



## COSMIC is 10 years old, happy birthday !!

### Contents

*COSMIC is 10 years old !* 1

*The COSMIC organization* 2

*Further information* 2

*"On 1st December 1998, an international group of software metrics experts met in London and decided to develop a new method for measuring the functional size of software"*

COSMIC (the Common Software Measurement International Consortium) is 10 years old! This issue of COSMIC News is devoted to a summary of our achievements over the last ten years.

On 1<sup>st</sup> December 1998, an international group of software metrics experts met in London and decided to develop a new method for measuring the functional size of software. Their motivation was that the methods in use then were too specific and lack the precision to meet modern needs for performance measurement and estimating of software related activities. COSMIC, the organization, was born.

Within a year, the principles of the method were agreed upon and a field-trial version of the method was ready for testing. During those tests the method was used to size software issued from development as well as enhancement projects in various real-time and business application domains, using a variety of technologies. The trials were considered a success.

As the saying goes, "the rest is history". An ISO standard based on the method was first published in 2003: ISO 19761.

Although the definition of the method has been refined and improved since its inception, the basic sizing principles have not changed since they were first defined.

The COSMIC method is still the only software functional size measurement method that is

- designed using fundamental principles of

- software engineering; maintained by an international team of software metrics experts, as a voluntary effort;
- intended for sizing business application software, real time software and hybrids of these, in any layer of multi-layered system architectures;
- completely open and free to use.

### Key Publications

The full definition of the method is given in the 'Measurement Manual', supported by:

- an ISO standard (ISO-19761)
- an Overview document
- domain-specific guidelines
- case studies.

The Measurement Manual has already been translated in several languages. Most of these translations are being updated to the latest version 3.0. The Measurement Manual is currently available in Arabic, Chinese, Dutch, French, German, Italian, Japanese and Spanish.

### Users

The COSMIC method is now widely used across the world. Countries where the method is used include:

- Australia, China, India and Japan in the Eastern hemisphere
- Belgium, Denmark, Finland, France, Germany, Italy, Malta, Netherlands, Poland, Spain, Sweden and the UK in Europe
- Canada, United-States and Mexico in America.

Amongst the large

organization that have publicly acknowledged their use of the method and/or have published their experience using it one find:

- Atos Origin (UK)
- Cognizant (India)
- EADS (Eurocopter Division, Germany)
- The European Commission Taxation & Customs Union Directorate (Belgium)
- Fujitsu, NTT (Japan)
- Rabobank, Sogeti (Netherlands)
- Nokia-Siemens Systems (Finland)

### Academics use

Academic researchers in many countries are using the COSMIC method as a basis for their research in the field of software measurement.

### Certification

An COSMIC entry-level exam has existed for 3 years. It has recently been updated to v3.0 of the method. An expert-level exam is in preparation.

### Benchmark data

The International Software Benchmarking Standards Group publish data for around 130 projects measured using COSMIC (but much more is needed !).

### Estimating methods and tools

COSMIC functional size measures have been successfully used with the following estimating approaches:

- simple estimating based on regression analysis,
- estimating by analogy,
- COCOMO,
- PNR,
- time-boxing (SCRUM).

The following estimating tools

### We're on the Web!

See us at:

[www.cosmicon.com](http://www.cosmicon.com)

*"We owe a big 'thank you' to the COSMIC community for their sustained efforts over the last ten years"*

accept COSMIC sizes as input:

- KnowledgePLAN (Software Productivity Research),
- MeterIT (Telmaco),
- SEER (Galorath)

#### **Benefits**

The following benefits have been reported by users of the COSMIC method, in comparison with '1<sup>st</sup> generation' methods:

- Easy to learn and stable due to the principles-

- based approach, hence 'future-proof' and cost-effective to implement;
- Well-accepted by project staff due its compatibility with modern software requirements documentation methods;
- Improves estimating accuracy, especially for larger software projects;
- Possible to automatically size requirements held in CASE tools;
- Reveals real performance improvement where the

use of earlier crude sizing methods has not indicated any improvement;

- Sizing with COSMIC is an excellent way of controlling the quality of the requirements at all stages of a software project.

#### **Conclusion**

A considerable achievement based on a lot of hard, volunteer work. We owe a big 'thank you' to the COSMIC community for their sustained efforts. over the last ten years.

## **The COSMIC organization**

The COSMIC organization is structured into two different bodies: the International Advisory Committee (IAC) of 22 members from 15 countries and

the Measurement Practices Committee (MPC).

The COSMICON web-site, [www.cosmicon.com](http://www.cosmicon.com), is kept up to date and

describes the COSMIC organization. It also provides complete background data on functional size measurement, FSM methods, etc.

## **Further information**

- If you have any questions or require further information on COSMIC, please contact your national representative on the COSMIC International Advisory Committee ([www.cosmicon.com](http://www.cosmicon.com), IAC).

- For a list of COSMIC publications, research findings and details of the certification exams, see [www.gelog.etsmtl.ca/cosmic-ffp](http://www.gelog.etsmtl.ca/cosmic-ffp).
- For more general information about the

COSMIC method, see [www.cosmicon.com](http://www.cosmicon.com).

- If you would like to publish an article in this newsletter relating your experience with COSMIC, please forward a draft to the editor at: [serge.oliqny@sympatico.ca](mailto:serge.oliqny@sympatico.ca)