

# Development of SEBoK v. 1.2

From SEBoK

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This version of the SEBoK was released 15 November 2013. This is a minor release of the SEBoK which includes two new articles, updates to existing articles, and new primary references. The Editorial Board released the associated version of the Sandbox in late November 2013.

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## Contents

- 1 Content and Feature Updates for v. 1.2
- 2 SEBoK v. 1.2 Authors
- 3 SEBoK v. 1.2 Editors
- 4 Technical Editors

## Content and Feature Updates for v. 1.2

Changes between versions 1.1.2 and version 1.2 included:

- Two new articles: Integrating Supporting Aspects into System Models and Technical Leadership in Systems Engineering
- Heavy revision to Decision Management
- Minor edits to articles in Parts 1, 2, 3, 4, 5, and 6 and
- Two new primary references.

Specific updates by part were:

- In Part 1, there were minor typographical updates.
- In Part 2, there is a new article for SEBoK on integrating modeling of systems and supporting aspects via model-based systems engineering (MBSE) approaches. Supporting aspects include project management, risk management, requirements management, quality management, and verification and validation. Supporting aspects incorporated into system models or derived from these models enrich the model, facilitate structured and integrated management of these aspects, and capture their implications on the system or vice versa. As MBSE becomes common practice for core system functionality, moving on to enveloping aspect modeling is the next step toward a holistic MBSE paradigm. This new article is called Integrating Supporting Aspects into System Models. Additionally, there were minor typographic edits to some articles.
- In Part 3, the Decision Management article was heavily rewritten to align with new Decision Management Process developed by the INCOSE Decision Analysis Working Group and several other articles were updated, including System Requirements, System Definition, Concept Definition, Business or Mission Analysis (formerly Mission Analysis), and Relevant Standards. For Relevant Standards, additional linkages have been added to the existing standards. There were also updates to several figures within Part 3.
- In Part 4, updates were made to the Systems of Systems (SoS) and Service Systems Engineering

knowledge areas to add new references in order to refresh the content. Over 25 new references have been added within these knowledge areas.

- In Part 5, a new topic was added on Technical Leadership in Systems Engineering within the Enabling Teams knowledge area.
- In Part 6, there were minor changes. The Editors incorporated some minor suggestions that were submitted via the Sandbox.
- There were no changes to Part 7 for v. 1.2.

## SEBoK v. 1.2 Authors

Authors who contributed materials specifically to the v. 1.2 products are listed in Table 1, below.

**Table 1. SEBoK v. 1.2 authors.** (SEBoK Original)

Author	Article
Matthew Cilli, Stevens Institute of Technology (PhD Candidate), USA	Decision Management
Yaniv Mordecai, Technion - Israel Institute of Technology, Israel	Integrating Supporting Aspects into Systems Models
Richard Swanson, High Performance Technologies Group, DRC, USA	Decision Management

## SEBoK v. 1.2 Editors

The Editorial Board for v. 1.2 is listed in Tables 2, 3, and 4 below.

**Table 2. SEBoK v. 1.2 Leadership.** (SEBoK Original)

### BKCASE Editors in Chief



**Editor in Chief**

Art Pyster  
*Stevens Institute of Technology (US)*  
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**Co-Editor in Chief**

David H. Olwell  
*Naval Postgraduate School (US)*  
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The Editor in Chief and Co-Editor in Chief were supported by the Associate Editors. Each Associate Editor's area(s) of responsibility are highlighted in Table 3 below.

**Table 3. SEBoK v. 1.2 Editors.** (SEBoK Original)

### BKCASE Associate Editors

**Richard Adcock**

*Cranfield University and INCOSE UK (UK)*

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Responsible for the Systems Fundamentals, Systems Science, Systems Thinking, and Systems Approach Applied to Engineered Systems knowledge areas in Part 2: Systems along with Cihan Dagli.

**Barry Boehm**

*University of Southern California (US)*

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Responsible for the Systems Engineering Management knowledge area with Greg Parnell and Life Cycle Models knowledge area; both are in Part 3: Systems Engineering and Management.

**Cihan Dagli**

*Missouri University of Science & Technology (US)*

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Responsible for the Systems Fundamentals, Systems Science, Systems Thinking, and Systems Approach Applied to Engineered Systems knowledge areas in Part 2: Systems along with Rick Adcock.

**Judith Dahmann**

*MITRE Corporation (US)*

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Responsible for Product Systems Engineering, Enterprise Systems Engineering, and Systems of Systems (SoS) in Part 4: Applications of Systems Engineering with Mike Henshaw.

**Heidi Davidz**

*Aerojet Rocketdyne (US)*

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Responsible for the Enabling Individuals knowledge area with Tim Ferris and the Enabling Teams knowledge area in Part 5: Enabling Systems Engineering.

**Dov Dori**

*Massachusetts Institute of Technology (USA) and*

*Technion Israel Institute of Technology (Israel)*

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Responsible for the Representing Systems with Models knowledge area with Greg Parnell and developer of the Integrating Supporting Aspects into System Models article.

**Timothy Ferris**

*University of South Australia (Australia)*

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Responsible for the Enabling Individuals knowledge area in Part 5: Enabling Systems Engineering with Heidi Davidz. Tim is also developing a new article on Systems Engineering Education.

**Gregory Parnell**

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Responsible for the Representing Systems with Models knowledge area with Dov Dori in Part 2: Systems and the Systems Engineering Management knowledge area with Barry Boehm in Part 3: Systems Engineering and Management.

**Ricardo Pineda**

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Responsible for the Systems Engineering and Industrial Engineering knowledge area.

**Garry Roedler**

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Responsible for the Concept Definition and System Definition knowledge areas in Part 3: Systems Engineering and Management.

**Brian Sauser**

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Responsible for Part 7: Systems Engineering Implementation Examples, which includes Case Studies and Vignettes, with Brian White.

**Samuel Seymour**

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Responsible for the Service Systems Engineering knowledge area in Part 4: Applications of Systems Engineering.

**Ariela Sofer**

*George Mason University (US)*

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Responsible for Part 1, including an overview of systems engineering and an overview of the SEBoK.

**Ricardo Valerdi**

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Responsible for the System Realization knowledge area in Part 3: Systems Engineering and Management. Dr. Valerdi is also developing a new article on Systems Engineering References.

**Michael Henshaw***Loughborough University (UK)*

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Responsible for Product Systems Engineering, Enterprise Systems Engineering, and Systems of Systems (SoS) in Part 4: Applications of Systems Engineering with Judith Dahmann.

**James Martin***The Aerospace Corporation*

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Supports the Systems Fundamentals and Enterprise Systems Engineering knowledge areas.

**Chris Paredis***Georgia Institute of Technology (US)*

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Responsible for working across the SEBoK adding material on the theoretical underpinnings of systems engineering, including mathematical foundations.

**Brian White***CAU>SE (US)*

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Responsible for Part 7: Systems Engineering Implementation Examples, which includes Case Studies and Vignettes, with Brian Sauser.

**Ken Zemrowski***TASC*

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Responsible for the Systems Engineering Standards knowledge area.

The Assistant Editors provide general editorial support across all topics. They assist both with content improvement and production issues.

**Table 4. SEBoK v. 1.2 Assistant Editors. (SEBoK Original)****BKCASE Assistant Editors****Stephanie Enck***Naval Postgraduate School*

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**Nicole Hutchison***Stevens Institute of Technology*

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**Devanandham Henry***Stevens Institute of Technology*

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**Technical Editors**

Updated articles went through technical editing to improve writing quality and consistency. Thanks go to our technical editor, Emily Leach, for her efforts.

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