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Power-Outage Management and Resilience Solutions Market Forecasts to 2034 – Global Analysis By Solution Type (Outage Detection & Monitoring Systems, Automated Fault Isolation & Restoration (FLISR), Backup Power & Distributed Energy Resources (DERs), Grid Hardening & Infrastructure Reinforcement, Microgrids & Islanding Solutions and Emergency Communication & Customer Engagement Platforms), Technology, Application, End User and By Geography

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Abstracts

According to Stratistics MRC, the Global Power-Outage Management and Resilience Solutions Market is accounted for $2.0 billion in 2026 and is expected to reach $7.5 billion by 2034 growing at a CAGR of 18.0% during the forecast period. Power outage management and resilience strategies aim to reduce service interruptions, accelerate restoration, and improve the robustness of electricity networks. They utilize technologies such as intelligent monitoring, data-driven forecasting, automated fault isolation, and real-time communication systems to detect and resolve issues swiftly. Utilities enhance resilience by adopting smart grid technologies, decentralized energy generation, and battery storage solutions to maintain supply continuity. Effective emergency response planning, including efficient workforce allocation and customer alert systems, supports faster recovery. Furthermore, strengthening infrastructure, enhancing cybersecurity, and preparing for climate-related risks enable utilities to handle extreme conditions, ultimately lowering outage occurrences and ensuring a more stable power system.

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According to U.S. Department of Energy, data shows $3.46 billion was awarded under the Grid Resilience and Innovation Partnerships (GRIP) program in 2023 to fund 58 projects across 44 states. These projects include advanced outage detection, automated restoration, and resilience upgrades.

Market Dynamics:

Driver:

Increasing frequency of extreme weather events

The rising incidence of severe climatic conditions, including storms, floods, wildfires, and heatwaves, is strongly fueling demand for outage management and resilience technologies. Such events damage power infrastructure and lead to extended service disruptions and economic setbacks. In response, utilities are deploying advanced weather prediction tools, strengthening grid systems, and enhancing emergency response capabilities. Solutions like real-time monitoring and data-driven insights help detect faults quickly and restore services efficiently. Regulatory bodies are also mandating improved grid resilience. With climate variability increasing worldwide, the emphasis on building durable and adaptive power networks is becoming more critical.

Restraint:

High initial investment and implementation costs

Significant capital expenditure is required to implement outage management and resilience technologies, making it a major market constraint. Utilities need to invest heavily in modern infrastructure, digital systems, communication networks, and storage solutions. Beyond deployment, expenses related to workforce training, system integration, and ongoing maintenance add to the overall cost. For smaller providers and emerging economies, these financial demands can be challenging to meet. Furthermore, delayed financial returns reduce investment attractiveness. Consequently, the high cost of adoption acts as a barrier, limiting the rapid expansion of advanced resilience solutions across various regions.

Opportunity:

Adoption of advanced analytics and AI technologies

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The use of advanced data analytics and artificial intelligence presents significant growth prospects for outage management and resilience solutions. These technologies allow utilities to predict potential failures, monitor systems in real time, and make informed decisions based on data insights. By leveraging AI, utilities can minimize downtime and improve response strategies. Machine learning algorithms also enhance system performance over time. As the energy industry embraces digital transformation, the demand for intelligent, data-driven solutions continues to grow. This creates opportunities for companies to develop innovative tools that improve efficiency and strengthen grid reliability.

Threat:

Rapid technological obsolescence

The quick evolution of technology presents a challenge for outage management and resilience solutions. Innovations in digital tools and systems can render existing solutions outdated in a short period. Utilities that invest heavily in current technologies may struggle to recover costs if newer options emerge quickly. Regular upgrades and replacements lead to increased expenses and operational challenges. Employees must also continuously adapt to new systems, requiring additional training. This constant change creates uncertainty for decision-makers when planning long-term investments. Therefore, rapid technological change acts as a significant threat to sustained growth in the market.

Covid-19 Impact:

The COVID-19 outbreak created both challenges and opportunities for the outage management and resilience solutions market. During the early stages, project delays occurred due to lockdown restrictions, disrupted supply chains, and limited workforce availability, impacting infrastructure development. Field operations and system upgrades were also slowed. At the same time, the pandemic emphasized the critical need for continuous power supply to support hospitals, remote working, and online services. This situation drove utilities to invest in advanced technologies such as automation, digital monitoring, and smart grids, ultimately boosting efforts to enhance system reliability and strengthen power resilience.

The outage detection & monitoring systems segment is expected to be the largest during the forecast period

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The outage detection & monitoring systems segment is expected to account for the largest market share during the forecast period, as they are essential for maintaining real-time awareness of power grid performance. These solutions help utilities promptly detect faults, pinpoint outage locations, and evaluate the scale of disruptions. Using technologies such as smart meters, sensors, and advanced analytics, they enable faster response and minimize service interruptions. Ongoing system monitoring also supports preventive maintenance and improves overall efficiency. With increasing grid complexity driven by digital transformation and renewable energy integration, the need for dependable monitoring solutions continues to rise, strengthening their leading market position.

The residential communities & housing associations segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the residential communities & housing associations segment is predicted to witness the highest growth rate, driven by the rising need for consistent power supply at the household level. Increasing use of smart home devices, solar panels, and energy storage systems is boosting demand for localized energy solutions. These communities are adopting microgrids, backup systems, and advanced energy management tools to maintain power during disruptions. Heightened awareness of energy reliability and climate risks further supports adoption. This transition toward decentralized and self-sustaining energy systems is fueling rapid expansion in this segment.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share, supported by its well-developed energy infrastructure and rapid adoption of advanced technologies. Utilities actively implement smart grids, automated systems, and real-time monitoring tools to improve service reliability and minimize outages. The region’s exposure to severe weather conditions, including storms and wildfires, increases the demand for robust solutions. Supportive government policies and funding initiatives encourage modernization efforts. Furthermore, the strong presence of leading technology companies and high expectations for reliable electricity supply reinforce North America’s leading position in the market.

Region with highest CAGR:

Over the forecast period, the Asia-Pacific region is anticipated to exhibit the highest

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CAGR, driven by increasing urban development, rising electricity consumption, and continuous efforts to modernize power infrastructure. Governments and utilities are making significant investments in smart grids, renewable energy systems, and digital technologies to enhance grid stability and minimize disruptions. In many developing regions, recurring power outages create strong demand for advanced solutions. Supportive policies for electrification and infrastructure development further boost adoption. Moreover, rapid industrial growth and the expansion of decentralized energy systems are contributing to the region’s accelerated market growth.

Key players in the market

Some of the key players in Power-Outage Management and Resilience Solutions Market include ABB Ltd., General Electric Company, Schneider Electric, Siemens AG, Oracle Corporation, CGI Inc., Futura Systems Inc., Hexagon, GE Digital, Milsoft Utility Solutions, Survalent Technology, Hitachi Energy, Advanced Control Systems Inc., ETAP, Landis+Gyr, Trimble Utilities, AVEVA and Itron Inc.

Key Developments:

In December 2025, ABB and HDF Energy have signed a joint development agreement (JDA) to co-develop a high-power, megawatt-class hydrogen fuel cell system designed for use in marine vessels. The project targets use of the system on various vessel types, including large seagoing ships such as container feeder vessels and liquefied hydrogen carriers.

In November 2025, Siemens Energy has signed a contract to design and deliver the power conversion system for Oklo's Aurora powerhouse reactors. The contract will see Siemens Energy conduct detailed engineering and layout activities for a condensing SST-600 steam turbine, an SGen-100A industrial generator, and associated auxiliaries to support Oklo’s first advanced reactor, the Aurora powerhouse at Idaho National Laboratory.

In November 2025, Schneider Electric announced a two-phase supply capacity agreement (SCA) totaling $1.9 billion in sales. The milestone deal includes prefabricated power modules and the first North American deployment of chillers. The announcement was unveiled at Schneider Electric'sInnovation Summit North America in Las Vegas, convening more than 2,500 business leaders and market innovators to accelerate practical solutions for a more resilient, affordable and intelligent energy future.

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Solution Types Covered:

- Outage Detection & Monitoring Systems
- Automated Fault Isolation & Restoration (FLISR)
- Backup Power & Distributed Energy Resources (DERs)
- Grid Hardening & Infrastructure Reinforcement
- Microgrids & Islanding Solutions
- Emergency Communication & Customer Engagement Platforms

Technologies Covered:

- Advanced Sensors & IoT Devices
- Artificial Intelligence & Predictive Analytics
- SCADA & Distribution Management Systems (DMS)
- Cloud-Based Resilience Platforms
- Energy Storage Integration Technologies

Applications Covered:

- Residential Power Resilience
- Commercial & Industrial Continuity Solutions
- Utility-Scale Grid Resilience
- Critical Infrastructure

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End Users Covered:

- Electric Utilities & Grid Operators
- Large Enterprises & Industrial Facilities
- Government & Public Sector Agencies
- Residential Communities & Housing Associations

Regions Covered:

- North America
  - United States
  - Canada
  - Mexico
- Europe
  - United Kingdom
  - Germany
  - France
  - Italy
  - Spain
  - Netherlands
  - Belgium
  - Sweden

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- Switzerland
- Poland
- Rest of Europe

Asia Pacific

- China
- Japan
- India
- South Korea
- Australia
- Indonesia
- Thailand
- Malaysia
- Singapore
- Vietnam
- Rest of Asia Pacific

South America

- Brazil
- Argentina
- Colombia
- Chile

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- Peru
- Rest of South America

Rest of the World (RoW)

- Middle East
  - Saudi Arabia
  - United Arab Emirates
  - Qatar
  - Israel
  - Rest of Middle East
- Africa
  - South Africa
  - Egypt
  - Morocco
  - Rest of Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations

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- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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Note: Tables for North America, Europe, APAC, South America, and Rest of the World (RoW) Regions are also represented in the same manner as above.

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