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## **Preface**

The IEEE Russia North West Section and the European Centre for Quality (Moscow) are pleased to present the Proceedings of the 2019 International Conference "Quality Management, Transport and Information Security, Information Technologies" (IT&QM&IS).

The Conference was held in Sochy, Russia on September 23–2, 2019. The Organizing Committee believes and trusts that we have been true to the spirit of collegiality that members of IEEE value whilst also maintaining a high standard as we reviewed papers, provided feedback and now present a strong body of published work in this collection of proceedings.

The themes for this year's conference were chosen as a means of bringing together academics and industrialists, engineering and management research, manufacturing and teaching, and providing a basis for discussion of issues arising across the engineering and business community in relation to Quality Management, Information Technologies, Transport and Information Security aimed at developing engineers and managers for the future.

The goal of these proceedings has been to present high quality work in an accessible medium, for use in a wide community of academics, engineers, managers, and industrialists, the community united by the key words Science, Education, Quality, Innovations in engineering. To achieve this aim, all abstracts were blind reviewed, and full papers submitted for publication in this journal of proceedings were subjected to a rigorous reviewing process.

Prof. Vladimir N. Azarov,  
Dr. Sergey O. Shaposhnikov,  
Co-Chairs of the Conference Organizing Committee

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# Evaluation of the Results of E-Learning practice in Russia and Prospects for Its Development

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**Abstract** — The paper presents the analysis of e-learning technologies adoption in the higher education environment in Russia and advanced countries. Online study grows rapidly in the modern world. This area of higher education in Russia does not currently exceed the global growth rate but is developing rapidly, especially in external programs and advanced training.

**Keywords:** e-learning; distance learning technologies; regulatory documents

The development of distance learning technologies traces its roots in XVIII century when postal service began to spread quickly. Students and teachers interacted by means of mail.

The timeline of distance technologies in the educational environment has three main stages presented in Table 1.

TABLE 1. THE TIMELINE OF DISTANCE TECHNOLOGIES

Stage	Year	Forms of learning materials	Means of implementing educational technologies
1	1920 - 1969	Printed materials Audio materials TV- courses	Development of the railway system Development of radio Development of TV
2	1969 - 1980	Printed materials	
3	1980 - present	Electronic educational environment	Development of global Internet network

The implementation of distance technologies in every country should be regulated by regulatory documents.

The analysis of the existing legal framework in Russia shows that all the regulatory documents in the Russian Federation related to the development of e-learning educational programs can be divided into three main categories:

- documents of the Federal level,
- documents of the Ministry of science and higher education of Russia,
- local legislative instruments.

The first category includes:

- Federal law no. 273-FZ "On education in the Russian Federation" dd. December, 29, 2012 as amended and supplemented;

- Decree of the Government of the Russian Federation no. 682 "Concerning approval of regulations of the Ministry of science and higher education of the Russian Federation and invalidation of some acts of the Government of the Russian Federation" dd. June, 15, 2018.

The main documents of the second category are:

- Order of the Ministry of science and education of the Russian Federation no. 816 "On approval of the procedure of e-learning, distance learning technologies in the implementation of educational programs for organizations engaged in educational activities" dd. August, 23, 2017;
- Order of the Ministry of science and education of the Russian Federation no. 22 "On approval of description of occupation and qualifications of secondary vocational education, where implementation of educational programs with the use of exclusively e-learning, distance learning technologies is not allowed" dd. January, 20, 2014.

The documents of the third category include local regulations of educational institutions.

The study of the requirements of the above mentioned documents shows:

1. Federal legislation provides development and use of e-learning, as well as distance learning technologies in the implementation of educational programs.
2. The Ministry of science and higher education of the Russian Federation is instructed to determine the description of occupation, qualifications and areas of education, as well as the procedure of using e-learning and distance learning technologies by educational institutions in educational programs implementation.
3. Educational institutions are allowed to carry out e-learning in professions, specialties and areas of education defined in the list of the Ministry of science and higher education of Russia.

Analysis of introducing distance learning technologies in the educational environment shows that today the market of educational services, both in Russia and in other countries of

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