FNC TECHNOLOGY CO., LTD.

FUTURE & CHALLENGE

Smart Solutions for the Clean Future

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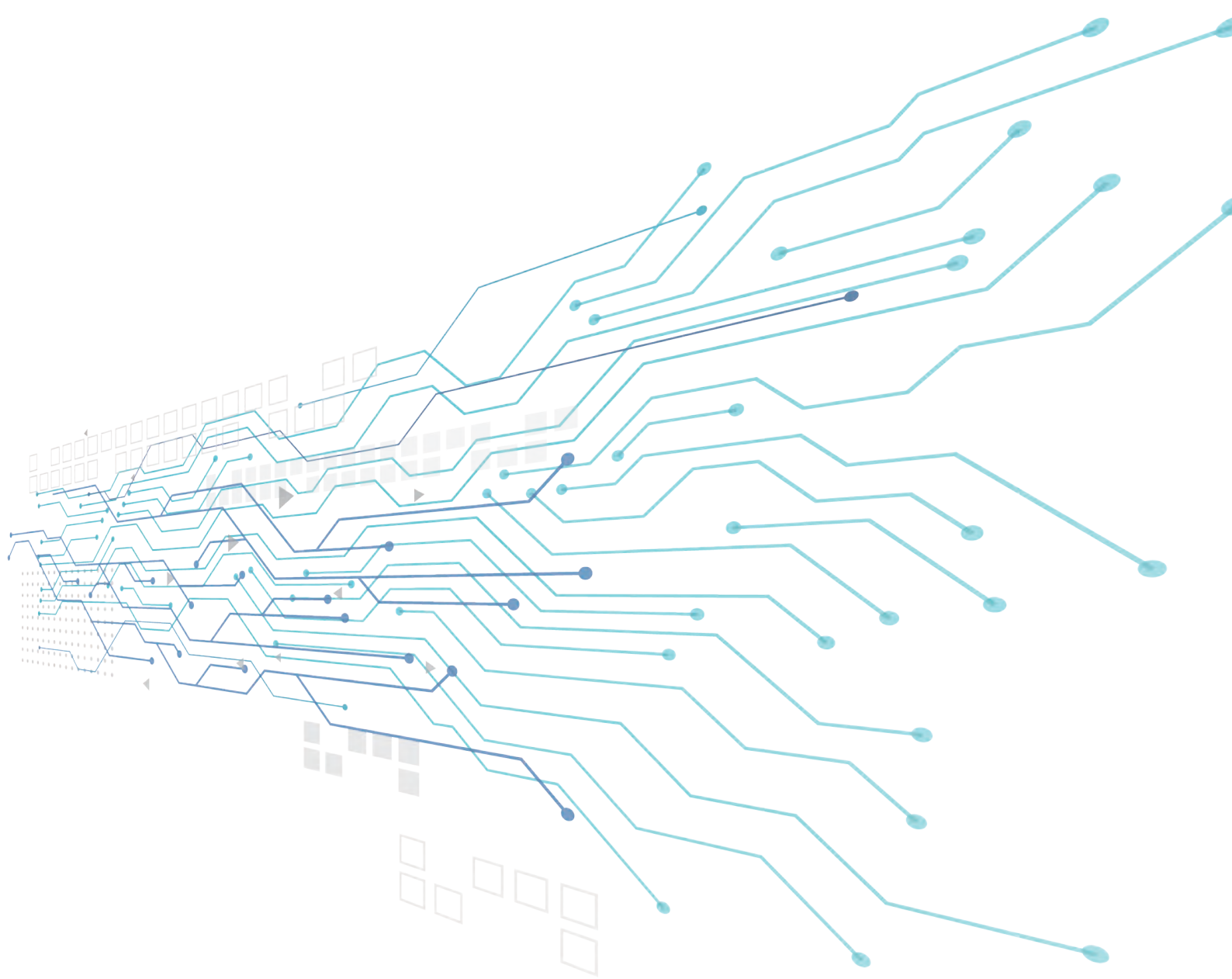
About FNC

Business Portfolio



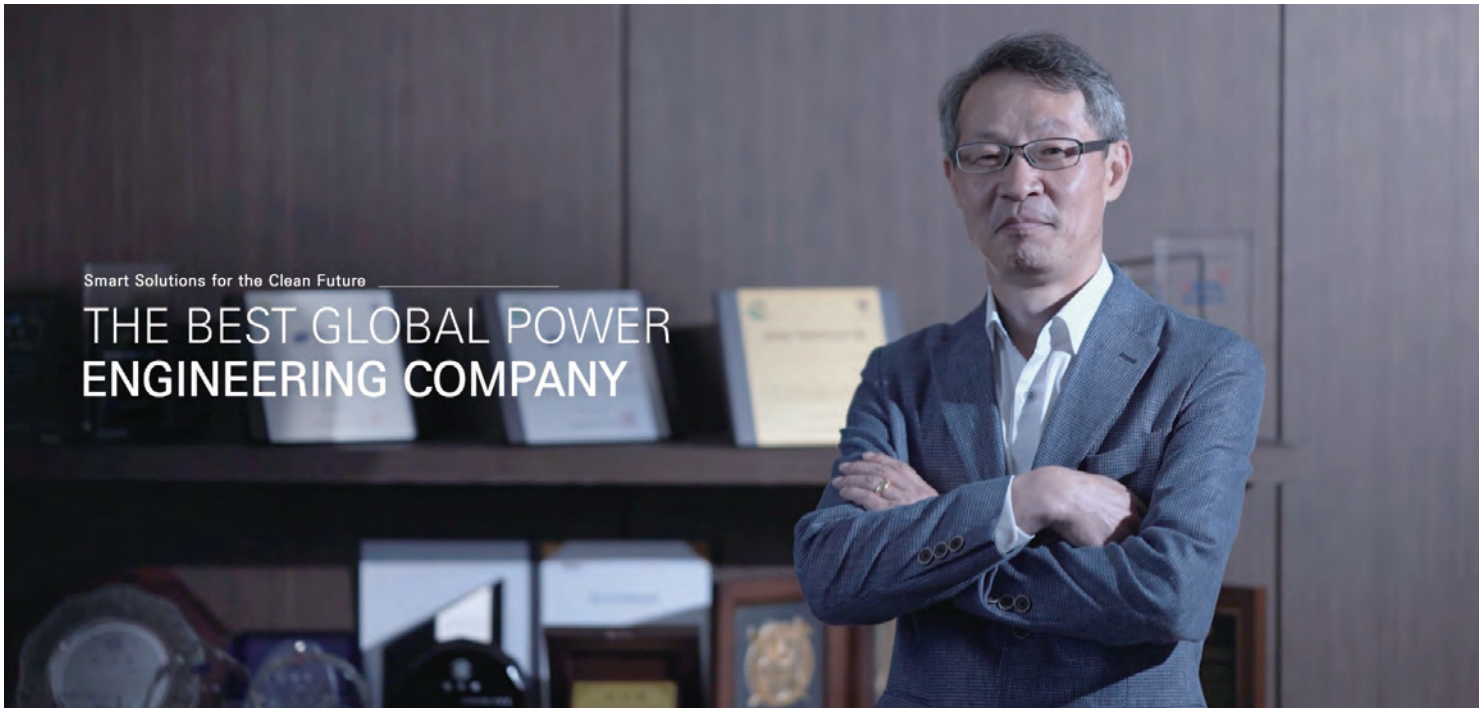
New Challenge
For Better Future

With expectations of better tomorrow,
FNC begins new challenges with superior expertise

Research the better future with nuclear engineering

With its technical superiority, FNC has been actively participating in the national projects to lay the foundation and build a framework for the Korean nuclear infrastructure. And in doing so, FNC has promoted the excellence of the Korean nuclear industries to the world. FNC firmly believes in the technical independence of the nuclear industry and the overall safety advancement and strives to build technical knowledge and experience to contribute to the leading edge of the technology for safety enhancement. FNC is constantly on the move to raise the expectation of nuclear power to the next level and propel nuclear energy as the main clean energy of the future.

CEO Message



FNC is a key partner in the nuclear industry with its highest level of competence

In the middle of summer in 2000, FNC was established with spirited engineers and researchers specialized in nuclear engineering. Mastering the techniques and building up experiences, FNC has become one of the best engineering companies in the world, providing technical services and engineering solutions as integrated engineering services in the energy industry as well as nuclear power.

Keeping in mind that nuclear engineering always requires the highest level of expertise, all members of FNC strive to lead advancements and continuously innovate to enhance our engineering capabilities, ensuring the safety and peaceful uses of nuclear energy.

FNC always appreciates your interest and support regarding its competence and experience. With ongoing challenges for a better future, FNC will continue to do its best to be a trusted and respected engineering company, contributing to a clean and sustainable world.

Thank you very much.

President & CEO

Byung Chul Lee,

Vision & Mission

Vision	**The Best Global Energy Engineering Company Creating Leading Technical Innovation**
Mission	**Achieving Global Competitiveness for Sustainable Energy Future**

1	Leading nuclear safety improvement and sustainable growth with fundamental and solid expertise
2	Leading nuclear safety improvement and sustainable growth with fundamental and solid expertise
3	Leading nuclear safety improvement and sustainable growth with fundamental and solid expertise

History

2023 · Opening of USA Branch in Maryland

2022 · Nawha's Q-Class Supplier for Engineering Services

2021 · Designated as ATC+(Advanced Technology Center) By Ministry of Trade, Industry and Energy

2020 · Acquisition of ISO450001
· Designated as ECRC(Excellent Corporation R&D Center) By Ministry of Science & ICT

2019 · Opening of UAE Branch in Abu Dhabi
· Acquisition of KHNP's Q-Class Supplier for Follow-up service under PSR

2017 · Acquisition of Qualification KHNP's Q-Class Supplier for PSR(Safety Performance/Plant Operation)
· Registration of Factory and Manufacturing Business
· Certification of ASME N

2016 · Certification of KEPIC(Korea Electric Power Industry Code) Nuclear Quality Assurance
· Certification of NET(New Excellent Technology)
· Acquisition of Qualification of KHNP's Q-Class Supplier for the EQ Assessment Service
· Designation as a Company of Special Cases on Military Service

2015 · Business Partnership with Paul Scherrer Institut(PSI) and Oakridge SAS

2014 · Registration of Atmosphere Management and Information Management
· Designation as a "K-Brain Power" Company from the Ministry of Trade, Industry and Energy

2012 · Designation as the Best Research Institute utilizing Results of Energy Technology Development by Ministry of Knowledge Economy
· Awarded a KETEP Prize to the Best Performance Test Facilities and Sump Strainer Technologies In The World

2009 · Acquisition of ISO9001
· Acquisition of Qualification for KHNP's Q-Class Supplier of PSA Service

2008 · Registration of Research and Development Service(Ministry of Education, Science and Technology)

2007 · Registration of Technical Innovative Smaller Business
· Member of Korea Software Industry Association and Korea International Trade Association
· Daejeon branch establishment

2004 · Registration for the Supplier of KEPCO E&C

2001 · Designation as R&D Investment Venture Company Registration of Nuclear Engineering Service
· Registration of Engineering Service for Radiation Management

2000 · Foundation of FNC Tech Co., Ltd. and Future Energy Research Institute

Global Partnership

2010
- L3HM (USA)

2013
- Innovative Technology Development (CHE)

2014
- FCI (TWN)
- Janicke Consulting (DEU)

2015
- PSI (Paul Scherrer Institute, CHE)
- Oakridge Sciences&Services (FRA)
- NS&TS (USA)
- Kinectrics (CAN)

2016
- Business Partnership with SNC-Lavalin

2017
- Supplier of EPRI (USA)

2019
- Supplier of Nawah Energy (UAE)

2020
- Becker Technologies (DEU)
- Apollo+ (CHE)
- Lucideon (GBR)
- Supplier of IAEA

2022
- Institute of Power Engineering (POL)

2023
- EchoVista GmbH (GBR)

2024
- Structural Integrity Associates, Inc. (USA)
- TES s.r.o. (CZE)

Human Resources & Growth

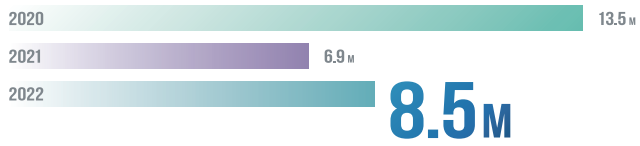
Degrees in Engineering

Ph. D	39
Master	57
Bachelor	58
Total	154

Engineer Level

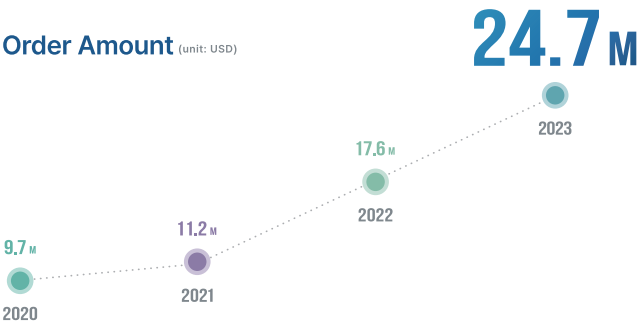
Professional & Principal	61
Advance & Intermediate	20
Elementary	46
Total	127

Revenue (unit: USD)

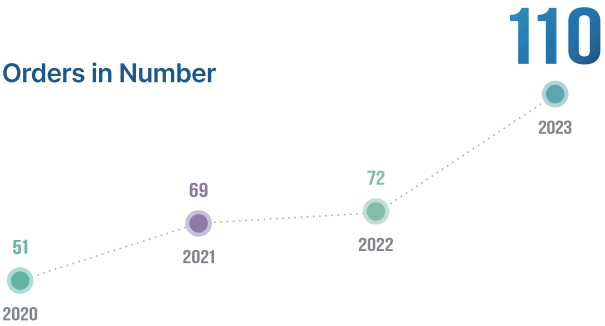


Operating Profit (unit: USD)

Order Amount (unit: USD)



Orders in Number



Intellectual Properties (by Aug. 2024)

Domestic	44
Foreign	3

Organization

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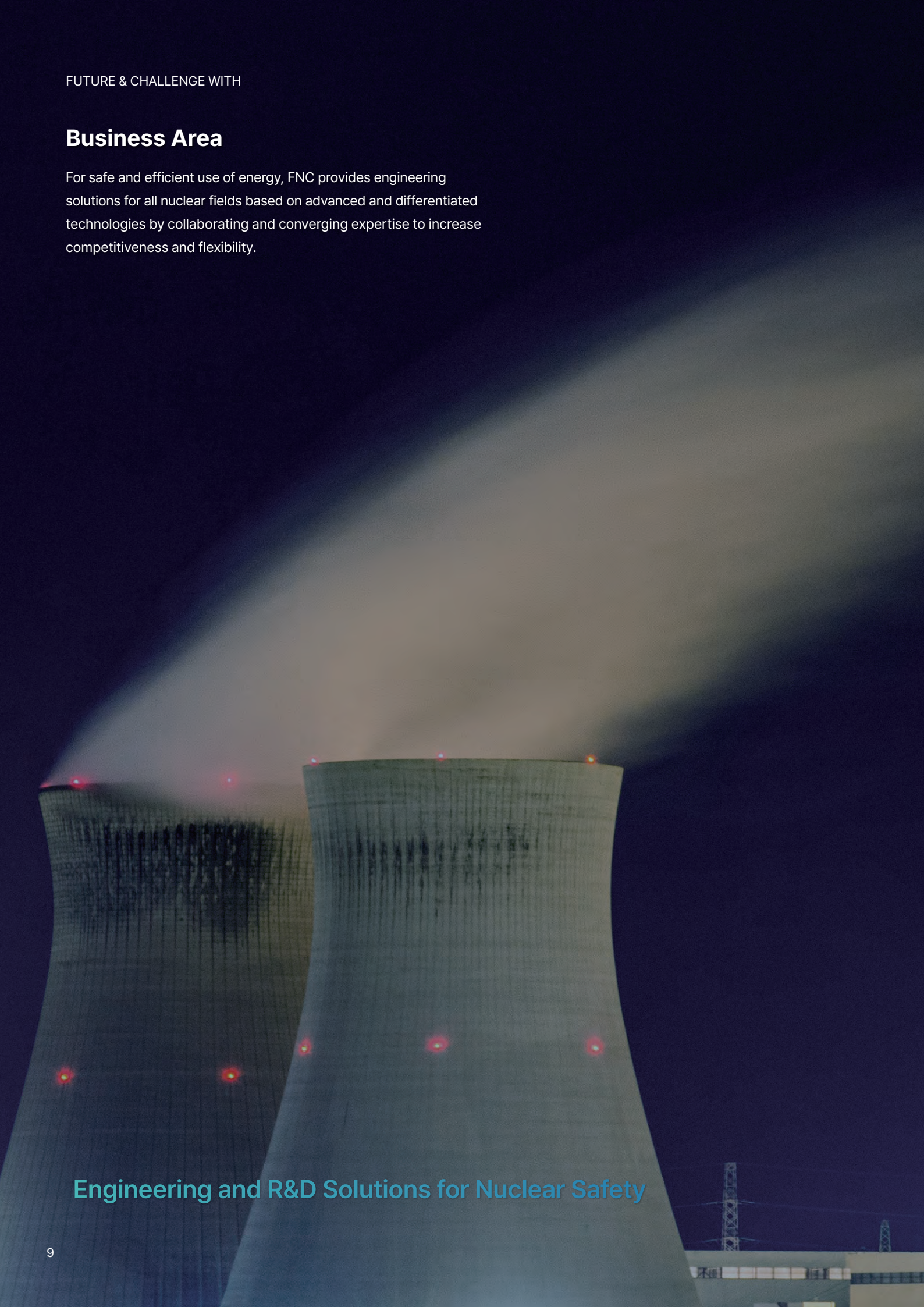
Business Area

For safe and efficient use of energy, FNC provides engineering solutions for all nuclear fields based on advanced and differentiated technologies by collaborating and converging expertise to increase competitiveness and flexibility.



Engineering and R&D Solutions for Nuclear Safety

Professional Consulting Based on Code Evaluation

· Safety Analysis, Severe Accident Analysis, and Thermal-hydraulic Analysis of Operating NPPs and Regulatory Support

· RELAP, RETRAN, MAAP, GOTHIC , LS-DYNA , CFD, and etc.

New Techniques and Products

· Development of Safety Analysis Code
· Environmental Radiation Monitoring System
· Green Hydrogen Technology for Energy Sustainability

Design and Operation Engineering for NPP

· T-H & Safety Analysis, Severe Accident Analysis
· PSA, RIR&RIA, Material and Hydro-chemical Analysis
· Development of Procedures and Strategy for NPP

IT System for Nuclear Facilities

· Establishment of Various Service Systems such as Search Systems and DB, Operator Training Simulators, etc. in Nuclear Industry

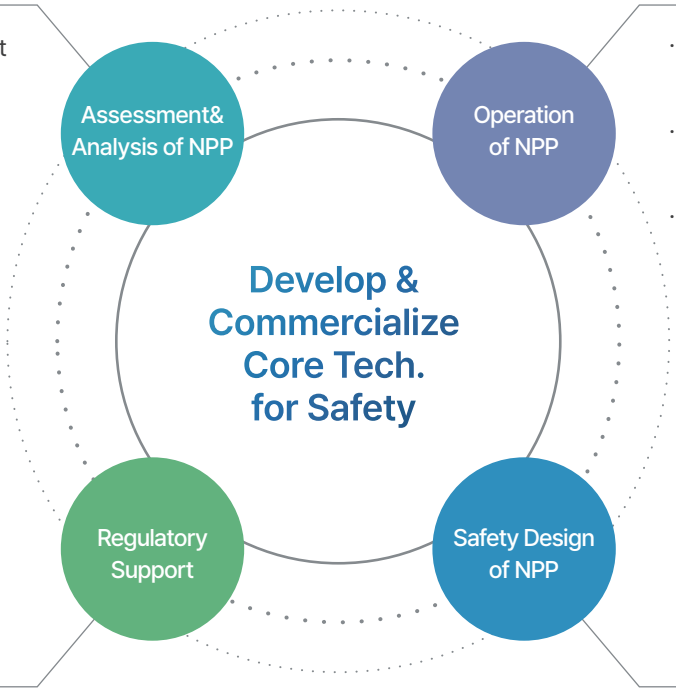
AI Solutions and Big Data Platforms

· Development of Computer Vision AI Solution
· Development of Classification and Prediction AI Solutions
· Establishment of I&C Information Big Data Platform

Technologies

Leading the advancement of nuclear engineering,
FNC has the world's best technologies in NPP diagnosis,
safety assessment, and design of nuclear systems.

- NSSS/BOP System Assessment
- Accident Analysis
- Assessment of Severe Accident Phenomena



- Development of AOP/EOP/SAMG/AMP
- Development & Improvement of Operator Training Simulator
- Environment Monitoring System

- Regulatory Guide & Framework
- Radiation Monitoring
- Assessment of Accident Management Plan

- Design of Safety System of NPP
- Design Review for New NPP

Development of Core Technology for NPP	700+ Experiences in Nuclear Field
· ECCS Sump Strainer Performance Test	· Safety Analysis and Diagnosis of NPP
· Safety Analysis Code for NPP Containment	· System Design and Verification for NPP
· Severe Accident Analysis Code	· Demonstration Test and Experiment
· CFVS (Containment Filtered Vent System)	· Regulatory Support, IT for NPP, etc.

Leading the Advancement of Nuclear Engineering and R&D

Certificates & Intellectual Properties

Certificates

Title	Registration Number	Date of Registration
ISO 9001: 2015	KQA-Q092402	21.01.05
ISO 45001: 2018	KQA-OH20126	23.02.28
KHNP's Q-Class Supplier for PSR(Safety Analysis)	202001058	20.11.03
KHNP's Q-Class Supplier for PSR(Safety Performance/Plant Operation)	202001064	20.11.03
KHNP's Q-Class Supplier for PSR(Waste Management/Radiation Protection)	202001063	20.12.10
KHNP's Q-Class Supplier for PSA Service	202200521	22.06.29
KHNP's Q-Class Supplier for EQ Assessment Service	202200995	22.12.23
KHNP's Q-Class Supplier for Follow-up service under PSR	202300565	23.08.10
Nawah Approved Suppliers List(NASL)-Q-Class Supplier for Engineering Services	QA-FTC-QDT-22-0001	22.09.29
KORAD's AQ-Class Supplier for PSR(The first phase of LILW disposal facility(Rock-cavern type))	경주-용역-23-003	23.11.29
Business Partnership(SNC-Lavalin)	24653	21.07.02
Advanced Technology Center(ATC+)/Inno-Biz/Main-Biz	-	-

Patents

Title	Registration Number
Aerosol Sampling System	1016827070000
Real-time Simultaneous Monitoring System for Aerosol and Radiation of Radioactive Aerosol	1023291350000
Apparatus and Method for Constantly Monitoring and Controlling Water Level Using Ultrasonic Wave High Temperature	1019838160000
Apparatus and Method for Removing High Concentration of Boric Acid from Liquid Radioactive Waste	1021727520000
Drone-mounted Multi-channel Radiation Detector with Variable Distance Structure	1023272220000
Automatic Radioactivity Measurement System for Facility Surface Contamination	1019987410000
Measurement System for Detecting Residual Radioactivity in Soil	1019987420000
Method for Manufacturing Neutron Absorbing Material	1024095010000
Apparatus and Method for Removing High Concentration of Boric Acid from Liquid Radioactive Waste	1024238390000
Method for Determining Representative Accident Sequence of Severe Accidents Using Probabilistic Safety Assessment	1025586950000
Method and System for Determining Optimum Arrangement for Radioactive Waste Complex Disposal Facility	1024393270000
Radiation Sensor System for Long-Distance and Real-time Spectroscopy to Verify Spent Nuclear Fuel	1024983700000
Intelligent Management System and Method for Nuclear Decommissioning Site Characterization	1025284360000

Competence -
Experimental Assessment for Components and Systems

1. ECCS Sump Strainer Performance Test Technology

- Development of sump strainer comprehensive performance test facility and technology reflecting containment conditions under LOCA(Loss of Coolant Accident)
- Applying actual debris formation for fibrous, particulate, and chemical precipitate generated by large break LOCA
- Unique and competitive test technology considering 3D structure of containment, chemical effect, and in-core downstream effect

Remarkable Results

- 100% localization of the test facility & technology
- Successful commercialization(3.5M USD in revenue) and technical export(1.7M USD)
- Selected as the best innovative R&D projects by Ministry of Trade, Industry and Energy
- Awarded a KETEP Prize, 'Best Performance Test Facilities and Technologies In The World'
- Awarded '20 Superstar SME' by KETEP(2012)

3. Multi-Purpose Aerosol Control System

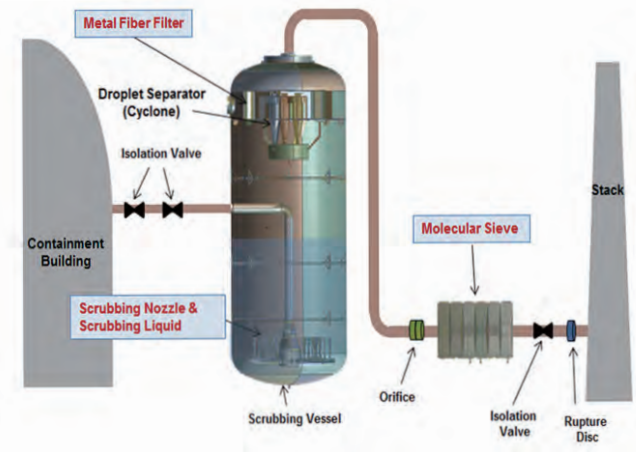
- Development of aerosol generation/injection/mixing/measurement system to understand and analyze the behavior of radioactive aerosols under severe accident condition
- By expanding the operating conditions of the existing aerosol generation system, this system can be applied under various environmental conditions and the performance verification test is completed
- Applicable as a research system to understand the behavior and phenomenon of aerosol generated in very harsh condition (Steam and Non-condensable gas conditions)

2. Containment Filtered Venting System (CFVS)

- Development of filtered venting system to prevent containment release by discharging to the atmosphere after filtration
- Securing the source technology and performance verification test of CFVS
- Design of CFVS and linked existing system in NPP

Remarkable Results

- New Excellent Technology Award from Ministry of Trade, Industry and Energy
- Successful commercialization(40M USD in revenue) and export substitution
- Selected as the best innovative R&D projects by Ministry of Trade, Industry and Energy



▲ Aerosol Generation/Injection/Mixing Module(AeroGEN)

▲ Aerosol Sampling & Measurement Module(AeroSAM)

Competence -
Development & Utilization of Safety Analysis Codes

1. Development of Integrated Severe Accident Analysis Code and Severe Accident Analysis

• **CINEMA**

Code for INtegrated severe accident Evaluation and MAnagement

– Ctomprehensive severe accident analysis code integrating SPACE, SACAP, and SIRIUS

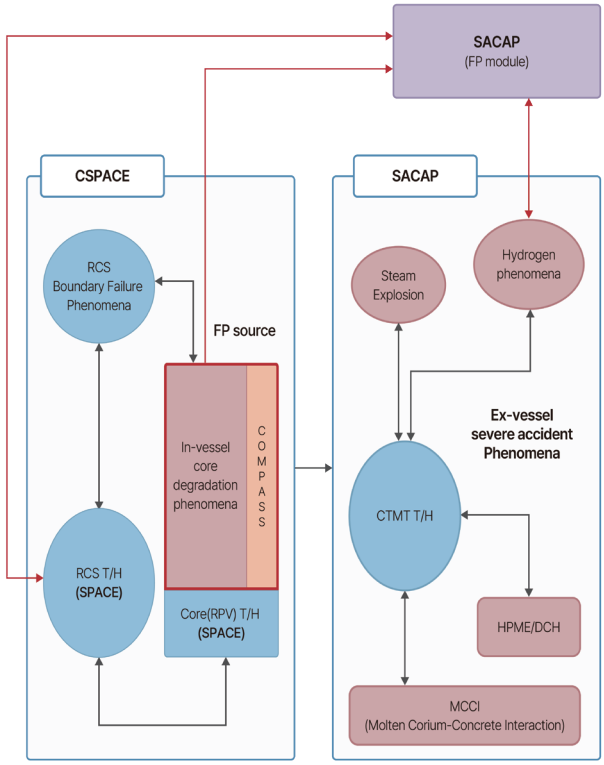
– FNC, as a major participant of the project, developed the containment analysis module, SACAP, which can handle the ex-vessel severe accident phenomena and integrated all the modules as CINEMA.

• **SACAP**

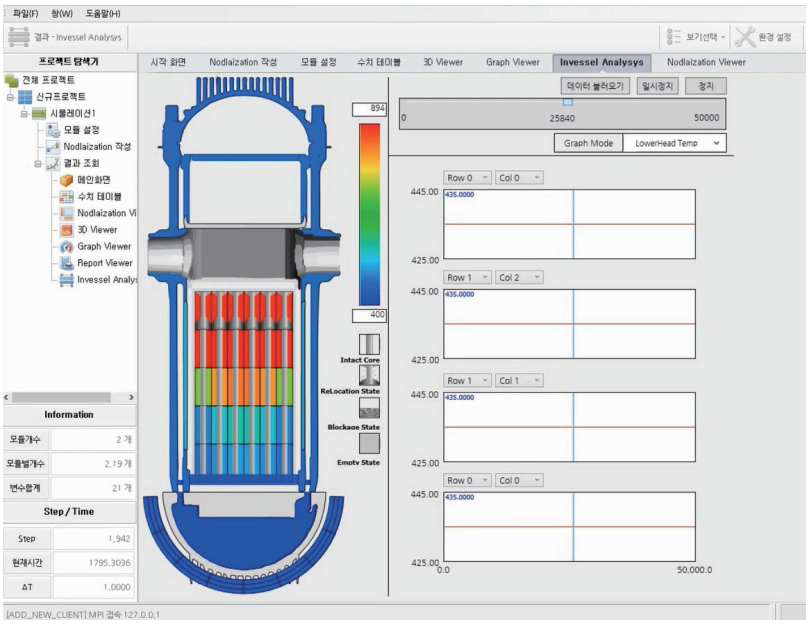
– Thermal hydraulic analysis module
– Hydrogen combustion analysis module
– Core melting-concrete response analysis module
– Steam explosion analysis module
– Containment direct heating analysis module

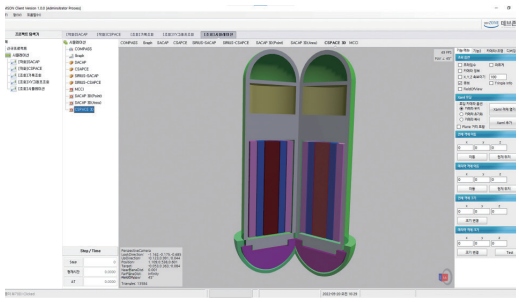
• **Utilization of Severe Accident Analysis Codes**

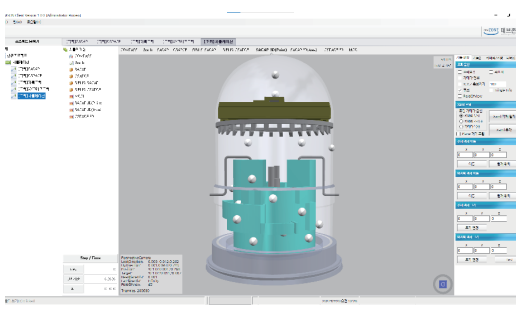
– Comprehensive understanding and analysis expertise of MAAP, MELCOR, GOTHIC and GASFLOW codes for supporting customers keeping up with the state-of-the-art



▲ CINEMA code







2. Development of Containment Safety Analysis Code and DBA Safety Analysis of NPP

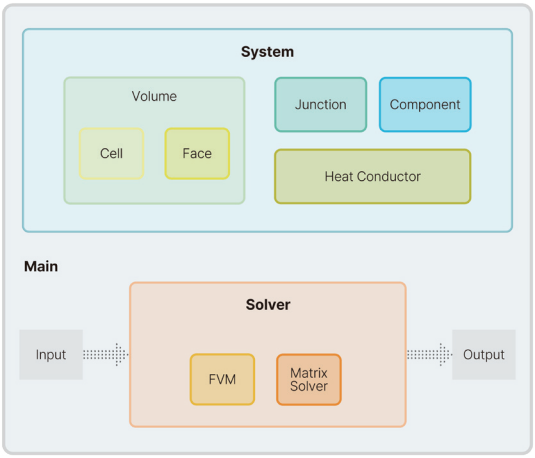
• CAP
(Containment Analysis Package)

– Developed by FNC to analyze the thermal-hydraulic behavior of nuclear plant containment as the fourth barrier

– Using state-of-art technique including 3-fields and 3-phases

– Coupling with SPACE (System code independently developed in Korea)

– Successfully licensed by NSSC(Nuclear Safety and Security Commission)



• Applicable Fields of CAP

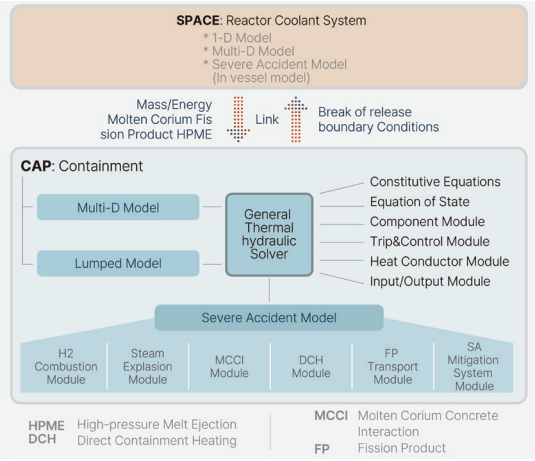
– Design pressure/temperature

– ECCS efficiency

– Subcompartment pressure

– Long-term containment pressure and temperature

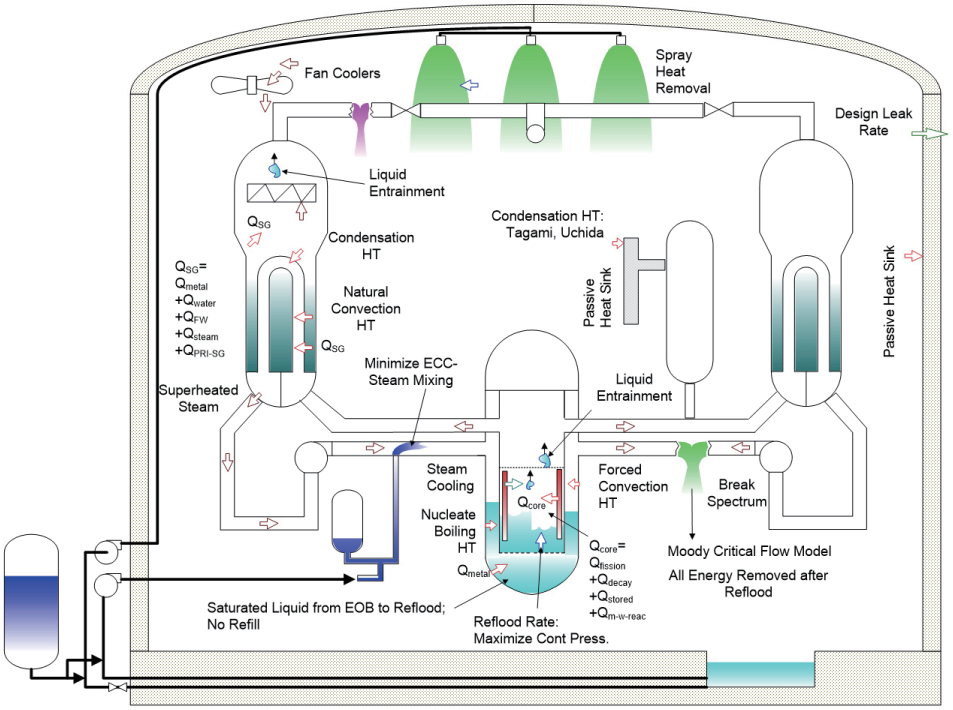
– Hydrogen concentration



• Utilization of Safety Analysis Codes

– Covering single-phase and two-phase thermal hydraulic analysis, accident analysis, and DEC analysis with RELAP, RETRAN, MARS, GOTHIC, and CFX

– Application to design passive safety systems of NPP, such as PAFS (Passive Aux. Feedwater System) and PECCS(Passive Emergency Core Cooling System)



Research Facilities

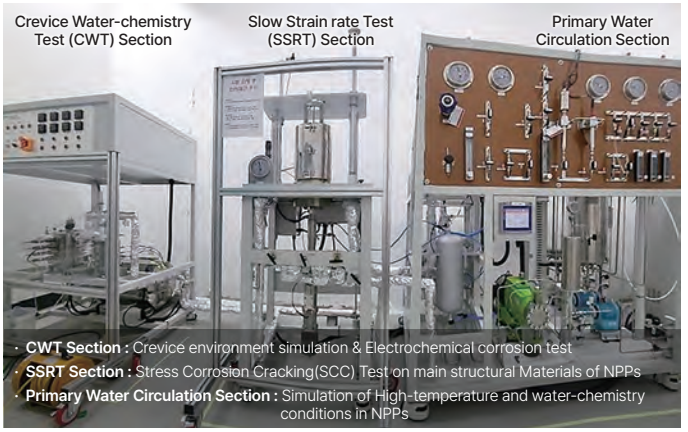
FNC's Institute of Future Energy Technology has the highest level of research facilities among domestic nuclear private companies and contributes to improving the safety of nuclear power plants.

· ECCS Sump Strainer Performance Test Facility

· Performance test facility of the passive radioactive material reduction system

· ACE (Apparatus of bed-type Catalyst characteristic Evaluation)

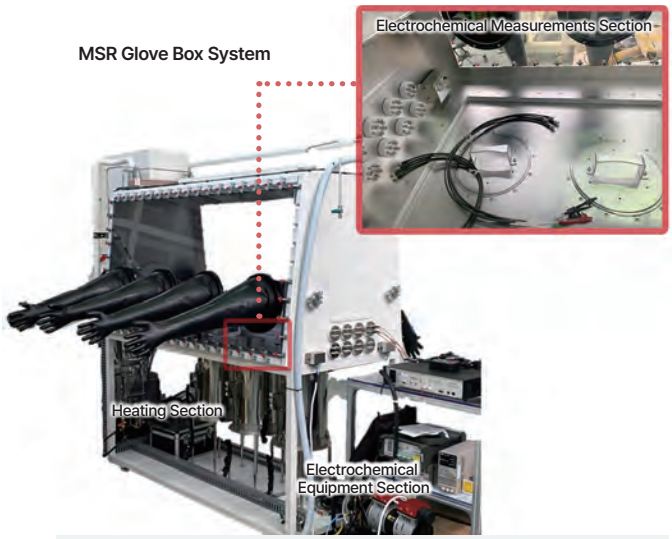
· i-SMR/PWR Primary Coolant Environment Simulation Loop System



· Decontamination Performance of Aerosol in Piping Test System

· AI-Based Ultrasonic C-Scan Testing Facility in SFR Environments

· Testing Facility for Evaluation
Corrosion Characteristics of Materials in MSR Environment

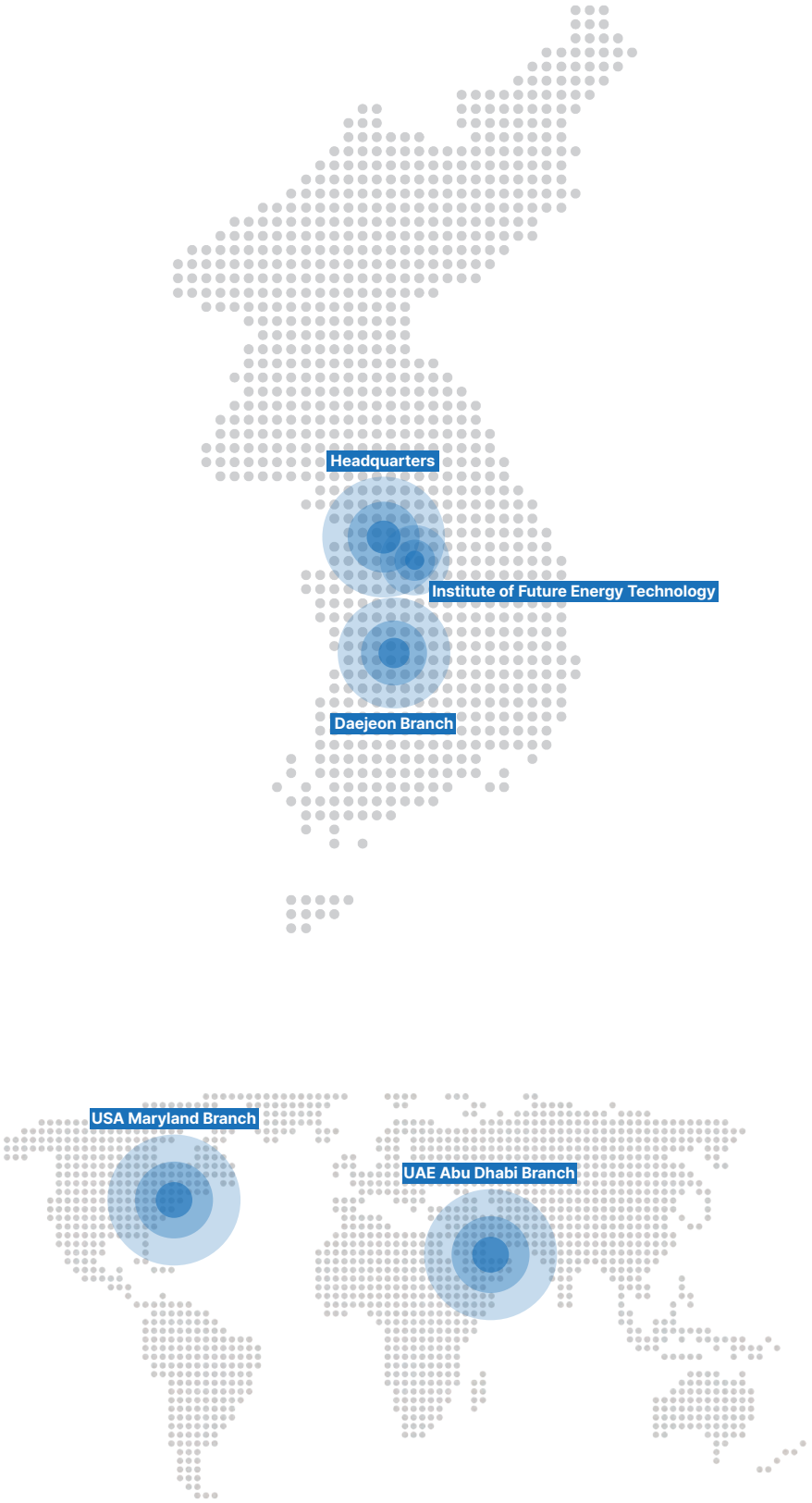


- Glove box system designed for controlled oxygen and moisture MSR simulation
- Adaptive high-temperature system designed for MSR environmental simulation
- Integrated system for real-time electrochemical analysis and on-line corrosion monitoring in MSR

· Aerosol Decontamination Performance Test Facility

· Institute of Future Energy Technology

Headquarters & Branches



Headquarters

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FNC TECHNOLOGY CO., LTD.

Engineering and R&D Solutions for Nuclear Safety

Smart Solutions for the Clean Future

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