Chinese companies are among the world’s largest contractors, active mainly in China and in developing countries. It seems a matter of time before they will become major players also in the European Union. This would have important strategic implications for the EU. The building of transportation infrastructure has potential long-term effects on the relationship between European host countries and Chinese state-owned construction contractors. This Policy Brief discusses the – still limited - track record of Chinese construction activities in EU-member states to date, and their relevance for the EU’s strategic autonomy and its ability to set standards.

Rapid economic expansion has allowed China to develop the largest construction market in the world, providing Chinese construction contractors with a springboard to become competitive participants in the international market. Accordingly, Chinese contractors have become influential players, achieving an average annual growth rate in international contracts of 12.3 percent in the last decade.¹ Engineering News-Record’s annual top 225 global contractors index for 2019 lists 57 Chinese contractors, which equates to 25 percent of top construction companies worldwide.² Moreover, seven of the top ten contractors in terms of revenue are Chinese (Table 1).

* The authors are grateful to Stef van Wessel and Rem Korteweg for the information they provided and their insightful comments.


The large size, fast rate of expansion, and potential for further growth of Chinese construction contractors suggest that these companies will continue to increase their role at the international level. In recent decades, the main foreign markets for these enterprises have been Asia and Africa, but as they continue to gain experience and increase in size, Chinese contractors are likely to consider expanding into the European Union’s construction market. In fact, under China’s Belt and Road Initiative (BRI), Chinese companies are stimulated to do just that. Many of the financially largest projects to date involve contractors for the construction of transport, communication, and energy infrastructure, such as ports, airports, roads, railroads, mobile phone networks, and power plants. These contractors include not only conventional construction firms but also suppliers of advanced technology. As such, makers of high-speed trains and related rail equipment, as well as information and communication technology (ICT) firms and energy companies that facilitate automated and/or electric road traffic are also of increasing relevance as their competitiveness grows. Many, but certainly not all, Chinese infrastructure contractors are state-owned. From a BRI perspective, the EU infrastructure sector is a major yet largely not-accessed market for Chinese commercial expansion, especially in the construction and maintenance of technologically advanced infrastructure.

A major role for infrastructure contractors from China in the EU would have important implications. Their European counterparts could potentially find it hard to compete with Chinese firms that are often larger in size and thus enjoy economies of scale, whose home market is to a large extent closed to foreign companies, and that can

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take on a greater level of risk because of the Chinese state’s backing. Moreover, European governments would face the question of whether and to what extent the building and/or maintenance of infrastructure in their countries by Chinese contractors would create strategic dependence or otherwise impact their national security. In the EU telecommunications sector, where Chinese suppliers of mobile phone equipment play a significant role, European governments are already confronted with the question of how to deal with these suppliers in creating new 5G networks.

This Clingendael Policy Brief is focused specifically on transport infrastructure (rather than communication or energy) in the European Union. It is in this core BRI sector that it is particularly notable that while Chinese contractors are conspicuous in Asia, Africa, and the Western Balkans, they are largely absent from the EU. This Policy Brief aims to provide an insight into the role of Chinese construction contractors as actual and potential actors in EU transport infrastructure, by examining their past and current projects. Two specific questions are: 1) what can be said about these firms’ potential to become significant actors in the EU; and 2) what would be the strategic significance for the EU and its member states of large-scale Chinese involvement in the EU’s transport infrastructure?

The role of contractors in China’s economic development and the Belt and Road Initiative

Pursuing infrastructure development has consistently been a focal point of Chinese economic development policies, as encapsulated in the Five-Year Plans. China’s competitive domestic setting has laid the groundwork for the internationalisation of construction firms. Besides that, the Chinese mainland market has generated sophisticated demands for Chinese contractors. Two of the state-owned giants that have been involved in European construction projects – China Communications Construction Company (CCCC) and China Road and Bridge Corporation (CRBC) – have experience with construction projects of national significance in China. CCCC has completed projects such as the longest bridge in the world, the highest bridge in the world, and the world’s longest high-speed railway ever constructed in a single phase. Meanwhile, the CRBC has constructed the Shanghai–Nanjing Expressway, the busiest expressway in China; and the Beijing–Zhuhai Expressway connecting north and south China, with 50 lanes at certain toll points. This domestic experience enabled contractors to go global, long before the announcement of the Belt and Road Initiative, which is often portrayed as the driver behind the internationalisation of Chinese construction companies. For example, CRBC was one of the first four enterprises to venture abroad in 1979, developing a path that was later followed by other construction contractors. CRBC has been constructing projects in Africa more consistently since the early 2000s, when there was not yet a BRI narrative to provide guidance.

The main relevance of the BRI is not that it has become a game-changer for Chinese foreign construction activities, but that it has broadened Chinese efforts from Asian and African markets to include Europe. Chinese construction contractors that are active in Europe, such as CRBC and CCCC, have positioned themselves as BRI participants, constructors, and contributors, naming the BRI as an opportunity to expand and increase their global competitiveness. While Chinese contractors are involved in only a few European projects, Chinese companies have also been investing in existing infrastructure. Of the top ten European ports by container volume, Chinese companies have stakes in five: Le Havre (China Merchants Group); Antwerp (COSCO); Rotterdam (COSCO and China Merchants Group); Valencia (COSCO); and Piraeus

Moreover, the container terminals in two EU ports – Piraeus in Greece and Zeebrugge in Belgium – are majority-owned by the Chinese state-owned enterprise COSCO. China’s interest in port infrastructure is not unique to Europe, as there are at least 46 port projects in sub-Saharan Africa with significant Chinese involvement in funding, building, or operating. Chinese entities have been involved in construction projects at 41 of these 46 ports, demonstrating China’s robust capacities and aspirations to participate in construction projects globally.  

Transport infrastructure projects in the European Union

1. The A2 motorway between Warsaw and Lodz, Poland

In 2009, China Overseas Engineering Group (COVEC) became the first Chinese contractor to win a public tender for the construction of transport infrastructure in a European Union member state. COVEC is a subsidiary of China Railway Group Limited (CREC), the second biggest constructor globally, and has a mixed record in terms of its past projects. These range from a bridge in Kenya that collapsed shortly before being opened for public use in 2017 to the successful completion of a highly complex hydraulic project in Nepal in 2019. The company’s bid for two sections of the A2 motorway connecting Warsaw and Lodz in Poland, with a total length of 49 kilometres, was US$ 447 million. This was less than 50 percent of the US$ 1 billion that the Polish government had anticipated, and far less than the price offered by European competitors. COVEC claimed that its low price was achieved through a combination of cheaper labour, equipment, and materials brought from China, together with the company’s own funds. Despite the low price suggesting a high possibility of Chinese state aid involvement for COVEC, the bid was accepted following a financial and economic potential review by the Polish General Directorate for National Roads and Motorways (GDDKiA). 

Not long afterwards, at the beginning of June 2011, after having completed approximately 20 percent of the planned work, COVEC faced a shortage of financial resources. While some 500 Chinese labourers were brought in, under EU law COVEC had to hire a high proportion of its labour force from within the EU as well. As a result, COVEC employed Polish subcontractors. At the same time, the price of fuel and asphalt rose, leading to additional costs. Repeating the practices that COVEC had so far employed in non-EU projects – namely importing materials and equipment from China – also proved challenging, as those had to be certified by the EU. COVEC filed for the contract to be renegotiated by requesting additional funding, based on rising prices in raw materials and fuel, high labour, transportation, and visa costs. However, GDDKiA, claiming inconsistency with the provisions of the contract and EU law, refused. This led to COVEC’s withdrawal

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It seems that the failure of the Polish highway project was not a matter of lack of technical expertise, but of underestimating the costs of doing business in Poland and an insufficient knowledge of EU law. In its attempt to gain access to the Polish public procurement market, COVEC assumed that it would be able to renegotiate the contract if necessary. However, the company failed to adapt sufficiently to the EU's legal framework. Directives regulating public procurement allow contract renegotiation under certain conditions, such as if the modifications have been provided in the initial procurement clauses or there have been unforeseen circumstances. In any case, the increase in price cannot be higher than 50 percent of the value of the original contract. COVEC's second proposal stood at US$ 786 million, or 76 percent higher than the original bid, making the new proposal unfeasible under EU law.

2. The Hungarian section of the Belgrade–Budapest railway
The construction of the US$ 3 billion Belgrade–Budapest railway was agreed between China, Serbia, and Hungary in 2013. The three countries signed a memorandum of understanding during a meeting of the 16+1 grouping (the sixteen Central and Eastern European countries plus China, now 17+1). The closed nature of the agreement between Hungary and China sparked outrage in Brussels, as according to EU Directive 2014/25, competitive dialogue and open-tender processes are required for high-value contracts. The EU did not take any action against the project, but instead followed standard practice for major projects and started assessing the railway's compliance with EU legislation. No evaluation was made public.

The EU's scrutiny had no consequences, but unforeseen circumstances, namely a 10 percent increase in the price of the project, prompted Hungary to start a new tender procedure. Both of the two companies that submitted a bid were joint Hungarian–Chinese ventures. It seems there was no competitive financing available from European sources for this project. This raises the question of whether European financial institutions regarded the project as unprofitable or too risky, and whether there were also reasons other than lack of financing to prevent European companies from bidding. The construction contract was won by CRE Consortium, the ownership of which is 50 percent Hungarian and 50 percent Chinese, with the Chinese owners being representatives of Chinese state railway companies: China Tiejiuju Engineering & Construction; and China Railway Electrification Engineering Group. These two companies are subsidiaries of China Railway Group Limited (CREC), the same parent company of the subsidiary that won the bid for the Polish highway. China Export–Import (Exim) Bank is providing 85 percent of the project's financing as a loan, while the Hungarian government is responsible for the remaining 15 percent.

A similar level of financing is provided to Serbia, where 85 percent of the total project cost is sponsored by a loan from Exim Bank and 15 percent is provided by the Serbian state. In both the agreements with Hungary and Serbia, it is not disclosed whether the countries are allowed to attract project financing from commercial banks, or whether the loan is strictly from China’s Exim Bank. Anticipated dates for completing the sections are 2025 for the Hungarian project and 2022 for the first Serbian section, of two in total, but it is uncertain whether this deadline will be met. As of April 2019, Serbia’s first section had only reached 5 percent physical realisation and 26 percent financial realisation. Work on the second section will start in 2020 and should be concluded by 2023. However, whether this timeline can be implemented is questionable, considering that the time needed for section one was five years and the length was almost three times less; section two is approximately 100 kilometres long. One significant difference with the Hungarian section is that in Serbia no domestic construction companies are participating, leaving the CCCC as the sole construction provider. CCCC did not participate in the public bidding in Hungary, and it remains unclear why the Chinese did not opt for a single Chinese contractor for both sections of the Belgrade–Budapest railway.

3. Pelješac Bridge, Croatia

The construction of the Pelješac Bridge first started in 2007 but was halted because of financial considerations. The project is of great significance to Croatia, the EU’s newest member state, as it will establish a link between the main part of the country and the southern enclave around Dubrovnik, while avoiding the territory of Bosnia and Herzegovina (which is not part of the EU). The bridge will have four lanes and be 55 metres high and 2.4 kilometres long.

Croatia offered a public tender that was won by China Road and Bridge Corporation (CRBC), a subsidiary of CCCC, which is responsible for the railway project in Serbia. Its bid for the Pelješac Bridge was approximately EUR 280 million, or nearly EUR 72 million lower than that of the next competitor, which sparked complaints by competing bidders that European companies cannot compete on costs with Chinese-subsidised companies. Austrian and Italian companies participating in the public bid lodged an appeal to the EU State Commission for Control of Public Procurement Procedures on the suspicion of state subsidies to CRBC and hence unfair competition, but the appeal was dismissed. The Croatian government later stated that the process had progressed in accordance with public procurement procedures of both the EU and Croatia, and that no proof of illegal subsidies from the Chinese state had been found.

The majority of the workers on site are Chinese citizens, further enhancing concerns about price dumping by underpaying the labour force. Sources such as the New York Times claim that it is not clear whether Croatian authorities know how much the Chinese workers are being paid, but this has not been addressed by the Croatian government.

How the financing is used becomes even more relevant as 85 percent of the project is financed by the EU’s Cohesion Fund, with


the European Commission granting EUR 357 million euros to Croatia for the bridge. In this context, the fact that a non-EU company won the public tender for a bridge largely funded by EU taxpayers’ money makes the matter highly sensitive. With all 148 permanent pylons already driven into the seafloor, the first parts of the bridge above sea surface have emerged. The Pelješac Bridge constitutes the most advanced construction project by a Chinese company in the EU so far and is expected to be finished by 2022.

Implications

Despite concerns about Chinese involvement in the EU’s infrastructure sector, up to early 2020 the three cases presented above are the sole major China-involved construction projects in the EU that have gone beyond signing and reached the construction phase. Planned projects such as the Helsinki–Tallinn tunnel in Finland remain in the planning stage despite signed memorandums of understanding. Projects are concentrated entirely in the eastern part of the EU, with no major construction work in China’s principal destinations for foreign direct investment like France or Germany. Chinese construction contractors are possibly opting for countries that are not part of the traditional EU core, perceiving the newer EU member states as less strict in terms of legal environment. However, if that is a motivating factor, Chinese companies would be overlooking the supremacy of EU law over national law. In other words, the legal environment is largely the same throughout the EU. Another possible motivation is an attempt to gain political leverage by building economic ties with countries that are in the periphery of the EU or outside of it.

In the Western Balkans, where EU regulations are not applicable as the countries are not EU member states, Chinese actors have won a number of tenders. Their approach includes establishing a presence in the region, slowly expanding their network of partners in order to gain access to more projects, addressing crucial local needs, and providing loans.

The only completed infrastructure project by a Chinese construction firm in the whole of Europe is the Pupin Bridge in Belgrade, Serbia (that is, outside the EU). The project met a longstanding need of the city of Belgrade, as it is the city’s second bridge across the Danube river. The loan was provided by the Export–Import Bank of China, with construction carried out by CRBC, the contractor that later won the bid for the Pelješac Bridge in Croatia. Moreover, CRBC has taken an active role establishing local offices in Montenegro and Serbia in order to conduct regional research. After this Serbian bridge project, CRBC succeeded in entering Croatia, a neighbouring country with a similar cultural and political background but inside the EU. While the legal environment was different from the non-EU member states in which CRBC had previously worked, this did not prove to be an obstacle to winning the bid for the Pelješac Bridge.

Based on the few cases available to date, the approach of Chinese firms in Europe’s infrastructure market can be summarised as testing the waters with methods successfully employed elsewhere in other parts of the world, such as Africa. At first, the contractors are not necessarily looking for profit maximisation, as the bids are unusually low, and the financing is provided by Chinese policy banks. This helps these companies to acquire the experience needed to deal with the legal and political specifics of European countries. Subsequently, the contractor often seeks to enter the markets of neighbouring countries with a similar

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21 ’Where We Serve’, China Road and Bridge Corporation, https://www.crbc.com/site/crbcEN/ww/index.html?id=1e3af7c7-499f-4376-8881-b2f1c45b8ff5.
political or cultural background. According to Stef van Wessel, an expert at Rijkswaterstaat, the executive agency of the Dutch Ministry of Infrastructure and Water Management, who has been studying the activities of Chinese contractors in the EU, Chinese companies are driven by three types of aims: acquiring new knowledge; strategic opportunities; and commercial prospects. For the companies to engage in a project, at least two of these three aims need to be involved.\textsuperscript{22}

This type of mode of entry to the EU’s construction market has produced negative results for European companies. First, 99 percent of the European construction market consists of small and medium-sized enterprises. These companies cannot make use of export credit agencies or financing for projects outside of Europe from institutions like the European Commission or the European Investment Bank. Rather, this is left to the incentive of their home country. Yet even Europe’s construction giants, such as the French Vinci Group, do not receive support from their respective countries to the extent that Chinese enterprises do. While the core of Vinci’s business runs on government-backed infrastructure, the firm does not rely on loans or subsidies that would allow it to bid for projects with significantly lower prices.

Second, the EU is currently largely embryonic when it comes to an industrial strategy. In 2012, the European Commission launched the strategic policy agenda ‘Construction 2020’.\textsuperscript{23} International competitiveness features among the five key goals, but no specific legislative measures have been taken in order to address the issue of Chinese state aid, which is a major cause of Chinese construction companies’ competitive advantage. A key issue is that construction output is considered a service, not a good, so there is a lot of room for manoeuvre for Chinese companies. Despite the intricate \textit{acquis communautaire}, efficient anti-dumping and anti-subsidies instruments – similar to the ones that the EU employs when it comes to goods exported by China – are non-existent. To summarise, in the strict sense, European construction companies cannot rely on either support in terms of subsidies, or on protection in terms of anti-dumping regulation.

Third, the safeguards placed in EU public procurement law are insufficient. Directive 2014/24/EU stipulates that authorities shall launch an investigation on a bid that has proposed abnormally low prices and if findings show that the low prices are because of non-compliance with mandatory Union law, rejection of the bid should be mandatory.\textsuperscript{24} The cases of the A2 highway and the Pelješac Bridge show that existing legislation is not enough to ensure that countries are not left with half-completed projects, or to safeguard European interests when investigation of the abnormally low tenders is completed and no wrong-doing has been found.

When it comes to the strategic implications of China’s economic involvement in the EU, the European Commission and EU member states seem to be preoccupied with China’s direct investments in European firms and with the purchase of Chinese telecommunications equipment for 5G telecom networks. However, the construction of transportation infrastructure constitutes a strategic sector with potential long-term effects.

First, if Chinese contractors consistently outperform non-Chinese counterparts and achieve a dominant position in the European market, European governments could become dependent on (a small number of) Chinese companies for large-scale projects. This relates both to the actual building and to long-term service contracts for maintaining and upgrading infrastructure. These dominant Chinese companies would

\textsuperscript{22} Information provided by Stef van Wessel.
be competing among each other, while at the same time operating within parameters set by the Chinese government and Chinese Communist Party. In particular, political motives could be part of the considerations that direct corporate decisions. In the future, a risk for European governments would be that whether they enjoy good diplomatic relations with China could affect the price–quality ratio of major infrastructure building. Chinese involvement in related sectors, such as in operating existing infrastructure (such as airports or seaports) and in international transportation (such as rail, sea, or air freight), could further contribute to the ability of the Chinese government to exert political pressure. Chinese government and commercial actors are active not just in infrastructure-building but in a broad range of related activities: policy-making and market regulation; financing; operating; transport; logistical services; shipping; and providing passengers.25

A second potential effect relates to the technological domain. With the emergence of the internet of things and autonomous driving, physical transportation infrastructure will increasingly become connected to the internet and to advanced forms of mobility. A large role for Chinese firms in the construction and maintenance of roads, railways, tunnels, bridges, ports, and airports would enhance their ability to set technological standards. Here, again, political factors may become relevant, as the Chinese government could use its influence in standard-setting to strengthen the competitiveness of Chinese companies (for instance, in car manufacturing or for suppliers of railway equipment) in relation to non-Chinese competitors.

**Conclusion**

China’s involvement in the construction of European transportation infrastructure could eventually weaken the EU’s strategic autonomy or its ability to set technological standards. However, these effects would materialise only if Chinese involvement in European infrastructure-building increases from its current very limited level to a far larger scale. In the short run, it seems unlikely that there will be a major influx of Chinese construction projects across the EU. Chinese contractors still have ample opportunities for expansion in countries outside the EU, which are more easily accessible. The projected demand outside the EU is also higher. By 2030, 60 percent of the infrastructure investment demand will come from emerging economies.26 Moreover, for China to grow its involvement in European infrastructure-building, it needs a clear track record that shows that Chinese contractors are able to complete large-scale infrastructure projects in Europe. This makes the Pelješac Bridge and the Hungarian section of the Belgrade–Budapest railway of paramount significance to Chinese contractors’ future in the EU market. Their projected finalisation is set for 2022 and 2025, respectively.

While China has proved itself to be a major player in infrastructure-building globally, legal hurdles within the EU still pose a significant challenge. Moreover, Chinese firms have so far been active mostly in the eastern half of the EU. In the western EU countries, procurement conditions for individual projects are more often than in the east tailored to long-established relations between government agencies and established contractors.27 This makes it harder, but certainly not impossible, for Chinese contractors to enter the infrastructure-building market in western European countries.

A pressing issue for the EU is to ensure that project bids will not involve price renegotiations at a later stage, as happened in the case of the Polish highway. Ensuring

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25 Information provided by Stef van Wessel.


27 Insight provided by Stef van Wessel.
transparency to prevent unfair competition because of state subsidies has been and should remain a key aim of EU policies. Still, from a geopolitical perspective, fair competition and good-quality projects are not the only relevant criteria. Preventing overdependence on China in terms of contracting capacity and related technological standards are important requirements for the EU if it wants to protect and strengthen its strategic autonomy. The process of state-backed growth by Chinese contractors currently takes place largely outside the EU (both in China and in third countries) but is likely eventually to affect intra-EU competition. By the time they start to focus more on the EU market, Chinese firms may have further expanded their size relative to their non-Chinese peers. For the European Union to prepare for a future in which Chinese contractors are major players in the EU, it needs to develop a set of criteria that define a proper balance between economic cooperation and strategic autonomy with regard to China.