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ENGLISH AS A LINGUA FRANCA IN INTERNATIONAL ELECTRICAL POWER ENGINEERING COLLABORATION

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In the constantly changing world of worldwide electrical power engineering, the ability to communicate effectively across different languages and cultures has become increasingly important. As more and more international projects are undertaken in this area, the importance of English as a universal language for communication and knowledge sharing among professionals around the globe has grown significantly. This piece explores the idea of a universal language, the role of various international languages in electrical power engineering, and the historical background of working together in this field [1].

The Idea of a Universal Language

A universal language, as the name suggests, is a common language used by speakers of various native languages to make communication easier. Throughout history, these languages have appeared in different settings, from business and politics to education and science, acting as a common ground for people from different linguistic backgrounds to exchange ideas, negotiate, and work together effectively [2].

In the field of electrical power engineering, the use of a universal language has been crucial in breaking down language barriers that could otherwise hinder progress and innovation. As the industry has expanded globally, with large-scale projects, international standards, and power networks becoming the norm, the need for a shared language has become more critical than ever [3].

The Importance of International Languages in Electrical Power Engineering

While many languages have served as universal languages in various times and places, English has become the most widely used international language in many scientific and technical areas, including electrical power engineering. This trend can be explained by a mix of historical, economic, and cultural reasons, positioning English as a global language for business, technology, and education [4].

In the field of electrical power engineering, the widespread use of English brings several benefits:

1. **Uniformity in Terminology:** English offers a consistent set of technical terms, ensuring that communication is uniform across different countries and organizations [5].

2. Access to Research: A large amount of research articles, technical reports, and industry standards are written in English, making it necessary for professionals to be fluent in the language to keep up with the latest advancements [6].

3. International Cooperation: English makes it easier for engineers from various countries to collaborate on large-scale projects, enhancing efficiency and teamwork [7].

4. International Conferences: The majority of international conferences in this field are conducted in English, allowing for a wider audience and the spread of knowledge [8].

5. Software and Equipment: Many specialized software and simulation tools used in electrical power engineering have English interfaces, making it beneficial for professionals to be proficient in the language for their effective use [9].

It is imperative, however, to acknowledge that the ubiquity of English as a lingua franca within the realm of electrical power engineering is not without its complexities. Non-native speakers might encounter significant challenges in articulating intricate technical concepts fully, and there exists a risk of critical insights being overlooked due to linguistic barriers. Furthermore, the reliance on English may inadvertently sideline contributions from regions where proficiency in the language is less prevalent.

To comprehensively understand the significance of English as a lingua franca in the domain of electrical power engineering, it is crucial to delve into its historical underpinnings. The origins of global collaboration in this field can be traced back to the late 19th and early 20th centuries, a period during which electricity's transformative impact on industry and everyday life was becoming evident worldwide.

A pivotal early example of this international cooperation was the establishment of the International Electrotechnical Commission (IEC) in 1906. The IEC was created with the objectives of standardizing electrical technologies and fostering international collaboration within the sector. From its inception, it recognized the necessity for a unified language to facilitate discussions and decision-making among its diverse membership from various nations.

Initially, the IEC employed French as its official language, a choice that reflected the diplomatic conventions of the era. However, as the 20th century progressed and the United States emerged as a major player in the fields of electrical engineering and technology, the prominence of English within the organization steadily grew. By the mid-20th century, English had risen to become a co-official language alongside French at the IEC.

The transition towards English as the predominant medium of international collaboration within electrical power engineering gained momentum post-World War II. This era witnessed rapid technological advancements and a surge in globalization, with the United States at the forefront in numerous scientific and engineering research areas. Consequently, English became increasingly prevalent in technical publications, international conferences, and collaborative endeavors.

A significant milestone that underscored the increasing importance of international collaboration and the role of English in electrical power engineering was the inaugural post-war session of the International Conference on Large Electric Systems, also referred to as CIGRE (Conseil International des Grands Réseaux Électriques). Founded in 1921, CIGRE hosted its first post-war conference in 1946, assembling experts from across the globe to address the challenges and prospects of large-scale power systems.

The CIGRE conference, which is still a big deal in the electrical power engineering world, shows how the way people talk to each other has changed over time. At first, French was the main language used at the conference because it was from Paris. But as time went on, English started to become more important. Now, English is the main way people communicate at CIGRE events, and they also have interpreters for other languages.

As electrical power engineering got more complex, new areas of focus popped up, each needing people from different countries to work together. For example, when nuclear power became popular in the mid-20th century, the International Atomic Energy Agency (IAEA) was set up in 1957. The IAEA, which is all about making sure nuclear technology is used safely and peacefully, chose English as one of its main languages right from the start because they knew clear communication was super important in this tricky and important area.

Lately, the push for renewable energy and smart grid tech has highlighted how crucial it is for people from different countries to work together. Groups like the International Smart Grid Action Network (ISGAN), which started in 2010, bring together experts worldwide to figure out how to update our electricity grids. English is the main language used by ISGAN, helping everyone share ideas and the best ways to do things across countries.

The internet and digital tools have also made it easier for engineers and researchers from all over the world to team up. These online spaces usually use English as the main language, making it even more important in the field.

But, it's worth mentioning that even though English is the go-to language now, there are efforts to make sure everyone's voice is heard. Many international groups and conferences are now offering translations and interpretation services to make sure no one's ideas get left out because of language differences.

Looking ahead, there are a few things that might change how English is used in international electrical power engineering:

1. **Artificial Intelligence and Machine Translation:** Advancements in AI-powered translation technologies may reduce language barriers, potentially lessening the reliance on a single lingua franca.
2. **Rise of New Economic Powers:** The growing influence of countries like China and India in the global economy and technological landscape may lead to increased use of their languages in international collaborations.
3. **Emphasis on Local and Indigenous Knowledge:** There is a growing recognition of the value of local and indigenous knowledge in addressing global challenges, which may lead to more efforts to incorporate diverse linguistic perspectives in electrical power engineering discourse.

4. Interdisciplinary Collaboration: As electrical power engineering increasingly intersects with fields such as environmental science, public policy, and social sciences, there may be a need for more nuanced communication that goes beyond technical English.

The story of English as a lingua franca in international electrical power engineering collaboration is a testament to the field's global nature and its ongoing evolution (See Fig.1). From the early days of the International Electrical Congress to today's interconnected world of smart grids and renewable energy, the need for clear, effective communication across linguistic boundaries has been a constant driver of progress.

As we face the complex challenges of the 21st century, from climate change to the need for sustainable energy solutions, the importance of international collaboration in electrical power engineering has never been greater. The role of English as a lingua franca in facilitating this collaboration is likely to remain crucial, even as the field continues to adapt to an increasingly multilingual and multicultural global landscape.

Ultimately, the success of international collaboration in electrical power engineering will depend not just on speaking a common language, but on fostering a shared commitment to innovation, sustainability, and global progress. By embracing linguistic diversity while maintaining a common ground for communication, the field can continue to push the boundaries of what's possible, powering a brighter future for all.

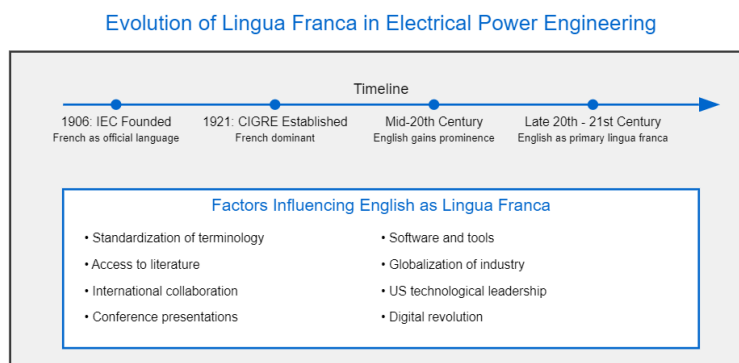


Figure – 1 - Evolution of a lingua franca in electrical power engineering

In conclusion, the role of English as a lingua franca in international electrical power engineering collaboration is the result of historical, economic, and technological factors that have shaped the field over the past century. While it has undoubtedly facilitated significant advancements and cooperation, it is crucial to remain mindful of the potential limitations and challenges it presents. As the field continues to evolve, striking a balance between the practical benefits of a common language and the rich diversity of global perspectives will be key to driving innovation and addressing the complex challenges facing the electrical power engineering community worldwide.

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