

ETSI / ITU-T WORKSHOP · AI-ENABLED NETWORK EVOLUTION

From 5G-Advanced to AI-Native Networks

GTI Industrial Practices and Perspectives on AI-Native Coordination

Dr. Mathias Gabrysch

GTI · 5G-Advanced × AI Working Group

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Online contribution

AGENDA

What this presentation will cover

- 01 Who is GTI**
The alliance, its mission and its members
- 02 Why the convergence matters now**
5G-Advanced × AI as a bi-directional shift
- 03 The GTI 5G-A × AI framework**
Working group, 2026 work plan and the development program
- 04 Open Labs, use cases and validation**
What the labs are and what they deliver
- 05 Validation & Evidence**
Measurable, deployment-proven results
- 06 Challenges and cooperation with ETSI & ITU-T**
Open questions and three concrete propositions

CHAPTER 01

Who is GTI

The alliance, its mission and its members

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WHO IS GTI

A global industry-cooperation platform — from TD-LTE to 5G-A × AI

GTI was kicked off in February 2011 in Barcelona by China Mobile, SoftBank, Bharti Airtel, Vodafone and Sprint (now T-Mobile US) to promote TD-LTE as a global mainstream standard. As each mission was accomplished, GTI evolved into 5G and, in 2023, into GTI 3.0.



GTI 1.0

2011 – 2015

Building TD-LTE

- Kicked off by China Mobile, SoftBank, Bharti Airtel, Vodafone and Sprint
- Build a robust TD-LTE end-to-end industry chain
- Accelerate global TD-LTE large-scale deployment



GTI 2.0

2016 – 2022

Accelerating 5G

- Launched by China Mobile, Bharti Airtel, KT, SoftBank and Vodafone
- Establish a 5G unified standard and end-to-end ecosystem
- Build 5G cross-industry innovation and opportunity



GTI 3.0

2023 –

Toward commercial success

- Launched by China Mobile, SoftBank, T-Mobile US and 20+ industry partners
- Promote intelligent, efficient and green 5G-A tech and products
- Foster integration of 5G-A / 6G, AI and other technologies

Over the past decade, GTI has evolved into a unique, distinctive cooperation platform for the global communication industry.

Source: gtigroup.org

WHAT GTI 3.0 STANDS FOR

Mission, objectives and how GTI works

Mission

GTI 3.0 continues global cooperation toward greater commercial success — promoting the deeper integration of 5G-Advanced, 6G and AI, and the digital and intelligent transformation of industries.

THREE OBJECTIVES



Promote intelligent, efficient and green 5G-A technology and products



Foster digital transformation to support next-generation digital infrastructure and vertical industries



Enable 5G monetization and value creation



Four Actions



Enhance cross-organizational cooperation

Strengthen exchanges with 3GPP, ITU, GSMA and other standards and industry organizations.



Integrate digital technologies with verticals

Advance 5G, 5G-A and 6G, and integrate AI and cloud to drive vertical digital transformation.



Promote services and monetization

Provide cost-effective solutions, large-scale applications and innovative business models.



Drive low-carbon, sustainable development

Promote energy-saving technologies and green digital infrastructure for the mobile industry.

Who makes up GTI — and how it is run



140+

Operator members

Leading operators plus small-medium and emerging operators worldwide.



260+

Industry partners

Communication enterprises across the E2E chain, plus vertical partners (energy, manufacturing, entertainment ...).



International cooperation

Works with GSMA, ITU, 3GPP, NGMN, GCF, 5GAA, 5G-ACIA and other international organizations.



Organization

- › **Steering Committee (SC)** — Operation and management — guides technical work and approves deliverables.
- › **Advisory Committee (AC)** — Industry-partner executives advising and supporting the technical programs.
- › **GTI Secretariat** — Runs platform operation, industry cooperation and promotion (incl. one GTI initiator).
- › **Chairman / Co-Chairman** — Provides strategic guidance and oversees major decision-making.

TECHNICAL WORK — FOUR PROGRAMS



5G Technology & Product



Innovative Applications & Monetization



5G Enterprise Network Solutions



5G-A x AI Development Program

CHAPTER 02

Why the convergence matters now

5G-Advanced × AI as a bi-directional shift

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WHAT DOES “AI-NATIVE” ACTUALLY MEAN?

Everyone uses the term — few mean the same thing

AI-ASSISTED*AI added on top*

Models bolted onto an existing network — anomaly detection, energy saving, predictive O&M.

**AI-INTEGRATED***Network built for AI*

Network engineered to host, transport and expose AI — edge compute, federated data, model & agent APIs.

**AI-NATIVE***AI is constitutive*

Intelligence is a design primitive: closed-loop autonomy and intent-driven control, not an add-on.

“bolted on” → “built in”**The standards anchor — ITU-T FG-AINN**

“AI is not merely an add-on feature but is deeply embedded in the core architecture” — a network designed from the ground up to integrate AI into operation, decision-making and optimization.

Focus Group on AI-Native for Telecommunication Networks, established by ITU-T SG13, July 2024.

**A practical test****“Would the network still work without the AI?”****Yes** → AI-assisted / integrated**No** → genuinely AI-native

Source: ITU-T FG-AINN (itu.int)

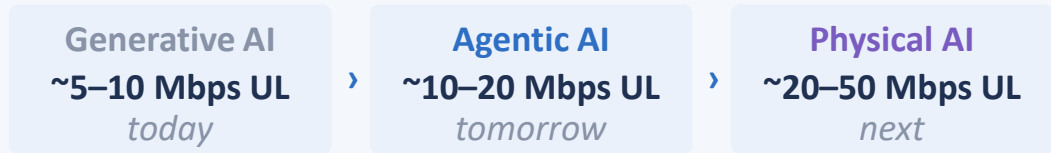
WHY THE CONVERGENCE MATTERS NOW

AI is no longer a service on the network — it reshapes the network itself

↑ Network for AI

AI as workload — it inverts the traffic structure

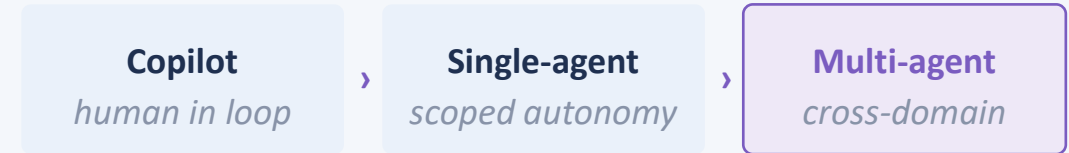
UL is growing ~2x as fast as DL. Balance is shifting from ~1 : 9 toward 1 : 1. Driven by agentic apps, multimodal interaction and physical AI.



📍 AI for Network

AI as operator — it runs the network

Operators and vendors converge on the same target: TM Forum Level 4 autonomy by 2030 — along one shared maturity path.



WHAT THE WHOLE INDUSTRY NOW SHARES

🏗️ Standardisation as the frame

A2A / MCP as the agent interface · TM Forum levels & validation · ITU-T FG-AINN architecture. No proprietary black boxes.

📊 Measurable, not vision

Reported in live networks: MTTR down ~20% · double-digit energy savings · uplink experience up. The convergence is already validated in production.

❓ The open flank: monetisation

OPEX savings are proven; new revenue from AI services is not. Across these talks, this is the honest, still-unanswered question.

Synthesis of recent MWC 2026 Mobile-AI sessions (operators, vendors, GSMA, TM Forum, ITU)

CHAPTER 03

The GTI 5G-A × AI framework

Working group, 2026 work plan and the development program

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Turning 5G-Advanced and AI convergence into industrial practice

WHY — Motivation

5G and AI have become universal enabling technologies for the digital transformation of production, life and governance. Their deeper integration is now a defining industry trend — GTI launched this program to build consensus, gather a taskforce and drive value co-creation.

OBJECTIVE

Promote integrated innovation of 5G and AI across technology, business, ecosystem and commerce — making 5G smarter and AI more ubiquitous and opening new revenue space for the digital economy.

THREE TASKS



01

Build Open Labs

Shared environment, equipment and real application scenarios for joint R&D, test and demonstration of 5G-A × AI.



02

Open Collaborative Community

An online platform for communication, sharing and supply-and-demand matching across the ecosystem.



03

Explore Innovative Use Cases

Target high-value scenarios and condense them into replicable business models for value creation.

Source: GTI 5G-A × AI Development Program (gtigroup.org)

Three tasks — how the program is delivered



01

Build Open Labs

- Provide **basic environment, equipment facilities, industry application scenarios and other resources** for 5G-A×AI integration innovation
- Jointly **research, develop and test** new technologies and solutions (5G-Advanced, 5G-A×AI integration)
- Carry out **R&D, testing and demonstration** of 5G-A×AI new service scenarios in key areas — personal life, industry, energy, transportation, urban governance



02

Build an Open Collaborative Innovation Community

- An open technology platform and knowledge-sharing culture, operated online
- **Communication & Sharing** — white papers, product solutions, key enabling capabilities, success stories and best practices; calls for engagement and collaboration
- **Supply & Demand Matching** — the demand side raises problems and solicits technical solutions from community members



03

Explore Innovative Use Cases

- Focus on high-value needs in digital-intelligence application scenarios (personal life, industry, energy, transportation, urban governance)
- Explore **100 5G-A×AI integration use cases**, and condense them into replicable business-model templates
- Provide references for value creation and monetization

Source: GTI 5G-A × AI Development Program (gtigroup.org)

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CHAPTER 04

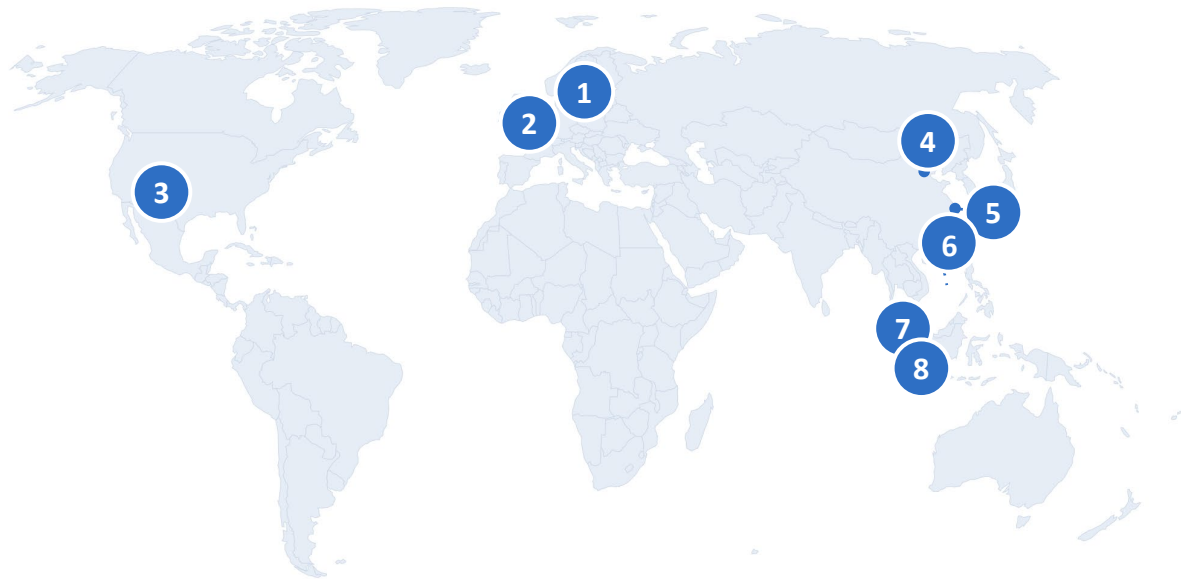
Open Labs, use cases and validation

What the labs are and what they deliver

OPEN LABS & TESTBED

Eight 5G-A × AI Open Labs and one 6G testbed — worldwide

<p>8</p> <p>Open Labs released</p>	<p>3 / 5</p> <p>China / International</p>	<p>20+</p> <p>Key technology domains</p>	<p>100+</p> <p>Open capabilities</p>	<p>30+</p> <p>Projects supported</p>
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OPEN LABS

- 1 **GTI-Ericsson · Stockholm** General intelligence — wireless intelligence platform, universal self-intelligence ecosystem
- 2 **GTI-Qualcomm · London** Upgrading
- 3 **GTI-Intel · New Mexico** Enterprise network — TSN validation, sub-metre positioning, AI digital human
- 4 **GTI-CMCC · Beijing** Network & application intelligence
- 5 **GTI-Huawei · Shanghai** Multimodal — AI application research, interaction evaluation model
- 6 **GTI-ZTE · Shanghai** Network intelligence — low-altitude digital twin, network O&M agent, E2E energy-saving
- 7 **GTI-Universiti Malaya · Kuala Lumpur** Federated learning — medical intelligence, FedPA algorithms
- 8 **GTI-Asix · Jakarta** LLM — Bahasa Indonesia LLM, smart-city applications

Plus one 6G open testbed — interconnection and service verification completed at Beijing and Hong Kong.

CHAPTER 05

Validation & Evidence

Measurable, deployment-proven results

05

VALIDATION & EVIDENCE

Validation across labs and live networks

From these labs, the work flows back as validated results — tested in trials and, in several cases, already in commercial deployment.

Agentic network orchestration

Networks driven by AI agents expose an intent-based interface and coordinate capabilities across domains — connecting, assurance and perceiving agents collaborating over agent-to-agent (A2A) protocols.

Intent-based interface

Cross-domain orchestration

A2A / MCP protocols

Green autonomy — AI energy saving

AI dynamically tunes energy-saving policies and adapts channel power at millisecond level — switching off resources in real time while preserving QoE through interference-aware power control.

Policy orchestration

ms-level power adaptation

QoE-safe back-off

MEASURED IN TRIALS, SEVERAL NOW IN COMMERCIAL DEPLOYMENT

+30%

Video speed

+30–50%

Live-streaming speed

-10–20%

Game latency

+18–39%

Short-video speed

90%

HSR passenger classification accuracy

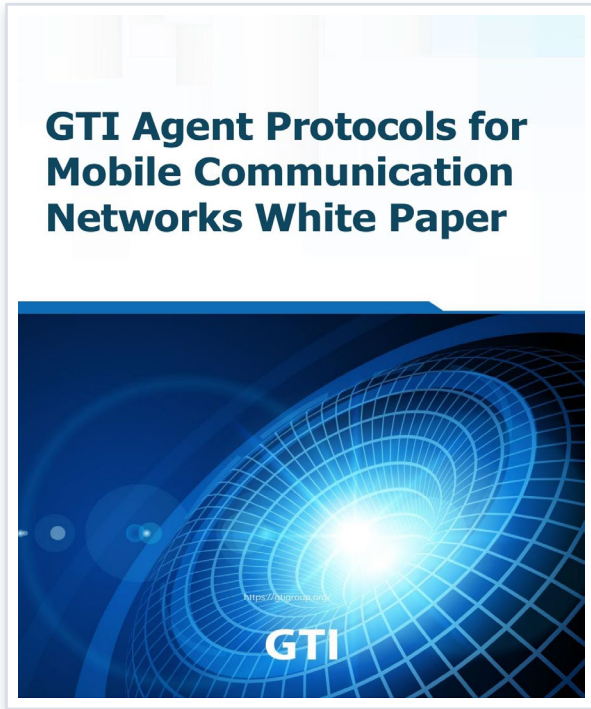
-20%

PRB load on HSR-dedicated networks

Why this matters: this is the kind of measurable, deployment-proven evidence GTI brings to the table — to share with ENI, ZSM and FG-AINN as industrial input.

Recent Whitepaper

GTI Agent Protocols for Mobile Networks — white paper



v1.0 · 10 June 2026 · Open to Public

Why it matters

20+ fragmented agent protocols today; the paper argues for one telecom-grade, interoperable framework.

Standards-aligned

Reuses IETF / 3GPP work (TR 22.870, Rel-20 6G);

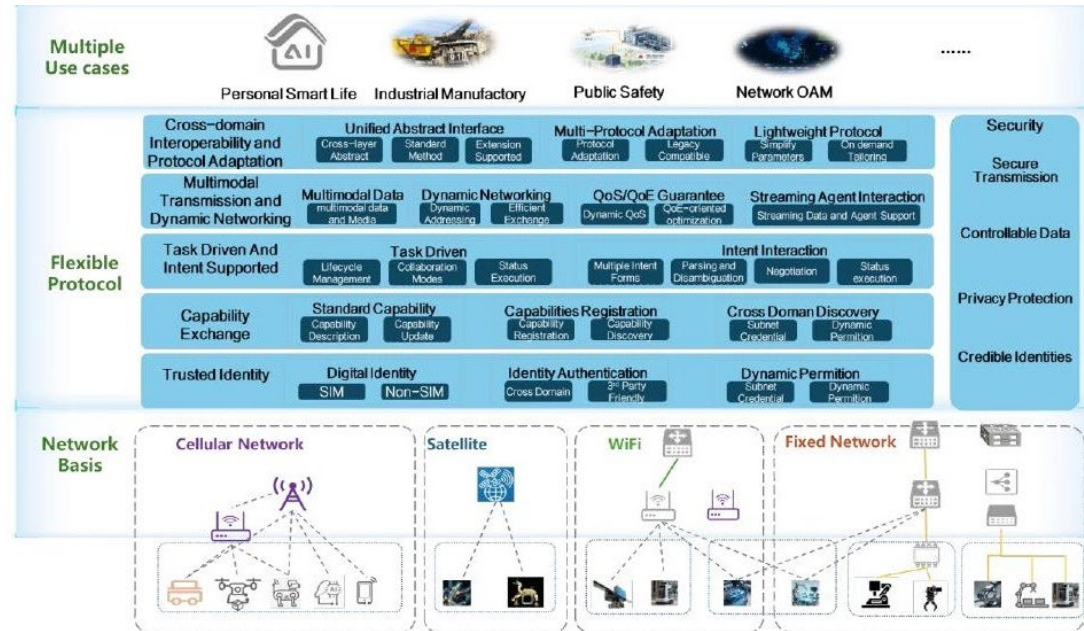


Figure 5 · Overall architecture — layered, protocol-agnostic, compatible with A2A / MCP

CHAPTER 06

Challenges and cooperation opportunities with ETSI & ITU-T

Open questions and three concrete propositions

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Open questions — and how the industry can respond

CHALLENGES



Business value is hard to see

The commercial value of AI in networks is still insufficiently tangible — concrete, quantifiable proof of cost savings and revenue growth is lacking.



Limited application scenario exploration

New service scenarios for AI-driven network applications have yet to be fully explored. Persistent gaps exist between network capabilities and AI requirements, hindering innovation in cross-domain use cases.



Need for Deeper Network Architecture Evolution

Current architectures are not fully optimised for core AI needs such as seamless data flow and compute-power coordination.



ACTIONS



Establish measurable commercial validation

Build evaluation frameworks linking technical metrics to business KPIs; use quantifiable pilots to demonstrate tangible ROI.



Drive cross-industry scenario innovation

Form innovation alliances with verticals to design integrated “network + AI + application” solutions that accelerate the deployment of new use cases.



Advance AI-native architecture evolution

Align with 6G roadmaps to embed native support for AI — an architecture with intelligence built in.

From “interested in cooperation” to three concrete things for 2026



01

Share Open-Lab validation results

Feed selected GTI Open-Lab outcomes into ETSI ISG ENI / ZSM use-case repositories and ITU-T FG-AINN study items.

ENI · ZSM · FG-AINN



02

Joint challenge-style activity

Test AI-native capabilities across federated environments — the AI Telco Troubleshooting Challenge is a useful reference model.

GSMA · ETSI · ITU · IEEE GenAINet · TM Forum



03

Joint global cooperation programme

Partner with ETSI / ITU-T to launch open global cooperation projects — bringing enterprises and academia together on research with high value for industrial rollout.

Enterprises · Academia · Global rollout

GTI feeds validated industrial evidence into the standards process — complementing ENI, ZSM and FG-AINN, not competing with them.

THANK YOU

AI-native network evolution will be judged by what works in deployment.

That is where alliances such as GTI earn their place alongside the standards bodies — bringing validated industrial practice into the AI-native discussion.

Dr. Mathias Gabrysch

GTI · 5G-Advanced × AI Working Group

www.gtigroup.org

admin@gtigroup.org



Welcome to Join GTI

GLOSSARY

Abbreviations and organisations used in this talk



Organisations & bodies

GTI	Global TD-LTE Initiative — global operator/industry alliance
ETSI	European Telecommunications Standards Institute
ITU-T	ITU Telecommunication Standardization Sector
SG13	ITU-T Study Group 13 (future networks)
ISG	Industry Specification Group (ETSI)
GSMA	Global System for Mobile Communications Association
3GPP	3rd Generation Partnership Project
TM Forum	Telecom industry association (autonomy levels)
NFV ISG	ETSI Network Functions Virtualisation group



Standards & frameworks

FG-AINN	Focus Group on AI-Native for Telecom Networks (ITU-T)
ENI	Experiential Networked Intelligence (ETSI ISG)
ZSM	Zero-touch network & Service Management (ETSI ISG)
AN	Autonomous Networks
AN L4	Autonomous Networks Level 4 (high autonomy)
A2A	Agent-to-Agent (interaction protocol)
MCP	Model Context Protocol
ION-2030	ITU-T optical-network-for-AI framework



Technology & network

5G-A	5G-Advanced (3GPP Rel-18 onward)
AI / ML	Artificial Intelligence / Machine Learning
LLM	Large Language Model
RAN	Radio Access Network
O&M	Operations & Maintenance
UL / DL	Uplink / Downlink
MTTR	Mean Time To Repair
QoE	Quality of Experience
SMO	Service Management & Orchestration