Major Performances (2022)

Local Job Creation Business

Performance index	Performance
Total no. of Companies hired young residents in 2022	20
No. of Participating Companies got sales increase in 2022	14
No. of Participating Companies got employee increase in 2022	12

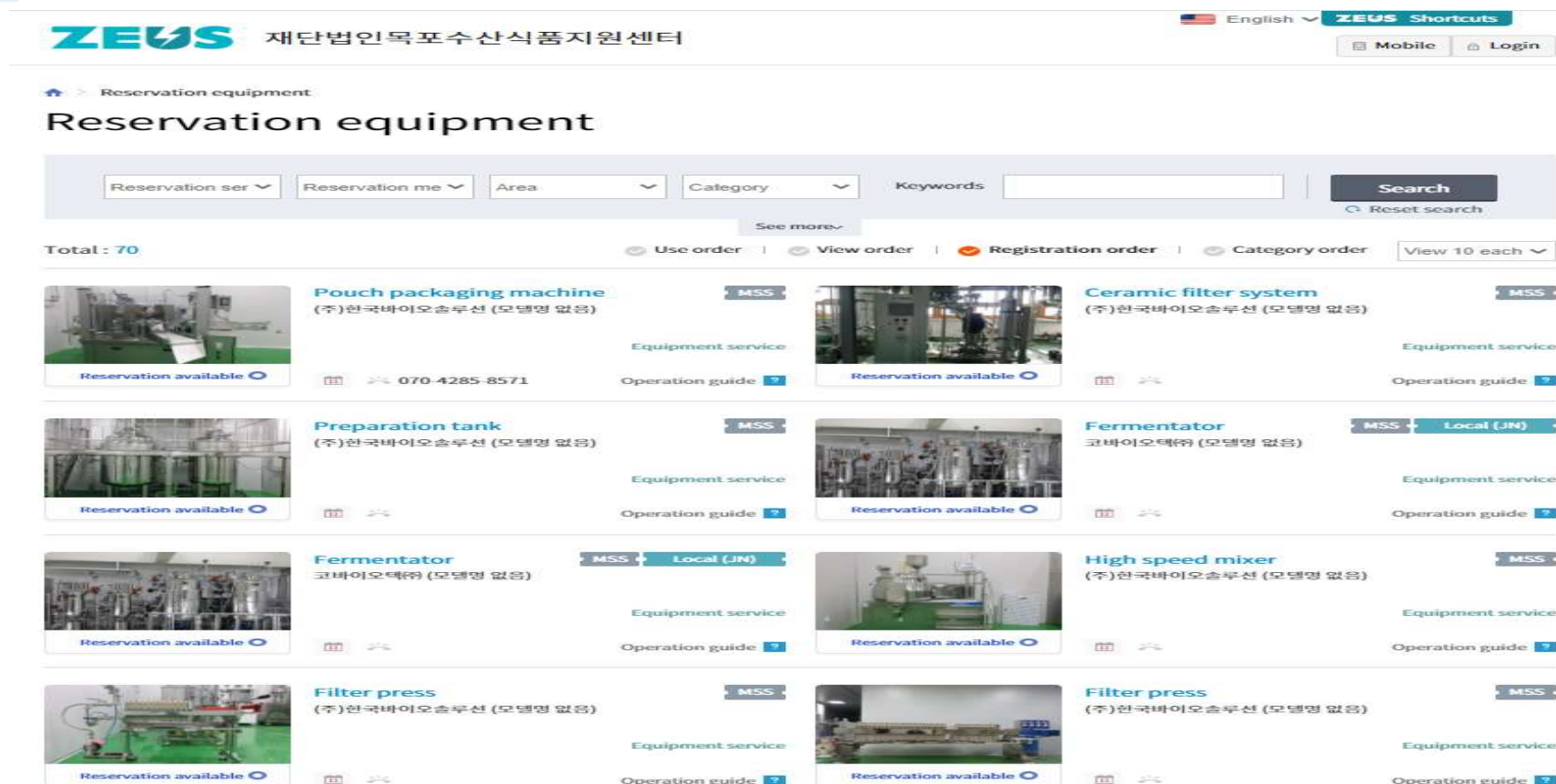
In order to overcome local population decrease and hiring issue, MMFIRC is trying to educate potential young people and matching to local SMEs and Start-Ups in connection with local industry policy.



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Major performances (2022)

Pilot Plant Utilization Business for Local Seafood SMEs and Start-Ups



ZEUS 재단법인목포수산물지원센터

English Shortcuts Mobile Login

Reservation equipment

Reservation ser Reservation me Area Category Keywords Search

Total : 70

Use order View order Registration order Category order View 10 each

Equipment Name	Company	Reservation Status	Equipment Service	Operation Guide
Pouch packaging machine	(주)한국바이오솔루션 (모델명 없음)	Reservation available	Equipment service	Operation guide
Ceramic filter system	(주)한국바이오솔루션 (모델명 없음)	Reservation available	Equipment service	Operation guide
Preparation tank	(주)한국바이오솔루션 (모델명 없음)	Reservation available	Equipment service	Operation guide
Fermentator	코바이오텍㈜ (모델명 없음)	Reservation available	Equipment service	Operation guide
High speed mixer	(주)한국바이오솔루션 (모델명 없음)	Reservation available	Equipment service	Operation guide
Filter press	(주)한국바이오솔루션 (모델명 없음)	Reservation available	Equipment service	Operation guide

The MMFIRC's up-to-date pilot is helping SMEs and Start-Ups pursue basic and applied researches for New Product Development demonstration suitable for use in the food industry. [Source : www.zeus.go.kr]

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Key Performances

➤ Major Papers(122)_ ※ Published 6 Scientific paper within JCR(Journal Citation Reports) upper 5%

➤ 주요 논문 목록 ※ 식품 관련 분야 JCR(Journal Citation Reports) 상위 5% 이내 논문 6편 보유



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Key Performances

Major Patents(34) and Marine Food Technology Transfer(8)

주요 특허 목록



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Full Cycle Management of K-Gim (K-Seaweed) Standardization

K-Seaweed Farm



Dried Seaweed Factory



Seaweed Food Factory



Subjects

- In-situ Monitoring & Control of microorganisms
- Identification & Development of Species
- Cost Leadership of K-Gim (wet)

Subjects

- In-situ Monitoring & Control of microorganisms and heavy metals etc.
- In-situ Control of microplastics
- Cost Leadership of K-Gim (dry) according to Quality grade

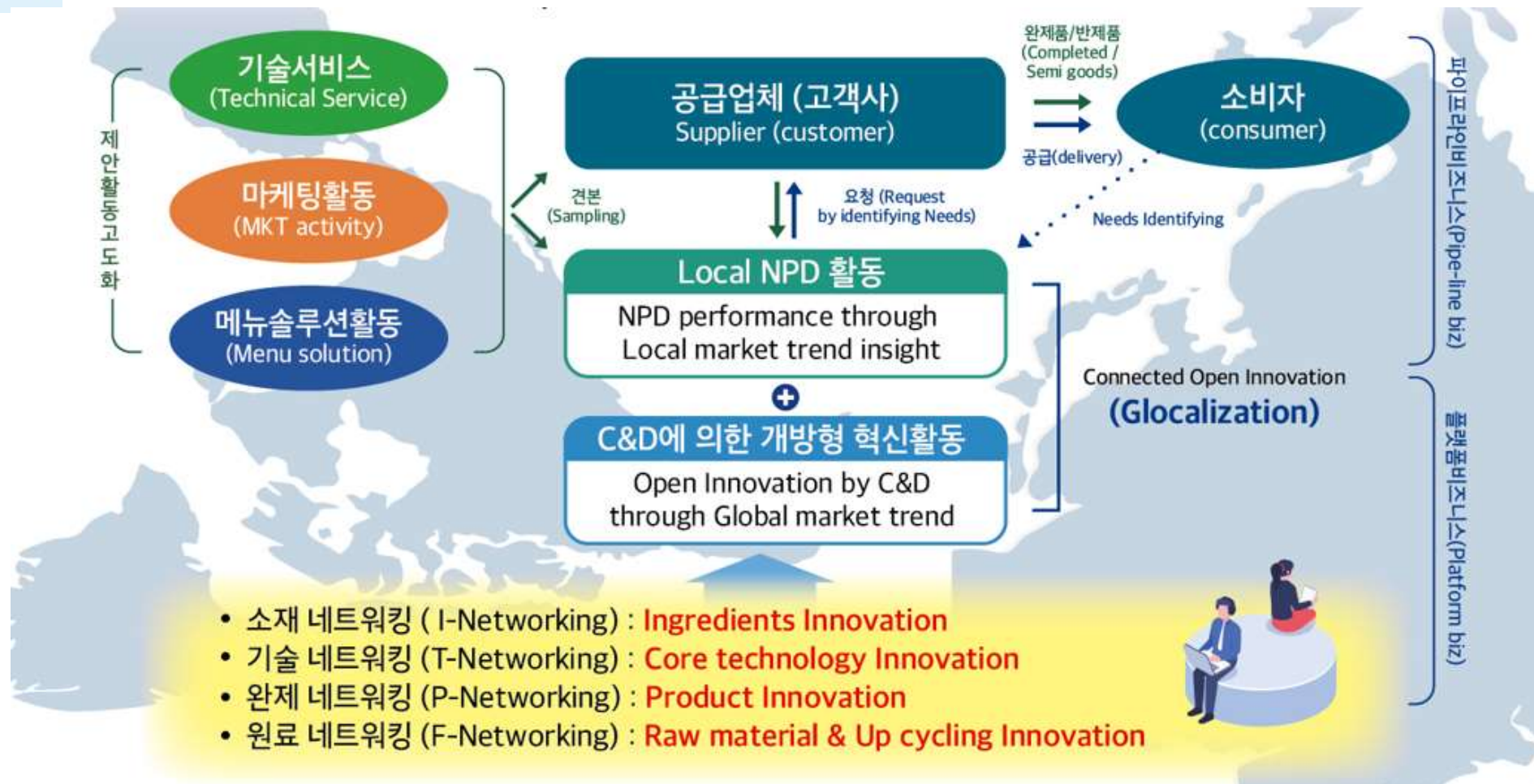
Subjects

- Securing Quality & Safety
- Effective Utilizing of K-Gim(dry) according to Demand & Supply
- Maintaining Super Gap of K-Gim Food in Global market

Source : Internal data

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Glocalized R&BD activation by conducting Local Seafood R&D business



Source : Internal data

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Thank You



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