

# Demographics

## Maintenance & Support Repository



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## Demographics – Maintenance & Support

### **Introduction**

This document summarises key characteristics of applications in the ISBSG Maintenance & Support Repository (M&S) 2022 release 9.

You will note that the application totals shown at the bottom of the tables, in this report, rarely equal 1673, the total number of applications in the Repository. This is because submitters do not necessarily provide application data for all the data fields that ISBSG offers.

By studying the demographics that follow, you will be able to establish the areas that are of specific interest to you. This is what makes the ISBSG Repository unique. A broad range of application types from many industries and many business areas are available for you to use for estimating, investigating trends, comparing platforms and languages or benchmarking.

For more information about ISBSG, refer to Appendix A.

## Demographics

### Benchmark Year

The Benchmark Year is the main year during which information (e.g. number of defects) is recorded for an M&S application.

The benchmark periods of applications in the M&S Repository range from the year 1993 to 2021.

Application Types	
Number of Applications	Benchmark Year
169	1993
45	2000
3	2001
12	2002
29	2003
30	2004
35	2005
26	2006
12	2007
34	2008
110	2009
29	2010
9	2011
464	2012
111	2018
170	2019
248	2020
137	2021
<b>1673</b>	

**Table 1: Applications per Benchmark Year**

## Demographics – Maintenance & Support

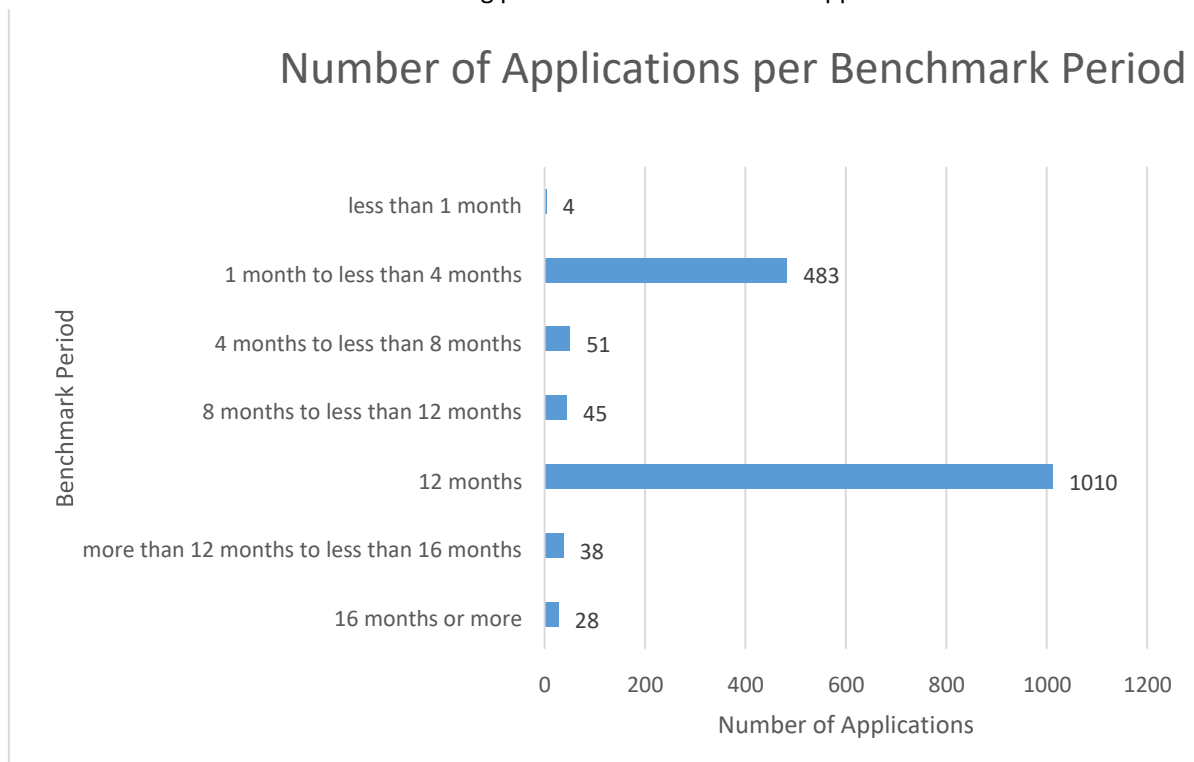
### Benchmark Period

The Benchmark Period represents the number of months that data was collected, for an application, by an IT or metrics organisation. This is prior to its submission to ISBSG.

The benchmark period of submitted data will vary from less than one month to more than 24 months. To accurately compare data, a scaling factor, based on the benchmark period is calculated.

For example, if the benchmark period of an application is 12 months, the scaling factor will equal “1”; if the benchmark period is 6 months, the scaling factor will equal “2”. This factor will then multiply data such as defect counts and effort values so that accurate statistics can be calculated using the M&S data.

The table below summarises benchmarking periods and the number of applications in each.

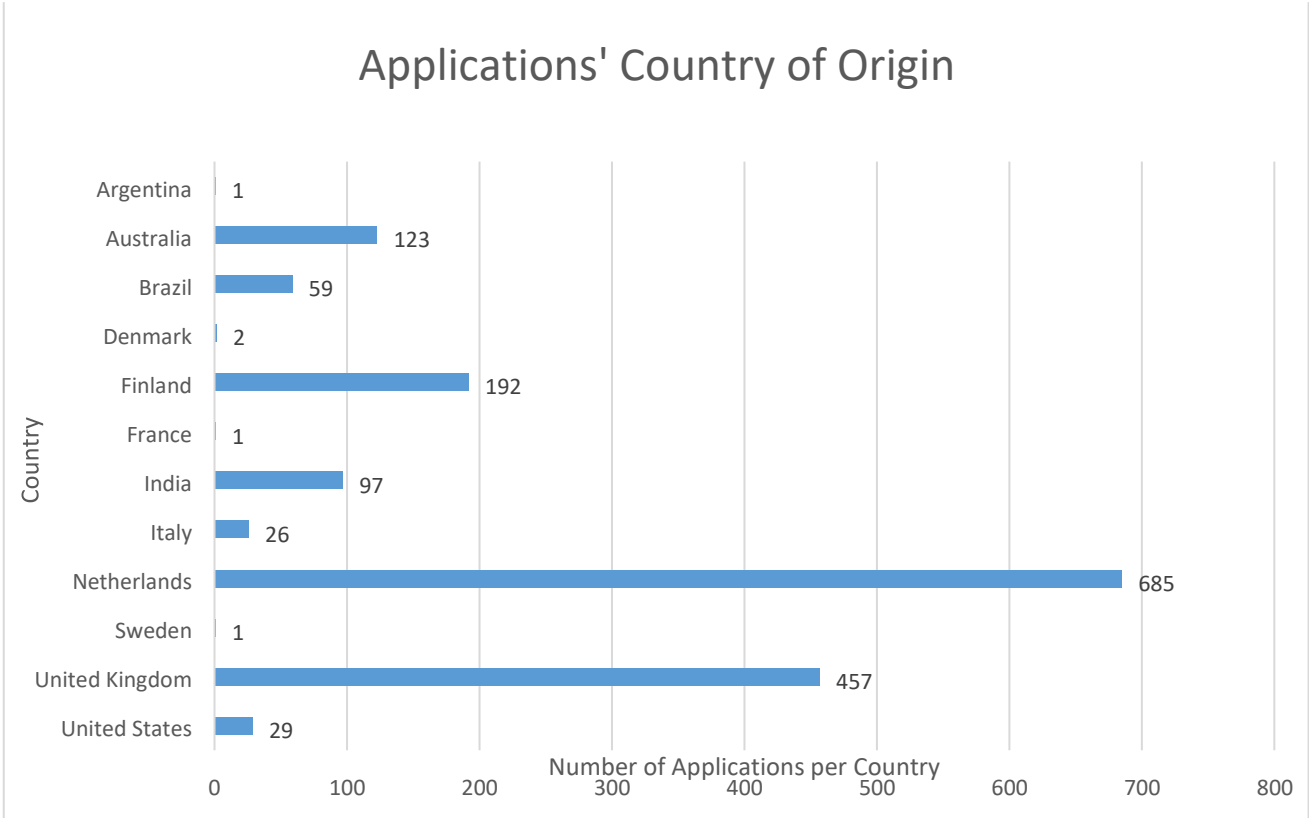


**Chart 1: Applications per Benchmark Period**

Demographics – Maintenance & Support

**Application origin**

Applications have been submitted from 12 different countries, as displayed in the chart below.



**Chart 2: Application’s Country of Origin**

## Demographics – Maintenance & Support

### Industry

Applications in the M&S Repository originate from a variety of industries, as shown in the table below.

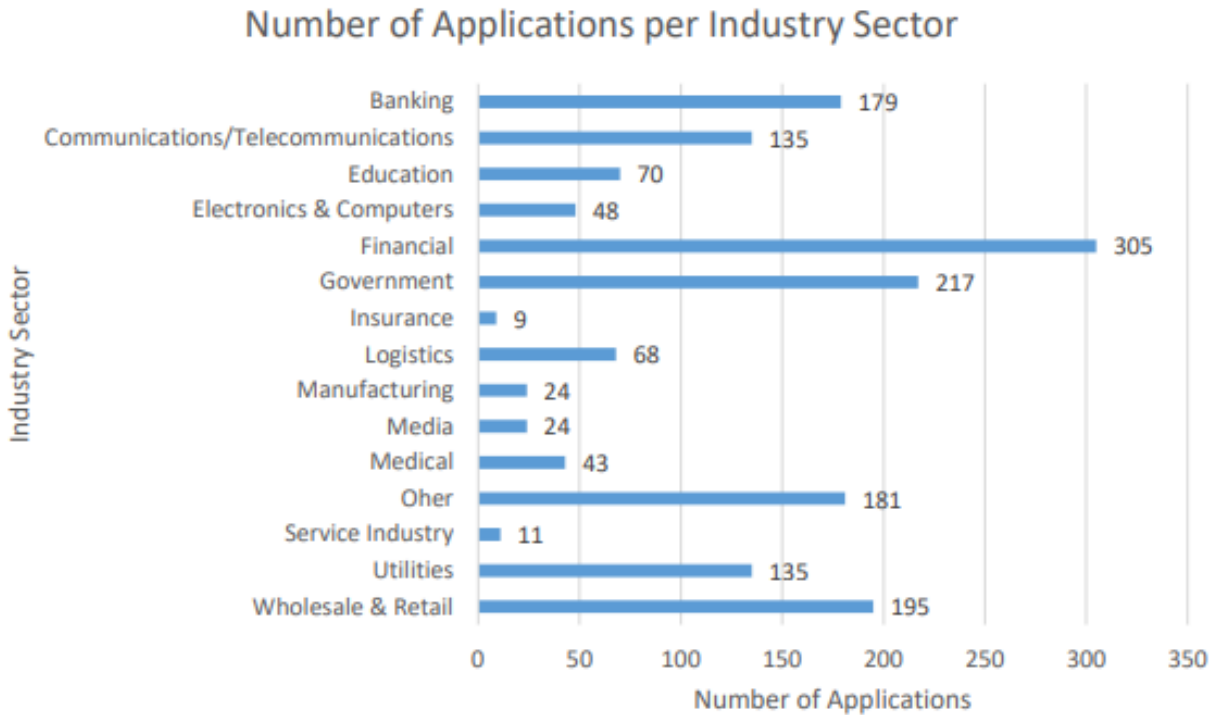


Chart 3: Applications per Industry Sector

## Demographics – Maintenance & Support

### Application Types

The application types found in the in the M&S Repository are displayed in the table below.

Application Types	
Description	Number of Applications
Business	367
Catalogue/register of things/events	13
Command/control	3
Communications	3
Customer billing	46
Customer relationship management	56
Data collection	29
Data warehouse	14
Database system	23
Decision support system	12
Diagnostics	3
Document management	42
Electronic data interchange	30
ERP	82
Financial	73
Human resource management	13
Job, case, incident project management	9
Logistic or supply/planning and control	17
Management/performance reporting	14
Mathematics/statistics/engineering	7
Network & systems	35
Online analysis & reporting	16
Policy management	6
Stock control & order processing	34
Telecommunications	9
Web applications	73
Wholesale & Retail	21
Workflow supply & management	33

**Table 2: Application Types**



## Demographics – Maintenance & Support

### Application Sizing Methods

Application sizes are measured using various functional sizing methods or by counting thousands of lines of code (KSLOC).

The following chart summarises the methods used to measure application sizes. The value next to each sizing method represents the number of applications sized by this method. In some cases, applications were sized using a function point method (i.e. FiSMA, IFPUG or NESMA) as well KSLOC.

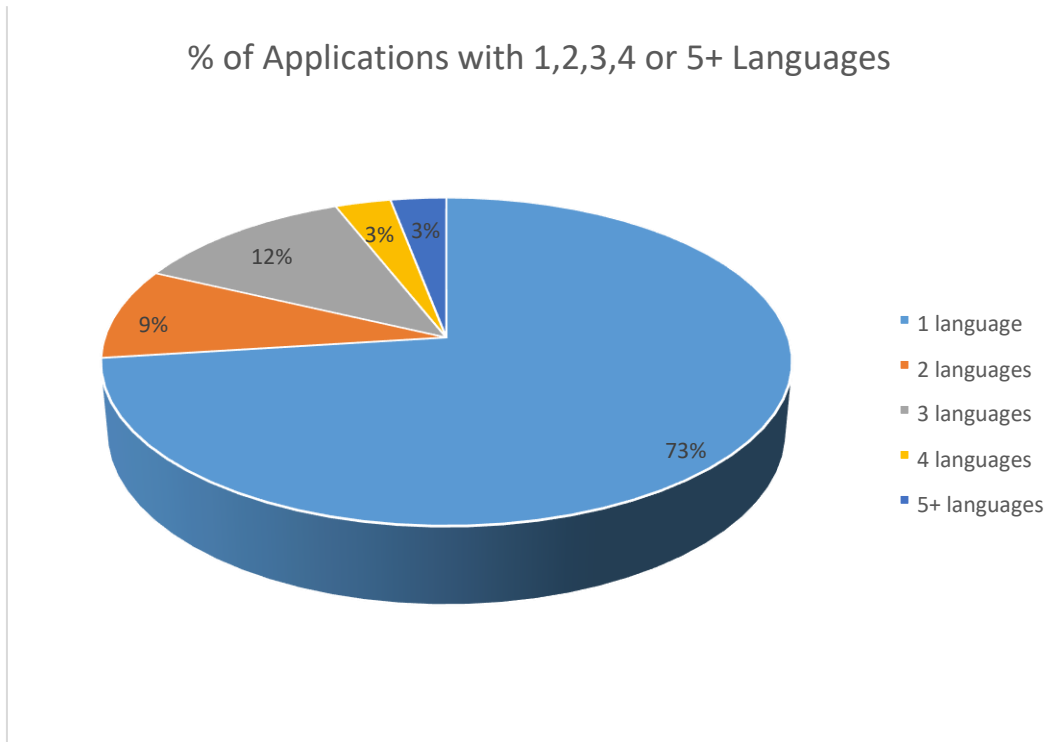
Application Sizing Methods	
Description	Number of Applications
FiSMA	192
IFPUG	144
NESMA	682
KSLOC	348

Table 3: Application Sizing Methods

Demographics – Maintenance & Support

**Programming Languages**

1098 applications have programming language information. The pie chart below displays the percentage of applications with one, two, three, four or five or more programming languages.



**Chart 4: Percentage of Applications and Their Numbers of Programming Languages**

## Demographics – Maintenance & Support

### Programming Language Type

There are many programming languages recorded in the repository. This can make it difficult to compare some applications. Consequently, languages are classified by type.

1751 Programming Languages in the M&S Repository, could be classified according to their language type – Application Generator, 2GL, 3GL or 4GL.

The most popular Application Generator is Telon.

The most popular 3GLs are: Cobol, JCL, Visual Basic and Java.

The most popular 4GLs are: .Net, Oracle, Easy, Easytrieve, SQL, PL/SQL.

The pie chart shown below displays the percentage breakdown of programming language types in the M&S Repository.

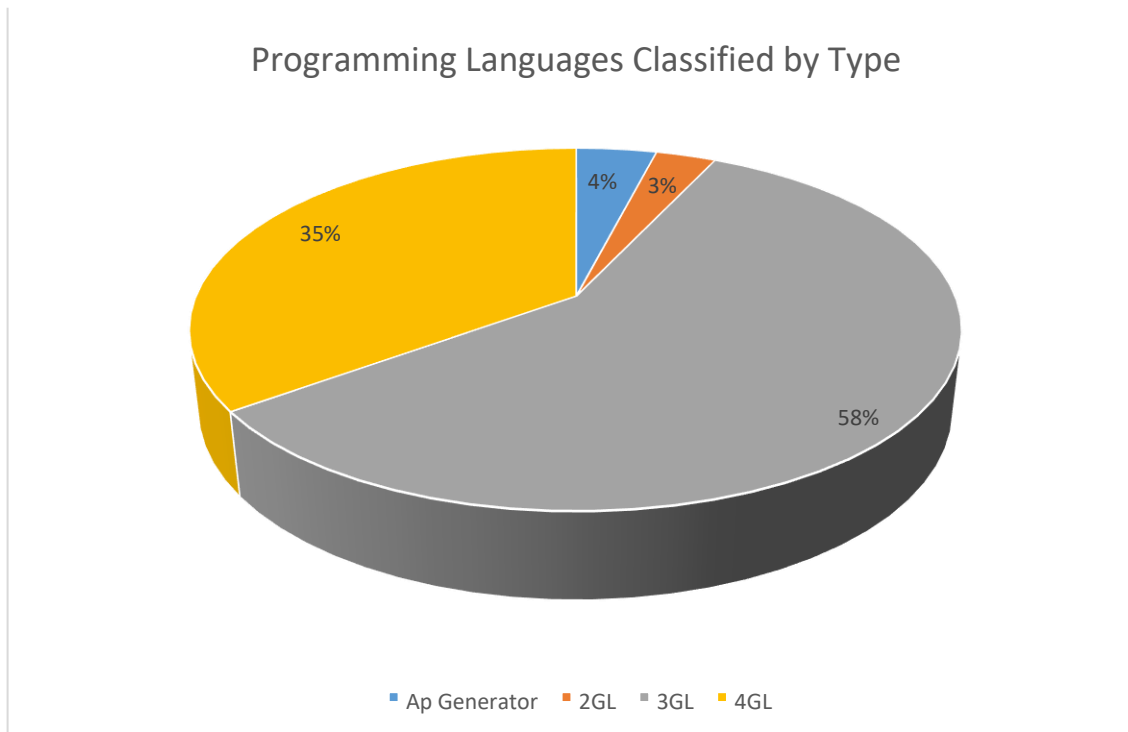
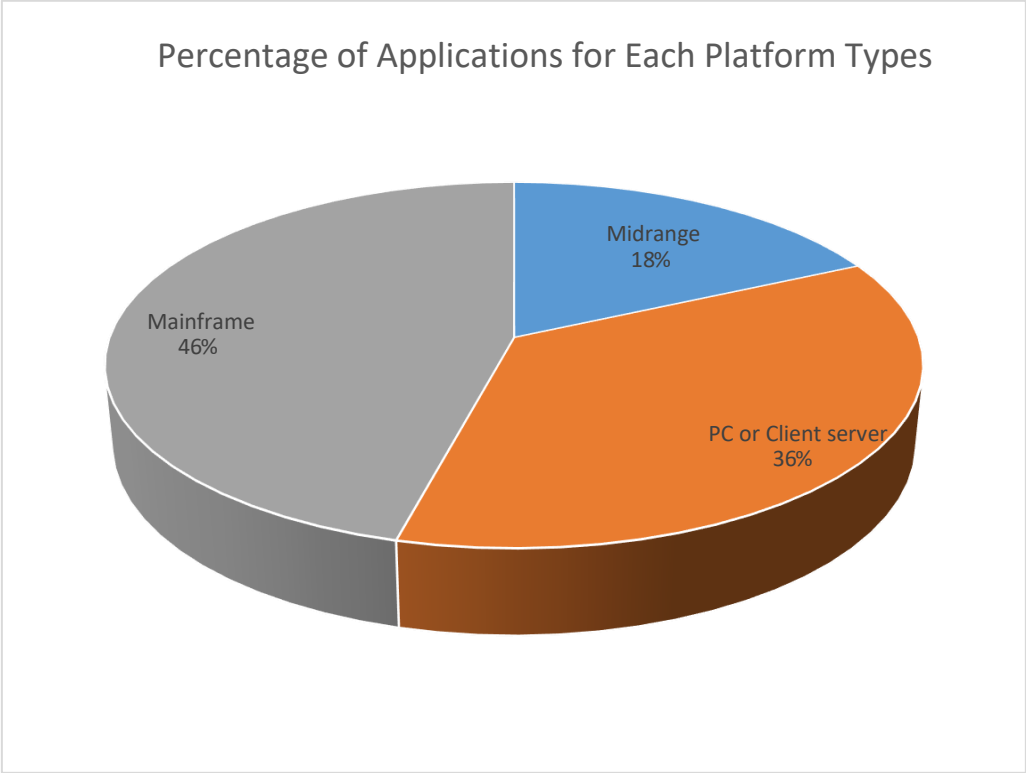


Chart 5: Programming Languages Classified by Type

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**Primary Platform Type**

Primary platforms are mainly classified as Mainframe, Midrange, PC or Client/Server. 214 M&S applications had their primary platform specified as one of these. The percentage breakdown of this classification is shown below.



**Chart 6: Percentage of Applications for each Platform Type**

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## **Appendix A - 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 applications and maintenance & support activities in order to help all organizations (commercial and government, suppliers and customers) in the software industry to understand and to improve their performance.

ISBSG sets the standards of software data collection, software data analysis and software application benchmarking processes and is considered to be the international thought leader in these practices.

The ISBSG mission is to help YOU and your organization improve the estimation, planning, control and management of your IT software applications 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/](http://www.isbsg.org/project-data/)

### **Help us to collect data**

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

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

### **Partners**

This page will help you to find an ISBSG partner in your country <http://isbsg.org/meetisbsgpartners/>