Pro AV, IFPDs & LED Lighting Solutions Industry

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TABLE OF CONTENTS

2.8 Smart displays, immersive environments, cloud-based management, and data-driven AV are shaping the next wave of global AV adoption

2.9 The U.S. Pro AV market is projected to grow from US$ 77.0 billion in Calendar 2025 to US$ 99.1 billion by Calendar 2030

2.9.1 Evolving service models and enterprise procurement strategies are reshaping the U.S. Pro AV market

2.9.2 Widespread deployment of AV solutions across multiple sectors in the United States is expanding opportunities for system integration, deployment, and lifecycle management services

3 Overview of the Indian Pro AV & AVSI market

3.1 The Indian Pro AV systems market is projected to grow from ₹ 581.9 billion in Fiscal 2025 to ₹ 968.9 billion by Fiscal 2030, driven by rapid digital infrastructure deployment across sectors

3.1.1 The Indian Pro AV market is set for strong growth through Fiscal 2030, led by hardware dominance while software steadily gains share with rising cloud and automation adoption

3.1.2 Tier-1 cities accounted for the majority share of 78.0% of the Indian Pro AV market in Fiscal 2025, followed by tier-2 cities at 17.0% and tier-3 cities at 5.0%

3.2 The Indian Pro AV market growth is driven by rising content production, hybrid work adoption, virtual events & supportive regulatory environment

3.2.1 India Pro AV market fueled by infrastructure expansion, rapid digitization, and volume-led adoption

3.3 Current usage of AV solutions across sectors in India (corporate, education, government, healthcare, manufacturing, airports)

3.4 Key regulatory policies & government initiatives across broadcasting, digital infrastructure & e-governance are shaping the growth trajectory of India's audio-visual market

3.4.1 Indian tariff on imports from China has increased for Finished products, whereas decreased for imports of components

3.5 India's upstream AV value chain remains import-intensive, with value creation concentrated in assembly, integration and fulfilment services

4. Overview of the Global and Indian Interactive Flat Panel Displays (IFPDs), Digital Signage Boards, and Educational Tablets Markets

4.1 The global IFPD market increased from US$ 8.8 billion to US$ 12.8 billion in Calendar 2020 to Calendar 2025 and is forecast to reach US$ 19.0 billion by Calendar 2030 with OLED-led growth

4.1.1 Adoption of hybrid learning, enterprise digitization, and smart collaboration environments is accelerating global demand for interactive flat panel displays

4.2 The global digital signage market increased from US$ 18.7 billion in Calendar 2020 to US$ 29.8 billion in Calendar 2025 at a CAGR of 9.7%, driven by rising adoption of networked display solutions across retail, transportation, and corporate, hospitality

4.2.1 Rising digital transformation and intelligent display adoption are accelerating global digital signage demand

4.3 The global educational tablet market expanded from US$ 11.5 billion in Calendar 2020 to US$ 17.4 billion in Calendar 2025 at a CAGR of 8.6% and projected to reach US$ 30.5 billion by Calendar 2030

4.3.1 Digitization of education systems, government-led EdTech initiatives, and growing adoption of hybrid learning models are driving global educational tablet demand

4.4 Technology-led innovation reshaping product performance, usability, and adoption across global flat panel displays

4.5 The Indian IFPD market increased from ₹ 15.3 billion to ₹ 27.1 billion in Fiscal 2020 to Fiscal 2025 and is forecasted to reach ₹ 81.8 billion by Fiscal 2030, driven by smart education and enterprise collaboration adoption

GLOSSARY OF ABBREVIATIONS USED

S No	Abbreviation Used	Full Form
1	AI	Artificial Intelligence
2	APAC	Asia Pacific
3	AR	Augmented Reality
4	AV	Audio Visual
5	AVaaS	Audio-Visual as a Service
6	AVGC	Animation, Visual Effects, Gaming and Comics
7	AV-over-IP	Audio-Visual over Internet Protocol
8	AVSI	Audio Visual System Integration
9	B	Billion
10	BCD	Basic Customs Duty
11	BEE	Bureau of Energy Efficiency
12	BFSI	Banking, Financial Services, and Insurance
13	BIS	Bureau of Indian Standards
14	CAGR	Compound Annual Growth Rate
15	CBU	Completely Built Units
16	CFS	Common facility centers
17	CKD	Completely Knocked Down
18	CRM	Customer Relationship Management
19	CRS	Compulsory Registration Scheme
20	CY	Calendar Year
21	DFIA	Duty Free Import Authorisation
22	DSP	Digital Signal Processor
23	ECMS	Electronics Components Manufacturing Scheme
24	EHS	Environment, Health, and Safety
25	EMC	Electroncis Manufacturing clusters
26	EMS	Electronics Manufacturing Services
27	ERP	Enterprise Resource Management
28	ESCO	Energy Service Company
29	ESG	Environmental, Social, and Governance
30	EU	European Union
31	FDI	Foreign Direct Investment
32	FIDS	Flight Information Display System
33	FY	Financial Year
34	GCC	Global Capability Centre
35	GDP	Gross Domestic Product
36	GFCF	Gross Fixed Capital Formation
37	GVA	Gross Value Added
38	GVC	Global Value Chains
39	HD	High Definition
40	HSN	Harmonised System of Nomenclature
41	ICT	Information and Communication Technology
42	IEC	International Electrotechnical Commission

43	IEC (Code)	Importer Exporter Code
44	IFPD	Interactive Flat Panel Display
45	IGST	Integrated Goods and Services Tax
46	IoT	Internet of Things
47	IP	Internet Protocol
48	IPC	Institute of Printed Circuits
49	IT	Information Technology
50	LCD	Liquid Crystal Display
51	LED	Light Emitting Diode
52	LMS	Learning Management Systems
53	M	Million
54	MNC	Multinational Corporation
55	MFN	Most-Favoured Nation
56	MW	Mega Watt
57	NEP	National Education Policy
58	OEM	Original Equipment Manufacturers
59	OTT	Over-the-top
60	P	Projected
61	PCB	Printed Circuit Board
62	PFCE	Private Final Consumption Expenditure
63	PLI	Production-Linked Incentive
64	PSU	Public Sector Undertaking
65	Pro AV	Professional Audio-Visual
66	QSR	Quick Service Restaurant
67	RF	Radio Frequency
68	RoDTEP	Remission of Duties and Taxes on Exported Products
69	SCADA	Supervisory Control and Data Acquisition
70	SKD	Semi Knocked Down kits
71	SKU	Stock Keeping Unit
72	SLNP	Street Lighting National Programme
73	SME	Small and Medium Enterprise
74	SPECS	Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors
75	SWS	Social Welfare Surcharge
76	T	Trillion
77	Tele-ICU	Electronic Intensive Care Unit
78	UC	Unified Communications
79	UCaaS	Unified Communications as a Service
80	UJALA	Unnat Jyoti by Affordable LEDs for All
81	UK	United Kingdom
82	UL	Underwriters Laboratories
83	USA	United States of America
84	VC	Video Conferencing
85	VR	Virtual Reality
86	VFX	Visual Effects
87	XR	Extended Reality
88	Y-o-Y	Year on Year

EXCHANGE RATE TABLE

Fiscal Year	₹ equivalent of one US$	Euro equivalent of one US$	Calendar Year (CY)	₹ equivalent of one US$	Euro equivalent of one US$
Fiscal 2016	66.33	0.88	Calander 2016	67.95	0.95
Fiscal 2017	64.84	0.93	Calander 2017	63.93	0.83
Fiscal 2018	65.04	0.81	Calander 2018	68.36	0.88
Fiscal 2019	69.17	0.89	Calander 2019	69.89	0.89
Fiscal 2020	70.49	0.93	Calander 2020	74.18	0.83
Fiscal 2021	73.20	0.85	Calander 2021	74.50	0.83
Fiscal 2022	74.50	0.86	Calander 2022	76.10	0.91
Fiscal 2023	80.32	0.96	Calander 2023	82.31	0.93
Fiscal 2024	82.59	0.93	Calander 2024	83.67	0.92
Fiscal 2025	84.56	0.93	Calander 2025	86.60	0.95

Source: X-rate Monthly average

1. Overview of the Global and Indian economy

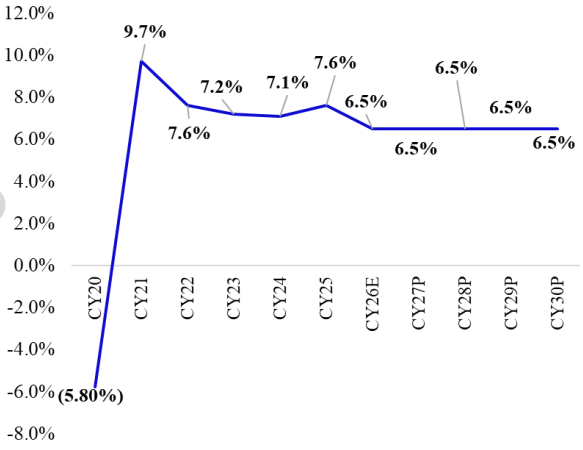
1.1 The global real GDP is expected to grow at approximately 3.2% during Calendar 2025 to Calendar 2030 while India is projected to expand at approximately 6.4% annually during the same time period

Global real GDP grew by approximately 3.4% in Calendar 2025 despite headwinds such as higher interest rates and geopolitical tensions, including the Russia-Ukraine war disrupting energy and metal supplies, Middle East conflicts impacting energy and logistics, and US-China sanctions across semiconductors, electronics, telecom, and AI. Amid this uncertainty, India stands out as the fastest growing major global economy, projected to grow at approximately 6.6% annually over Calendar 2025 to Calendar 2030. Supported by digitization, infrastructure spending, and technology-led efficiency initiatives, India continues to attract enterprise and public sector investments in digital infrastructure. In addition, the US & India's trade deal has reached closure, resulting in improved tariff terms. Further, India has also concluded negotiations on a trade agreement with the European Union, expected to enhance market access and strengthen trade flows once implemented, which further strengthen India's trade and business outlook, enhancing its position as a resilient global growth market.

Real GDP y-o-y growth – India, USA, Europe, China, Japan, and World
(%, CY20-30P)

Top economies	India	USA	Europe	China	Japan	World
CY20	(5.8%)	(2.1%)	(5.4%)	2.3%	(4.3%)	(2.7%)
CY21	9.7%	6.2%	6.5%	8.6%	3.6%	6.7%
CY22	7.6%	2.5%	2.6%	3.1%	1.3%	3.8%
CY23	7.2%	2.9%	1.2%	5.4%	0.7%	3.3%
CY24	7.1%	2.8%	1.9%	5.0%	-0.2%	3.4%
CY25	7.6%	2.1%	1.5%	5.0%	1.2%	3.4%
CY26E	6.5%	2.3%	1.3%	4.4%	0.7%	3.1%
CY27P	6.5%	2.1%	1.4%	4.0%	0.6%	3.2%
CY28P	6.5%	2.1%	1.5%	4.0%	0.6%	3.2%
CY29P	6.5%	1.9%	1.5%	3.7%	0.6%	3.2%
CY30P	6.5%	1.8%	1.4%	3.3%	0.6%	3.1%
CAGR* (CY20-25)	7.8%	3.3%	2.7%	5.4%	1.3%	4.1%
CAGR* (CY25-30P)	6.5%	2.0%	1.4%	3.9%	0.6%	3.2%

Real GDP y-o-y growth – India
(Y-o-Y growth %, CY20-30P)



Note(s): *CAGRs calculated are 1Lattice estimates
Source(s): International Monetary Fund (World Economic Outlook: October 2025), 1Lattice analysis

India's real GDP grew at approximately 7.6% in Calendar 2025 and is projected to grow at approximately 6.6% during Calendar 2025 to Calendar 2030. Over the next 10 years, India is expected to be among the top economies on the back of rising demand, robust growth in various sectors, and increased private consumption. Key factors enabling GDP growth in India:

- **Rising consumer spending**: As per the Ministry of Finance, India's private consumption, which accounts for over approximately 56.5% of GDP as of Calendar 2025, continues to grow, which is projected to exceed approximately US$ 4.0 trillion by Calendar 2030, driving broader economic expansion.
- **Expanding middle class beyond Tier II cities:** India's growing population and expanding middle-income base are supporting consumer-driven growth, with middle-income households expected to increase from approximately 153 million in Fiscal 2020 to approximately 220 million by Fiscal 2030. A significant share of this expansion is driven by households in Tier II and Tier III cities, reflecting the broadening of income growth beyond metropolitan regions.
- **Technological Advancements & Digital Economy**: Growing internet penetration, accessibility and adoption of digital and AI technologies are transforming sectors like e-commerce, fintech, and manufacturing, contributing significantly to GDP growth.
- **Infrastructure investments:** Government focus on infrastructure, including roads, railways, and urban development, enhances productivity and supports long-term economic growth. In the Fiscal 2027 budget, the government has allocated approximately ₹ 12.2 trillion towards capital expenditure.
- **Increasing talent pool**: India's growing base of graduates is expanding the skilled workforce, creating a larger employable talent pipeline and enabling MNCs to scale operations, expand investments, and set up / strengthen capability centres in India

This continued economic momentum is expected to benefit multiple downstream sectors, including the professional AV industry, through higher enterprise spending, public infrastructure projects, and digital modernisation initiatives.

1.2 India's Gross Fixed Capital Formation ("GFCF") remained stable at approximately 30% of GDP in Fiscal 2026, ahead of major developed economies

Gross Fixed Capital Formation as a share of GDP highlights divergent investment patterns across major global economies. India's GFCF increased from 27% in Calendar 2020 to around 30% in Calendar 2024 and has remained stable at approximately 30% in Calendar 2026, indicating a strengthening and more sustainable investment cycle. In comparison, the USA maintained a relatively

stable GFCF of 21-22%, Europe remained steady at 21-22%, Japan remained steady at 25-26%, while China continued to lead at 40-42%, reflecting its investment-driven growth model.

India's rising GFCF is supported by focused government initiatives such as higher public capital expenditure, the National Infrastructure Pipeline, PM Gati Shakti, and PLI schemes, alongside sustained investments in transport, urban, education, and digital infrastructure. These measures have catalysed private investment, improved execution efficiency, and strengthened long-term asset creation.

Over the long term, higher GFCF expands productive capacity, improves logistics efficiency, and supports job creation, strengthening potential GDP growth and economic resilience. Sustained capital formation also enables technology adoption and modernisation of public and commercial infrastructure, enhancing India's long-term competitiveness.

GFCF– India, USA, China, Europe and Japan
(% share of GDP, CY20-24)

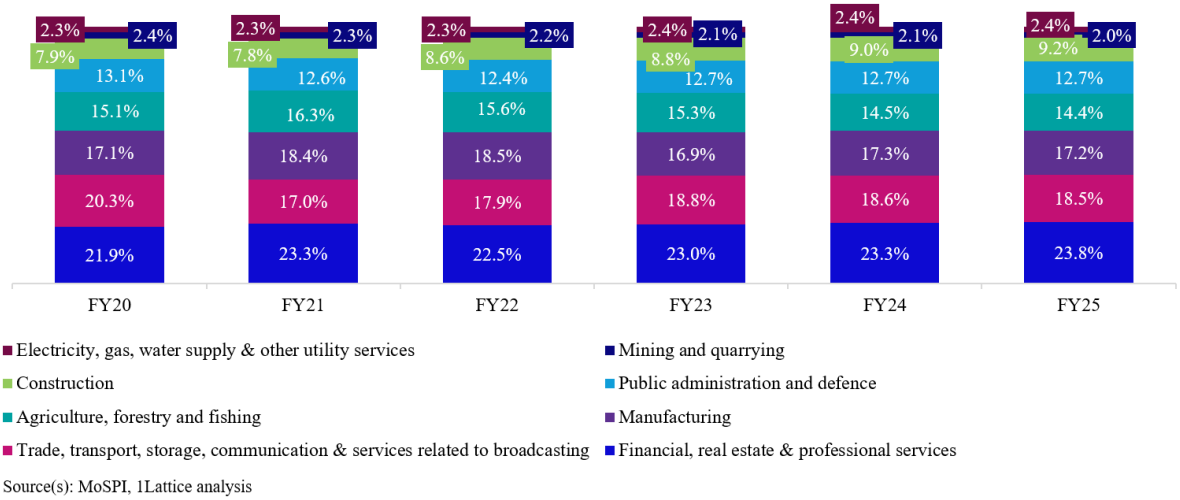
Top economies	India	USA	Europe	China	Japan
CY20	27%	22%	22%	42%	25%
CY21	30%	21%	22%	41%	26%
CY22	31%	21%	22%	41%	26%
CY23	30%	21%	22%	40%	26%
CY24	30%	22%	21%	40%	26%
CY25	30%*	NA	NA	NA	NA

Note(s): CY25 data of India represents FY26
Source(s): World Bank Group, 1Lattice analysis

1.3 Between Fiscal 2020 and Fiscal 2025, India's Gross value added shows steady contributions from services, manufacturing, and infrastructure, supporting growing technology

Gross Value Added ("GVA") measures the value created by an economy or sector after deducting intermediate inputs from output, reflecting the actual contribution of producers. GVA offers clearer sector-wise insights, while GDP captures the overall economic size by factoring in taxes and subsidies. India's GVA trends from Fiscal 2020 to Fiscal 2025 show steady contributions from services, manufacturing, and infrastructure-driven sectors. The services sector remains the largest contributor, supported by IT, communication, and professional services that increasingly adopt digital and collaborative technologies, driving demand for integrated AV systems.

GVA by economic activity at constant prices
(%, FY20-25)



Source(s): MoSPI, 1Lattice analysis

During the period from Fiscal 2020 to Fiscal 2025, India's economy was primarily driven by the Services and Manufacturing sectors, with Financial, Real Estate & Professional Services (approximately 22-23% of GVA), Trade, Transport, Storage & Communication (approximately17-18% of GVA), and Manufacturing (approximately 17% of GVA) emerging as the top three contributors to the Gross Value Added.

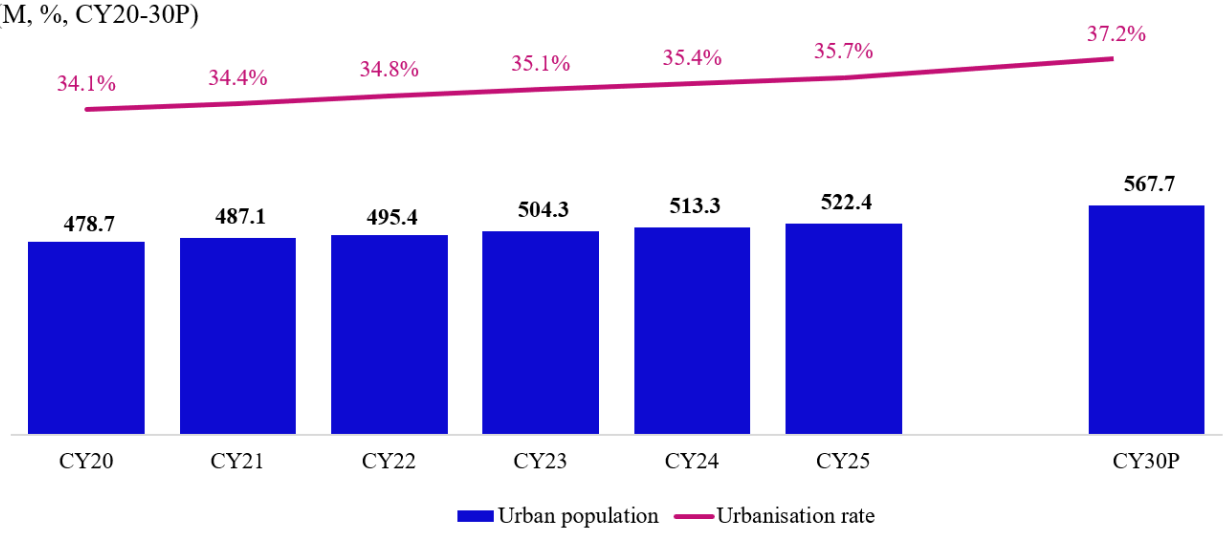
- **Financial, real estate & professional services:** Growth is driven by rising credit penetration, increased formalisation of the economy, expansion of digital financial services, and sustained investments in commercial real estate and professional services supporting enterprise growth.
- **Trade, transport, storage, communication & broadcasting services:** Expansion in domestic consumption, rapid growth of e-commerce, improved logistics and transport infrastructure, and higher digital connectivity have boosted demand across trade, logistics, telecom, and media services.
- **Manufacturing:** Manufacturing sector growth is supported by government initiatives such as Make in India and PLI schemes, rising domestic demand, supply chain diversification, increased capacity creation, and technology adoption across industries.

1.4 Urbanisation is driving demand for modern technology

The share of the urban population in India as a percentage of the overall population is expected to rise from 35.7% in Calendar 2025 to 37.2% in Calendar 2030, expected to house 567 million people. Urbanisation is accelerating the adoption of modern technologies such as smartphones and 5G devices, digital payments, smart home and wearable devices, e-commerce platforms, and AI-enabled digital services across everyday consumer needs. Moreover, rapid urbanisation is driving greater deployment of AV-enabled digital solutions across offices and public infrastructure, including unified communications and collaboration, digital signage, smart classrooms and command and control setups, thereby increasing demand for professional AV solutions.

The commercial and architectural lighting segment is witnessing the introduction of several new technologies and product variants, including suspended linear lighting solutions and downlights. Suspended linear lights distribute light more uniformly as compared to lightbulbs. These lights are especially suited to office applications, as they create a professional ambience, and are more durable and long-lasting as compared to lightbulbs. Downlights are recessed ceiling lights that provide focused downward illumination. They are installed within ceilings or in hidden corners to highlight, using lighting, spaces which customers wish to accentuate. Certain of Online Instruments downlights make use of the "Chips on Board" LED technology, which allows for light of higher intensity and a narrower focus.

Urban population & urbanisation rate in India
(M, %, CY20-30P)

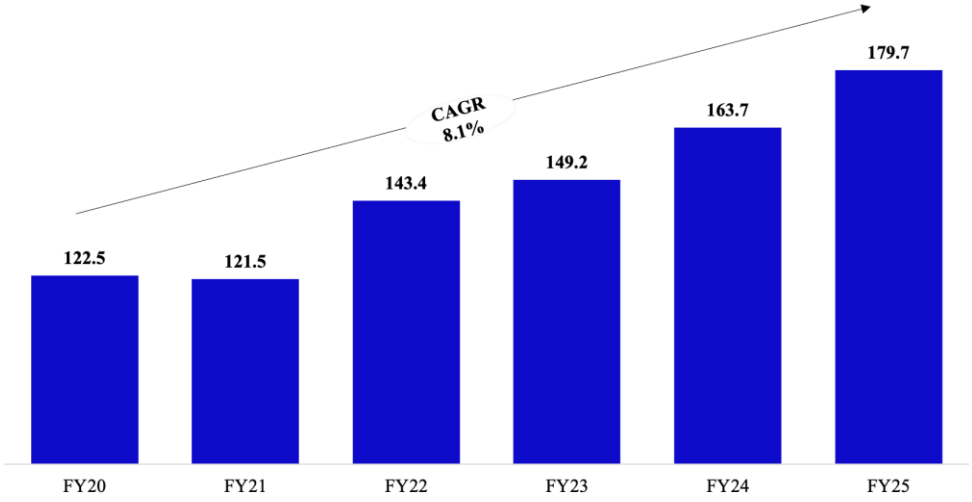


Source(s): United Nations, 1Lattice analysis

1.5 Private Final Consumption Expenditure ("PFCE") reached ₹ 179.7 trillion in Fiscal 2025, up from ₹ 163.7 trillion in the previous year

In India, PFCE remains a primary driver of growth, highlighting the country's consumption-led economic model. PFCE stood at ₹ 122.5 trillion in Fiscal 2020 and grew at a CAGR of 8.1% and reached ₹ 179.7 trillion in Fiscal 2025. Rising disposable incomes are accelerating technology adoption across enterprises, educational institutions, government offices, and households, with increasing deployment of smart collaboration platforms, cloud-based communication tools, and integrated AV systems. This shift is further supported by the adoption of AI-enabled automation, Internet of Things ("IoT") driven building management systems, and energy-efficient smart devices, which enhance operational efficiency, enable seamless communication and collaboration, and improve comfort and sustainability across work and living environments.

Private Final Consumption Expenditure (India) at Current prices
(INR T, FY20-25)



Source(s): Ministry of Statistics and Programme Implementation, 1Lattice analysis

1.6 Growth in organised commercial real estate, retail, and education infrastructure in India driven by government spending and sectoral expansion

Growth in organised commercial real estate, retail, and education infrastructure is being supported by sustained public investment, urban development programmes, and sectoral expansion.

- **Education:** The Indian education market is projected to reach ₹ 36.59 trillion by Fiscal 2030, growing at a CAGR of approximately 14.0% from ₹ 19.03 trillion in Fiscal 2025. The market is primarily led by the K–12 segment, which accounts for approximately 49% of total market size. Within school education, recent developments point to rising teaching capacity, greater availability of internet-enabled schools, widespread adoption of screens and smart displays, and a gradual increase in secondary-level enrolment. Together, these trends indicate a strengthening of core education infrastructure and are driving demand for AV solutions such as smart classrooms, digital learning platforms, and interactive teaching tools. At the higher education level, capacity expansion has been supported by the addition of new national institutions, including IITs, IIMs, and AIIMS, along with an increase in the overall number of higher education institutions across the country. This expansion is further accelerating demand for advanced AV systems and digital learning infrastructure across campuses.
- **Real estate:** Urban development initiatives such as the Smart Cities Mission and large-scale city infrastructure upgrades are accelerating the shift toward modern Grade-A commercial developments and driving commercial expansion across major metros and emerging cities. This shift is increasing demand for digital signage solutions, including information displays, wayfinding systems, advertising screens, and building communication boards, across enterprise-owned and leased real estate such as corporate offices, Global Capability Centres ("GCCs"), co-working spaces, and smart commercial buildings. In parallel, demand for advanced AV solutions, including conference room systems, interactive displays, and collaboration tools, is rising as enterprises upgrade workplaces to support hybrid and technology-enabled operations. For instance, in enterprise environments, smart conference rooms are generally characterised by integrated, automated and easy to use technology. The commercial real estate market is expected to grow from ₹ 7.0 trillion in Fiscal 2025 to ₹ 17.7 trillion by Fiscal 2030, at a CAGR of approximately 20%. Led by enterprise expansion of GCCs, e-commerce-driven warehousing, and flexible workspaces, this growth is creating strong opportunities for digital signage and integrated AV systems across enterprise real estate portfolios, including offices, logistics facilities, and mixed-use commercial environments. In parallel, expansion and modernisation of airports and other transport hubs is accelerating the rollout of AV-intensive infrastructure, including passenger information display systems, wayfinding and digital signage, public address systems, and integrated command and control / security control rooms. India is expected to have more than 400 airports by Fiscal 2047, indicating sustained investments in new terminals and upgrades that will continue to drive demand for professional AV solutions.
- **Retail:** Organised retail continues to expand on the back of rising consumer spending, deeper integration with e-commerce, and the ongoing formalisation of the sector, supported by improvements in retail infrastructure. Growth is further reinforced by the rise of quick commerce, increasing digital adoption, and expanding consumer demand in Tier II and Tier III cities. This expansion is creating opportunities for AV solutions in retail stores, shopping malls, and quick-commerce outlets through digital signage, interactive displays, smart kiosks, and in-store audio-visual systems. According to CREDAI, India witnessed retail demand of approximately 39.2 million sq. ft during Calendar 2014 to Calendar 2024, with approximately270 Grade A

and B malls operational across the top eight cities. Additionally, approximately 25 million sq. ft of mall space is expected to be added over the next 4-5 years, indicating sustained momentum beyond Calendar 2024.

1.7 Growing digitalization and evolving workplace models are driving widespread demand for video-enabled collaboration and enterprise AV solutions

India's evolving workplace landscape is accelerating the adoption of enterprise AV and video-conferencing solutions. Similar structural trends are also visible in the US and other global markets, making these drivers broadly applicable worldwide. Key demand drivers include:

- **Hybrid & distributed work models:** Growing hybrid and distributed work practices in India are driving the need for video-enabled meeting rooms, virtual collaboration, and reliable AV setups to support teams working across office and remote environments. As of Calendar 2025, approximately 50% of companies across India and Asia have adopted hybrid work models, in line with trends observed in the US and developed global markets.
- **Video-conferencing adoption across enterprises & SMEs:** Both SMEs and large enterprises are increasingly relying on video conferencing for client engagement, internal coordination, and productivity enhancement. This has created sustained demand for scalable, affordable, and easy-to-deploy AV and video-conferencing solutions, a trend consistent across India, the US, and other global economies.
- **Post-pandemic workplace redesign and experience-led setups:** The restructuring of pre-COVID office spaces, **combined** with the shift of global experience centres from Southeast Asia to India, and the normalisation of video-first communication, are driving sustained demand for modern, video-enabled meeting rooms and enterprise-grade AV and collaboration platforms across global workplaces.
- **Rising digital adoption beyond metro cities:** Internet penetration in rural India has increased from approximately 30% in Fiscal 2020 to approximately 45% in Fiscal 2020. Expanding digital adoption and improved technology readiness across non-metro regions have broadened AV and VC acceptance, opening demand beyond large corporates to smaller firms and newer business locations.

1.8 India's regulatory and geopolitical environment influencing AV technology imports, compliance, and deployment

The regulatory landscape across major global markets is increasingly influencing how audio-visual and radio-enabled equipment is sourced, manufactured, and certified. In the United States, tightened export-control measures can affect the availability of advanced semiconductor and sensing components used in high-performance AV systems, creating implications for global supply chains. Additionally, RF-enabled AV devices such as wireless microphones and collaboration systems are required to obtain federal authorisation before entering the market, affecting deployment timelines and import planning. In parallel, China has imposed restrictions on the supply of critical technology components and certain rare-earth metals, which are essential inputs for electronics and AV hardware, negatively impacting global trade flows and slowing technology advancement across the US and other international markets. The US is the single largest market for pro AV solutions. Without the necessary policy support and raw material/components supply, there could be a negative spillover on the pro AV market.

In the European Union, the regulatory framework enhances safety, interoperability, and compliance documentation requirements for audio-visual electronics, increasing obligations for importers and distributors. For instance, IFPDs that have been accorded the CE (Conformité Européenne) marking demonstrate conformity with applicable European Union safety, health, and environmental protection requirements, thereby permitting their sale in the European market. Similarly, in India, licences issued by the Bureau of Indian Standards (the "BIS") certify that products comply with prescribed quality, safety, and performance standards, thereby signalling to customers consistent reliability and standardised quality across units. Additionally, audio-visual solutions using wireless communication modules or RF capability must secure prior licensing before import, with clearance dependent on device type and intended application. Banks and critical financial services demand encrypted media transport, stricter network segmentation, and higher vendor assurance for Audiovisual over Internet Protocol ("AV-over-IP") environments. Audiovisual over Internet Protocol ("AV-over-IP") which allows audio and visual input to be encoded and sent over networks to multiple displays without the use of physical cables. Network Device Interface ("NDI") is critical as it is the de facto open standard for AV-over-IP transport. It is an Internet Protocol-based video transport standard that enables high-quality, low-latency video signals to be transmitted over standard Ethernet network. Healthcare and airport deployments must meet device-safety, data-protection, localisation, and interoperability requirements aligned with regulated IT and operator standards.

In parallel, global geopolitical and sentiment-driven shifts away from China and other sanctioned markets are accelerating diversification of sourcing, manufacturing, and technology deployment toward India. As regulatory uncertainty and component supply constraints persist in China, multinational enterprises increasingly view India as a stable, policy-aligned hub for global operations and experience centres.

1.9 India is becoming a regional AV manufacturing and solutions hub supported by Make in India, PLI incentives, a skilled workforce, Industry 4.0 adoption, and growing electronics design capabilities

A combination of supportive government schemes, rising industrial capabilities, and growing foreign investments is driving India's transformation into a competitive AV and electronics manufacturing hub. These include:

- **Make in India, PLI schemes and infrastructure push:** India's Make in India and PLI initiatives, combined with strong infrastructure investments like logistics parks, freight corridors, and modernised ports, are boosting domestic AV manufacturing and positioning the country as a competitive regional export hub. Since the inception of the PLI scheme for IT hardware (covering laptops, tablets, servers, and related electronic equipment) in Fiscal 2021, the scheme has led to a cumulative production of ₹ 144.6 billion and total cumulative investment of ₹ 8.9 billion till September'25. This has facilitated faster supply cycles, lower import duties, and better cost efficiency for AV, VC, and communication hardware. Moreover, India has attracted more than US$ 4 billion FDI Inflow in the field of electronics manufacturing since Fiscal 2021. Nearly 70% of this FDI is contributed by the beneficiaries of PLI Scheme.
- **Electronics Components Manufacturing Scheme ("ECMS"):** Launched in April'25 with an outlay of approximately ₹ 2291.9 billion, the scheme has already received investment commitments at double the original target, indicating strong industry participation. The Union Budget Fiscal 2027 proposes increasing the outlay to approximately ₹ 40B billion to further support domestic manufacturing of electronic components and sub-assemblies.
- **AVGC Talent Development Ecosystem:** In the Union Budget 2026-2027, an allocation of ₹ 2.5 billion has been made for talent development in animation, visual effects, gaming and comics ("AVGC") sector. This investment will strengthen India's creative technology workforce, benefiting the broader audiovisual industry through enhanced capabilities in content production, post-production services, and immersive AV experiences.
- **Skilled talent & workforce readiness:** India's large engineering talent base, growing digital skills in robotics, IoT, AI, and 5G automation, and strong vocational training programs collectively ensure a workforce that is future-ready and aligned with global standards for AV manufacturing. Under the Craftsman Training Scheme, training is provided in 31 new-age courses, including Artificial Intelligence, Industrial Robotics, for upskilling the workforce.
- **SPECS scheme supporting AV and electronics manufacturing:** India's rapid growth in mobile-led electronics manufacturing provides a strong base for AV equipment production. Growing investment in design, prototyping, and testing facilities enhances India's credibility as a solutions hub. The Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS) encourages local production of critical components and semiconductors. As of September,'25, ₹ 7.2 billion has been disbursed to 22 applicants, strengthening domestic component availability for electronics and AV hardware. As per the Union Budget 2026-2027, the scheme provides a 25% capital expenditure incentive for manufacturing key electronic goods, helping bridge supply chain gaps, boost local production, and accelerate India's shift from assembly-led manufacturing to high-value component manufacturing.
- **Electronics Manufacturing Clusters (EMC & EMC 2.0) scheme:** The scheme is driving sustained infrastructure and capital inflows into India's electronics manufacturing ecosystem. EMC 2.0 carries a total financial outlay of ₹ 37.6 billion over eight years from Fiscal 2020 to Fiscal 2028, with ₹ 37.3 billion earmarked for direct financial assistance to states and project developers. Under EMC/EMC 2.0, approvals include 20 Greenfield EMCs and 3 Common Facility Centres (CFCs), spanning approximately 3,565 acres and entailing a cumulative project cost of ₹ 38.9 billion (including government grants). These investments are catalysing ecosystem-level inflows for component suppliers and OEMs, supporting scale-up in AV and communication hardware manufacturing.
- **FDI inflows in technology:** Foreign Direct Investment ("FDI") inflows have played a pivotal role in accelerating the growth of India's technology and electronics manufacturing sectors, with the country attracting more than US$ 4 billion until September'25 in foreign investment into electronics manufacturing alone since Fiscal 2021.
- **Smart Cities Mission driving AV-led urban infrastructure demand:** The Smart Cities Mission is enabling large-scale deployment of integrated digital and AV-enabled urban solutions, including intelligent traffic systems, command and control centres, public information displays, surveillance, and environmental monitoring. This expansion of technology-driven urban infrastructure is strengthening domestic demand for AV and communication solutions while reinforcing India's position as an emerging regional hub for smart city linked AV deployments.

1.9.1 Overview of import and export regulatory framework for AV equipment and electronics

India's import regime for AV and electronic goods focuses on mandatory BIS/CRS compliance and a structured duty framework (BCD, SWS, IGST) that discourages finished-goods imports and promotes local manufacturing. In the Union Budget 2025-2026, the government increased the Basic Customs Duty (BCD) on Interactive Flat Panel Display (IFPD) from 10% to 20%.At the same time, BCD on open cells and key display components was reduced to 5% to address the inverted duty structure and encourage local manufacturing of display panels and IFPDs in India. The higher BCD raises the landed cost of imported IFPDs, improving price competitiveness for domestically manufactured products. This strengthens incentives for local assembly and manufacturing, supporting capacity expansion and value addition under the Make in India framework.

On the export side, schemes such as Advance Authorisation, DFIA, RoDTEP, and PLI for electronics and components boost competitiveness by refunding duties and incentivising production. All trade requires an IEC (to legally import/export), correct HSN classification (to determine applicable duties and regulatory conditions), and compliance with E-waste rules (to ensure responsible collection, disposal, and recycling of electronic waste). Overall, the framework supports exports from India while maintaining high-quality, compliance-based import standards.

1.9.2 India's strategic location & growing regional importance position it as a strong APAC hub for AV servicing, logistics, and digital support

India's geographic position on major East-West trade routes makes it an efficient hub for AV supply chain, assembly, and APAC distribution. Its location enables quick consolidation of components from the US, Europe, and South-East Asia, optimised regional inventory, and faster servicing across Southeast Asia, Australia, and the Middle East. With improving connectivity under Gati Shakti and the National Logistics Policy, India is emerging as a strong logistics base. Its role as a key subsea cable junction also supports real-time remote AV monitoring and managed services through robust, low-latency digital infrastructure.

1.9.3 Growth of domestic electronics and component manufacturing ecosystem

India is rapidly emerging as a global electronics manufacturing hub, supported by strong policy initiatives like the Electronics Components Manufacturing Scheme, strengthening its end-to-end value chain and supply chain resilience.

- **Production expansion:** Electronics production has grown approximately 6 times, reaching ₹ 11.3 trillion in Fiscal 2025 from ₹ 1.9 trillion in Fiscal 2015, reflecting strong capex by domestic manufacturing companies and India's emergence as a global manufacturing hub.
- **Employment generation**: The sector has created over 2.5 million jobs across assembly, components, logistics, and allied services.
- **Policy support and investments:** The Government launched the Electronics Components Manufacturing Scheme with a budget allocation of ₹ 229.19 billion in Fiscal 2025. The scheme has attracted investment commitments of ₹ 1.15 trillion and is projected to create 142 thousand additional jobs.
- **Strategic ecosystem development:** These developments signal India's shift from an assembly-led ecosystem to a full-scale, end-to-end manufacturing value chain, aimed at increasing domestic value addition, supporting exports, and building long-term supply chain resilience.

1.9.4 Timeline of key positive developments in India that have enabled AV industry growth over the years

Over the years, various technological, industrial, and policy developments have driven the growth of the AV industry in India. The following timeline highlights key milestones that have enhanced adoption, production, and investment in this sector.

Key milestones enabling AV industry growth in India

2000-2005

Early enterprise AV adoption driven by the dot-com IT services boom
- Dot-com boom drove global IT companies to set up back offices, BPOs, and captive centres in India.
- This led to early adoption of video conferencing and SIP calling, along with increased demand for projectors, displays, and professional audio systems in larger boardrooms

2014-2015

Launch of Digital India & Make in India initiatives
- Expanded secure digital infrastructure, broadband reach, and digital service access, driving AV demand in governance, healthcare, education, and enterprise collaboration
- Strengthened domestic AV hardware manufacturing and localisation, reducing import reliance and enabling scalable production

2015

Smart Cities Mission
- Launched in CY15, aimed at transforming cities through advanced digital connectivity, intelligent traffic management, smart public spaces, and AV-enabled governance and enhanced citizen services
- Accelerated deployment of command centres, displays, kiosks, surveillance, and environmental monitoring systems

2020

Production Linked Incentive (PLI) scheme and National Education Policy (NEP), 2020
- Supported domestic production of electronics and components relevant to AV systems (PCBs, sensors, camera modules)
- NEP accelerated digital and blended learning, driving adoption of smart classrooms, interactive displays, and AV-enabled content creation and delivery
- Further, COVID-19 pandemic accelerated pro-AV adoption as remote work, virtual collaboration, and digital engagement became essential for business continuity

2023

AVGC-XR designated and Cine Hub launched
- Established targeted incentives and specialised clusters for film, VFX, gaming, and virtual production, driving adoption of advanced AV infrastructure and accelerating ecosystem-wide innovation
- Strengthened India's positioning as a global media outsourcing hub for high-quality content creation

2024-2025

WAVES Summit & Media and Entertainment policy reforms
- Enabled a stronger and more diverse business pipeline along with a rapidly growing ecosystem of startups in media-tech, expanding adoption of XR, virtual studios, and next-gen AV tools
- Supporting sector expansion toward ~US$ 100B by CY30, generating sustained AV infrastructure demand

2. Overview of the global Pro AV & AVSI market

The global professional audio-visual (Pro AV) market comprises integrated audio, video, and control technologies deployed across a wide spectrum of commercial, institutional, and public environments. These systems are engineered to enable reliable communication, content delivery, collaboration, and centralised control in mission-critical, multi-user settings.

At its core, the AV systems market includes a broad array of system components and platforms, spanning:

- Visual display solutions, including flat-panel displays, interactive flat panel displays (IFPDs), video walls, LED displays, and projection systems
- Audio signal chains, encompassing microphones, digital signal processors (DSPs), amplifiers, and loudspeakers
- Control, switching, and signal-management infrastructure, such as hardware controllers, matrix switchers, extenders, and increasingly AV-over-IP platforms
- Enterprise collaboration & video-conferencing solutions that enable real-time communication, content sharing, and remote collaboration across rooms, buildings, and geographically distributed sites
- These technologies are typically designed, engineered, and integrated into complete systems rather than deployed as standalone products. As a result, system performance, reliability, and user experience depend not only on hardware and software capabilities but also on system design, integration quality, and ongoing lifecycle management.
- AV systems support a wide range of mission-critical environments, including:
    - Corporate meeting rooms and boardrooms
    - Classrooms, lecture halls, and training facilities
    - Auditoriums, convention centres, and event venues
    - Command and control centres
    - Digital signage networks
    - Experiential and immersive spaces such as museums and visitor centres
- Structurally, the global AV systems market can be viewed across three interrelated layers: products, services, and application verticals.

The global audio-visual systems integration (AVSI) market comprises services focused on the design, integration, deployment, and management of audio-visual technologies across commercial, institutional, and public environments. These services enable organisations to implement integrated audio, video, and control solutions that support communication, collaboration, content delivery, and centralised operational control in mission-critical and multi-user settings. AV systems are typically deployed as fully integrated technology environments rather than standalone products, requiring specialised expertise in system design, integration, installation, and lifecycle management. Consequently, overall system performance, reliability, and user experience depend not only on the underlying hardware and software but also on the quality of integration, configuration, and ongoing operational support.

AVSI providers integrate a broad set of AV technologies and platforms, including:

- Visual display solutions, including flat-panel displays, interactive flat panel displays (IFPDs), video walls, LED displays, and projection systems
- Audio signal chains, encompassing microphones, digital signal processors (DSPs), amplifiers, and loudspeakers
- Control, switching, and signal-management infrastructure, such as hardware controllers, matrix switchers, extenders, and increasingly AV-over-IP platforms
- Enterprise collaboration & video-conferencing solutions that enable real-time communication, content sharing, and remote collaboration across rooms, buildings, and geographically distributed sites

These technologies are engineered and integrated into unified AV environments tailored to specific operational requirements, making system architecture, integration expertise, and lifecycle support critical determinants of long-term performance and reliability.

Structurally, the global AVSI market can be viewed across two interrelated layers: the product layer and the services layer, supported by a diverse set of application verticals.

- **Product Layer:** This layer comprises the core technology components used to build AV systems, including:
    - Display technologies (flat panels, LED, projection)
    - Audio systems (microphones, DSPs, amplifiers, speakers)
    - Control and switching platforms
    - Videoconferencing and collaboration hardware and software
    - Networked and IP-based AV infrastructure

    Increasingly, this layer is evolving towards software-defined architectures, AV-over-IP, and deeper integration with enterprise IT networks, enabling more scalable, flexible, and centrally managed deployments.

- **Services Layer:** The services layer represents the core value creation within the AVSI market, encompassing the specialised capabilities required to design, deploy, and maintain fully integrated AV environments. Key services include:
  - System design and engineering
  - Integration and installation
  - Commissioning and testing
  - Ongoing maintenance, monitoring, and managed services

  Given the mission-critical nature of many AV deployments, post-deployment support, remote monitoring, and lifecycle management are becoming increasingly important differentiators for AVSI providers.

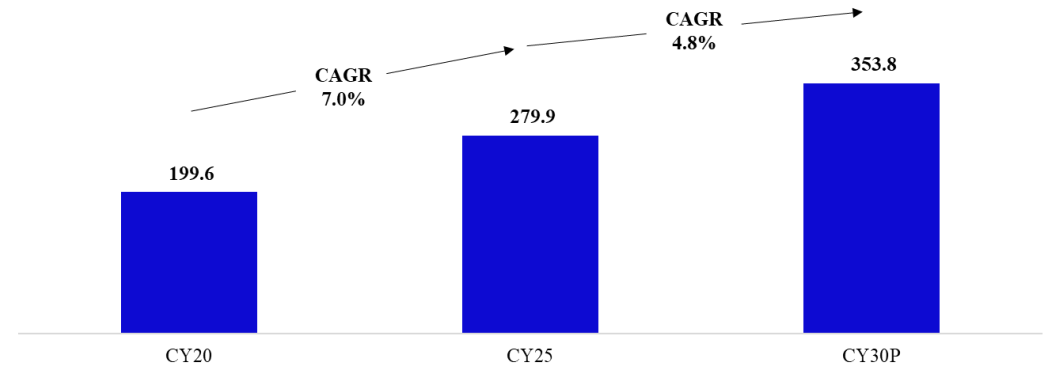
  Audio-visual system integration players differentiate themselves and enhance value delivered to customers through the incorporation of processes such as racking and staging. Racking and staging are pre-installation processes where all audiovisual and information technology ("IT") equipment is assembled, configured, tested, and prepared prior to deployment at the customer's site. Racking and staging make the installation procedure more efficient, thereby reducing labour costs and helping to ensure timely delivery.

These layers ultimately serve a wide range of end-use verticals – such as corporate offices, education, healthcare, hospitality, government, and entertainment – each with distinct requirements around reliability, scalability, regulatory compliance, and user experience, which shape system architecture and service delivery models.

2.1. The global Pro AV systems market stood at US$ 279.9 billion in Calendar 2025 and is growing at a CAGR of 4.8% from Calendar 2025 to Calendar 2030, supported by sustained investments in hybrid collaboration & modernisation of institutional AV infrastructure

The global Pro AV systems market grew from US$ 199.6 billion in Calendar 2020 to US$ 279.9 billion in Calendar 2025, registering a CAGR of 7.0%, largely driven by the pandemic-led adoption of hybrid work and online collaboration solutions. Growth was supported by the modernisation of corporate meeting rooms and educational classrooms, along with the rapid deployment of digital signage across retail, hospitality, and transportation sectors. The market is projected to reach US$ 353.8 billion by Calendar 2030, expanding at a CAGR of approximately 4.8% from Calendar 2025 to Calendar 2030, supported by enterprise collaboration refresh cycles and the shift toward AV-over-IP architectures that enable scalable audio-visual distribution over IP networks, along with rising demand for immersive AV installations in commercial and public venues.

Global Pro AV market - By value
(US$ B, CY20-30P)



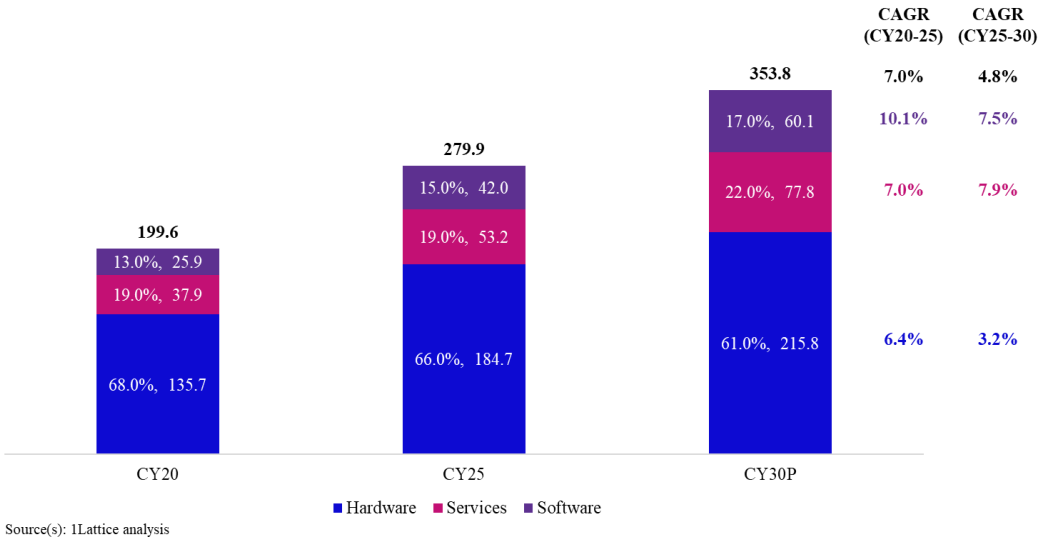
Source(s): 1Lattice analysis

2.2. Hardware will remain the dominant driver of the global Pro AV market through Calendar 2030, while services and software gain share due to rising demand for integrated and cloud-based AV solutions

By segment, hardware dominated the market with approximately 66.0% share by value in Calendar 2025, driven by demand for displays, projectors, conferencing systems, control systems, and audio infrastructure across enterprise, education, hospitality, and public sector deployments. Hardware includes all physical AV equipment such as display devices, audio systems, control hardware, and conferencing endpoints used in AV setups. Services accounted for approximately 19.0% by value, supported by strong demand for consulting, system design, integration, and installation in complex AV deployments. Services include consulting, design, integration, installation, and ongoing managed services that enable deployment and maintenance of AV solutions. Software contributed approximately 15.0% by value with increasing adoption of AV management platforms and collaboration tools. Software includes AV control platforms, device management systems, collaboration tools, and cloud-based solutions that enable centralised monitoring and analytics. By Calendar 2030, hardware is expected to remain the largest segment at approximately 61.0% by value, services are projected to slightly increase to approximately 22.0% by value, driven by

integration and managed services demand, while software share is expected to rise to approximately 17.0% by value, supported by growing adoption of AV-over-IP, cloud-based management platforms, and analytics-led control solutions.

Global Pro AV market - By type
(US$ B, CY20-30P)

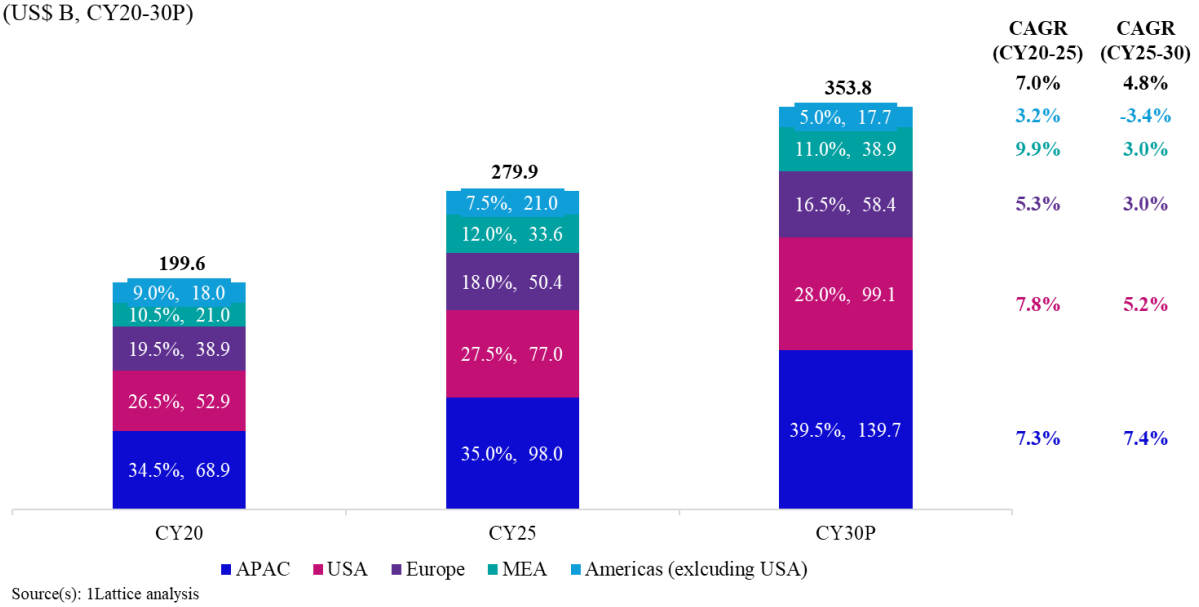


Source(s): 1Lattice analysis

2.3. APAC led the global Pro AV market in Calendar 2025, accounting for US$ 98.0 billion and the largest share of 35.0% by value

The global Pro AV market is geographically segmented across APAC, the USA, Europe, the Middle East, and Africa, the Americas (excluding the USA). In Calendar 2025, APAC remained the largest regional market at 35.0% by value, followed by the United States, which represented 27.5% of the global market for Pro AV solutions in Calendar 2025, which continues to anchor global demand due to its mature enterprise collaboration landscape, higher adoption of AV-over-IP platforms & significant investments across corporate, education & government sectors. Europe followed at 18.0% by value, supported by enterprise upgrades and public-infrastructure AV deployments. The Middle East and Africa together accounted for 12.0%, reflecting growth from emerging market expansion, public-private partnerships, digital transformation initiatives, and resource-backed developments, while the Americas (excluding the USA) contributed 7.5% by value, driven by rising institutional digitization in key markets.

Global Pro AV market - By region
(US$ B, CY20-30P)



Source(s): 1Lattice analysis

By Calendar 2030, APAC is projected to maintain leadership at 39.5% by value, followed by USA at 28.0% by value continuing to dominate global demand as multi-site enterprises scale refresh cycles to upgrade distributed AV infrastructure across global offices, managed services streamline deployment and 24/7 maintenance through specialised AVaaS providers, and unified

collaboration ecosystems integrate seamless video conferencing, digital signage, and that centralise control of all AV functions for enhanced hybrid productivity. Europe is expected to hold 16.5% by value, supported by gradual modernisation across corporate & public segments. The Middle East and Africa are expected to collectively represent 11.0% by value by Calendar 2030, driven by expanding commercial & public-infrastructure AV investments, while the Americas (excluding USA) is projected at 5.0% by value as digital signage, education upgrades & commercial AV adoption accelerate.

2.3.1 Global Pro AV market driven by technology innovation, premiumisation, and service-led transformation

The global Pro AV hardware market is relatively mature, with growth largely driven by technology upgrades, premiumisation, and replacement demand, alongside increasing investments in immersive and experience-led environments.

Growth drivers - Hardware	
Premiumisation and technology upgrades	• Developed markets are witnessing a shift toward advanced technologies such as microLED displays, 8K resolution screens, and immersive audio systems. Customers are willing to invest in high-performance systems to enhance user experience and operational efficiency
Mature hybrid work infrastructure	• Most enterprises already have AV infrastructure in place; growth is now driven by upgrades and replacements. Companies are investing in better cameras, microphones, and integrated systems to improve meeting quality and collaboration
Experience economy (retail, sports, entertainment)	• Global brands are investing heavily in experiential environments, such as flagship stores, stadiums, and theme parks, where AV hardware plays a central role in delivering immersive customer experiences
Transition to AV-over-IP hardware ecosystems	• There is a strong shift from traditional AV cabling to IP-based systems, allowing AV signals to be transmitted over standard IT networks. This improves scalability, flexibility, and integration with enterprise IT infrastructure
Sustainability-driven replacements	• Organisations are replacing legacy systems with energy-efficient displays and environmentally compliant hardware to meet ESG goals. This includes lower power consumption screens and recyclable components

Globally, the Pro AV software segment is a key value driver, characterised by advanced capabilities such as AI integration, cloud orchestration, and the increasing shift toward software-defined and service-oriented AV architectures.

Growth drivers - Software	
Shift to software-defined AV ecosystems	• Globally, AV systems are increasingly controlled through centralized software platforms rather than hardware interfaces. This allows organisations to manage multiple devices, locations, and workflows through a single interface
Advanced AI and analytics integration	• AI is being used for features such as automated camera tracking, facial recognition, audience analytics, and predictive maintenance. These capabilities enhance user experience and provide actionable insights for businesses
Mature AV-as-a-Service (AVaaS) adoption	• Enterprises are adopting AVaaS models where hardware, software, and services are bundled into a subscription. This shifts spending from capital expenditure to operational expenditure and simplifies lifecycle management
Enterprise content and media platforms	• Large organisations are investing in internal broadcasting capabilities, including live streaming, video portals, and content management systems. This supports corporate communications, training, and marketing initiatives
Deep IT and IoT convergence	• AV systems are increasingly integrated with enterprise IT infrastructure and IoT devices, enabling smart building automation, energy management, and data-driven decision-making

The global Pro AV services market is well-developed, with a strong emphasis on managed services, lifecycle management, and recurring revenue models, reflecting the increasing complexity and scale of AV deployments.

Growth drivers - Services	
Enterprise collaboration refresh cycles	• Organisations are upgrading legacy collaboration infrastructure to support hybrid work and geographically distributed teams. Demand is being driven by integrated AV solutions that offer enhanced video and audio quality, interoperability with cloud collaboration platforms, and scalable system architectures
Adoption of AV-over-IP architectures	• The industry is transitioning from traditional point-to-point AV systems to AV-over-IP frameworks that distribute audio and video over standard network infrastructure • This shift is accelerating AV–IT convergence and increasing the need for network-centric AV solutions and specialised integration expertise
Growth in experience-driven AV deployments	• The increasing adoption of technologies such as LED video walls, interactive displays, and experiential installations is expanding AV applications beyond functional communication tools to engagement-focused environments in retail, entertainment, and public venues
Rising End-use sector demand	• Growth is supported by rising deployments across corporate offices, education, healthcare, retail, government, transportation, and entertainment • Organisations are increasingly implementing centrally managed, software-defined AV environments to improve collaboration, communication, and operational efficiency

2.4 Evolving global regulations on energy efficiency, safety, accessibility, and digital standards are accelerating demand for advanced AV solutions

In key global markets, regulations on safety, cybersecurity, data privacy, and increasingly mandating emissions & advanced AV standards are directly driving demand for AV hardware, software, and compliance services. Geopolitical supply constraints and increase in prices of key raw materials has caused the cost of manufacturing audiovisual products and accessories, to increase.

Global regulatory & compliance frameworks fostering AV solution growth

Regulatory driver	Impact	Details
Energy-efficiency & eco-design regulations	• Energy-efficiency **labels** such as EU's **Ecodesign** & the US' **Energy Star** require AV displays & projectors to meet strict power-consumption & environmental-performance standards	• These rules **mandate OEMs** to redesign hardware & release new and energy-efficient product lines, driving increased demand of next-generation AV devices
Safety, EMC & international product-compliance standards	• Global **hardware-safety** & **electronic-interference** standards such as the IEC norms, US UL safety standards, & EU CE marking rules define minimum safety, electrical & material requirements that AV products must meet	• Such stringent standards ensure redesigned power, thermal and shielding systems, leading to **upgraded AV device** families & strong demand for safety-compliant & organised equipment manufacturing
Accessibility & inclusive-broadcasting mandates	• Key regulations in the US & Europe require **broadcasters** & **OTT** platforms to support closed captioning, audio description & compatible receivers for people with disabilities	• These regulations **boost demand** for compliant AV equipment, including encoders, caption inserters, set-top boxes & displays that can decode standard caption formats
Digital-economy & entertainment-promotion policies	• Government programs worldwide are promoting digitisation, streaming, home entertainment, gaming, e-sports, & immersive media, increasing the **consumption** of **AV-heavy** experiences	• Such widespread **digital media** initiatives are encouraging the **demand** for high-refresh displays, low-latency projectors & advanced audio systems suited for gaming & immersive content

2.5 Adoption of AV has shifted from early technology pilots to post-pandemic operational deployment across corporate, education, and hospitality sectors

AV solutions have undergone a structural shift in deployment & usage models over the last decade. The market has moved from largely room-based, on-premises systems to more integrated, cloud-connected and hybrid-ready environments used across workplaces, education, healthcare and events.

AV solutions evolution over the years

Parameters	Static IP video conferencing	Unified communications video conferencing	
	Pre-pandemic era (Up to CY19)	Pandemic era (CY20-21)	Post-pandemic era (CY21 onwards)
Deployment model	• On-premise, room-based AV systems • Hardware-centric installations	• Shift away from physical rooms • Cloud-based, remote & device-agnostic usage	• Hybrid-ready, cloud-connected AV ecosystems • AV-over-IP & centrally managed deployments
Key applications	• Boardrooms, classrooms, training centres • Live events & broadcast production	• Virtual classrooms & remote conferencing • OTT streaming, telehealth & virtual events	• Smart classrooms, hybrid courtrooms & care studios • Hybrid events & multi-site collaboration
Technology stage	• Limited cloud integration • Low interoperability across platforms • Static IP video conferencing	• Rapid adoption of cloud video & virtual workflows • Expansion of streaming & conferencing tech • Unified communications video conferencing	• AI-enabled audio/video processing • Cross-platform interoperability & analytics • Unified communications video conferencing
Key demand drivers	• Enterprise communication • Education modernisation & media production	• Business continuity needs • Remote learning, entertainment & public services	• Productivity, scalability & experience optimisation • Accessibility & content performance insights
Business model	• Capex-led hardware sales • Project-based deployments	• Platform-led adoption & cloud subscriptions	• AVaaS, managed services & subscriptions • Alignment with IT & cybersecurity

2.6 Hybrid work environments, ed-tech adoption, digital events & technological advancements are key growth drivers of the global AV systems integration market

The global Pro AV market is undergoing sustained expansion, driven by structural shifts in how enterprises communicate, collaborate & deliver services. Rising adoption of hybrid work models, rapid digitalization of learning, the mainstreaming of virtual events, evolving regulatory priorities & continuous advancements in connectivity and AI are collectively reshaping demand patterns. Together, these trends are positioning Pro AV as a core layer of modern enterprise infrastructure, essential for productivity, engagement & scalable global interaction.

Growth drivers	
 **Hybrid work environment**	• Hybrid & distributed work models have become a **structural shift** worldwide, positioning AV solutions as a key layer of enterprise communication & collaboration - Global teams now depend on cloud-based, real-time video platforms to coordinate across time zones, reduce travel costs & maintain continuity, with SMEs widening adoption through flexible **subscription-led** AV models
 **Virtual learning & ed-tech**	• Rapid expansion of online & **blended learning** models across universities, K-12 & corporate L&D is driving sustained demand for AV-enabled virtual classrooms & learning tools - Rise of continuous upskilling, live coaching formats & higher smartphone & internet penetration globally is enabling this **video-led learning** environment at scale
 **Digital events**	• Enterprises & institutions are formalising virtual & hybrid conferences, trade shows & webinars, making AV platforms essential for **global-scale engagement** with low cost analytics - ESG-led travel reduction, coupled with **AI-driven** features like live polls, personalised recommendations & real-time engagement tools, is making virtual event experiences more compelling than traditional formats
 **Technological evolution**	• Advancements in connectivity, cloud architectures & AI capabilities are materially **enhancing AV performance**, positioning next-gen solutions as integral to modern digital workflows - High-speed broadband unified communication suites & AI tools (noise suppression, transcription, translation & auto-summaries) further enable high-quality HD/4K collaboration & **deeper integration** with CRM, ERP & LMS systems
 **Regulatory policies**	• Government-led digital **transformation programmes** & smart education **initiatives** are accelerating adoption of compliant AV solutions across education, business & public services - Key sectors with strict **data protection requirements** such as finance, healthcare & government are increasingly shifting to enterprise-grade, secure collaboration AV tools to maintain regulatory compliance
 **Modernised collaboration**	• The rising adoption of hybrid work models and the rapid digitalization of learning (Ed-Tech) have positioned AV platforms as core enterprise infrastructure • These systems are no longer "optional extras" but are essential for productivity, equity in communication, and scalable global interaction
 **Digital transformation**	• Organisations are increasingly recognizing higher value from content delivered through digital experiences, driving a shift from static advertising formats to dynamic LCD/LED video walls and digital signage • In the entertainment sector, the transition from traditional projector-based screens to Direct-View LED (dvLED) video walls is redefining the "big screen" experience, offering superior brightness, contrast, and longevity
 **Shift to dynamic advertising**	• Traditional static flex banners are being rapidly replaced by high-impact LCD and LED video walls • These allow for real-time content updates, programmatic advertising, and significantly higher consumer recall

2.7 Global markets are rapidly adopting next-generation technologies, with advanced regions leading innovation

The adoption of emerging technologies is gaining strong momentum worldwide, with countries such as the US, UK, Germany, and Australia driving early adoption of AI-rich collaboration tools, intelligent endpoints, and 5G-enabled use cases. At the same time, Asia-Pacific markets, including India and the Philippines, are rapidly advancing in cloud-based unified communications, mobile-first collaboration, and AI-enabled features that support large and diverse user groups. These trends are accelerating the deployment of integrated AV solutions globally, thereby increasing the demand for AV solutions to enable seamless integration, scalability, and management of advanced AV technologies.

AV Adoption trends	
AI-enhanced video conferencing	• AI-led capabilities, such as autoframing, noise suppression, voice tracking, live transcription, translation & automated summaries are **transforming** video meetings into smarter, more efficient collaboration experiences - **North America** & **Western Europe** are leading its adoption due to strong bandwidth, while India & APAC are rapidly **scaling AI** features to support multilingual, high-density environments across education, healthcare & public services.
High-resolution & intelligent endpoints	• HD/4K cameras, smart bars, panoramic/360° systems & intelligent **auto-tracking endpoints** are elevating collaboration & delivering more immersive meeting experiences - Strong adoption is seen in the US, Western Europe & Australia, driven by **regulated industries** like finance, healthcare & government requiring secure, high-grade meeting rooms
Cloud-first UC/ UCaaS platforms	• Integrated unified **communication platforms** combining calling, messaging, meetings & contact-centre workflows are becoming essential for scalable digital collaboration - Mature markets such as UK, Germany & Singapore have **standardised on UCaaS** due to high SaaS penetration, while **India, Indonesia & the Philippines** are witnessing rapid uptake as organisations move away from on-premise tools toward cloud-based video systems
5G-enabled & low-latency collaboration	• 5G is enabling advanced AV use cases such as **AR/VR-supported** meetings, real-time remote assistance & digital twin applications requiring ultra-low latency - Early adoption is strongest in the US, South Korea & parts of Western Europe where commercial **5G networks** are well-established

2.8 Smart displays, immersive environments, cloud-based management, and data-driven AV are shaping the next wave of global AV adoption

The global Pro AV systems market is undergoing a fundamental shift toward intelligent, cloud-native & experience-led solutions. Enterprises across sectors are prioritising smart displays, immersive environments & AI-driven automation spaces as digital engagement becomes central to workplace productivity & customer experience. These trends reflect a clear move away from hardware-centric deployments toward software-defined, data-driven & design-integrated AV ecosystems, setting the foundation for the next phase of industry growth. These trends are driving the deployment of more complex and software-driven AV environments, thereby increasing the need for AVSI to design, integrate, and manage interconnected AV ecosystems across enterprise and public infrastructure.

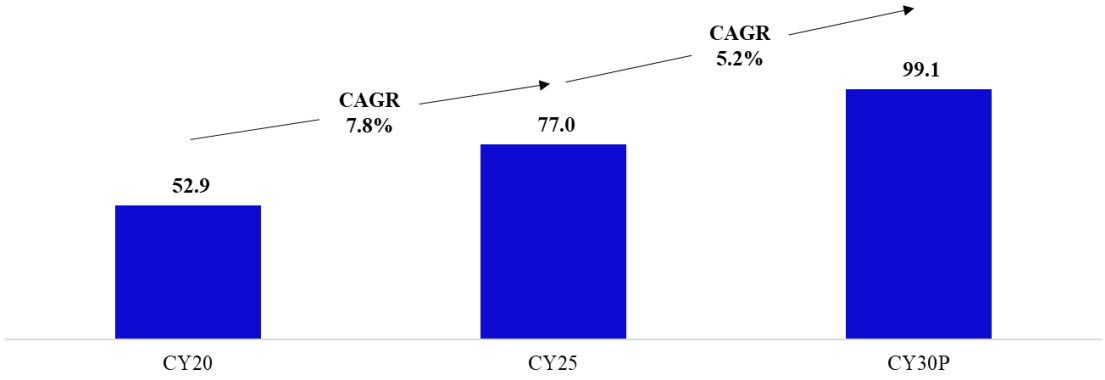
Key market trends		
Trend	**Description**	**Examples**
Smart & context-aware displays	• Intelligent, AI-enabled displays are becoming common to **modern AV** deployments, improving meeting equity & enabling centrally managed, dynamic content delivery	• **Panasonic's PressIT360** is extensively used in corporate rooms to provide **AI-driven** auto-framing and 360° capture that gives remote attendees a more natural, in-room experience
Immersive & interactive environments	• Organisations are adopting **immersive AV** to deliver high-engagement training, brand storytelling & experiential spaces, driving demand for XR & large-format visual systems	• Thailand's **KP Art Center** has adopted a large-scale immersive media art experience using synchronised high-resolution displays
Cloud-based AV management & control	• Cloud-orchestrated **AV-over-IP** is becoming a key driver as enterprises move toward scalable, remotely managed, software-centric AV ecosystems	• **NETGEAR's** AV-over-IP deployments in media art centres enable operators to manage multiple endpoints centrally while maintaining performance & low latency
Data-driven & AI-powered AV	• Enterprises are increasingly relying on **analytics-enabled** & **AI-assisted** AV to optimise space utilisation, automate production tasks & ensure consistent session quality	• **Samsung's** HR Development Institute has rebuilt its AV network with analytics-friendly infrastructure to improve room usage & learning outcomes

2.9 The U.S. Pro AV market is projected to grow from US$ 77.0 billion in Calendar 2025 to US$ 99.1 billion by Calendar 2030

The U.S. Pro AV market expanded from US$ 52.9 billion in Calendar 2020 to US$ 77.0 billion in Calendar 2025, reflecting a CAGR of 7.8% during the period. Growth during this timeframe was supported by increasing adoption of integrated audio-visual and system integration solutions across corporate offices, educational institutions, healthcare facilities, and large public venues. Demand was further driven by the rapid shift toward hybrid work environments, increased deployment of video conferencing infrastructure, and the modernisation of meeting rooms, classrooms, and collaborative workspaces.

USA Pro AV market - By value

(US$ B, CY20-30P)



Source(s): 1Lattice analysis

Looking ahead, the U.S. Pro AV market is projected to reach US$ 99.1 billion by Calendar 2030, exhibiting a CAGR of 5.2% from Calendar 2025 to Calendar 2030. Future growth is expected to be supported by continued investments in smart workplaces, advanced collaboration technologies, digital signage, and integrated AV solutions across enterprise and institutional infrastructure.

The United States is widely regarded as one of the most advanced markets in terms of technology adoption, supported by strong enterprise IT spending and highly developed digital infrastructure. The U.S. is the largest country in the global Pro AV market, contributing 27.5% of the total market value. Organisations across sectors are early adopters of emerging technologies such as artificial intelligence, cloud computing, Internet of Things (IoT), and advanced collaboration platforms, accelerating the deployment of digitally enabled workplaces and connected environments. This rapid pace of innovation has significantly expanded the deployment of integrated audio-visual systems across corporate offices, educational institutions, healthcare facilities, and public infrastructure. As AV technologies increasingly converge with enterprise IT networks through AV-over-IP architectures, cloud-based collaboration platforms, and AI-enabled devices, the role of AV systems integrators is evolving beyond traditional installation toward end-to-end design, integration, and lifecycle management of complex audiovisual ecosystems. Consequently, continued technological advancement in the United States is expected to drive sustained demand for Pro AV services across enterprise collaboration infrastructure, digital signage networks, and managed AV environments.

The United States applies tariffs on Chinese electronics primarily through Section 301 of the Trade Act, administered by the Office of the United States Trade Representative. While base MFN tariffs on electronics were historically low (~0–5%), additional Section 301 tariffs introduced since 2018 range from 7.5% to 25% across a wide set of electronics and AV-related goods, depending on product classification. Following a statutory review, the U.S. has further increased tariffs on selected strategic electronics categories (e.g., semiconductors, components) up to 25–100%, while continuing to modify exemptions and rates, making the regime more policy-driven and dynamic.

2.9.1 Evolving service models and enterprise procurement strategies are reshaping the U.S. Pro AV market

The U.S. Pro AV market is increasingly influenced by evolving enterprise procurement strategies and service delivery models as organisations seek scalable and flexible approaches to deploying audiovisual infrastructure. As AV systems become more integrated with enterprise IT environments, organisations are prioritising long-term service partnerships, lifecycle management, and scalable deployment frameworks rather than one-time hardware installations. This shift is transforming the role of AVSI providers from project-based installers to strategic technology partners responsible for end-to-end audiovisual ecosystem management. Several trends are shaping procurement and service models across the U.S. Pro AV market:

- Increasing preference for managed AV services, including remote monitoring, preventative maintenance, system upgrades, and performance optimisation across distributed AV environments

- Enterprise standardisation of AV infrastructure across multi-site offices, enabling consistent collaboration experiences and simplified technology management across large organisations
- Greater integration between AV deployments and enterprise IT procurement frameworks, requiring AVSI providers to align with corporate cybersecurity, network, and compliance standards
- Growing adoption of AV-as-a-Service (AVaaS) models, enabling enterprises to deploy and manage audiovisual infrastructure through subscription-based contracts rather than capital-intensive purchases
- Long-term service agreements and lifecycle management contracts becoming more common as organisations seek reliable support for complex audiovisual ecosystems

2.9.2 Widespread deployment of AV solutions across multiple sectors in the United States is expanding opportunities for system integration, deployment, and lifecycle management services

The adoption of audio-visual technologies in the United States spans multiple end-use sectors including corporate enterprises, education institutions, retail environments, healthcare facilities, and government infrastructure. Organisations are increasingly deploying integrated AV systems to support collaboration, digital communication, customer engagement, and operational monitoring. As AV deployments become more complex and network-centric, the role of AV systems integration providers is expanding from equipment installation to end-to-end system design, integration, and lifecycle management. The following table highlights key sectors adopting AV solutions in the United States and the resulting implications for AVSI demand.

Sector	Adoption of AV solutions	Impact on AVSI demand
Corporate / Enterprise workplaces	• Enterprises are deploying video-enabled meeting rooms, unified communication platforms, collaboration displays, and intelligent conference room systems to support hybrid work and distributed teams	• Drives demand for large-scale meeting room integration, networked AV systems, and lifecycle management across multi-site enterprise deployments
Education institutions	• Universities and schools are increasingly adopting smart classrooms, lecture capture systems, interactive displays, and campus-wide digital signage networks	• Increases demand for integrated classroom AV ecosystems, networked display infrastructure, and ongoing technical support services
Retail and experiential environments	• Retailers are deploying digital signage networks, LED video walls, and immersive display environments to enhance customer engagement and support dynamic in-store marketing	• Creates demand for large-format display integration, content management platforms, and AV system maintenance services
Healthcare facilities	• Hospitals and healthcare providers are adopting telemedicine systems, digital diagnostic displays, training simulation environments, and hospital command centres	• Drives demand for specialised AV integration supporting secure communication systems and mission-critical display environments
Government and public infrastructure	• AV solutions are widely deployed in transportation hubs, emergency response centres, and government facilities through control rooms, public information displays, and surveillance systems	• Supports demand for mission-critical AV integration, control room technologies, and long-term service and maintenance contracts

3 Overview of the Indian Pro AV & AVSI market

The Indian audio-visual ("AV") systems market comprises an ecosystem of professional hardware, software, and services used to capture, process, distribute, and display synchronised audio-visual content across commercial, institutional, and public infrastructure. AV solutions are deployed to support communication, information dissemination, monitoring, and user engagement in a range of operating environments. AV systems are increasingly adopted across corporate meeting rooms and collaboration spaces, government and private sector command and control centres, educational facilities such as classrooms and lecture halls, and public-facing environments including airports, metro and railway stations, hospitality venues, retail outlets, and entertainment facilities. These deployments typically involve the integration of display technologies, audio systems, control interfaces, and networked platforms to enable coordinated audio-visual functionality.

The Indian audio-visual systems integration (AVSI) market comprises services focused on designing, integrating, installing, and maintaining professional AV hardware and software to enable synchronised audio-visual communication across commercial, institutional, and public environments. The AVSI industry is characterised by rapid technological advancements, frequent product innovation, and evolving customer preferences. AVSI solutions are widely deployed across corporate offices, command and control centres, educational institutions, and public venues such as airports, metro stations, retail outlets, and hospitality spaces.

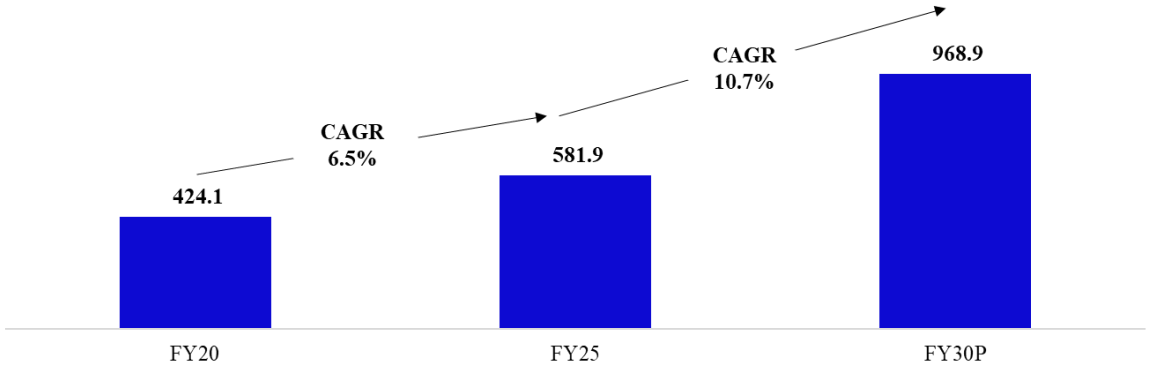
The deployment of AV solutions in India is influenced by factors such as the expansion of digital infrastructure, urban development, increasing adoption of technology-enabled workplaces and public services, and the growing need for real-time communication and information management, ready availability of cutting-edge AV technologies, and their lowering costs over

time. AV systems are implemented as integrated solutions, with system design, installation, and ongoing support playing an important role in ensuring performance and reliability.

3.1 The Indian Pro AV systems market is projected to grow from ₹ 581.9 billion in Fiscal 2025 to ₹ 968.9 billion by Fiscal 2030, driven by rapid digital infrastructure deployment across sectors

The Indian Pro AV systems market grew from ₹ 424.1 billion in Fiscal 2020 to ₹ 581.9 billion in Fiscal 2025, reflecting a strong CAGR of 6.5% during the period. Going forward, the market is projected to grow to ₹ 968.9 billion by Fiscal 2030 with a CAGR of 10.7% from Fiscal 2025 to Fiscal 2030, driven by sustained investments in digital infrastructure, expanding smart city & government-led digitization initiatives, and increasing deployment of integrated AV solutions across enterprise, education, retail, hospitality, and public sector. Notably, rising urbanisation, combined with AI/IoT integration in AV systems, is accelerating hybrid work models and immersive experiences in these sectors. Meanwhile, schemes like Digital India and extended Smart Cities investments are enabling scalable AV-over-IP deployments for e-governance and public engagement. Further underscore India's lead in APAC growth through infrastructure surges and immersive tech adoption. Prominent players in Pro AV market include Online Instruments, Actis Technologies, Sigma AVIT and PRO FX Tech etc.

Indian Pro AV market - By value
(INR B, FY20-30P)

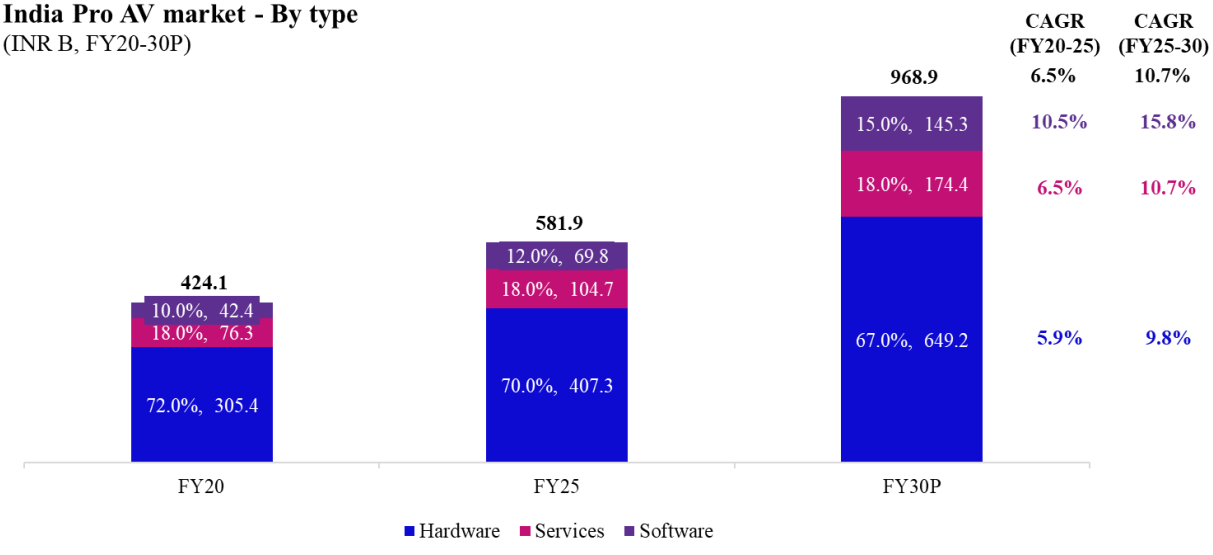


Source(s): 1Lattice analysis

3.1.1 The Indian Pro AV market is set for strong growth through Fiscal 2030, led by hardware dominance while software steadily gains share with rising cloud and automation adoption

In Fiscal 2020, hardware dominated with a 72.0% share, while services and software accounted for 18.0% and 10.0% respectively. By Fiscal 2025, the acceleration of hybrid work and technology refreshes pushed the software share to 12.0%, with hardware slightly adjusting to 70.0%.

India Pro AV market - By type
(INR B, FY20-30P)



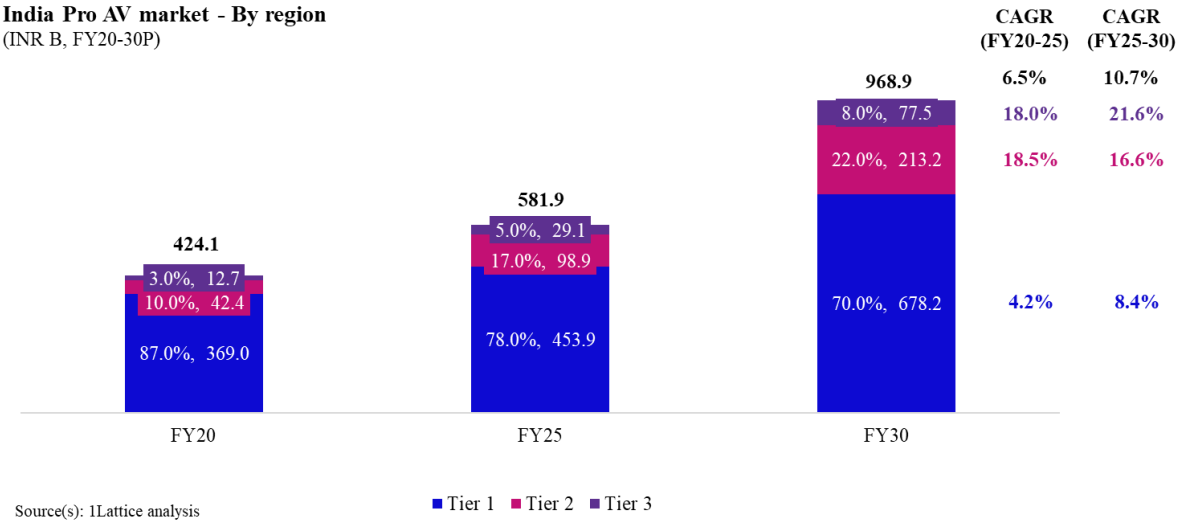
Source(s): 1Lattice analysis

Projections for Fiscal 2030 suggest hardware will continue its lead at 67.0%, while software is expected to climb to 15.0% due to the rise of cloud-based management and automation. Throughout this decade, services are anticipated to hold a remarkably consistent 18.0% share, reflecting a sustained demand for complex system integration and lifecycle management.

3.1.2 Tier-1 cities accounted for the majority share of 78.0% of the Indian Pro AV market in Fiscal 2025, followed by tier-2 cities at 17.0% and tier-3 cities at 5.0%

The Indian Pro AV market is geographically segmented into tier-1, tier-2 & tier-3 cities. In Fiscal 2025, tier-1 cities led by Bengaluru, Mumbai, Delhi-NCR, and Hyderabad, accounted for the majority share of 78.0% of the total market by value. This dominance is driven by the high concentration of corporate offices, commercial real estate, co-working spaces, large educational institutions, and premium retail and hospitality infrastructure, which together generate sustained demand for advanced and large-scale AV deployments. Tier-2 & tier-3 cities, like Jaipur, Lucknow, Mysuru, and Indore, with growing infrastructure and rising economic activity, contributed the remaining 22.0% share in Fiscal 2025 by value. Growth in these markets is supported by expanding urban infrastructure, rising economic activity, increasing investment in educational facilities, greater penetration of organised retail and hospitality, and the growing adoption of digital AV solutions by regional enterprises and public institutions.

India Pro AV market - By region
(INR B, FY20-30P)



Source(s): 1Lattice analysis

By Fiscal 2030, tier-1 cities are expected to account for 70.0% of the Indian Pro AV market by value, supported by ongoing enterprise upgrades, replacement demand, and continued investments in commercial infrastructure. Tier-2 & tier-3 cities are projected to expand their share to 30.0% by Fiscal 2030 by value, driven by faster infrastructure development, smart city initiatives, government-led digitization programmes, and increasing adoption across regional commercial, education and public sector projects. With over 20 years of experience, Online Instruments is a well-established player in the Indian audio-visual system integration solutions market, with expertise in providing comprehensive solutions across a diverse range of applications. Online Instruments is one of the few providers of full-stack AVSI solutions amongst companies established in India and has built strong capabilities across the AV integration value chain.

3.2 The Indian Pro AV market growth is driven by rising content production, hybrid work adoption, virtual events & supportive regulatory environment

The Indian Pro AV market is witnessing robust growth, driven by a convergence of content expansion, technology adoption, and institutional initiatives. Rising demand across sectors, including corporate collaboration, education, enterprise events, and government infrastructure, is fuelling investments in Pro AV systems, thereby driving increased demand for AVSI services to design, deploy, and manage these integrated solutions. Along with these industry growth drives, enterprises and brands are also increasingly investing in customer experience centres equipped with advanced audiovisual technologies to showcase products, solutions, and digital capabilities to clients and stakeholders.

Growth drivers	
Hybrid work set-up	• Hybrid and distributed work has become a structural global shift, making cloud-based, real-time AV solutions central to enterprise collaboration, cross-time-zone coordination and cost-efficient operations
E-learning & digital classrooms	• Rapid expansion of online and blended learning across universities, K-12 and corporate L&D, supported by continuous upskilling, live coaching and rising smartphone and internet penetration, is driving sustained demand for AV-enabled virtual classrooms and learning tools
Virtual events	• Enterprises and institutions are formalising virtual and hybrid events, with ESG-driven travel reduction and AI-enabled engagement features making AV platforms essential for cost-efficient, analytics-led and scalable global participation
Regulatory push	• Government-led digital transformation and smart education initiatives, along with stricter data protection requirements in regulated sectors, are accelerating adoption of secure, compliant enterprise-grade AV collaboration solutions across public and private services
Retail & advertising	• Expansion of organized retail, digital signage networks and in-store experience zones, along with growing investments in digital-out-of-home (DOOH) and interactive advertising, is driving demand for large-format displays, content management systems and integrated AV solutions across malls, stores and public spaces

3.2.1 India Pro AV market fuelled by infrastructure expansion, rapid digitization, and volume-led adoption

India's Pro AV hardware segment is in a high-growth phase, driven primarily by infrastructure expansion, increasing digitization across sectors, and rising demand for cost-effective, scalable AV solutions across urban and semi-urban markets.

Growth drivers- Hardware	
Infrastructure-led demand	• Government initiatives such as smart cities, metro rail expansion, airport modernisation, and public surveillance systems are creating large-scale demand for AV hardware • These projects typically require command-and-control centres, digital displays, and public communication systems, leading to bulk procurement and long-term deployment pipelines
Rapid expansion of organised retail & QSR	• The growth of shopping malls, branded retail chains, and quick-service restaurants is driving demand for digital signage, menu boards, and in-store experience technologies • Retailers are increasingly using AV hardware to influence customer engagement, promotions, and in-store analytics
Live events and entertainment boom	• India's events ecosystem, including weddings, concerts, religious gatherings, and sports leagues, is expanding rapidly • This drives demand for high-quality audio systems, LED walls, projection systems, and staging equipment, often through rental and event service providers
Cost-sensitive but volume-driven adoption	• Indian buyers prioritise affordability and scalability, leading to high demand for mid-range AV products • While margins may be lower, large-scale deployments across Tier 2 and Tier 3 cities compensate through volume growth
Enterprise digitisation in offices & education	• Corporates and educational institutions are increasingly adopting interactive flat panels, video conferencing kits, and smart classroom solutions. This is supported by hybrid work models and digital learning initiatives

The Pro AV software segment in India is at an evolving stage, with growing adoption of cloud-based platforms and content management systems as enterprises transition from hardware-led deployments to more integrated, software-driven ecosystems.

Growth drivers - Software	
Early-stage adoption of AV software platforms	• The Indian market is transitioning from hardware-centric deployments to software-enabled systems • However, adoption is still at a relatively early stage, with many organisations just beginning to implement AV control and automation platforms
Cloud-based collaboration tools penetration	• The widespread use of video conferencing and remote collaboration tools has increased significantly post-pandemic • Enterprises are integrating these platforms with AV hardware to enable seamless communication across distributed teams
Digital signage CMS demand	• As digital signage networks expand, there is growing demand for centralized content management systems (CMS) that allow organisations to control and update content across multiple screens and locations in real time
Integration with edtech and enterprise training	• Educational institutions and corporates are investing in software solutions for lecture capture, virtual classrooms, and employee training • This includes integration with learning management systems (LMS) and content delivery platforms
Cost-driven SaaS adoption	• Indian enterprises prefer subscription-based pricing models that reduce upfront capital expenditure • SaaS-based AV platforms provide flexibility, scalability, and lower entry barriers, making them attractive for SMEs and large organisations alike

The services segment in India is largely project-driven, supported by strong demand for system integration and installation services, with managed services gradually gaining traction as the market matures.

Growth drivers - Services	
High demand for system integration	• The Indian AV market is highly fragmented, with multiple vendors providing hardware and software components. System integrators play a critical role in designing, installing, and integrating these components into a cohesive solution
Growth in project-based deployments	• Most AV service revenues in India come from one-time projects such as infrastructure installations, corporate office setups, and educational institution deployments. These projects are often large-scale and complex
Limited in-house AV expertise	• Many organisations lack internal AV expertise, leading to heavy reliance on external consultants and service providers for design, deployment, and troubleshooting
After-sales and maintenance services demand	• Due to varying quality of hardware and challenging operating conditions, there is strong demand for maintenance services, including repairs, upgrades, and technical support
Emerging managed services market	• Managed services, such as remote monitoring and lifecycle management, are still developing in India but are expected to grow as organisations seek to optimise performance and reduce downtime

3.3 Current usage of AV solutions across sectors in India (corporate, education, government, healthcare, manufacturing, airports)

AV solutions have become key enablers of communication, collaboration, training, monitoring & customer engagement across sectors. Beyond standalone hardware, organisations are increasingly deploying integrated AV ecosystems, combining displays, audio systems, control processors & connectivity tools to support hybrid operations & workflow automation

3.4 Key regulatory policies & government initiatives across broadcasting, digital infrastructure & e-governance are shaping the growth trajectory of India's audio-visual market

India's audio-visual market is shaped by a combination of evolving broadcasting regulations, digital infrastructure initiatives & government-led digitization programmes. Policy measures covering TV, radio, and OTT platforms are improving regulatory clarity and formalising the AV ecosystem, while Digital India & ICT missions are expanding connectivity and enabling video-centric applications. At the same time, e-governance and Smart City initiatives are converting policy support into sustained institutional demand for professional AV solutions, strengthening long-term growth for the sector.

Key regulatory & policy drivers		
Key driver	**Description**	**Impact**
 **Digital India & ICT missions**	• Expansion of broadband infrastructure through initiatives such as **BharatNet** & the **National Broadband Mission** is enabling large-scale adoption of video-based services	• As connectivity deepens, ICT missions promoting AR/VR, gaming, VFX and AI are accelerating the shift towards **immersive media** & next-generation AV applications
 **E-governance & smart cities**	• Government-led digital programmes are creating sustained **institutional demand** for AV solutions across ICCCs, e-courts, e-health, digital education and citizen service centres	• Such programme-driven demand is translating into repeatable, large-scale **AV deployments** under the Smart Cities Mission and sectoral digitization initiatives, including video walls, conferencing systems & urban platforms
 **Broadcasting regulations**	• Regulatory policies by the Ministry of Information & Broadcasting & TRAI **standardise** licensing, tariffs, interconnection & quality-of-service norms, bringing **transparency** & **predictability** to AV content distribution	• Extension of regulatory norms to digital news & OTT platforms is formalising the broader AV **content ecosystem**, supporting sustained investments in broadcasting platforms
 **Draft Broadcasting Services Bill**	• Proposes a **unified regulatory framework** covering television, radio & OTT platforms, replacing fragmented legacy laws & formally bringing digital AV platforms under a single statute	• Introduction of programme & advertising codes with **self-regulation structure** enhances governance, advertiser confidence & long-term investment visibility for broadcasters, OTT platforms & AV ecosystem participants

3.4.1 Indian tariff on imports from China has increased for Finished products, whereas decreased for imports of components

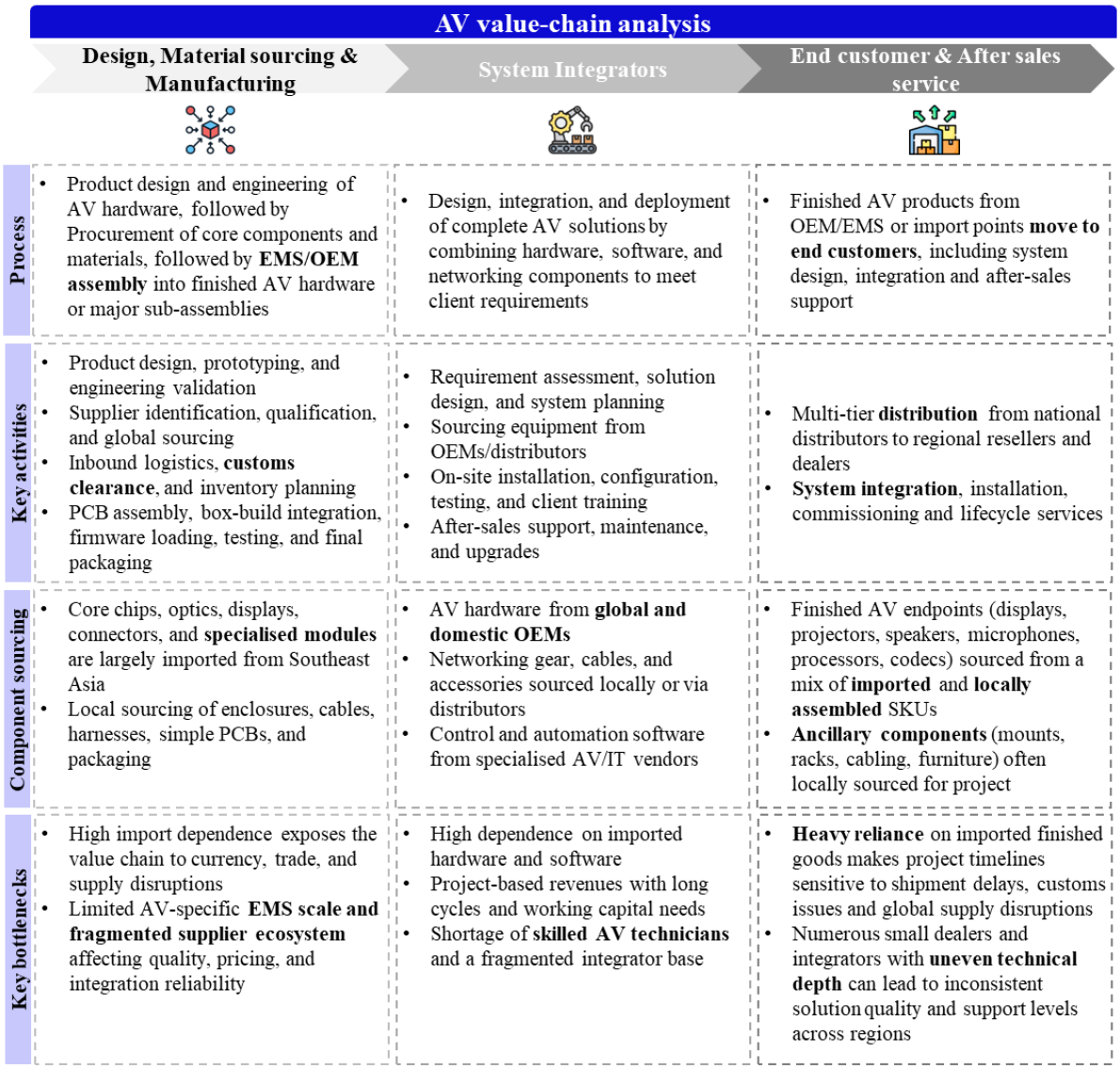
India imposes a multi-layered import duty structure on electronics and AV components from China, primarily comprising Basic Customs Duty (BCD), Social Welfare Surcharge (SWS), and Integrated GST (IGST) under the Central Board of Indirect Taxes and Customs framework. BCD rates typically range from 0–20% depending on the product, with an additional 10% surcharge on BCD and IGST of 12–18%, significantly increasing the effective landed cost. In recent years, India has structurally increased tariffs on finished electronics (e.g., up to ~20% on displays) while keeping lower duties on components to promote domestic manufacturing under the "Make in India" policy.

3.5 India's upstream AV value chain remains import-intensive, with value creation concentrated in assembly, integration and fulfilment services

India's AV value chain spans component sourcing, manufacturing, system integrators, and after-sales service, with a clear skew toward import dependence in upstream inputs. Critical components and sub-assemblies are largely sourced from Southeast Asian suppliers, while domestic activity is concentrated in EMS-led assembly, box-build operations and system integration. Although local sourcing exists for enclosures, cabling and basic mechanicals, limited AV-specific manufacturing depth and fragmented EMS capabilities constrain deep localisation.

Unlike standard distribution arrangements, in white-labelled manufacturing, OEMs first assess and approve the manufacturer's technical capabilities, quality systems, supply chain reliability, and regulatory compliance before committing to long-term supply. Consequently, downstream distribution and integration play a central role in delivering AV solutions, but remain exposed to exchange rate volatility, logistics disruptions and supply-chain bottlenecks.

When selecting non-local solutions providers or vendors, customers often look for alignment with internationally recognised technical standards and practices, as well as the prospective solution provider's or vendor's track record with respect to customer satisfaction. As government-funded projects typically involve multi-year procurement cycles and repeat orders across institutions or regions, and involve multiple departments, educational institutions, or PSUs instead of a small number of buyers.

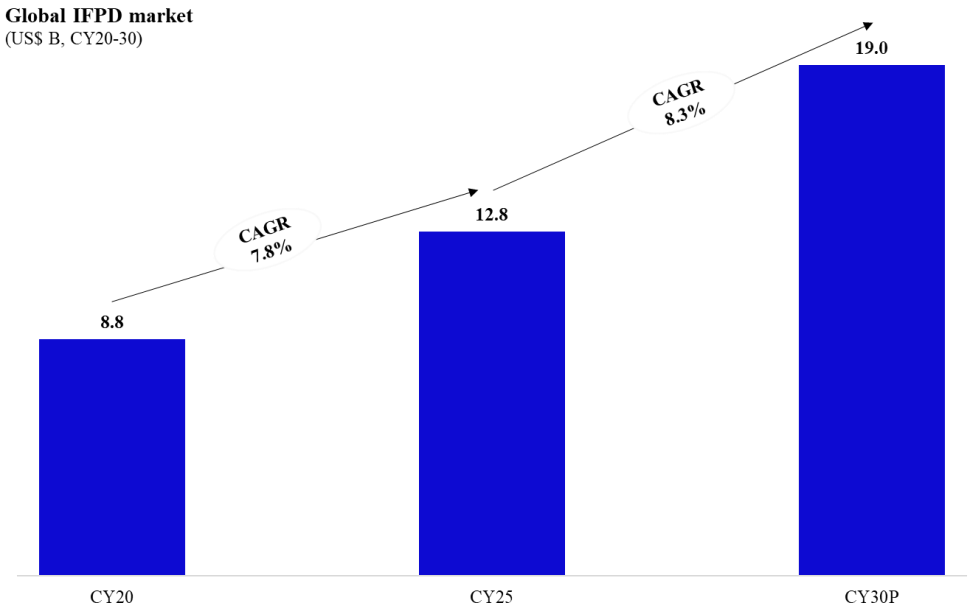


4. Overview of the Global and Indian Interactive Flat Panel Displays (IFPDs), Digital Signage Boards, and Educational Tablets Markets

4.1 The global IFPD market increased from US$ 8.8 billion to US$ 12.8 billion in Calendar 2020 to Calendar 2025 and is forecast to reach US$ 19.0 billion by Calendar 2030 with OLED-led growth

IFPDs are display solutions that incorporate a touch-sensitive screen to enable interactivity with on-screen content. The global Interactive Flat Panel Display (IFPD) market expanded from approximately US$ 8.8 billion in Calendar 2020 to approximately US$ 12.8 billion in Calendar 2025 at a CAGR of 7.8%, driven by accelerating adoption across education, corporate collaboration, and public-sector environments. Growth was supported by increasing digitization of classrooms, rising deployment of smart meeting rooms, and the replacement of traditional whiteboards and projectors with touch-enabled, all-in-one display solutions. The surge in remote and hybrid learning models, virtual collaboration, and digital training further boosted demand for large-format interactive displays with integrated software and connectivity features.

Looking ahead, the market is projected to reach US$ 19.0 billion by Calendar 2030, at a CAGR of 8.3%, supported by rising investments in smart education infrastructure, including interactive flat panel displays (IFPDs), educational tablets, and digital signage, alongside expanding use of IFPDs in corporate boardrooms, government facilities, and training centres, retail experience centres, healthcare consultation rooms, industrial training & control environments, and emerging smart city applications.



Source(s): 1Lattice analysis

4.1.1 **Adoption of hybrid learning, enterprise digitization, and smart collaboration environments is accelerating global demand for interactive flat panel displays**

The global interactive flat panel display (IFPD) market is witnessing strong adoption across education, enterprise, and public sector environments. Increasing digital transformation in classrooms, rising demand for smart meeting rooms, and growing adoption of hybrid work and learning models are accelerating deployment of interactive displays. In addition, investments in smart education infrastructure and the need for real-time monitoring and situational awareness in command room environments are further supporting the adoption of IFPDs across institutional and enterprise settings.

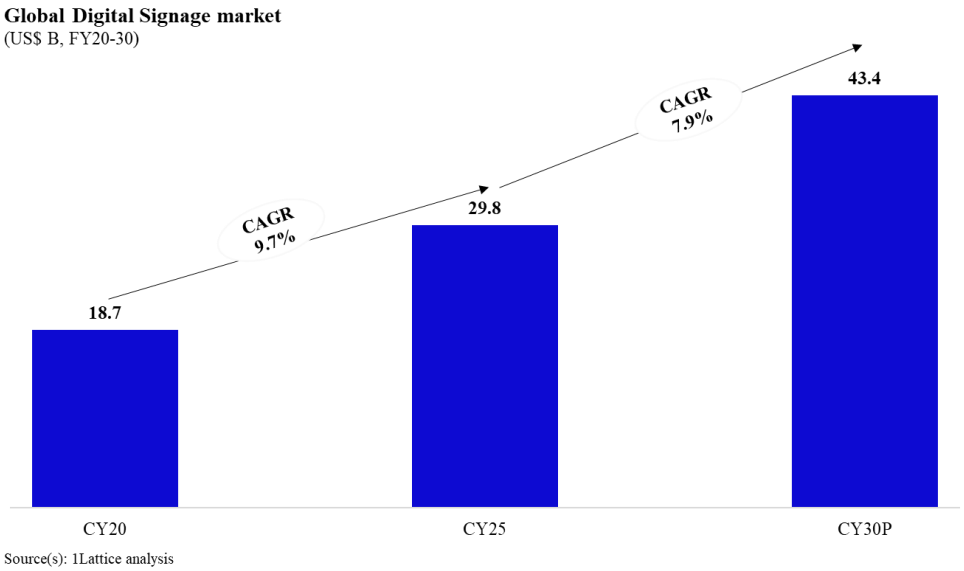
Key growth drivers of the global IFPD market

Hybrid learning	• Blended education models are accelerating the adoption of interactive panels to deliver digital curricula and support remote or hybrid teaching — Enabling educators and students to annotate content and share screens during virtual classes
Enterprise digitization	• Organisations across corporate, public, and institutional sectors are adopting interactive IFPDs to support process automation, collaboration, and data-driven operations — Supporting hybrid work models and real-time collaboration across meeting room environments
Corporate collaboration and meeting spaces	• Growing adoption of smart meeting rooms is accelerating the replacement of traditional whiteboards and projectors with IFPDs — Integrating collaboration software and video conferencing platforms in enterprise environments
Smart education infrastructure	• Increasing investments in smart classrooms and digital learning environments are driving deployment of interactive flat panel displays — Supporting digital teaching tools across educational institutions
Command room environments	• Defence, security, and critical infrastructure sectors require durable flat panel displays for continuous monitoring and operational coordination. — Supporting multi-source data visualisation in control rooms and operations centres

4.2 **The global digital signage market increased from US$ 18.7 billion in Calendar 2020 to US$ 29.8 billion in Calendar 2025 at a CAGR of 9.7%, driven by rising adoption of networked display solutions across retail, transportation, and corporate, hospitality**

The global digital signage market expanded from approximately US$ 18.7 billion in Calendar 2020 to approximately US$ 29.8 billion in Calendar 2025, driven by rising adoption of networked display solutions across retail, transportation, corporate, hospitality, and public infrastructure, supported by increasing demand for dynamic, real-time content delivery, improved customer engagement, and the shift from static to centrally managed digital displays. The recovery in footfall across commercial spaces post-pandemic and higher deployment across airports, metros, malls, QSRs, and corporate campuses further accelerated growth. Looking ahead, the market is projected to reach approximately US$ 43.4 billion by Calendar 2030, supported by investments in smart cities and connected public infrastructure, growing adoption of AI-enabled content management,

programmatic advertising, and analytics-driven signage, and increasing penetration of large-format, high-brightness LCD and LED displays. The growth is also driven by the broader digital transformation of customer engagement channels, where the yield from content created is better recognised through digital experiences compared to traditional formats. End users increasingly realise the value of digital transformation, with advertising and brand communication formats shifting from static banners to dynamic LCD and LED video walls. The market is further supported by expanding use cases across healthcare, education, industrial environments, interactive kiosks, and immersive brand experiences.



Source(s): 1Lattice analysis

4.2.1 Rising digital transformation and intelligent display adoption are accelerating global digital signage demand

The global digital signage market is witnessing strong growth driven by the rising adoption of networked display solutions across industries, increasing demand for dynamic and real-time content delivery, and recovery in footfall across commercial spaces such as airports, malls, and corporate campuses. Additionally, advancements in AI-enabled content management, programmatic advertising, and analytics-driven signage, along with increasing deployment of large-format and high-resolution displays, are further accelerating market expansion.

Key growth drivers of the global digital signage market

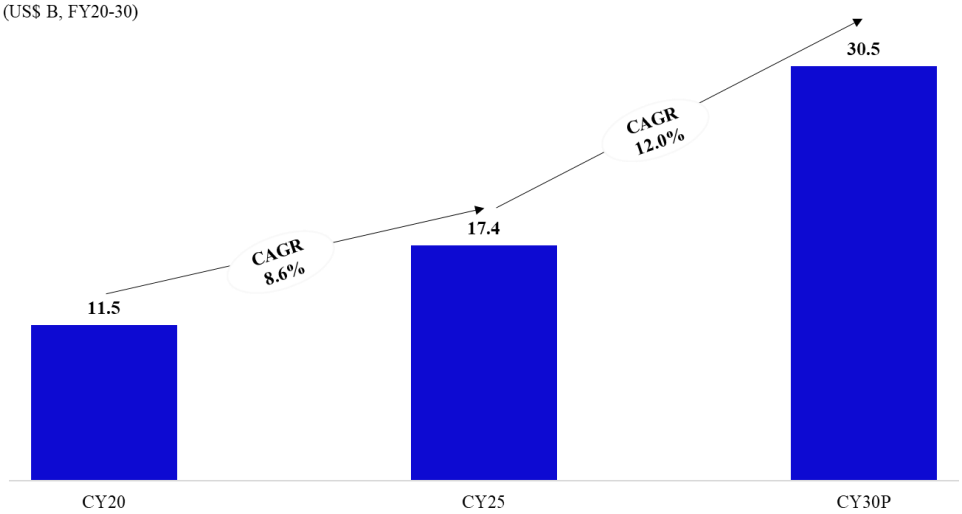
Rising adoption of networked display solutions across industries	• Driven by increasing deployment of networked digital displays across retail, transportation, corporate, hospitality, and public infrastructure, enabling centralized content management and improved customer engagement.
Growing demand for dynamic & real-time content delivery	• Adoption of digital signage solutions by the organisations to deliver **dynamic and real-time content**, enabling targeted messaging and improved communication across commercial environments
Recovery in footfall across commercial spaces	• Rising footfall across airports, metros, malls, QSRs, and corporate campuses has accelerated deployment of digital displays for advertising, information delivery, and brand communication
Increasing adoption of AI-enabled content management	• Growing use of **AI-enabled content management, programmatic advertising, and analytics-driven signage** is enabling targeted messaging and improving campaign effectiveness
Increasing penetration of large-format and high-resolution displays	• Increasing deployment of large-format, high-resolution LCD and LED displays and video walls is supporting immersive brand experiences and enhanced visibility in commercial environments.

4.3 The global educational tablet market expanded from US$ 11.5 billion in Calendar 2020 to US$ 17.4 billion in Calendar 2025 at a CAGR of 8.6% and projected to reach US$ 30.5 billion by Calendar 2030

The global educational tablet market expanded from US$ 11.5 billion in Calendar 2020 to US$ 17.4 billion in Calendar 2025, driven by rapid digitization of education systems, increased government-led EdTech initiatives, and widespread adoption of online, hybrid, and remote learning models across K–12 and higher education. Demand was further supported by large-scale device deployments under digital classroom programs, rising affordability of entry-level tablets, and growing availability of curriculum-aligned educational content and learning management platforms. Looking ahead, the market is projected to reach US$ 30.5 billion by Calendar 2030, supported by continued public and private investment in smart education infrastructure,

increasing integration of AI-enabled personalised learning, adaptive assessment tools, and cloud-based education ecosystems, and expanding use of tablets across teacher training, vocational education, special-needs learning, and exam preparation, particularly in emerging markets.

Global Educational Tablet market
(US$ B, FY20-30)



Source(s): 1Lattice analysis

4.3.1 Digitization of education systems, government-led EdTech initiatives, and growing adoption of hybrid learning models are driving global educational tablet demand

The global educational tablet market is growing steadily, driven by rapid digitization of education systems and increasing adoption of digital learning tools across schools and universities. Government-led EdTech initiatives and education modernisation programs are supporting large-scale tablet deployments under digital classroom initiatives. In addition, the growing adoption of online, hybrid, and remote learning models across K–12 and higher education is increasing demand for personal learning devices that enable access to digital learning platforms and virtual classrooms. The market is further supported by the growing availability of curriculum-aligned educational content and the rising affordability of entry-level tablets, improving accessibility across public schools and emerging markets.

Key growth drivers of the global educational tablet market

Rapid digitization of education systems	• Increasing adoption of digital learning tools across schools and universities is accelerating the use of educational tablets – Supporting digital classrooms and access to curriculum-aligned educational content
Government-led EdTech initiatives	• Education modernisation programs are driving large-scale tablet deployments across institutions – Supporting device distribution under digital classroom initiatives
Adoption of online, hybrid, and remote learning models	• Growing use of online and hybrid education across K–12 and higher education is increasing demand for learning devices – Enabling access to digital learning platforms and virtual classrooms
Growing availability of curriculum-aligned educational content	• Increasing use of digital learning platforms is strengthening tablet adoption in education ecosystems – Supporting personalised learning and digital assessments
Rising affordability of entry-level tablets	• Declining device prices are improving accessibility for students and institutions – Supporting wider adoption across public schools and emerging markets.

4.4 Technology-led innovation reshaping product performance, usability, and adoption across global flat panel displays

The global flat panel display market is witnessing a foundational shift driven by advancements in interactivity, display illumination, and energy efficiency. As end users demand more immersive, collaborative, and sustainable solutions, manufacturers are transitioning toward enhanced display architectures and software-integrated systems. In parallel, advancements in display technologies such as AI-enabled displays with intelligent optimisation features, and the growing demand for larger screen sizes and higher-resolution (4K/8K) displays are enhancing user experience in enterprise and education environments.

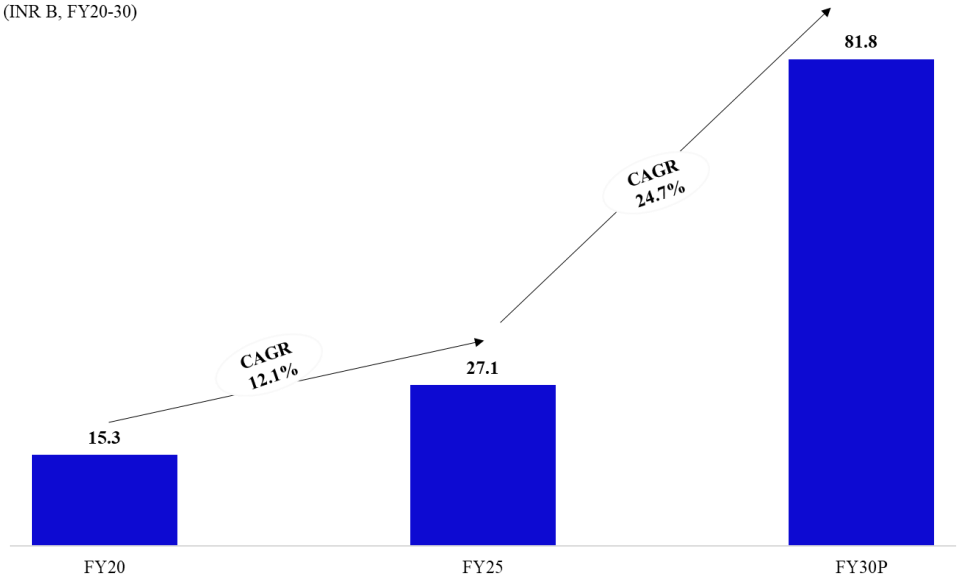
Key trends in the global flat panel display market

Interactive displays	• Adoption of touch, pen, and gesture-enabled displays is increasing as schools and enterprises shift toward hybrid learning and collaborative workspaces
Mini-LED backlighting	• Manufacturers are transitioning to mini-LED backlighting to enhance contrast, enable localized dimming, and deliver superior HDR experiences across premium devices.
Energy-efficient panels	• Demand is growing for low-power, long-life panels as sustainability targets and energy-saving requirements become central to consumer and commercial purchasing
Touch collaboration systems	• Display systems integrated with conferencing tools and content-sharing software are enabling more seamless, interactive collaboration in enterprise and education
AI-enabled displays	• Integration of AI capabilities is enabling features such as intelligent image optimization, voice and gesture recognition, and automated meeting insights, enhancing user interaction and productivity
Larger screen sizes and display resolutions	• Demand for larger screen sizes and higher resolutions (4K/8K) is increasing as organizations seek clearer visuals and more immersive collaboration experiences

4.5 The Indian IFPD market increased from ₹ 15.3 billion to ₹ 27.1 billion in Fiscal 2020 to Fiscal 2025 and is forecasted to reach ₹ 81.8 billion by Fiscal 2030, driven by smart education and enterprise collaboration adoption

The Indian Interactive Flat Panel Display (IFPD) market grew from ₹ 15.3 billion in Fiscal 2020 to ₹ 27.1 billion in Fiscal 2025, driven by rapid adoption across education, corporate, and public-sector verticals, supported by the replacement of traditional projectors and whiteboards with touch-enabled, all-in-one interactive displays, most of which continue to be imported primarily from China, South Korea, and Taiwan through CKD/SKD kits for local assembly, while India's emerging white-label manufacturing capabilities position it as a cost-competitive hub for global brands, fuelling the projected high growth. Accelerated deployment of IFPDs under digital classroom initiatives, smart meeting room upgrades, and hybrid learning and collaboration models created sustained demand for interactive display infrastructure.

Indian IFPD market
(INR B, FY20-30)



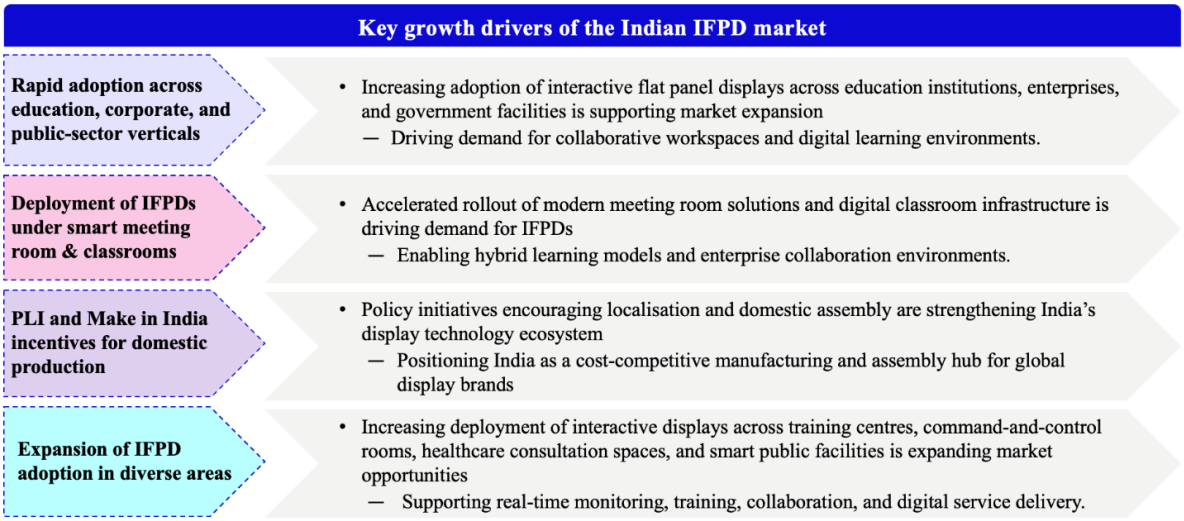
Source(s): 1Lattice analysis

The market is projected to reach ₹ 81.8 billion by Fiscal 2030, driven by continued investments in smart education and government digitization programs, increasing enterprise focus on collaborative workspaces, technology upgrades in touch, operating systems, and collaboration software, and rising localisation and domestic manufacturing supported by PLI and Make in India incentives, alongside wider adoption of IFPDs across training centres, command-and-control rooms, healthcare

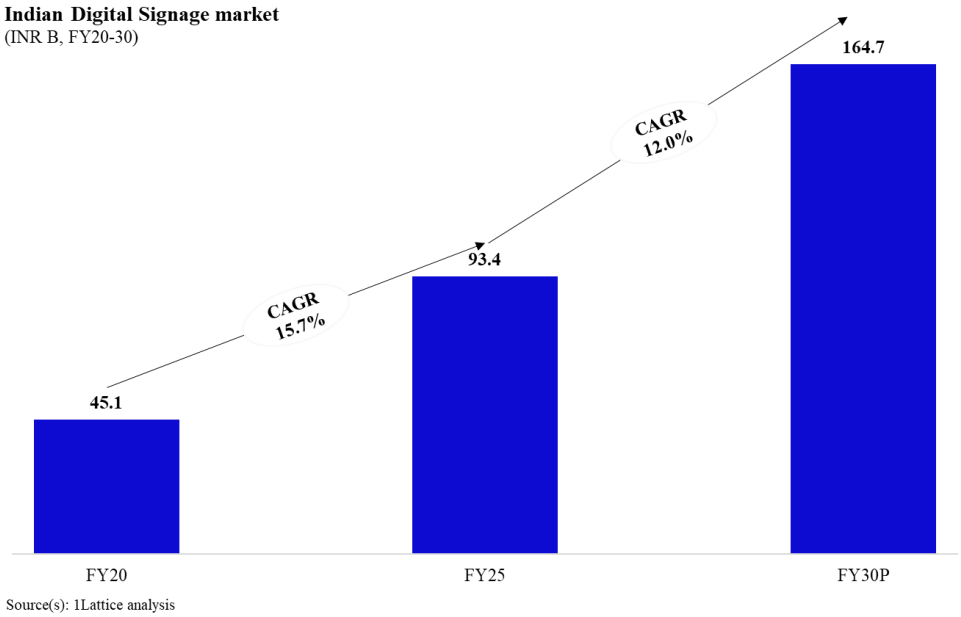
consultation spaces, and smart public facilities. Online Instruments has established India's first Completely Knocked Down (CKD) facility for the manufacturing of Interactive Flat Panel Displays (IFPDs) in India. The IFPD market in India is driven by global display and edtech-focused players such as Senses, LG Electronics India, BenQ India, etc.

4.5.1. Adoption across education and enterprise sectors, supported by digital classroom initiatives and localisation policies, is accelerating growth of the Indian IFPD market

The Indian Interactive Flat Panel Display (IFPD) market is growing rapidly, driven by increasing adoption across education, corporate, and public-sector verticals. Rising deployment of IFPDs under smart classroom initiatives and modern meeting room upgrades is supporting hybrid learning and enterprise collaboration. In addition, policy initiatives such as PLI and Make in India incentives are encouraging localisation and domestic assembly, strengthening India's display technology ecosystem. Expanding adoption across training centres, command-and-control rooms, healthcare consultation spaces, and smart public facilities is further supporting market growth. Parallelly, enterprises are upgrading to collaboration-ready meeting rooms with Ultra HD interactive flat panel displays. Ultra HD resolution displays offer about four times the pixel count of standard high-definition displays, resulting in sharper, clearer, and more detailed images.



4.6 The Indian digital signage market increased from ₹ 45.1 billion in Fiscal 2020 to ₹ 93.4 billion in Fiscal 2025 at a CAGR of 15.7%, driven by increasing adoption of networked display solutions across retail, transportation, corporate, and hospitality



Source(s): 1Lattice analysis

The Indian digital signage market grew from ₹ 45.1 billion in Fiscal 2020 to ₹ 93.4 billion in Fiscal 2025, driven by increasing adoption of networked display solutions across retail, transportation, corporate, hospitality, and public-sector verticals. Rising demand for dynamic, real-time content delivery, improved customer engagement, and the shift from static signage to centrally

managed digital displays supported market growth, alongside recovery in footfall across airports, metros, malls, QSRs, and commercial complexes. The market is projected to reach ₹ 164.7 billion by Fiscal 2030, while growth remains strong, CAGR is expected to moderate to approximately 12.0% as the market enters a relatively mature phase following rapid post-pandemic adoption between Fiscal 2020 to Fiscal 2025. Future expansion will be driven by investments in smart cities and urban infrastructure, expanding use of AI-enabled content management, programmatic advertising, and analytics-driven signage, increasing penetration of large-format, high-brightness LCD and LED displays, and wider deployment across healthcare facilities, educational institutions, government buildings, industrial environments, interactive kiosks, and immersive brand experience centres. Prominent players include Online Electronics, BenQ, Samsung Electronics, LG Electronics etc.

4.6.1. Adoption of networked digital display solutions across commercial sectors and smart infrastructure initiatives is driving growth in the Indian digital signage market

The Indian digital signage market is growing steadily, driven by rising adoption of networked display solutions across key sectors and supportive policy initiatives such as PLI and Make in India. Increasing deployment of large-format LCD and LED displays across institutional and commercial environments is further expanding use cases and supporting market growth.

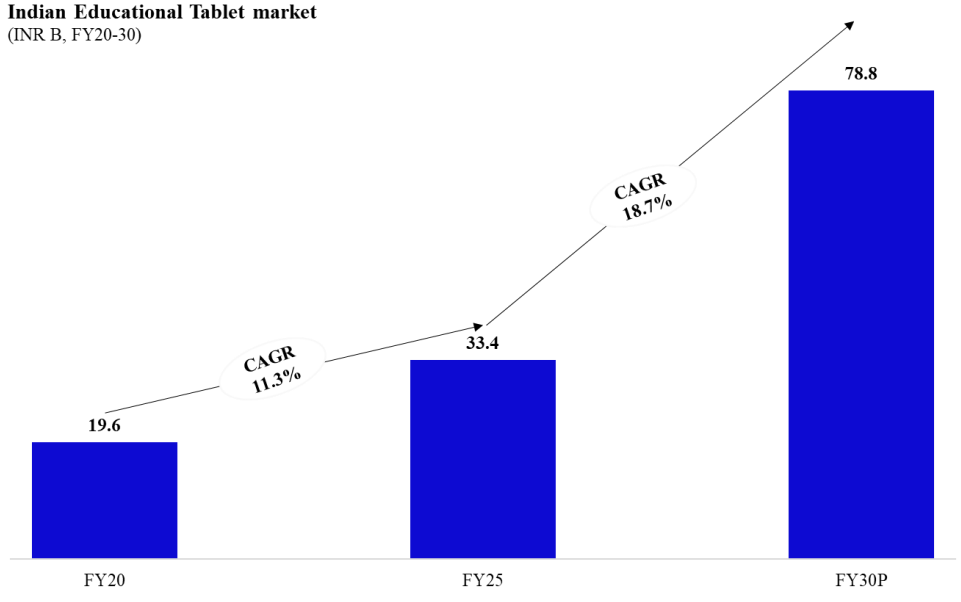
Key growth drivers of the Indian digital signage market

Adoption of networked display solutions across key sectors	• Increasing adoption of interactive flat panel displays across education institutions, enterprises, and government facilities is supporting market expansion — Driving demand for collaborative workspaces and digital learning environments.
PLI and Make in India incentives for domestic production	• Policy initiatives encouraging localisation and domestic assembly are strengthening India's display technology ecosystem — Positioning India as a cost-competitive manufacturing and assembly hub for global display brands
Growing deployment of large-format LCD and LED displays	• Increasing use of high-brightness displays across healthcare facilities, educational institutions, government buildings, and industrial environments is expanding market opportunities — Supporting interactive kiosks, public information systems, and immersive brand experience centres

4.7 The Indian educational tablet market grew from ₹ 19.6 billion in Fiscal 2020 to ₹ 33.4 billion in Fiscal 2025, at a CAGR of 11.3% and project to reach ₹ 78.8 billion by Fiscal 2030

The Indian educational tablet market grew from ₹ 19.6 billion in Fiscal 2020 to ₹ 33.4 billion in Fiscal 2025, driven by rapid digitization of the education ecosystem and large-scale adoption of EdTech-led learning solutions across K-12 and higher education. Demand was supported by government-led digital education initiatives, increasing penetration of affordable tablets, and the accelerated shift toward online and hybrid learning models during and post the pandemic.

Indian Educational Tablet market
(INR B, FY20-30)



Source(s): 1Lattice analysis

The market is projected to reach ₹ 78.8 billion by Fiscal 2030, driven by continued public and private investments in smart classroom infrastructure, expanding integration of AI-enabled personalised learning, adaptive assessment tools, and cloud-based learning platforms, and wider adoption of tablets across teacher training, vocational education, exam preparation, and inclusive learning programs, particularly across Tier II and Tier III regions. Prominent education tablet players include Lenovo, Acer, ASUS, etc.

4.7.1 Government-led digital education initiatives, smart classroom expansion, and growing EdTech adoption are driving demand for educational tablets in India

The Indian educational tablet market is expanding rapidly, supported by government-led digital education initiatives and increasing public investments in digital learning infrastructure. National programmes such as NEP 2020, PM e-VIDYA, and DIKSHA, along with the expansion of smart classroom infrastructure under Samagra Shiksha, are accelerating adoption of tablets across K–12 and higher education. Rising penetration of affordable devices in Tier II and Tier III regions, growth of EdTech platforms and digital learning ecosystems, and increasing use of tablets in teacher training, vocational education, and exam preparation are further strengthening demand across the education sector.

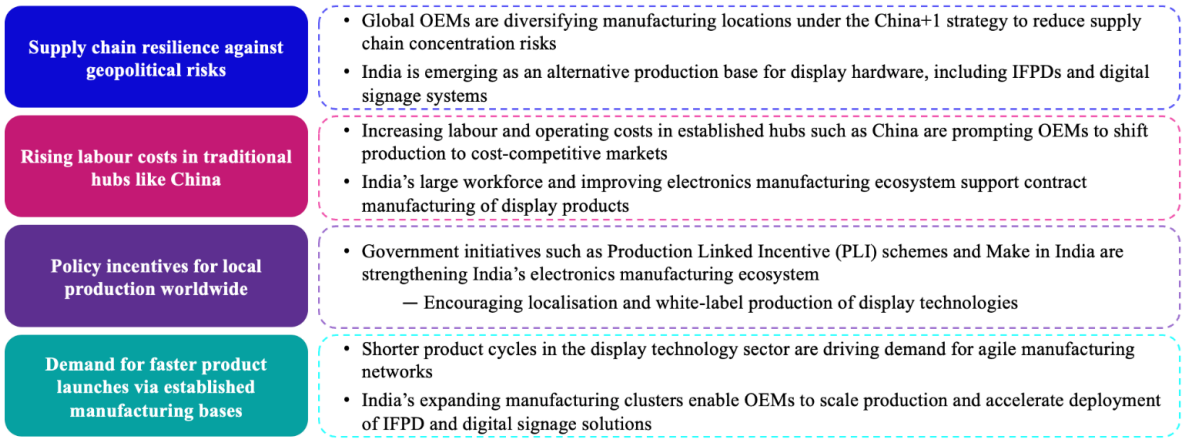
Key growth drivers of the Indian educational tablet market

Government-led digital education initiatives and public investments	• National education programmes such as NEP 2020, PM e-VIDYA, and DIKSHA are accelerating adoption of tablets and digital learning platforms across schools — Supporting access to digital content, virtual labs, and ICT-enabled classroom infrastructure
Rapid digitization of the education ecosystem across K–12 and higher education	• Expansion of smart classroom infrastructure under initiatives such as Samagra Shiksha, with over 1.46L smart classrooms approved, is increasing demand for digital learning devices — Enabling interactive learning environments and curriculum-aligned digital education
Rising penetration of affordable tablets across Tier 2 & 3 regions	• Affordable prices and wider distribution networks are improving accessibility in smaller cities and rural regions — Leading to wider adoption across public schools and emerging education market
Expansion of EdTech platforms and learning ecosystems	• Growth of digital learning platforms and EdTech solutions is strengthening the role of tablets in education delivery — Supporting personalised learning, adaptive assessments, and digital course delivery
Growing adoption across teacher training, vocational education	• Tablets are increasingly used for teacher training programmes, vocational education, and exam preparation platforms, particularly across Tier 2 & 3 regions — Supporting inclusive learning initiatives and skill development programs

4.8 India's policy-boosted emergence as a leading white-label manufacturing base for global OEMs

White-label manufacturing for global OEMs involves Indian factories producing goods that are sold under the OEM's or a retailer's brand, and India's policy ecosystem is explicitly geared to make such manufacturers globally competitive and export-oriented. White-label manufacturing has surged globally as brands prioritise speed-to-market and cost efficiency amid supply chain diversification. Unlike standard distribution arrangements, in white-labelled manufacturing, OEMs will first assess and approve the manufacturer's technical capabilities, quality systems, supply chain reliability, and regulatory compliance before committing to long-term supply. For instance, OEMs may require detailed audits covering manufacturing processes, quality management systems, and environmental practices. The OEMs may also require compliance with the IPC standards of the Global Electronics Association, which are internationally-recognised electronics manufacturing standards. Key destinations include China (dominant in electronics and consumer goods), Vietnam, Mexico, and increasingly India, driven by the China+1 strategy post-pandemic disruptions. India stands out as a favourable destination with its young workforce, English proficiency, maturing infrastructure, and PLI schemes attracting giants like Apple and Samsung for contract production. India produces diverse white-label goods like smartphones, consumer electronics, textiles, pharma, auto parts, and white goods. Key clusters include Noida, Sriperumbudur, Bengaluru, Tirupur, Hyderabad, and Pune, leveraging SEZs, skilled labour, and policy support as a versatile manufacturing hub.

Growth Drivers:



Concept and policy context

- OEMs and their contract/white-label partners are part of global value chains (GVCs), where design, components, and final assembly may be spread across countries.
- Government policy, such as Make in India, Atmanirbhar Bharat, and the Production-Linked Incentive (PLI) schemes, explicitly aim to strengthen domestic manufacturing capabilities and integrate Indian suppliers into global supply chains in sectors like electronics, autos, textiles, white goods, and others.

Role in global value chains

- Government analyses of GVCs highlight that over two-thirds of world trade is linked to such cross-border production networks, creating opportunities for Indian factories to serve as contract and OEM manufacturing bases for global brands.
- In automotive and engineering, policy papers note rising foreign collaborations, global OEMs manufacturing in India, and a push for greater localisation of components, which directly expands opportunities for Indian tier-1 and tier-2 manufacturers supplying under OEM brands.

Policy support for OEM / white-label manufacturing

- The PLI Scheme, with an outlay of around ₹ 1,970 billion across 14 sectors, is designed to help Indian manufacturers achieve economies of scale, invest in cutting-edge technology, and become globally competitive suppliers integrated into global value chains.
- Sector-specific PLIs, including for mobile phones, electronics, and white goods (air-conditioners and LED lighting), support creation of a component ecosystem so that Indian plants can function as export hubs and reliable contract manufacturers for global OEMs.

Advantages for India-based manufacturers

- Official fact-sheets emphasise that deeper GVC participation can raise exports, create jobs, increase the manufacturing share in GDP, and upgrade firms from low-value assembly to higher-value activities such as precision components, design and engineering services.
- Government communication on PLI and related initiatives underlines benefits such as economies of scale, improved logistics (National Logistics Policy), and preferential procurement for compliant "local suppliers", all of which make Indian contract and OEM suppliers more attractive to global brands.

Export and competitiveness outcomes

- Press notes on manufacturing performance indicate that merchandise exports, including engineering and electronics goods, have been rising, with policy-driven sectors like electronics and mobile manufacturing transforming from net import dependence to export-oriented production.
- Government updates on PLI describe how anchor units and their supplier networks in India are evolving into globally competitive ecosystems, effectively positioning Indian factories as key nodes for contract and white-label manufacturing serving international markets.

4.9 India's policies fuel display manufacturing through PLI incentives and digitization drives

India's supportive policy framework, including the PLI scheme for IT hardware and displays, graded import duties, local content incentives, and education digitization drives, fosters domestic display manufacturing and market growth.

- **PLI Scheme for Displays:** The India Semiconductor Mission includes a dedicated Display Fabs scheme offering fiscal support of 50% of project cost on a pari-passu basis to approved applicants for setting up display manufacturing facilities. PLI schemes have attracted committed investments of approximately ₹ 1,760 billion by mid-Fiscal 2025, with total sales by beneficiaries crossing approximately ₹ 1,650 billion and over 1.2 million jobs created. These incentives target integration into global value chains, covering components like LED drivers and panels to boost local production.

- **Import duty structure:** A graded Basic Customs Duty (BCD) structure incentivises domestic Interactive Flat Panel Display (IFPD) manufacture: 20% BCD on IFPD CBU (completely built units), reduced to 5% on open cells, touch glass sheets, and touch sensor PCBs used in module production.
- **Local content incentives:** PLI for white goods (ACs and LEDs) and large-scale electronics manufacturing provides 6% to 4% incentives on a reducing basis on incremental sales over a period of 5 years, with 24 companies approved under white goods PLI committing approximately ₹ 3.52 billion investment. The scheme supports local production of components like compressors, motors, and LED chip packaging, with disbursed incentives reaching approximately ₹ 2814 million to enhance domestic capabilities.
- **Government-Led education digitization:** PM-eVIDYA unifies digital education efforts, benefiting nearly 250 million school children via 12 DTH TV channels, online platforms, radio, and podcasts for multi-mode access. Initiatives like DIKSHA and ICT@Schools promote smart classrooms, digital boards, and virtual labs in government schools, driving demand for displays through national digital infrastructure goals.
- **Additional support from ECMS:** Under the Electronics Components Manufacturing Scheme (ECMS), the government has approved 22 new proposals in the third tranche with a projected investment of ₹ 418.63 billion and projected production of approximately ₹ 2,581.52 billion, expected to create 33,791 direct jobs, further deepening the components base that feeds into display and IT hardware manufacturing. With this tranche, a total of 46 applications have been approved under ECMS across 11 states, involving a total investment of about approximately ₹ 545.67 billion and an estimated 51,000 direct jobs, reinforcing geographically balanced growth of the electronics manufacturing ecosystem that supports display modules and sub-assemblies.

5. Overview of the Indian smart LED lighting market

The smart LED lighting market in India refers to the segment of the lighting industry comprising LED lighting systems integrated with sensors, connectivity, and automation technologies that enable remote monitoring, control, and optimisation of lighting operations. These systems are designed to support improved energy efficiency, operational control, and user convenience across various end-use environments. Lighting products that are manufactured using LED chips, drivers and aluminium profiles are assessed to be of suitable quality, reliable and energy efficient.

In recent years, the adoption of smart LED lighting solutions in India has increased, supported by factors such as urbanisation, growth in residential and commercial real estate, and the gradual adoption of smart home and smart office solutions. Government initiatives aimed at promoting energy efficiency and LED adoption, including the Unnat Jyoti by Affordable LEDs for All ("UJALA") programme and the Smart Cities Mission, have also contributed to increased penetration of LED lighting technologies.

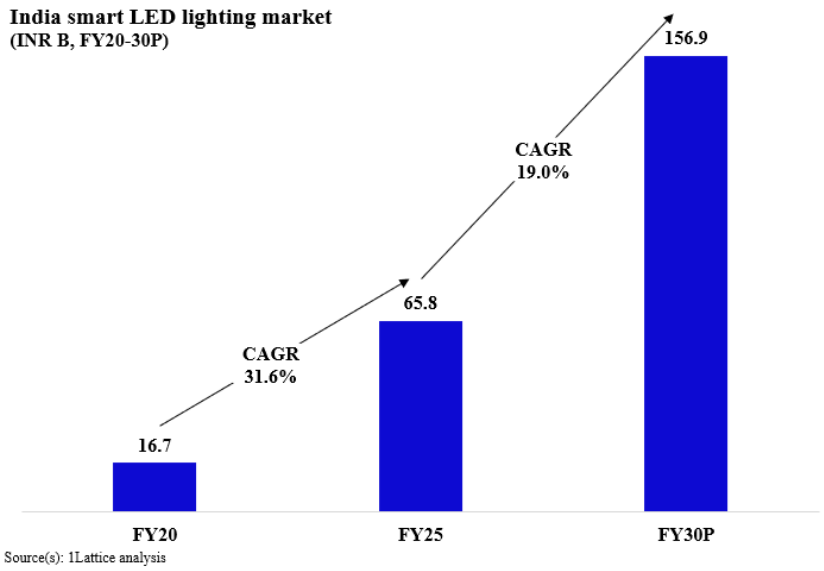
The transition from conventional lighting to LED-based solutions has been further influenced by considerations such as electricity costs, energy conservation objectives, and regulatory focus on reducing power consumption. Advances in Internet of Things ("IoT") technologies, wireless communication standards, and lighting control systems have enabled the development of connected lighting solutions capable of integration with building management systems and other digital infrastructure.

Smart LED lighting systems are deployed across residential, commercial, and industrial applications, including homes, offices, retail spaces, industrial facilities, and public infrastructure. In commercial environments, modern lighting formats such as suspended linear lights are increasingly adopted as suspended linear lights distribute light more uniformly compared to lightbulbs. Suspended linear lights are especially suited to office applications, as they create a professional ambience and are more durable and long-lasting as compared to lightbulbs. The market continues to evolve alongside developments in digital connectivity and automation, influencing the adoption of intelligent lighting solutions in India.

5.1 India's smart LED lighting market was valued at approximately ₹ 65.8 billion in Fiscal 2025 and is expected to reach approximately ₹ 156.9 billion by Fiscal 2030, rising at 19.0% CAGR

India's smart LED lighting market expanded from approximately ₹ 16.7 billion in Fiscal 2020 to approximately ₹ 65.8 billion in Fiscal 2025 and is projected to reach approximately ₹ 156.9 billion by Fiscal 2030, registering a CAGR of 19.0% over Fiscal 2025 to Fiscal 2030. The moderation in growth compared with the earlier period reflects increasing penetration of LED lighting across urban markets, stabilisation of large-scale government procurement programmes such as UJALA, and declining unit prices due to technological maturity and rising competition.

Substantial capacity additions are expected across connected luminaires, sensors, and control systems, supported by domestic manufacturing under the "Make in India" initiative. Collaborations between Indian manufacturers and global players are enabling technology transfer and localisation of advanced lighting solutions, such as integrated IoT platforms and AI-based energy management systems. Prominent players in the industry include Online Instruments, Signify India, Havells India, Wipro Lighting, etc.



Source(s): 1Lattice analysis

5.2 Policy-led smart infrastructure and sustainability focus are accelerating India's smart LED lighting market

India's smart LED lighting market is witnessing strong growth, supported by targeted government schemes, expanding smart city projects, and a sharp focus on energy efficiency and sustainability. With initiatives such as UJALA, the Smart Cities Mission, and green building programmes, smart lighting is emerging as a critical enabler for modern, connected, and low-carbon infrastructure across residential, commercial, and public spaces.

Key growth drivers shaping the Indian smart LED market

Policy push for LED adoption	• Schemes like UJALA and SLNP are driving the shift from traditional to LED and smart lighting, reducing costs and boosting demand
Smart cities	• Smart Cities Mission promotes networked LED streetlights and integrated controls, enhancing demand for smart lighting solutions
Energy efficiency	• BEE's codes and star ratings for buildings push LED-based lighting and controls, with public retrofits leading adoption
Rising smart buildings	• Increasing smart homes and automated buildings use IoT-enabled lighting, driving growth in smart LED systems
Integration with renewable initiatives	• Green building and solar-powered lighting programs support smart LED uptake for energy savings and emissions reduction

5.3 Government push for energy-efficient and certified lighting systems

- BEE and EESL are driving a nationwide shift to energy-efficient lighting through schemes such as UJALA and the Street Lighting National Programme, which replace conventional lamps with LEDs and smart-controlled streetlights.
- UJALA scheme has distributed 368.7 million LED bulbs as of January 6, 2025, generating total market sales of 4079.2 million LED bulbs in India.
- SLNP has installed over 13.4 million LED streetlights, achieving annual energy savings of 9,001 million units (MUs), peak demand reduction of 1,500 MW, and CO_2 emissions cut of 6.2 million tonnes.
- These programmes use bulk procurement and ESCO / demand-aggregation models to lower upfront costs for municipalities and consumers, making high-efficiency LED and smart lighting financially attractive.
- Large-scale deployment under these schemes delivers significant electricity savings, peak-load reduction and CO_2 mitigation, reinforcing policy preference for efficient and intelligent lighting systems.
- For commercial and non-residential buildings, the Energy Conservation Building Code and Model Energy Efficiency Guidelines specify the use of efficient light sources (such as LEDs), prescribe lighting power density limits and mandate lighting controls in larger buildings.
- BEE's Standards & Labelling programme issues star-label specifications for LED lamps, setting minimum performance and efficacy criteria that act as a quality and efficiency benchmark for commercial lighting products, especially in government and institutional procurement.

6. Peer benchmarking

The peers considered for the analysis include Black Box Ltd., Orient Technologies Ltd., Dixon Technologies (India) Ltd., and LG Electronics India Ltd., and unlisted players including Actis Technologies Pvt. Ltd., Sigma Avit Technology Solutions Pvt. Ltd., and Alphatec Audio Video Pvt. Ltd.

Black Box Ltd

Black Box Limited formerly AGC Networks, is an Essar group-promoted, Mumbai-headquartered global digital infrastructure integrator delivering network/system integration, data centre build-out, cybersecurity, and AV/KVM technology products to large enterprise clients across the US, Europe, India, APAC, the Middle East, and LatAm. It operates through three segments — System Integration, Technology Product Solutions, and Others.

Orient Technologies Ltd

Orient Technologies Limited, incorporated in 1997 and headquartered in Mumbai, is an IT solutions provider delivering IT infrastructure, IT-enabled services (managed services, multi-vendor support, NOC, security, renewals), and cloud & data management services to enterprise clients across BFSI, Government & PSU, communications, ITeS, healthcare, and mid-market verticals, supported by long-standing OEM partnerships.

Dixon Technologies (India) Ltd

Dixon Technologies (India) Limited incorporated in 1993 and headquartered in Noida, is a home-grown Electronic Manufacturing Services (EMS) player operating across Mobile & EMS, Consumer Electronics, Home Appliances (washing machines), Lighting (LED bulbs/battens, ECL JV with Signify), and Security Surveillance, supported by PLI-led capacity expansion and growing backward integration into smartphone components.

LG Electronics India Ltd

LG Electronics India Limited, the Indian arm of South Korea's LG Electronics, is a leading player in India's home appliances and consumer electronics market (excluding mobiles), selling refrigerators, washing machines, ACs, TVs, and related products.

Actis Technologies Pvt. Ltd

Actis Technologies Pvt. Ltd., founded in 1971 and headquartered in Mumbai, is an AV system integrator, providing audio-visual collaboration, video conferencing, smart lighting, and intelligent building solutions to corporate, government, education, hospitality, and residential clients.

Sigma Avit Technology Solutions Pvt. Ltd

Sigma AVIT Technology Solutions Pvt. Ltd., founded in 2008 and headquartered in Bangalore, is an ISO 9001:2015–certified AV system integration, ICT, and IoT solutions provider offering design, consultancy, supply, installation, commissioning, and lifecycle support for AV systems across enterprises, education, government/PSUs, healthcare (operating theatres), hospitality, and experience centres.

Alphatec Audio Video Pvt. Ltd

Alphatec Audio Video Pvt. Ltd., founded in 2015 and headquartered in Mumbai (with registered office in Kolkata), is a distribution house and AV integrator in India for premium professional and personal audio-video equipment, serving large venues, corporate, education, government, hospitality, and residential clients across the country.

Online Instruments (India) Limited

With over 20 years of experience, Online Instruments is a well-established player in the Indian audio-visual system integration solutions market, with expertise in providing comprehensive audio-visual system integration solutions across a diverse range of applications. Online Instruments is one of the few providers of full-stack AVSI solutions amongst companies established in India and has built strong capabilities across the AV integration value chain.

The company has also invested in developing local manufacturing capabilities through a CKD facility to strengthen product quality control and configuration flexibility. The CKD (completely knocked down) approach, as implemented at the CKD facility of Online Instruments, generally involves importing individual components such as bare display panels, backlight units, light strips, sensors, and mainboards, and assembling the final product entirely in-house. Online Instruments CKD Facility has the installed capacity to manufacture 2,23,200 IFPDs per year as of December 31, 2025. A CKD facility allows greater control over the quality of products, configuration of products, and manufacturing costs. Clean rooms enable controlled manufacture and assembly of IFPDs by minimising dust contamination during open cell and backlight assembly, thereby reducing contamination risks and supporting consistency in product quality. Temperature-controlled environments help minimise the risk of damage to sensitive electronic components during storage, while segregated repair areas enable systematic inspection, testing, and rectification activities. These measures support product reliability, reduce handling risks and contribute to maintaining consistent quality standards across manufacturing operations.

Online Instruments is one of only four Indian companies that are members of the PSNI Global Alliance. Online Instruments is the only AV9000-certified provider of AVSI solutions in India. AV9000 is a quality management standard designed specifically for the audiovisual industry, based on the internationally recognised ISO 9001 principles for quality management. The AV9000 certification signifies that the solutions provider's services are aligned with a rigorous, industry-specific quality management system and are delivered in a quality-assured manner.

6.1 Financial benchmarking

Financial performance of the relevant companies is presented below, highlighting a comparison across key operating, profitability, efficiency, and leverage metrics.

The comparison includes revenue from operations and growth in revenue from operations, along with material margin, EBITDA and EBITDA margin (%), and restated profit for the period/year with corresponding PAT margin (%), to assess profitability. Further, return ratios such as Return on Equity (RoE) and Return on Capital Employed (RoCE) are analysed to evaluate capital efficiency. The assessment also covers leverage metrics, including net debt and net debt to equity, alongside operational efficiency indicators such as net fixed assets turnover ratio and net working capital days.

Parameters	Company	9M Fiscal 2026	Fiscal 2025	Fiscal 2024	Fiscal 2023
Revenue from operations (₹ million)	Online Instruments (India) Limited	4,661.67	5,474.30	3,790.62	3,359.37
	Black Box Limited	46,309.10	59,669.10	62,815.80	62,875.60
	Orient Technologies Limited	6,854.70	8,395.31	6,028.93	5,351.02
	Dixon Technologies (India) Limited	3,83,622.90	3,88,601.00	1,76,909.00	1,21,920.10
	LG Electronics India Limited	1,65,513.60	2,43,666.38	2,13,520.00	1,98,645.93
	Actis Technologies Private Limited	NA	4,698.85	4,028.87	4,026.62
	Alphatec Audio Video Private Limited	NA	2,268.55	2,079.72	1,154.38
	Sigmaavit Technology Solutions Private Limited	NA	2,128.64	2,488.62	2,010.57
Growth in Revenue from Operations (%)	Online Instruments (India) Limited	NA	44.42%	12.84%	NA
	Black Box Limited	NA	(5.01%)	(0.10%)	17.08%
	Orient Technologies Limited	NA	39.25%	12.67%	14.47%
	Dixon Technologies (India) Limited	NA	119.66%	45.10%	13.98%
	LG Electronics India Limited	NA	14.12%	7.49%	18.00%
	Actis Technologies Private Limited	NA	16.63%	0.06%	79.52%
	Alphatec Audio Video Private Limited	NA	9.08%	80.16%	80.20%
	Sigmaavit Technology Solutions Private Limited	NA	(14.47%)	23.78%	180.00%

Parameters	Company	9M Fiscal 2026	Fiscal 2025	Fiscal 2024	Fiscal 2023
Material Margin (%)	Online Instruments (India) Limited	24.94%	24.41%	23.81%	20.26%
	Black Box Limited	64.69%	69.18%	71.36%	67.63%
	Orient Technologies Limited	15.15%	21.43%	25.03%	24.34%
	Dixon Technologies (India) Limited	7.30%	7.79%	9.34%	9.61%
	LG Electronics India Limited	31.04%	31.96%	30.08%	29.38%
	Actis Technologies Private Limited	NA	17.47%	18.05%	18.18%
	Alphatec Audio Video Private Limited	NA	34.36%	33.61%	34.64%
	Sigmaavit Technology Solutions Private Limited	NA	19.65%	21.57%	21.91%
EBITDA (₹ million)	Online Instruments (India) Limited	333.86	553.15	334.21	226.02
	Black Box Limited	4,058.70	5,305.20	4,324.70	2,788.90
	Orient Technologies Limited	387.84	675.94	566.17	486.44
	Dixon Technologies (India) Limited	14,738.80	15,249.60	7,078.70	5,143.70
	LG Electronics India Limited	14,629.48	31,101.24	22,248.73	18,993.15
	Actis Technologies Private Limited	NA	172.34	154.36	202.65
	Alphatec Audio Video Private Limited	NA	255.68	259.68	161.99
	Sigmaavit Technology Solutions Private Limited	NA	131.60	211.31	189.68
EBITDA Margin (%)	Online Instruments (India) Limited	7.16%	10.10%	8.82%	6.73%
	Black Box Limited	8.76%	8.89%	6.88%	4.44%
	Orient Technologies Limited	5.66%	8.05%	9.39%	9.09%
	Dixon Technologies (India) Limited	3.84%	3.92%	4.00%	4.22%
	LG Electronics India Limited	8.84%	12.76%	10.42%	9.56%
	Actis Technologies Private Limited	NA	3.67%	3.83%	5.03%
	Alphatec Audio Video Private Limited	NA	11.27%	12.49%	14.03%
	Sigmaavit Technology Solutions Private Limited	NA	6.18%	8.49%	9.43%

Parameters	Company	9M Fiscal 2026	Fiscal 2025	Fiscal 2024	Fiscal 2023
PAT (₹ million)	Online Instruments (India) Limited	145.77	353.27	230.64	155.18
	Black Box Limited	1,527.60	2,047.80	1,376.70	237.00
	Orient Technologies Limited	95.59	504.36	414.48	382.98
	Dixon Technologies (India) Limited	13,462.80	12,325.80	3,749.20	2,550.80
	LG Electronics India Limited	9,923.62	22,033.48	15,110.68	13,480.20
	Actis Technologies Private Limited	NA	105.66	111.36	154.22
	Alphatec Audio Video Private Limited	NA	179.84	179.03	111.25
	Sigmaavit Technology Solutions Private Limited	NA	101.68	155.30	135.57

PAT Margin (%)	Online Instruments (India) Limited	3.11%	6.42%	6.06%	4.59%
	Black Box Limited	3.30%	3.43%	2.18%	0.38%
	Orient Technologies Limited	1.39%	5.96%	6.83%	7.07%
	Dixon Technologies (India) Limited	3.45%	3.17%	2.12%	2.09%
	LG Electronics India Limited	5.91%	8.95%	7.01%	6.70%
	Actis Technologies Private Limited	NA	2.25%	2.76%	3.82%
	Alphatec Audio Video Private Limited	NA	7.84%	8.54%	9.60%
	Sigmaavit Technology Solutions Private Limited	NA	4.75%	6.21%	6.76%

RoE (%)	Online Instruments (India) Limited	9.15%*	24.43%	21.07%	17.94%
	Black Box Limited	NA	26.99%	28.63%	8.01%
	Orient Technologies Limited	NA	15.30%	23.64%	29.73%
	Dixon Technologies (India) Limited	NA	36.39%	21.70%	19.89%
	LG Electronics India Limited	NA	36.91%	40.06%	30.94%
	Actis Technologies Private Limited	NA	8.85%	10.23%	15.79%
	Alphatec Audio Video Private Limited	NA	32.54%	43.50%	43.16%
	Sigmaavit Technology Solutions Private Limited	NA	14.04%	25.50%	29.98%

* Not annualised

Parameters	Company	9M Fiscal 2026	Fiscal 2025	Fiscal 2024	Fiscal 2023
RoCE (%)	Online Instruments (India) Limited	6.92%*	27.54%	21.92%	21.34%
	Black Box Limited	NA	25.25%	33.89%	21.72%
	Orient Technologies Limited	NA	20.91%	31.62%	37.95%
	Dixon Technologies (India) Limited	NA	46.96%	30.28%	27.63%
	LG Electronics India Limited	NA	50.15%	54.76%	42.31%
	Actis Technologies Private Limited	NA	12.41%	11.73%	19.99%
	Alphatec Audio Video Private Limited	NA	34.49%	52.74%	43.25%
	Sigmaavit Technology Solutions Private Limited	NA	16.42%	27.08%	37.13%

* Not annualised

Net Debt (₹ million)	Online Instruments (India) Limited	1,875.78	359.75	197.81	126.41
	Black Box Limited	NA	4,243.10	1,746.50	1,424.40
	Orient Technologies Limited	NA	(1,143.21)	(156.99)	(71.94)
	Dixon Technologies (India) Limited	NA	(612.50)	(536.20)	(465.60)
	LG Electronics India Limited	NA	(37,414.73)	(22,226.05)	(27,625.88)
	Actis Technologies Private Limited	NA	81.17	173.39	(15.17)
	Alphatec Audio Video Private Limited	NA	241.60	97.37	116.24
	Sigmaavit Technology Solutions Private Limited	NA	(266.79)	(128.84)	(152.10)

Net Debt to Equity (Times)	Online Instruments (India) Limited	1.18x	0.25x	0.18x	0.15x
	Black Box Limited	NA	0.56x	0.36x	0.48x
	Orient Technologies Limited	NA	(0.35x)	(0.09x)	(0.06x)
	Dixon Technologies (India) Limited	NA	(0.02x)	(0.03x)	(0.04x)
	LG Electronics India Limited	NA	(0.63x)	(0.59x)	(0.63x)
	Actis Technologies Private Limited	NA	0.07x	0.16x	(0.02x)
	Alphatec Audio Video Private Limited	NA	0.44x	0.24x	0.45x
	Sigmaavit Technology Solutions Private Limited	NA	(0.38x)	(0.21x)	(0.34x)

Parameters	Company	9M Fiscal 2026	Fiscal 2025	Fiscal 2024	Fiscal 2023
Net Fixed Assets Turnover Ratio (Times)	Online Instruments (India) Limited	3.44x*	7.01x	9.23x	23.24x
	Black Box Limited	NA	13.78x	13.25x	13.09x
	Orient Technologies Limited	NA	33.86x	34.73x	27.76x
	Dixon Technologies (India) Limited	NA	13.07x	8.70x	9.15x
	LG Electronics India Limited	NA	17.35x	15.90x	14.53x
	Actis Technologies Private Limited	NA	21.96x	20.31x	66.32x
	Alphatec Audio Video Private Limited	NA	54.34x	53.83x	40.76x
	Sigmaavit Technology Solutions Private Limited	NA	14.70x	21.14x	25.31x

* Not annualised

Net Working Capital Days (# of days)	Online Instruments (India) Limited	79	73	84	93
	Black Box Limited	NA	34	4	(10)
	Orient Technologies Limited	NA	72	83	73
	Dixon Technologies (India) Limited	NA	3	(1)	0
	LG Electronics India Limited	NA	13	4	4
	Actis Technologies Private Limited	NA	81	94	80
	Alphatec Audio Video Private Limited	NA	120	82	109
	Sigmaavit Technology Solutions Private Limited	NA	34	39	20

Notes

1) *All the financials for the industry peers mentioned above are on a consolidated basis (unless called out otherwise in notes) and are sourced from the annual reports, audited financial results and investor presentations as available from the respective company for the relevant year submitted to the Stock Exchanges. NA refers to Not Applicable where the financial information is unavailable, i.e. not reported by the industry peers in either their annual reports, audited financial results and investor presentations as submitted to the Stock Exchanges.*
2) *Revenue from operations represents the revenue generated from the Company's business activities, including sale of products and rendering of services, net of returns, discounts and rebates*
3) *Growth in Revenue from operations (%) is calculated as a percentage of Revenue from operations of the relevant period / year less Revenue from operations of the preceding period / year, divided by Revenue from operations of the preceding period / year*
4) *Material Margin is calculated as Revenue from operations less Cost of material consumed, Purchases of stock in trade and Changes in inventories of finished goods, work in progress, spares and stock in trade, as a percentage of Revenue from operations*
5) *EBITDA is calculated as Profit for the period / year less Other income add Finance costs, Depreciation and amortisation expense, Exceptional item and Total tax expense.*
6) *EBITDA Margin is calculated as EBITDA as a percentage of Revenue from operations*
7) *Profit for the period / year means Profit for the period / year from continuing operations.*
8) *PAT Margin is calculated as Profit for the period / year as a percentage of Total income*

9) Return on Equity is calculated as Profit for the period / year attributable to owners of the company as a percentage of Total Equity

10) Return on Capital Employed is calculated as EBIT as a percentage of Capital employed. EBIT is calculated as Profit for the period / year add Finance costs and Total tax expense; Capital employed is calculated as the sum of Total Equity, Non-current borrowings and Current borrowings

11) Net Debt is calculated as the sum of Non-current borrowings and Current borrowings less Cash and cash equivalents and Bank balance other than cash and cash equivalents.

12) Net Debt to Equity is calculated as Net Debt divided by Total Equity.

13) Net Fixed Assets Turnover Ratio is calculated as Revenue from operations for the period / year divided by Net Property, plant and equipment, Right-of-use assets, Capital work-in-progress, Other Intangible assets and Intangible assets under development.

14) Net Working Capital Days is calculated as Net Working Capital divided by Revenue from Operations for the period / year multiplied by 275 (for the nine months period ended December 31, 2025)/365 (for full Fiscals). Net Working Capital is calculated as total current assets (excluding Cash and cash equivalents and Bank balance other than cash and cash equivalents) less total current liabilities (excluding Current borrowings).

6.2 Operational benchmarking

Parameters	Company	9M Fiscal 2026	Fiscal 2025	Fiscal 2024	Fiscal 2023
Revenue from Operations (In India) (₹ million)	Online Instruments (India) Limited	4,284.27	5,322.59	3,660.27	3,205.46
	Black Box Limited	NA	4,117.60	4,079.50	3,528.60
	Orient Technologies Limited	NA	8,314.62	5,981.97	5,293.71
	Dixon Technologies (India) Limited	NA	3,71,182.80	1,64,302.70	1,11,751.60
	LG Electronics India Limited	NA	2,29,143.82	2,03,635.32	1,89,137.76
	Actis Technologies Private Limited	NA	4,238.89	NA	NA
	Alphatec Audio Video Private Limited	NA	NA	NA	NA
	Sigmaavit Technology Solutions Private Limited	NA	NA	NA	NA
Revenue from Operations (Outside India) (₹ million)	Online Instruments (India) Limited	377.40	151.71	130.35	153.91
	Black Box Limited	NA	55,551.50	58,736.30	59,347.00
	Orient Technologies Limited	NA	80.69	46.95	57.31
	Dixon Technologies (India) Limited	NA	17,418.20	12,606.30	10,168.50
	LG Electronics India Limited	NA	14,522.56	9,884.68	9,508.17
	Actis Technologies Private Limited	NA	459.97	NA	NA
	Alphatec Audio Video Private Limited	NA	NA	NA	NA
	Sigmaavit Technology Solutions Private Limited	NA	NA	NA	NA
Revenue from Operations (In India) (%)	Online Instruments (India) Limited	91.90%	97.23%	96.56%	95.42%
	Black Box Limited	NA	6.90%	6.49%	5.61%
	Orient Technologies Limited	NA	99.04%	99.22%	98.93%

Parameters	Company	9M Fiscal 2026	Fiscal 2025	Fiscal 2024	Fiscal 2023
Revenue from Operations (In India) (%)	Dixon Technologies (India) Limited	NA	95.52%	92.87%	91.66%
	LG Electronics India Limited	NA	94.04%	95.37%	95.21%
	Actis Technologies Private Limited	NA	90.21%	NA	NA
	Alphatec Audio Video Private Limited	NA	NA	NA	NA
	Sigmaavit Technology Solutions Private Limited	NA	NA	NA	NA
Revenue from Operations (Outside India) (%)	Online Instruments (India) Limited	8.10%	2.77%	3.44%	4.58%
	Black Box Limited	NA	93.10%	93.51%	94.39%
	Orient Technologies Limited	NA	0.96%	0.78%	1.07%
	Dixon Technologies (India) Limited	NA	4.48%	7.13%	8.34%
	LG Electronics India Limited	NA	5.96%	4.63%	4.79%
	Actis Technologies Private Limited	NA	9.79%	NA	NA
	Alphatec Audio Video Private Limited	NA	NA	NA	NA
	Sigmaavit Technology Solutions Private Limited	NA	NA	NA	NA
Revenue-split across product categories – AVSI (₹ million)	Online Instruments (India) Limited	3,392.04	3,562.24	2,555.16	2,287.92
	Black Box Limited	NA	NA	NA	NA
	Orient Technologies Limited	NA	NA	NA	NA
	Dixon Technologies (India) Limited	NA	NA	NA	NA
	LG Electronics India Limited	NA	NA	NA	NA
	Actis Technologies Private Limited	NA	NA	NA	NA
	Alphatec Audio Video Private Limited	NA	NA	NA	NA
	Sigmaavit Technology Solutions Private Limited	NA	NA	NA	NA
Revenue-split across product categories - AV Products and Accessories (₹ million)	Online Instruments (India) Limited	955.97	1,746.56	1,101.75	979.40
	Black Box Limited	NA	NA	NA	NA
	Orient Technologies Limited	NA	NA	NA	NA
	Dixon Technologies (India) Limited	NA	NA	NA	NA
	LG Electronics India Limited	NA	NA	NA	NA
	Actis Technologies Private Limited	NA	NA	NA	NA

Parameters	Company	9M Fiscal 2026	Fiscal 2025	Fiscal 2024	Fiscal 2023
Revenue-split across product categories - AV Products and Accessories (₹ million)	Alphatec Audio Video Private Limited	NA	NA	NA	NA
	Sigmaavit Technology Solutions Private Limited	NA	NA	NA	NA
Revenue-split across product categories – EMS (₹ million)	Online Instruments (India) Limited	149.37	NA	NA	NA
	Black Box Limited	NA	NA	NA	NA
	Orient Technologies Limited	NA	NA	NA	NA
	Dixon Technologies (India) Limited	NA	NA	NA	NA
	LG Electronics India Limited	NA	NA	NA	NA
	Actis Technologies Private Limited	NA	NA	NA	NA
	Alphatec Audio Video Private Limited	NA	NA	NA	NA
	Sigmaavit Technology Solutions Private Limited	NA	NA	NA	NA
Revenue-split across product categories – Commercial lighting (₹ million)	Online Instruments (India) Limited	124.29	165.50	133.71	92.05
	Black Box Limited	NA	NA	NA	NA
	Orient Technologies Limited	NA	NA	NA	NA
	Dixon Technologies (India) Limited	NA	NA	NA	NA
	LG Electronics India Limited	NA	NA	NA	NA
	Actis Technologies Private Limited	NA	NA	NA	NA
	Alphatec Audio Video Private Limited	NA	NA	NA	NA
	Sigmaavit Technology Solutions Private Limited	NA	NA	NA	NA

Notes

1) Revenue from operations (in India) represents the revenue generated from the Company's business activities, including sale of products and rendering of services, net of returns, discounts and rebates, to customers in India

2) Revenue from operations (Outside India) represents the revenue generated from the Company's business activities, including sale of products and rendering of services, net of returns, discounts and rebates, to customers outside India

7. Key threats & challenges in the Pro AV solutions market

- **Rapid technology obsolescence:** Continuous advancements in AV hardware, software, and collaboration technologies shorten product life cycles and require frequent upgrades, increasing pressure on integrators to update capabilities constantly. The AVSI industry, in particular, is undergoing continual transformation driven by advances, such as Internet Protocol (IP)-based transmission (commonly referred to as "**AV-over-IP**"), artificial-intelligence-driven control systems, new codecs, automation platforms, and smart-facility integration technologies
- **Increasing shift toward software-defined & cloud AV:** Growing adoption of cloud collaboration platforms and software-based AV management reduces reliance on traditional hardware-heavy integration projects.
- **Intense competition & price pressure**: The industry remains highly fragmented with many regional integrators competing primarily on pricing, leading to margin pressure and commoditisation of services.

- **Dependence on global AV hardware vendors**: AVSI companies rely heavily on international OEMs for key equipment such as displays, processors, and conferencing systems, exposing them to supply chain disruptions and vendor pricing power; additionally, OEMs may increasingly adopt direct-to-customer sales or managed service models, potentially bypassing integrators and disintermediating parts of the value chain.
- **Skilled workforce shortage**: AV integration requires expertise in networking, IT, acoustics, and system design; the limited availability of skilled professionals can constrain project execution and scaling.
- **Cybersecurity risks with increasing digitization:** Post COVID-19, the acceleration of digital transformation and adoption of remote management, cloud-based control, and software-defined AV systems have increased exposure to sophisticated cyber threats, making AV systems more vulnerable and increasing the need for robust security capabilities.

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