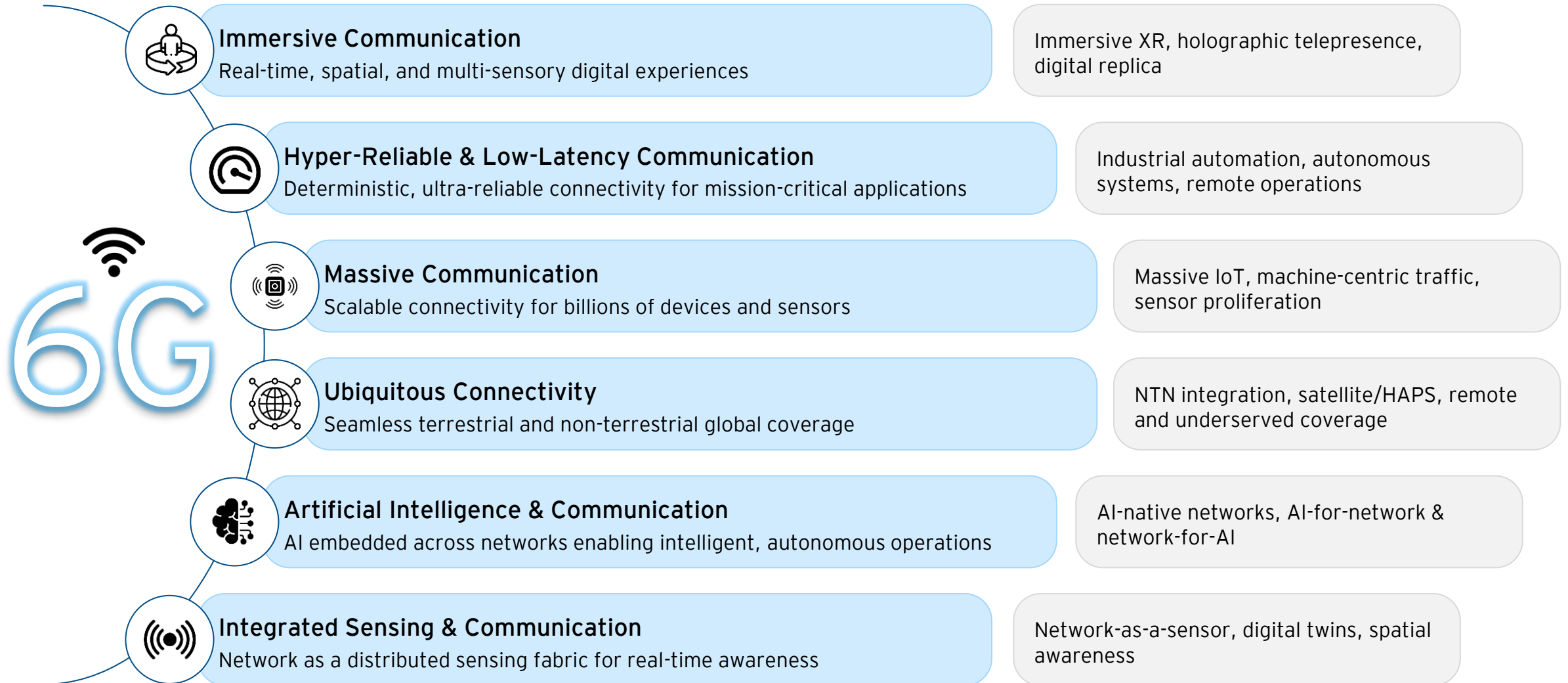


Network Evolution and Architecture: India's Readiness for 6G Infrastructure

Why CXOs Must Act Now

May 2026

6G extends beyond faster connectivity, it marks the transition to intelligent, sensing-enabled digital infrastructure



6G evolution is driven by three fundamental shifts across intelligence, architecture, and capability



Intelligence layer

- **AI-native networks & intelligent connectivity:** AI embedded end-to-end for optimization
- **AI-native autonomous systems:** closed-loop automation, self-heal, zero-touch operations

Automation
to
Autonomy

Hardware centric
to
Software defined

Architecture layer

- **5G Advanced to 6G roadmap:** Cloud-native, disaggregated, API-driven networks
- **Integrated optical & wireless:** Fiber and wireless convergence for scale and latency
- **OSS/BSS transformation:** Real-time orchestration and platform monetization



Capability layer

- **Fluid Antenna Systems (FAS):** adaptive antennas improving reliability/efficiency
- **Multimodal sensing:** network as a sensing fabric for context-aware services

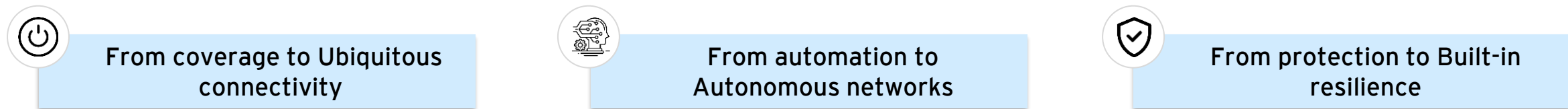
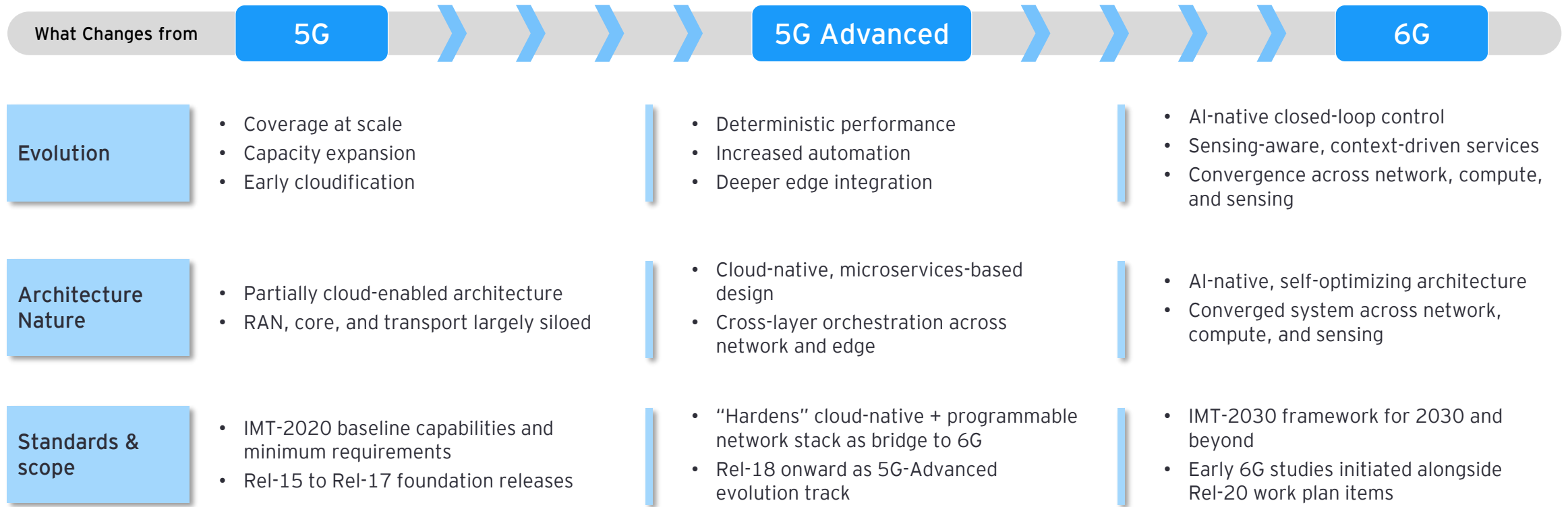
Communication
to
Sensing platforms

Reactive connectivity



Predictive, autonomous, sensing-enabled networks

5G Advanced is the bridge, it hardens the architecture required for 6G's AI-native, converged infrastructure



India can lead by scaling software-defined networks, but readiness needs simultaneous progress across fiber, edge, and digital ecosystem

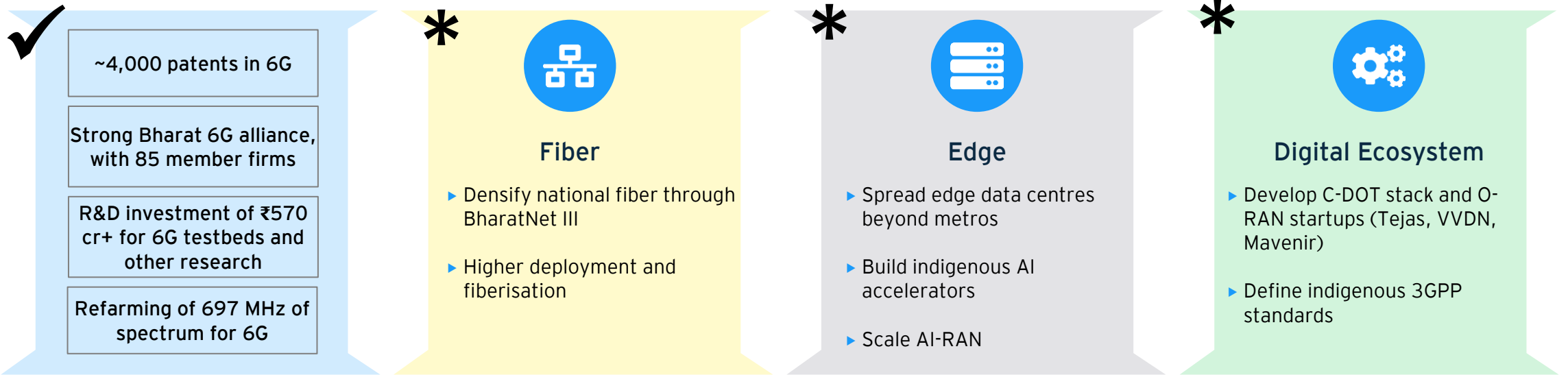


Inception

Deployment

India's 6G readiness depends on leveraging strengths in **software development, a vast and growing pool of AI and engineering talent, and globally recognized digital public infrastructure such as Aadhaar, rural connectivity, and India Stack**

India's IT-software strength becomes a structural advantage in SDN, as 6G shifts value from hardware to software-defined, AI-native



✓: Pillar completed *: Pillar to be strengthened

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