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Challenges for the Implementation of the Pan-European Corridor No. 8

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Abstract. *Pan-European Corridor No. 8 is a transport vector that starts in Italy and connects the Adriatic with the Black Sea, passing through the state territories of Albania, the Republic of North Macedonia and Bulgaria. Its implementation will promote connectivity and give impetus to the economic development of the entire region. At present, there are serious challenges to this project. On the one hand, they are related to the lack of highways and railways, and on the other hand, to internal political obstacles in one of the countries through which it must pass. The Republic of North Macedonia has declared its desire to build this project, but its economy is not able to make the necessary effort for its implementation. This is the main motive in the statements of official Skopje that Corridor No. 8 is not a priority for them and they would like to direct efforts to improving the other Corridor passing through their territory - No. 10. Since Corridor No. 8 is a priority project for the European Union, the Republic of North Macedonia has the opportunity to use pre-accession instruments. The scientific literature is very scarce on the topic. There are no known scientific sources to the authors which analyze what could be the real cause of the postponement of the construction – a question which the paper attempts to answer. The study is based on desk and field research. The research includes an analysis of the relevant documents, media reports, academic publications and statistical data on the progress of infrastructure projects. These issues raise the need for an analysis of the reasons for Skopje's skepticism for implementation of the Pan-European Corridor No. 8. The results of the study show that the implementation of Pan-European Corridor No. 8 is hampered by both infrastructural and geopolitical factors, with North Macedonia effectively prioritizing the development of Corridor No. 10 at the expense of Corridor No. 8. The main contribution of the study is in identifying the institutional and political obstacles to the development of this strategic transport route, as well as in providing a reasoned assessment of its impact on regional connectivity and European integration.*

Keywords: corridor 8, corridor 10, Macedonia, Albania, Bulgaria, connectivity

Introduction

The Balkans are currently presented with a unique opportunity for significant social and economic growth. Corridor VIII, an integral part of the Pan-European Transport and Communications

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network, follows the ancient Roman route of "La Via Egnatia[1]" It serves as a vital infrastructure corridor, facilitating the movement of people, goods, information, and experiences across the Balkans from west to east. It connects the Adriatic and Black Seas, passing through Albania, Republic of North Macedonia and Bulgaria. The Corridor No. 8 transport route, which primarily comprises highway and railway infrastructure, serves as a critical axis for enhancing regional mobility and trade. Beyond its economic significance, it also contributes to energy security, digital connectivity, and geopolitical stability within the region. To ensure that Corridor No. 8 effectively integrates into the core networks of the Trans-European Transport Network (TEN-T) and the Pan-European Corridors, a strategic emphasis on sustainable development is essential. This includes the adoption of environmentally friendly transport solutions, efficient logistics, and resilient infrastructure that align with long-term European transportation objectives.

In addition to the economic benefits, Corridor No. 8 has strategic security importance, as it connects three of the NATO member states. Improving and upgrading the transport infrastructure in this corridor enhances also military mobility, facilitates logistical connections within the Alliance and reduces the region's vulnerability to threats. In the context of increasing geopolitical tensions in South-Eastern Europe, the finalizing of the project could play a role in strengthening stability not only in the region of the Western Balkans but in Europe in general.

This study analyses the importance of Corridor No. 8 in the context of European transport policy by examining its historical development, current status and challenges for its finalizing. Special attention is given to the infrastructural differences between the three countries along the route, as well as the factors that hinder or accelerate the completion of the project. The paper provides an analytical overview of the role and significance of the Pan-European Corridors, reviews the EU's transport policies, and examines how Corridor No. 8 can serve as a strategic tool for sustainable development in the Balkans.

Literature review

Understanding Pan-European Corridors

Historical Background

European Transport Corridors (ETCs) are strategic infrastructure networks designed to facilitate efficient and sustainable transportation across the European Union and neighboring regions. These corridors are part of the Trans-European Transport Network (TEN-T), a comprehensive framework established by the EU to enhance cross-border mobility, economic integration, and connectivity between key transport hubs. ETCs aim to improve multimodal transport by integrating rail, road, maritime, and inland waterway networks. Aligned with the EU Green Deal, these corridors support the transition to low-emission transport modes, including electrified rail and clean energy-powered logistics. By reducing travel times and logistics costs, the corridors strengthen regional economies and contribute to EU-wide economic growth. ETCs link major urban centers, ports, and logistics hubs, improving trade flows and supply chain efficiency.

The Trans-European Transport Network (TEN-T), established by the European Commission, encompasses a set of core corridors designed to enhance connectivity and economic integration across Europe. These corridors serve as fundamental links between major regions, facilitating trade, mobility, and sustainable transport development. Among the key corridors are

[1] It refers to the Via Egnatia, an ancient Roman road built in the 2nd century BCE by the Romans. This road connected the Adriatic Sea with Byzantium (modern-day Istanbul), passing through parts of present-day Albania, North Macedonia, Greece, and Turkey. It was an important trade and military route in the Roman and Byzantine Empires.

the North Sea–Baltic Corridor, which connects major ports along the North Sea with Eastern Europe, and the Scandinavian–Mediterranean Corridor, which links Northern Europe to the Mediterranean through multimodal transport solutions. The Rhine–Danube Corridor plays a crucial role in enabling East-West connectivity via inland waterways, promoting economic exchange and logistical efficiency. The Atlantic Corridor strengthens connections between Western Europe, spanning from Portugal and Spain to Germany, while the Baltic–Adriatic Corridor enhances trade between Central and Southern Europe by linking the Baltic Sea to the Adriatic.

Within this framework, the Western Balkans play a significant role in European transport integration, with major infrastructure projects supported by the EU Economic and Investment Plan. These initiatives aim to improve the region's connectivity with the broader European transport network. A central component of this effort is the development of railway corridors, including Rail Corridor No. 8, which establishes a direct link between Albania, North Macedonia, and Bulgaria, thereby improving railway connectivity and facilitating trade. The modernization and expansion of major highways further contribute to regional economic growth by enhancing trade routes and mobility. Additionally, the ongoing modernization of ports is crucial for increasing the efficiency of maritime transport and strengthening international trade networks.

By advancing these strategic infrastructure projects, the European Union seeks to foster regional cohesion, improve transport efficiency, and promote sustainable economic development. These efforts align with the broader objectives of the TEN-T framework, ensuring the long-term integration of the Western Balkans into the European transport system while supporting environmental sustainability and economic resilience.

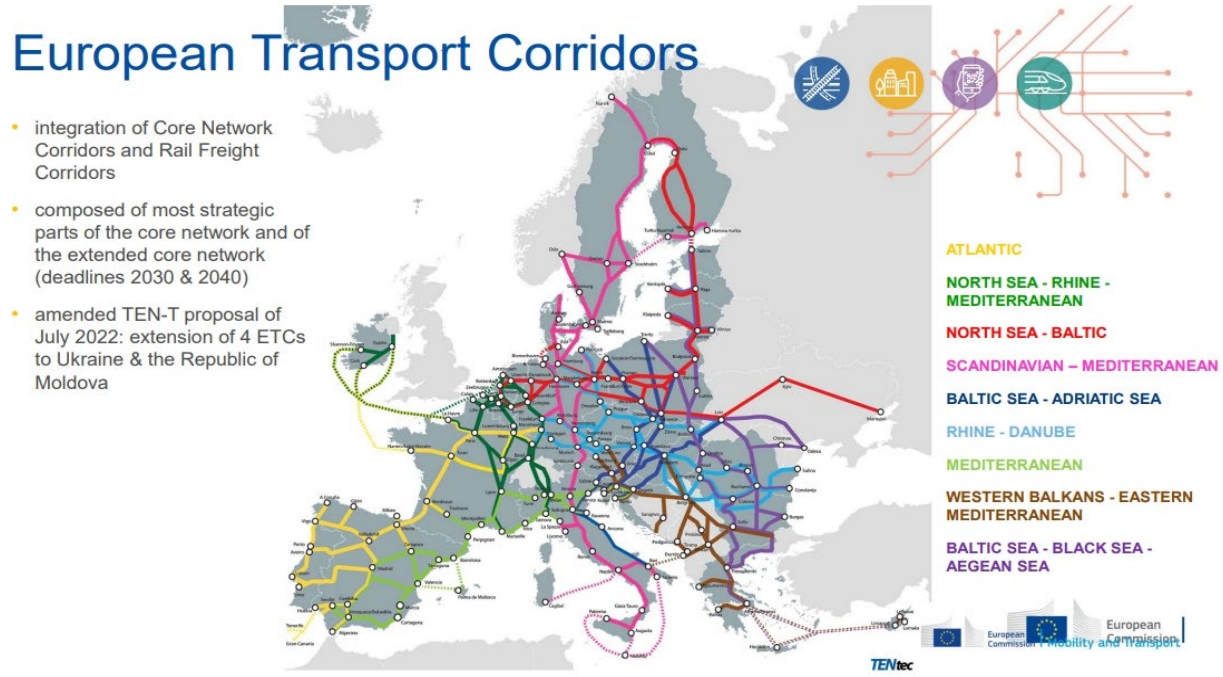

Figure 1. European Transport Corridors

Source: TEN-T REVISION (Klenke, 2023).

Origins and Initial Recognition (1994-1997)

The concept of Pan-European Transport Corridors emerged during the Second Pan-European Transport Conference in Crete (1994) (Miltiadou, 2017), where ten corridors were identified to

enhance Eastern and Central European infrastructure Corridor No. 8was designated as the transport link connecting Durrës (Albania) to Varna (Bulgaria) via North Macedonia. The importance of this corridor was further reinforced at the Helsinki Conference (OECD, 1997), where the EU and international financial institutions, including the European Investment Bank (EIB) and the European Bank for Reconstruction and Development (EBRD), pledged support for feasibility studies and infrastructure planning.

The historical trajectory of human development underscores the fundamental role of transport and communication infrastructure in facilitating economic growth and social advancement. Recognizing this, the European Union (EU) has identified these infrastructures as vital components for promoting social cohesion and fostering regional integration, particularly with neighboring countries. The significance of efficient transport networks in modern economies was emphasized by Jacques Barrot, former Vice-President of the European Commission responsible for transport. In the foreword to the 2005 publication "Trans-European Transport Network: TEN-T[2] Priority Axes and Projects 2005", he asserted that "Modern economies cannot generate wealth and employment without highly efficient transport networks (EC, 2005)". As part of a comprehensive reassessment of EU transport policies, a High-Level Group conducted an extensive review of the TEN-T guidelines, identifying "30 priority projects" for the network's development up to 2013. These projects were selected based on proposals from the EU's 25 member states, along with the newly acceded Bulgaria and Romania. The selection criteria emphasized four key strategic objectives: "enhancing European cohesion, ensuring a balanced modal transport system, improving interoperability, and addressing critical infrastructure bottlenecks". These initiatives aimed to strengthen Europe's economic integration, improve transport efficiency, and support sustainable mobility across the region.

Transport corridors are strategically developed to establish a cohesive, efficient, and well-integrated European transport system that seamlessly connects road, rail, and water networks. Their primary objectives focus on enhancing the role of intelligence in transport systems, addressing bottlenecks, and defining stakeholder responsibilities in transport system development.

A key aspect of transport corridor development is the integration of intelligent transport systems (ITS) to improve the efficiency, safety, and adaptability of European transport networks (Parliament, 1997). The implementation of smart technologies, real-time data processing, and automated systems enables transport infrastructure to respond dynamically to evolving demands, thereby increasing its resilience and operational effectiveness.

Another critical objective involves identifying and mitigating institutional, economic, and commercial barriers that disrupt the seamless movement of goods and passengers across Europe. Addressing these bottlenecks requires a comprehensive analysis of regulatory inconsistencies, financial constraints, and market inefficiencies that impede the full potential of intermodal transport networks. Removing such obstacles enhances connectivity and streamlines logistics across the continent.

Equally important is the clarification of stakeholder roles in the development and implementation of transport systems. Governments, the transport industry, and international organizations play essential roles in the deployment and optimization of intelligent transport solutions. Strengthening collaboration among these entities facilitates the coordinated adoption of

[2] TEN-T (Trans-European Transport Network) is a European Union initiative aimed at developing a comprehensive and efficient transport infrastructure across Europe. It consists of a network of roads, railways, airports, and waterways designed to improve connectivity, economic growth, and regional cohesion.

advanced technologies and strategic policies, ultimately improving overall transport system performance.

These objectives are fundamental to the establishment of a modern, sustainable, and high-performing transport infrastructure that fosters economic integration and enhances mobility across Europe. By addressing these priorities, transport corridors contribute to the long-term efficiency and sustainability of the European transport network.

Developmental Challenges (2000s)

Corridor No. 8, in contrast to other Pan-European transport corridors, has faced considerable geopolitical, financial, and geographical challenges that have impeded its implementation (EC, 2024). One of the primary obstacles has been political instability in the Western Balkans, which has disrupted financial planning and hindered long-term commitments to infrastructure development. The volatile political landscape in the region has made it difficult to secure sustained investment and ensure project continuity, leading to delays and uncertainty in transport corridor expansion.

Another significant challenge has been infrastructure deficiencies, particularly in North Macedonia, where railway connectivity has not kept pace with other modes of transport. The absence of an integrated and modernized rail network has limited the corridor's multimodal efficiency, restricting its full operational potential and hampering seamless transport flow across the region.

Geographical constraints have further complicated the development of Corridor No. 8, as key sections of the route traverse mountainous terrain that necessitates complex engineering solutions. These topographical barriers have increased construction costs and extended project timelines, adding to the financial and logistical difficulties associated with the corridor's completion.

In response to these challenges, the European Union introduced the Multi-Annual Indicative Programme (MIP) 2001–2006 to support funding for major transport projects, including Corridor VIII. This initiative sought to establish a stable and predictable financial framework to ensure continuity in large-scale infrastructure investments. The programme incorporated priority projects identified during the Essen Summit and also supported the development of the Galileo satellite navigation system, reinforcing the EU’s commitment to modernizing its transport networks and enhancing regional connectivity. By addressing financial constraints and prioritizing strategic infrastructure projects, the EU aimed to facilitate the integration of Corridor No. 8 into the broader European transport system (Parliament, 2005).

Infrastructure Development and Modernization

Renewed EU Commitment in the 2010s

During the 2010s, the European Union intensified its enlargement strategy by prioritizing the integration of Western Balkan countries into the broader European transport network (EC, 2024). This renewed commitment led to a substantial increase in financial support, primarily through the Western Balkans Investment Framework (WBIF) and the Instrument for Pre-Accession Assistance (IPA). These funding mechanisms aimed to facilitate large-scale infrastructure projects and enhance transport connectivity across the region.

One of the key areas of investment was railway infrastructure, with particular emphasis on the Kumanovo–Beljakovce–Kriva Palanka railway corridor in North Macedonia. This project was designed to improve regional railway integration and enable more efficient freight and passenger transport along the Corridor No. 8 route.

Additionally, significant efforts were directed toward improving road and port connectivity, particularly in Albania and Bulgaria, to reinforce regional and trans-European transport links. These enhancements were crucial for facilitating trade, increasing mobility, and strengthening the overall efficiency of multimodal transport systems within the Western Balkans and beyond. Through these strategic initiatives, the EU sought to advance the long-term integration of the region into the Trans-European Transport Network (TEN-T), thereby promoting economic growth and regional stability.

Figure 2. Corridor 8 in North Macedonia

Source: (WBIF, 2022).

Acceleration and Sustainability Goals in the 2020s

With the adoption of the EU Green Deal and the Western Balkans Economic and Investment Plan (2021), modernization efforts in the region have accelerated, aligning with the European Union's broader objectives of sustainability and efficiency (EC, 2020). These initiatives emphasize the integration of environmentally friendly transport solutions while enhancing the overall functionality of the European transport network.

A central priority of this modernization strategy is the advancement of digitalization and intermodal transport integration, which aims to establish seamless connectivity across road, rail, and maritime networks. By leveraging digital technologies and intelligent transport systems, the efficiency and interoperability of transport modes can be significantly improved, fostering a more sustainable and resilient infrastructure.

A key objective within the railway sector is the completion of missing railway links by 2030, ensuring the full operationalization of Corridor No. 8 by 2040. This initiative is critical for enhancing regional and trans-European mobility, facilitating economic growth, and strengthening trade flows between the Western Balkans and the broader European market.

Beyond direct grant funding, the plan introduces the Western Balkans Guarantee Facility, which is expected to mobilize up to €20 billion in investments over the next decade. This financial

instrument is designed to reduce the cost of financing for both public and private investments while mitigating risks for investors (EC, 2022). By improving access to capital and ensuring financial stability, the initiative aims to accelerate infrastructure development and economic integration in the region. Through these strategic efforts, the European Union reinforces its commitment to modernizing transport networks, promoting sustainable development, and strengthening the connectivity of the Western Balkans with the Trans-European Transport Network (TEN-T).

Impact of Corridor No. 8 Railway Completion in North Macedonia (WBIF, 2022)*:*

The completion of the Corridor No. 8 railway section in North Macedonia, linking Kumanovo, Beljakovce, and Kriva Palanka, is projected to generate substantial economic, environmental, and operational benefits, as outlined by the Western Balkans Investment Framework (WBIF)[3]. This strategic infrastructure project is expected to enhance transport connectivity, stimulate economic growth, and contribute to sustainability in the region.

From an economic perspective, the railway completion is anticipated to create 200 new jobs during and after the construction phase, fostering local employment opportunities. Additionally, over 350,000 people will gain direct access to modern railway transport, improving mobility and accessibility. The reduction in travel time between Skopje and Sofia will further enhance regional connectivity, facilitating business interactions and tourism. In terms of freight transport, the project is expected to lead to a 20% increase in annual freight volume by 2040, improving logistics efficiency and strengthening trade networks across North Macedonia and the broader region.

The environmental benefits of the project are also significant, as the shift to railway transport will contribute to lower air and noise pollution, supporting EU sustainability objectives. Moreover, the modernization of railway infrastructure is expected to reduce operational and maintenance costs for railway operators, increasing the overall efficiency and reliability of the transport network.

To achieve these outcomes, the investment is focused on upgrading 34 kilometers of railway track to meet modern European standards. Key infrastructure improvements include the construction of railway bridges, overpasses, and underpasses, as well as the development of 5.5 kilometers of tunnels to enhance rail efficiency. Additionally, the modernization of railway stations and halts aims to improve passenger services, while the implementation of a new signaling and telecommunication system will enhance safety and operational effectiveness.

This project forms part of the EU Economic and Investment Plan for the Western Balkans (2021-2027) under Flagship 1: "Connecting East to West" (Sustainable Transport). By reinforcing regional connectivity and economic integration, the initiative aligns with the broader objectives of the Trans-European Transport Network (TEN-T), ensuring the long-term sustainability and competitiveness of North Macedonia's transport infrastructure.

Internal and geopolitical specifics to the implementation of Corridor No. 8 of Republic of North Macedonia. Comparison with Corridor 10.

At present, the infrastructure of the Republic of North Mace1donia is relatively well developed in the north-south direction - with Serbia and Greece (the route of Corridor No. 10). There is a highway and railway connectivity.

Macedonia has one railway connection with Serbia at the Tabanovce border crossing. There are two railway connections between North Macedonia and Greece. One is at the Gevgelija-

[3] The Western Balkans Investment Framework (WBIF) is a financial platform that coordinates and harmonizes investments for socio-economic development in the region. It is a joint initiative of the EU, financial organizations, bilateral donors and beneficiaries, contributing to the European perspective of the Western Balkans.

Idomeni border check point. It is the primary one and is located on the main route of Corridor No. 10. The other one is on the Bitola-Lerin (Florina) direction. It is secondary and, although recently renovated, is not in use. To a large extent of this transport network is part of the Yugoslav legacy both in terms of infrastructure and geopolitical priorities. In the east-west direction, the situation is radically different. There are serious infrastructure gaps.

All this shows a serious imbalance in the east-west direction (Corridor No. 8) compared to the north-south in the Country (Corridor No. 10). It should be noted here that the existing railway connection between Kosovo and Macedonia is also not in use.

The Government of the Republic of North Macedonia maintains a constant declarative line that the implementation of Corridor No. 8is a priority. However, this official position is in contradiction with a number of actions of official Skopje.

There are the statements of the country's top political leadership. Here, the Minister of Transport can be cited as an example, who stated that Corridor No. 8 is extremely expensive, which is why efforts should be focused on improving Corridor No. 10. And that is why he wants to redirect funds in this way. This met with a sharp reaction from the European Commission.

It should also be borne in mind that Minister Nikoloski, in this capacity, makes statements that are directly related to the country's eastern neighbour (with which connectivity through Corridor 8 should be improved). An example is his television interview in which he stated that Bulgarians are uncivilized. The lack of criticism of him by the government in Skopje after this statement, which became a cause for diplomatic tension, leads to the conclusion that they do not differ from his position.

It should be noted that although the line on the Bulgarian side reaches close to the border, more efforts are needed. Given the large elevation difference, it is planned that the railway line will pass underground. For this purpose, a tunnel should be built. Efforts in this direction from the Bulgarian side were made during the Second World War, when the country also received assistance from Germany. At that time, a significant part of the tunnel itself was built. However, there are no rails laid in it.

Figure 1. Photo of the tunnel

Source: authors' own archive.

Methodology

The study is based on desk and field research. The desk research includes an analysis of the relevant documents, media reports, academic publications and statistical data on the progress of infrastructure projects. The field research is based on personal observations, collected photographic evidence, field interviews and an analysis of the current state of transport links along Corridor No. 8. The aim of the study is to provide an assessment of the progress along Corridor No. 8 and to propose possible solutions to overcome the existing barriers so that the transport corridor becomes an effective link between the Western Balkans and the European Union.

Results and discussions

The results of the study show that the implementation of Pan-European Corridor No. 8 is significantly hampered by both infrastructural and geopolitical factors. The analysis highlights that while North Macedonia officially expresses support for the project, practical actions and financial prioritization suggest a stronger focus on Corridor No. 10, which connects Serbia and Greece. This decision is in line with historical patterns of infrastructure development in the region and raises questions about Skopje's long-term commitment to the European Union's connectivity priorities.

One of the key findings is the strong contrast between the relatively well-developed north-south links (Corridor No. 10) and the unfinished east-west infrastructure (Corridor No. 8). Field observations and document analysis confirm that rail connectivity in North Macedonia remains a major obstacle, with key sections between Kumanovo, Belyakovce and Kriva Palanka still underdeveloped. The study also reveals that political rhetoric in North Macedonia, including contradictory public statements by officials, further complicates bilateral relations and may indirectly affect the progress of the project.

From an economic perspective, Corridor No. 8 represents a significant opportunity for regional trade and mobility, especially as it connects three NATO member states – Albania, North Macedonia and Bulgaria. However, delays in infrastructure investments undermine the strategic potential of the corridor. A comparison with Corridor No. 10 highlights that North Macedonia's policies, whether intentional or not, contribute to strengthening Serbia's role as a regional transit hub, thus maintaining existing geopolitical dependencies.

The study also finds that although the European Union has provided financial instruments, including pre-accession funds, their effective use remains questionable. Institutional inefficiencies and conflicts in prioritization slow down decision-making and project implementation. The Western Balkans Investment Framework (WBIF) and the EU Economic and Investment Plan (2021-2027) provide mechanisms to finance missing rail links, but their implementation depends on political will and administrative efficiency.

Conclusion

The analysis presented and specifically the comparison of Corridor No. 8 and Corridor No. 10 shows that these two transport routes are not just infrastructure projects, but have deep geopolitical dimensions. While Corridor No. 10 provides a connection between Central Europe and Greece, passing through Serbia – a country that is not a NATO member and often demonstrates skepticism towards the Alliance, Corridor No. 8 represents a strategic alternative route that, in addition to its economic aspects, also connects three NATO countries – Albania, the Republic of North Macedonia and Bulgaria.

At first glance, the membership of all countries along Corridor No. 8 in NATO should facilitate its construction and development. However, the reality shows that North Macedonia, despite its official pro-Atlantic orientation, is in fact delaying the project by not investing enough in its part of the infrastructure and diverting funds and efforts towards the development of Corridor No. 10. Such a policy, combined with political statements by Macedonian officials, calls into question the depth of Skopje's commitment to NATO's strategic interests.

This, consciously or not, actually benefits Serbia, which remains Russia's main regional partner and maintains an ambivalent attitude towards NATO. Maintaining Corridor No. 10 (by delaying Corridor No. 8) as the main transport vector in the region indirectly increases Serbia's geopolitical weight, while at the same time delaying the development of infrastructure connectivity between the three NATO countries along Corridor No. 8.

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