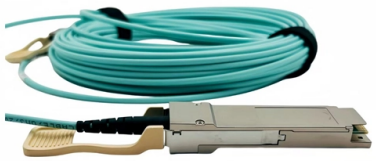
Replacement life of distribution network automation equipment



Article Overview

Distribution network automation equipment typically has a service life of 15–25 years, but obsolescence and technological evolution often necessitate earlier replacement or lifecycle management.

Expected Lifespan

Automation equipment in distribution networks, such as PLCs, control panels, and SCADA devices, generally has a service life of 15 to 25 years, while some power equipment components may last over 40 years under ideal conditions . However, the effective replacement life is often shorter due to technological obsolescence, environmental factors, regulatory changes, and evolving functional requirements .

Factors Influencing Replacement
• Obsolescence of Components: Electronic components in automation systems often have lifecycles of 7–10 years, meaning that even if the equipment itself is functional, replacement may be required when parts are no longer available .
• Technological Evolution: Smart grid integration, cybersecurity requirements, and advanced monitoring capabilities can render legacy equipment inadequate before its mechanical end-of-life .
• Regulatory and Safety Compliance: New safety standards or environmental regulations may force early replacement of equipment that cannot be upgraded .
• Operational Risk and Reliability: Aging equipment increases the risk of outages, safety incidents, and maintenance costs, influencing replacement decisions ....

Article Content

May 22, 2026

Obsolescence and life cycle management for automation systems

This recommended practice is intended to cover the complete automation systems both on greenfield development (new deliveries)

Nov 02, 2025

Distribution Automation | Siemens

Our distribution automation solutions optimize primary equipment O& M, boost supply safety & voltage

Jan 04, 2026

Planning to Equip the Power Distribution Networks with Automation ...

Implementing automation system in distribution networks needs a huge investment that usually cannot be funded

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IEEE Distribution Automation Working Group White Paper v3

A broad definition of Distribution Automation includes any automation which is used in the planning, engineering, construction,

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What Is The Optimal Life Cycle For A BAS?

The degree of BAS replacement at year seven needs be defined by the professional conducting the life cycle cost

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An optimization model for the maintenance of distribution network ...

Abstract: As the service life of distribution automation terminal equipment increases, its reliability decreases, and the lack of efficient

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Evaluating Electrical Distribution Equipment to Determine Replacement Needs Over time, a health care facility undergoes numerous

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Assessing replacement of electrical systems

Replacement of electrical systems is a study of economics and risk. Factors including age, safety, reliability,

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Chapter 6 Electrical Equipment Life Expectancy, Aging, and Failures ...

6 Electrical Equipment Life Expectancy, Aging, and Failures 6.1 LIFE EXPECTANCY FOR DISTRIBUTION AND TRANSMISSION

Jul 03, 2026

Life expectancy of Schneider electrical distribution products.

The occurrence of faults is generally unpredictable and this is a major input to the decision to replace equipment. Equally, on-going

Apr 01, 2026

Equipment failure rate in electric power distribution networks: An ...

Distribution network equipment may be of different types and materials and may be exposed to different climatic,

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Network Advisory: Equipment Lifecycle Management

Supplier notifications have limited distribution. Stockpiled replacement parts may have limited shelf life; integrated batteries may not

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Network Advisory: Equipment Lifecycle Management

Allocates budget for upgrades, replacements, and maintenance based on TCO calculations and a life-cycle expectations for when

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Determining and Stretching the Useful Life of Controls

Learn about bas, useful life, aging, obsolescence, hybrid controls,ddc and related trends for building operations success

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Giving Electrical Equipment a Long, Healthy Life

Key aspects in this quick read: electrical equipment, preventive maintenance, modernization, life cycle, upgrade,

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How to Manage Obsolescence in Industrial Automation and Cut

From PLC systems and industrial control panels to automation hardware, HMI software and SCADA networks,

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Lifetime extension options for electrical equipment

Electrical equipment constitutes a considerable economic asset value for the distribution- and transmission system operators. Many

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Optimal Life Cycle for a Typical BAS

A typical optimal life cycle for BAS is between seven and ten years. After seven years, BAS become very difficult to

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Understanding the Lifespan of Electrical Systems: When to Upgrade

Electrical systems are the backbone of any industrial facility, ensuring that operations run smoothly and safely.

Jan 11, 2026

Distribution Automation

Distribution network automation refers to the combination of modern electronic technology, communication technology, computer

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Army in Europe Pamphlet 25-72, 2 July 2018

Summary. This pamphlet prescribes procedures for the life-cycle management of automation equipment in USAREUR

Sep 20, 2025

Network Equipment Lifecycle: When to Upgrade Your Infrastructure

Is your business network slowing down or becoming vulnerable to cyber threats? Learn the key signs it''s time to upgrade your

Feb 27, 2026

Issue of Aging Equipment (end of life, diagnostics, etc.)

Special focus is placed on switchgear as they have a particular significance for the reliable performance of the electrical transmission

Dec 31, 2025

Life expectancy of electrical equipment

Hello folks, Has anyone ever seen a listing of life expectancy in years of things like transformer, automatic transfer

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Expected service life, and replacement justifications

Are there any generally accepted rule-of-thumb life expectancy numbers for common types of control equipment?

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A Blueprint for Managing Automation Obsolescence

Automation equipment is aging in facilities around the globe, and spare parts and support for these assets are continuing to dwindle.

May 17, 2026

Improving the reliability of power distribution substations equipment ...

Maintenance of aged power equipment is a proven technique for establishing systems reliability and longevity. It is

Aug 12, 2025

Issue of Aging Equipment (end of life, diagnostics, etc.)

This fact brings the issue of asset life cycle management to the attention of the electrical power industry. Special focus is placed on

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