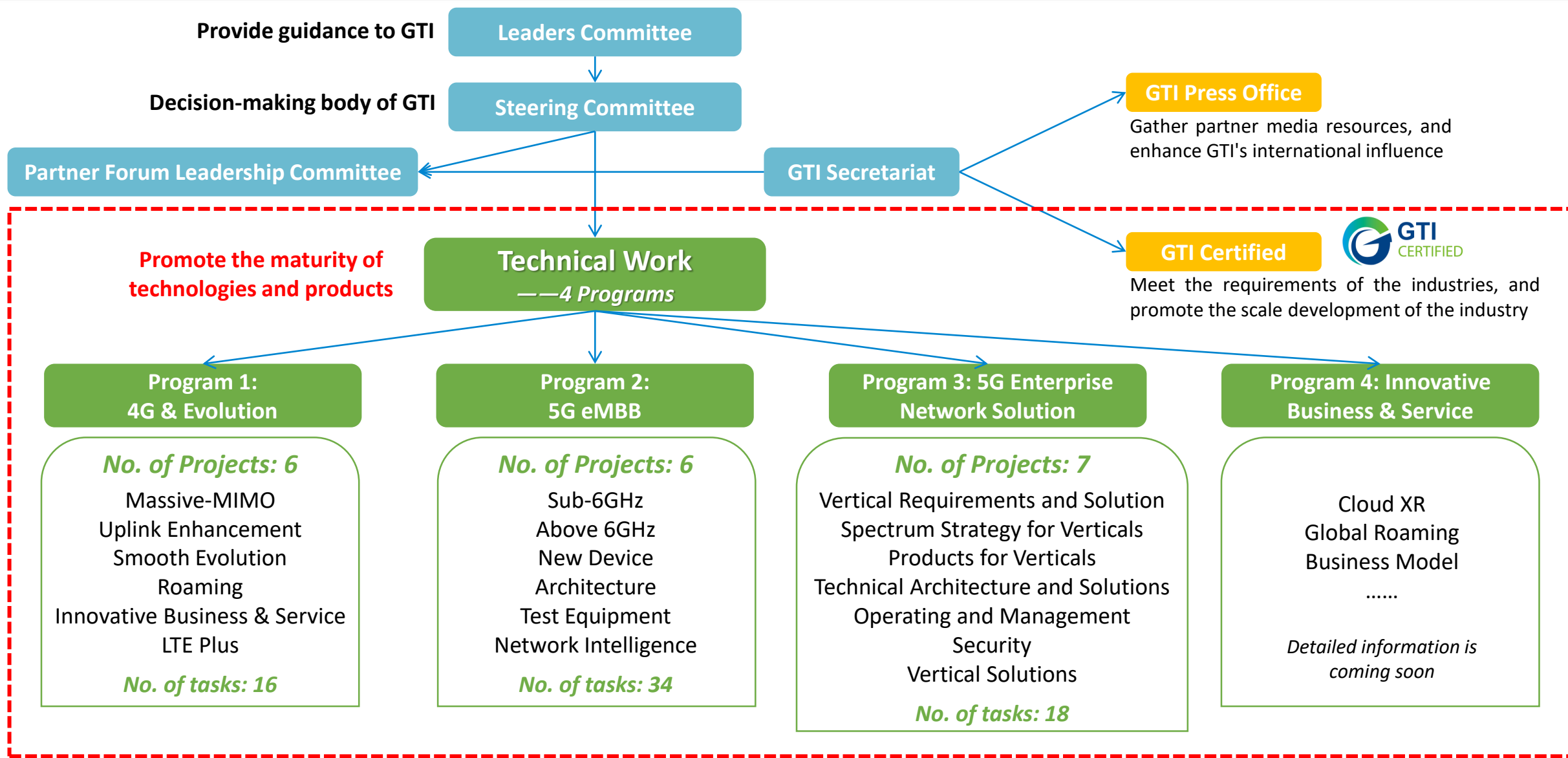


GTI Technical Work Overview



01

4G & Evolution

- Continue to improve **4G network capacity and capability**
- Promote **4G/5G collaborative evolution**

02

5G eMBB

- **Accelerate Sub-6GHz industry maturity:** release NSA recommendation whitepaper, learn key lessons from NSA/SA deployments and further focus on SA key issues such as IODT, MEC, network slicing, 4G/5G interworking, VONR, etc.
- **Promote 5G global device maturity:** research on solutions of 5G Device for networking slicing, research on 5G device technology evolution and performance enhancement, GTI Certification of 5G chipset and device, exploration on S-Module application and 5G-enabled industry device
- **Strengthen intelligent network research:** specify the benchmark test and evaluation approach for classification of network intelligence level, sort out high priority intelligent network use cases and study the solutions from NE and MS aspect
- **Kick off mm-wave study:** research on mm-wave products and test solutions

03

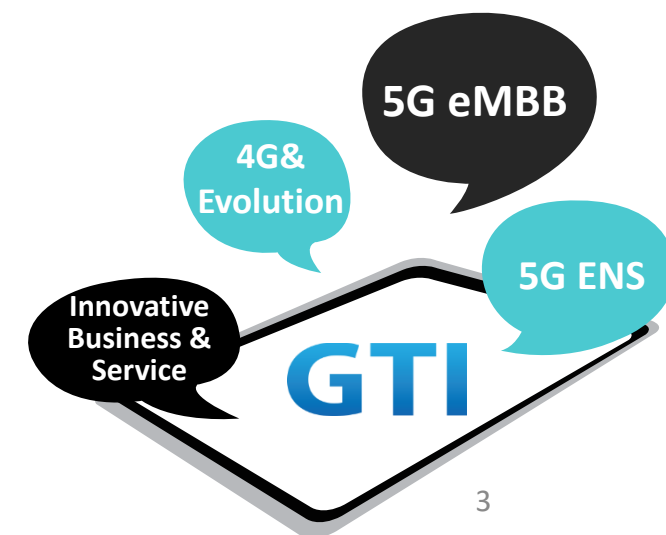
5G Enterprise Network Solution (5G ENS)

- **Promote operator-provided ENS** by synergy between GTI and other relevant ICT and OT organizations
- **Explore advantages and key technical capabilities** of ENS to fit in industrial value chain
- **5G S-Module and device solutions** in Greenfield and Brownfield verticals
- Investigate solutions for operators to cope with the global trend of allocating local licensed spectrum for verticals
- Research on **security** of 5G vertical industry service and device

04

Innovative Business & Service

- Explore 5G business models...
- Research on 5G applications such as **5G Cloud XR...**
- Reach out to other vertical industry platforms for 5G joint innovation



Topic: 5G Commercial Experience & Performance Enhancement

Background and issue:

While 5G is rolling out globally, key issues towards 5G commercial deployment such as 4G/5G interoperability, voice program and performance and TDD/FDD convergence are drawing more attention.

Discussion point:

- What are the lessons learnt from SA deployment and trials?
- How to further enhance the network performance?

Topic: Intelligent Network

Background and issue:

5G network becomes more complex as the number of devices and diversity of services increase, which brings unprecedented challenges to 5G network operation, and it is no longer economically feasible to keep increasing the human source input for network OAM (Operation Administration and Maintenance). Therefore, network intelligence has become an expected solution.

Discussion point:

- How AI can enable 5G network intelligence (use cases and impact on network architecture) ?
- How to incorporate DICT with RAN for a green and intelligent 5G Network?

Topic: GTI 5G Global Device

Background and issue:

The maturity of 5G device supporting multi-mode multi-band becomes critical when it comes to realizing global roaming and economy of scale. The industry requires the development and availability of global devices at scale to support the massive rollout of 5G services.

Discussion point:

- What are the common requirements on 5G Global Device in terms of bands, modes, features?
- What are the key technical issues (e.g. co-existence between WiFi and 5G, SRS requirements, OTA requirements) and how to jointly overcome?

Topic: Network slicing feature of 5G smart phones

Background and issue:

Network slicing feature on smart phones is critical to operators, as it could provide differentiated services tailored to specific applications and enable flexible business models. This is yet to realize due to the lack of unified solutions to network slicing in smart phones and modifications to operating systems and applications.

Discussion point:

- What are the key technical issues of realizing network slicing in 5G smartphone?
- How should the industry jointly solve the issues, and push the OS providers (e.g. Google, Apple) to make adaptive modifications in need?

Topic: 5G Enterprise Network Solution

Background and issue:

Despite the consensus on significance of 2B market, the industry seeks for a deeper understanding on key requirements of specific verticals, and E2E technical solutions with the right architecture and technologies for diverse scenarios.

Discussion point:

- What is the strongest demand in vertical industries such as factories and ports? How can digital twins empower vertical industries ?
- How to plan and use licensed spectrum to better empower vertical industries ?
- What are the core capabilities of 5G CPE/DTU and industrial gateway and how could they be used to address pain point issues ?
- How TSN (Time Sensitive Network)/5G virtual private network/edge cloud can empower vertical industries ?
- What are the key technical issues of guaranteeing the E2E security of vertical industries?

Thank you!

More than 40 whitepapers and technical reports released in 2019-2020
accelerating 5G commercialization, guiding the industry development



Spectrum

- GTI 5G mmWave Spectrum Whitepaper
- GTI TDD Spectrum Whitepaper v4.0
- GTI 5G Device RF Component Research Report-v3.0
- GTI 5G Device OTA Test Spec -v1.0
- GTI 5G S-Module Whitepaper_v2.1
- GTI 5G Device Power Consumption Whitepaper_v3.0
- GTI 5G Device Function and Performance Test Specification_v3.0



Device

- GTI Guideline for Device Certification V4.0
- GTI Best Practice for FOTA of NB-IoT Device_V1.0
- GTI Test Solution for MIoT Terminal-Vehicle Detector in Intelligent Parking System V1.0.0
- GTI NB-IoT Terminal OTA Test Specification-v1.1.0
- GTI Sub-6GHz 5G Device Whitepaper_v4.0
- GTI Test Solution for MIoT Terminal-Smart Smoke Detector V1.1.0
- GTI MIoT Device Solution Whitepaper v3.1
- GTI 5G Sub-6GHz Device Test and Certification Whitepaper_V1.0



Network

- GTI NSA Commercial Network Deployment Whitepaper V2.0
- GTI Sub-6GHz 5G Pre-Commercial Whitepaper_v1.2
- GTI 5G Whitepaper Multiple Operators Coexistence in the Same 5G Frequency Bands
- GTI LTE, 5G NR Private Networks Whitepaper v1.0
- GTI 5G MEC Whitepaper_v1.0
- GTI IoT_Network Performance Evaluation Whitepaper



<http://www.gtigroup.org/Resources/rep/>



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GTI Device Certification Achievements

On 5G and M-IoT

5

Test Specifications

- GTI 5G Device Function and Performance Test Specification V3.0.0
- GTI NB-IoT Module Test Specification
- GTI NB-IoT Interoperability Test Specification
- GTI Test Solution for MIoT Terminal -Smart Smoke Detector V1.0.0
- GTI 5G Device Function and Performance Test Specification (v4.0)

5

Recognized Test Labs



中國泰爾實驗室



Gumi Electronics & Information Technology Research Institute



27

Certified Products

Chipsets, modules and devices



<http://www.gtigroup.org/e/action/ListInfo/?classid=610>