COSMIC

COSMIC AI Software Sizing Taskforce

2025 report

COSMIC 2025 Annual Meeting

The Team

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AI Software Taskforce Tracks

AI Software Sizing using COSMIC

Leader: Dr. Asma Sellami

- Requirements of AI Software: SMS and/or SLR
- FSM of AI Software
- AI Software Sizing using COSMIC
- AI Software Estimation Models

Guidelines for Managing Innovative AI Projects

Leader: Dr. KR Jayakumar

- AI Innovative Project Management: SMS
- Risks and Mitigations of AI innovative Projects
- KPAs and KPIs for Evaluating AI Innovative Projects Success

AI Software Quality Evaluation

Leader: Dr. Laila Cheikhi

- Quality Evaluation Models of AI Software: SMS
- ISO 25010 based Software Quality evaluation
- ISO/IEC 25059:2023 Quality model for AI systems.

2025 Achievements -1

1. AI Software Size Measurement and Management Webinar

- The follow-up post-workshop webinar was held on May 20, 2025.
    - To access the presentation slides, click Presentation – AI Software Sizing Webinar.
    - To access webinar recording, click Recording – AI Software Sizing Webinar .
    - To access the comprehensive report click Report- AI Software Sizing Taskforce

2025 Achievements - 2

1- **AI Software Sizing using COSMIC**

– BotCFP: a ML based tool for approximating COSMIC functional sizing of chatbots, presented at IWSM/Mensura 2024.

2. **Review and Analysis of the Chatbots' Functionalities** (Under 1st revision in the Journal of Software: Evolution and Process)

3. **Investigating the Effectiveness of COSMIC Method for Sizing Chatbots' Requirements** (Under Review in the journal Innovations in Systems and Software Engineering)

4- **How Artificial Intelligence Is Transforming Functional Size Measurement - A Systematic Literature Review**, (Under Review in Information and Software Technology)

5- **RAG and LLMs based Automation of COSMIC Functional Size Measurement**, submitted to International Conference WorldCIST, March 31 –April 2, Madiera, 2026.

6. **Guidelines for Managing Innovative AI Projects**

7. **AI Software Quality Evaluation**

- How ISO 25010 has been used in the context of AI based software: A survey

Future works

1. **Early Software Sizing using LLMs**

2. **ISO/IEC 25059:2023 Quality model for AI systems :**

   – Investigate the use of this new standard in the evaluation of the quality of AI software.

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3. **AI Software Sizing using COSMIC and Quality Evaluation:**

   – Assess the chatbots’ functionalities using a quality assessment questionnaire

For more information visit our Website

Artificial Intelligence Software Sizing

Industry Context

Information technology is evolving rapidly, and when its impact is very significant (as in mission-critical and safety and health-related software systems), the design of software measures and related software measuring instruments, including measurement case studies as reference material, must evolve to stay ahead of software technology. The COSMIC Group has set up a taskforce on Artificial Intelligence (AI) software to address the gaps and weaknesses in the coverage of its set of software sizing measurement Guidelines and case studies.

COSMIC AI Taskforce approach

A considerable amount of new highly specialized knowledge must be developed to leverage the benefits of using COSMIC Function Points in Artificial Intelligence software development context, and in particular for adequate management of AI software development. The COSMIC AI Taskforce approach consists of

- Development of an understanding of the functional characteristics in AI, including their uniqueness in comparison to previous domains, and a focus on the sizing of algorithms.
- Identification alternatives for the tailoring of COSMIC measurement procedures for sizing AI software requirements.
- An initial design of AI-specific measurement procedures.
- Field tests through the design of AI specific measurement case studies.
- Internal COSMIC reviews for validation and improvements.
- An initial public version.

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Benefits

Availability and international recognition of such standard measurement standards for sizing in AI software contexts is of interest to software organizations and their customer bases, for both small and large organizations at an international level.

Professional Contributors:

Task force leader: Dr. Ali Idri (SPM Research Team, ENSIAS, Mohammed V University and Mohammed VI Polytechnic University, Ben Guerir, Morocco)

Core members:

Dr. Laila Cheikhi, ENSIAS, Mohammed V University in Rabat, Leader of AI Software Quality Evaluation

Dr. Asma Sellami, MIRACL Laboratory ISIMS, University of Sfax Leader of AI Software Sizing Using COSMIC

Dr. KR Jayakumar, Leader of Guidelines for Managing Innovative AI Projects

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New Book Announcement: *Managing Innovative AI Projects*

Managing Innovative AI Projects, authored by **Dr. Jayakumar K.R.** and **Prof. Alain Abran**, has been released.

The book provides the concepts and techniques to not just adopt AI, but to adapt and deliver it successfully, reaping its profound benefits while mitigating its potential dangers. It offers a comprehensive view of managing innovation and AI-driven projects in today's dynamic environments.

Get your copy here

Your Interest is Welcome – Contact Us

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https://cosmic-sizing.org/cosmic-projects/artificial-intelligence-software-sizing/

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