ISBSG
Delivering IT Confidence

The global and independent source of data and analysis for the IT industry

Short paper

How to submit data to ISBSG

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Introduction

The ISBSG repository contains a vast array of project data and includes data for projects undertaken in an agile way of working. This enables analysis of the differences between traditional projects and agile projects.

ISBSG collects industry data, where output is measured using ISO/IEC standardized and therefore objective, repeatable, auditable methods, such as Nesma, IFPUG and COSMIC function points. Typical key metrics based on function points are:

- Project Delivery Rate (PDR)[1]: Hours spent per function point
- Cost efficiency: Cost (or Price) per function point
- Quality: Defects per function point (in test and/or 1st month of production)
- Delivery Speed: Function points delivered per calendar month.

The ISBSG 'New Development & Enhancement' repository contains thousands of completed projects for which these metrics are calculated. This allows organizations to make better decisions based on facts instead of opinions.

ISBSG offers a free benchmark report (value: $5000 AUD) for data submissions. Therefore, the submission of data is a win-win for the submitter and for ISBSG. If the submitter is an ISBSG Gold Partner (e.g., IFPUG, Nesma, GUFPI-ISMA, etc.), there is a third win - a rebate on their partnership fee. **This short report describes how data can be submitted to ISBSG.**

Introduction

The International Software Benchmarking Standards Group (ISBSG) collects comprehensive data from completed software development, enhancement, and maintenance projects. These are submitted by organizations and individuals worldwide.

The data includes key metrics such as project delivery rate (hours per function point), cost efficiency (cost or price per function point), quality indicators (defects per function point during testing or the first month of production), and delivery

[1] The PDR is the inverse of the universal concept of Productivity (output/input) as it is easier to process for human minds, which usually struggles with metrics with many decimals

speed (function points per calendar month). All data is **anonymized and analyzed** to support industry benchmarking and estimation.

A crucial requirement for data submission is that each project's functional size must be measured using an ISO/IEC-standardized method, such as Nesma, IFPUG, or COSMIC function points. This ensures objectivity and auditability across all entries. In this short report we'll explain how data can be submitted to ISBSG.

The submission process

The data submission process for the International Software Benchmarking Standards Group (ISBSG) is straightforward. It is designed to encourage contributions from organizations and individuals while ensuring high data quality.

1. Contributors begin by gathering project data from completed software development, enhancement, or maintenance projects. This is done using an ISBSG-approved data collection questionnaire (available in concise or full versions, including online options for easier submission). These forms capture essential details such as project attributes, effort breakdown, schedule, defects, and platform information.

2. The data is submitted to ISBSG (via email to staff@isbsg.org). All submissions undergo rigorous validation and quality checks by the ISBSG repository manager, including cross-verification and assignment of a data quality rating (A to D), **before being anonymized and incorporated into the relevant repository** (Development & Enhancement or Maintenance & Support).

3. In appreciation for the contribution, submitters receive a free personalized project benchmark report. The report compares their project to similar ones in the ISBSG database, supporting better estimation and performance insights.

This collaborative process has enabled the repository to grow to thousands of high-quality, industry-wide projects from over 26 countries.

ISBSG also encourages the bulk submission of project data via MS Excel forms. The submitter can provide mapping to map the submitted fields to ISBSG data attributes. This method allows organizations to export data from their own project databases into Excel easily (e.g. every quarter), while a mapping schema is only required once.

The minimum data set

The "minimal data set" refers to the core, mandatory fields required (i.e. as shown in the data collection questionnaire) to ensure a data submission is valid and eligible

for inclusion in the repository. While ISBSG provides comprehensive questionnaires (with over 100–140 data fields, depending on the version and release), not all are obligatory—submitters often provide partial data, but a specific subset is essential for acceptance and meaningful benchmarking. The absolute minimum requirements include:

- A completed functional size measurement of the project, expressed in function points (or equivalent size units) using an ISO/IEC-standardized functional size measurement method (e.g., Nesma, IFPUG or COSMIC). This is the normalizing factor that allows the calculation of productivity, quality and performance metrics
- Key project attributes, such as development type (e.g., new development, enhancement, or re-development), development platform (e.g., PC, mid-range, mainframe), programming language type, and basic effort details (typically total project effort in person-hours).
- Project outcome indicators, including elapsed schedule (duration in months) and, where applicable, basic defect counts or quality data.

These core elements allow ISBSG to calculate fundamental metrics like delivery rate (hours per function point) and perform initial validation.

ISBSG offers a concise data collection questionnaire (e.g., the COSMIC/ISBSG Concise version) designed to streamline submissions by focusing on these essential fields, making it easier for contributors to provide high-quality data with less effort.

Submissions with incomplete minimal data undergo rigorous quality checks and may receive a lower data quality rating (A–D).

The minimum data set for the Developments & Enhancements repository is shown in Table 1 below:

Data attribute	Explanation
Project Year	Year of Project Completion
Industry	Industry of the end users
Development Type	New Development/Enhancement
Development Method	Waterfall/Agile/other
Primary Programming Language	Java/.Net//Mendix, etc.
Package Customisation	Yes/No
Package	Oracle/Siebel/SAP/etc.
Count Approach	Nesma/IFPUG/COSMIC/Other
Size Functional	Nr. of FP delivered
Project Elapsed Time	project duration in months
Project Activity Scope	Planning/Specify/design/Build/Test/Implement
Resource Level	Dev team only, or others in the total effort
Effort Total	Total Effort hours spent

Table 1: data attributes of the D&E Repository minimum data set.

Many organizations log this basic data for their projects, so it should be easy to submit at least the minimum data set to ISBSG. Of course, the submission of every extra detail and data attributes are much appreciated, as it allows for better understanding of the data and enhanced analysis possibilities.

Examples of data collection questionnaires

The International Software Benchmarking Standards Group (ISBSG) provides several data collection questionnaires (DCQs) to facilitate the submission of project data. The DCQs are tailored to different project types and levels of detail. These questionnaires are available for free on the ISBSG website (www.isbsg.org) (www.isbsg.org) or through partner organizations. They support both full/comprehensive versions and shorter/concise variants to reduce the effort required from contributors. The main questionnaires include:

- **Development & Enhancement Questionnaire** — Designed for new development, enhancement, redevelopment, or migration projects. This is the primary form for populating the Development & Enhancement Repository (which now contains over 13,000 projects). It captures detailed attributes such as project description, size (in ISO-standardized function points), effort by phase, schedule, defects, platform, techniques, and more. Shorter online versions have been available since around 2016 to simplify submissions.

- **Maintenance & Support Questionnaire** — Specifically for ongoing application maintenance and support activities (covering corrective, adaptive, perfective maintenance, user support and incident handling). This populates the Maintenance & Support Repository (currently ontains 2,400 applications). It focuses on effort breakdowns by activity type, defect counts, application size rates, platform details, and productivity metrics over time.

- **COSMIC/ISBSG Concise Data Collection Questionnaire** — A specialized, streamlined version optimized for projects sized using the COSMIC functional size measurement method (an ISO/IEC standard). It focuses on essential fields like data movements (entries, exits, writes, reads), project type, effort, duration, and quality indicators, making it easier for COSMIC users to contribute high-quality data quickly while aligning with the minimal data set requirements.

Additionally, ISBSG has introduced or updated questionnaires for emerging needs. For example, one supporting IFPUG SNAP (Software Non-functional Assessment Process) sizing for non-functional requirements, as part of efforts to collect historical data on standardized non-functional sizing. All questionnaires require that functional

size be measured using an ISO/IEC-standardized method (e.g., Nesma, IFPUG or COSMIC,) for consistency and comparability.

An example of a Data Collection Questionnaire (Excel, concise) is shown in the next figure:

Contact Information	Answer
Contact person	
E-mail	
Role	

General Information	Answer
Ammendment to previous submission (please provide ISBSG ID)	
What is the Project ID you wish to use for this project?	
Start date of the data/benchmark period	DD-MM-YYYY
End date of the data/benchmark period	DD-MM-YYYY

Organization Information	Answer
In which industry(s) do the software's end users work?	<Select answer>
If other, please specify	
End users organisation location(s)/countries	
Conversion rate of hours per full time equivalent (fte) per year	

Project Information	Answer
What type of software project was your project?	<Select answer>
Is the application developed internal (in house) or external?	<Select answer>
Is the application developed on an onshore, nearshore or offshore location?	
Onshore country	
Nearshore country	
Offshore country	
Is the application bespoke or Commercial off the Shelf (CotS)/package software?	<Select answer>
If Commercial of the shelf, please specify the supplier	
Project development methodology	<Select answer>
If other, please specify	

Figure 1: example of a data collection questionnaire.

The different Data Collection Questionnaires, as well as more detailed submission instructions, can be found here: https://www.isbsg.org/submit-data/

Conclusions

Contributing project data to the International Software Benchmarking Standards Group (ISBSG) is a valuable and straightforward way for organizations and individuals to support the global software industry, while gaining immediate benefits.

Data can be submitted through the available questionnaires—such as the Development & Enhancement (concise or detailed), Maintenance & Support, COSMIC-specific, IFPUG/Nesma (including SNAP for non-functional sizing), or Agile variants. Functional size is measured using an ISO/IEC-standardized method. Contributors help build and maintain robust, anonymized repositories with thousands of high-quality projects from over 26 countries.

This collaborative effort powers industry-wide benchmarking, improves estimation accuracy, informs better project planning, and drives advancements in software metrics research. In return, submitters receive a free personalized benchmark report comparing their project to industry peers, fostering continuous improvement and greater certainty in software development outcomes.

If you wish to do your own analysis, or if you are interested to use the ISBSG data for cost estimation, benchmarking, performance measurement, procurement, etc., please subscribe to the data here: https://www.isbsg.org/project-data/

The International Software Benchmarking Standards Group (ISBSG)

The ISBSG is a not-for-profit organization founded in 1997 by a group of National Software Metrics Associations. Their aim was to promote the use of IT industry data to improve software processes and products.

ISBSG is an independent, international organization that collects and provides industry data of software development projects and maintenance & support activities. The aim is to help all organizations (commercial and government, suppliers and customers) in the software industry to understand and to improve their performance and decision making. ISBSG sets the standards of software data collection, software data analysis and software project benchmarking processes. It is considered to be the international thought leader in these practices.

The ISBSG mission is to support commercial and public organizations to improve the estimation, planning, control and management of IT software projects and/or maintenance and support contracts.

To achieve this ISBSG maintains and grows 2 repositories of IT software development/maintenance & support data. This data originates from trusted, international IT organizations and can be obtained for a modest fee from the website www.isbsg.org/project-data/

Help us to collect data

ISBSG is always looking for new data. In return for your data submission, we issue a free benchmark report that shows the performance in your project or contract against relevant industry peers.

Please submit your data through one of the forms listed on http://isbsg.org/submit-data/

A specific Agile/Scrum data collections questionnaire can be downloaded here: https://cutt.ly/4vnuXVT

Partners

This page will help you to find an ISBSG partner in your country:
https://www.isbsg.org/board/