Convergent Systems: Benefits, Components, and Applications



Smart Cities and Artificial Intelligence: Convergent Systems for Planning, Design, and Operations

by Christopher Grant Kirwan



Language : English File size : 32786 KB Text-to-Speech : Enabled Screen Reader : Supported Enhanced typesetting: Enabled Word Wise : Enabled Print length : 259 pages



What are Convergent Systems?

Convergent systems are integrated software platforms that combine planning, design, and operations capabilities for managing infrastructure, utilities, and other complex systems. These systems allow users to create and manage digital twins of physical systems, which can be used for a variety of purposes, including:

- Planning and design of new or existing infrastructure
- Operation and maintenance of existing infrastructure
- Optimization of system performance
- Emergency preparedness and response

Convergent systems are becoming increasingly popular as organizations seek to improve the efficiency and effectiveness of their infrastructure management processes. These systems can provide a number of benefits, including:

- Improved collaboration between planning, design, and operations teams
- Reduced risk of errors and rework
- Increased efficiency and productivity
- Improved system performance and reliability

Components of Convergent Systems

Convergent systems typically consist of the following components:

- Planning module: This module allows users to create and manage digital twins of physical systems. These digital twins can be used to simulate different scenarios and optimize system performance.
- Design module: This module allows users to design new or existing infrastructure. The design module can be used to create 3D models of the infrastructure, which can be used to visualize the design and identify potential problems.
- Operations module: This module allows users to operate and maintain existing infrastructure. The operations module can be used to monitor system performance, identify and resolve problems, and perform maintenance tasks.

• Integration module: This module allows convergent systems to integrate with other enterprise systems, such as ERP and CMMS systems. This integration allows users to share data between different systems and improve the efficiency of their workflow.

Applications of Convergent Systems

Convergent systems can be used to manage a wide variety of infrastructure and utility systems, including:

- Transportation systems
- Water and wastewater systems
- Energy systems
- Telecommunications systems
- Smart cities

Convergent systems are playing an increasingly important role in the management of complex infrastructure and utility systems. These systems can provide a number of benefits, including improved collaboration, reduced risk, increased efficiency, and improved system performance. As the demand for infrastructure and utility services continues to grow, convergent systems are becoming an essential tool for managing these systems effectively.



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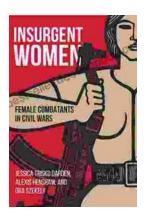
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