

5G Monetization: From NSA Limits to SA, NEF & Network APIs

The **5G Monetization: From NSA Limits to SA, NEF & Network APIs** course delivers a practical journey through the real economics of 5G starting from the limitations of 5G NSA deployments and building toward the full monetization potential of 5G Standalone architecture.

Designed for network architects and core engineers, this training bridges technology and business value. It opens with a critical question every operator faces after launching NSA: why hasn't revenue grown as expected? Participants will map NSA architectural constraints against SA commercial capabilities slicing, private 5G, URLLC, and the API economy.

The course then dives deep into the 5G API exposure framework: NEF, CAMARA, CAPIF, and SCEF covering architecture, real operator deployments, message-level call flows, and end-to-end monetization strategies.

Duration : 6 hours

Content :

Module 1: The 5G SA Deployment

- 5G NSA reality check:
- 5G SA migration
- 5G SA Deployment worldwide

Module 2: NSA vs SA The Monetization Map

- Architecture vs. business model shift: what SA actually enables
- Use case matrix: NSA-sufficient vs. SA-exclusive revenue streams
- 5G Use cases under 5G SA
- Network slicing as a commercial product: SLA-backed managed services
- Bridge: the primary SA monetization tool is network API exposure

Module 3: The 5G API Economy

- From connectivity pipe to API marketplace: the operator platform shift
- GSMA Open Gateway: 30+ operators, what is already live
- Revenue models: wholesale, retail, aggregator
- Real case: business model and lessons learned

Module 4: 5G SA Architecture for API Exposure

- SBA deep dive: NFs, SBI interfaces, service mesh
- The exposure stack: NEF → CAPIF → CAMARA layering
- OAuth2, token management, API security framework

Module 5: NEF Deep Dive

- NEF evolution: 3GPP Rel.15 to Rel.18
- Traffic Influence, Event Exposure, Analytics Exposure APIs
- NWDAF integration: exposing AI-derived insights externally
- UE reachability, BDT for IoT, NEF security and quota management

Module 6: CAMARA APIs in Production

- CAMARA governance: Linux Foundation, 3GPP alignment, versioning
- QoS: session creation, QoS profiles, gaming and video use cases
- Device Location, SIM Swap, Number Verification: anti-fraud patterns
- Network Slice Booking API: enterprise SLA negotiation

Module 7: CAPIF & SCEF

- CAPIF: API invoker onboarding, service discovery, CCF architecture
- SCEF role in LTE/NB-IoT and bridge to NEF in hybrid networks
- NIDD for low-power IoT devices
- SCEF → NEF migration strategy for 4G/5G parallel deployments