



**SMS at the European
Competitive
Measurement
Symposium**

A report by
Bernard Londeix

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The 1st European Competitive Measurement Symposium in February 2008 was initiated and conducted by the French Consultancy Spirula (www.spirula.fr). It was held aboard the lovely Parisian 'Bateau Mouche' on the river Seine.

In all aspects the conference was a resounding success, not only because of the way it was conducted but more particularly because Spirula managed to have the participation of the major personalities in the software metrics world, including:- Tom Gilb, Dan Galorath, Ton Dekkers, Roberto Meli, Charles Symons – plus SMS' own Grant Rule and Bernard Londeix.

The Conference's set of presentations managed to present the problem of the software project, not only as a manageable piece of work, but also as a potentially profitable endeavour for the enterprise. The quantitative aspect of the project was introduced in terms of effort, duration, and finance.

All together, the conference presentations provided an almost complete landscape of the applications of software metrics to an organisation's software capability. We look forward to future ECMS events of this quality.

This report focuses on the contributions made to the ECMS by Grant Rule and Bernard Londeix of SMS, and Charles Symons, Joint Project Leader of the COSMIC Functional Size method team and a former Director of SMS.

Estimate Early to Optimise Performance

Grant Rule (Managing Director of SMS Ltd) gave an introduction to the use of 'Rule's Relative Size Scale' (R2S2) for estimating early in the project lifecycle.

The Size Scale is an observational way of classifying software project size using the terminology of clothing sizes - such as 'size M' for medium, 'size L' for large, etc. We know well the benefits of this classification when shopping for clothes; hence we have an idea of what it can do for the programme manager when budgeting. This presentation took us to a deeper level of its impact on managerial decision-making processes.

This classification demonstrates that around 90% of "successful" projects fall into the small to large size range (that is S, M1 and M2, to L) ranging from about 100 to 3,000 Function Points. This dimensioning is not a high accuracy measurement but it provides a trade-off curve usable around the very beginning of the life cycle, when accurate measurement is not yet

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feasible, in order to provide a very early estimate of the budgetary and schedule feasibility of a particular project. It can therefore save a lot of time, effort, and money for the organisation.

Being aware of the powerful advantage thus given to its user, **Telmaco** has implemented R2S2 in its software size measurement tool, MeterIT-Cosmic (www.telmaco.co.uk). This enables the measurer to capture very early the foreseeable size, budget, and duration of the project being considered and to carry out early money-saving management decisions.

The economic case for software metrics.

“...proper use of good software metrics leads to good performance.”

Despite the availability of project predictability-assurance, metrics-based methods and tools such as R2S2 seen above, metrics techniques do not seem to be put into use in the software industry as much as they could be.

Charles Symons (Joint Project Leader, COSMIC) aimed to present industry-wide evidence illustrating that proper use of good software metrics leads to good performance, whereas poor - or even no - use of metrics leads to poor industry performance.

He first presented evidence that software metrics are still not mainstream. To understand why, he proposed a set of five Critical Success Factors (CSF) for a software metrics programme and observed that, in his experience, there are two CSF's on which programmes most often fail. These are:

- the metrics must be credible to all stakeholders
- the metrics must be seen as complementary to the project processes.

Charles examined the current state of measurement of five key performance parameters (productivity, speed of delivery, quality, and delivery to time and budget) and the corresponding industry performance.

Quality, in terms of defect density, is relatively easy to measure, and is generally well-measured. Industry performance in terms of quality, at least in some sectors, is amazingly good if one thinks of the reliability of the world's communications, transportation and financial services systems.

Conversely, productivity and speed of delivery are rarely or poorly measured (think of FPA or SLOC) and the evidence is that the software industry performs poorly on these parameters. Delivery to time and budget is also poor which is mostly due to poor estimating methods and scope control procedures. This in turn is related to inability to size new software requirements and to estimate reliably from past productivity.



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From this analysis, Charles concluded that the key to overall improvement in software industry performance would be to adopt a combination of :

- (a) a better software size measurement method (eg [COSMIC](#))
- (b) a good parametric estimating method (eg www.telmaco.co.uk), and
- (c) a good project scope management process (eg [SouthernSCOPE](#))

Charles concluded by estimating the financial benefits that could be achieved if the software industry adopted these improvements to productivity measurement and estimating.

With even the most conservative assumptions, the software industry could produce the same output at 25% less cost per annum. These benefits cannot be achieved without improved metrics.

Do-It-Yourself Benchmarking

While waiting for metrics to be recognised at organisational level and for results showing continuous software improvement from measurement, project benchmarking and estimating based on metrics, what can the programme manager do?

This is where Bernard Londeix (Director, Telmaco Ltd) proposed Do-It-Yourself Benchmarking. The basic motivation for DIY Benchmarking is to increase one’s skill in managing a software project portfolio. For example, we know that our management decisions are good when they result in continuous and measurable reductions in cycle-time and/or productivity improvement. This is the best way of attracting more budgets for more projects. And this starts with the measurement of projects.

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But what is a project? Everyone has his or her own definition. And is the definition measurable? This presentation illustrated how measurable projects are identified, and how some specific data needs to be collected and analysed.

Naturally, measuring a software project includes measuring the software produced by the project. Then, as above, we are back to the COSMIC method as the most efficient method currently available for sizing software (www.cosmicon.com).

A consequence of this measurement is that a significant amount of data needs to be kept correctly for future analysis. Simple spreadsheets offer attractive facilities but require some preparation time, which is not always available to the Programme Manager. Fortunately, some ready-to-use tools exist (www.telmaco.com) for carrying out local benchmarking. Hence, when the corporation is ready for benchmarking, the programme manager has all the necessary information to hand to achieve the best result.



Author Biography



Bernard Londeix is an SMS Principal Consultant with extensive consulting experience supporting clients in the improvement of quality, development methodologies and Cost/Time Software Estimation practice.

He is also an effective trainer, delivering courses on Function Point Analysis (COSMIC, IFPUG and MkII FPA), estimating (COCOMO II) and software metrics in the UK and France. He has also counted and audited a substantial number of applications using appropriate standards and holds SEI CMMI Staged Representation v1.2 certification.

Bernard Londeix has delivered Information Technology consulting services to the Finance, Banking, Insurance, and Telecommunications industries as well as to Government institutions, bringing to his assignments a value-added focus for the economics and predictability of the software processes and their deliverables.

He was in the forefront of using Functional Size measurement to control and improve the predictability of software development control and continues to be in the vanguard of developments in functional size measurement. He holds considerable expertise and experience in COSMIC, the functional size measurement developed to measure modern software projects. He has also developed the MeterIT tool-chain which comprises a series of project measurement and estimation tools.

A French national, resident in the UK, Bernard is also an SMS Account Manager working with clients – particularly French-speakers - to develop solutions to the challenges presented by using software-intensive systems.

Software Measurement Services is a specialist, independent UK consultancy working with decision-makers in blue-chip companies and government departments to improve the results delivered by the development of software and computer systems. Our consultants are at the forefront of developing and supporting best practice in managing software process performance.

For more on the COSMIC-FFP method, see www.cosmicon.com and/or contact your local member of the COSMIC International Advisory Committee, whose e-mail address is given on the 'cosmic' site.

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Software Measurement Services Ltd
124 High Street
Edenbridge
Kent
TN8 5AY

T: +44 (0) 1732 863 760 F: +44 (0) 0732 864 996

<http://www.measuresw.com>
sales@measuresw.com