A Journey Through the Systems Landscape

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Lawson, H. 2010. A Journey Through the Systems Landscape. London, UK: College Publications.

Usage

This source is considered a primary reference for the following articles:

- What is Systems Thinking?
- Life Cycle Models
 - Life Cycle Characteristics
 - Incremental Life Cycle Model
 - Vee Life Cycle Model
 - Integration of Process and Product Models
- Systems Approach Applied to Engineered Systems
 - Applying the Systems Approach
- Systems Engineering Organizational Strategy
- Product as a System Fundamentals

Annotation

Systems are everywhere and affect us daily in our private and professional lives. We all use the word "system" to describe something that is essential but often abstract, complex and even mysterious. However, learning to utilize system concepts as first class objects, as well as methodologies for systems thinking and systems engineering, provides a basis for removing the mystery and moving towards mastery even for complex systems.

This journey through the Systems Landscape has been

developed to promote learning to "think" and "act" in terms of systems. A unique aspect is the introduction of concrete system semantics provided as a "system survival kit" and based upon a limited number of concepts and principles as well as a mental model called the system-coupling diagram. This discipline independent presentation assists individuals and is essential for building a learning organization that can utilize a systems approach to achieving its enterprise goals.

This book describes concepts, principles and paradigms that are used to guide thinking and acting in terms of systems. In respect to product systems engineering, it reveals the important aspects of the ISO/IEC 15288 standard as well the life cycle transformations for transforming needs into products and services. The book reflects the broad view of "products" described in this article.

The eight chapters are presented as stops along a journey that successively build system knowledge. Each chapter terminates with a Knowledge Verification section that provides questions and exercises for individuals and groups. Case studies reflecting the utilization of the system related concepts, principles and methodologies are provided as chapter interludes.

This book describes how a set of assets gets turned into a system in the Systems Approach and describes how an abstract system can be mapped into an engineered system.

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