CENTRAL AND EASTERN EUROPEAN QA OUTSOURCING REVIEW 2016-2017
Don't hesitate to be smart. Take QA
# TABLE OF CONTENTS

1. MESSAGE FROM THE PROJECT INSPIRATOR ........................................................................................................... 06

2. INTRO ...................................................................................................................................................................... 07
   2.1. Research Support of Outsourcing Associations ................................................................................................. 09
   2.2. Key Research Findings .......................................................................................................................................... 10
   2.3. Experts of the Research ........................................................................................................................................ 13
   2.4. Expert View ......................................................................................................................................................... 16

3. CEE REGION ANALYSIS ........................................................................................................................................... 26
   3.1. Market Volume .......................................................................................................................................................... 27
      3.1.1. Growth of the QA outsourcing services export market in 2017 - FORECAST ............................................... 27
      3.1.2. The latest QA services trends for the countries ................................................................................................ 28
      3.1.3. Top vertical markets where the companies operate in software testing ....................................................... 29
      3.1.4. QA services trends of the highest priority for respondent companies for 2017 ........................................... 30
   3.2. Market Rates .......................................................................................................................................................... 31
      3.2.1. Share of outsourcing companies by number of employees .............................................................................. 31
      3.2.2. The expected growth in the number of companies ........................................................................................... 31
      3.2.3. The increase in average rates by country 2017 forecast .................................................................................. 32
      3.2.4. Average maximum and minimum rates by country and position ...................................................................... 33
      3.2.5. Share of companies certified to comply with international standards ............................................................. 35
      3.2.6. How do companies improve the competency level of testers ...................................................................... 35

4. COUNTRY ANALYSIS .................................................................................................................................................... 36
   4.1. BELARUS ................................................................................................................................................................. 37
      4.1.1. Country snapshot ............................................................................................................................................... 37
      4.1.2. Services ............................................................................................................................................................... 38
      4.1.3. Technical expertise ............................................................................................................................................ 41
      4.1.4. Market estimation .............................................................................................................................................. 44
   4.2. BULGARIA ................................................................................................................................................................. 47
      4.2.1. Country snapshot ............................................................................................................................................... 47
      4.2.2. Services ............................................................................................................................................................... 48
      4.2.3. Technical expertise ............................................................................................................................................ 51
      4.2.4. Market estimation .............................................................................................................................................. 54
   4.3. ESTONIA ............................................................................................................................................................ 57
      4.3.1. Country snapshot ............................................................................................................................................... 57
      4.3.2. Services ............................................................................................................................................................... 58
      4.3.3. Technical expertise ............................................................................................................................................ 60
      4.3.4. Market estimation .............................................................................................................................................. 62
## TABLE OF CONTENTS

4.4. HUNGARY .......................................................................................................................... 64
  4.4.1. Country snapshot ........................................................................................................ 64
  4.4.2. Services ........................................................................................................................ 65
  4.4.3. Technical expertise .................................................................................................... 67

4.5. LATVIA ............................................................................................................................ 70
  4.5.1. Country snapshot ........................................................................................................ 70
  4.5.2. Services ........................................................................................................................ 71
  4.5.3. Technical expertise .................................................................................................... 73
  4.5.4. Market estimation ...................................................................................................... 74

4.6. MACEDONIA ................................................................................................................... 76
  4.6.1. Country snapshot ........................................................................................................ 76
  4.6.2. Services ........................................................................................................................ 77
  4.6.3. Technical expertise .................................................................................................... 79
  4.6.4. Market estimation ...................................................................................................... 81

4.7. MOLDOVA ....................................................................................................................... 83
  4.7.1. Country snapshot ........................................................................................................ 83
  4.7.2. Services ........................................................................................................................ 84
  4.7.3. Technical expertise .................................................................................................... 86

4.8. POLAND .......................................................................................................................... 87
  4.8.1. Country snapshot ........................................................................................................ 87
  4.8.2. Services ........................................................................................................................ 89
  4.8.3. Technical expertise .................................................................................................... 91
  4.8.4. Market estimation ...................................................................................................... 94

4.9. ROMANIA ........................................................................................................................ 98
  4.9.1. Country snapshot ........................................................................................................ 98
  4.9.2. Services ........................................................................................................................ 99
  4.9.3. Technical expertise .................................................................................................... 102
  4.9.4. Market estimation ...................................................................................................... 105

4.10. SERBIA .......................................................................................................................... 107
  4.10.1. Country snapshot ...................................................................................................... 107
  4.10.2. Services ..................................................................................................................... 108
  4.10.3. Technical expertise .................................................................................................... 110
  4.10.4. Market estimation .................................................................................................... 113

4.11. UKRAINE ....................................................................................................................... 116
  4.11.1. Country snapshot ...................................................................................................... 116
  4.11.2. Services ..................................................................................................................... 117
  4.11.3. Technical expertise .................................................................................................... 120
  4.11.4. Market estimation .................................................................................................... 123
# TABLE OF CONTENTS

5. PARTNERS OF THE RESEARCH ........................................................................................................ 126
   5.1. UKRAINIAN HI-TECH INITIATIVE .................................................................................. 127
   5.2. INFO PARK ....................................................................................................................... 128
   5.3. MASIT ............................................................................................................................... 129
   5.4. HOA .................................................................................................................................. 130
   5.5. ANIS .................................................................................................................................. 131
   5.6. IT UKRAINE ...................................................................................................................... 132
   5.7. SEETB .............................................................................................................................. 133
   5.8. INFOBALT ....................................................................................................................... 134

6. INFOPARTNERS OF THE RESEARCH .................................................................................... 136
   6.1. COMPUTERWORLD.BG .................................................................................................. 136
   6.2. DEV.BY ........................................................................................................................... 136

7. COMPANIES BY COUNTRIES .............................................................................................. 138
   7.1. BELARUS ........................................................................................................................ 139
   7.2. BULGARIA ..................................................................................................................... 142
   7.3. ESTONIA ........................................................................................................................ 143
   7.4. HUNGARY ....................................................................................................................... 143
   7.5. LATVIA .......................................................................................................................... 145
   7.6. MACEDONIA .................................................................................................................. 145
   7.7. MOLDOVA ...................................................................................................................... 146
   7.8. POLAND ........................................................................................................................ 146
   7.9. ROMANIA ....................................................................................................................... 149
   7.10. SERBIA ........................................................................................................................ 152
   7.11. UKRAINE ..................................................................................................................... 153
   7.12. OTHER COUNTRIES WITH R&D OFFICES IN CEE REGION ..................................... 161

8. ENDNOTES .............................................................................................................................. 164

9. EDITORS OF THE RESEARCH .............................................................................................. 165

10. COPYRIGHT ............................................................................................................................ 165
Nowadays IT industry plays the role of economic development driver. Despite of the economic crisis the IT field shows stable growth and more and more important clusters of provided services are detected. One of such clusters in IT industry and software development are QA and Testing Services.

Modern consumer is very demanding. We should deeply understand his needs.

The modern consumer is very demanding and he does not forgive any mistakes and bugs in the services that he uses. That is why the importance and significance of QA and testing services are growing fast. The use of QA at the stage of development and pre-launch of a product is the guarantee of reliability, security, performance and usability of the software. These are the most important issues for the success of the product considering the severe competition for a customer nowadays. Software testing and improvement of all the inconsistencies in its actual performance guarantees a positive consumer experience while interacting with the product.

In 2016 the development of QA outsourcing services showed active growth rates in Central and Eastern Europe. We associate this increase with the fact that today it is not enough for a tester to be just a good performer of testing services. Analytical thinking, unconventional point of view, desire to get to the causes of non-compliance, active involvement in solution seeking – these are the main features of a good tester that reflect the mentality of the Eastern European and Slavic cultures.

Considering all those factors, CEEOA together with Ukrainian Hi-Tech Initiative decided to conduct the research «CEE QA Outsourcing Review 2016-17» in order to demonstrate the necessity and potential of QA and testing services development in Eastern and Central Europe.
«Central and Eastern European QA Outsourcing Review 2016-17» is the project of the Central and Eastern European Outsourcing Association (CEEOA).

Strategic objectives of the association are:

- to create, develop and present a positive image and main value proposition for the CEE region as a competitive alternative to other global IT business processes and manufacturing outsourcing destinations;
- to improve business viabilities and the services delivery capabilities of CEE service providers through strengthening knowledge and business management competencies to increase overall skill levels to attract more prospects;
- to promote outsourcing as a useful management tool for companies in a variety of different industries in the CEE region;
- to promote a transparent and open business environment, including the creation of CEE regional and international networking opportunities; to further operational value to our customers by promising and delivering high quality products and services at fair prices, and by building strong economic, technical and social ties among the members of the CEEOA;
- to promote free and open competition.

Research Objectives

«Central and Eastern European QA Outsourcing Review 2016-17» uncovers the latest trends in Software Quality Assurance and Testing, examines the current state of application quality and testing practices across the countries in CEE region.

The main objective of this research is to create an annual impartial view of the state of the QA outsourcing services industry in the CEE region. It also provides specialists with up-to-date information to make decisions about QA outsourcing in the CEE region and can become the starting point for long-term and mutually beneficial relationships.

The research is undertaken by Ukrainian Hi-Tech Initiative with the support of Hungarian Service and Outsourcing Association (HOA), Employers’ Association of the Software and Services Industry (ANIS) from Romania, Bulgarian Web Association (BWA) and Association of IT & Business Process Services Companies in Poland (ASPIRE), Hi-Tech Park Belarus.
During this timeframe, interviews were held with representatives from large companies operating in the outsourcing services market, outsourcing associations and software development associations in 14 countries that comprise the CEE region, as well as members of the CEEOA.

The survey form consisted of the following four main sections:

- General Information
- Services
- Technical expertise
- Market estimation

Brief profiles of the responding companies and full profiles of the leading companies from the CEE region are published in the 'List of Respondents' section of the report. The profiles include direct links to the companies' full profiles in the QAlist.eu catalogue.

Respondents include 87 companies that participated in the online surveys, verbal interviews with representatives from 29 companies and 19 representatives of associations, as well as answers provided by market experts on the market volume assessment and the main development trends in the QA outsourcing industry in the region.

The results of the survey reveal that nearly 149 companies operate in the industry of QA outsourcing and software development services in the 16 countries of the CEE region. More than 6% of market players were surveyed, including those respondents which completed averagely 90% of the survey. The high level of responsiveness from a large number of companies demonstrates the representative strength of the data, which have an error variance of just 3%.

The catalogue includes profiles of companies with general information about the company and information about company’s QA services, technologies and clients. Visitors of the site can search companies on the list by four criteria, as well as by more than 250 technical and business categories in the advanced search field.

One of the main objectives of this catalogue is to promote the information about QA outsourcing services providers from the CEE region and to create an easy way to search permanent regional catalogue of companies providing QA outsourcing services in the CEE region.
Central and Eastern European Outsourcing Association (CEEOA) was founded in 2008. The members of the association are the leading national IT and Outsourcing associations, among them there are Baltic Outsourcing Association (BOA), Ukrainian Hi-Tech Initiative, Hungarian Service Industry and Outsourcing Association (HOA), Employers’ Association of the Software and Services Industry (ANIS) from Romania, Bulgarian Web Association (BWA) and Association of IT & Business Process Services Companies (ASPIRE).

Central and Eastern European Outsourcing Association (CEEOA) brings together the Associated bodies of the CEE region in a powerful, active and developing association to exchange thought leadership as well as network to position the Central and Eastern European region as competitive alternative to other global IT outsourcing and business process outsourcing destinations.

CEEOA strives to become an effective resource of industry knowledge, effective promotional tool, and effective communication channel for service providers allowing them wide range international expansion. The association promotes and shares the best practices, benefits, expert information and research findings, and innovative solutions gained in outsourcing industry from the CEE countries.

Ukrainian Hi-Tech Initiative (HTI) is a leading Ukrainian alliance in offshore software development and IT services industry. The mission of the alliance is to promote Ukrainian software development and IT support providers in the global market.

Hi-Tech Initiative provides the Ukrainian software developers with the opportunity to enhance their business in the areas of IT outsourcing services and offshore programming by using the partner network and marketing channels of the Initiative in the global markets.

Ukrainian Hi-Tech Initiative provides the services in establishing partnerships, collaborating in IT projects implementation, assisting in BPO between the Ukrainian and foreign companies. The alliance also provides the foreign companies with consultations about general and specific aspects of business development, assistance with setting up their business in Ukraine, and with identifying the right partners.
Today global market places more and more demands for products and services that vendors offer. Consumer demands for product quality are increasing strongly with each passing day.

Strong producers are those, who can meet the needs and increasing requirements of the consumers. Implementation of QA at the stages of development, testing and upgrading of software is becoming widespread. It helps, developers and other IT markets players to win and retain consumer interest in development due to their high quality and rising effectiveness.

Efficiency of QA testing becomes more and more important, whether it is a small app or large-scale e-commerce projects. It plays an increasingly important role in software development and testing companies.

The development of QA outsourcing segment in the CEE region is very perspective, especially taking into account the increasing demand for QA specialist services from the region, that is confirmed by the results of the research.
Key Research Findings

The most modern QA trend for the countries

QA trends of the highest priority for companies

Top vertical markets

Automation of testing, especially early testing

66% of respondent companies from CEE region have determined this trend as the most modern QA trend for their country.

Earlier detection of bugs in software products with automation testing processes has become the key factor for developer to succeed on the market.

But respondents of the research are also worried about the quantity of needed and up-to-date working specialized testers with the high testing skills for test automation. The market of qualified automated testers doesn’t grow as fast as the market demand on their skills.

Cloud-based testing (Virtualization and Cloud Computing)

Cloud computing has grown in recent years and more and more software developers are now working in the cloud. It was the basis for testing companies to make a huge step to Cloud-based testing trend.

Rapid growth in Mobile testing

Due to the huge leap in the development of mobile applications, mobile testing is increasingly becoming a priority for developers in 2016. They need to ensure that every app meets high requirements of a modern consumer. Because of the high level of competition in this market, only effective working applications can ensure customer’s loyalty to the app of the developer.

Information Technology, Communications, Financial Services, Healthcare & Pharmaceuticals remain the most popular markets for testing services provision. The percent of a typical IT/R&D project budget allocated to software testing remains the highest in Communications rather than in Financial Services and IT.
The data suggests that the costs associated with providing QA outsourcing services from CEE region companies are not very sensitive to the weak overall economic situation.

The usage of the detailed online survey allowed CEEOA to gather enough information to calculate the average rates by countries and rates by several qualification levels including: Junior QA Engineer, Medium QA Engineer, Senior QA Engineer, QA Test Analyst, QA Project Manager. Specialization was not taken into account. The question from the survey regarding rates by specialization was: «What is the average cost of man-hour for standard project in your company (in USD) for Junior QA Engineer, Medium QA Engineer, Senior QA Engineer, QA Test Analyst, QA Project Manager».

The average rates by country were calculated using the following formula: +20% Junior QA Engineer, +40% Medium QA Engineer, +20% Senior QA Engineer, +10% QA Lead, +5% QA Project Manager, +5% QA Test Analyst in the country.

The average number of members in a typical team used for this formula was ten specialists.

Calculated rates are based on the amount the end customer’s pays for the services of an IT specialist per hour, including salary, taxes, facilities, etc.
To read the complete document, please, download it at the QA Outsourcing Review 2016 - 2017 page.