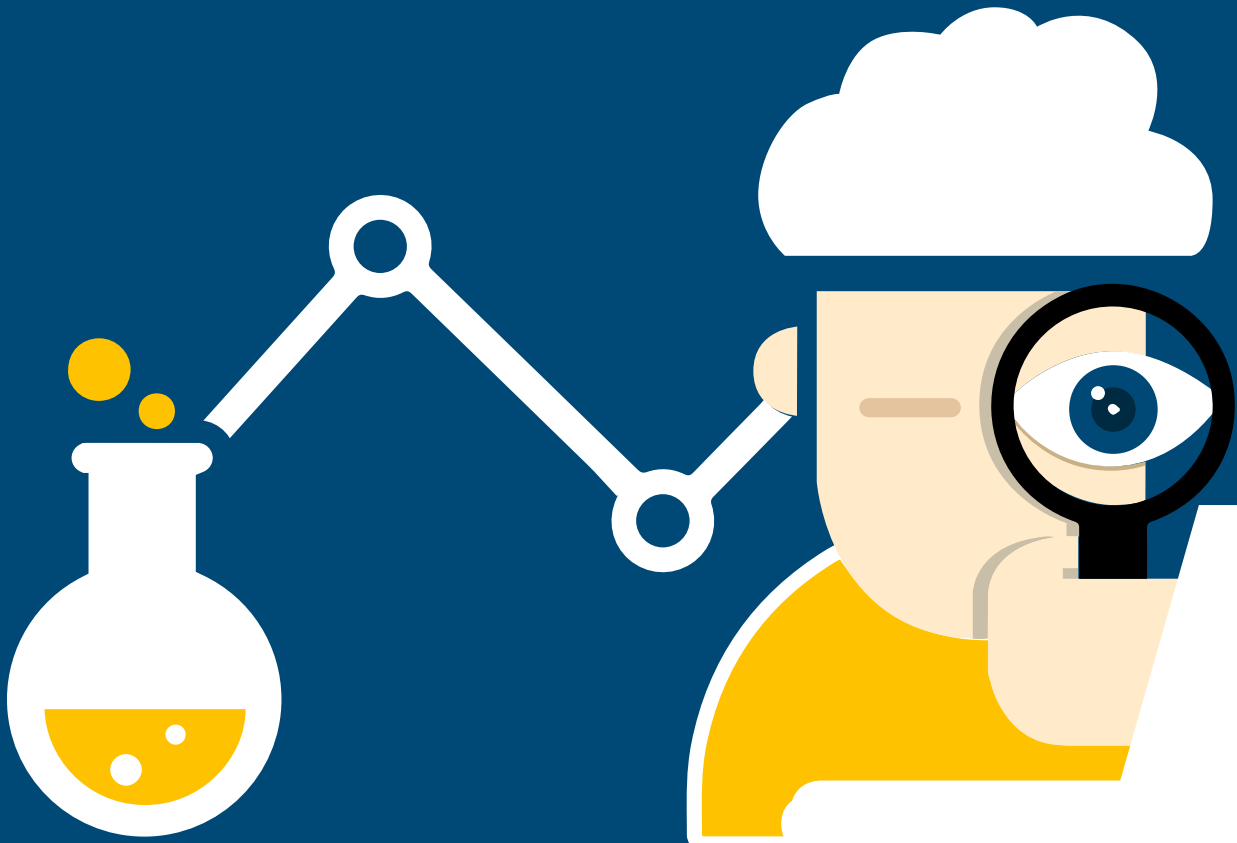


# The Global State of Software Testers



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## **Introduction**

### **Software Testing as an Industry and Career Path**

Software testing is the underlying glue holding together most companies across a long list of industries. Simply put, software testing services verify that each of your software application's functions operate in conformance with their behavioral requirement specifications ensuring behavioral adherence and quality. The testing industry encompasses a long list of different testing methods – mobile, website, security, cloud, billing, accessibility etc.

Software testing is an increasingly vital part of nearly every business because of growing automation in a myriad of industries, as well as the ever-expanding need for an online storefront and mobile presence. However, the types of testing and teams employed are changing, as are the career prospects within the testing industry. QualiTest will address both industry shifts and career shifts across the industry within this report.

## **QualiTest Group**

QualiTest is the world's second largest pure play software testing and quality assurance specialist. Founded in 1997, QualiTest designs and delivers solutions that leverage deep industry-specific understanding with cutting-edge, testing technology. QualiTest has witnessed the software testing industry grow and spearheaded innovation within it over the past twenty years.

## ■ The Global State of Software Testers Report

To compile this report, QualiTest analyzed LinkedIn data of software testing professionals globally, which included searching for job titles, work history, education, gender, etc. The goal was to compile an overarching report of the state of software testing professionals around the globe and shed light on the changes in this industry, as well as what the future of software testing might look like.

Unless otherwise specified, the term “software tester” encompassed searching for the following job titles in English for Past and Current: Software Tester, Software Test Engineer, Software QA Engineer, Software Quality Assurance Tester, Senior Software Test Engineer, Software Test Lead, Software Quality Engineer, Software QA Lead, Software Development Engineer In Test, Software Quality Assurance Analyst, Software Quality Assurance Manager, Senior Software QA Engineer, Software Quality Assurance, Software Test Analyst.

The questions posed before compiling the data were as follows:

- How has the state of software testers evolved?
- What are the global and gender differences within the software testing community?
- What skills must software testers possess, and how do they compare to past requirements?

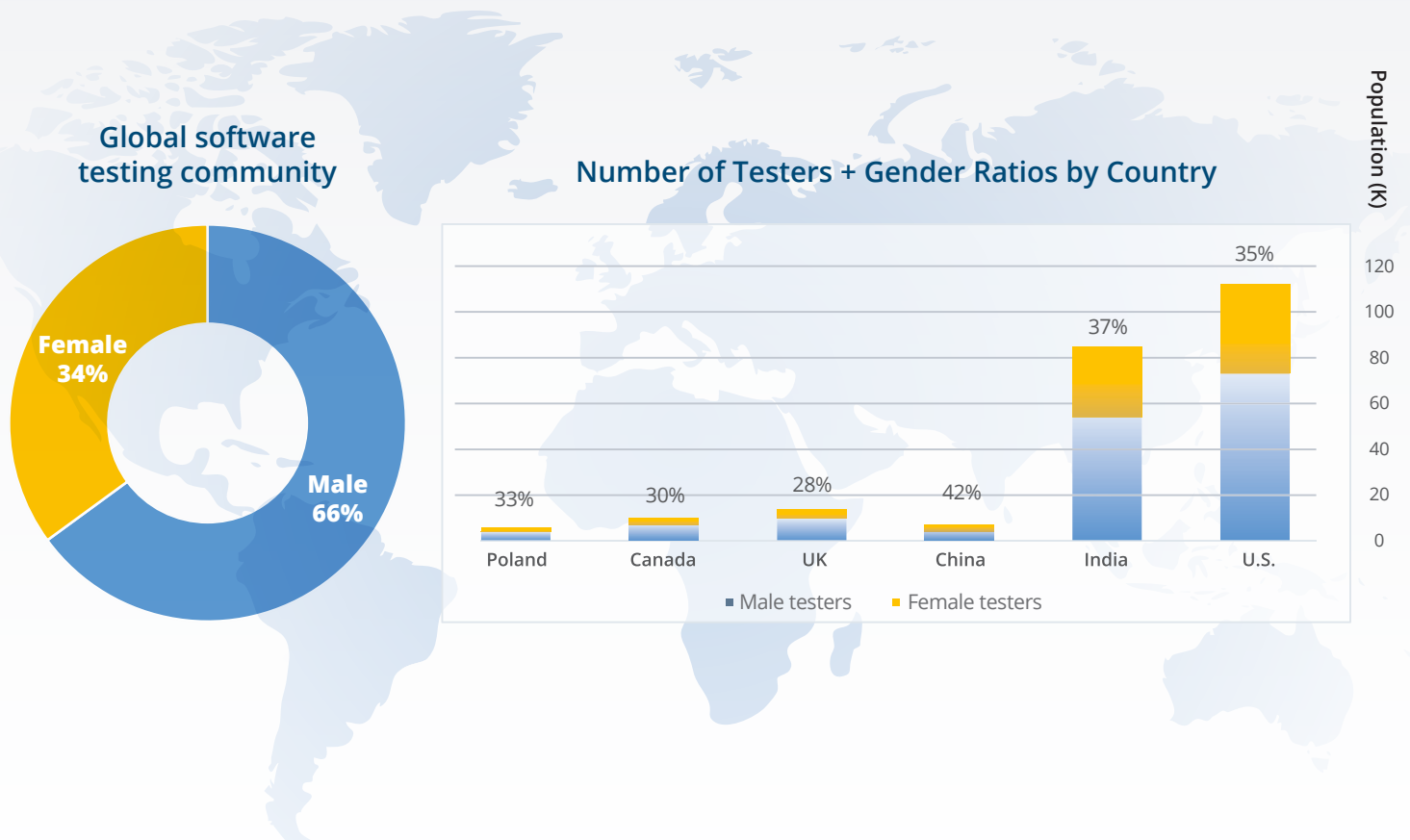


## I The Software Testing Profession Worldwide Global Gender Differences

QualiTest found that globally, the software testing community is split 66% male and 34% female. The differences between the countries with the most female testers, and those with the least, are substantial. QualiTest found interesting results when analyzing Chinese software testers. Even though LinkedIn shows 1,700,000 female testers and 1,400,000 male testers in China, the total number of software testers in China jumps to 34,000,000 once gender specification is removed. While some people may leave the field blank for a variety of reasons, over 90% of China’s workforce currently lacks LinkedIn gender detail (for China’s software testers, the ratio is closer to 63% unspecified). Gender ratios are calculated below by dividing female by (male + female), ignoring the unlisted gender segment in the denominator.

And the Winner Is...

China has the highest percentage of female testers at 42%, and the U.K. has the smallest percentage at 28%. After Poland, the countries with the most testers (Australia and the Philippines) have only 5,000. As LinkedIn rounds down to the nearest thousand, those countries lose statistical significance for this breakdown and therefore will not be displayed here. The countries with largest female to male ratios, in order, are China, India, the U.S., Poland, Canada, and the U.K. The percentages in these countries, respectively, are 42%, 36.5%, 34.8%, 33%, 30%, 28%.

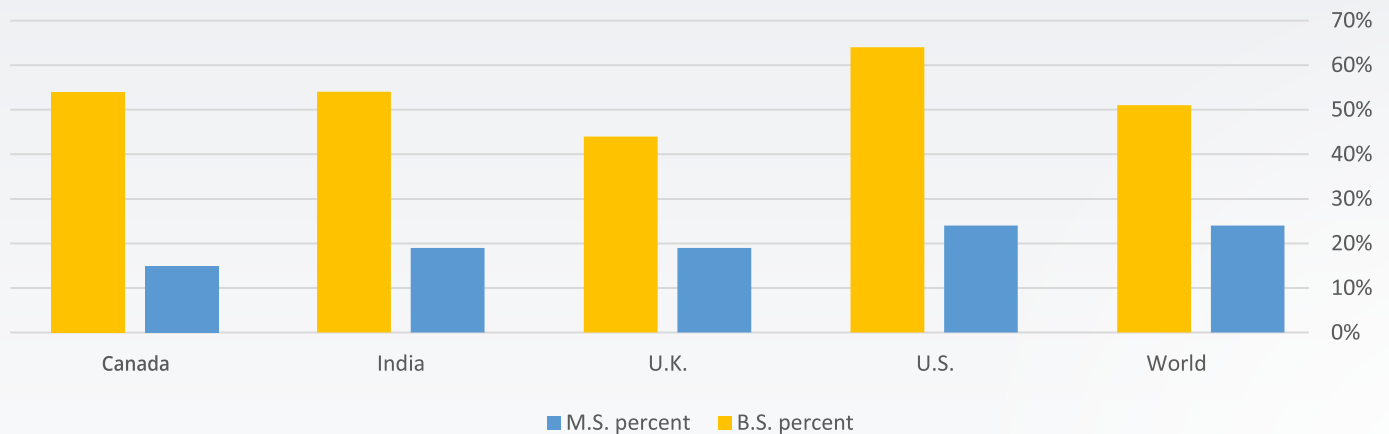


## Global Education Differences

Of countries that have at least 1,000 testers with M.S. degrees, the U.S. has the highest percentage of software testers with B.S. or M.S. degrees. In fact, 38.5% of the world's testers possess B.S. degrees, despite the U.S. accounting for just under 31% of the world tester population.

Of the four countries with over 1,000 testers with M.S. degrees, the U.K. has the lowest percentage of testers with B.S. degrees, and Canada has the smallest percentage of M.S. degrees.

### Breakdown of Software Testers' Degree by Country



## Per Capita Testers by Country Differences

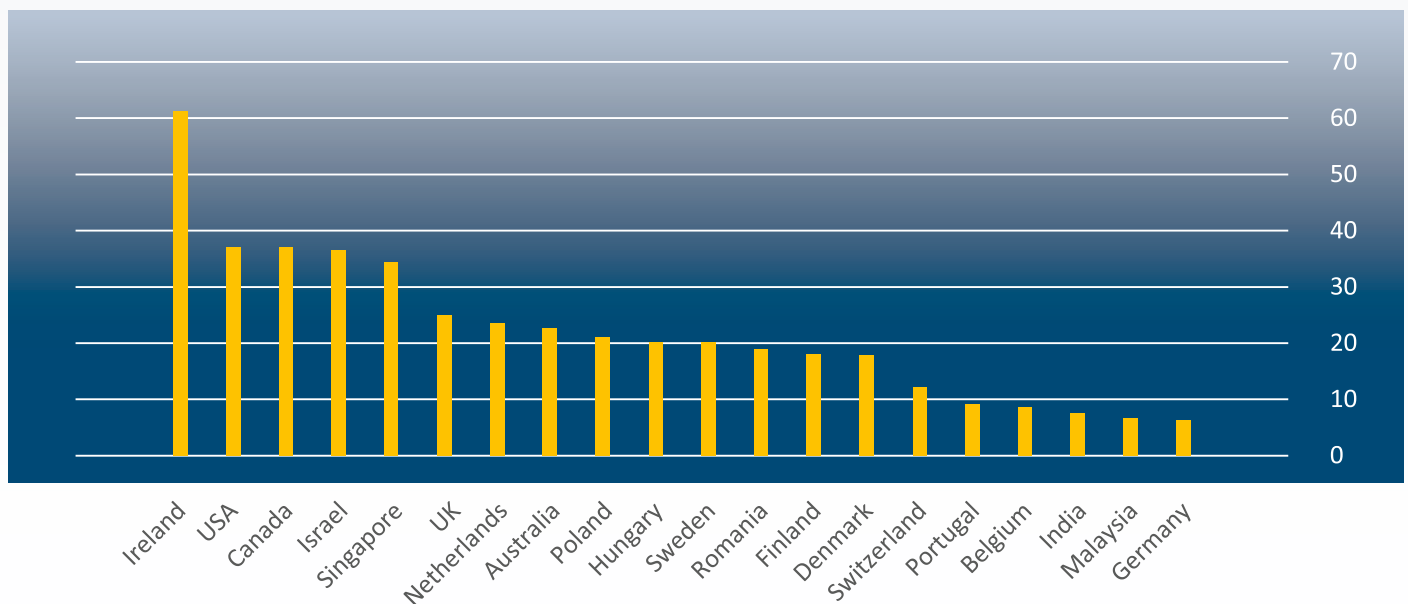
Ever wonder which country has the highest concentration of software testers?

QualiTest looked by country at the 14 most common software testing job titles in English, then compared them to each country's 2016 population (according to the World Factbook). These English job titles may help explain why some non-European countries scored low – are there really only 19,000 testers in China and <1,000 testers in Japan? Despite their large populations, Japan, Nigeria, and Bangladesh did not list software testers. Also, Iran and Burma are not listed in LinkedIn's country list. The U.S., Canada, and Israel were all clustered near the top, but one country blew them all away: Ireland! All countries that exceeded the global average are listed below. If the list continued with countries with ratios less than the world average, the Philippines, Taiwan, and Spain would have been next in that order, followed by Mexico, Italy, France, and Turkey. Russia, Pakistan, Brazil, China, and Indonesia, despite large populations, are farther down the list.

## Breakdown of Per Capita Testers by Country

Country	Testers (K)	Population (M)	Testers per 100K People
World	390	7400	5.2
Germany	5	80	6.25
Malaysia	2	30	6.6
India	95	1266	7.5
Belgium	1	11.4	8.7
Portugal	1	10.8	9.2
Switzerland	1	8.2	12.1
Denmark	1	5.6	17.8
Finland	1	5.5	18.1
Romania	4	21	19.
Sweden	2	9.9	20.2
Hungary	2	9.9	20.2
Poland	8	38	21.
Australia	5	22	22.7
Netherlands	4	17	23.5
U.K.	16	64	25
Singapore	2	5.8	34.4
Israel	3	8.2	36.5
Canada	13	35	37.1
U.S.A	120	323	37.1
Ireland	3	4.9	61.2

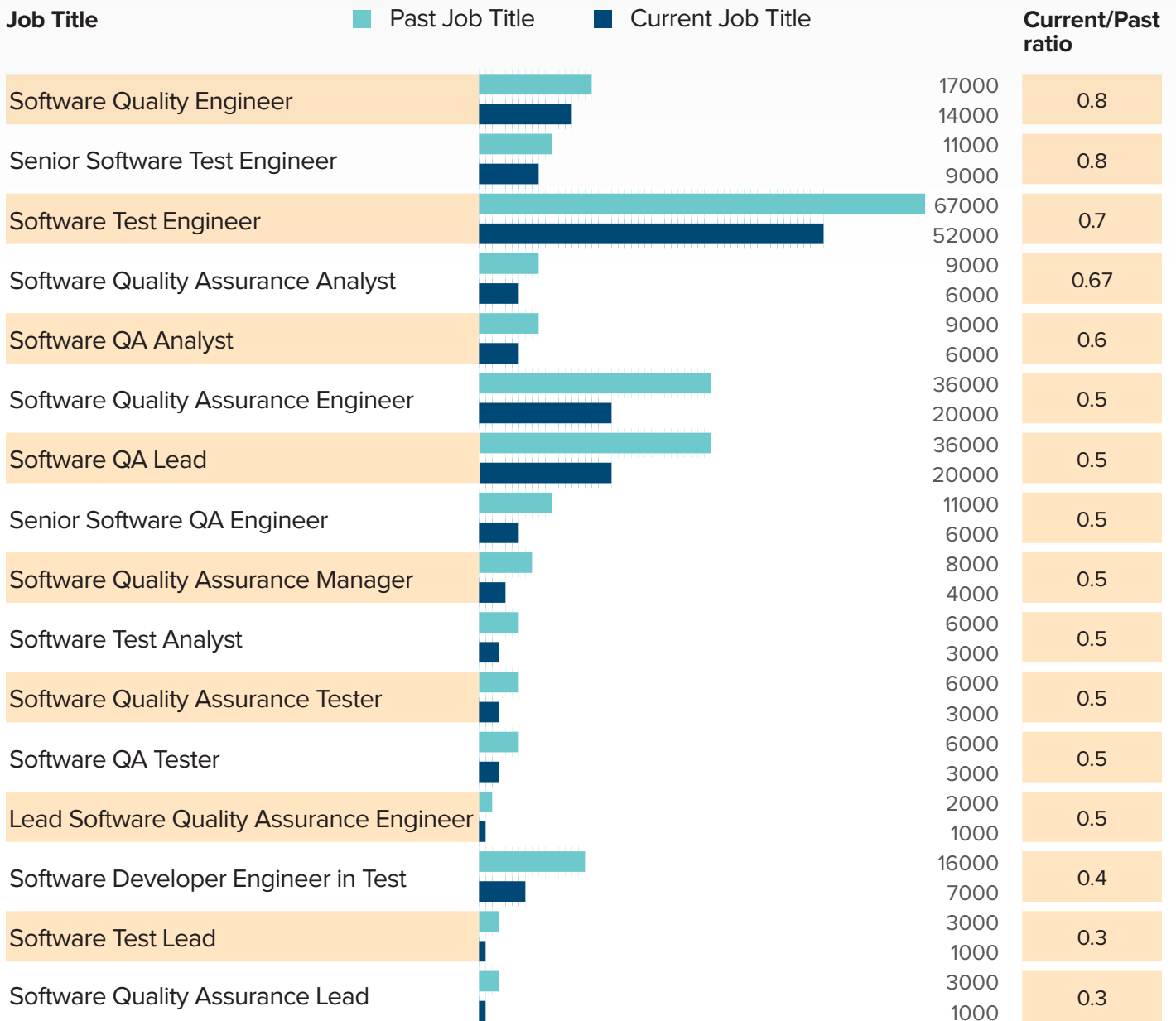
## Testers per 100K People



## Professional Development for Software Testers

In addition to the data on general tester listings and education levels, job titles reveal much about the state of the industry and those within it. Time has shown shifts in job title popularity. LinkedIn has seen a sharp decline of “lead” software testers compared to “senior” software testers, keeping in mind that it is logical that one’s position may advance over time. While not displayed, it was noted that people avoided using “Junior” in their job titles on LinkedIn, despite the number of jobs offered with “Junior” in the LinkedIn title. Worthy of additional consideration is the fact that people frequently have more past job titles than current ones, so the actual boundary for a job title popularity drop is not 1.00 but lower.

## Breakdown of LinkedIn Job Title Changes Over Time





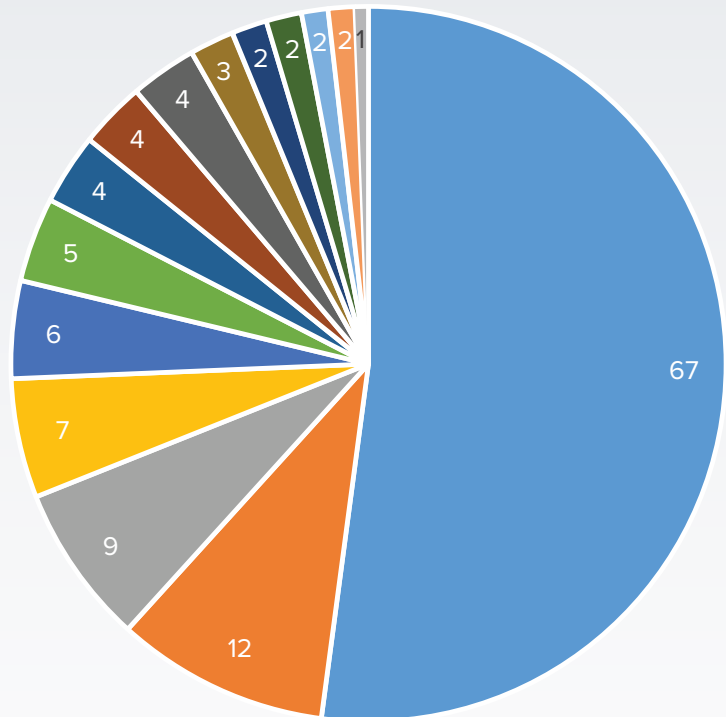
## Industry Differences

QualiTest looked at software testers past and current and studied the industries to which they were connected. Of LinkedIn's 17 industries, two thirds of all software testers work in high technology. This is followed (in order) by Manufacturing, Government, Finance, Consumer Goods, and Corporate Services. Half of the high technology workers (a third of all software testers) work in information/technology services, and another 30% (so 20% of all software testers) work in computer software. 25% of testers that work in the second largest industry, Manufacturing, work in Automotive. It is important to note that a software tester may be connected to more than one industry, so the sums for all testers in all industries exceeds 390K ending up at 499K, and the last column of the chart sums to more than 100%.

## Breakdown by Industry

- High Technology
- Manufacturing
- Government
- Finance
- Consumer Goods
- Corporate Services
- Media
- Medical/Healthcare
- Rec./Travel/Entert.
- Education
- Construction
- Service Industry
- Org./Non-profit
- Transportation

% of all testers in at least this industry



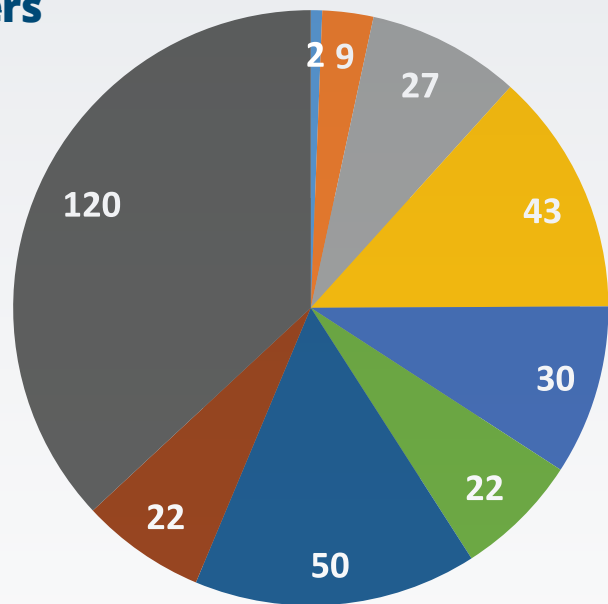
Industry	Testers (K)	% of all testers in at least this industry
High Technology	260	67%
Manufacturing	48	12%
Government	36	9%
Finance	27	7%
Consumer Goods	22	6%
Corporate Services	19	5%
Media	16	4%
Medical/Healthcare	15	4%
Rec./Travel/Entert.	15	4%
Education	10	3%
Construction	8	2%
Service Industry	8	2%
Org./Non-profit	6	2%
Transportation	6	2%
Arts	3	1%

## Company Size Differences

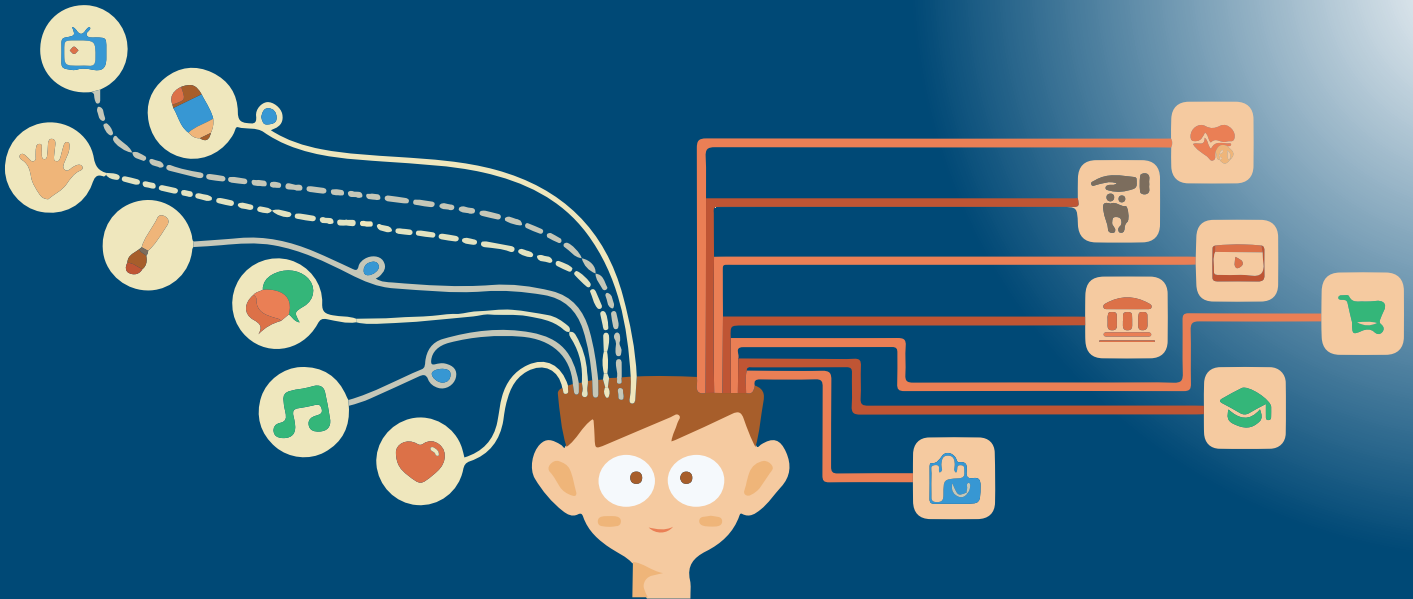
QualiTest looked at the size of companies that employ software testers past and current. While the answer is not an even progression, the two smallest sizes and the largest fit the pattern of “fewest at the smallest” and “most at the biggest.” The data says that more than half of all software testers work for companies larger than 1,000 people, and more than a third work at companies with over 10,000 people. Only an eighth work at companies with 50 or fewer employees.

## Breakdown in Company Size per Thousand Software Testers

- 1 employees
- 2-10 employees
- 11-50 employees
- 51-200 employees
- 201-500 employees
- 501-1,000 employees
- 1,001-5,000 employees
- 5,001-10,000 employees
- 10,001+ employees



Company Size	Testers (thousands)	%
1	2	1%
2-10	9	3%
11-50	27	8%
51-200	43	13%
201-500	30	9%
501-1,000	22	7%
1,001-5,000	50	15%
5,001-10,000	22	7%
10,001+	120	37%



## Report Summary & Highlights

- Globally, the software testing community is split about 66% male and 34% female.
- The country with the highest concentration of software testers is Ireland. After that, the U.S., Canada, and Israel are all clustered together, a little ahead of Singapore.
- The U.S. has more female software testers than any other country. It is followed by India, China, Canada, the U.K., and Poland, in that order. All other countries, according to LinkedIn, have 5,000 or fewer female software testers.
- The U.S. dominates the rest of the world when it comes to B.S. and M.S. degrees for their testers.
- QualiTest found that the tester job titles that have held up the best end in “Engineer,” not “Analyst” or “Tester.”
- The job titles with “lead” declined much more than “senior” for LinkedIn software testers. Additionally, software testers avoided using “Junior” for both past and current job titles on LinkedIn.
- Two thirds of all software testers work in the high technology industry. The next largest industry employer of software testers is Manufacturing.
- More than half of all software testers work for companies larger than 1,000 people, more than a third work at companies with over 10,000 people, and around an eighth work at companies with 50 or fewer.



**QualiTest** is the world's second largest pure play software testing and quality assurance specialist. QualiTest designs and delivers solutions that leverage deep industry-specific understanding with cutting-edge, testing technology. QualiTest offers a wide range of personalized testing solutions with years of expertise in the technology, telecom, healthcare, finance, defense, media, utilities and retail industries. With offices in the United States, the United Kingdom, Israel and India, the company serves over 500 customers and employs experienced professionals worldwide. QualiTest is backed by majority equity holder, Marlin Equity Partners since 2016.

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