This article describes the contributors to the current version of the SEBoK. For information on contributors to past versions of the SEBoK, please follow the links under "SEBoK Release History" below.

The BKCASE Project began in the fall of 2009. Its aim was to add to the professional practice of systems engineering by creating two closely related products:

- *Guide to the Systems Engineering Body of Knowledge (SEBoK)*
- *Graduate Reference Curriculum for Systems Engineering (GRCSE)*

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## BKCASE History, Motivation, and Value

The *Guide to the Systems Engineering Body of Knowledge (SEBoK)* is a living authoritative guide that
discusses knowledge relevant to Systems Engineering. It defines how that knowledge should be structured to facilitate understanding, and what reference sources are the most important to the discipline. The curriculum guidance in the **Graduate Reference Curriculum for Systems Engineering (GRCSE)** (Pyster and Olwell et al. 2015) makes reference to sections of the SEBoK to define its core knowledge; it also suggests broader program outcomes and objectives which reflect aspects of the professional practice of systems engineering as discussed across the SEBoK.

Between 2009 and 2012, BKCASE was led by Stevens Institute of Technology and the Naval Postgraduate School in coordination with several professional societies and sponsored by the U.S. Department of Defense (DoD), which provided generous funding. More than 75 authors and many other reviewers and supporters from dozens of companies, universities, and professional societies across 10 countries contributed many thousands of hours writing the SEBoK articles; their organizations provided significant other contributions in-kind.

The SEBoK came into being through recognition that the systems engineering discipline could benefit greatly by having a living authoritative guide closely related to those groups developing guidance on advancing the practice, education, research, work force development, professional certification, standards, etc.

At the beginning of 2013, BKCASE transitioned to a new governance model with shared stewardship between the Systems Engineering Research Center (SERC), the International Council on Systems Engineering (INCOSE), and the Institute of Electrical and Electronics Engineers Computer Society (IEEE-CS). This governance structure was formalized in a memorandum of understanding between the three stewards that was finalized in spring of 2013 and subsequently updated. In January 2020, the IEEE Systems Council replaced the IEEE-CS in representing IEEE as a steward. The stewards have reconfirmed their commitment to making the SEBoK available at no cost to all users, a key principle of BKCASE.

As of May 2022, SEBoK articles have had over 6M pageviews from more than 2M unique visitors. We hope the SEBoK will regularly be used by thousands of systems engineers and others around the world as they undertake technical activities such as eliciting requirements, creating systems architectures, or analyzing system test results; and professional
development activities such as developing career paths for systems engineers, and deciding new curricula for systems engineering university programs.

**Governance**

The SEBoK is shaped by the SEBoK Editorial Board and is overseen by the BKCASE Governing Board. A complete list of members for each of these bodies can be found on the BKCASE Governance and Editorial Board page.

**Content and Feature Updates for version 2.6**

There were several improvements to the SEBoK in this version:

- Parts 2 and 3 - the foundations of systems engineering and systems engineering approaches, methods, processes, and tools have been substantially rearranged. This update reflects:
  - Incorporation of more information on Model-Based Systems Engineering (MBSE) and Digital Engineering
  - Refinement of systems science foundations of systems engineering
  - Addition of new materials in Part 3 such as agile approaches.

- Part 6 - there are many new articles and updates to existing articles on the relationships between systems engineering and other disciplines.

- New Editor's Corner - the Editor's Corner is focused on the current and emerging trends in systems engineering. Check it out for our Editor in Chief's current thoughts on the metaverse and the impact on systems.

- New sponsors and sponsorship packages - you will notice a number of new sponsors and updates to the sponsorship packages available. Please join us in thanking our sponsors for their support of the SEBoK!

- The SEBoK user community has provided dozens of comments - from minor corrections to recommendations on terminology and reference updates to broad discussions about the transformation of the discipline. The Editorial Board has addressed all
resolved comments in the wiki and will carry forward any comments still under discussion in version 2.6.

**SEBoK Release History**

There have been 23 releases of the SEBoK to date, collected into 15 main releases.

**Main Releases**

- **Version 2.6** - current version.
- **Version 2.5** - This version included an update of the main page; creation of the Editor’s Corner.

New sponsors and sponsorship packages; new navigation in the left-hand menu; small edits to address the comments received from the community. This release also updated to the latest version of MediaWiki, tightened up the IT infrastructure, and made some adjustments to improve performance.

- **Version 2.4** - This was a minor release, including including reorganizations of Part 6 and 8 to handle new knowledge areas and topics. In addition, several new articles were added, including Systems Engineering Heuristics, Diversity, Equity, and Inclusion, Systems Engineering and Geospatial/Geodetic Engineering Knowledge Area, System Hardware Assurance, Socio-technical Systems, Verification and Validation of Systems in Which AI is a Key Element, and an introductory article on Artificial Intelligence. The content on Systems of Systems (SoS) was also updated.

- **Version 2.3** - This was a minor release, including two new articles: Cycles and the Cyclic Nature of Systems and Portfolio Management. A number of additional minor edits, including a new overview graphic for the SEBoK, clean up of existing pages, software updates, etc. were incorporated.

- **Version 2.2** - This was a significant release, including the first new Part to be added since v. 1.0 - Emerging Knowledge - which is a place to highlight new topics in systems engineering that are important but may not yet have a large body of literature. Recent dissertations around emerging topics are also included. A new case study on Apollo 1 was added to Part 7, which has also been reorganized around topics.
Additional minor updates have occurred throughout.

- **Version 2.1** - This was a significant release with new articles, new functionality, and minor updates throughout.

- **Version 2.0** - This was a major release of the SEBoK which included incorporation of multi-media and a number of changes to the functions of the SEBoK.

- **Version 1.9.1** - This was a micro release of the SEBoK which included updates to the editorial board, and a number of updates to the wiki software.

- **Version 1.9** - This was a minor update which included updates to the System Resilience article in Part 6: Related Disciplines, as well as a major restructuring of Part 7: Systems Engineering Implementation Examples. A new example has been added around the use of model based systems engineering for the thirty-meter telescope.

- **Version 1.8** - This was a minor update, including an update of the Systems of Systems (SoS) knowledge area in Part 4: Applications of Systems Engineering where a number of articles were updated on the basis of developments in the area as well as on comments from the SoS and SE community. Part 6: Related Disciplines included updates to the Manufacturability and Producibility and Reliability, Availability, and Maintainability articles.

- **Version 1.7** - This was a minor update, including a new Healthcare SE Knowledge Area (KA), expansion of the MBSE area with two new articles, Technical Leadership and Reliability, Availability, and Maintainability and a new case study on the Northwest Hydro System.

- **Version 1.6** - This was a minor update, including a reorganization of Part 1 SEBoK Introduction, a new article on the Transition towards Model Based Systems Engineering and a new article giving an overview of Healthcare Systems Engineering, a restructure of the "Systems Engineering and Specialty Engineering" (now Systems Engineering and Quality Attributes) KA.

- **Version 1.5** - This was a minor update, including a restructure and extension of the Software Engineering Knowledge Area, two new case studies, and a number of corrections of typographical errors and updates of outdated references throughout the SEBoK.
- Version 1.4 - This was a minor update, including changes related to ISO/IEC/IEEE 15288:2015 standard, three new case studies and updates to a number of articles.
- Version 1.3 - This was a minor update, including three new case studies, a new use case, updates to several existing articles, and updates to references.
- Version 1.2 - This was a minor update, including two new articles and revision of several existing articles.
- Version 1.1 - This was a minor update that made modest content improvements.
- Version 1.0 - This was the first official version of the SEBoK intended for broad use and was released 15 September 2012.

Click on the links above to read more information about each release.

Wiki Team

In January 2011, the authors agreed to move from a document-based SEBoK to a wiki-based SEBoK, and beginning with v. 0.5, the SEBoK has been available at www.sebokwiki.org Making the transition to a wiki provided three benefits:

1. easy worldwide access to the SEBoK;
2. more methods for search and navigation; and
3. a forum for community feedback alongside content that remains stable between versions.

The Managing Editor is responsible for maintenance of the wiki infrastructure as well as technical review of all materials prior to publication. Contact the managing editor at sebok@incose.org

The wiki is currently supported by Ike Hecht from WikiWorks.

SEBoK v. 2.6, released 20 May 2022
