

Crunching the Numbers

This year's QP Salary Survey was sent to 54,337 members. Of the 6,857 individuals who started responding to the survey, 6,093 completed the questionnaire, for a response rate of 11.2%. There were 47 responses that were complete but unusable because they included implausible earnings data that could not be validated. This left a total of 6,046 usable responses. Each of these responses fell into one of the employment categories in Table 1.

The data from the 5,682 full-time and part-time regular employees and the 55 regular employees who also work as self-employed consultants were used to create the 20 sections in "Part 1. Regular Employee Results." The data from the 158 self-employed consultants and the 55 regular employees who also work as self-employed consultants were used to produce the four sections in "Part 2. Self-Employed Consultant Results." It's notable that the number of regular employees who also work as self-employed consultants was down considerably from last year's 163.

Except for the information provided in Table 1, the salary survey report doesn't include data from the people who are unemployed, retired or laid off.

The vast majority of those who participated in the survey worked in the United States and Canada. Because there were few respondents from other countries, only a few sections in the salary survey report include results from this

group, which is labeled as "International." Sections 13 and 24 include the countries represented in this group.

You can learn whether a table or figure includes international results by glancing at the information boxes that accompany the graphics. These boxes also show whether the graphics include results from full-time and part-time respondents. Some boxes provide additional informative notes.

Of the 24 sections in the salary survey results, 19 can be found exclusively at www.qualityprogress.com under the tab "Tools and Resources." The website also includes the entire survey report in PDF format, which you can download. In case you're not familiar with the statistical terms and job titles in these sections, we've explained them here.

Statistical terms

Here are brief descriptions of the statistical terms used in the survey report:

- **Minimum salary:** The lowest salary reported in that particular group.
- **Maximum salary:** The highest salary reported in that particular group.
- **Standard deviation:** A measure of dispersion around the mean. In a normal distribution, 68% of cases fall within one standard deviation of the mean, and 95% of cases fall within two standard deviations. For example, if the mean salary is \$70,000 with a standard deviation of \$15,000, 95% of the cases are between \$40,000 and \$100,000 in a normal distribution.
- **Count:** The number of respondents in that particular group.
- **Mean salary:** The average salary for that particular group.
- **Median salary:** The 50th percentile—that is, the salary at which half the cases fall above and half below. If there is an even number of cases, the median is the average of the two middle cases.

Job titles

Here are the suggested definitions for the job titles used in the 2012 survey. Some of the definitions were compiled by an HR expert and have been revised through the years.

Employment status of respondents / TABLE 1

	Count	Percentage
A regular, full-time employee	5,608	92.8%
A regular, part-time employee	74	1.2
A regular employee who also is a self-employed consultant	55	0.9
A self-employed consultant	158	2.6
Unemployed, retired or laid off for more than six months	73	1.2
Unemployed, retired or laid off within the last six months	78	1.3

Table 1 includes results for: χ Full-time employees, χ Part-time employees, χ U.S. employees, χ Canadian employees, χ International employees

Based on respondent feedback, the titles will continue to be analyzed and revised periodically. All definitions are intended only as a guide:

Analyst: Initiates and coordinates quality-related data from production, service or process improvement activities and reports these data using statistical techniques.

Associate: Involved in quality improvement projects but not necessarily full-time. Does not necessarily have primary responsibility for traditional quality management, assurance or control activities.

Auditor: Performs and reports on internal or external quality system audits.

Black Belt (BB): Six Sigma or quality expert. Often a full-time team leader responsible for implementing process improvement projects in the organization to improve customer satisfaction levels and business productivity.

Calibration technician: Tests, calibrates, maintains and repairs electrical, mechanical, electromechanical, analytical and electronic measuring, recording and indicating instruments and equipment for conformance to established standards.

Champion: Business leader or senior manager who ensures resources are available for quality training and projects, and is involved in project tollgate reviews. Often an executive who supports and addresses Six Sigma organizational issues.

Consultant: Provides advice, facilitation and training on the development, administration and technical aspects of an organization's quality improvement efforts at any or all levels. Has expertise in some or all aspects of the quality field. This person can be from outside the organization or can be an employee of the organization.

Coordinator: Collects, organizes, monitors and distributes information related to quality and process improvement functions, possibly including compliance to and documentation of quality management standards, such as ISO 9001. Typically generates reports using computer skills and distributes those reports to various users in the organization or among customers and suppliers.

Director: Oversees all aspects of the organization's quality or business improvement efforts, such as developing and administering the program, training and coaching employees, and facilitating change throughout the organization. Responsible for establishing strategic plans, policies and procedures at all levels so quality improvement efforts will meet or exceed inter-

nal and external customers' needs and expectations.

Educator/instructor: Instructs or trains others on quality-related topics, tools and techniques. This person may be an employee of an organization, or teach in a university or college setting.

Green Belt: Operates in support of or under the supervision of a BB, analyzes quality problems and is involved in quality improvement projects. Has at least three years of work experience.

Inspector: Inspects, audits and reports on materials, processes and products using variable or attribute measuring instruments and techniques to ensure conformance with the organization's quality standards.

The response rate for this year's QP Salary Survey was **11.2%**.

Manager: Ensures the administration of the organization's quality, process or business improvement efforts within a defined segment of the organization. May be responsible for dealing with customers and suppliers on quality or performance issues. Typically has direct reports.

Master BB: Six Sigma or quality expert responsible for strategic implementations within the organization. Qualified to teach other Six Sigma facilitators the methods, tools and applications in all functions and levels of the organization. A resource for using statistical methods to improve processes.

Process/manufacturing/project engineer: Performs engineering work to evaluate manufacturing processes or performance improvement projects for optimization. May develop processes to ensure quality, cost and efficiency requirements are met.

Quality engineer: Designs, installs and evaluates quality assurance process sampling systems, procedures and statistical techniques. Designs or specifies inspection and testing mechanisms and equipment. Analyzes production and service limitations and standards. Recommends revision of specifications. Formulates or helps formulate quality assurance policies and procedures. May conduct training on quality assurance concepts and tools. Interfaces with all other engineering components within the organization and with

After validation, there were **6,046 useable responses** to this year's **salary survey**.

customers and suppliers on quality-related issues.

Reliability/safety engineer: Uses principles of performance evaluation and prediction to improve the safety, reliability and maintainability of products and systems. Plans reliability tests and conducts analyses of field failures. Develops and administers reliability information systems for failure analysis and performance improvement.

Software quality engineer: Applies quality principles to the development and use of software and software-based systems. Designs and implements software development and maintenance processes. Designs or specifies test methods for software inspection, verification and validation.

Specialist: As the primary assignment, performs a specific quality-related function in the organization's quality program. Examples include management representative, statistician and testing expert. Has received direct training or has been performing the activity for several years. Shows a high degree of skill performing that specific activity.

Supervisor: Administers the organization's quality improvement efforts within a defined department. Has direct reports who implement some aspect of the policies and procedures of the quality functions.

Supplier quality engineer/professional: Responsible for all quality improvement issues related to vendors and suppliers of materials, products or services

used in development or manufacture. Assesses potential new suppliers. Works with suppliers to develop and improve the entire supply chain. May be involved in purchasing.

Technician: Performs basic quality techniques—possibly including calibration—to track, analyze and report on materials, processes and products to ensure they meet the organization's quality standards.

Vice president/executive: Establishes the direction for the development and administration of the organization's quality improvement efforts. Consults with peers on the attitudes and practices of quality throughout the organization to develop an environment of continual improvement in every aspect of the organization's products and services. Acts as a champion for quality.

A note on currencies

For Canadian employees and consultants, salaries and earnings are noted in Canadian dollars. For all employees and consultants outside the United States and Canada, salaries and earnings are in U.S. dollars. Exchange rates were supplied by the respondents on the days they completed the survey. In the few cases in which respondents from different countries are evaluated together, all salaries are in U.S. dollars. In cases in which QP editors needed to convert currencies, the exchange rate used was from July 1, 2012.