



#CompulsoryPeaceICTsEdu | Campaign #8

ICTs, AI, & Space Tech for Girls

International Girls in ICT Day 2026: "AI for Development: Girls Shaping the Digital Future"



Architecting the Invisible: Neha Sharma and the Roadmap to 6G Connectivity




Girls in ICT Day 2026

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Date : 25-04-26





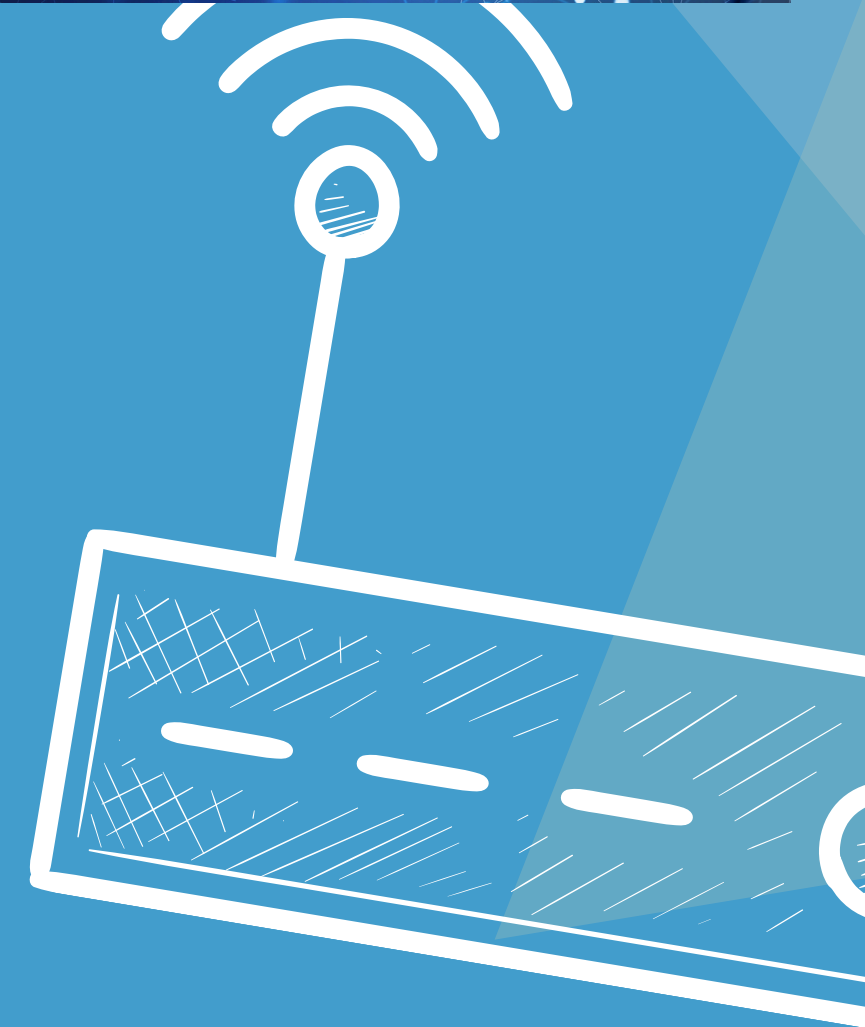
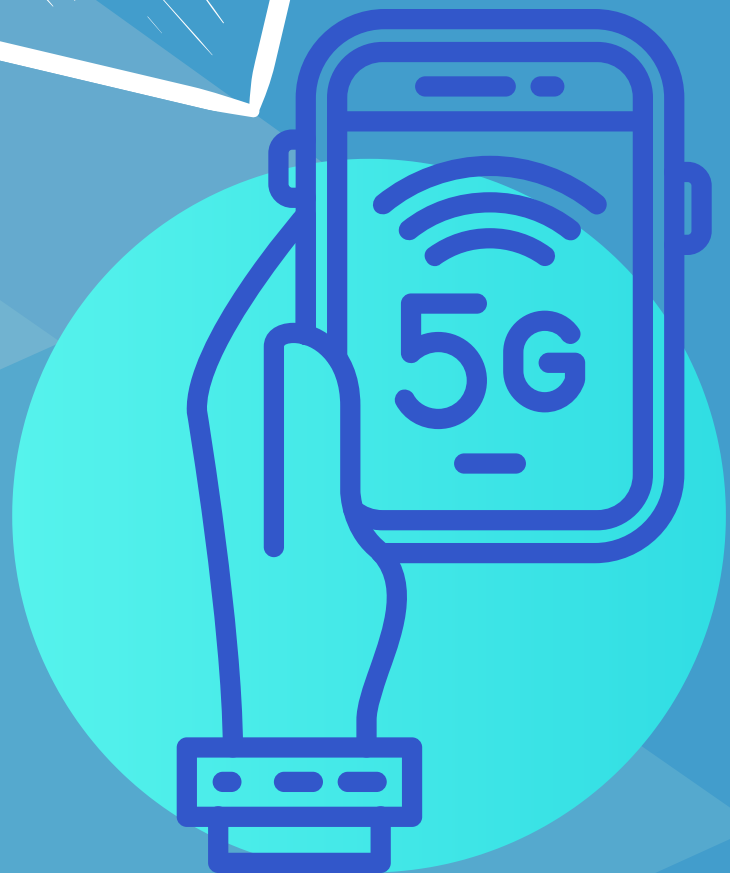
Evolving Connections

We live inside signals we cannot see.
Yet they shape everything we are becoming.

From 2G to 5G...

we now stand at the edge of something deeper.

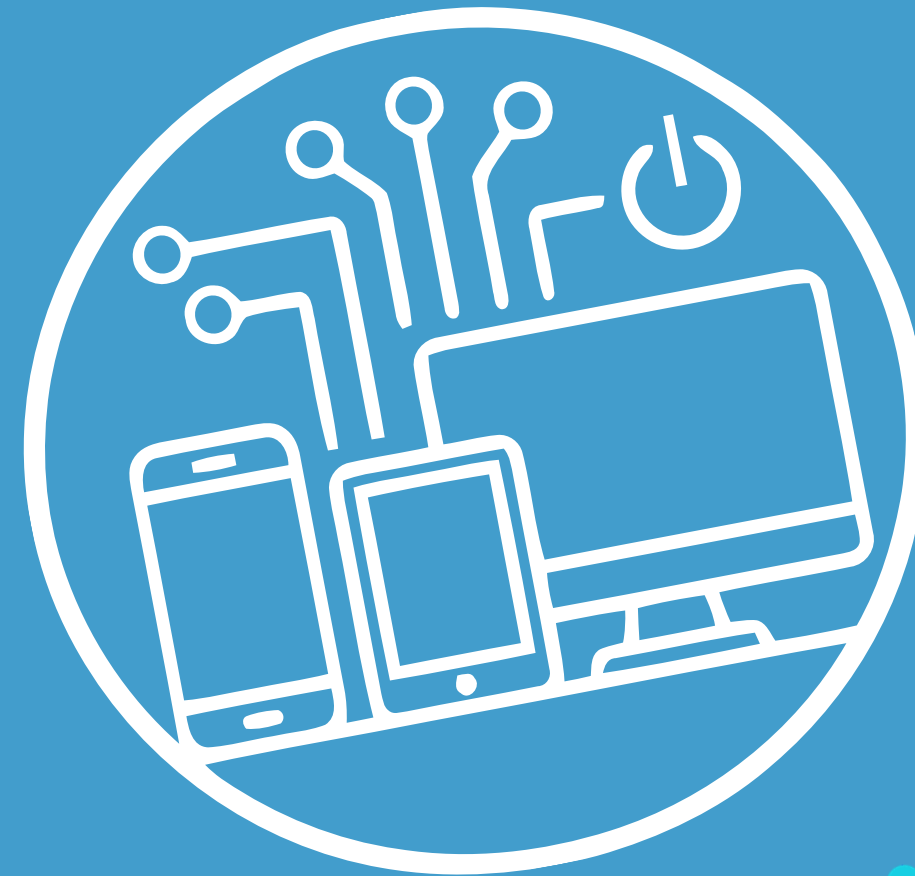
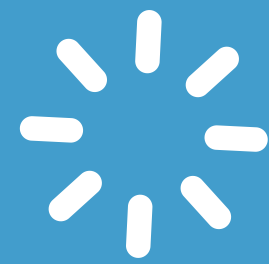
6G is not just faster connectivity.
It is the architecture of intelligence.



Why this matters

5.3 billion people are connected today.
Yet connectivity remains unequal.

The question is no longer:
"How fast can we communicate?"
But:
"How seamlessly can the world think together?"



NEHA SHARMA

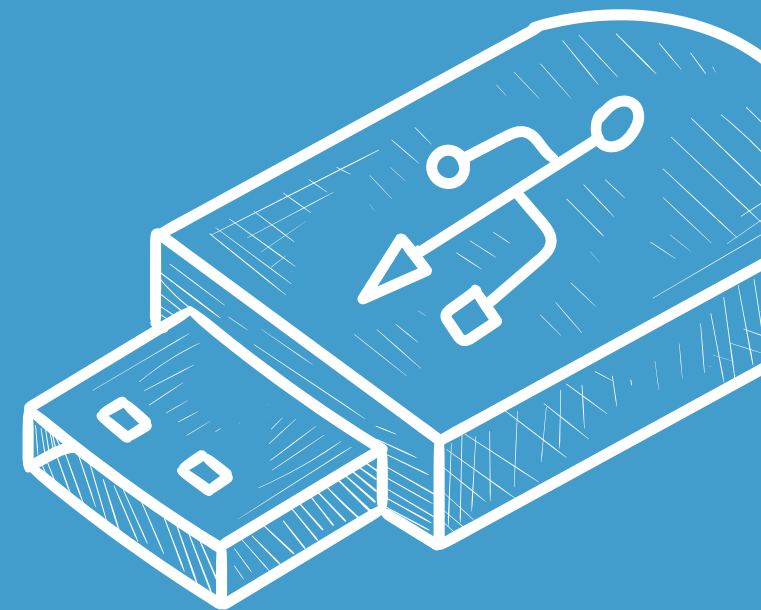
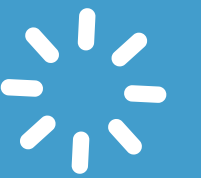


Director & Principal
Architect
Samsung R&D Institute
India, Bangalore

Bridging Research & Industry
Transforms advanced wireless
research into real-world global
standards

Core Research Areas

- AI-Native 6G Networks (intelligent RAN systems)
- Next-Gen Connectivity (THz, RIS, Metaverse use cases)
- Sustainable Networks (energy-efficient IoT & smart spectrum use)



The journey of Neha Sharma



1. THE BEGINNING

A curiosity about how things connect and communicate.



2. THE EXPLORATION

Dived deep into the world of technology, learning the fundamentals of communication systems, AI, and networks.



3. THE TRANSFORMATION

From understanding technology to questioning its limits and exploring new possibilities.



4. THE FOCUS

Passion led to a focused path – AI, Connectivity, and Space Technologies – working at the intersection of these future domains.

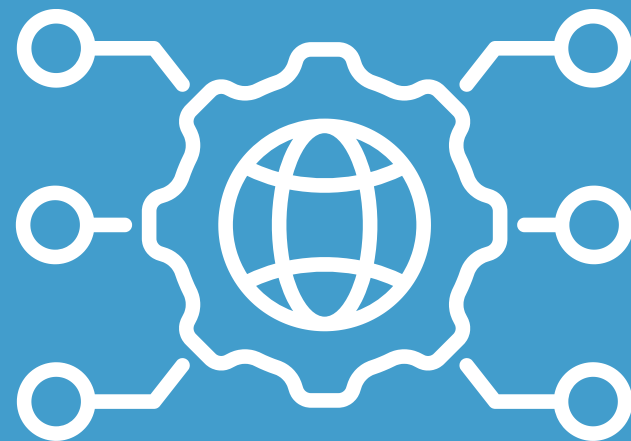


5. THE MISSION

Building intelligent, inclusive and future-ready connectivity solutions that empower people and transform lives.



The journey built on curiosity, built on learning and focused on impact



Defining perspective

Connectivity is not just infrastructure.
It is access. It is opportunity. It is equity.
This shaped her focus on:
Intelligent networks
Scalable global systems
Future-ready communication



Neha Sharma represents:
Interdisciplinary thinking (AI +
Communication + Space)
Future-oriented problem solving
Technology with purpose
She understands not just 6G
but why it must exist



Evolution of connectivity

2G → Voice

3G → Data

4G → Mobile Internet

5G → Real-time systems

6G → Intelligence + Integration +
Immersion

From connected devices
to connected realities

What is 6G

Expected around 2030

Terahertz communication

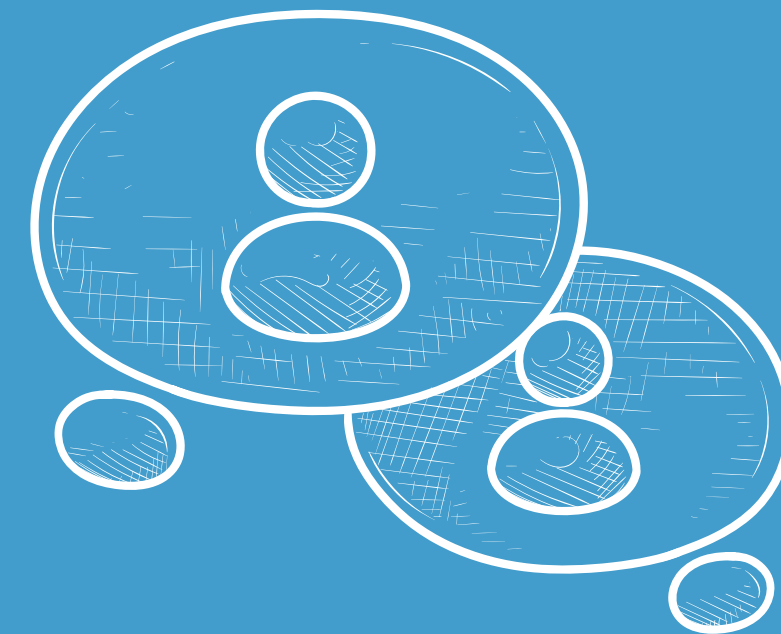
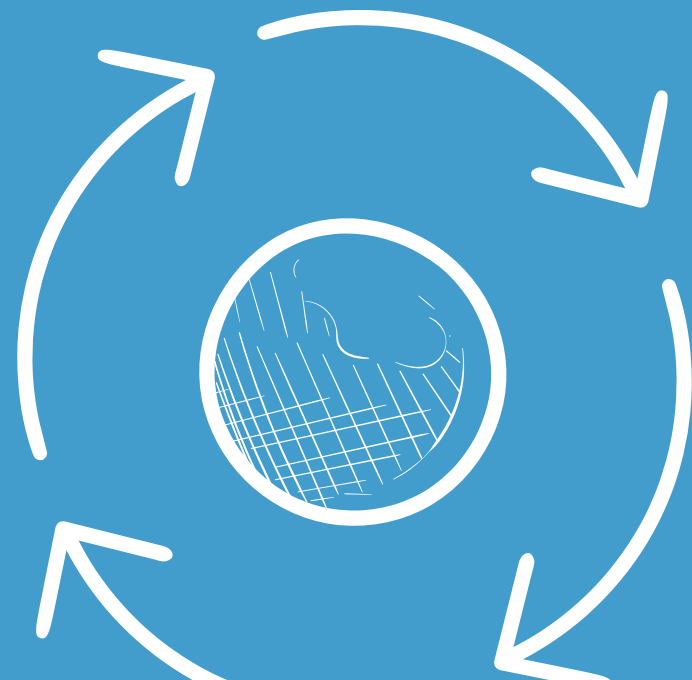
AI-native networks

Ultra-low latency

Holographic communication

Space-air-ground integration

6G is where communication becomes
cognition



How 6G works ?

Three core layers:

Physical Layer

Terahertz signals

High-speed transmission

Intelligence Layer

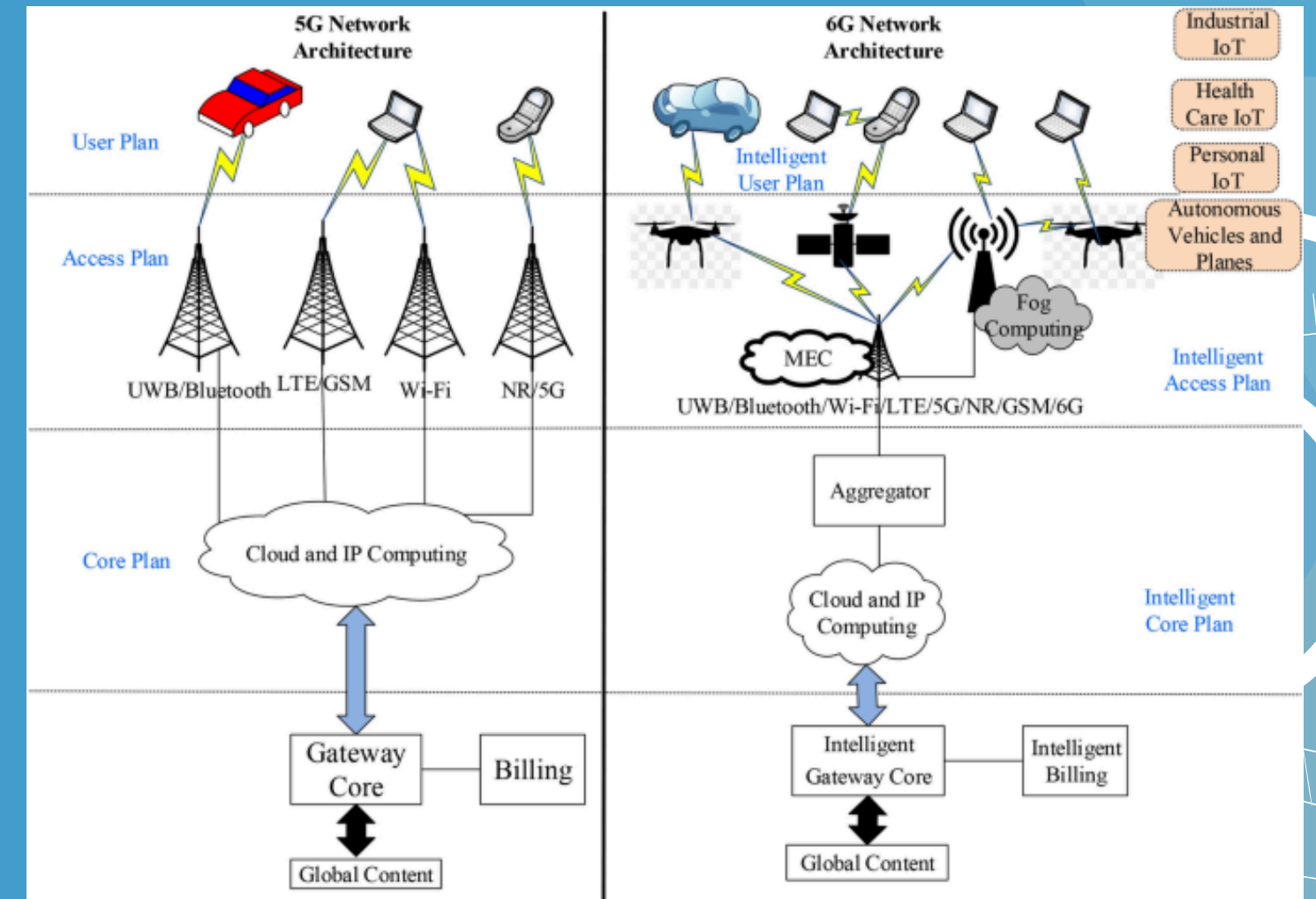
AI-driven optimization

Self-learning systems

Network Layer

Space + Air + Ground integration

6G is a system of systems



AI and edge computing

AI is the foundation of 6G
Predictive traffic control
Autonomous network decisions
Self-healing systems
Networks will not just respond
They will learn and adapt

Processing moves closer to users
Benefits:

Ultra-low latency

Real-time responses

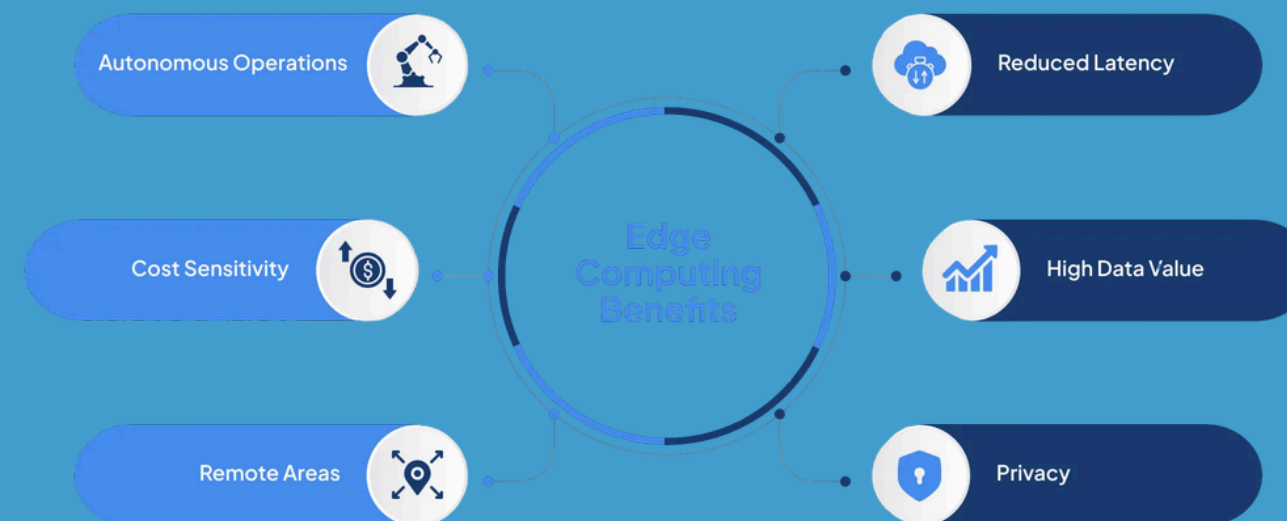
Applications:

Autonomous vehicles

AR/VR

Remote operations

Decisions happen instantly



Thoughtful Reflections

6G extends beyond Earth

LEO satellites

High-altitude platforms

Ground infrastructure

Benefits:

Global coverage

Reliable connectivity

Disaster resilience

Connectivity becomes three-dimensional



The future will not be seen

It will be experienced

And it will be built

by those bold enough

to design the invisible

