6G FORUM

6G Forum @ one6G Summit

Recent Progress of 6G R&D in Korea : 6G Vision Fest & Network Intelligence Perspective

2025. 09. 18. (Thur)

KyungHi Chang

Executive Committee Chair

6G Forum

(ECE Dept., Inha Univ.)

6G Forum

Establishme
nt

A system to secure Global 6G Leadership

In line with the K-Network 2030 strategy of the Ministry of Science and ICT (**May 30, 2023**)

- **A public-private partnership organization to build an industrial ecosystem foundation**
  - To proactively set 6G strategies in respond to the rapidly changing technological advancement to secure global leadership
  - To promote international cooperation with global 5G/6G-related organizations and support leadership in international standardization.
  - To put efforts in the identification of new services to accelerate the convergence across various industries with 5G/6G

After 10 years of successful 5G Forum activities since its inception on May. 30, 2013,

Vision & Target

- Support in **expanding 5G into Verticals & achieving Global Leadership in 6G**

5G Evolution

5G Expansion into Verticals (~Y2026)

5G

Building **a Platform for Expanding 5G** into Verticals

Showcasing **Exemplary Cases of 5G Verticals**

6G Revolution

Achieving Global 6G Leadership (~Y2030)

Global Cooperation System Set-up for 6G

World Best Commercialization Support for 6G

6G

Experience and Lessons from 5G Commercialization

Support Government, Research Institutes, Academies & Industries to accelerate Innovation in 6G

Organizatio
n

Advisory, Executive - 9 Technical Committees (10 WGs) + 2 Teams

Chang (Inha U., Professor)

Executive Committee

Strategy/Global Team

Seung-Hwan Lee (ETRI, Assistant VP)

Secretariat

[Global Collaboration Team & Regional Lead]

Commo
n

Asia, MiddleEast, Africa

Junhwan Lee (ETRI, Section Director)

Michael Seongill Park (Qualcomm, EVP)

Minseong Kang (Huawei, EVP)

Youngsoo Yuk (Nokia, VP)

Sunwoo Kim (Hanyang U., Prof.)

Functional

6G Tech.
- CN WG
- RAN WG

Young-Jo Ko (ETRI, Director)

Service
- AI/BigData WG

Howon Lee (Ajou U., Prof.)

Spectrum

Seunghoon Hwang Professor

Hyper-space
- Quantum WG

Moon-Sik Lee (ETRI, Assistant VP)

Std/Eco
- N WG
- Test & Certi. WG

YongJun Chung (TTA, Director)

Vertical

NG Mobility
- Physica
- Infra WG
- Auto. Vehicle WG

DukKyung Kim (Inha U., Prof.)

Digital Space

Jaehyun Kim (Ajou U., Prof.)

Smart Manuf.

Kyusoon Hwang (Wizcore Inc., VP)

Public Conv.
- m WG
- Public Vertical Conv. W

Sung-Uk Rha (NIA, Executive Director)

Member
s

Domestic Telcos, Vendors, Solution Providers, SMEs, Gov. Agencies & Global Companies (Total 56 member companies)

Chair Companies (10)

LG U+, SK telecom, kt, SAMSUNG, LG Electronics, ERICSSON, KMW, ETRI 한국전자통신연구원, Innowireless, SAMSUNG SDS

Member Companies (46)

ktl Korea Testing Laboratory, DGTP DAEGU TECHNOPARK, GERI 구미전자정보기술원, NIA NATIONAL INFORMATION SOCIETY AGENCY, KETI Korea Electronics Technology Institute, KTC Korea Testing Certification Institute, RAPA Korea Radio Promotion Association, HUAWEI, Qualcomm, intel, NOKIA, VIAVI, KEYSIGHT TECHNOLOGIES, ROHDE&SCHWARZ, iTi, Contela Contela, Inc., WILUS, EUCAST, iTtelecom, RANiX, HFR,Inc. for Mobile Internet, FRTek Fiber Radio Technologies, SOOMPI, ETTIFOS, METACAMP, CRANGTEK, MORAI, WIZCORE, IPAGEON, CS corporation, GDIN GLOBAL DIGITAL INNOVATION NETWORK, funzin, Total Wings, PANTECH C&I Engineering, SOLiD, NETLOX, Anritsu Advancing beyond, NETCUBE, KIAPI, HYPERX, JIN INFRA, QUBICOM WORLD BEST SOLUTION PROVIDER, WOORINET (주)우리넷, zaram TECHNOLOGY, InLC Technology

+ More than 30 Extra Academia Members

Activities by Number

- USA : 5G Americas, Next G Alliance
- China : IMT-2020PG, IMT-2030PG
- Japan : 5GMF, XGMF
- Taiwan : 5G Alliance-CHT Pilot Team
- EU : 5G PPP, UK 5G IN, WWRF 5G ACIA, 5G AA, 6G-IA , one6G
- Turkiye : 5GTR
- Indonesia : i5G Forum
- India : TSDSI, B6GA
- Malaysia : MTSFB
- GSMA

2

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6

- Executive Committee
- Advisory Committee
- Strategy/International Collaboration Team
- 9 Technical Committees & 2 Teams
- 10 Working Groups (WGs)

Committee/WG Meetings

120 (Year Av.)

- Global 5G Event : 11
- 5G Vertical Summit : 11
- Regional Workshop : 8
- 6G Global : 5
- 5G Open Symposium : 9
- 6G Tech Workshop : 1
- 6G Forum-NGA JWS : 2
- 6G Forum-B6GA JWS : 1
- Mobile Korea Demo Fest : 1 (Planned at Mobile Korea 2025, Oct 27-30)

Promotion

46

Memb… Comp…

- Chairs : 10
  LGU+(Chair Company), SKT, KT, Samsung Electronics, LG Electronics, Ericsson LG, KMW, ETRI, Innowireless, Samsung SDS
- SMEs : 30
- Gov. Agencies : 8
- Global : 8

+3 Companies (Approval scheduled for August)

White Paper / Issue Report

78

- White Paper : 55
  - ✔ 5G-Advanced RAN1/2 Standard, 5G-Advanced architecture, C-V2X, UAM CNS systems, NR RedCap for Smart Manufacturing, Open RAN Testing and Certification, Open RAN Small Cells, NTN and Open RAN, Quantum Cryptography, 6G and Generative AI, etc.
- Issue Report : 21
  - ✔ Frequency Trends, Vertical Service Standard, Private 5G networks, Energy-efficient Networks, Hyperconnected Intelligent Cities, Ultra-Low Latency Video Processing for Remote Vehicle Operation, …
- 6G Report : 6G Vision, 6G FTT, 5G Smart Mining, etc.

Projects & … Supports

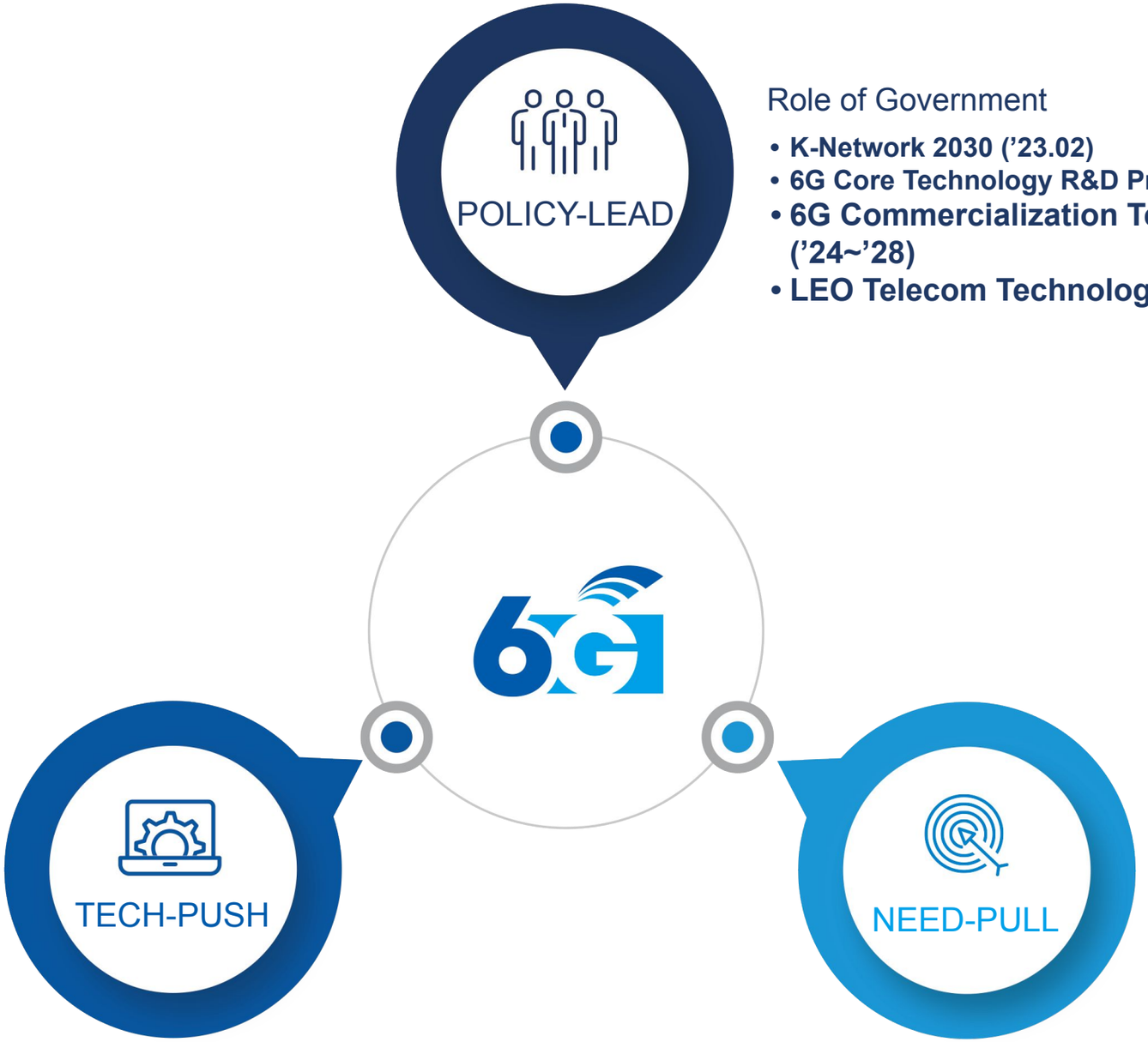
4

8

- Projects
  - ✔ TTA ICT St… rd… on Forum Support Program: 10 years
  - ✔ Study on … ma… y Convergence Technologies.
  - ✔ Study on 5… …ctories and Convergence Services.
  - ✔ Study on Open … Fronthaul and Small Cell Technologies.
  - ✔ Study on 5G Private Networks and 5G+ Convergence Services
- Policy Supports
  - ✔ 5G/5G+ Strategy and Working Committees
  - ✔ Support for 5G Convergence Service Pilot Projects
  - ✔ 6G R&D Strategy Committee
  - ✔ Advisory Activities on C-ITS Comm. Tech. Decision
  - ✔ 6G Society

6G Framework & 3GPP WS on 6G

Three Drivers of 6G



Role of Government

- **K-Network 2030 (’23.02)**
- **6G Core Technology R&D Program (’21~’25)**
- **6G Commercialization Technology R&D Program (’24~’28)**
- **LEO Telecom Technology R&D Program (’25~’30)**

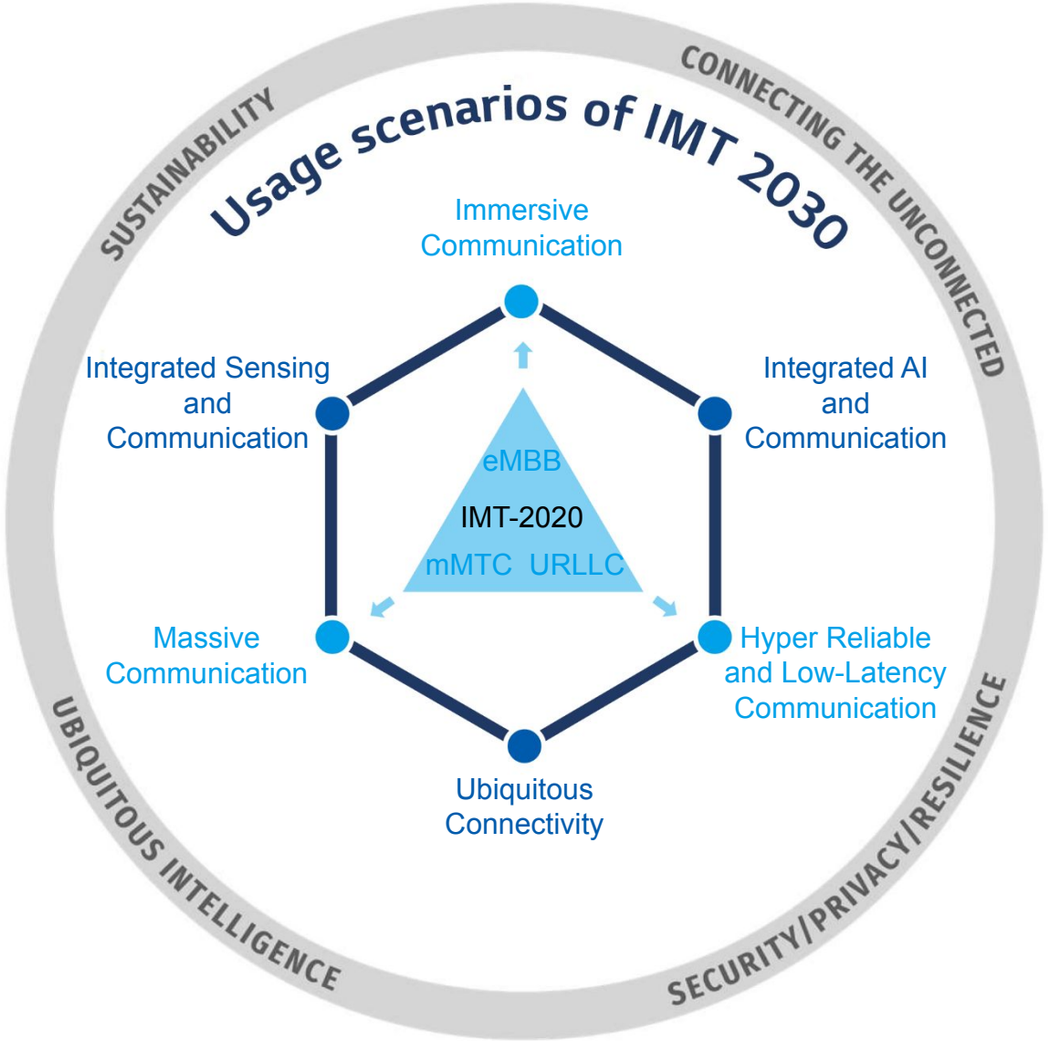
Technical Advancement

- **Coverage and network topology beyond cellular, including NTN**
- **New spectrum and antenna, and new radio technologies**
- **Native AI for Connected Intelligence**

Societal Requirement

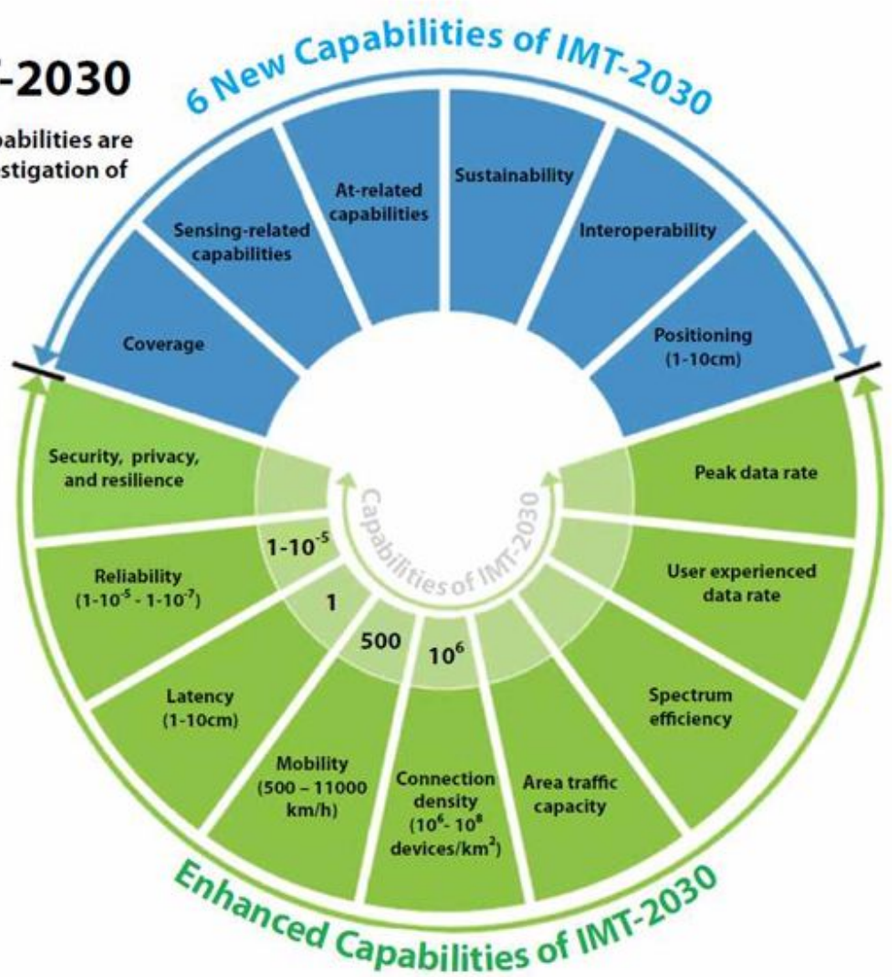
- **Clean and safe society**
- **Sustainable society**
- **Fair and transparent society**
- **Consensus Building w. Verticals**

Usage Scenarios & Capabilities



Capabilities of IMT-2030

NOTE: The range of values given for capabilities are estimated targets for research and investigation of IMT-2030.



3GPP WS on 6G [March 2025, Korea] (1)

6G Motivation (Why 6G?)

- **Support for New Services and Use Cases**
  - Enabling new services and use cases beyond traditional communication, such as integrated sensing and communication (ISAC), XR/immersive communication, and AI-based services – Compute.
- **Revenue Growth and Monetization**
  - Creating new revenue streams by monetizing network capabilities and supporting diverse applications across industries.
- **AI and Automation**
  - Implementing AI-native networks for automation, optimization, and improved efficiency in network management and resource allocation.
- **Energy Efficiency and Sustainability**
  - Reducing energy consumption and promoting environmental sustainability through energy-saving features in network design and AI-driven power management.
- **Spectrum Efficiency**
  - Utilizing spectrum efficiently, including dynamic spectrum sharing and exploring new spectrum bands.
- **Ubiquitous Coverage**
  - Seamlessly integrating terrestrial and non-terrestrial networks (NTN) for ubiquitous coverage and resilient services.
- **Total Cost of Ownership (TCO) Reduction**
  - Reducing capital expenditure (CAPEX) and operational expenditure (OPEX) through simplified network operations and improved energy efficiency.
- **Improved Service Reliability and Customer Experience**
  - Enhancing service reliability, resiliency, and insights for improved customer experience.
- **Network Simplification**
  - Simplifying network architecture, reducing complexity, and improving operational efficiency.

AI/ML

- **AI for 6G**: This refers to using AI technologies to enhance and optimize 6G network operations, performance, and management. It involves integrating AI algorithms and machine learning models into various aspects of the 6G infrastructure to enable intelligent automation, efficient resource allocation, enhanced security, and improved service delivery. **AI is a tool to make 6G better**. Examples include using AI for:
  - Network management and orchestration including Resource allocation, predictive maintenance and Anomaly detection
  - Security threat detection and prevention
  - QoS optimization and service personalization
  - Energy efficiency and sustainability
  - Radio interface optimizations such as RS overhead reduction, channel estimation, modulation, AI based receiver, protocol parameter adaptation, etc.
- **6G for AI**: This refers to designing 6G networks to natively support and facilitate AI-driven applications, services, and use cases. It involves creating a network architecture that can efficiently handle the unique requirements of AI workloads, such as large data volumes, low latency, and high computing power. **6G is a platform to enable AI**. Examples include:
  - Providing AI-as-a-Service (AIaaS) to various stakeholders
  - Enabling AI agent communication and collaboration
  - Supporting AI model training, inference, and management
  - Facilitating data collection, transmission, storage, and processing for AI applications
  - Enabling new AI-driven services such as personalized experiences, intelligent connectivity, and autonomous systems

6G System Design Considerations

- **Focus and Simplicity**
  - Lean and streamlined standards for 6G, e.g., by dimensioning an appropriate set of functionalities, minimizing the adoption of multiple options for the same functionality, avoiding excessive configurations, etc.
- **Cloud-Native Architecture**
  - Designing networks to be cloud-native to enable flexibility, agility, and innovation.
- **AI-Native Design**
  - Integrating AI and ML frameworks natively into the network for intelligent automation, optimization, and improved efficiency.
- **Scalability and Modular Design**
  - Implementing a scalable and modular design that allows a wide range of features, device types, services, and spectrum bands to be developed and deployed as needed.
- **Software-Driven Deployment**
  - Software-driven deployment with needs-based hardware refresh to allow for continuous innovation and agility.
- **Interoperability**
  - Designing components with interoperable interfaces and a unified management framework to ensure interoperability and avoid fragmentation.
- **Enhanced Security**
  - Ensuring the 6G system is secure by design to provide enhanced security and privacy.
- **IoT Support**
  - Designing 6G to support diverse IoT device types and use cases from day one, with a focus on long-term commitments and multi-generational solutions.
- **Service-Aware**
  - Enabling a service-aware intelligent network powered by AI-native, programmable, and service-aware 6G RAN.
- **Ubiquitous Connectivity**
  - Providing ubiquitous coverage through seamless integration of terrestrial and non-terrestrial networks.

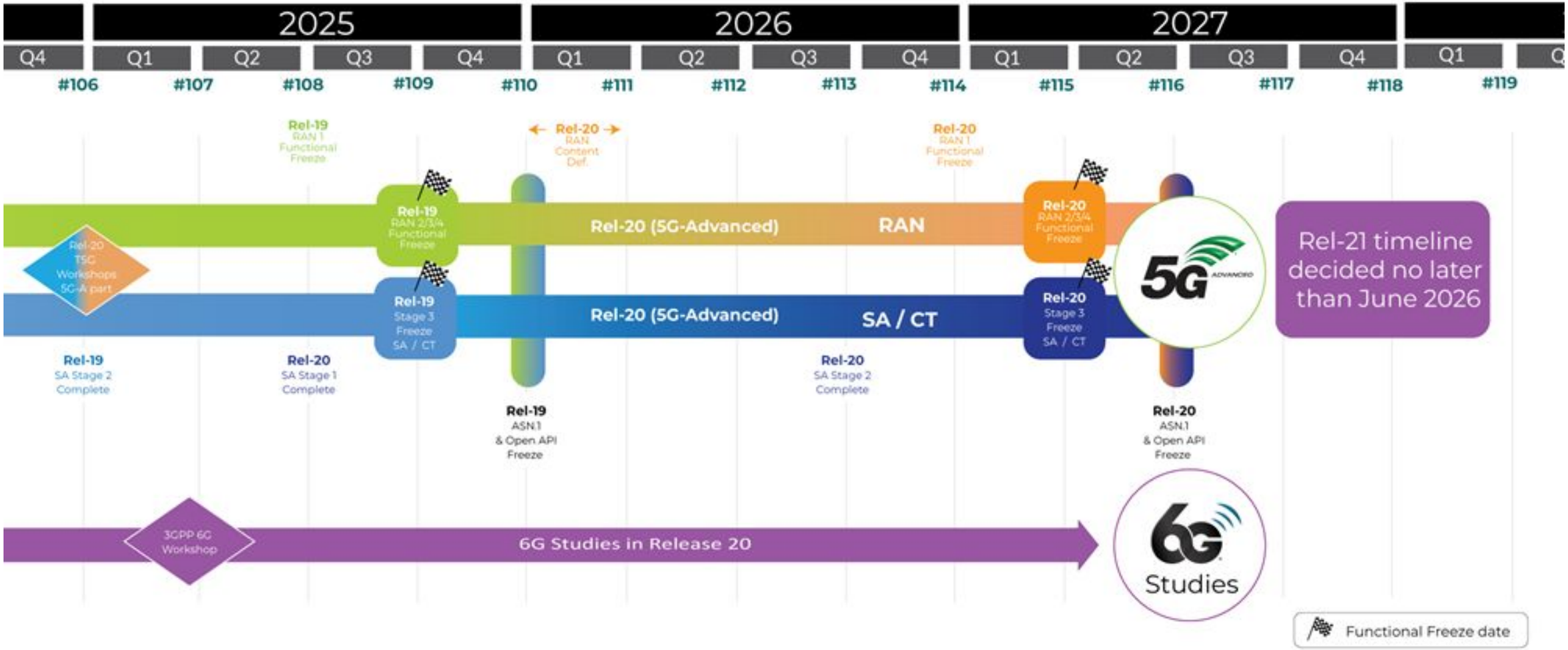
Integration of Non-Terrestrial Networks (NTN)

- 6G radio design to inherently support TN and NTN with a common design (as much as possible)
- Enhancement to 6G NTN beyond NR NTN (e.g. GNSS-less operation)
- Mechanisms to geo fence a Broadcast service provided by satellite access (i.e. bounded to a targeted geographical area).
- Mesh connectivity (UE-SAT-UE) with or without available feeder link while addressing security requirements
- Use the satellite access to also provide backhaul services to local area networks on board aircraft, vessels, trains
- Network entry/idle mode and connected mode across orbit
- Route optimization for satellite-borne networks

from Chair's Summary

3GPP WS on 6G [March 2025, Korea] (2)

from Chair's Summary



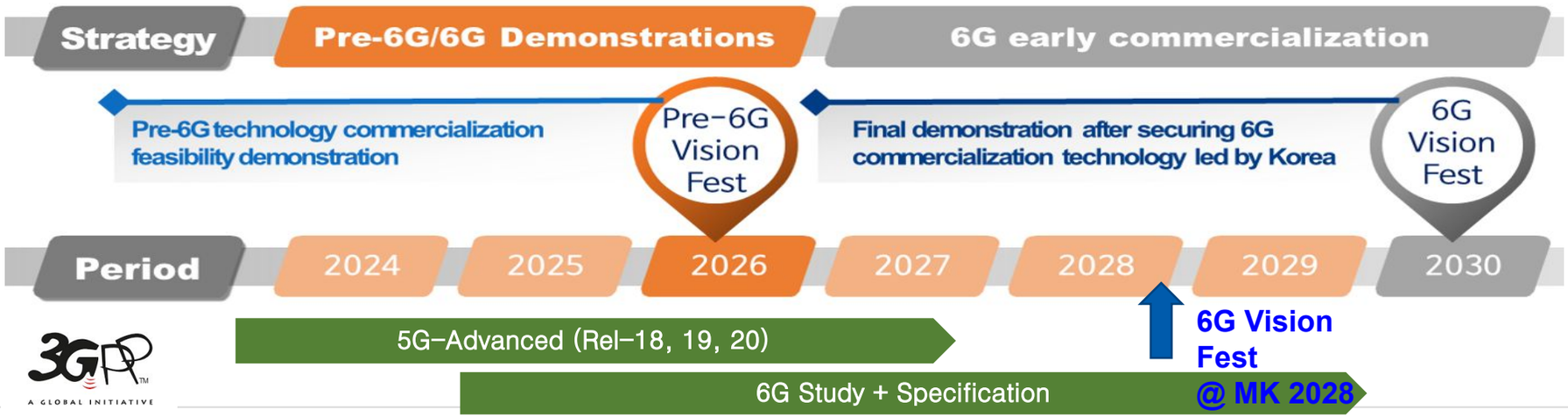
6G Day-1 R&D in Korea

R&D Direction in Korea

Whole Roadmap towards 6G from R&D & Commercialization Perspective

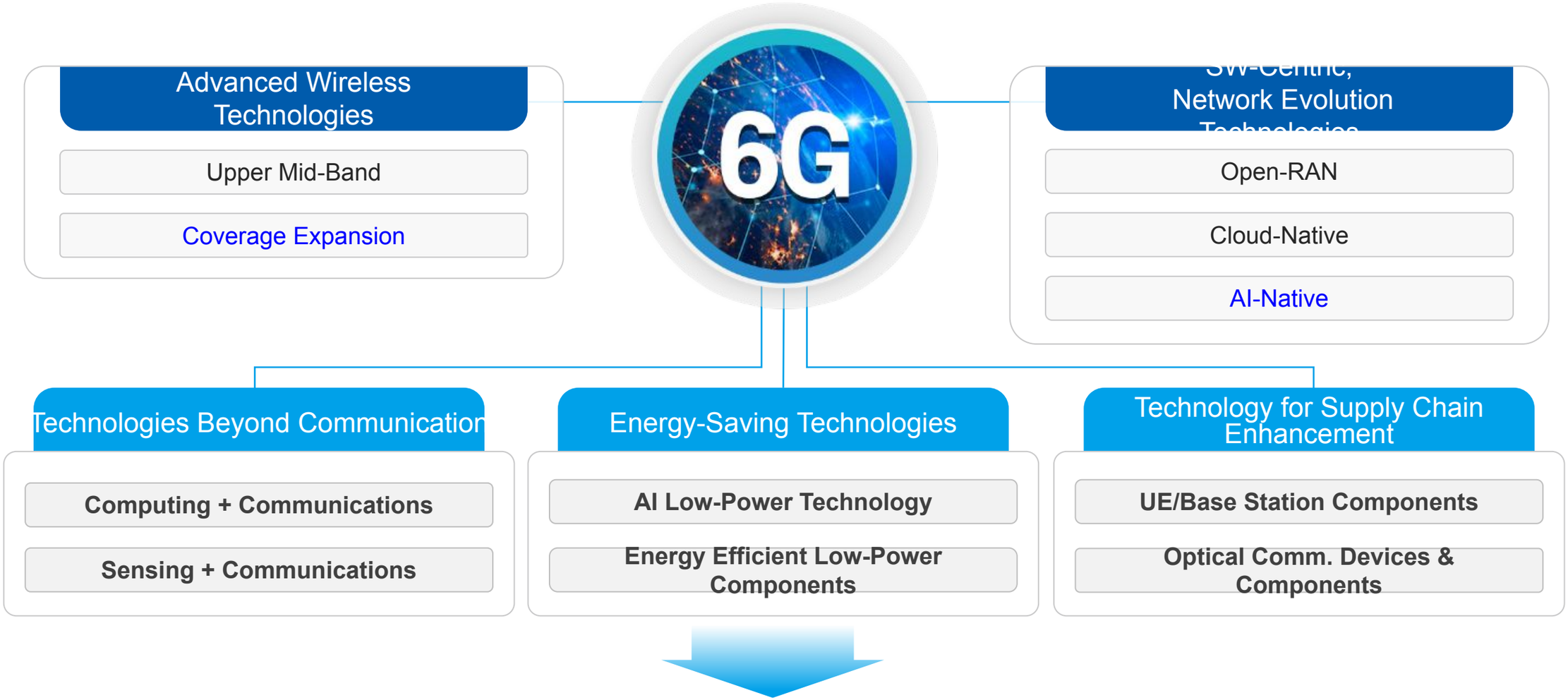
	Hyper Performance	Hyper Broadband	Hyper Precision	Hyper Space	Hyper Intelligence	Hyper Trust
6G Phase1 (2021~2025) 165M$	**1Tbps level data rate**	**100~300㎓ frequency candidate band**	**Latency 1/10** of 5G	**Up to 10km** from the ground	AI technology to **entire Network**	**Security by design embedded**

	Advanced Wireless	SW-Centric	Beyond Com.	Energy Saving	Supply Chain
6G Phase 2 (2024~2028) 327M$	**Upper Mid-Band Coverage Expansion**	**Open RAN Cloud-native AI-native**	**Computing + Com. Sensing + Com.**	**AI based power saving High-efficient & Low energy devices**	**UE/RAN components Optical components**



R&D Direction in Korea

To overcome the Limitations of 5G reflecting the Future Technology Trends



6G **Commercialization** Technology R&D Program launched (USD 327m, 2024-2028)

6G Day-1 R&D Direction in Korea

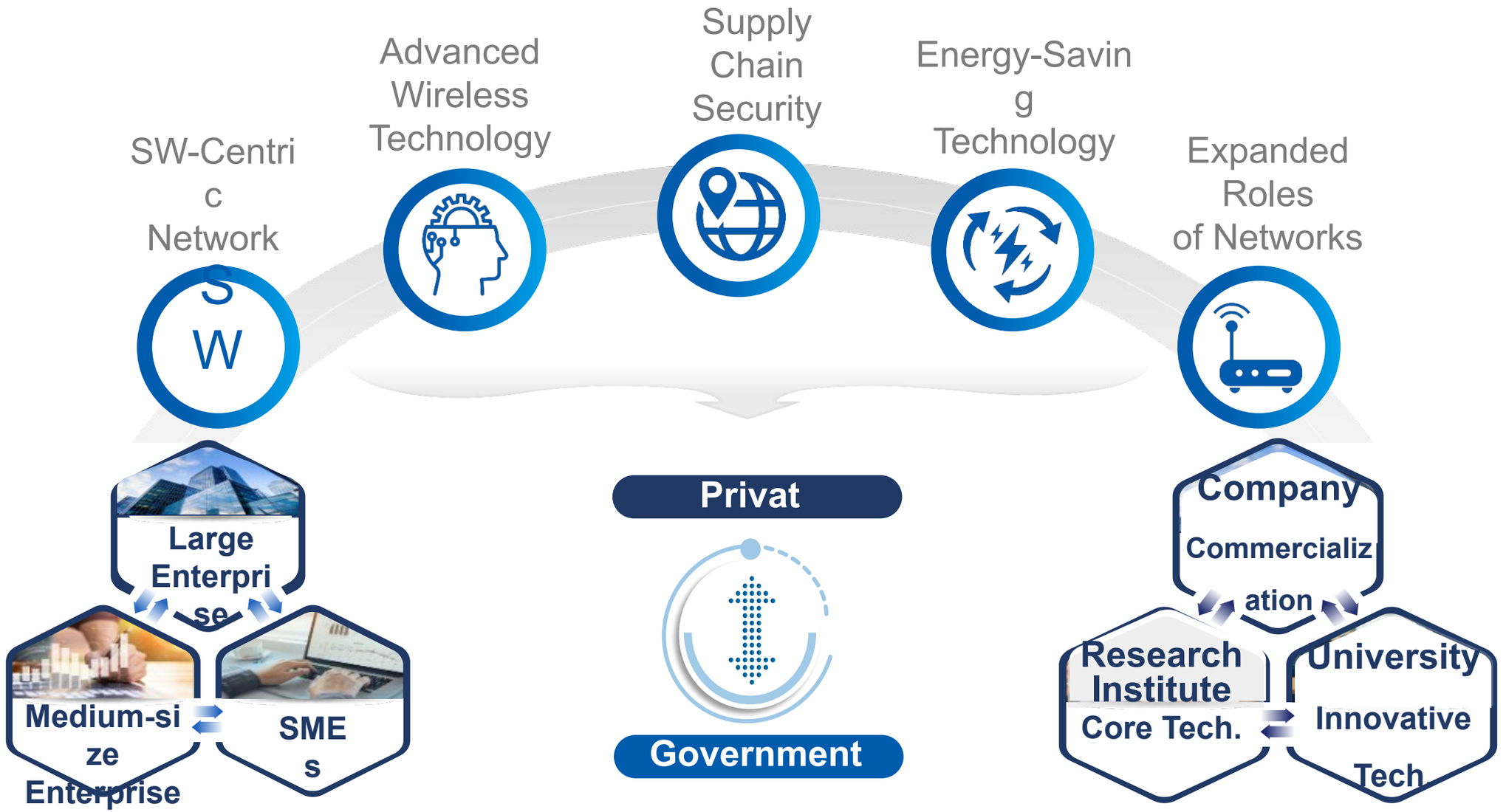
- Promoting the Development & Standardization of **11 Strategic Tech. across 4 Major Domains**, aiming to make a **Pre-6G & 6G Demonstration by 2026 & 2028**

4 Domains	11 Strategic Technologies
01 RAN	① E-MIMO systems
	② E-MIMO base station component
	③ 6G upper mid-band terminal component
	④ 6G coverage expansion
02 Mobile Core Network	⑤ Mobile core network architecture and framework
	⑥ AI-Native mobile core network automation/optimization
03 Wired Network	⑦ 6G Fronthaul optical link and transmission system
	⑧ Integrated wireless and wired optical system
	⑨ 6G networking transmission component
04 System	⑩ End-to-end service performance assurance framework
	⑪ 6G system supporting AI-Native application services

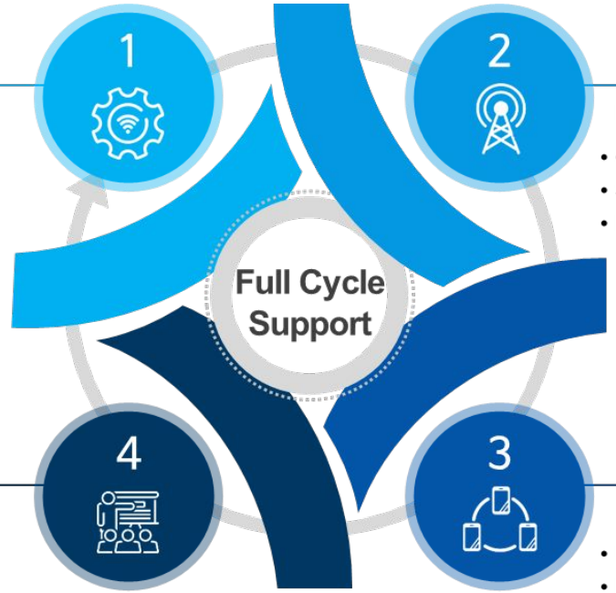
Sustainability (Low power consumption) Security Reliability

Pre-6G Vision Fest 2026

- **Demo of 47 core technologies in 11 strategic technology areas to secure the initiative in 6G commercialization**



Pre-6G & 6G Test & Verification (TNV)



TNV Tech.

ETRI Innowireless GERI

- 6G core tech. verf. stnd.
- 6G (non-)stnd. test tech.
- 6G verf. spec. (+Req.s)

TNV Env.

NIA kanit Innowireless GERI ETRI

- 6G verif. platform design & implement
- Support industrial R&BD joint util. system
- Linkage plan with KOREN

Promotion

NGMA HYPERX ETRI

- 6G service dev. support
- Host 6G Vision Fest event
- 6G representative service contest

TNV Support

Innowireless GERI ETRI

- Unit/System/Solution TNV
- PoC & service verification for each demo tech.
- Perform DevOps-based verf.

Standard/Non-Standard Requirements & Test Items

- RF
- Protocol
- complian ce
- Radiated performance
- RRM
- Interoperabil ity
- QoS/QoE
- Reliability
- Security
- Additional

3GPP O-RAN IEEE GCF PTCRB ctia

Global T&M Vendors Trends

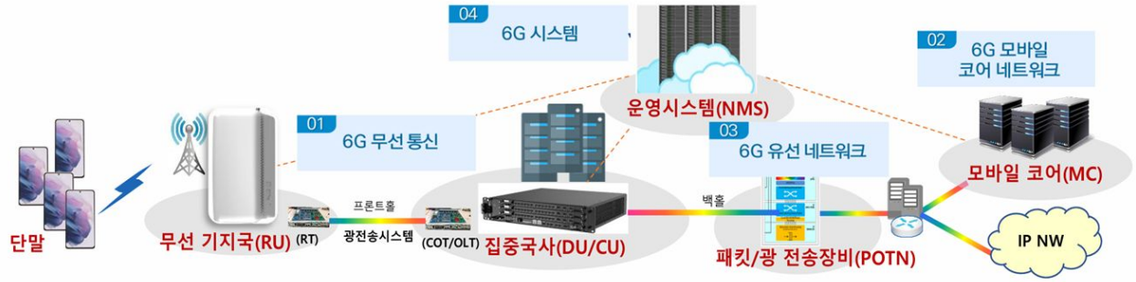
- Keysight Technologies
- Rohde & Schwarz
- Viavi Solutions
- Anritsu
- Tektronix

KEYSIGHT TECHNOLOGIES VIAVI Anritsu Tektronix

Stage

Y1 2025	Y2 2026	Y3 2027	Y4 2028
Under MSIT Nation-wide 6G Phase 2 RND Project		Under MSIT Nation-wide 6G Phase 2 RND Project	
Pre-6G TNV Spec.		6G TNV Spec.	
Pre-6G (non-)Stnd. Test Tech.		6G (non-)Stnd. Test Tech.	

Contents



1 액세스 분야 : 15개 과제

구분	2024	2025	2026(순)	합계
Upper-mid Band 기술	10	1	-	11
Advanced Duplex 기술	1	-	-	1
3차원 공간 스캔 통신기술	-	-	1	1
RAN IC 기술	-	-	1	1
AI-Native 무선 인터페이스 기술	-	-	1	1
합계	11	1	3	15

2 네트워크 분야 : 9개 과제

구분	2024	2025	2026(순)	합계
테라헬 광대역 스 기술	2	-	-	2
광소자 부품 및 광광 크기술	4	-	-	4
광전송 및 DAS 기술	-	1	-	1
PON MAC 칩 기술	-	1	-	1
테라급 초정밀 장치장 기술	1	-	-	1
합계	8	1	-	9

3 코어망 분야 : 3개 과제

구분	2024	2025	2026(순)	합계
E-SBA 프레임워크 IF 기술	1	-	-	1
코로스 클라우드 인프라 기술	1	-	-	1
네트워크 통합 기능 명면 기술	1	-	-	1
합계	3	-	-	3

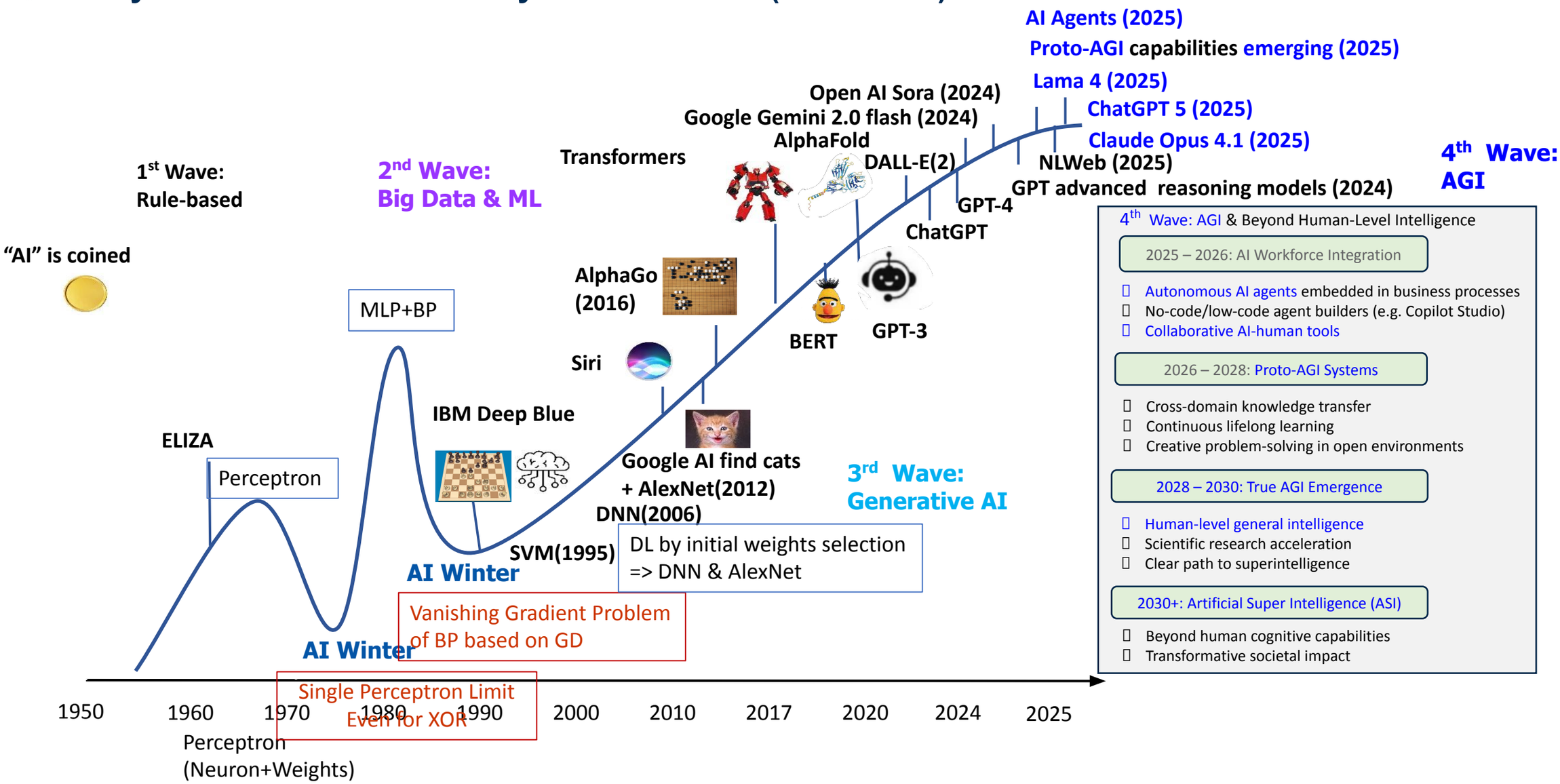
4 운용관리 분야 : 3개 과제

구분	2024	2025	2026(순)	합계
프로그래머블 인터페이스 기술	1	-	-	1
프로그래머블 인프라 기술	-	1	-	1
서오에스트레이터 기술	1	-	-	1
합계	2	1	-	3

6G Intelligent Network

6G Intelligent Network : Points of Consideration (0)

History of AI : The Evolutionary Timeline of AI (1956-2025)



6G Intelligent Network : Points of Consideration (1)

Tech. Enablers to make major distinction of 6G over 5G : **NW Intelligence & NTN**

6G Forum

- AI/BigData WG (May 2022 ~) & Physical AI-RAN Infra WG (Sep. 2025 ~) to promote NW Intelligence

AI/ML Adoption in NW currently

- NW Operation Intelligence for 5G Hyper-Connectivity (usually for Anomaly Detection & Root Cause Analysis (ADRCA))
  - . In-Time NW Management
  - . Zero-Touch Network Operation
  - . Big Data-based Traffic Forecast
  - . RT Traffic & Service Control
- 5G Services by **AI Agents**
  - . User-specific by NLP & Sentiment Analysis
- Energy Saving (ES)
  - . For RU (78%) : On/Off of Cell/Booster Carrier/MIMO TRx/PA & ES Mode Scheduling
  - . Data Center (for AI model training & inference)
    - : Robust SW Framework to resolve AI Workload
- **Challenges : Accurate Data Analytics for Decision Making Support / Way of Transforming AI/ML Knowledge for NW & Service**

Out of Standard : Vendor-specific (HW Nonlinearity, Detector, Universal Decoder, part of OAM, etc.)

Success Story

Ex1] Planning & Operation by AI : In-building Cell Planning for Best Number & Position of Cells

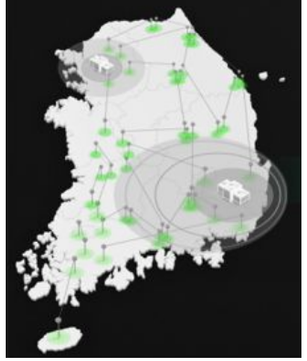
: Auto Energy Saving Operation of BS for Best Schedule of Sleep Period

Ex2] Location Intelligence for Radio Opt. by AI: RT Radio Quality Monitoring for KTX, Sub/Highway for ADRCA

6G Intelligent Network : AI Telco Infra & Service (2)

Telco Edge AI: Rediscovering Telco Infra in the AI Era

Nationwide Telco Infra Utilization

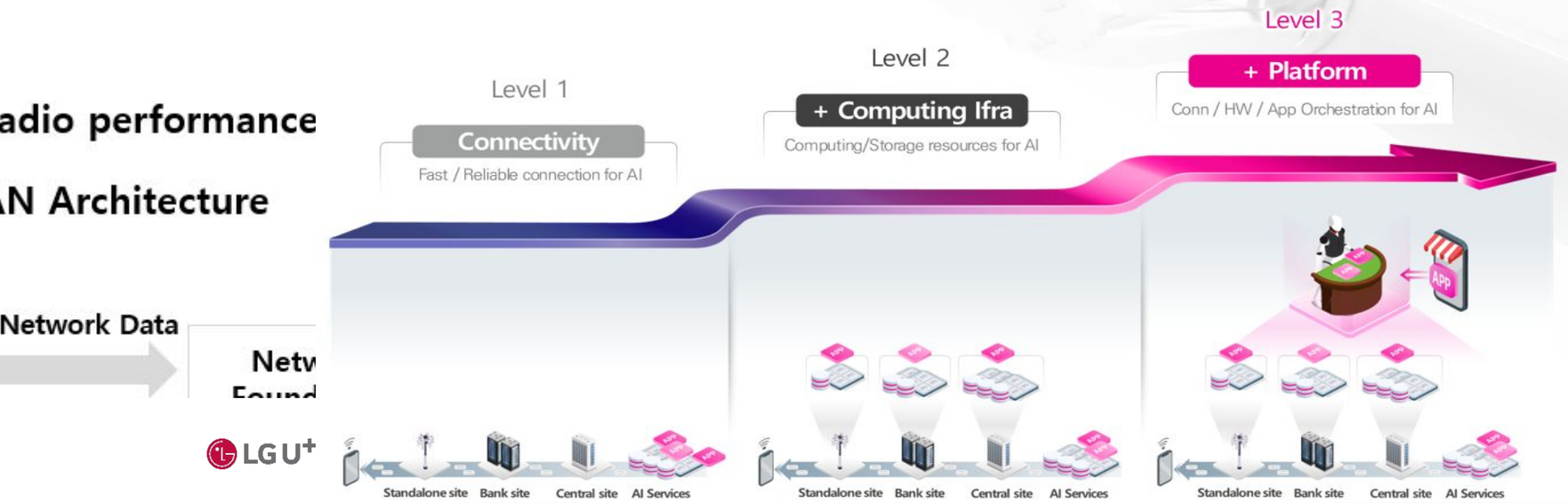


KT AI-RAN

Aiming to enhance radio performance

AI RAN Architecture

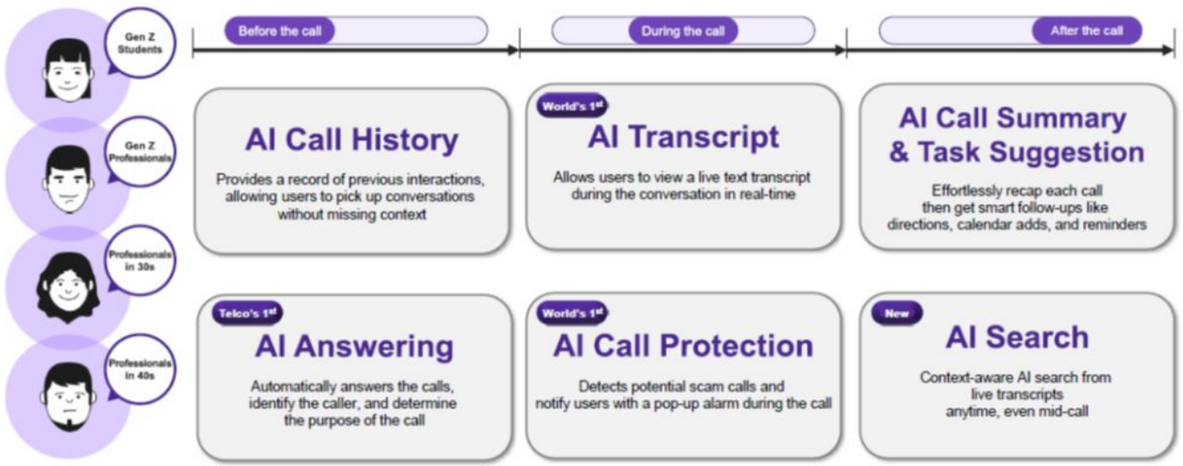
LG U+ Evolution Plan | NW for AI



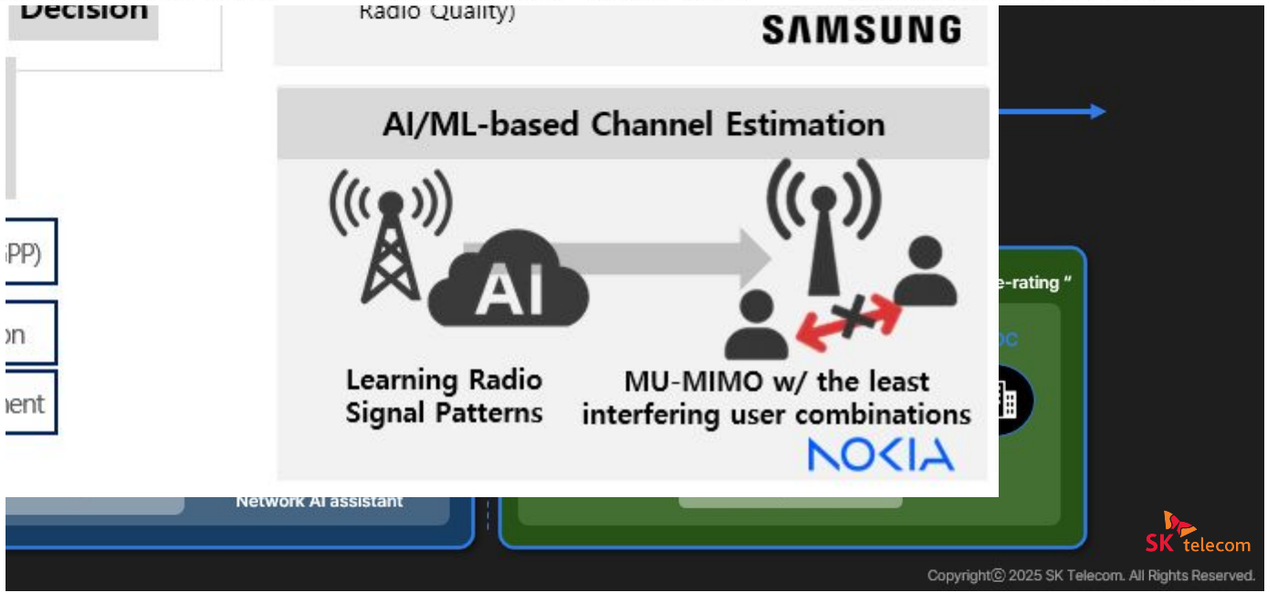
AI Services | ixi-O

LG U+

Based on customer research, we have identified pain points and needs throughout the call journey and applied AI to offer call convenience features

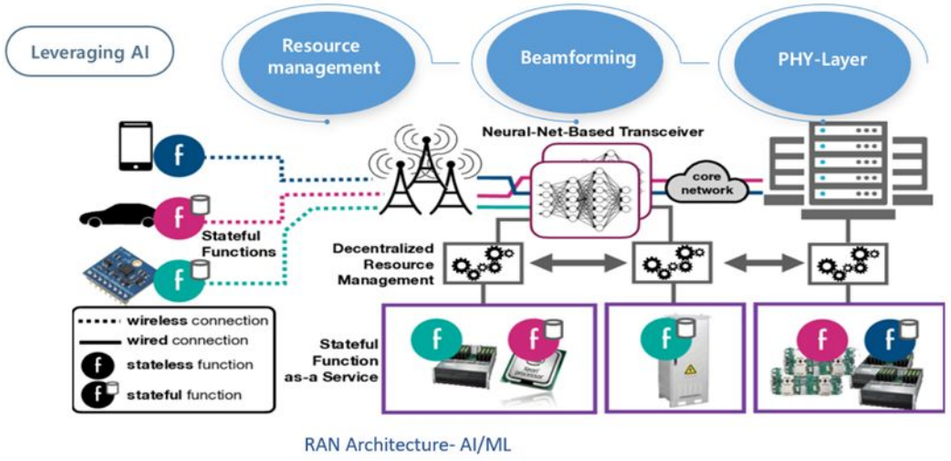


SAMSUNG

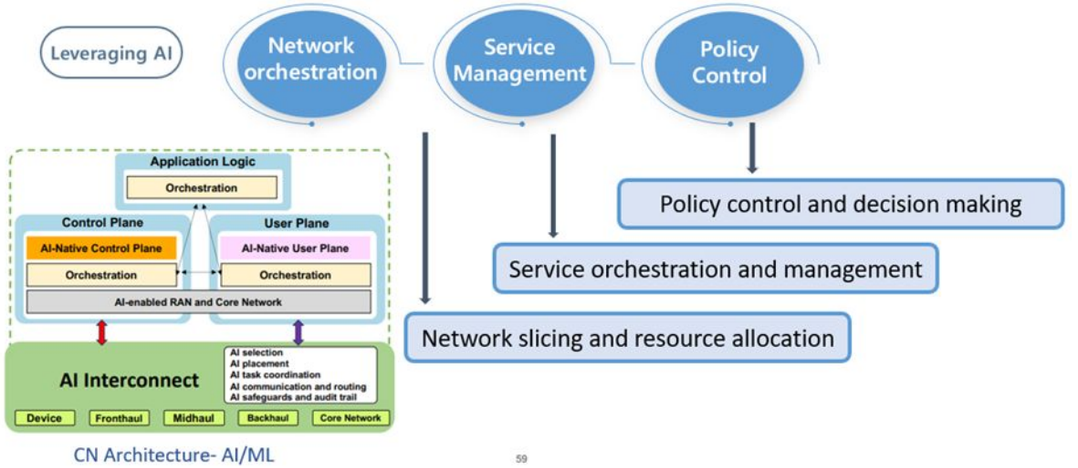


6G Intelligent Network (3)

5GxAI Evolution in 3GPP



RAN Architecture- AI/ML



CN Architecture- AI/ML

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Objectives of AI/ML for NR Air Interface in Rel.19

Normative Work Objectives (Provide specifications)

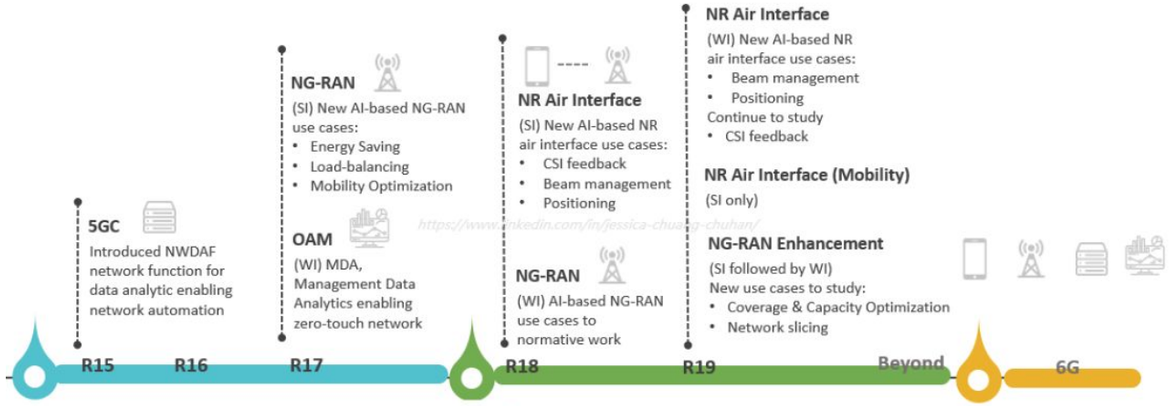
1. AI/ML general framework for one-side AI/ML models
2. Recommended Use Cases:
   - Beam Management: BM-Case1, BM-Case2
     - DL Tx beam prediction (UE-side & NW-side models)
     - Common framework to support BM-Case1/2
   - Positioning Accuracy: Direct AI/ML Positioning; AI/ML-assisted Positioning
     - Case 1: UE-based positioning with UE-side model
     - Case 3a: NG-RAN node assisted positioning
3. Core/Performance requirement for beam management & positioning accuracy and for AI/ML LCM procedure

Study Objectives

1. Use Case to study:
   - CSI Feedback Enhancement
     - AI/ML-based CSI Compression (Two-sided Model)
     - AI/ML-based CSI Prediction (One-sided Model)
2. UE data collection
3. Model transfer/delivery
4. Testability & interoperability
   - Finalized: (a). testing framework & (b). Procedure for one-sided model
   - Further study: various testing options for two-sided model

(Source: RP-234039, RP-233087, RP-233088, Consolidated by https://www.linkedin.com/in/jessica-chuang-chuhan/)

5GxAI Evolution in 3GPP

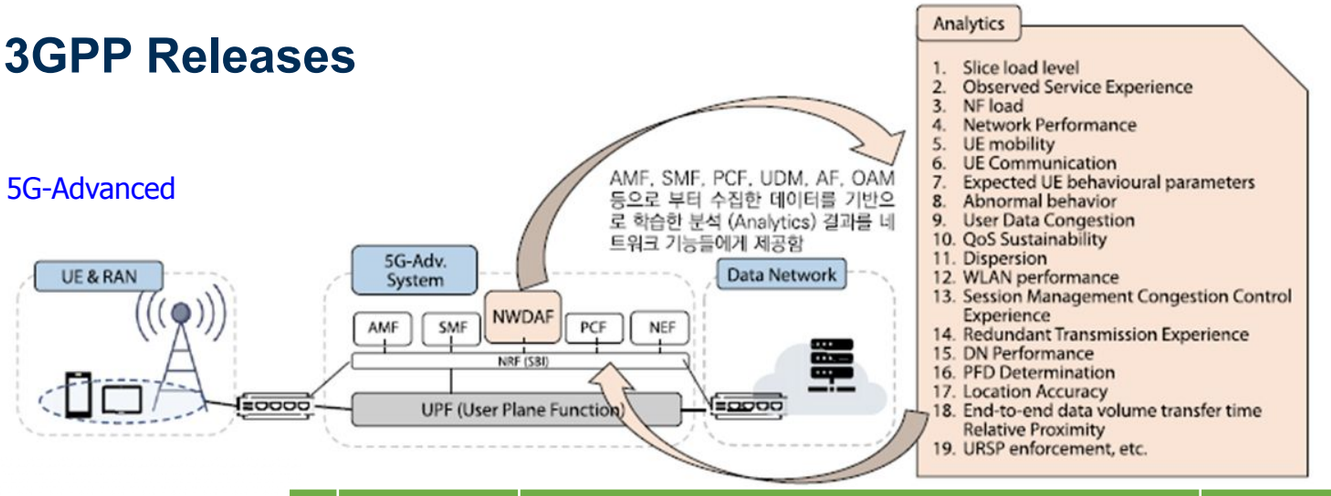


(Source: https://www.linkedin.com/in/jessica-chuang-chuhan/)

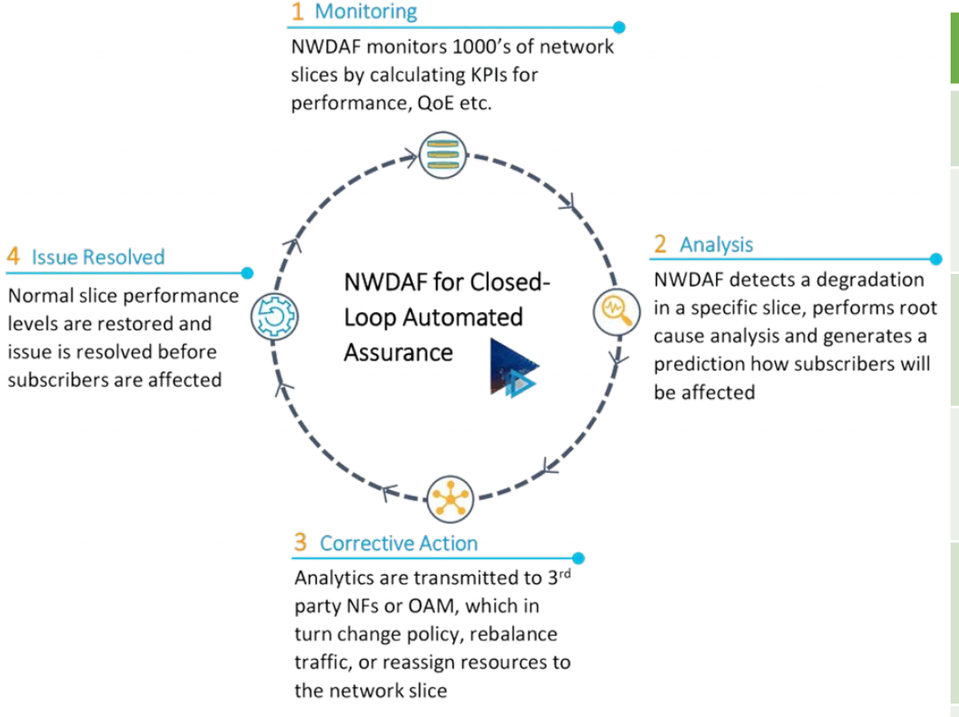
6G Intelligent Network (4)

NWDAF Evolution across 3GPP Releases

NWDAF Function & Analytics in 5G-Advanced



MTLF: Model Training Logical Fn.
AnLF: Analytics LF



Built-in AI/ML models provide automated closed-loop operations and assurance.

	3GPP Rel.	NWDAF/MDAF Features	AI/ML Involvement	Key Focus
1	**Rel. 15**	Initial introduction of NWDAF as part of the 5G core network, enabling basic analytics.	None	Provided basic analytics for 5G core network functions.
2	**Rel. 16**	Enhancements to NWDAF to support broader data analytics and exposure across network functions, refined for product compliance.	None	Focused on refining data exposure, compliance, and automation through analytics
3	**Rel. 17**	Further maturation with Management Data Analytics Function (MDAF) introduced, AI/ML techniques integrated for Energy Saving, Load Balancing, and Mobility Optimization.	AI/ML for analytics & model training	Introduced MTLF and AnLF components with support for FL procedures across network functions.
4	**Rel. 18**	NWDAF used for AI/ML-based Air Interface Enhancements (e.g., CSI Feedback, Beam Management, Positioning Accuracy). New XR and Power-saving features introduced.	ML models for air-interface enhancements	Enabled accuracy monitoring via AnLF and supported MTLF-based ML model deployment
5	**Rel. 19**	- Advanced AI/ML techniques for Mobility, Localized Analytics, Distributed MIMO Systems, and AI-powered Positioning Accuracy. - Support for multi-RAT and NTN (non-terrestrial) intelligence.	Advanced analytics and distributed ML intelligence	Recommended dynamic function setup for automation and expanded support for TL-based procedures across NWDAF.
6	**Rel. 20 (expected)**	Expected support for real-time intent-driven models, proactive orchestration, and context-aware decision-making.	Deep RL / AI frameworks expected	- Full AI-native NW control - Autonomous orchestration and decision-making

6G Intelligent Network (5)

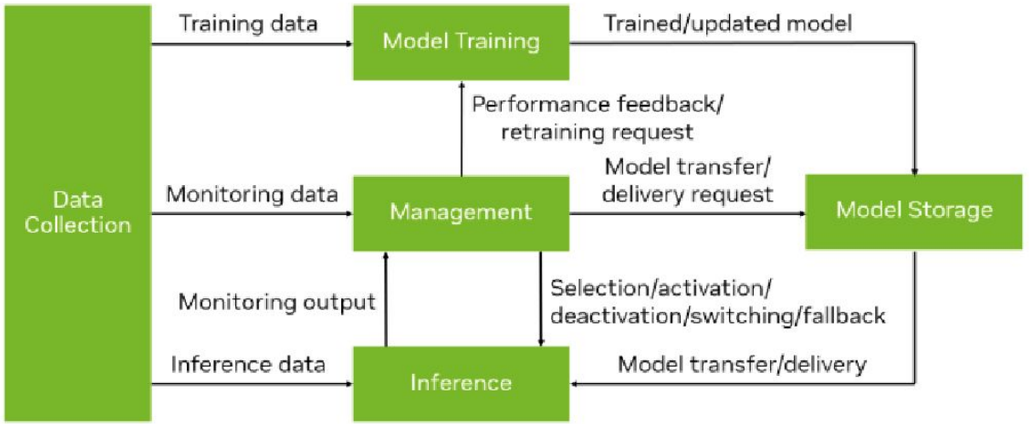
Requirements & Performance Indexes for AI-Native in 6G

Requirements of AI-Native for 6G

- Support OL & RT Application of AI/ML
- Comprehensive & Cooperative Support across all E2E & Radio/NW Sections
- Support Standardized I/F between various Layers (PHY ~ APP), Domains (UE, gNB, CN, OAM, etc.) & entire NF.
- LCM I/F for AI/ML Models, such as RL, FL, SL & TL, also support seamless Combination w. Standard Procedures of 6G system.

Performance Indexes of AI-Native for 6G

- **Performance**
  - Link and system level performances
  - Generalization performance
- **Over the air overhead**
  - Overhead of assistant information, data collection, model delivery/ transfer, and other AI/ML related signaling
- **Inference complexity**
  - Computational complexity of model inference (e.g. FLOPs) and per/post processing, model complexity (e.g. Mbytes)
- **Training complexity**
  - LCM related complexity and storage overhead
- **Power consumption, Latency** (e.g. inference latency)

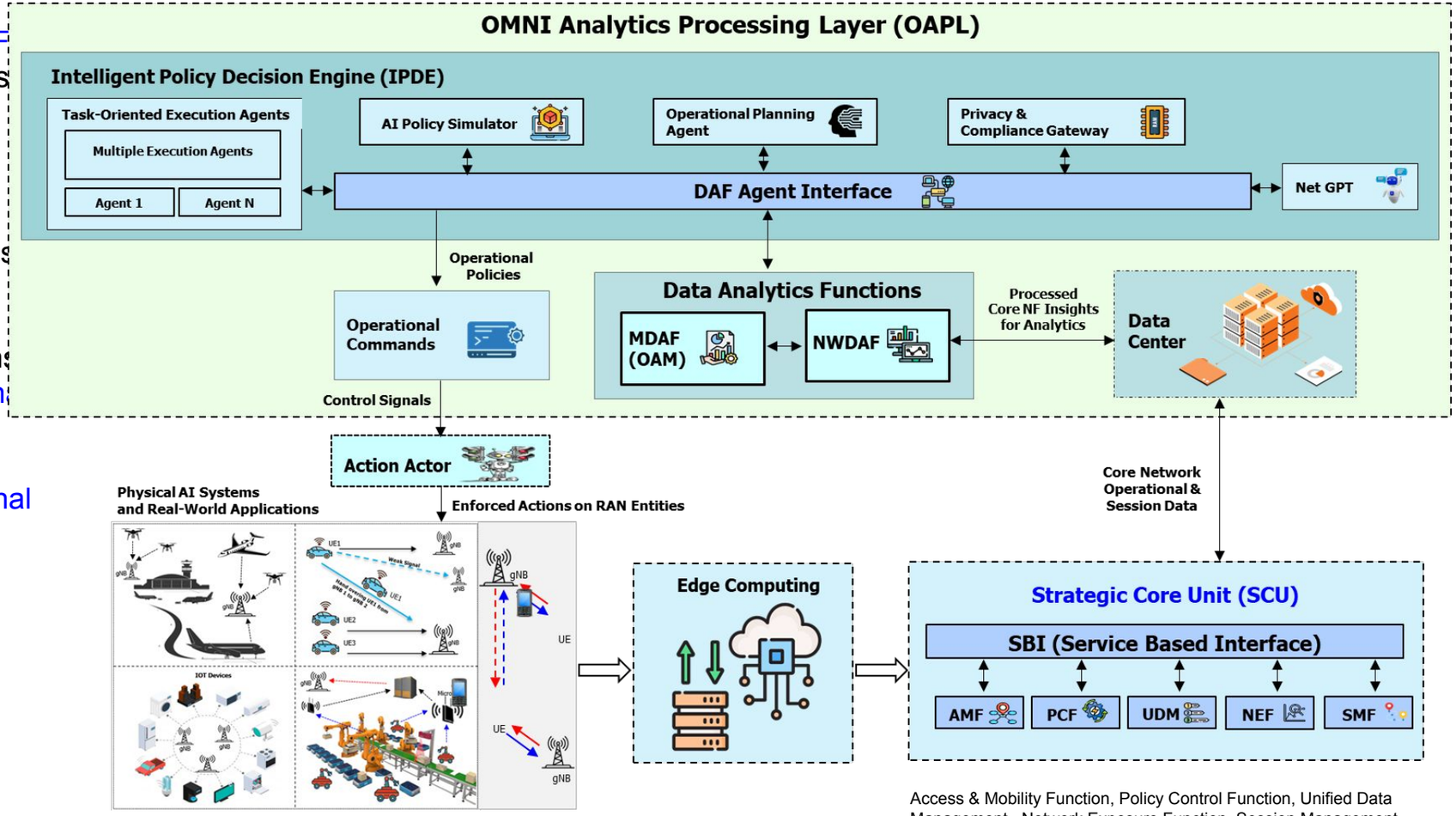


6G Intelligent Network (6)

AI Orchestrated Multi-Agent Network Intelligence (AI-OMNI)

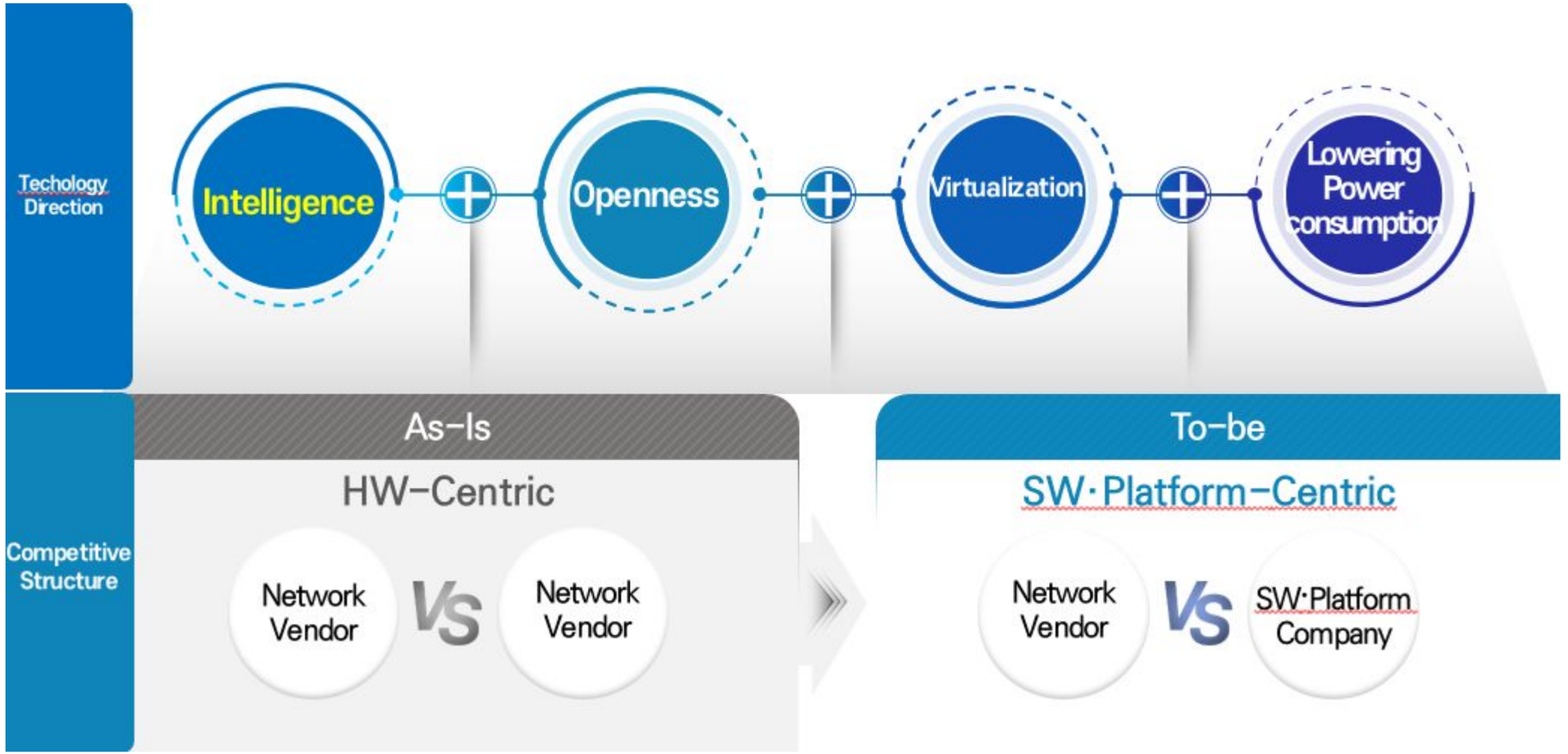
Agentic-AI Network Architecture Flow

1. Data Transmission between UE (Physical AI) & RAN
2. Edge Computing to process RAN Request / Preprocessing to SCU.
3. SCU w. NF transfers core network operational & session data to Data Center.
4. Data Center sends processed core NF insights for analytics to NWDAF
5. NWDAF combines Core data + OAM KPIs (RAN monitoring data) and produces analytics.
6. Analytics go to the DAF Interface.
7. DAF Interface aggregates analytics, performs policy simulations, and provides refined outputs to Execution Agents.
8. Execution Agents collaborate (mobility, energy, etc.), exchange candidate actions, resolve conflicts, and generate operational policies.
9. These operational policies are shared via the DAF Agent Interface to the Operational Command.
10. Action Actor enforces these commands on RAN entities.



Access & Mobility Function, Policy Control Function, Unified Data Management, Network Exposure Function, Session Management Function

Policy Directions for Next-G



Mobile Korea 2025

The Leading Global Platform for 5G·6G Collaboration showcasing Korea's Strength & Partnership in Next-Generation Networks

Mobile Korea 2024

Total Attendants **762**

14 Countries

60 Organizations

Mobile Korea 2025

Main Programs

- 6G Global (6th) - Sharing 6G visions and fostering global cooperation
- 5G Vertical Summit (12th) - Driving 5G adoption and expansion
- Regional Workshop (9th) - Strengthening international cooperation

Side Events

- Mobile Korea Demo Fest Session - Showcasing 6G Tech. Readiness
- SatCom Forum Session - 6G Satellite Strategy & Technologies
- Industry Exhibition - Global T&M Vendors and Korean SMEs for products, solutions, and live demos

Dates October 27 (Mon) - 30 (Thu), 2025

Venue 5F Convergence Hall & 6F Vision Hall , ISC Building, LG Science Park (Located at Magok-dong, Gangseo-gu, Seoul)

Host Ministry of Science and ICT

Organizer 6G FORUM, ETRI, IITP, TTA, NIA, RAPA Korea Radio Promotion Association, SatComForum, NGMA Next Generation Mobile Research Association

Sponsor LG U+, kt, SK telecom, SAMSUNG, ROHDE&SCHWARZ, KEYSIGHT TECHNOLOGIES, VIAVI, LG Electronics, ERICSSON, SAMSUNG SDS, NOKIA, Qualcomm, HUAWEI, WIZCORE, Innowireless, funzin

Mobile Korea 2025 : Program Overview

Mobile Korea 2025 | Featured

** 60+ Speakers: National 6G Heads & Global Vendor CTOs*

Colin Willcock
Chairman, **6G-IA**

Zhiqin Wang
Chair, **IMT-2030 (6G) Promotion Group**

Akihiro Nakao
Co- Chairman, **XGMF**

David Koilpillai
Chairman, **Bharat 6G Alliance**

Richárd Szabados
President, **5G Coalition** / State Secretary, **Ministry of National Economy, Hungary**

Alex Jinsung Choi
Chair, **AI-RAN Alliance**

Juho Lee
Fellow, **Samsung Electronics**

Young Woo Yun
C&M Standard Lab., CTO Division, **LG Electronics**

Lorenzo Casaccia
Vice President, Technical Standard, **Qualcomm**

Magnus Ewerbring
CTO, Asia-Pacific, **Ericsson**

Wen Tong
CTO, **Huawei**

Alexander Pabst
Vice President Market Segment Wireless Communication, **Rohde & Schwarz GmbH & Co. KG**

Ulrich Dropmann
Head of Standardization and Industry Environment, **Nokia**

Sameh Yamany
CTO, **VIAVI Solutions**

Thomas Haustein
Head of Wireless Communications and Networks, **Fraunhofer HHI**

Takehiro Nakamura
Chief Standardization Officer, **NTT DOCOMO**

Sparsh Singhal
Senior Programme Manager, **NGMN Alliance**

Suman Sehra
Board Member, **5GAA** /Global Vice President, **Harman International**

Youchul Kim
Head of Strategy Unit, **LG AI Research**

Sangchul Kang
Head Of Project & Platform Group, **NAVER LABS Corp**

Mobile Korea 2025 Day-by-Day Session

Overview

Day 1 (Mon., Oct. 27)	Day 2 (Tue., Oct. 28)	Day 3 (Wed., Oct. 29)		Day 4 (Thu., Oct. 30)
6G Global 2025 *Towards AI-Agentic Network*		**5G Vertical Summit 2025** *5G+X : Driving the Future to 6G*	**6G Global 2025 Special Session** **Mobile Korea Demo Fest**	**SatCom Forum Session**
Keynote #1	**Keynote #2**	**Keynote**	**Keynote #3**	**Opening Ceremony**
Opening Ceremony Industry Contribution Award MoU Signing Ceremony • Korea (6G Forum) – EU (6G-IA) • Korea (6G Forum) – China (IMT-2030(6G) PG)	**Network Operators' Perspective** Business values and technical priorities for 6G deployment.	**AI-RAN** Transitioning from 5G-Advanced to AI-native networks.	**Mobile Korea Demo Fest Session** Showcasing Korea's 6G Technology Readiness and Demonstrations	**6G Satellite Policy & Technology Strategy** Global policy directions and technology initiatives.
6G Global Collaboration among FORA Aligning strategies across Europe, China, Japan, and India toward 2030.	**Key Enablers : Industry, Research Institutes and Academia** Global R&D progress, challenges, and collaborations.	**Hyper AI Network** Edge AI, monetization, and open platform strategies.	**9th Regional Workshop** *Regional Partnerships Driving AI-Empowered Networks*	**Toward 6G Satellite Standards** International progress and challenges in 6G standards.
6G Vendors' Perspective Leading vendors share visions and R&D strategies.		**Fireside Chat Session** Exclusive 1:1 conversation on foundation AI.	**AI-empowered 5G-Advanced** Technology evolution and key industry use cases.	**6G Satellite Strategy & Technologies** International progress and challenges in 6G standards.
		Physical AI Robotics, mobility, and smart manufacturing applications.	**Progress in Global 5G/5G-Advanced** Strategies and advances in 5G/5G-A adoption	
			Panel Discussion	

Mobile Korea 2026

Mobile Korea 2026 will be held together with
the **Pre-6G Vision Fest**, an international exhibition showcasing Korea's 6G R&D achievements.

Mobile Korea 2026

Mobile Korea 2026 Plan

- **Dates** December 8 (Tue.) - 11 (Fri.), 2026
- **Venue** Exhibition Hall 1 (1F) & Premier Ballroom (2F), Songdo Convensia (Located at Yeonsu-gu, Incheon)
- **Host** Ministry of Science and ICT
- **Organizer** 6G FORUM, ETRI, IITP, TTA, NIA, RAPA Korea Radio Promotion Association, SatComForum, NGMA Next Generation Mobile Research Association
  ... and more

Program Outline

- **Sharing Korea's Interim 6G Achievements** with **Global Stakeholders**, and engaging **Major Countries** and **Key Players** in cooperation.
- Presenting an **Evolved Vertical Program** to explore **Monetization Opportunities** for **Next-Generation Networks with AI.**
- Providing **In-depth Exchanges** and **Networking** to strengthen **International Collaboration.**

Pre–6G Vision Fest

Pre-6G Exhibition & Demonstrations

- **Pavilions** showcasing Korea's **Pre-6G R&D Achievements**
- **33 Demonstrations** across **11 Strategic Technologies** in **4 Areas** of Wireless · Wired · Mobile Core · Systems
- **Highlights:**
  - **AI-powered RAN** & **Intelligent Antenna Systems**
  - **Cloud-native and AI-driven Mobile Core**
  - **Ultra-high-capacity (100 Gbps+) Optical Transmission**
  - **AI-native Frameworks** for **Future 6G Services**

Future Technology Exhibition

- **Showcases** by **Korean Operators, Major Corporations, ETRI,** and **Global Vendors**
- **Experience Booths** for **Future 6G Services** and **Innovative Tech Demonstrations**
  (e.g., Naver's "Brainless Robot")
- **Demos from global vendors, MNOs, and solution providers are welcome.**

Thank you !!

KyungHi Chang
(khchang@inha.ac.kr)