



SCF's 6G Positions and Strategy

Prabhakar Chitrapu (Chair-SCF) & Simon Fletcher (CSO-SCF)

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SCF Small Cell & Small Cell Network 6G positions



SCF Strategy for 6G Small Cells & Small Cell Networks

Categories

Use Cases

Architectures &
Interfaces

Spectrum & AI

Deployment & testing

Use cases



Immersive and
Interactive Education,
Entertainment, Fitness,
and Gaming

Mixed Reality (MR)
Telepresence

Cooperative Mobile
Robots

Satellite, HAPS & Drone
based Direct-to-Device
Non-Terrestrial
Networks (NTN)
Communications

Human-aware, Human-
centric, Human-in-the-
loop networking

Experience/Emotion-
aware adaptive
networks

Architecture

- Disaggregated RAN/SCN architectures
 - Develop in coordination with 3GPP & O-RAN Alliance; common management for SCNs & Macro-RANs
- Enterprise/private/mission critical SCNs
 - Comprehensive connectivity and enterprise service solutions with edge computing, storage and intelligence
- Infrastructure sharing
 - Better economics, scalability and aesthetics
- NTN & Wi-Fi integration

Interfaces/APIs

- FAPI standards
 - Continue enhancement of de facto industry standard for 6G
- nFAPI evolution
 - Leverage low bandwidth & relaxed latency to develop 6G interfaces
- RAN-APIs:
 - To enable Edge Intelligence via local AI/ML algorithms

Spectrum priorities and AI in 6G SCNs



Spectrum priorities

- Allocation & regional harmonization (shared or dedicated) for Small Cell deployments
- Study of FR3 Band (7-14GHz) for dense SCNs

AI in 6G SCNs

- Integrating
 - RAN and non-RAN info
 - 6G & non-3GPP network info
 - Human & IOT devices
- Algorithms for
 - Optimal scheduling & beamforming
 - Interference management
 - Security & anomaly detection
 - Energy savings
 - Infrastructure sharing

Deployment and testing



Deployment

- SC/SCN sweetspots
 - Indoor
 - Enterprise/private/mission-critical networks
 - Indoor & outdoor
 - Venues
 - Outdoor
 - Dark-spots & hot-zones
- Cloud based & shared-infrastructure deployments
- Engage Local Regulatory Authorities to Remove Regulatory Frictions
- Engage Enterprise/Private Vertical Customers & Address Vertical Unique Requirements

Testing

- SCF recommends 6G development
 - Real-world results + paper analysis
 - Small cells as ideal test platforms
 - Scenarios for AI-functionality verification & shared infrastructure architectures

SCF's 6G SC & SCN Strategy



- Analyze 6G SC & SCN market readiness
- Collaborate with relevant external organizations
 - O-RAN Alliance , OAI, 3GPP, ETSI, Linux Foundation OCUDU and Duranta, GSMA
- Influence 3GPP standards and develop new & enhanced SCF standards
 - indicating where Small cell and DAS industry has priority
- Shape SCF work roadmap & plan in near term
 - FAPI user base and preservation of investment
 - Enterprise and AI convergence
 - ISAC low resolution today and pathway to higher resolution tomorrow
 - Harmonisation in FR3/2 and Local mobile
 - JOTS maturing
 - NTN and TN converged value propositions



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