

Budget On Technology Fy2019-fy2026

Dhruv - [Notebook Link](#)

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Questions

1. Summarize technology and digital economy emphasis in Union Budgets FY2019-FY2026

Technology and Digital Economy in Union Budget Speeches (FY2019-FY2026) - Consolidated Analysis

FISCAL YEAR	KEY TECHNOLOGY INITIATIVES	MAJOR ALLOCATIONS (₹ CRORE)	STRATEGIC FOCUS AREAS
FY2019	NITI Aayog AI National Program, 5G Test Bed at IIT Chennai, Digital India allocation doubled to ₹3,073 crore	₹10,000 crore for telecom infrastructure	AI, IoT, Blockchain, Digital Infrastructure, 5G Development
FY2020	Quantum Technology Mission (₹8,000 crore over 5 years), BharatNet (₹6,000 crore), Data Centre Parks Policy	₹8,000 crore for Quantum Mission	Quantum Computing, Data Infrastructure, Digital Public Infrastructure, Start-up Ecosystem
FY2021	National Digital Educational Architecture (NDEAR), Digital Census (₹3,768 crore), National Language Translation Mission	₹50,000 crore for National Research Foundation over 5 years	Digital Education, Digital Governance, PLI Schemes (₹1.97 lakh crore for 13 sectors)
FY2022	Digital Rupee (CBDC), 75 Digital Banking Units, Ayushman Bharat Digital Mission (₹1,600 crore over 5 years)	5G spectrum auctions, PLI for 5G ecosystem	Fintech Innovation, 5G Rollout, Digital Health, E-Passports, Infrastructure Status for Data Centres

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FY2023	CBDC Pilots (Wholesale & Retail), 75 DBUs launched, Digital Payments Campaign	7,400 crore digital payments of ₹126 lakh crore through UPI in 2022	G20 Digital Economy Working Group, Digital Public Infrastructure, Account Aggregator Framework
FY2024	3 AI Centres of Excellence, National Data Governance Policy, Deep Tech Fund (₹1 lakh crore)	₹1 lakh crore for Deep Tech innovation	AI in Agriculture/Health/Sustainable Cities, Global DPI Repository, Mission Karmayogi (iGOT platform)
FY2025	4th AI Centre for Education (₹500 crore), 50,000 Atal Tinkering Labs, Broadband to all Govt schools	₹20,000 crore for private sector R&D	AI in Education, Digital Infrastructure Expansion, National Geospatial Mission, Gyan Bharatam Mission
FY2026	RDI Scheme (₹1 lakh crore over 6 years), Deep Tech Fund of Funds, 10,000 PM Research Fellowships	₹20,000 crore for RDI in FY2026	Private Sector-Driven Innovation, Quantum Computing, Biotechnology, TRL 4+ Projects, Strategic Technologies

Key Insights

Evolution of Technology Policy Framework (FY2019-FY2026)

The Union Budget speeches from FY2019 to FY2026 demonstrate a clear evolution in the government's approach to technology and the digital economy, progressing from foundational infrastructure building to innovation-led transformation through private sector participation.

Phase 1: Foundation Building (FY2019–FY2020)

The initial phase focused on establishing digital infrastructure and recognizing emerging technologies as economic game-changers. FY2019 emphasized **AI, IoT, 3D printing, blockchain, and 5G as transformative technologies**, with NITI Aayog tasked to initiate a national AI program. The budget doubled Digital India allocation to ₹3,073 crore and provided ₹10,000 crore for telecom infrastructure.

FY2020 marked a strategic leap with the announcement of the **₹8,000 crore Quantum Technology Mission over 5 years** and the Data Centre Parks Policy. The budget positioned "data as the new oil" and allocated ₹6,000 crore for BharatNet to link 100,000 gram panchayats with FTTH connections.

Phase 2: Application Layer Innovation (FY2021–FY2022)

FY2021 shifted focus from infrastructure to application-layer innovations, introducing the **National Digital Educational Architecture (NDEAR)** and announcing India's **first digital census with ₹3,768 crore allocation**. The budget launched **PLI schemes for 13 sectors with ₹1.97 lakh crore outlay over 5 years**, including medical devices, mobile phones, electronic components, and telecom equipment.

FY2022 introduced transformative fintech innovations with the **Digital Rupee (CBDC) using blockchain technology** and **75 Digital Banking Units across 75 districts**. The budget announced 5G spectrum auctions and PLI schemes for design-led 5G manufacturing, while granting infrastructure status to data centres and energy storage systems.

Phase 3: Implementation and Global Leadership (FY2023–FY2024)

FY2023 emphasized implementation of previously announced initiatives, with **RBI launching CBDC pilots in both Wholesale (November 1, 2022) and Retail (December 1, 2022) segments**. The budget leveraged India's G20 Presidency to position the country as a global leader in Digital Public Infrastructure, with the **Digital Economy Working Group focusing on DPI, Cyber Security, and Digital Skilling**.

FY2024 marked the beginning of AI-focused transformation with **three AI Centres of Excellence for agriculture, health, and sustainable cities**. The budget announced a **₹1 lakh crore Deep Tech Fund for long-term loans to tech-savvy youth and companies**, and introduced the **National Data Governance Policy to democratize data access for innovation**.

Phase 4: Private Sector-Driven Innovation (FY2025–FY2026)

FY2025 demonstrated unprecedented scale in digital infrastructure expansion with **50,000 Atal Tinkering Labs in government schools over 5 years** and broadband connectivity to all government secondary schools. The budget allocated **₹20,000 crore for private sector-driven R&D** and introduced the **4th AI Centre of Excellence specifically for education with ₹500 crore**.

FY2026 marked a fundamental strategic pivot with the landmark **Research, Development and Innovation (RDI) Scheme with ₹1 lakh crore outlay over 6 years (₹20,000 crore in FY2026)**. This represents the largest commitment to private sector innovation in India's budget history, focusing on **energy security, climate action, quantum computing, AI, biotechnology, and digital economy**. The scheme finances projects at **Technology Readiness Level (TRL) 4 and above**, emphasizing commercialization-ready technologies.

Strategic Framing Across Budget Cycles

Technology as Economic Multiplier

Throughout FY2019-FY2026, technology was consistently framed as a critical driver for achieving India's economic aspirations. FY2020 positioned technology alongside agriculture, infrastructure, and textiles as **major employment generators for achieving the 5 trillion dollar economy target**. FY2022 emphasized "**digitally-led transformation of all sectors**" as foundational for India's Amrit Kaal vision.

Inclusive Development Through Digital Infrastructure

The budgets emphasized bridging the digital divide through initiatives spanning rural connectivity, financial inclusion, and digital governance. Key milestones included:

- **Completion of Phase I BharatNet connecting one lakh gram panchayats (FY2019)**
- **₹6,000 crore for BharatNet to link 100,000 gram panchayats with FTTH (FY2021-FY2023)**
- **100% of 1.5 lakh post offices on core banking system (FY2022-FY2023)**
- **Broadband connectivity to all government secondary schools (FY2025)**

Trust-Based Governance and Regulatory Reforms

The budgets progressively emphasized technology-enabled trust-based governance. FY2022 announced **Ease of Doing Business 2.0 with digitization of manual processes and IT bridges between central-state systems**. FY2023 highlighted that **more than 39,000 compliances were reduced and 3,400 legal provisions decriminalized**. FY2026 announced a **High-Level Committee for Regulatory Reforms and Jan Vishwas Bill 2.0 to decriminalize 100+ provisions**.

Global Leadership in Digital Public Infrastructure

India's G20 Presidency in 2023 was leveraged to position the country as a global DPI leader. The **first-ever multilateral consensus on DPI** was achieved, with the **Global Digital Public Infrastructure Repository featuring 54 DPIs from 16 countries**. India pledged **25 million USD to the Social Impact Fund for DPI implementation in the global south**.

Sectoral Allocation Trends and Growth Patterns

Artificial Intelligence and Deep Technology

AI allocations showed exponential growth, with the **IndiaAI Mission receiving ₹2,000 crore in FY2026**, up from ₹552 crore in FY2025—a remarkable 262.32% increase. The establishment of AI Centres of Excellence progressed from three centers in FY2024 (agriculture, health, sustainable cities) to the fourth center for education in FY2025-26 with ₹500 crore allocation.

Semiconductor and Electronics Manufacturing

The **Modified Programme for Semiconductors and Display Manufacturing received ₹7,000 crore in FY2026**, while the PLI Scheme under MeitY grew 45.16% from ₹6,200 crore (FY2025) to ₹9,000 crore (FY2026).

Telecommunications Infrastructure

The Domestic Industry Incentivisation Scheme (Telecom) increased from ₹1,911 crore (FY2025) to ₹2,006 crore (FY2026). The Economic Survey 2024-25 reported that by October 31, 2024, 5G services were available in 779 out of 783 districts with over 4.6 lakh 5G BTSs installed nationwide.

Companies Most Exposed to Policy Priorities

Telecommunications and Digital Infrastructure

Reliance Jio Infocomm Limited benefits from the 5G/4G network expansion to remote areas including Siachen. **Bharti Airtel** and **Vodafone Idea** are positioned to benefit from the Domestic Industry Incentivisation Scheme (Telecom) and 5G infrastructure development.

Semiconductor and Electronics

Tata Electronics and **Micron Technology** are major beneficiaries of the ₹7,000 crore semiconductor manufacturing ecosystem program. **Samsung**, **Foxconn**, **Dixon Technologies**, and **Lava International** benefit from PLI schemes for mobile manufacturing and electronic components.

Fintech and Digital Payments

Paytm (One97 Communications), **PhonePe**, and **Google Pay** benefit from the expanding digital payments ecosystem, with 7,400 crore digital payments of ₹126 lakh crore through UPI in 2022. The increase in FDI cap in insurance from 74% to 100% benefits **HDFC Life**, **ICICI Prudential**, **SBI Life**, and **Max Life Insurance**.

Education Technology

BYJU'S, **Unacademy**, and **upGrad** are positioned to benefit from the Centre of Excellence in AI for Education (₹500 crore) and the Samagra Shiksha scheme (₹41,250 crore).

Pharmaceuticals and Biotechnology

Sun Pharma, **Dr. Reddy's Laboratories**, **Cipla**, and **Aurobindo Pharma** benefit from PLI schemes for pharmaceuticals and the RDI Scheme's focus on biotechnology as a strategic sector.

Automotive and Clean Mobility

Tata Motors, **Mahindra & Mahindra**, and **Maruti Suzuki** benefit from PLI schemes for automobiles and auto components. **Ola Electric** and other EV manufacturers benefit from battery swapping policy and clean mobility initiatives.

Defence and Strategic Technology

Bharat Electronics Limited (BEL) and **Hindustan Aeronautics Limited (HAL)** benefit from the ₹14,924 crore allocation for Defence R&D.

Comparative Analysis: FY2025 vs FY2026 Strategic Shift

FY2026 marked a fundamental strategic pivot from infrastructure-led expansion to innovation-led transformation:

- **Private Sector Primacy:** FY2026's ₹1 lakh crore RDI Scheme over 6 years represents a quantum leap from FY2025's ₹20,000 crore allocation for private sector R&D
- **Commercialization Focus:** FY

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