Michał Doliwo-Dobrowolski's life and work in a geopolitical and historical context

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Dear Mr President
Dear Mr Szymczak,
Dear Mr Pienkowski,
Ladies and Gentlemen,

After I had confirmed my participation in today's event, my very own relationship with the father of three-phase current technology began.

I addressed my first question about the person Michał Doliwo-Dobrowolski to the Managing Director of the Energy Technology Society in the VDE:

"Dr Benz, on a scale of 1 to 10 - ten is the highest - where would you place Michał Doliwo-Dobrowolski?"

The answer came without hesitation: "Albert Einstein is a 10, then Michał Doliwo-Dobrowolski is an 8."

Wow!

That's how my relationship with Michał Doliwo-Dobrowolski began.

And I can already tell you that the relationship between Michał Doliwo-Dobrowolski and me will last even longer.

Because I have come across very many exciting moments and historical parallel plots, which also coincide with the founding phase of the VDE - Association for Electrical, Electronic and Information Technologies 127 years ago.

Finally, the geographical stations and the private vita of Michał Doliwo-Dobrowolski offer a good opportunity to jump to contemporary scenes.

This led to the title of my impulse: "Michał Doliwo-Dobrowolski's life and work in a geopolitical and historical context".

The technical legacy left by Michał Doliwo-Dobrowolski is largely known. Here you are all much better experts than me – the lawyer Markus Jaeger.

People are generally less familiar with the person of the three-phase current pioneer: starting with the unusual name and unusual career of the young person and ending with the extraordinary life decisions of the mature professional man and family father. Even the genealogy makes one sit up and take notice:

Michał was the sprout of a noble family with Polish roots that lived in Tsarist Russia. He was multinational and cosmopolitan.

In view of the unusual course of his life, which is notable for many erratic turns and probably also for political considerations, the man Michał Doliwo-Dobrowolski has remained a mystery in many respects.

It therefore did not surprise me that the reading of the various life stories written about him showed gaps or even contradictions. This also meant that for a long time there was no complete and reliable book about his life and work.

At this point I would like to draw your attention to the work of the VDE History Committee and the work on Michał Doliwo-Dobrowolski written by Prof. Gerhard Neidhöfer. It has been published in German by VDE Verlag and has given me deep insights into the life of the father of three-phase current technology.

Prof. Neidhöfer unfortunately passed away in autumn last year. He would certainly have been an extraordinary speaker at today's event.

But back to Michał Doliwo-Dobrowolski:

Born in Gatschina near Saint Petersburg in 1862 to a Russian noble family of Polish origin, Doliwo-Dobrowolski had to struggle with various adversities in Russia due to his origins. After schooling in Odessa, the teenage Doliwo-Dobrowolski went to the Riga Polytechnic University in 1878 at the age of 16 to study chemistry.

With the assassination of Tsar Alexander II in March 1881, a wave of repression broke out, expelling all progressive-minded students from their university, which amounted to a ban on studies throughout Russia.

This ban also affected the multinational and cosmopolitan Michał Doliwo-Dobrowolski in June 1881.

Michał Doliwo-Dobrowolski finally found a new home in Germany at the Technical University Darmstadt after a stopover in Odessa.

At the Technical University Darmstadt The world's first chair and faculty for electrical engineering was established in 1882. The founder of the chair and the faculty was the German electrical engineering pioneer and physicist Erasmus Kittler.

After the study years 1883 and 1884, the highly talented Doliwo-Dobrowolski became one of Kittler's first assistants from 1885 to 1887.

Kittler's enthusiasm for Doliwo-Dobrowolski was so great that he wrote a letter of recommendation for his assistant to Johann Georg Halske and Werner von Siemens in Berlin. Kittler thus wanted only the best for his student, who, according to Kittler, earned far too little money in the Hessian civil service. However, Kittler's letter of recommendation made little impression on Halske and Siemens.

Instead, Doliwo-Dobrowolski came to the attention of Emil Rathenau, the founder of AEG. In 1887, this marked the beginning of Michał Doliwo-Dobrowolski's industrial career at AEG - Allgemeine Elektrizitäts Gesellschaft (General Electricity Company) in Berlin.

The move from Darmstadt to Berlin was the breakthrough: Doliwo-Dobrowolski made his groundbreaking inventions at AEG within a few years.

Together with Oskar von Miller and the electrical pioneer and later co-founder of the BBC company, Charles Brown, he realised on top the first high-voltage three-phase transmission from the Lauffen hydroelectric power station on the Neckar over more than 100 kilometres across the Odenwald to Frankfurt am Main in 1891.

This first long-distance transmission of electrical energy thus decided the "direct current or three-phase current" dispute within electrical power engineering in favour of the three-phase current technology established today.

With his move to Berlin, Doliwo-Dobrowolski as well came into the founding phase of the VDE.

After Werner von Siemens, king of German electrical engineering, died on 6th December 1892, the founding act was postponed until mid-January 1893.

From 20 to 22 January 1893, more than 30 representatives of electrotechnical associations and societies as well as companies of the young electrical engineering industry met in Berlin to found the "Verband Deutscher Elektrotechniker" - VDE.

The founding phase of the VDE was anything but quiet.

There was rivalry between the established companies, especially in Berlin, and the new companies entering the market outside the imperial capital. And there were differences between heavy current technology (manufacturers and municipal users) on the one hand and the Reichs-Post- und Telegraphenverwaltung and light current technology on the other. The lack of representation of the interests of the young electricity industry in politics was also an intensively discussed topic at the time.

This dispute came to a head with the Telegraph Act in Germany and Michał Doliwo-Dobrowolski played a tiny role in this.

At a meeting in Berlin on 23 February 1892, AEG engineer Michał Doliwo-Dobrowolski withdrew his planned lecture on the efficiency of transformers and left the field for a blazing speech to Wilhelm Lahmeyer, who owned a company in Frankfurt for the construction and operation of power supply systems. He explained the technical principles and cost structure of overhead power lines for energy transport. Underground cables, he said, would increase the financial outlay tenfold.

In 1903, Doliwo-Dobrowolski left his job at AEG and went to Switzerland. In Lausanne, he devoted himself to scientific work as a private citizen. In 1907, however, he returned to AEG in Berlin. In 1909 he became technical director of a Factory.

Today and now

Even in the year 2022, the locations in the life of Michał Doliwo-Dobrowolski play a role.

Riga in Latvia, Poland, Russia, Ukraine and Odessa, Germany have been brought into our lives in a completely different context since 24 February 2022, when Russia invaded Ukraine. It is war in Europe.

In this context, EUREL - the Convention of National Associations of Electrical Engineers of Europe has published a clear message towards Russia.

EUREL community of electrical and electronics engineers wishes to pay tribute to all engineers in the world who, in Ukraine and other countries hit by war, often with the sacrifice of life, health or freedom, make available their skills and opinions defending the values of Peace and minimizing human, social and economic war impacts.

We are facing challenging times for mankind due to climate change and now with the war in Ukraine, whose impact is global and not limited to Europe. In EUREL, we believe that engineers are there to help people.

Just as it is the professional honor of doctors to heal people, it is the job of engineers to make life more comfortable and easier for people. Engineers want to advance mankind technologically. But not in any way or by any means.

This is why we, the engineers of EUREL, call to every engineer in the world, engineer to engineer: please raise your voice and help to put an end to Putin's insane actions in Ukraine which kills innocent people.

Natural laws, which are part of engineers work, know no borders, no nationalities, no skin colors. The laws of nature do not know war. Electrical and electronics engineers have an important mission to fulfil in the modern world, in which no aggression is allowed, and the borders of states should not matter!

The climate of our planet changes. The air and water are contaminated. We have to save them on a global scale. We must save every human life. We cannot destroy life, environment and achievements of humanity with wars and barbaric explosions. Everyone should be able to live in peace and cultivate individual culture.

Dear Ladies and Gentlemen,

Having read into the life of Michał Doliwo-Dobrowolski, I would say that he also had only the laws of nature in mind.

He knew no boundaries.

Borders could not stop him.

Nationalities did not matter to him. He became a Swiss citizen. He renounced the title of nobility.

Michał Doliwo-Dobrowolski was multinational and cosmopolitan.

That is how all people should be.

Thank you very much for your attention.