2026 MARKET OPPORTUNITIES Report

Region:

The World

Market:

3D Animation Market

BARNES Reports

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About this Report

This report covers the global forecast for active network management market produced in the active network management market industry.

Barnes Reports' Market Opportunities Markets report series provide estimates of the size and characteristics of the highest growth advanced market in the largest 10 global countries. These estimates are produced by a proprietary economic model that is based on a number of sources and factors:

1. The size of global market from the executive interviews, internet search, and government statistical databases over the last five years.

2. Estimate current and forecast size of global high-tech market using regression analysis.

3. Adjust estimates and forecasts using the most current global manufacturing, service, and retail sector data and trends. This adjustment adds vertical (industry) analysis to the forementioned horizontal (trend) analysis.

4. Global estimates use trend GDP data and the ratio of manufacturing, service, and retail sectors to GDP by country from World Bank databases to compare U.S. versus global countries size and trends.

Methodology and Notes

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Users' Guide

Estimates on equipment or material sales (product shipments value) are published for six historical years and two forecast years. Product shipments include the total value of all products produced and shipped by all producers. For selected products, this can represent value of receipts, value of production, or value of work done.

These estimates product shipment values are also considered "market potentials" because the calculations assume efficient, free markets. Estimates can vary in countries with inefficient, closed markets with such issues as oppressive regulations and tariffs, black markets, and political problems impacted a regular business cycle.

Published annually, this report provides a unique and accurate estimate on market sizing for this equipment/material using a proprietary economic model that integrates historical trends (horizontal analysis) and longitudinal analysis of incorporated industries (vertical analysis).

Product shipments value are presented in US Dollars and local currency units for historical and forecast years.

Product shipments values are also broken down by related costs, such as cost of materials, cost of fuels/electricity and value added, as well as capital expenditures, such as expenditures on buildings, machinery, vehicles and computers.

Global

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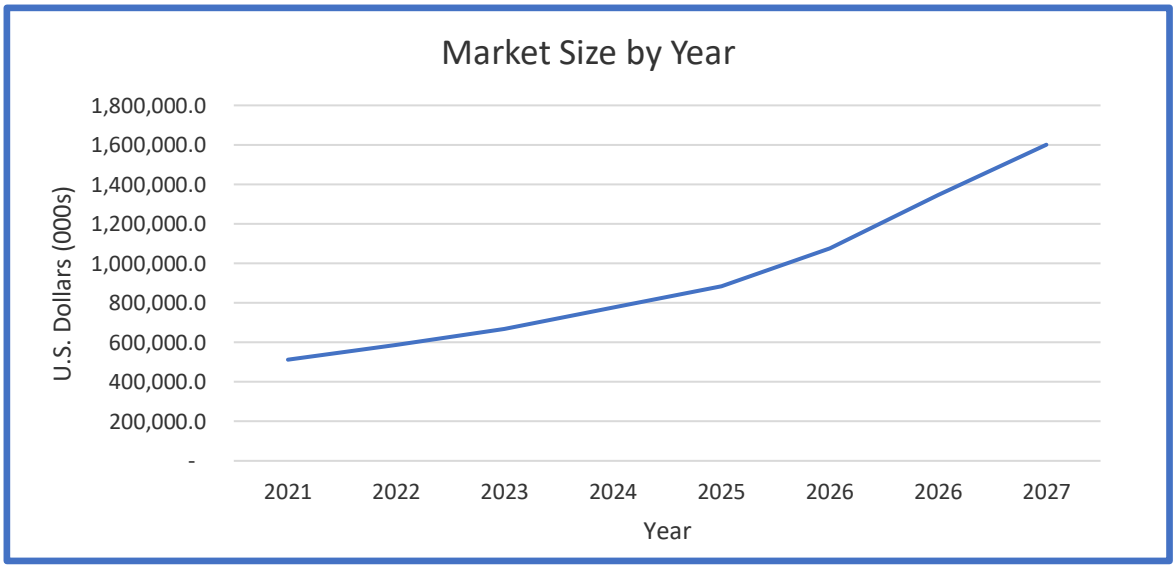
The worldwide market is estimated to be $1,346.9 million dollars in 2026 and is expected to change by 18.8 percent from 2026 to 2027.

Market Sales (000s)		
Year	US Dollars	
2021	512,390.9	-
2022	587,822.2	-
2023	668,187.2	-
2024	775,256.6	-
2025	884,904.9	-
2026	1,076,157.6	-
2026	1,346,945.7	-
2027	1,600,830.2	-
2032	1,902,698.3	-

Y-to-Y Change	US Dollars
2020-2021	14.7%
2021-2022	13.7%
2022-2023	16.0%
2023-2024	14.1%
2024-2025	21.6%
2025-2026	25.2%
2026-2027	18.8%
CAGR 2027-2032	3.8%

Source: Barnes Reports

*2025-2026 Forecasts; 2027-2032 Projections



Global

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Operating Costs Estimates

The annual payroll for this market worldwide will be $619.60 million dollars in 2026 and the lease and rental payments for the market will be $67.35 million dollars. The operating expenses for this market is expected to reach $1,012.90 million dollars in 2026.

2026 Operating Costs	**US Dollars (000s)**
Annual Payroll ($1,000)	619,595.0
Operating Expenses ($1,000)	1,012,903.1
Employer Costs for Fringe Benefits ($1,000)	98,327.0
Contract Labor Costs including Temporary Help ($1,000)	41,755.3
Cost of Insurance ($1,000)	18,857.2
Taxes and License Fees ($1,000)	9,428.6
Lease and Rental Payments ($1,000)	67,347.3

Cost of Services Estimates

The cost of transportation for this market worldwide will be $13.47 million dollars in 2026 and the cost of printing services for the market will be $9.43 million dollars. The cost of repair and maintenance for this market is expected to reach $6.73 million dollars in 2026.

2026 Cost of Services	**US Dollars (000s)**
Cost of Purchased Transportation and Warehousing ($1,000)	13,469.5
Cost of Purchased Repair and Maintenance Services ($1,000)	6,734.7
Cost of Purchased Printing Services ($1,000)	9,428.6
Cost of Purchased Advertising and Promotional Services ($1,000)	18,857.2
Cost of Purchased Legal Services ($1,000)	10,775.6
Cost of Purchased Accounting and Auditing Services ($1,000)	6,734.7

*2025-2027 Forecasts

Source: Barnes Reports

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Market Segments

Active Network Management (ANM) market segments can be understood through deployment modes, end-user verticals, and the compatibility of ANM platforms with existing grid control architectures. The most mature segment comprises utilities and transmission and distribution operators transitioning from legacy SCADA and EMS to integrated ANM solutions that coordinate distributed energy resources, voltage control, and line loading in real time. Within this segment, regulatory incentives and grid modernization programs drive capital expenditure for DER integration, feeder automation, and fault-resilience capabilities. A growing subsegment includes microgrid operators and energy storage developers seeking granular control over islanded operations, peak shaving, and participation in demand response programs. In parallel, smart city projects and industrial campuses adopt ANM seeds to optimize campus-level energy networks, reduce peak demand charges, and improve reliability across critical facilities. Across deployment models, utilities favor hybrid or on-premises installations that preserve control sovereignty, while smaller operators experiment with cloud-based or edge-enabled configurations to reduce total cost of ownership and accelerate deployment. Security and interoperability standards underpin adoption.

Market segmentation by solution type reveals a spectrum from core ANM platforms to specialized modules that enable DER coordination, fault isolation, and dynamic line rating. Core software typically delivers real-time data analytics, topology sensing, and automatic control of inverter-based resources, while add-on modules extend capabilities for voltage and VAR optimization, demand response, and islanding management. Many vendors deliver DERMS-like functionality within their ANM stack, or offer open interfaces to integrate with existing EMS/SCADA environments, enabling utilities to leverage legacy assets while accelerating modernization. Services-based segments include system integration, grid-impact studies, training, and managed/hosting arrangements that reduce operational risk for operators transitioning to ANM. Security-enforced architectures—encompassing access controls, certificate management, and anomaly detection—are increasingly treated as differentiators. The platform market also differentiates by openness, with standards-based, interoperable solutions favored in regions with distributed energy resources and multi vendor ecosystems. Finally, deployment mode segments—cloud based, on premises, and edge enabled—reflect energy operators' appetite for scalability, latency control, and data sovereignty, shaping total cost of ownership across the life cycle. This segmentation guides procurement.

Geographic segmentation of the ANM market reveals uneven maturity and distinct adoption drivers. North America and parts of Europe lead in grid modernization funding, DER interconnection, and cyber security maturity, creating robust demand for integrated ANM platforms that can coordinate solar, wind, storage, and responsive loads. In these regions, regulatory frameworks promote feeder automation, voltage optimization, and reliability metrics that reward operators deploying real-time management across congested networks. Asia Pacific presents rapid growth tempered by market fragmentation, with utility scale renewable projects, microgrid pilots, and industrial energy management initiatives expanding the addressable market and pushing demand for scalable, cloud enabled or edge enabled ANM deployments. Latin America and the Middle East and Africa exhibit higher variability in grid resilience needs and distributed resource penetration, where smaller utilities partner with system integrators to implement modular ANM solutions. Across all regions, the market segments interact with evolving standards for interoperability, cybersecurity, and data governance, as utilities increasingly demand multi vendor integration, open APIs, and transparent pricing models. These factors will shape competition and consolidation.

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Market Share by Market Segments

End-user segments for the Active Network Management market consist of utilities and transmission operators, industrials, commercial and public sectors, microgrid developers, and residential or small-business users. Utilities and transmission operators account for roughly 46 percent of the market, reflecting ongoing grid modernization, distributed energy resource coordination, and regulatory incentives to optimize voltage, stability, and asset utilization. Industrial and manufacturing sectors follow with an estimated 21 percent, driven by demand-side optimization, on-site generation coordination, and complex load management across multiple facilities. The commercial and public sector segment—universities, hospitals, office campuses, and government facilities—holds about 17 percent, shaped by building automation needs, peak-shaving requirements, and efficiency mandates. Microgrid developers and independent power producers capture around 11 percent, underscoring project-based DER orchestration and islanding capabilities. Residential and small-business markets represent roughly 5 percent as ANM expands into smarter buildings and consumer-facing demand response programs. Regional policy nuances and market maturity continually reshape these shares over time. Investors monitor these shifts to guide deployment, partnerships, and product localization and strategy.

From a functional perspective, market shares cluster around core ANM applications that enable DER integration, grid visibility, and automated decision hardware. DER coordination and grid integration dominate, accounting for about 40 percent of reported ANM deployments, as utilities and independent developers seek seamless dispatch of solar, storage, and flexible loads. Microgrid management follows with roughly 22 percent, reflecting the growth of islanded energy systems for reliability, resilience, and local autonomy. Demand response orchestration and optimized energy storage together contribute around 18 percent, driven by programs that shift consumption during peak periods and through storage-to-load arbitrage. Grid monitoring, situational awareness, and automation form about 12 percent, representing assets such as real-time telemetry, anomaly detection, and asset performance analytics. Interoperability, cybersecurity, and data analytics capabilities round out the remaining 8 percent, underscoring the need for secure communications, standardization, and platform convergence across vendors. As digital architectures mature, cross-functional ANM features tend to blur these boundaries, supporting integrated solutions that couple DER management with advanced grid operations across networks.

Geographic distribution of ANM market share remains regionally uneven, with APAC leading in both deployment intensity and growth potential. APAC is estimated to command roughly 38 percent of global ANM market activity today, supported by rapid DER deployment, strong smart-grid modernization programs in Australia, China, and parts of Southeast Asia, and rising demand for grid resilience. Europe accounts for about 28 percent, propelled by stringent efficiency targets, high penetration of solar and storage, and regulated roofline requirements that favor automated coordination. North America holds approximately 20 percent, reflecting mature utility markets, substantial CAPEX for grid optimization, and ongoing modernization initiatives in the United States and Canada. The Middle East and Africa together represent around 7 percent, driven by microgrid projects, energy access programs, and the expansion of regional power pools. Latin America accounts for about 7 percent, spurred by distributed generation, off-grid communities, and the emergence of independent system operators in several countries. Regional expansions and policy incentives are likely to shift these shares in coming years globally today.

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Market: Active Network Management Market

Products and Services Types

Product types within the active network management market center on centralized platforms that fuse real-time visibility with automated control across traditional feeders and distributed energy resources. Core offerings include active network management systems (ANMS) that provide monitoring, event detection, and supervisory control, often packaged as either on-premises software or cloud-based platforms. Many vendors couple ANMS with distributed energy resource management system (DERMS) modules to coordinate solar, storage, electric vehicles, and demand-side resources. Complementary products include advanced distribution management systems (ADMS), which extend SCADA-like functionalities with optimization engines for voltage, line flow, and fault restoration. Edge devices, substation controllers, and smart meters supply telemetry to these platforms, while microgrid controllers enable islanded operation when grid conditions demand it. Deployment models vary from hosted software-as-a-service to hybrid configurations that keep critical control logic on customer premises. The product mix is also defined by interoperability components such as IEC 61850 and DNP3 gateways, OPC UA data models, and open APIs that facilitate integration with asset management, GIS, and weather services.

Beyond the core platforms, the active network management market includes a broad set of services that enable value realization and ongoing system resilience. Professional services cover system design, model validation, asset inventory integration, GIS alignment, and commissioning, with emphasis on seamless interoperability between ANMS, DERMS, ADMS, and existing SCADA environments. Implementation support often expands to data cleansing, topology modeling, and weather-aware forecasting to optimize dispatch and restoration times. Ongoing support features managed services such as 24/7 monitoring, remote fault diagnosis, software upgrades, and security hardening to address cyber risk across multi-vendor ecosystems. Training and enablement programs empower utility staff and industrial customers to extract analytics insights, operate dashboards, and execute control schedules. Some vendors offer optimization-as-a-service and DER orchestration as subscriptions, coupling software access with advisory expertise and performance warranties. Additionally, cybersecurity, compliance reporting, and regulatory interfacing services help utilities meet evolving standards, while digital twin capabilities enable scenario testing, what-if analysis, and asset lifecycle planning across distribution networks. These services translate capability into measurable reliability.

From a perspective, product types segment into three families: visibility and control, optimization and orchestration, analytical intelligence. Visibility and control suites deliver real-time dashboards, event alerting, fault location, isolation, restoration workflows, and remote switching across feeders, substations, and DERs. Optimization and orchestration modules apply voltage regulation, load flow and congestion management, VOLT-VAR control, and unit commitment logic to maximize reliability and minimize losses, while automatically dispatching DERs within regulatory and market constraints. Analytical intelligence layers extend forecasting, scenario planning, and anomaly detection through machine learning, predictive maintenance, and digital twin simulations that model progressive failure modes and asset aging. Interoperability remains a defining feature: APIs, data models, and standardized interfaces enable cross-vendor integration, while security-by-design provisions address access control, encryption, and anomaly monitoring. Deployment economics favor hybrid models that combine SaaS-based analytics with on-premises control for mission-critical operations, complemented by professional services and managed offerings that scale with grid modernization programs. The market thrives on modularity, fast integration, and performance verification across evolving regulatory and technical environments.

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Market: Active Network Management Market

Market Share by Products and Services Types

Within the Active Network Management (ANM) market, demand is actively segmented by product type, with software platforms occupying the largest share. Current estimates place software platforms at roughly 55% to 60% of the total market, reflecting the centrality of cloud-enabled orchestration, real-time analytics, and interoperability across distributed energy resources. These platforms typically provide core capabilities such as centralized visualization, optimization algorithms for asset utilization, automated fault isolation, and secure communications with field devices. The remaining 40% to 45% is distributed between services and hardware components, with cloud-native deployment models accelerating adoption through scalable subscriptions and reduced capital expenditure. Within software platforms, the dominant subsegment comprises standalone ANM software packages that target utilities and large industrial adopters. These packages are lightweight on on-site hardware but heavy on software integration, data modelling, and cybersecurity. By contrast, ANM suites embedded within broader grid-management ecosystems—where ANM functions are one module among EMS/SCADA or energy orchestration stacks—are still growing but contribute a smaller, yet meaningful, portion of the software market share.

Services, including professional consulting, system integration, and managed or hosted solutions, account for 25% to 35% of the Active Network Management market, depending on maturity and scale. Within this services band, professional services—encompassing project scoping, custom integration, data cleansing, and cybersecurity hardening—typically command 12% to 18% of the total ANM market. Managed services and hosted offerings, such as cloud-based ANM instances with ongoing monitoring, incident response, and patch management, contribute another 8% to 15%. The variability in service share reflects differences in regulatory environments, asset ownership models, and the degree of in-house IT-OT convergence. In mature markets, a larger portion of service demand relates to ongoing optimization and lifecycle support rather than one-off deployments, because grid operators are shifting toward continuous improvement in reliability, efficiency, and DER integration. The hardware portion of the market—sensors, RTUs, edge devices, and secure communications modules enabling ANM data collection and control—is a smaller slice, around 10% to 15%, yet remains critical for accurate measurements and robust failover in practical, ongoing operations.

From a market dynamics perspective, the distribution of market share by product type is expected to shift gradually toward software platforms and managed services as utilities mature OT-IT convergence and pursue aggressive DER integration. Projections for the next five years suggest software platforms will sustain a majority share in the 55% to 65% band, driven by the migration to cloud deployments, subscription pricing models, and the increasing demand for interoperable APIs that connect DERs, energy storage, demand-side resources. Meanwhile, the services segment is likely to capture around 25% to 35% as operators seek continuous optimization and ongoing compliance with cyber and privacy requirements. The hardware slice is forecast to remain a niche but essential component, at roughly 10% to 15%, reflecting the ongoing need for robust field devices and secure communications, especially in regions with aging grid infrastructure. Regional patterns show higher software and services shares in North America and Europe, whereas emerging markets exhibit more balanced hardware involvement due to rapid DER deployment and regulatory incentives.

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Market: Active Network Management Market

Application Types

Applications in the Active Network Management (ANM) market center on transforming passive grids into adaptive, data-driven platforms capable of coordinating distributed energy resources and demand-side assets. Utilities deploy ANM to automate real-time monitoring, control, and optimization of the low- and medium-voltage distribution network, enabling faster isolation of faults, improved voltage regulation, and enhanced power quality. By integrating telemetry from smart meters, phasor measurements, and DER inverters, ANM platforms deliver situational awareness across the entire feeder topology and support dynamic reconfiguration in response to disturbances. The resulting visibility and control enable more precise congestion relief, reducing the need for capital-intensive asset upgrades. In markets with high penetrations of solar and storage, ANM supports ramp control and curtailment strategies that maximize energy-to-load matching while preserving grid reliability. The ability to automate routine operations through rules and optimization engines also lowers operating costs and frees skilled staff to focus on planning and resilience activities. These capabilities enable utilities to meet increasingly stringent reliability standards while integrating diverse energy sources.

In addition to distribution automation, ANM applications extend to microgrids and independent energy systems where islanding capability and resilience are paramount. In microgrids, ANM coordinates solar, storage, and dispatchable loads to maintain voltage balance, seamless transitions between islanded and grid-connected modes, and optimized degradation of storage assets. For commercial and industrial facilities, ANM-driven optimization aligns on-site generation, battery energy storage, and HVAC and process loads to reduce energy costs, shave peak demand, and meet corporate sustainability targets. Electric vehicle charging infrastructure benefits from ANM by shaping charging profiles, avoiding feeder overloading, and enabling vehicle-to-grid services where permitted. In ancillary services markets, ANM platforms provide fast-frequency response and precise regulation by aggregating DERs and orchestrating their response to market signals, improving revenue streams for asset owners and reducing system stress during peak periods. The technology also supports advanced distribution management system integration, enabling dynamic line rating, capacitor bank control, and transformer load management, which collectively enhance grid reliability and resilience. Interoperability with IEC 61850 expands deployment options globally.

Realizing the full spectrum of ANM applications also depends on robust data analytics, standardized interfaces, and clear performance metrics. Operators increasingly couple ANM with advanced forecasting of solar generation and load, enabling proactive scheduling of storage and DER dispatch to reduce variability and maintain voltage within target bands. By coupling optimization models with real-time telemetry, ANM systems produce actionable instructions for field devices, including on-load tap changer actuations, capacitor switching, and inverter reactive power setpoints, while capturing operational risk and remaining margins. In practice, the market for ANM apps is expanding beyond equipment vendors to system integrators and software-as-a-service providers that offer modular modules for asset health, risk scoring, and market-ready ancillary services. From a value perspective, ANM reduces unplanned outages, improves asset utilization, and enables more competitive tariffs by lowering losses and enhancing energy efficiency. Barriers remain, including data integration challenges, cybersecurity requirements, and the need for interoperable standards across OEMs and utilities, but ongoing pilots illustrate scalable paths toward cost-effective deployments in diverse utility environments.

Global

Market: Active Network Management Market

Market Share by Applications

Active Network Management (ANM) platforms orchestrate distributed energy resources and dynamically control voltage, power flows, and reliability across modern electricity networks. Within ANM, applications span DER integration, grid operations and distribution automation, demand response and energy management, asset monitoring and maintenance, and microgrid or islanding management. Market shares are typically reported as proportions of deployments or licenses and are shaped by regional DER penetration, regulatory mandates, and utility modernization programs. In practice, the strongest momentum exists around DER integration paired with grid optimization, where platforms enable granular visibility and fast control to accommodate solar, storage, and evolving load patterns. Grid operations and automation—covering monitoring, fault management, reconfiguration, and congestion relief—constitute the next largest bloc, particularly in utilities upgrading aging infrastructure. Demand response and energy management are expanding as programs scale and tariffs evolve, while asset management and predictive maintenance gain traction as networks become more instrumented. Microgrid and islanding management, though smaller in breadth, is expanding in resilience-focused markets, utilities pursuing energy autonomy, and commercial/industrial microgrids. The segmentation reflects overlapping deployments across multiple workflows that a single ANM platform can support.

DER integration and grid optimization typically represent the leading cluster of ANM applications, driven by expanding DER fleets, storage projects, and electrification initiatives. In many regional analyses, DER integration accounts for roughly one-third to nearly half of deployed ANM capabilities, reflecting the need for synchronized commitment across generation, storage, and demand-side resources. Grid optimization—encompassing real-time visibility, voltage and VAR control, network reconfiguration, and congestion management—often tracks close behind, together placing the combined DER integration and grid optimization share in the broad range of 40% to 60% of total ANM activity in markets with advanced DER uptake. As DER penetration continues to rise, this combined share is expected to edge higher in mature grids that require fine-grained control to preserve reliability, while in developing markets the pace may be steadier as utilities modernize foundational monitoring and automated fault management. Cross-functional capabilities in many platforms, and the push toward standardized data models, further compress segmentation as vendors emphasize multi-use deployments that span multiple applications.

Demand response and energy management typically occupy the next tier, with standard shares in the single digits to mid-teens, depending on program maturity, tariff structure, and participation incentives. Asset monitoring and predictive maintenance contribute a meaningful but smaller portion, commonly in the 5–15% range, reflecting deeper instrumented networks and analytics. Microgrid and islanding management, while smaller in breadth in many national grids, is a rapidly expanding segment in resilience-focused markets, where deployments average around 5–10% and show outsized growth in APAC and select North American regions. Across geographies, the distribution of ANM application shares remains fluid as utilities accelerate modernization, DER interconnection, and demand-side participation. Platforms that support multiple workflows reinforce this trend by delivering cross-application value, reducing fragmentation and enabling operators to shift capital toward upgrading grids, integrating storage, and enabling flexible demand programs rather than pursuing siloed, application-specific stacks. This progression is likely to continue as markets adopt standardized interfaces and interoperable data models widely.

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Market: Active Network Management Market

End Users Types

End users in the Active Network Management (ANM) market span a broad spectrum of electric system stakeholders that rely on real-time visibility and dynamic control to maintain grid reliability, efficiency, and resilience. Primary customers are utilities and transmission operators responsible for balancing supply and demand across large geographic footprints. These organizations deploy ANM to optimize asset utilization, monitor voltage and frequency, and coordinate protection schemes while integrating variable renewable resources. Distribution system operators (DSOs) and regional network companies increasingly adopt ANM to manage feeder congestion, implement fast-acting redispatch, and support grid modernization initiatives within constrained regulatory environments. In parallel, independent power producers and independent system operators leverage ANM to manage bidirectional flows and to ensure adherence to procurement contracts amid rising distributed generation. Beyond traditional utilities, large commercial and industrial (C&I) end users with on-site generation or demand response capabilities increasingly require ANM platforms to participate in ancillary services markets and to safeguard continuity of operations during grid disturbances. These diverse users drive rapid market growth globally.

End users demand interoperable, scalable ANM solutions that can integrate seamlessly with existing SCADA, distribution management systems, and DER management platforms. Interoperability standards, cybersecurity controls, and data governance are central procurement criteria as utilities pursue vendor-agnostic architectures that future-proof asset investment. Customer organizations seek intuitive interfaces for operators, field crews, and control room analysts, supported by robust analytics, event logging, and alarm filtering to reduce fatigue and error. In addition, end users require reliable communications and resilient edge computing to maintain operations during extreme weather or cyber incidents. The growing prominence of distributed energy resources—batteries, demand response, rooftop solar, and microgrids—drives demand for precise, fast-acting control loops that can prevent reverse power flows from destabilizing networks. Industrial and commercial facilities increasingly install on-site generation and energy storage and look to ANM to optimize energy costs, ensure power quality, and participate in ancillary services markets when economics align with reliability needs. Regulators and financiers increasingly view ANM as a strategic risk mitigation tool rather than a cosmetic enhancement.

Across regions, end users vary in maturity, regulatory incentives, and budget cycles, shaping how quickly ANM penetrates the market and how approaches evolve. Utilities with established SCADA and asset management traditions tend to pilot phased expansions, emphasizing return on investment through loss reduction, improved voltage profiles, and reduced line outages. DSOs pursuing reliability-centered upgrades frequently centralize DER coordination and feeder-level optimization, while IPPs and independent aggregators seek to monetize flexibility through fast response times and expanded market participation. Large C&I customers, data centers, and campus-style facilities increasingly view ANM as part of a broader energy resilience strategy, integrating on-site generation, storage, and demand response into a single control framework. However, deployment is contingent on skilled staff, clear data ownership, and credible cyber risk mitigations, as security incidents could undermine trust in shared control architectures. Consequently, end users demand training programs, clear governance models, and service-level commitments from vendors, alongside transparent roadmaps for interoperability, maintenance, and upgrade paths that align with long-term budgets and policy developments and future scenarios.

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Market: Active Network Management Market

Market Share by End Users

In the Active Network Management (ANM) market, end-user demand is dominated by electric utilities and grid operators, which are responsible for deploying and operating systems that actively balance distributed energy resources (DERs), demand response, and grid stability. Utilities and distribution operators capture the largest share of ANM end-user deployments, estimated at around 60% of market activity. This dominance stems from regulatory mandates, grid modernization programs, and the imperative to accommodate high renewable penetration and storage while maintaining reliability. In mature regions such as North America and Western Europe, utility-led ANM initiatives account for roughly 55–65% of end-user spend, reflecting extensive investments in feeder automation, SCADA-enabled control, and DER coordination platforms. Asia-Pacific is rapidly expanding, with state-owned grid entities and large utility consortia driving major ANM deployments that can approach the 60–70% range in the near term due to ambitious renewable integration programs, industrial electrification, and major microgrid pilots. The remaining share is captured by non-utility end users, including independent power producers, commercial and industrial (C&I) customers, data centers, and specialized operators, which deploy ANM to optimize energy use and revenue streams.

Among the non-utility cohorts, independent power producers (IPPs) and renewable project developers typically account for roughly 15–25% of end-user ANM demand, with higher shares in markets prioritizing DER coordination and grid-scale retrofits. IPPs use ANM to coordinate multiple DER assets, dispatch ramps, and participation in ancillary services markets, accelerating adoption where third-party generation projects compete with traditional utilities. Commercial and industrial (C&I) customers—large manufacturing facilities, logistics hubs, and multi-site operators—represent about 10–15% of end-user shares, leveraging ANM to reduce energy costs, optimize demand charges, and support sustainability targets. Data centers and hyperscale facilities, given their high energy consumption and need for power quality, typically account for 5–10% of end-user demand, with growth as uptime commitments and service-level agreements drive investment in active network control. Telecommunications and IT infrastructure operators also participate at roughly 5% of the end-user share, driven by reliability requirements and the need to optimize energy use across distributed network assets. The balance is captured by municipalities, campuses, microgrid operators, and other niche users.

Regional variation shapes the end-user mix. In North America, aggressive DER deployment and energy market reforms tend to boost IPP and C&I shares, with IPPs rising into the 20–25% range in select segments. In Europe, regulated networks and demand-response frameworks coexist with corporate energy procurement, keeping utilities dominant but expanding C&I usage to the 15–20% band. In Asia-Pacific, utilities still command a sizable majority, yet rapid expansion of rooftop solar, storage, and microgrids in industrial zones is nudging non-utility shares upward toward 20–25%. Over the next five years, continued DER growth and microgrid adoption are expected to tilt the end-user mix toward IPPs and C&I, potentially elevating their combined share to roughly a quarter of the global ANM market in many regions, while utilities retain a large, though narrowing, lead. These dynamics underscore region-specific market analyses and the value of tailoring ANM deployments to the unique end-user composition of each grid, and resilience.

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Market: Active Network Management Market

Current Market Trends

Active Network Management (ANM) platforms are accelerating grid modernization by coordinating distributed energy resources (DERs) on the distribution network. Utilities and independent system operators increasingly view ANM as a practical tool to unlock hosting capacity, defer capital investments, and maintain voltage and thermal limits in networks with high penetrations of solar, storage, and demand response. A core trend is the shift from static planning toward real-time constraint management, where ANM continuously evaluates feeder limits and issues curtailment or setpoint commands to DER assets to relieve bottlenecks without broader reinforcements. The emergence of microgrid controllers and aggregator models further expands the ANM footprint, enabling islanding, energy arbitrage, and grid-support services at the edge. In practice, deployments are moving toward cloud-native, scalable architectures with edge compute for low latency, supported by standards-based interfaces and robust cybersecurity practices. As accuracy of telemetry improves, utilities are insisting on higher data quality and interoperability across vendors, retrofit projects, and brownfield networks, which remains a key implementation challenge. Emerging pilots emphasize scalable security.

Regional momentum is visible in North America and Europe, with regulators and utilities accelerating ANM deployments to accommodate higher DER footprints and accelerate grid modernization. In the United States, the DER integration push, supported by directives and grid codes, continues to incentivize ANM as a practical layer for curtailment, voltage control, and contingency management, complementing broader ADMS implementations. In Europe, pilots and deployments increasingly focus on cross-border coordination, dynamic hosting capacity analytics, and interoperability with market mechanisms, as countries align ANM capabilities with the European Green Deal and network codes. Asia-Pacific markets are ramping up, led by solar growth and storage projects in China, India, and Australia, where ANM is used to unlock capacity across congested feeders and reduce reinforcement timelines. News also highlights partnerships between utilities, EPCs, and software vendors to deliver managed services and outcome-based pricing, reflecting a shift from capex-heavy deployments to Opex-based models. Cybersecurity and data governance considerations, including compliance with NERC CIP and ISO 27001 frameworks, are increasingly embedded in procurement.

From a technology standpoint, ANM platforms are integrating advanced analytics, AI-augmented optimization, and digital twins to improve forecasting, constraint prioritization, and DER scheduling. Edge computing and cloud-native architectures are enabling scalable multi-feeder deployments, while APIs and open standards facilitate interoperability with DERMS, ADMS, and energy marketplaces. Vendors emphasize multi-asset orchestration, allowing solar, storage, EV charging, and demand response resources to participate simultaneously in voltage support, frequency regulation, and contingency planning. The competitive landscape is consolidating, with larger software providers broadening their portfolios through acquisitions and partnerships, while specialist ANM vendors pursue niche deployments in high-constraint feeders or microgrid-enabled neighborhoods. As customers transition from capex-heavy builds to performance-based procurement, managed services and as-a-service models are expanding the addressable market. Data governance, cybersecurity, and vendor-agnostic integration remain critical success criteria, driving demand for common data models (CIM), open protocols (IEC 61850, OpenADR), and vendor-neutral testing. Overall, the market shows resilient growth potential as grid electrification accelerates and utilities seek to maximize DER value without unnecessary reinforcements and improved resilience.

Global

Market: Active Network Management Market

Market Drivers

Active Network Management (ANM) is increasingly driven by the need to orchestrate a growing constellation of distributed energy resources and to modernize aging grid infrastructure. Real time visibility from sensors, phasor data, and advanced monitoring platforms enables operators to identify constraints, reconfigure topology, and optimize voltage and current capacity without costly upgrades. The integration of solar photovoltaic arrays, wind, storage systems, and responsive load raises complexity, making automated coordination essential. ANM solutions offer dynamic voltage control, congestion management, and frequency regulation through centralized control and edge devices, reducing bottlenecks at feeders and substations. Interoperability standards and open communication protocols support scalable, vendor-agnostic deployments, while cloud and edge computing improve responsiveness and resiliency. As networks become more digitized, predictive analytics and machine learning provide anticipatory control, preempting outages, balancing DER output with demand, and extending asset life. The resulting operational agility lowers curtailment of renewables, improves power quality, and creates a platform for services such as peer-to-peer energy transfer and microgrid orchestration within distribution networks and services.

Policy and regulatory frameworks are a primary accelerant for ANM adoption, as authorities seek reliable integration of intermittent generation and resilient service during extreme events. Renewable portfolio standards, clean energy targets, and decarbonization mandates create persistent demand for systems that can orchestrate DERs while preserving grid stability. Demand response programs, time-of-use pricing, and capacity markets incentivize dynamic consumption and flexible generation, aligning utility revenue with operational efficiency rather than purely asset-based growth. Utilities increasingly fund or co-finance ANM projects through grid modernization initiatives, regulatory incentives, and performance-based tariffs that reward reduced peak demand, avoided transmission upgrades, and improved voltage profiles. Interconnection standards and open access to data further encourage multi-vendor ecosystems, enabling utilities to select best-of-breed components rather than lock-in patterns. As cyber-physical risks proliferate and customer expectations rise for uninterrupted service, regulatory guidelines emphasize security, data governance, and auditable control decisions, ensuring that ANM platforms deliver traceable actions and robust incident response. This regulatory certainty accelerates investment by reducing risk and clarifying project ROI timelines ahead.

Beyond policy signals and technology capabilities, market demand for ANM is propelled by utilities' imperative to extract maximum value from existing assets and to accelerate the transition to a flexible, low-carbon grid. By coordinating DERs and controllable loads, ANM reduces peak demand, delays the need for new transformers and feeders, and lowers the levelized cost of distribution. Improved visibility and automated switching shorten fault clearance times, strengthening resilience against extreme weather and cyber threats. The rise of microgrids, behind-the-meter storage, and large EV charging loads creates a need for orchestration platforms that can operate across islands or feeder networks while maintaining compatibility with wholesale markets. In industrial and commercial sectors, demand-side management and energy-as-a-service offerings gain traction as customers seek predictable energy costs and reliability guarantees. Market growth is reinforced by software-as-a-service delivery models, scalable cloud architectures, and ecosystem collaboration among utilities, system integrators, and software vendors, enabling faster deployment, lower upfront capital, and ongoing optimization of grid performance. This combination drives competitive differentiation and long-term resilience.

Global

Market: Active Network Management Market

Market Restraints

Market restraints in the Active Network Management (ANM) sector arise from a combination of regulatory uncertainty, high upfront costs, and uncertain return on investment. Utilities and grid operators operate within rate processes and procurement cycles, often requiring multi year planning horizons and formal approvals before funding can be released. The long lead times, combined with policy shifts or changes in regulatory incentives, create a risk premium that dampens adoption of ANM solutions. Moreover, the capital intensity of modern ANM deployments—sensors, communication networks, advanced metering, and optimization software—forces a careful cost and benefit calculus that many utilities struggle to justify in markets with flat or uncertain demand growth. In regions with heterogeneous tariffs or municipal ownership models, cost recovery can be even more complex, complicating project finance and delaying implementation. These financial frictions are compounded by the challenge of demonstrating measurable reliability and grid resilience gains, which can be difficult to quantify for regulators and investors in the absence of standardized performance metrics. This uncertainty slows deployment timelines.

Technical interoperability represents another major restraint, as ANM systems must harmonize with patchwork legacy SCADA, DMS and EMS architectures and emerging devices. Many utilities still rely on older protocols and vendor-specific interfaces, making cross-vendor integration expensive and error-prone. The absence of universal standards for data models, event formats, and optimization interfaces forces bespoke adapters and extensive testing in each new deployment. This fragmentation raises total cost of ownership and increases the risk of vendor lock-in, deterring customers from scale up. In addition, ANM performance depends on continuous, high-quality data streams; data gaps or latency can blunt the expected benefits, while cyber-physical security requirements drive additional architectural complexity and costs. Regulatory standards for cybersecurity and privacy further complicate deployments, compelling organizations to implement rigorous segmentation, monitoring, and incident response capabilities. As networks evolve toward distributed energy resources, the need to coordinate with upstream transmission planning and distribution automation adds another layer of complexity, often slowing decision cycles and verification processes. This governance complexity pressures project timelines and budgets.

Market fragmentation and the multiplicity of regional policies constitute a set of restraints on ANM market growth. Vendors compete in a crowded ecosystem with varying data rights, pricing models, and service level expectations, which complicates scale up for large utilities operating across jurisdictions. The absence of uniform procurement frameworks forces bespoke contracts, lengthy pilot programs, and extended integration cycles, diluting the appeal of standardized ANM packages. In some markets, competition authorities scrutinize software integrations for anticompetitive risk, while procurement rules favor traditional asset-based solutions over software-enabled optimization. Customer organizations also face a shortage of skilled staff capable of designing, validating, and maintaining advanced ANM deployments; this talent gap raises training costs and slows knowledge transfer to operations. On the technology side, the need to secure continuous updates, patches, and compliance reporting imposes ongoing operating costs that can erode projected savings. Together, these market frictions limit pilots rather than broad, systemwide rollouts. Long-term value depends on policy alignment and measured performance; policy alignment and performance drive adoption.

Global

Market: Active Network Management Market

Major Players

Hitachi Energy ranks among the leaders in Active Network Management (ANM) solutions, delivering ADMS and DER management capabilities that coordinate switching, voltage control, and congestion relief across distribution grids. Its platform integrates real-time telemetry, forecasting, and optimization to enable utilities to coordinate distributed energy resources with conventional assets, improve reliability, and defer capital investments. Siemens follows closely with its Spectrum Power and Spectrum Grid portfolios, offering SCADA, EMS, and distribution automation that enable rapid reconfiguration of circuits, contingency analysis, and adaptive protection schemes. Schneider Electric contributes with EcoStruxure ADMS and Grid Logic software sets designed to harmonize medium- and low-voltage networks, integrate rooftop solar and storage, and automate fault isolation. Together, these firms help utilities modernize aging networks by providing scalable, interoperable control layers, advanced analytics, and cybersecure data exchange that support utilities' regulatory and safety requirements while enabling new business models such as time-of-use tariffs and demand response. These platforms also emphasize cybersecurity, scalability, and open interfaces for ecosystems globally.

General Electric's Grid Solutions continues to be a formidable force in ANM, packaging ADMS, OMS, and field-installed automation that help utilities manage contingent events, optimize feeder operations, and coordinate DERs at scale. Its software emphasizes interoperability with existing SCADA, asset management, and protection schemes, facilitating rapid fault isolation while preserving system stability. Eaton expands the ANM market with distributed automation and advanced protection products that span transformer, switchgear, and feeder automation, enabling utilities to implement dynamic switching, voltage support, and automated restoration sequences during outages. S&C Electric complements these offerings with intelligent switchgear, automation cabinets, and network controls that simplify the orchestration of multi-branch networks, reduce outages, and improve visibility into congested corridors. The combined strength of these players is the ability to deploy modular, standards-based platforms that can evolve from traditional distribution automation toward comprehensive network management, DER orchestration, and near real-time optimization under diverse regulatory regimes and grid conditions. Standards-based interoperability and cloud-ready deployment are increasing the pace of modernization worldwide.

Open Systems International (OSI) provides scalable EMS and DMS platforms that utilities customize for radial, looped, or meshed distribution topologies. OSI's architecture emphasizes fast state estimation, event-driven automation, and resilient cybersecure communications, making it a popular choice for regional networks requiring high reliability with lower total cost of ownership. Itron strengthens the market with a broad suite of ADMS-ready software, DER management capabilities, and advanced demand response programs that harmonize customer-side resources with transmission constraints, enabling utilities to reduce peak demand while improving power quality. Oracle Utilities delivers cloud-native and on-premises network management solutions that integrate metering, customer information, and grid analytics into a single, programmable data fabric, supporting efficient workflow automation, outage management, and grid optimization across diverse asset fleets. AutoGrid rounds out the top tier with AI-driven DERMS and virtual power plant orchestration that coordinate solar, storage, and responsive loads, optimizing energy flows in near real-time and enabling new business models such as grid services markets and dynamic pricing schemes. Policy alignment with renewables targets and new tariff schemes further shape ANM investments globally.

Global

Market: Active Network Management Market

Opportunities from Gross Domestic Product Changes

The Active Network Management (ANM) market is increasingly shaped by shifts in global GDP, as rising electricity demand intersects with the push for reliability and greater renewable penetration. Global GDP growth stood near 3.0% in 2023 and is projected to run in the 2.9–3.2% band for 2024. Regionally, Asia-Pacific logged the strongest momentum (roughly 4–5%), North America posted 2.0–2.5%, and Europe hovered around 0.5–1.5%. These GDP trajectories are shaping ANM opportunities by driving higher electricity demand, accelerated grid modernization, and increased integration of variable renewable energy and distributed energy resources. Utilities and independent system operators are increasingly turning to ANM to balance real-time flows, relieve congestion, and optimize assets under tighter budgets. As a result, the ANM market has expanded with double-digit growth expectations in the near term, reflecting both policy push and the commercial incentives of efficiency gains, reliability, and faster project delivery. The changing macroeconomy thus functions as a market accelerator, redirecting capital toward software-enabled control and automation across transmission and distribution networks, fueling growth.

Market size and momentum are anchored by grid modernization budgets and DER integration, with the global ANM market estimated at USD 1.3–1.6 billion in 2023 and growth pacing into double digits. Forecasts for 2024–2030 commonly cite a CAGR in the high single digits to low double digits (roughly 10–15%), reflecting rapid uptake in both mature utilities and developing markets. By region, Asia-Pacific is the dominant engine, contributing roughly 40–45% of deployments by 2025, followed by North America at about 25–30% and Europe around 25%. These shares mirror the accelerating demand for real-time congestion relief, dynamic line rating, and DER coordination in densely loaded grids and in markets with ambitious renewable targets. The United States, Germany, and the United Kingdom stand out as early adopters in mature markets, while China, India, and Brazil drive a rising curve of green-grid projects. Across sectors, utilities and independent system operators increasingly favor ANM as a scalable software layer that integrates SCADA, EMS, DERMS, and edge devices into a unified control plane.

Several market segments and business models are converging around ANM, creating a broad set of opportunities and the need for robust implementation practices. Primary buyers include distribution network operators (DNOs/DSOs), utilities, and large industrials with high throughput and reliability requirements; microgrid developers and energy service companies also adopt ANM to unlock flexibility and optimize capacity. The software-centric nature of ANM enables scalable deployment via cloud, on-premises, or hybrid architectures, with many projects adopting a software-as-a-service or subscription model, accelerating ROI through reduced outages and improved asset utilization. Interoperability remains a priority, with ongoing emphasis on open standards and integration with SCADA, EMS, DERMS, and edge devices. Markets with rapidly expanding renewables and feeder density are especially favorable, while cybersecurity and data governance pose continuing concerns that buyers weigh against potential efficiency gains. Against this backdrop, contract structures are evolving toward performance-based and service-led models, as vendors bundle monitoring, analytics, and optimization into end-to-end managed services to ease skill gaps and capital constraints, in increasingly diverse global markets.

Gross Domestic Product (Nominal/Current/NotInflation-Adjusted)

Economic Indicators

Gross Domestic Product (Nominal/Current/Not Inflation-Adjusted)

Global Gross Domestic Product is estimated to be $134,662.5 billion dollars in 2026 and is expected to change by 5.2 percent from 2026 to 2027. European GDP will be $21,563.4 billion in 2026 and is forecast to change by 3.2 percent from 2026 to 2027.

Gross Domestic Product (US$Millions)			
Region	2026	2027	Chg.
World	134,662,466	141,705,313	5.2%
North America	39,485,267	42,314,386	7.2%
Europe	21,563,369	22,257,709	3.2%
Asia-Pacific	37,856,079	38,972,833	3.0%
Latin America	9,172,369	9,891,483	7.8%

GDP is estimated to be $35.6 billion in the United States in 2026.
GDP is estimated to be $24.8 billion in China in 2026.
GDP is estimated to be $4.2 billion in Japan in 2026.

Gross Domestic Product (US$Millions)			
Country	2026	2027	Chg.
Argentina	977,572	1,096,005	12.1%
Australia	2,284,779	2,430,320	6.4%
Bangladesh	643,815	710,611	10.4%
Brazil	2,592,174	2,734,744	5.5%
Canada	2,945,609	3,152,685	7.0%
China	24,761,032	26,420,022	6.7%
Egypt	565,617	614,119	8.6%
France	3,347,381	3,385,374	1.1%
Germany	5,071,448	5,163,241	1.8%
India	4,720,685	5,039,803	6.8%
Indonesia	1,753,284	1,856,552	5.9%
Italy	2,547,746	2,590,421	1.7%
Japan	4,240,220	4,171,952	-1.6%
Malaysia	467,418	476,790	2.0%
Mexico	2,402,743	2,660,317	10.7%
Philippines	499,674	512,766	2.6%
Poland	1,053,926	1,135,764	7.8%
Russia	2,953,289	3,216,279	8.9%
Saudi Arabia	1,838,183	2,062,257	12.2%
Singapore	738,470	816,637	10.6%
South Korea	1,863,884	1,867,705	0.2%
Spain	1,808,969	1,855,007	2.5%
Switzerland	1,063,992	1,103,200	3.7%
United Kingdom	3,991,694	4,131,004	3.5%
United States	35,550,976	37,671,592	6.0%

Source: Barnes Reports

*2024-2025 Forecasts; 2026-2031 Projections

Opportunities from GDP Per Capita Changes

Global GDP per capita is shifting as economies recover post-pandemic, creating both expansion opportunities and process frictions for energy networks. The world's population stands at about 8.0 billion in 2023, with urban centers absorbing the majority of new demand. By 2030, roughly 60% of people are expected to live in cities, concentrating load, stressing distribution grids, and accelerating the need for adaptive, automated management. Rising GDP per capita in many developing regions, particularly in Asia and Africa, is translating into higher electricity consumption, greater penetration of air-conditioning and electrical heating, and faster growth in commercial and industrial demand. These dynamics push utilities toward more sophisticated asset optimization, integration of distributed energy resources, and tighter control of network constraints. In this context, Active Network Management emerges as a scalable enablement technology, coordinating DERs, storage, and flexible loads to maximize throughput while minimizing curtailment and outages. Electricity access remains a policy priority; the push for modernized grids is reflected in ongoing investments across continents and regulatory reforms aimed at digitization, interoperability, and cybersecurity.

Three market opportunities stem from the GDP per capita trajectory. First, utility-scale and commercial DER integration requires real-time visibility, predictive analytics, and automated dispatch across feeders and microgrids—precisely the function of ANM platforms. Second, rapid EV charging expansion, heat pumps, and industrial electrification increase bidirectional and dynamic loads, creating network bottlenecks that ANM can avert by coordinating charging windows and storage. Third, infrastructure modernization programs and green tariffs are accelerating the deployment of advanced grid-management software in both mature markets and emerging economies, where the incremental capital cost of ANM is offset by efficiency gains and reduced capital expenditure on grid reinforcements. In 2023-24, global grid-investment trends show continued emphasis on digital technologies, with a growing share allocated to network optimization, remote monitoring, and automated fault isolation. The market is also supported by policy instruments encouraging resilience and reliability, such as performance-based regulation, time-of-use pricing, and demand-response incentives that reward flexible assets.

Geographic and sectoral dynamics shape opportunities. In APAC, rapid urbanization and expanding middle classes are translating into higher per-capita electricity demand, creating abundant ANM deployment opportunities in both urban networks and remote microgrids. Europe and North America, while mature, continue to invest in grid modernization to accommodate renewables, electrified transport, and heating; here ANM adds value by enabling high-penetration renewable scenarios, reducing congestion rents, and improving reliability metrics. Africa and parts of the Middle East show rising appetite for reliable power with modular, scalable ANM solutions that can be deployed in fast-growing networks and off-grid or mini-grid settings. The competitive landscape favors vendors offering modular, interoperable architectures, strong cyber-security postures, and open data standards to support cross-operator coordination. Data governance and resilience will increasingly determine procurement decisions, with customers favoring platforms that can integrate with existing energy-management systems and OSIsoft/Schneider-type ecosystems. As GDP per capita continues to diverge, the opportunity for ANM to unlock value from smarter load distribution, adaptive DER control, and intelligent congestion management remains robust, underpinned by ongoing digitization and policy-driven energy-transition agendas globally.

Opportunities from GDP Per Capita Changes

Economic Indicators

GDP per Capita

GDP per Capita is estimated to be $14,612 in 2026 in the World.
GDP per Capita is estimated to be $92,507 in 2026 in North America.
GDP per Capita is estimated to be $45,157 in 2026 in Europe.

Region	GDP per Capita 2026	2027	Chg.
World	14,612	14,450	-1.1%
North America	92,507	93,997	1.6%
Europe	45,157	44,875	-0.6%
Asia-Pacific	13,764	13,288	-3.5%
Latin America	13,450	14,366	6.8%

GDP per Capita is estimated to be $96,553 in 2026 in the United States.
GDP per Capita is estimated to be $14,456 in 2026 in China.
GDP per Capita is estimated to be $29,866 in 2026 in Japan.

Country	GDP per Capita 2026	2027	Chg.
Argentina	17,923	19,219	7.2%
Australia	72,767	73,229	0.6%
Bangladesh	2,664	2,596	-2.6%
Brazil	13,673	14,481	5.9%
Canada	60,438	60,741	0.5%
China	14,456	14,387	-0.5%
Eqypt	3,460	3,266	-5.6%
France	47,503	45,760	-3.7%
Germany	58,060	56,373	-2.9%
India	3,009	3,049	1.3%
Indonesia	5,586	5,641	1.0%
Italy	44,137	43,616	-1.2%
Japan	29,866	27,879	-6.7%
Malaysia	11,611	11,161	-3.9%
Mexico	17,856	19,049	6.7%
Philippines	3,991	3,892	-2.5%
Poland	26,802	27,696	3.3%
Russia	16,572	17,321	4.5%
Saudi Arabia	47,821	51,510	7.7%
Singapore	100,645	104,847	4.2%
South Korea	32,500	30,766	-5.3%
Spain	37,909	37,649	-0.0068
Switzerland	107,148	104,260	-2.7%
United Kingdom	53,925	52,771	-0.0214
United States	96,553	98,296	1.8%

Source: Barnes Reports

*2024-2025 Forecasts; 2026-2031 Projections

Opportunities from Population Changes

The Active Network Management (ANM) market is expanding in response to a population that is increasingly urban and older, driving concentrated and higher electricity demand on the distribution edge. The world's population is around 8.0 billion in 2023, with roughly 56% living in urban areas, a share that continues to grow with megacity formation in Asia, Africa, and the Americas. The number of people aged 60 and above is projected to reach about 2.1 billion by 2050, up from roughly 1.0 billion today, intensifying demand for reliable service in aging urban infrastructures. As cities expand, loads become more clustered, and the share of electricity consumed in urban centers rises, raising the complexity of feeder management, voltage regulation, and DER integration. Electrification trends in mobility, buildings, and industry further elevate the need for real-time coordination of distributed energy resources, demand response, and edge assets. In this context, ANM solutions offer hosting capacity optimization, dynamic line loading, and autonomous constraint handling essential for city-scale grids in the coming decade.

Market opportunities for ANM are concentrated in three connected thrusts: delivering hosting capacity in congested urban feeders, enabling high-penetration DERs, and supporting rapid electrification while maintaining reliability. As population concentrates in cities and campus districts, feeders face tighter voltage limits and thermal constraints, presenting utilities with the incentive to deploy ANM to optimize real-time dispatch, monitor device-level states, and coordinate DERs without costly network reconfigurations. DERs, including rooftop solar, storage, and demand-side resources, require precise coordination to avoid oversupply or reverse power flows at critical substations. ANM platforms provide dynamic constraint management, automated feeder reconfiguration, and grid-edge sensing that increase hosting capacity and defer costly grid upgrades. The third axis of opportunity is electrification itself: as EV charging, heat pumps, and industrial electrification expand, ANM enables smoother integration of peak-shaving responses and demand flexibility, reducing peak loads and preserving voltages across dense urban corridors. Utilities and independent system operators increasingly view ANM as an essential core to modern distribution networks creating new service models and revenue.

Geography will shape where ANM markets expand fastest. APAC currently accounts for about 60% of the world's population, and its urban centers continue to absorb most new demand, creating opportunities for ANM to orchestrate complex feeders, microgrids, and campus networks. Europe and North America, though smaller in population growth terms, are anchored by mature regulatory regimes and ambitious grid modernization programs that prioritize DER integration, resilience, and electrification, creating steady demand for ANM platforms and services. In Africa and Latin America, rapid urban growth and electrification gaps present high growth potential, as utilities and independent power producers seek scalable edge-control solutions to extend hosting capacity and deliver reliable service without prohibitive capital expenditure. Across these regions, policy drivers such as decarbonization targets, reliability standards, and incentives for demand response and energy storage push utilities to adopt ANM as a core capability. Vendors that demonstrate interoperable, cyber-secure, scalable ANM architectures aligned with local standards will capture opportunities across utilities, commercial, and industrial sectors, including hospitals and data centers.

Opportunities from Population Changes

Economic Indicators

Total Population

Total Population is estimated to be 7962.4 million in 2026 in the World.
Total Population is estimated to be 369 million in 2026 in North America.
Total Population is estimated to be 432.9 million in 2026 in Europe.

Region	Total Population 2026	2027	Chg.
World	7,962,368,000	7,972,879,000	0.1%
North America	369,014,000	368,246,000	-0.2%
Europe	432,934,000	429,471,000	-0.8%
Asia-Pacific	2,308,836,000	2,294,059,000	-0.6%
Latin America	662,802,000	674,627,000	1.8%

Total Population is estimated to be 327 million in 2026 in the United States.
Total Population is estimated to be 1357.8 million in 2026 in China.
Total Population is estimated to be 118.7 million in 2026 in Japan.

Total Population			
Country	2026	2027	Chg.
Argentina	44,044,000	43,612,000	-1.0%
Australia	26,337,000	26,419,000	0.3%
Bangladesh	167,141,000	166,586,000	-0.3%
Brazil	201,005,000	198,311,000	-1.3%
Canada	39,892,000	40,160,000	0.7%
China	1,357,820,000	1,343,807,000	-1.0%
Eqypt	116,133,000	117,369,000	1.1%
France	66,337,000	65,985,000	-0.5%
Germany	81,569,000	81,122,000	-0.5%
India	1,420,361,000	1,422,748,000	0.2%
Indonesia	278,596,000	279,220,000	0.2%
Italy	56,099,000	55,439,000	-1.2%
Japan	118,653,000	117,191,000	-1.2%
Malaysia	35,402,000	35,683,000	0.8%
Mexico	127,979,000	128,220,000	0.2%
Philippines	113,321,000	113,126,000	-0.2%
Poland	34,473,000	33,931,000	-1.6%
Russia	138,327,000	137,049,000	-0.9%
Saudi Arabia	32,706,000	32,110,000	-1.8%
Singapore	5,884,000	5,915,000	0.5%
South Korea	49,506,000	48,967,000	-1.1%
Spain	47,043,000	46,918,000	-0.0027
Switzerland	8,722,000	8,729,000	0.1%
United Kingdom	66,632,000	66,504,000	-0.0019
United States	326,994,000	325,555,000	-0.4%

Source: Barnes Reports *2025-2026 Forecasts; 2027-2032 Projections

Global

Market: Active Network Management Market

Opportunities from Changes in the Manufacturing Sector

Global manufacturing is undergoing a digital and decarbonization push that directly expands opportunities for Active Network Management (ANM) systems. ANM, as an orchestration layer for distributed energy resources, real-time grid constraints, and plant-level microgrids, helps manufacturers improve reliability, reduce energy costs, and increase operational flexibility. Energy costs represent a sizeable portion of operating expenses, typically 10–25% of production costs in energy-intensive segments such as steel and cement. The shift toward on-site generation, demand response, and electric-vehicle logistics in manufacturing strengthens the case for ANM adoption: by 2024, a growing share of new plant builds and retrofits included DER integration and energy management modules. Global manufacturing output remains resilient, with 2023–2024 data showing steady expansion in emerging markets and a recovery in mature economies, aligning with a forecast that the IIoT-enabled manufacturing ecosystem will grow at a double-digit CAGR over the next decade. ANM vendors are pursuing modular software-defined solutions that scale from single-line installations to enterprise-wide orchestration across multi-site networks, expanding regional footprints in North America, Europe, and Asia-Pacific.

Manufacturing sector changes, including digital twins, predictive maintenance, and edge processing, are driving demand for real-time visibility across electrical networks and energy flows. ANM's value proposition grows as factories deploy microgrids and energy storage to decouple from volatile utility grids and support continuous production during outages. Current market estimates suggest the ANM segment could reach approximately USD 0.5–1.0 billion by 2030, growing at roughly a 12–15% CAGR as the integration of DERs and automation accelerates. This expansion is supported by policy shifts and incentives in key regions: in Europe, energy efficiency targets and grid modernization funds are encouraging industrial customers to invest in ANM-enabled solutions; in North America, federal and state-level programs supporting demand response and on-site generation are accelerating deployments; and in Asia-Pacific, rapid industrialization and the electrification of logistics networks are generating rising demand for centralized and distributed energy orchestration. Vendors are responding with flexible, interoperable platforms and strong cybersecurity features to win multi-site contracts and integrate with existing ERP and MES systems.

From a go-to-market perspective, the ANM opportunity is expanding beyond hardware installations to full software platforms, services, and data analytics. System integrators and OEMs are bundling energy orchestration with ERP, MES, and building management systems to deliver end-to-end visibility, optimization, and predictive maintenance. The growth of campus-scale energy ecosystems in manufacturing parks and industrial zones creates scalable, recurring revenue streams through software-as-a-service and managed services, including monitoring, cyber security, and firmware updates. The sustainability imperative—driven by regulatory pressure, investor expectations, and consumer demand—adds another tailwind: factories that cut energy waste and improve power quality can also claim credits and incentives that offset initial ANM costs. On the risk side, vendor consolidation, interoperability challenges, and data governance concerns must be managed to realize full value. Still, the trajectory is clear: by enabling centralized dispatch, decentralized DER coordination, and adaptive protection, ANM technologies will become a standard layer in modern manufacturing networks, helping firms decouple capital expenditures from new site expansion while accelerating time-to-value for digital factory initiatives.

Opportunities from Changes in the Manufacturing Sector

SECTOR

Manufacturing Sector

The Sector is estimated to be $45,628.6 billion in 2026 in the Global.
The Sector is estimated to be $8,371.0 billion in 2026 in North America.
The Sector is estimated to be $7,069.3 billion in 2026 in Europe.

Manufacturing Sector ($US Millions)			
Region	2026	2027	Chg.
Global	45,628,591.8	46,515,977.2	1.9%
North America	8,371,009.6	8,475,735.7	1.3%
Europe	7,069,340.4	7,133,288.8	0.9%
Latin America	4,049,523.5	4,400,576.9	8.7%
Asia-Pacific	19,857,194.7	20,050,146.8	1.0%

The Sector is estimated to be $8,371.0 billion in 2026 in the United States.
The Sector is estimated to be $13,854.1 billion in 2026 in China.
The Sector is estimated to be $89.6 billion in 2026 in Japan.

Manufacturing Sector ($US Millions)			
Country	2026	2027	Chg.
Argentina	390,994.6	439,068.0	12.3%
Australia	254,674.5	256,211.8	0.6%
Bangladesh	348,966.6	385,062.1	10.3%
Brazil	844,153.7	899,512.2	6.6%
Canada	1,062,258.0	1,143,338.4	7.6%
China	13,854,145.3	14,149,224.5	2.1%
Eqypt	180,487.1	186,457.7	3.3%
France	68,775.5	69,349.4	0.8%
Germany	95,060.1	96,635.6	1.7%
India	68,831.9	73,333.2	6.5%
Indonesia	21,086.6	21,991.8	4.3%
Italy	47,358.7	47,613.3	0.5%
Japan	89,576.1	88,231.1	-1.5%
Malaysia	255,397.3	258,360.2	1.2%
Mexico	1,018,779.0	1,082,571.0	6.3%
Philippines	9,291.8	9,551.9	2.8%
Poland	18,053.3	19,420.5	7.6%
Russia	50,018.5	54,721.7	9.4%
Saudi Arabia	19,439.9	20,599.7	6.0%
Singapore	15,172.6	16,728.8	10.3%
South Korea	32,725.2	32,899.0	0.5%
Spain	36,782.3	37,693.2	0.0248
Switzerland	413,932.4	414,037.9	0.0%
United Kingdom	697,940.3	688,095.1	-0.014
United States	8,371,009.6	8,475,735.7	1.3%

Source: Barnes Reports

*2024-2025 Forecasts; 2026-2031 Projections

Opportunities from Changes in the Research Sector

Active Network Management has emerged as a key enabler of research sector modernization, converting energy networks into agile platforms that support distributed energy resources, microgrids, and resilient campus operations. Global attention to decarbonization, energy cost pressures, and the growth of research intensive facilities has accelerated investment in ANM solutions. In 2023 the global Active Network Management market was valued at approximately 1.2 billion US dollars, and forecasts indicate a sustained expansion through the decade with a projected size near 3.4 billion dollars by 2030. Market researchers commonly cite a compound annual growth rate in the low to mid teens, roughly 12 to 15 percent annually, as the sector scales across campuses, laboratories, and industrial research parks. The changing research landscape, characterized by greater decentralization and higher renewable penetration, creates demand for centralized control, real time monitoring, and automated decision making. This sector also drives standards engagement and interoperability requirements that favor vendor ecosystems offering open interfaces and scalable analytics. Campus pilots demonstrate energy savings and reliability gains.

Research sector driven by cost control and reliability fosters adoption of ANM as an enabling layer for campus microgrids and lab energy systems. ANM coordinates DERs such as solar arrays, storage, and backup generators with critical loads like clean rooms, MRI suites, and computing clusters. The result is lower energy costs, improved power quality, and heightened resilience against outages. Data from industry analyses suggest deployments reduce campus energy bills by 12 to 22 percent and lower peak demand charges by 15 to 25 percent within the first year. Longer term gains accrue from better asset utilization and optimization of renewable curtailment. The sector also benefits from tariff structures and demand response programs that reward real time balancing actions, expanding revenue and savings streams for research facilities. As campuses migrate toward centralized energy hubs, ANM solutions with open interfaces enable integration with digital twins, building management systems, and laboratory scheduling software. North America and Europe currently lead deployment, while Asia Pacific shows accelerating momentum across campuses globally.

As the research landscape becomes more interconnected, the market opportunities for Active Network Management extend beyond university campuses to national laboratories, industry research centers, and science parks worldwide. Regional demand patterns reflect diverse energy ecosystems: Asia Pacific accounts for roughly one third to two fifths of deployments, North America and Europe together hold about half, while the balance resides in other regions. Growth in APAC is driven by rapid expansion of new research campuses, emphasis on renewable integration, and policy incentives for campus microgrids and energy storage. In Europe, focus on energy independence and grid modernization sustains steady ANM uptake in research facilities, while North American institutions pursue resilience for mission critical experiments and data workloads. Across verticals, opportunities are strongest where labs run high energy intensity operations such as clean rooms, cryogenics, and large scientific instruments. Vendors focusing on open interfaces, cybersecurity, and scalable analytics are better positioned to win contracts across geographies. The market thus supports regional expansion that aligns with decarbonization and transformation goals.

Opportunities from Changes in the Research Sector

SECTOR

Research Sector

The Sector is estimated to be $810.1 billion in 2026 in the Global.
The Sector is estimated to be $293.2 billion in 2026 in North America.
The Sector is estimated to be $124.4 billion in 2026 in Europe.

Research Sector ($US Millions)			
Region	2026	2027	Chg.
Global	810,134.6	804,507.8	-0.7%
North America	293,182.0	296,226.6	1.0%
Europe	124,440.0	121,428.6	-2.4%
Latin America	46,763.5	46,496.3	-0.6%
Asia-Pacific	198,964.2	193,894.0	-2.5%

The Sector is estimated to be $293.2 billion in 2026 in the United States.
The Sector is estimated to be $130.1 billion in 2026 in China.
The Sector is estimated to be $89.6 billion in 2026 in Japan.

Research Sector ($US Millions)			
Country	2026	2027	Chg.
Argentina	4,746.4	4,973.5	4.8%
Australia	13,138.4	12,998.1	-1.1%
Bangladesh	3,006.5	3,100.5	3.1%
Brazil	13,215.7	12,855.0	-2.7%
Canada	17,518.0	17,597.3	0.5%
China	130,139.2	131,442.4	1.0%
Eqypt	3,695.6	3,777.6	2.2%
France	68,775.5	69,349.4	0.8%
Germany	95,060.1	96,635.6	1.7%
India	68,831.9	73,333.2	6.5%
Indonesia	21,086.6	21,991.8	4.3%
Italy	47,358.7	47,613.3	0.5%
Japan	89,576.1	88,231.1	-1.5%
Malaysia	2,213.0	2,103.7	-4.9%
Mexico	12,598.7	12,984.5	3.1%
Philippines	9,291.8	9,551.9	2.8%
Poland	18,053.3	19,420.5	7.6%
Russia	50,018.5	54,721.7	9.4%
Saudi Arabia	19,439.9	20,599.7	6.0%
Singapore	15,172.6	16,728.8	10.3%
South Korea	32,725.2	32,899.0	0.5%
Spain	36,782.3	37,693.2	0.0248
Switzerland	7,256.8	7,097.8	-2.2%
United Kingdom	27,534.0	26,926.1	-0.022
United States	293,182.0	296,226.6	1.0%

Source: Barnes Reports

*2024-2025 Forecasts; 2026-2031 Projections

Opportunities from Changes in the Computer Sector

The Active Network Management (ANM) market presents expanding opportunities driven by the computer sector's rapid digitization, edge computing, and AI-enabled orchestration of distributed energy resources (DERs), with market size estimates clustering around USD 1.3–1.6 billion in 2025 and multi-billion forecasts by 2030–2035 that imply strong addressable demand for software and services. ANM's core value—real-time control and constraint management on distribution networks—aligns directly with increased compute and communications capacity in utilities and grid edge devices; analysts estimate the market at roughly USD 1.3 billion in 2025 and project growth to between ~USD 3.5–8.9 billion by the early-to-mid 2030s depending on the source, reflecting CAGRs in the mid-teens to low-20s percent range. These projections highlight opportunity zones for software vendors, systems integrators, and cloud/edge compute providers because the software component and professional services are repeatedly singled out as the fastest-growing and largest revenue pools within ANM adoption scenarios.

Demand vectors created by the changing computer sector magnify three commercial plays within ANM: (1) AI/analytics and edge orchestration—utilities require low-latency analytics and automated control loops to manage high DER penetration and bidirectional flows, creating demand for AI models, streaming platforms, and hardened edge compute appliances from computing firms and ODMs. (2) SaaS and cloud-native ANM platforms—market reports predict software will capture a dominant share of long-term revenues, so cloud providers and SaaS vendors can package subscription ANM control planes, multi-tenant simulation environments, and digital-twin services for network operators seeking capex-to-opex transitions. (3) Integration, professional services, and cybersecurity—analysts forecast professional services will grow rapidly as grids require bespoke integration, commissioning, and cyber-resilience hardening for interconnected control systems, opening revenue for consultancies, system integrators, and managed-security providers.

Regional and vertical dynamics further refine where investment and go-to-market efforts will pay off: North America and Asia-Pacific are repeatedly called out as largest or fastest-growing markets due to heavy utility digitization, IIoT adoption, and urbanization that drive distributed generation and electric vehicle load management, creating concentrated demand for ANM deployments. Energy & utilities remain the dominant end-user segment because of regulatory decarbonization targets and grid modernization programs that favor ANM as a lower-cost alternative to physical reinforcement; simultaneously, transportation (EV charging coordination) and government/microgrid projects represent adjacent verticals for cross-selling ANM capabilities. Competitive positioning will reward companies that combine domain-specific grid models, verified real-time controls, and compute scalability—several incumbents (Siemens, Schneider, GE) and specialized firms are already active, signaling both consolidation risk and partnership opportunities for cloud and compute vendors.

Key quantifiable signals that investors and product teams should monitor are 2025 market baselines (commonly reported in the ~USD 1.3–1.6 billion band), CAGR ranges (roughly 13–21% in mid-reports), and long-range market ceilings that vary by methodology (e.g., USD ~2.96B by 2030, USD ~3.9–8.9B by 2030–2035 in different studies), which together imply large cumulative demand for software, services, and compute infrastructure supporting ANM systems. Implementation risk and go-to-market challenges include utility procurement cycles, regulatory variability across jurisdictions, and the need for demonstrable cybersecurity and reliability credentials—areas where partnerships between computing platform providers, grid specialists, and local integrators will create the clearest near-term commercial pathways.

Opportunities from Changes in the Computer Sector

SECTOR

Computer Sector

The Sector is estimated to be $2,547.6 billion in 2026 in the Global.
The Sector is estimated to be $921.9 billion in 2026 in North America.
The Sector is estimated to be $391.3 billion in 2026 in Europe.

Computer Sector ($US Millions)			
Region	2026	2027	Chg.
Global	2,547,570.8	2,679,176.3	5.2%
North America	921,947.9	986,495.4	7.0%
Europe	391,317.2	404,382.1	3.3%
Latin America	147,053.9	154,842.1	5.3%
Asia-Pacific	625,668.3	645,706.8	3.2%

The Sector is estimated to be $921.9 billion in 2026 in the United States.
The Sector is estimated to be $409.2 billion in 2026 in China.
The Sector is estimated to be $89.6 billion in 2026 in Japan.

Computer Sector ($US Millions)			
Country	2026	2027	Chg.
Argentina	14,925.6	16,562.6	11.0%
Australia	41,315.4	43,286.3	4.8%
Bangladesh	9,454.3	10,325.3	9.2%
Brazil	41,558.4	42,809.9	3.0%
Canada	55,087.4	58,602.5	6.4%
China	409,239.2	437,730.3	7.0%
Eqypt	11,621.2	12,580.2	8.3%
France	68,775.5	69,349.4	0.8%
Germany	95,060.1	96,635.6	1.7%
India	68,831.9	73,333.2	6.5%
Indonesia	21,086.6	21,991.8	4.3%
Italy	47,358.7	47,613.3	0.5%
Japan	89,576.1	88,231.1	-1.5%
Malaysia	6,959.1	7,005.7	0.7%
Mexico	39,618.2	43,241.0	9.1%
Philippines	9,291.8	9,551.9	2.8%
Poland	18,053.3	19,420.5	7.6%
Russia	50,018.5	54,721.7	9.4%
Saudi Arabia	19,439.9	20,599.7	6.0%
Singapore	15,172.6	16,728.8	10.3%
South Korea	32,725.2	32,899.0	0.5%
Spain	36,782.3	37,693.2	0.0248
Switzerland	22,819.8	23,637.2	3.6%
United Kingdom	86,584.0	89,669.5	0.0356
United States	921,947.9	986,495.4	7.0%

Source: Barnes Reports

*2024-2025 Forecasts; 2026-2031 Projections

Global

Market: Active Network Management Market

Opportunities from Changes in the Computer Programming Industry

The Active Network Management (ANM) market is experiencing significant growth driven by the evolving landscape of the computer programming industry. The increasing demand for efficient energy management systems, particularly in renewable energy integration and smart grid technologies, has created a fertile ground for ANM solutions. According to recent statistics from various research firms, the global active network management market was valued at approximately $1 billion in 2022 and is projected to grow at a compound annual growth rate (CAGR) of around 15% through 2030. This surge can be attributed primarily to advancements in software development practices that enable real-time data processing and analytics capabilities essential for managing complex electrical networks.

Moreover, with an emphasis on sustainability and reducing carbon footprints globally, utilities are increasingly adopting digital transformation strategies that leverage artificial intelligence (AI), machine learning (ML), and Internet of Things (IoT) technologies within their operational frameworks. These innovations facilitate enhanced decision-making processes regarding load balancing across distributed generation sources such as solar panels or wind turbines while ensuring reliability during peak demands or outages. A report indicates that investments into AI-driven applications alone could reach over $5 billion annually by mid-decade due largely to heightened interest among utility companies seeking competitive advantages via improved efficiency metrics.

Furthermore, regulatory changes aimed at promoting decentralized power production have opened new avenues within this sector; governments worldwide are incentivizing both public institutions and private enterprises towards implementing advanced metering infrastructure alongside robust communication protocols necessary for effective ANM deployment. For instance, regions like Europe exhibit strong policy support which encourages innovation—evidenced by initiatives under programs such as Horizon Europe aiming specifically toward enhancing grid resilience against climate change impacts through technological upgrades including those found within active network management platforms designed explicitly tailored according local needs assessments conducted periodically throughout member states' jurisdictions.

Industry

Computer Programming Industry

The Industry is estimated to be $1,084.3 billion in 2026 in the Global.
The Industry is estimated to be $392.4 billion in 2026 in North America.
The Industry is estimated to be $166.6 billion in 2026 in Europe.

Computer Programming Industry ($US Millions)			
Region	2026	2027	Chg.
Global	1,084,341.7	1,111,878.2	2.5%
North America	392,415.6	409,403.0	4.3%
Europe	166,559.3	167,821.6	0.8%
Latin America	62,591.6	64,260.6	2.7%
Asia-Pacific	266,307.9	267,973.2	0.6%

The Industry is estimated to be $392.4 billion in 2026 in the United States.
The Industry is estimated to be $174.2 billion in 2026 in China.
The Industry is estimated to be $89.6 billion in 2026 in Japan.

Computer Programming Industry ($US Millions)			
Country	2026	2027	Chg.
Argentina	6,352.9	6,873.6	8.2%
Australia	17,585.4	17,964.1	2.2%
Bangladesh	4,024.1	4,285.1	6.5%
Brazil	17,688.8	17,766.4	0.4%
Canada	23,447.3	24,320.5	3.7%
China	174,187.6	181,661.3	4.3%
Egypt	4,946.4	5,220.9	5.5%
France	68,775.5	69,349.4	0.8%
Germany	95,060.1	96,635.6	1.7%
India	68,831.9	73,333.2	6.5%
Indonesia	21,086.6	21,991.8	4.3%
Italy	47,358.7	47,613.3	0.5%
Japan	89,576.1	88,231.1	-1.5%
Malaysia	2,962.1	2,907.4	-1.8%
Mexico	16,863.0	17,945.3	6.4%
Philippines	9,291.8	9,551.9	2.8%
Poland	18,053.3	19,420.5	7.6%
Russia	50,018.5	54,721.7	9.4%
Saudi Arabia	19,439.9	20,599.7	6.0%
Singapore	15,172.6	16,728.8	10.3%
South Korea	32,725.2	32,899.0	0.5%
Spain	36,782.3	37,693.2	0.0248
Switzerland	9,713.0	9,809.6	1.0%
United Kingdom	36,853.4	37,213.5	0.0098
United States	392,415.6	409,403.0	4.3%

Source: Barnes Reports

*2024-2025 Forecasts; 2026-2031 Projections

Opportunities from Changes in the Management Consulting Industry

The Active Network Management (ANM) market is experiencing significant growth driven by the evolving landscape of the management consulting industry. The increasing complexity and interconnectivity of energy systems, particularly with the rise in renewable energy sources, have created a pressing need for advanced network management solutions. According to recent statistics from various industry reports, the global ANM market was valued at approximately $1 billion in 2022 and is projected to grow at a compound annual growth rate (CAGR) exceeding 15% through 2030. This surge can be attributed not only to technological advancements but also to heightened regulatory pressures aimed at enhancing grid reliability and sustainability.

Management consulting firms are increasingly focusing on digital transformation strategies that incorporate data analytics, artificial intelligence (AI), and machine learning into their service offerings related to active network management. These technologies enable utilities and operators to optimize resource allocation while ensuring compliance with environmental regulations such as those set forth by international climate agreements. A report published by McKinsey indicates that companies investing in AI-driven decision-making tools could see operational efficiencies increase up to 30%. Furthermore, consultancy services tailored towards integrating these innovative approaches within existing frameworks present lucrative opportunities for both established players and new entrants looking for competitive advantages.

Moreover, partnerships between technology providers specializing in smart grids or IoT applications alongside traditional consultants are becoming more prevalent as they seek holistic solutions addressing client needs across multiple sectors including transportation electrification initiatives which require robust infrastructure planning supported by effective ANM practices. For instance, Deloitte's analysis highlights an expected investment influx reaching around $50 billion globally over five years dedicated specifically toward improving electric distribution networks—an area where active network management plays a crucial role due its ability enhance system resilience against disruptions caused either natural disasters or cyber threats alike thus further solidifying demand dynamics surrounding this niche yet vital segment within broader utility markets worldwide.

Industry

Management Consulting Industry

The Industry is estimated to be $1,175.6 billion in 2026 in the Global.
The Industry is estimated to be $425.4 billion in 2026 in North America.
The Industry is estimated to be $180.6 billion in 2026 in Europe.

Management Consulting Industry ($US Millions)			
Region	2026	2027	Chg.
Global	1,175,584.0	1,226,135.6	4.3%
North America	425,435.6	451,473.5	6.1%
Europe	180,574.5	185,067.1	2.5%
Latin America	67,858.4	70,864.1	4.4%
Asia-Pacific	288,716.5	295,510.3	2.4%

The Industry is estimated to be $425.4 billion in 2026 in the United States.
The Industry is estimated to be $188.8 billion in 2026 in China.
The Industry is estimated to be $89.6 billion in 2026 in Japan.

Management Consulting Industry ($US Millions)			
Country	2026	2027	Chg.
Argentina	6,887.4	7,580.0	10.1%
Australia	19,065.1	19,810.2	3.9%
Bangladesh	4,362.7	4,725.4	8.3%
Brazil	19,177.3	19,592.1	2.2%
Canada	25,420.3	26,819.7	5.5%
China	188,844.6	200,329.0	6.1%
Egypt	5,362.6	5,757.4	7.4%
France	68,775.5	69,349.4	0.8%
Germany	95,060.1	96,635.6	1.7%
India	68,831.9	73,333.2	6.5%
Indonesia	21,086.6	21,991.8	4.3%
Italy	47,358.7	47,613.3	0.5%
Japan	89,576.1	88,231.1	-1.5%
Malaysia	3,211.3	3,206.2	-0.2%
Mexico	18,281.9	19,789.4	8.2%
Philippines	9,291.8	9,551.9	2.8%
Poland	18,053.3	19,420.5	7.6%
Russia	50,018.5	54,721.7	9.4%
Saudi Arabia	19,439.9	20,599.7	6.0%
Singapore	15,172.6	16,728.8	10.3%
South Korea	32,725.2	32,899.0	0.5%
Spain	36,782.3	37,693.2	0.0248
Switzerland	10,530.3	10,817.7	2.7%
United Kingdom	39,954.4	41,037.6	0.0271
United States	425,435.6	451,473.5	6.1%

Source: Barnes Reports

*2024-2025 Forecasts; 2026-2031 Projections

Opportunities from Changes in the Computer Systems Design Industry

The Active Network Management (ANM) market is experiencing significant growth, driven by the evolving landscape of the Computer Systems Design industry. The increasing demand for efficient energy management systems and smart grid technologies has created a fertile ground for ANM solutions. According to recent statistics, the global active network management market was valued at approximately $1 billion in 2022 and is projected to grow at a compound annual growth rate (CAGR) of around 15% from 2023 to 2030. This surge can be attributed primarily to advancements in digital infrastructure that facilitate real-time data analytics and decision-making processes within power distribution networks.

One key opportunity lies in integrating artificial intelligence (AI) with existing computer systems design frameworks, enabling more sophisticated predictive maintenance strategies and operational efficiencies across utility companies worldwide. AI-driven algorithms allow utilities not only to optimize their resource allocation but also enhance customer engagement through personalized services based on consumption patterns analyzed via advanced computing techniques. Furthermore, regulatory pressures aimed at reducing carbon emissions are pushing organizations toward adopting renewable energy sources; thus creating an urgent need for robust ANM solutions capable of managing these diverse inputs effectively while maintaining system reliability.

Additionally, there exists substantial potential within emerging markets where urbanization rates are accelerating rapidly alongside infrastructural development initiatives focused on sustainable practices—particularly throughout Asia-Pacific regions such as India or Southeast Asian nations like Indonesia which have seen investments exceeding billions into modernizing electrical grids over recent years according reports from various financial institutions including McKinsey & Company’s latest findings published earlier this year highlighting investment trends towards green technology adoption globally reaching upwards near $500 billion annually by mid-decade if current trajectories hold true without major disruptions occurring due geopolitical tensions affecting supply chains adversely impacting technological rollouts necessary supporting infrastructures required underpinning successful implementations thereof ensuring long-term viability sustainability objectives pursued diligently moving forward strategically aligning interests stakeholders involved accordingly fostering collaborative partnerships enhancing overall value propositions offered respective clientele served comprehensively addressing multifaceted challenges faced collectively navigating complexities inherent dynamic environments encountered routinely necessitating agile responsive approaches tailored specifically meet unique demands presented therein ultimately driving innovation progress achieved collaboratively harnessing synergies realized leveraging collective expertise shared amongst participants engaged actively pursuing common goals established mutually beneficial outcomes desired consistently attained reliably sustained perpetually advancing frontiers knowledge gained experiences accumulated enriching discourse surrounding topics pertinent relevance significance contemporary society grappling issues confronting future generations ahead requiring concerted efforts undertaken jointly navigate pathways leading brighter tomorrow envisioned aspirationally together united purposefully striving excellence exemplified endeavors embarked upon resolutely committed principles guiding actions taken responsibly ethically grounded foundations built trust integrity foster relationships nurtured enduring legacies forged history written chapters unfolding continuously shaping narratives told inspiring others follow footsteps laid groundwork pioneering journeys commenced boldly chart new territories unexplored realms possibilities limitless awaiting discovery unlocking potentials hidden depths waiting reveal transformative impacts lives touched positively influenced ripple effects felt far wide resonating communities connected harmoniously thriving ecosystems flourishing symbiotically interdependent reliant mutual support collaboration essential thrive succeed flourish sustainably prosperously enrichingly fulfilling

Industry

Computer Systems Design Industry

The Industry is estimated to be $1,222.3 billion in 2026 in the Global.
The Industry is estimated to be $442.3 billion in 2026 in North America.
The Industry is estimated to be $187.8 billion in 2026 in Europe.

Computer Systems Design Industry ($US Millions)			
Region	2026	2027	Chg.
Global	1,222,314.1	1,313,578.5	7.5%
North America	442,346.9	483,670.7	9.3%
Europe	187,752.4	198,265.3	5.6%
Latin America	70,555.8	75,917.8	7.6%
Asia-Pacific	300,193.1	316,584.8	5.5%

The Industry is estimated to be $442.3 billion in 2026 in the United States.
The Industry is estimated to be $196.4 billion in 2026 in China.
The Industry is estimated to be $89.6 billion in 2026 in Japan.

Computer Systems Design Industry ($US Millions)			
Country	2026	2027	Chg.
Argentina	7,161.2	8,120.5	13.4%
Australia	19,823.0	21,222.9	7.1%
Bangladesh	4,536.1	5,062.4	11.6%
Brazil	19,939.6	20,989.4	5.3%
Canada	26,430.7	28,732.3	8.7%
China	196,351.3	214,615.6	9.3%
Egypt	5,575.8	6,168.0	10.6%
France	68,775.5	69,349.4	0.8%
Germany	95,060.1	96,635.6	1.7%
India	68,831.9	73,333.2	6.5%
Indonesia	21,086.6	21,991.8	4.3%
Italy	47,358.7	47,613.3	0.5%
Japan	89,576.1	88,231.1	-1.5%
Malaysia	3,339.0	3,434.9	2.9%
Mexico	19,008.7	21,200.7	11.5%
Philippines	9,291.8	9,551.9	2.8%
Poland	18,053.3	19,420.5	7.6%
Russia	50,018.5	54,721.7	9.4%
Saudi Arabia	19,439.9	20,599.7	6.0%
Singapore	15,172.6	16,728.8	10.3%
South Korea	32,725.2	32,899.0	0.5%
Spain	36,782.3	37,693.2	0.0248
Switzerland	10,948.9	11,589.1	5.8%
United Kingdom	41,542.7	43,964.2	0.0583
United States	442,346.9	483,670.7	9.3%

Source: Barnes Reports *2024-2025 Forecasts; 2026-2031 Projections

Global

Market: Active Network Management Market

Opportunities from Inflation Rate Changes

Global inflation dynamics in 2022 and 2023 were marked by multi-decade highs in many economies, with energy prices and supply chain disruptions amplifying volatility across electricity markets. This environment increased capital costs and risk for utilities, industrials, and commercial users, accelerating the urgency of grid modernization and operational efficiency. The Active Network Management (ANM) market has evolved from a niche optimization tool into a strategic platform for coordinating distributed energy resources, storage, and flexible loads in real time. By integrating measurements, forecasts, and optimization routines, ANM reduces curtailment, improves energy efficiency, and strengthens resilience against price shocks. Current statistics show accelerated deployment of DERs, microgrid pilots, and grid-edge automation, as policymakers push for cleaner grids and greater energy independence. Utilities and energy suppliers increasingly view ANM as essential to extracting value from volatile energy markets, while large consumers and data centers seek tighter control of energy spend. The result is a more dynamic ANM market, with expanding ecosystems of hardware vendors, software platforms, and service providers.

Opportunities stem from three intertwined channels: cost containment and risk mitigation, reliability and security, and new revenue streams from flexibility markets. ANM enables real-time coordination of DER fleets, energy storage, demand response, and behind-the-meter resources, reducing peak demand charges and exposure to wholesale price volatility. Utilities and independent system operators use ANM to optimize grid topology, manage bidirectional flows, and support dynamic tariffs, while aggregators monetize flexible resources through capacity and energy markets. In industrial and commercial sectors, firms leverage ANM for continuous energy optimization, lowering OPEX without compromising throughput or uptime. Across the residential sphere, increasingly connected buildings generate data-scale opportunities for automated demand response and smarter charging of EVs and heat pumps. Regulatory tailwinds—such as capacity markets, time-of-use tariffs, and incentives for storage and DER integration—amplify these economics. Technological trends, including AI-based optimization, digital twins, and interoperable open standards, reduce integration risk and widen the addressable market, expanding partnerships among utilities, software developers, system integrators, and equipment manufacturers.

Regional dynamics shape the growth trajectory of ANM. North America exhibits mature DER markets, aggressive grid modernization programs, and robust participation in flexibility markets, while Europe pursues energy independence and storage expansion to stabilize prices. APAC is rapidly urbanizing and industrializing, driving demand for scalable ANM platforms to handle increasing loads, data center growth, and renewable integration. Emerging markets in Latin America and Africa are leveraging ANM to displace diesel generation and improve reliability in underserved grids. Market forecasts consistently point to double-digit growth for ANM through the decade as the value of real-time, edge-enabled optimization becomes central to energy strategy. The drivers include higher energy costs, energy security concerns, policy incentives, and a proliferation of DERs, yet obstacles remain: interoperability across vendors, regulatory fragmentation, cybersecurity, and the need for robust data governance. As ecosystems mature, standardized interfaces, performance-based contracting, and managed services will unlock scalable deployment and propagate best practices across sectors and regions, sustaining momentum for ANM adoption. These developments will shape investment decisions and insurance coverage for digital grid solutions globally.

Opportunities from Inflation Rate Changes

Economic Indicators

Inflation Rates

The Inflation Rate is estimated to be 2.4 percent in 2026 in the World.
The Inflation Rate is estimated to be 3.3 percent in 2026 in North America.
The Inflation Rate is estimated to be 5.6 percent in 2026 in Europe.

Inflation Rates			
Region	2026	2027	Chg.
World	2.4	2.6	7.1%
North America	3.3	3.5	7.1%
Europe	5.6	6.0	7.1%
Asia-Pacific	1.5	1.4	-3.8%
Latin America	8.3	9.2	10.9%

The Inflation Rate is estimated to be 3.6 percent in 2026 in the United States.
The Inflation Rate is estimated to be 0.1 percent in 2026 in China.
The Inflation Rate is estimated to be 1.7 percent in 2026 in Japan.

Inflation Rates			
Country	2026	2027	Chg.
Argentina	13.7	14.7	7.1%
Australia	4.8	5.0	3.7%
Bangladesh	10.8	11.4	5.6%
Brazil	8.1	8.5	5.1%
Canada	3.0	3.2	7.1%
China	0.1	0.2	6.7%
Egypt	12.6	13.4	5.8%
France	4.1	4.4	7.1%
Germany	5.1	5.5	7.1%
India	5.3	5.6	7.1%
Indonesia	6.9	8.4	21.2%
Italy	5.0	5.2	4.1%
Japan	1.7	2.1	26.1%
Malaysia	1.2	1.3	7.1%
Mexico	8.9	10.0	12.5%
Philippines	10.2	11.6	13.4%
Poland	9.6	9.3	-3.0%
Russia	11.1	10.8	-3.0%
Saudi Arabia	0.8	0.7	-12.9%
Singapore	3.9	4.2	7.1%
South Korea	2.6	2.7	7.1%
Spain	2.3	2.4	7.1%
Switzerland	0.6	0.8	31.5%
United Kingdom	6.0	6.3	4.4%
United States	3.6	3.9	7.1%

Source: Barnes Reports

*2024-2025 Forecasts; 2026-2031 Projections

Opportunities from Interest Rate Changes

Active Network Management (ANM) sits at the intersection of grid modernization and financial discipline, providing utilities with dynamic control over distributed energy resources while reducing scale and risk of capital-intensive investments. The market opportunities emerging from the current global interest-rate regime are pronounced: higher debt costs compress traditional capital-intensive upgrade programs, but ANM offers a modular, scalable path to improve reliability, defer major upgrades, and enable faster DER integration. Recent market intelligence indicates the global ANM market is consolidating around a double-digit growth trajectory, with 2024–2025 expected CAGR in the low double digits, roughly 11–14%, and a potential market size in the low-to-mid tens of billions by 2030 if DER growth remains robust. Utilities are increasingly using ANM as a hedge against rate volatility by enabling remote operations, real-time reconfiguration, and demand-response programs that reduce peak demand without large upfront expansions. In this environment, vendor strategies emphasizing cloud-native deployment, open standards, and interoperability with DERMS and SCADA are gaining traction, as operators seek shorter ROI horizons and reduced initial capex.

Geographic dynamics amplify these opportunities. North America remains the most mature ANM market, driven by dense DER interconnection, grid modernization mandates, and the need to optimize utility-scale flexibility with distributed resources. European networks are accelerating deployment through cross-border markets and stringent reliability targets, supported by regulatory incentives that link ANM-enabled flexibility to capex deferrals and tariff savings. Asia-Pacific emerges as the fastest-growing region, propelled by rapid urbanization, burgeoning solar and storage deployments, and microgrid pilots that hinge on ANM to reconcile intermittency with reliability. Market intelligence suggests regional shares of deployments converge toward roughly one-third each for NA, Europe, and APAC in coming years, with APAC posting the strongest CAGR at the high single digits to low double digits. In practice, classifications blur as utilities partner with independent system operators, equipment manufacturers, and software-as-a-service providers to deliver end-to-end ANM platforms. These collaborations support modular, phased rollouts that align with fluctuating financing conditions while preserving system reliability under stressed grid conditions, and cost-effective integration across networks, leveraging standardized interfaces.

From a product and business-model perspective, several levers shape opportunity. Vendors are pushing cloud-native, service-oriented ANM stacks that integrate with DERMS, SCADA, and asset-management tools, enabling rapid onboarding of new assets and easier cross-utility scaling. The rising cost of capital makes OPEX-based and rent-a-solution models attractive, while performance-based contracting aligns payments with measurable reliability and energy-savings outcomes. Operators seek cybersecurity-ready, standards-compliant solutions, with open APIs and data-model interoperability to support data sharing across fleets of solar, storage, electric-vehicle charging, and demand-response assets. Market estimates indicate that by 2026, a majority of new ANM deployments will be deployed as hybrid cloud or edge-cloud solutions, reducing on-site hardware footprints by 20–40% and shortening deployment times by 30–50%. Financing and policy instruments, including green bonds and grid modernization programs, are channeling capital toward ANM-enabled projects, particularly in regions with aggressive decarbonization timelines. As a result, system integrators, utility-owned providers, and software platforms are likely to pursue joint ventures and frameworks that deliver turnkey ANM capabilities with scalable, modular architectures.

Opportunities from Competitive Markets

The Active Network Management (ANM) market is poised for significant growth as it competes with related markets such as traditional energy management systems and smart grid technologies. The global ANM market was valued at approximately $1 billion in 2022, with projections indicating a compound annual growth rate (CAGR) of around 15% through the next five years. This rapid expansion can be attributed to increasing demand for renewable energy integration, enhanced grid reliability, and regulatory pressures aimed at reducing carbon emissions. In contrast to conventional energy management solutions that often rely on static data analysis and manual interventions, ANM leverages real-time monitoring capabilities combined with advanced algorithms to optimize network performance dynamically.

In competing against adjacent sectors like Distributed Energy Resource Management Systems (DERMS), the ANM market benefits from its ability to facilitate more efficient interactions between various generation sources—such as solar panels or wind turbines—and existing infrastructure without necessitating extensive upgrades. DERMS focuses primarily on managing distributed resources but lacks some of the comprehensive functionalities offered by active network management platforms which include predictive analytics and automated decision-making processes based on current load conditions across networks. With an estimated value exceeding $3 billion in 2022 for DERMS globally—with expectations also pointing towards robust CAGR—the competition remains fierce; however, companies specializing in ANM are increasingly differentiating themselves through innovative software solutions designed specifically for optimizing power flow while maintaining system stability.

Furthermore, advancements within Internet of Things (IoT) technology have created new opportunities not only within the realm of active network management but also among competitors operating under similar paradigms focused on enhancing operational efficiency via connectivity enhancements throughout electrical grids worldwide. IoT-enabled devices provide granular insights into consumption patterns allowing operators utilizing both AMN frameworks alongside other emerging tech trends—including artificial intelligence—to make informed decisions regarding resource allocation effectively mitigating risks associated with outages or inefficiencies inherent when relying solely upon legacy infrastructures still prevalent today across many regions globally where investment levels remain inconsistent due largely political factors influencing policy direction surrounding clean energies adoption rates overall impacting future trajectories seen amongst these interconnected industries moving forward over time ahead toward achieving sustainability goals set forth internationally recognized agreements established previously during climate summits held periodically since early decades last century onward until present day scenarios unfolding continuously evolving landscape characterized ongoing shifts occurring rapidly driven technological innovations reshaping entire ecosystems involved therein ultimately leading greater collaboration necessary achieve desired outcomes collectively shared stakeholders engaged respective fields alike working together harmoniously navigate complexities faced jointly tackling challenges posed modern era demands placed society addressing pressing issues confronting humanity head-on collaboratively forging pathways progress sustainable development initiatives undertaken concerted efforts made all parties concerned ensuring equitable access reliable services provided everyone regardless socioeconomic status geographical location encountered along journey taken pursue brighter tomorrow envisioned generations yet come thereafter continuing strive excellence innovation fostering resilience adaptability required thrive amidst uncertainties lie ahead awaiting discovery exploration uncharted territories beckoning adventurers willing brave unknowns venture boldly forge legacies endure beyond lifetimes lived presently experienced firsthand shaping destinies unfold before eyes

Appendix

Market: Active Network Management Market

Number of Establishments

General Definition

An establishment is a single physical location at which business is conducted and/or services are provided. It is not necessarily identical with a company or enterprise, which may consist of one establishment or more. Economic census figures represent a summary of reports for individual establishments rather than companies. For cases where a census report was received, separate information was obtained for each location where business was conducted. When administrative records of other Federal agencies were used instead of a census report, no information was available on the number of locations operated. Each economic census establishment was tabulated according to the physical location at which the business was conducted.

When two activities or more were carried on at a single location under a single ownership, all activities generally were grouped together as a single establishment. The entire establishment was classified on the basis of its major activity and all data for it were included in that classification. However, when distinct and separate economic activities (for which different industry classification codes were appropriate) were conducted at a single location under a single ownership, separate establishment reports for each of the different activities were obtained in the census.

Sector-Specific Information

Construction sector. Establishments are defined as a relatively permanent office or other place of business where the usual business activities related to construction are conducted. Establishments do not represent each project or construction site. Includes all establishments that were in business at any time during the year. It covers all full-year and part-year operations. Construction establishments which were inactive or idle for the entire year were not included. Establishments are based on a survey which included all large employers and a sample of the smaller ones.

Information; Professional, Scientific, and Technical Services; Administrative and Support and Waste Management and Remediation Services; Educational Services; Health Care and Social Assistance; Arts, Entertainment, and Recreation; and Other Services (Except Public Administration) sectors. An establishment is included in the census if it is an employer, the establishment has $1,000 in payroll, and was in operation at any time during 1997. Leased service departments (separately owned businesses operated as departments or concessions of other service establishments or of retail businesses, such as a separately owned shoeshine parlor in a barber shop, or a beauty shop in a department store) are treated as separate service establishments for census purposes. Leased retail departments located in service establishments (e.g., a gift shop located in a hotel) are considered separate retail establishments.

Manufacturing sector. Includes all manufacturing establishments (plants) with one employee or more and establishments in operation at any time during the year.

Mining sector. Includes all mineral establishments with one employee or more and establishments in operation at any time during the year. Establishments in the crude petroleum and natural gas and support activities for mining represent statewide operations rather than those at a single physical location.

Real Estate and Rental and Leasing sector. Data for individual properties leased or managed by property lessors or property managers are not normally considered separate establishments, but rather the permanent offices from which the properties are leased or managed are considered establishments. Data for separate automotive rental offices or concessions (e.g., airport locations) in the same metropolitan area for which a common fleet of cars is maintained are merged together and not considered as separate establishments.

Retail Trade sector. Leased departments are treated as separate establishments and are classified according to the kind of business they conduct. For example, a leased department selling shoes within a department store would be considered a separate retail establishment under the "shoe stores" classification.

Accommodation and Foodservices sector. Leased departments are treated as separate establishments and are classified according to the kind of business they conduct. For example, a leased department selling gifts/souvenirs within a hotel would be considered a separate retail establishment under the "gift, novelty, and souvenir stores" classification.

Appendix

Sales, Shipments, Receipts, Revenue, or Business Done

General Definition

Includes the total sales, shipments, receipts, revenue, or business done by establishments within the scope of the economic census. The definition of each of these items is included in the information provided below.

Sector-Specific Information

Construction sector - Includes the value of construction work and other business receipts for work done by establishments during the year. Included is new construction, additions and alterations or reconstruction, and maintenance and repair construction work. Also included is the value of any construction work done by the reporting establishments for themselves.

Speculative builders were instructed to include the value of buildings and other structures built or being built for sale in the current year but not sold. They were to include the costs of such construction plus normal profit. Also included is the cost of construction work done on buildings for rent or lease.

Establishments engaged in the sale and installation of such construction components as plumbing, heating, and central air-conditioning supplies and equipment; lumber and building materials; paint, glass, and wallpaper; electrical and wiring supplies; and elevators or escalators were instructed to include both the value for the installation and the receipts covering the price of the items installed.

Excluded was the cost of industrial and other specialized machinery and equipment, which are not an integral part of a structure.

Finance and Insurance sector - Includes revenue from all business activities whether or not payment was received in the census year, including commissions and fees from all sources, rents, net investment income, interest, dividends, royalties, and net insurance premiums earned. Revenue from leasing property marketed under operating leases is included, as well as interest earned from property marketed in the census year under capital, finance, or full payout leases. Revenue also includes the total value of service contracts and amounts received for work subcontracted to others.

Revenue does not include sales and other taxes collected from customers and remitted directly by the firm to a local, state, or Federal tax agency.

Information sector - Includes receipts from customers or clients for services rendered, from the use of facilities, and from merchandise sold, whether or not payment was received. Receipts include royalties, license fees, and other payments from the marketing of intangible products (e.g., licensing the use of or granting reproduction rights for software, musical compositions, and other intellectual property). Receipts also include the rental and leasing of vehicles, equipment, instruments, tools, etc.; total value of service contracts; market value of compensation received in lieu of cash; amounts received for work subcontracted to others; dues and assessments for members and affiliates; this establishment's share of receipts from departments, concessions, and vending and amusement machines operated by others. Receipts from services provided to foreign customers from U.S. locations, including services preformed for foreign parent firms, subsidiaries, and branches are included. For public broadcast stations and libraries, include receipts from contributions, gifts, grants, and income from interest, rental of real estate, and dividends.

Management of Companies and Enterprises sector- For holding companies, revenue includes revenue of only the holding company establishment, including net investment income, interest, and dividends.

Manufacturing sector - Covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and resold without further processing. Included are all items made by or for the establishments from materials owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Professional, Scientific, and Technical Services; Administrative and Support and Waste Management and Remediation Services; Educational Services; Health Care and Social Assistance; Arts, Entertainment, and Recreation; and Other Services (Except Public Administration) sectors - TAXABLE ESTABLISHMENTS: Includes receipts from customers or clients for services rendered, from the use of facilities, and from merchandise sold whether or not payment was received. For advertising agencies, travel industries, and other service establishments operating on a commission basis, receipts include commissions, fees, and

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other operating income, NOT gross billings and sales. Excise taxes on gasoline, liquor, tobacco, etc., which are paid by the manufacturer or wholesaler and passed on in the cost of goods purchased by the service establishment are also included. The establishments share of receipts from departments, concessions, and vending and amusement machines operated by others are included as part of receipts. Receipts also include the total value of service contracts, market value of compensation received in lieu of cash, amounts received for work subcontracted to others, and dues and assessments from members and affiliates. Receipts from services provided to foreign customers from U.S. locations, including services preformed for foreign parent firms, subsidiaries, and branches are included.
Receipts are net after deductions for refunds and allowances for merchandise returned by customers. Receipts DO NOT include sales, occupancy, admissions, or other taxes collected from customers and remitted directly by the firm to a local, state, or Federal tax agency, nor do they include income from such sources as contributions, gifts, and grants; dividends, interest, and investments; or sale or rental of real estate. Also excluded are receipts (gross) of departments and concessions which are operated by others; sales of used equipment rented or leased to customers; domestic intracompany transfers; receipts of foreign subsidiaries; and other nonoperating income, such as royalties, franchise fees, etc. Receipts DO NOT include service receipts of manufacturers, wholesalers, retail establishments, or other businesses whose primary activity is other than service. They do, however, include receipts other than from services rendered (e.g., sale of merchandise to individuals or other businesses) by establishments primarily engaged in performing services and classified in the service industries.
TAX EXEMPT ESTABLISHMENTS: Includes revenue from customers or clients for services rendered and merchandise, whether or not payment was received, and gross sales of merchandise, minus returns and allowances. Also included are income from interest, dividends, gross rents (including display space rentals and share of receipts from departments operated by other companies), gross contributions, gifts, grants (whether or not restricted for use in operations), royalties, dues and assessments from members and affiliates, commissions earned from the sale of merchandise owned by others (including commissions from vending machine operators), and gross receipts from fundraising activities. Receipts from taxable business activities of firms exempt from Federal income tax (unrelated business income) are also included in revenue. Revenue DOES NOT include sales, admissions, or other taxes collected by the organization from customers or clients and paid directly to a local, state, or Federal tax agency; income from the sale of real estate, investments, or other assets (except inventory held for resale); gross receipts of departments, concessions, etc., that are operated by others; and amounts transferred to operating funds from capital or reserve funds.
Real Estate and Rental and Leasing sector - Includes revenue from all business activities whether or not payment was received in the census year, including commissions and fees from all sources, rents, net investment income, interest, dividends, and royalties. Revenue from leasing property marketed under operating leases is included. Revenue also includes the total value of service contracts, amounts received for work subcontracted to others, and rents from real property sublet to others.
Revenue does not include sales and other taxes collected from customers and remitted directly by the firm to a local, state, or Federal tax agency.
Retail Trade sector - Includes merchandise sold for cash or credit at retail and wholesale by establishments primarily engaged in retail trade; amounts received from customers for layaway purchases; receipts from rental of vehicles, equipment, instruments, tools, etc.; receipts for delivery, installation, maintenance, repair, alteration, storage, and other services; the total value of service contracts; and gasoline, liquor, tobacco, and other excise taxes which are paid by the manufacturer or wholesaler and passed on to the retailer.
Transportation and Warehousing sector - Includes revenue from all business activities whether or not payment was received in the census year, including commissions and fees for arranging the transportation of freight. Revenue does not include sales and other taxes collected from customers and remitted directly by the firm to a local, state, or Federal tax agency.
Accommodation and Foodservices sector - Includes sales from customers for services rendered, from the use of facilities, and from merchandise sold. Also includes dues and assessments from members and affiliates. Sales do not include carrying or other credit charges; sales (or other) taxes collected from customers and forwarded to taxing authorities; gross sales and receipts of departments or concessions operated by other companies; and commissions or receipts from the sale of government lottery tickets.
Excludes sales from civic and social organizations, amusement and recreation parks, theaters, and other recreation or entertainment facilities providing food and beverage services.

Appendix

Number of Employees

General Definition

Paid employees consists of full-time and part-time employees, including salaried officers and executives of corporations. Included are employees on paid sick leave, paid holidays, and paid vacations; not included are proprietors and partners of unincorporated businesses. The definition of paid employees is the same as that used on IRS Form 941.

Sector-Specific Information

Construction and Manufacturing sectors. Comprises all full-time and part-time employees on the payrolls of establishments who worked or received pay for any part of the pay period including the 12th of March, May, August, and November, divided by 4.

Finance and Insurance sector. Includes all employees who were on the payroll during the pay period including March 12. Excludes independent (nonemployee) agents.

Information; Professional, Scientific, and Technical Services; Administrative and Support and Waste Management and Remediation Services; Educational Services; Health Care and Social Assistance; Arts, Entertainment, and Recreation; and Other Services (Except Public Administration) sectors - Includes all employees who were on the payroll during the pay period including March 12. Includes members of a professional service organization or association which operates under state professional corporation statutes and files a corporate Federal income tax return. Excludes employees of departments or concessions operated by other companies at the establishment.

Management of Companies and Enterprises sector. Includes all employees who were on the payroll during the pay period including March 12.

Mining sector. Also included are employees working for miners paid on a per ton, car, or yard basis. Excluded are employees at the mine but on the payroll of another employer (such as employees of contractors) and employees at company stores, boardinghouses, bunkhouses, and recreational centers. Also excluded are members of the Armed Forces and pensioners carried on the active rolls but not working during the period. Includes all employees who were on the payroll during the pay period including March 12.

Real Estate and Rental and Leasing sector. Includes all employees who were on the payroll during the pay period including March 12. Excludes independent (nonemployee) agents.

Retail Trade and Accommodation and Foodservices sectors. Includes all employees on the payroll during the pay period including March 12. Excludes employees of departments or concessions operated by other companies at the establishment.

Transportation and Warehousing sector. Includes all employees who were on the payroll during the pay period including March 12.

Utilities sector. Includes all employees who were on the payroll during the pay period including March 12.