

# Europeana newspapers project contribution to the freedom of information: finding out about Nikola Tesla from historical newspapers

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## **Abstract**

Newspapers are very valuable source of information on the events and people, both contemporary and historic. Nikola Tesla was an extraordinary inventor and scientist whose achievements changed the lives of millions. So far it was very expensive and time-consuming if one was to find information about his life and work in newspaper articles published during his lifetime. Nikola Tesla Museum in Belgrade possesses about 70 000 newspaper clippings, but they are not digitized.

EU funded CIP ICT-PSP project „A Gateway to European Newspapers“(2012–2015) will provide portal Europeana with 18 million pages of digitized newspapers. Seventeen partnering institutions will provide examples of best practice for future projects that involve digitization of newspaper materials. For the first time a huge corpus of fully searchable materials will be available in Europeana.

Project result will enable everybody to search and read about Tesla, or any other subject, without the obligation to go to a library, museum or to spend a lot of money. The users will have the chance to find contemporary newspaper information on Tesla that paint a different and perhaps a more objective picture than later publications on this great man.

During the General Assembly of the project held in Paris in January 2013, partners agreed to invite 11 more European libraries to join the project as associated partners. It will be an opportunity to share the knowledge gained and expose digitized newspapers content of associated partners through Europeana. National Library of Czech Republic is among them.

**Keywords: Europeana newspapers project, Nikola Tesla, digitized newspapers**

### *Introduction*

Newspapers are the unique resource that provide up to date information on local, regional, national and world affairs, cultural events, personal information about contemporaries, advertisements of all kind, enabling readers to get knowledge and understanding of times and places that no other written source could give them (Hannabuss, S. 1995). Jay Black and Jennings Bryant wrote that newspapers, as all mass media, play four major roles: informing, entertainment, persuasion and transmission of culture (Black, J. 1995). When analyzing news from different newspapers it is important to have the opportunity to compare different sources, because selection and presentation of the same events or persons can be very different depending on the editorial policy, reliability and presenting skills of reporting persons, social context etc.

There are a lot of on-going projects concerning digitization of newspapers in libraries all over the world. Libraries choose to digitize newspapers for many reasons: they are printed on low quality paper that is deteriorating, its conservation is expensive, they are not easy to manipulate. For old newspapers it is a common situation that in libraries some issues or some pages are missing, and the users have to go from library to library to collect all information they are looking for.

### *Europeana Newspapers Project*

Association of European Research Libraries LIBER decided to bring to public attention historic material lying in newspaper collections of European research libraries and make it available to all potential users via the portal Europeana. EU funded CIP ICT-PSP project „A Gateway to European Newspapers“ (2012-2015) will provide Europeana and its world audience with 18 million pages of digitized newspapers. Examples of best practice for future projects that involve digitization of newspaper materials will provide 17 partnering institutions from 12 countries. For the first time a huge corpus of fully searchable newspaper materials will be available in Europeana, as 10 million of newspaper pages will be refined through usage of OCR (optical characters recognition) and 2 millions of those pages refined with NER (names recognition) for English, German and Dutch languages and OLR (articles segmentation). First step was the analysis of

existing digital collection at partner institutions and embedding the results in “Zeitschriftendatenbank” of Staatsbibliothek zu Berlin (Union Catalogue of Serials).

During the General Assembly of the project held in Paris in January 2013, project partners agreed to invite 11 more European libraries to join the project as associated partners. It will be an opportunity to share the knowledge gained in the project and expose digitized newspapers content of associated partners through Europeana. National Library of Czech Republic is one of the associated partners and will be joining the project as of June 2013 at the project meeting in Belgrade, Serbia.

The best way to understand the importance of this project is to analyze the present situation and the way it will change thanks to the project realization. We chose a well-known person with a unique name, Nikola Tesla (1856-1943), and searched for articles connected to him and his work in all digitized newspapers available now and anticipated the results that will be available after the end of the project.

### *Nikola Tesla (1856-1943)*

Nikola Tesla was an extraordinary inventor and scientist whose achievements changed the lives of millions and his life and achievements are an interesting topic for people. Many of his predictions are now really present in everybody’s day life. For example, in 1926, in an interview in magazine *Colliers*, he said: “When wireless is perfectly applied the whole earth will be converted into a huge brain, which in fact it is, all things being particles of a real and rhythmic whole. We shall be able to communicate with one another instantly, irrespective of distance. Not only this, but through television and telephony we shall see and hear one another as perfectly as though we were face to face, despite intervening distances of thousands of miles; and the instruments through which we shall be able to do this will be amazingly simple compared with our present telephone. A man will be able to carry one in his vest pocket.”

Nikola Tesla was American scientists of Serbian origin, known as the inventor of the rotating magnetic field and of the complete system of the production and distribution of electrical energy based on the use of alternate currents, also known for the generators of high-frequency alternate currents and high-voltage coreless transformer “Tesla Coil” and for his ill-fated attempt at intercontinental wireless transmission in his unfinished Wardencliff Tower project.

From 1875 to 1878 Tesla studied at the Polytechnic in Graz and in 1880 he tried to enroll at Charles’ University in Prague, but he arrived too late and he never studied Greek and was illiterate in Czech, which were two required subjects. In 1881 Tesla moved to Budapest. In Budapest he used to work at the Central Telegraph Office and there began his career as inventor. After that, in 1882, he arrived on the idea of the rotating magnetic field and at the same year began to work as engineer for the *Continental Edison Company* in France. Because of that, from October 1883 to February 1884 Tesla was in Strasbourg where he made the prototype of the induction motor.<sup>1</sup> In 1884 he started

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<sup>1</sup> Nikola Tesla Museum [www.tesla-museum.org](http://www.tesla-museum.org).

working at the Edison Company in USA and in 1886 founded his own “Tesla Arc & Light Co.” where he designed electrical arc light based illumination systems. At the invitation of the Royal Society in London and French Physical Society, in 1892, Tesla travelled to London and Paris to give lecture on “Experiments with alternate currents of high potential and high frequency” and also visited Belgrade than. He was the first scientist on the American continent who made X-ray experiments and photos of hands, skulls, knees and elbows. With the support of George Westinghouse, American inventor and industrialist, Tesla built the first hydro-electric power plant system to generate alternating current on Niagara Falls in 1895.

In 1897 he applied various patents from the area of wireless telegraphy, and in 1898 the patent of the method and apparatus for remote controlling mechanism of moving vessels or vehicles. In New York he performed the experiment with a remote-controlled boat. As a result of these patents, the Supreme Court of the USA granted him - though post-mortem - the priority for the invention of wireless telegraphy i.e. of radio.<sup>2</sup>

From 1899 to 1900 Tesla was in Colorado Springs where he built laboratory with a 200 kW transmitter, constructed generators and transformers and improved his coreless transformer for high-frequency currents, known as Tesla transformer. In his notes on the experiments from this period he stated that the stationary waves spread through the Earth so that this effect could be used for wireless transmission of energy. From 1900 to 1905 he tried to build “World Wireless-System” by building never finished experimental station and great tower on Long Island, but due to the lack of resources that project was never finished. Until the end of his life he was working with smaller projects and inventions concerning mechanical engineering – turbines, pumps, speed indicators, for which not a big laboratory was needed.

Tesla had more than three hundred patents, but it can be said that he had 116 fully original patents. (Šarboh, S. 2006) His inventions and experiments performed in public were very attractive for journalists of his times, in interviews he spoke about the future that is even now only partly realized and in his times was nearly unimaginable, so in contemporary newspapers there are a lot of information about Tesla and his work. Many of his fans believe that he is “The man who invented the twentieth century”.

### *Nikola Tesla in newspapers*

At present it would be very expensive and time-consuming if one was to find information about his life and work in newspaper articles published during his lifetime. The biggest collection of press clippings is a part of his personal library, now at Tesla museum in Belgrade. The years covered by the clippings are from the end of 19<sup>th</sup> century to 1919. After 1919, there are journal and magazine issues which contain pencil-marked articles that were supposed to be inserted in press clipping albums. Museum started digitization and formation of database of those clippings from albums, and about 10.000 articles will

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<sup>2</sup> Nikola Tesla Museum [www.tesla-museum.org](http://www.tesla-museum.org).

be online by July 2013. Besides clippings that are about Tesla himself, there are thousands of clippings and collected issues of magazines and journals where things of interest to him were published. Tesla had a huge network of collaborators and friends all over the world who sent him all news that could be interesting to him. He had his own classification system and kept a card catalogue of those articles, now in his museum. Digitization of all those materials is planned, but it will take a lot of time and resources, since the estimated number of all articles in the Tesla's library is close to 100.000. So we can say that the best way to collect at once majority of existing information about Nikola Tesla is to visit his museum in Belgrade, but it means to travel and stay in Belgrade for days. This is a pretty expensive solution for the majority of people interested in Tesla's life and work.

There are a lot of resources available online concerning Tesla, but the majority is not from contemporary newspapers. If we want the contemporary information, we must look for digitized newspapers collections.

The newspapers published in USA are in the process of digitization through the National Digital Newspapers Program, partnership between Library of Congress and National Endowment for the Humanities. Website [Chronicling America \(http://chroniclingamerica.loc.gov/\)](http://chroniclingamerica.loc.gov/) is providing access to information about historic newspapers and digitized newspaper pages free of charge for personal use. On April 23<sup>rd</sup> 2013, there were 6 million digitized and searchable newspaper pages published between 1836 and 1922, and on 5165 pages Tesla was mentioned. It is possible to see the page, read the text processed by OCR and print the image of the page. National Library of Australia has 8.8 million digitized newspaper pages, and on 772 Nikola Tesla is mentioned. It is possible to view, read and download those articles free of charge.

If you try the same search in Europeana now, you get only 22 results, meaning that you have to visit one by one European libraries engaged in digitization and search their databases, because it is known that much more than 22 articles were published in Europe concerning Tesla. Some of the libraries provide information and digitized documents free of charge, like for example National Library of Slovenia, but some have too high prices for an ordinary citizen from Eastern Europe. British Newspaper Archive has about 6.8 million of digitized newspaper pages from 1850-1949, 288 mentioning Tesla. Each page costs from 0,05 to 0,27 GBP to see, depending on the package of credits that user purchases, so it would cost 70 euro just to read those articles, and between 22 and 99.95 per page for high quality reprint. Search on System Kramerius at the National Library of Czech Republic shows that there are 378 digitized documents containing information on Nikola Tesla, but it is not possible to read the documents and use them for non-commercial use without a written agreement of the National Library of the Czech Republic.

In Serbia until recently some newspapers were digitized, but only as images, so the text search was impossible. Project Europeana Newspapers will change that, because 43 titles of old newspapers will be processed with OCR and the text will become searchable. This will be the first big corpus of searchable digitized text in Cyrillic alphabet. Existing

bibliographies of articles concerning Nikola Tesla have a lot of records - articles from Serbian newspapers, and after the project realization the full text of many of those articles will be available online.

## *Conclusion*

We can conclude that the main benefit project Europeana Newspapers will create for users worldwide is the possibility to search and read about Nikola Tesla, or any other historical figures or events they are interested in, from comfort of their homes, without visiting a library building or paying for Internet content. The users will have the chance to find contemporary newspaper information on Tesla that paint a different and perhaps a more objective picture than later publications on this great inventor and scientist. Materials from newspapers printed in different European towns where Tesla lived would provide an extensive insight into the complex and singular character of Nikola Tesla, and may become an inspiration for some new inventions.

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