Competition Merger Brief

Issue 2/2025 | October

More briefs:
https://competition-policy.ec.europa.eu/publications/competition-policy-briefs_en

More publications:
https://competition-policy.ec.europa.eu/publications_en
http://bookshop.europa.eu

Competition merger briefs are written by the staff of the Competition Directorate-General and provide background to policy discussions. They represent the authors' view on the matter and do not bind the Commission in any way.

KD-01-25-015-EN-N
doi 10.2763/9684750
ISBN 978-92-68-32843-9
ISSN 2363-2534

In this issue:

Issue 2/2025 | Article 1

Competition Merger Brief

Broadcom/VMware – the importance of speaking the same language

Laura Corbett, Sara Hugelier, Patricia Oliveira

Introduction

On 12 July 2023, following an in-depth investigation, the Commission conditionally approved the acquisition of VMware by Broadcom.[1] This case is an example of an exceptional scenario where the Commission was able to conclude that an interoperability remedy was suitable to remove non-horizontal competition concerns, similar to its *Broadcom/Brocade* decision.[2]

Broadcom is mainly a hardware company that offers, among other products, a variety of hardware components that connect servers to storage or networks. These components include Fiber Channel Host-Bus Adapters ('FC HBAs').[3] VMware supplies mainly virtualisation software, including for servers. In essence, server virtualisation software emulates computer hardware to enable the hardware of a single server to be divided into multiple computers, known as "virtual machines". Virtualisation software interoperates with hardware components in the server, such as FC HBAs, via a type of server Operating System ('OS'), called the 'hypervisor'.

The Commission was concerned that the transaction would harm competition in the worldwide FC HBA market, as the merged entity would have the ability and incentive to foreclose Marvell, its only rival on the FC HBA market, by delaying or degrading certified interoperability of Marvell's hardware with VMware's server virtualisation software. This would hamper Marvell's ability to compete in a market where Broadcom is dominant, or at least holds a very strong position,[4] ultimately leading to higher prices, lower quality, and less innovation for business customers. Broadcom proposed a remedy ensuring that Marvell has the same level of interoperability with VMware's server virtualisation software that Broadcom provides to its own FC HBAs business unit, on the basis of which the Commission conditionally approved the transaction.

In the market investigation, respondents also raised concerns that VMware's licensing policy could change once Broadcom controlled VMware - for instance, through higher prices or reduced support for customers with perpetual licenses, unless they moved to subscription-based licenses. However, such concerns relate to the exploitation of VMware's pre-existing market power. VMware was already able to engage in such conduct before it was acquired by Broadcom. Therefore, these concerns are linked to changes in commercial strategy that is not caused by structural changes brought about by the transaction, which is what merger control looks at.

In this brief, we highlight a few interesting aspects of this case, notably how the Commission (1) defined the market for server virtualisation software taking into consideration the transition of workloads from the on-premises environment to the public cloud, (2) pursued a conglomerate foreclosure theory of harm related to the interoperability of VMware's server virtualisation software with Broadcom's hardware, (3) assessed possible incentives to degrade interoperability despite a high critical switching rate, (4) assessed effects in this case where technically a large part of the addressable market remained available, and (5) accepted the targeted remedy that neatly fit the specific characteristics of this case.

In a nutshell

In Broadcom/VMware, the Commission was concerned that Broadcom would restrict or degrade the interoperability between VMware server virtualisation software and the hardware of Marvell, its only FC HBA rival.

Following an in-depth investigation, the Commission considered that an interoperability commitment was effective and capable of alleviating its concerns given the very specific circumstances of this case.

[1] An appeal against the Commission's decision is currently pending before the General Court. Case T-503/25 – *CISPE v. Commission*, see https://curia.europa.eu/juris/document/document.jsf?text=&docid=304375&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=215088.

[2] Commission decision of 12 May 2017 in case M.8314 – *Broadcom / Brocade*.

[3] HBAs are hardware devices that connect servers to storage networks via the FC protocol.

[4] Commission decision of 12 July 2023 in case M.10806 – *Broadcom / VMware*, Section 8.4.3.2.3.1.

1. Trend towards cloud computing and market definition

Historically, virtualisation software has been used by enterprises to create virtual machines from physical infrastructure they own and operate themselves in datacentres on their premises ("on-premises"). Currently, enterprises are migrating a proportion of their workloads away from their on-premises traditional datacentres towards the public cloud. Enterprises are also developing cloud-native applications. Accordingly, Broadcom considered that there should be an overall virtualisation software market encompassing all types of deployment models and environments.

However, despite this industry trend towards public cloud, based on the results of its market investigation, the Commission found that there are still workloads which customers have so far been more reluctant or unable to migrate to or create in the public cloud due to a number of reasons, namely legacy or mission-critical applications, contractual obligations, or security, data privacy, data sovereignty or regulatory concerns. Respondents to the market investigation indicated that the distinction between on-premises and private cloud was blurry, as opposed to the distinction with the public cloud. In practice, enterprises tend to create a type of hybrid cloud environment where enterprises distribute workloads across on-premises infrastructure, as well as private and public cloud.

Similarly, from a supply-side perspective, based on the results of the market investigation, it appeared that a virtualisation software provider could easily switch between developing virtualisation software for the on-premises and the private cloud environment, but to offer virtualisation software for the public cloud would be more difficult, or not possible.

In view of these demand- and supply-side considerations, the Commission found that there is a market for server virtualisation software which should be further segmented based on deployment model, *i.e.*, depending on whether the software is deployed (i) on-premises and in the private cloud, or (ii) in the public cloud.

VMware's market share in the market for server virtualisation software in the on-premises and private cloud environment is significant and customers view VMware's product as particularly important. Further, there are no relevant alternatives to VMware's product. Therefore, in line with the Non-Horizontal Merger Guidelines, the Commission found that VMware holds a significant degree of market power on the on-premises and private cloud server virtualisation market.

2. Foreclosure by hampering interoperability between VMware's hypervisor and Broadcom rival FC HBAs

2.1. Interoperability of VMWare's server virtualisation software with FC HBAs

VMware's virtualisation software (specifically its hypervisor) communicates with underlying hardware (including FC HBAs) via device drivers.[5] These device drivers are developed and tested as part of a relatively lengthy interoperability process. Given that each operating system ("OS") communicates with drivers in different ways, FC HBA vendors must create OS-specific drivers for their FC HBA's which are then certified by the server OS (*i.e.*, the server OS confirms that a driver interoperates with the OS).

The Commission found that interoperability with VMware's hypervisor is a critical feature of competition between suppliers of FC HBAs. Essentially, FC HBA's main customers, which are server manufacturers ("OEMs"), typically require devices to have the broadest OS support (*i.e.*, devices that are interoperable with Windows, Linux and VMware's server OS).

Given its high market share of between 60 and 70% in 2021 in the highly concentrated market for the supply of FC HBAs, the Commission concluded that Broadcom is dominant or at least holds a very strong position in such market in which its only rival is Marvell.[6]

2.2. Discreet foreclosure mechanisms

The Commission found that the merged entity would have the ability and incentive to engage in a market-wide foreclosure strategy vis-à-vis Marvell.

As set out above, interoperability of FC HBAs with VMware server virtualisation software is important. Such interoperability is made possible through extensive information exchange between VMware and FC HBA suppliers, including the disclosure of the application programming interfaces ('APIs')[7] and information about future versions of hardware and software. VMware's cooperation is therefore essential to the FC HBA development process. At the end of the process, VMware certifies the interoperability such that hardware customers can verify that the FC HBA is compatible with VMware's server virtualisation software.

Concretely, the Commission found that the foreclosure could occur through discreet mechanisms that degrade or delay the interoperability between Marvell's FC HBAs and VMware's server virtualisation software. More specifically, VMware could hamper

[5] A driver is a programme that tells software how to communicate with a device, providing an interface between the two.

[6] Commission decision of 12 July 2023 in case M.10806 – *Broadcom / VMware*, Section 8.4.3.2.3.1.

[7] APIs are sets of rules that allow different software systems to communicate and interact with each other.

the information exchange in the development process, degrade the provision of technical support, or delay certification of interoperability.

3. Incentives to foreclose despite high critical switching rate

The Commission concluded that the merged entity would have an incentive post-Transaction to engage in a market-wide foreclosure strategy vis-à-vis its rival Marvell.

Notably, according to the Non-Horizontal Merger Guidelines[8] , the incentive to foreclose rivals depends on the degree to which the strategy is profitable. The merged entity faces a trade-off between the possible costs associated with foreclosure (*e.g.,* VMware customers that move away from VMware) and the possible gains from expanding market shares in the markets concerned (*e.g.,* VMware customers that replace rival hardware with Broadcom hardware). The Commission measures whether these potential gains could outweigh the potential losses by assessing the critical switching rate, which refers to the percentage of customers that could be lost due to foreclosure before the strategy becomes unprofitable.

The Commission found that the actual switching rate would remain quite high, i.e., a significant number of customers would need to move away from rivals to Broadcom's FC HBAs. However, while the Commission acknowledges that the critical switching rate implied by such standard analysis is high, it does not imply that foreclosure would be unprofitable. It merely means that nearly all customers would need to switch from rival hardware to Broadcom to make it profitable.

In that respect, the market investigation indicated that virtually all end-customers were likely to switch from rival to Broadcom FC HBAs in a foreclosure scenario post-Transaction. This is because end-customers are generally indifferent to the supplier of such components which is typically selected by OEMs as part of an overall server package with generally no significant difference between brands of such components. At the same time, end-customers determine which virtualisation software they run, and invest significantly in their software infrastructure, including trained IT personnel. Therefore, they would find a change in hypervisor difficult and disruptive to their business. In addition, server virtualisation software represents a significant cost relative to the price of FC HBAs. Finally, no end-customer would purchase a hardware component without certification of interoperability with the software on which they are running their workloads.

[8] Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings ('Non-Horizontal Merger Guidelines'), OJ C 265, 18.10.2008, paragraph 105.

4. Effects based on strengthening of dominance, or at least market power

As set out above, the Commission concluded that Broadcom would have the ability and incentive to foreclose Marvell. Such foreclosure strategy would likely have significant effects on competition in the market for FC HBAs, by reducing the ability of Broadcom's only FC HBA rival to compete.

The Non-Horizontal Merger Guidelines[9] set out that bundling or tying may result in a significant reduction of sales prospects faced by single-component rivals in the market. The reduction in sales by competitors is not in and of itself an impediment to competition. Yet, in particular markets, if this reduction is significant enough, it may lead to a reduction in rivals' ability or incentive to compete. This may allow the merged entity to subsequently acquire market power (in the market for the tied or bundled good) and/or to maintain market power (in the market for the tying or leveraging good). The Non-Horizontal Merger Guidelines specify that it is only when a sufficiently large fraction of market output is affected by foreclosure resulting from the merger that the merger may significantly impede effective competition.

The Parties claimed that rival hardware vendors would have ample opportunities to sell their products, given that most servers worldwide are either non-virtualized, or non-virtualized by VMware. Therefore, any putative degradation of interoperability would not deprive rival hardware vendors that compete with Broadcom of minimum viable scale, as these non-virtualized servers would not require interoperability with VMware's software.

Nevertheless, the Commission found that there would be a significant effect on the worldwide market for FC HBAs. First, Broadcom is dominant or at least holds a very strong position with between 60 and 70% market share in 2021 in the highly concentrated FC HBA market where it faces only one challenger, Marvell. Second, Broadcom's only FC HBA rival would be hampered in its ability to compete on the merits and effectively in an important part of that market. Third, Broadcom's FC HBA rival would invest less. This would allow Broadcom to maintain and/or strengthen its dominance, or at least very strong position, in the FC HBA market.

5. Remedies targeted to Broadcom's only rival on the FC HBA market

The Commission's Notice on Remedies clarifies that divestiture remedies are systematically preferred and serve as the benchmark against which other potential solutions will be assessed. Non-structural commitments related to the future

[9] Non-Horizontal Merger Guidelines, paragraph 111.

behaviour of the merged entity will only be accepted in very specific circumstances.[10]

The Commission agreed to explore Broadcom's non-structural commitments proposal. Throughout the investigation, the Commission gathered information as to the FC HBA development process and rivals' interactions with VMware throughout that process to ensure interoperability between the hardware and the software, as well as a smooth certification process. The server OEMs, as the main customers of FC HBAs, were also closely involved in the process. This allowed the Commission to test and accept the proposed commitments, which effectively addressed the concern at issue, namely that a degradation of certified interoperability between Marvell's FC HBAs and VMware's server virtualisation software would hamper Marvell's ability to effectively compete in the market for FC HBAs.

First, Broadcom committed that the merged entity would ensure that Marvell would be able to develop FC HBAs that are interoperable with VMware server virtualisation software and obtain certification of that interoperability in an equal manner to Broadcom's own FC HBAs. This requires access to the APIs, technical and engineering support in the same timely manner as provided to the merged entity itself, and at a cost in line with earlier practice. Furthermore, the merged entity will provide access to the source code for all of Broadcom's current and future FC HBA drivers through an irrevocable license, thereby allowing Marvell to ascertain that equal access is provided to the information necessary to ensure interoperability.

Second, an organisational separation within the merged entity between Broadcom's FC HBA division and VMware's certification and support team for server virtualisation software will be set up to protect Marvell's confidential information that the merged entity obtains in the course of the interoperability process.

The commitments targeted Marvell as Broadcom's only competitor in the global market for FC HBAs. Nevertheless, to avoid an increase of entry barriers in the market, the commitments are also open to any potential future entrant, even if such entry appeared to be unlikely at the time of the decision as the market for FC HBAs is mature and new technologies may take over going forward. The commitments will remain in place for a period of 10 years, which the Commission deemed appropriate given the fast-moving nature of the sector. After 10 years, the Commission expects that the market structure or consumer behaviour will have changed such that the commitments will no longer be required. The need for only a limited duration rendered this non-structural remedy particularly apt at obtaining an effect equivalent to a divestiture.

Finally, the implementation of the commitments will be aided by the supervision of a monitoring trustee and a fast-track dispute resolution mechanism.

Following a thorough and positive market test, the Commission concluded these commitments were capable of eliminating its concerns. Broadcom's commitment to make the necessary tools and support available on equal terms ensures that Marvell and any potential future entrant will be able to develop and introduce any new features without delay and enable timely certified interoperability of their FC HBAs. Access seekers can verify that they have access to the same necessary information as the merged entity through the source code library. Furthermore, the protection of access seekers' confidential information will ensure that the merged entity will be precluded from using such information to its own benefit, for example to make alterations to its products that would ensure better interoperability with its own hardware. The monitoring trustee will keep a close eye on whether technical support and access to development tools is provided in line with VMware's pre-transaction practice and in an equal manner as to Broadcom and will ensure that adequate measures are put in place to ensure a hold-separate of confidential information. These commitments, along with the possibility for the access seeker to raise doubts with the trustee or through a fast-track dispute resolution mechanism, are adequate to capture also the potential discreet foreclosure mechanisms in this case.

This case presented a specific situation with only one remedy taker at the time of the decision, which allowed for a targeted solution without the need to consider different interoperability remedies for each remedy taker. Furthermore, the commitments resemble those accepted in an earlier case, *Broadcom/Brocade*[11], where the Commission was able to satisfactorily monitor the remedy's proper implementation and found that they were effective in preventing anticompetitive effects. The facts of the case therefore allowed for the acceptance of non-structural remedies. Since the date of implementation of the remedies, Marvell continues to be active on the global market for FC HBAs.[12] In addition, the Marvell FC HBAs continue to be interoperable with VMware's software.[13]

Conclusion

Overall, in the course of its in-depth investigation, the Commission delved into several interesting issues and ultimately obtained sufficient comfort that exceptionally non-structural remedies could be accepted in light of the very specific circumstances of this case. The limited number of access seekers and straightforward set of pre-existing access terms set this case apart from earlier investigations involving interoperability concerns, where the multitude of access seekers and tailor-made commercial terms would likely have made any remedy unmanageable and difficult to monitor.

[10] Commission notice on remedies acceptable under Council Regulation (EC) No 139/2004 and under Commission Regulation (EC) No 802/2004 [2008] OJ C267/1, paragraphs 15-17.

[11] Commission decision of 12 May 2017 in case M.8314 – *Broadcom / Brocade*.

[12] https://www.marvell.com/products/fibre-channel-adapters-and-controllers.html

[13] https://compatibilityguide.broadcom.com/

Issue 2/2025 | Article 2

Competition Merger Brief

Korean Air/Asiana – a race for cargo space

Chrysanthi Tramountana, Stefano Callari

Introduction

In November 2024, the Commission approved Air Incheon as a suitable purchaser for the cargo divestment business offered by Korean Air in order to acquire control over Asiana. This decision marks the last step in the proposed acquisition of Asiana by Korean Air, which was formally notified in January 2023 and conditionally approved in February 2024.

More specifically, by decision of 13 February 2024, the Commission declared the concentration compatible with the internal market, subject to compliance with conditions and obligations. These commitments are divided into 'Passenger Commitments' and 'Cargo Commitments'. As part of the latter, Korean Air committed to divest Asiana's global cargo freighter business, including – among others – freighter aircraft, slots, traffic rights, flight crew and other employees, as well as customer cargo contracts.

A previous Merger Brief[1] has already examined the issues concerning the air passenger market, in conjunction with those arising in the Lufthansa/MEF/ITA and IAG/Air Europa cases. This article specifically focuses on the air cargo market, first providing a brief overview of how competition in the air cargo market works and then zooming in on three particularly interesting aspects: (i) the boundaries of the relevant market in the case of integrators,[2] (ii) entry, expansion, and the role of excess capacity as a competitive constraint, and (iii) how to ensure that the business to be divested would be stand-alone, viable and competitive.

How competition plays out in the air cargo market

In 2023, more than €5 trillion worth of goods were imported and exported to non-EU countries; around 26% of the EU's extra-EU export value and around 17% of its import value in goods were transported by air,[3] while around 25% of all extra-EU trade was with Eastern Asia.[4]

These figures underscore the importance of a well-functioning air cargo market for European consumers and businesses. High-value European exports, such as luxury goods, medical equipment, perishable goods (e.g. fresh seafood) and industrial machinery as well as key imports such as electronics and semiconductors often travel by air.

In a nutshell

In late 2024, the Commission approved Air Incheon as a suitable purchaser for Asiana's global cargo freighter business, marking the last step in the acquisition of Asiana by Korean Air. This Merger Brief focuses on the cargo aspects of the case, as the passenger aspects have already been covered by an earlier edition.

The proposed Transaction gave the Commission the opportunity to dive into the specific complexities of the air cargo market, defining the boundaries with other neighbouring markets, assessing capacity considerations, and designing a remedy that would solve competition concerns on a global scale.

Several types of carriers provide air cargo services between Europe and South Korea. For example, airlines like Korean Air and Asiana both operate dedicated freighter planes and utilize belly space on direct passenger flights to and from European airports to transport cargo. Most other carriers, however, could not replicate a similar value proposition as the Parties. Some carriers rely solely on belly-hold cargo capacity,[5] while some others rely

[1] Competition merger brief. Issue 4, November 2024. Available at Competition merger brief. Issue 4, November 2024 - Publications Office of the EU

[2] Companies such as DHL, FedEx, and UPS. Integrators offer not only (i) airport to airport services, but also (ii) handle cargo from the point of origin to the airport and from the airport to the final destination, including legal formalities, such as customs clearance.

[3] Value of EU goods transported by sea was 47% in 2023 - News articles - Eurostat

[4] Air freight transport statistics - Statistics Explained

[5] Carriers can transport cargo using the space available in the underfloor compartments of passenger aircrafts, which are known as the "belly" of the aircraft. This approach allows carriers to maximize revenue by

only on indirect connections whereby the cargo is transhipped at a hub outside Europe. Within the picture, one can also find the integrators such as DHL, FedEx, and UPS, which only offer air cargo services if last-minute capacity is available on their flights.

The Commission examined whether air cargo services should be considered a single market encompassing all these transport methods or if they should be further segmented. While the Commission found the segmentation of the market for air cargo services by the type of aircraft or between direct and indirect flights with and without transhipment not to be appropriate, it excluded the door-to-door small package delivery services of the integrators, as these constitute a service of different nature, while it included the more limited airport-to-airport cargo services of the integrators, as discussed in more detail below.

Nevertheless, the Commission also acknowledged that these markets are differentiated in different ways, namely whether the carriers operate freighter aircraft or passenger aircraft, whether they offer direct services or services with transhipment, and from which airports in Europe they offer their services at which frequencies. These are all elements that customers value differently, as they can affect capacity considerations, the quality, i.e. timeliness and reliability, of delivery, or the risk of cargo loss or damage. Therefore, the Commission took that differentiation into account in the competitive assessment of the case, in particular when assessing how closely the different carriers compete.

Ultimately, the Transaction raised concerns about the reduction of competition in air cargo transport between Europe and South Korea. This is because Korean Air and Asiana were found to be each other's closest competitors, and because other competitors could not exert a meaningful competitive constraint on the merged entity. No other competitor could match sufficiently the Parties' competitive, high-quality offering, i.e. high frequency, high capacity (both freighter and belly-hold), and direct services without transhipment.

Defining boundaries: the hybrid nature of integrators

The large focus of the case on the air cargo market provided the opportunity to investigate in depth the interaction and dynamics between air cargo transport, where traditional air carriers operate, and small package delivery services, where air freight integrators mainly operate.

The integrators' primary focus and business model lies on the shipment of small packages (or else door-to-door business), which is a separate market from air cargo services. Different considerations apply in key fields: for example, the type of cargo transported, i.e. mainly small packages and documents; the type of service offered, i.e. door-to-door service, contrary to the airport-to-airport services of air carriers; the time commitment; the customers targeted; as well as the pricing, which is typically higher than the air cargo carriers' pricing. Airport-to-airport cargo services are nevertheless still provided by integrators, but only in order to fill any remaining available capacity in their aircraft.

The Commission has therefore pointed out the existence of two separate markets, those of (i) airport-to-airport cargo services, and (ii) door-to-door small package delivery services.

The integrators' limited airport-to-airport cargo activities are considered part of the market where traditional air carriers operate. As discussed above, while the integrators' business model and service offering are fundamentally different to that of the Parties, the integrators may nevertheless occasionally serve some of the same customers of the latter, for example to fill any remaining available capacity in their aircraft. The Commission therefore considered in its competitive assessment the limited extent to which integrators do exert some competitive pressure on traditional air carriers due to this spare offering. The Commission found that the integrators' competitive pressure was insufficient to counter the Parties' market power after the Transaction, mainly due to insufficient capacities and last-minute availability.

In addition, the Commission analysed any constraint possibly posed by the integrators' door-to-door services to the Parties as potential indirect and out-of-market constraints. In other words, the Commission assessed whether the Parties' market power in the market for airport-to-airport cargo services could be constrained by the integrators' door-to-door offering, for example because the final customer wishing to ship goods could purchase door-to-door services from integrators instead of typically purchasing transportation services from freight forwarders that would in turn source air cargo services from air carriers like the Parties. The Commission found that such indirect constraints were at best minimal, mainly because the door-to-door services of integrators focus on small packages and therefore not on the kind of heavier and bulkier cargo handled by freight forwarders, but also because the nature of the service is inherently different (door-to-door *vs* airport-to-airport), including different pricing considerations. Shippers would therefore not switch to integrators' door-to-door services to avoid the market power of the merged entity.

Entry, expansion, and the role of excess capacity as a competitive constraint

The Commission found that the merger would have increased Korean Air and Asiana's market power in air cargo between Europe and South Korea, giving the combined entity the incentive to reduce capacity and increase prices, and that competitors were

utilizing the available space on flights primarily intended for passengers, without needing dedicated freighter aircraft.

unlikely to increase their supply sufficiently to counteract the effects of the Transaction.

First, excess capacity in the market was limited and the merger further reduced the excess capacity faced by each party pre-merger, thereby softening competitive pressure. In fact, the combined excess capacity of all competitors was only a fraction of the Parties' combined volumes on the routes between Europe and South Korea. Rivals' excess capacity would have been insufficient to fully accommodate the merged entity's sales thus giving the merged entity an incentive to raise prices. Many of the Parties' customers would not have been able to switch to alternative suppliers to avoid the Parties' price increases. Moreover, customers who switched would create an unexpected increase in demand for competitors, who, facing limited spare capacity, could respond by raising prices even as they take on additional volumes. These post-merger price increases would likely have occurred even without capacity constraints, but the combination of reduced spare capacity and the close competition between the merging parties reinforces the likelihood of higher prices across the market.

Second, customers regarded capacity in cargo as differentiated as air cargo services vary by factors such as delivery times, frequencies, and reliability. For example, non-stop connections with air cargo carriers like those offered by the Parties generally represent a higher value proposition than connections with transhipment or via integrators. This meant that many of the Parties' customers would be unlikely to switch to alternative suppliers offering lower-quality capacity at pre-merger prices. As a result, these customers would either face higher prices or be forced to accept less favourable options, such as transshipment or services offered by integrators.

Third, competitors faced both structural and economic constraints that prevented them from expanding their capacity in practice. These barriers include restricted access to traffic rights, network limitations (especially for passenger carriers that transport belly-hold cargo), and challenges in acquiring aircraft and trained personnel. Moreover, even where competitors were not constrained by these barriers, they had limited incentives to redeploy capacity to the Europe–South Korea routes as alternative routes within East Asia and Europe appeared to have been more commercially attractive. This further limited the ability of competitors to offset potential price increases by the merged entity.

These factors reinforced the Commission's concern that the merger could result in a significant reduction of competition, allowing the merged entity to exercise market power and increase prices between Europe and South Korea.

Remedies

The complexity of the business model of air carriers, where services and assets are integrated between passenger services and air cargo transport services, and across a sizeable network of operations, gave rise to complexities with regard to the remedy design. The cargo business of Asiana operating between Europe and South Korea was integrated (i) within a network of global air cargo operations and (ii) with passenger operations.

To ensure that the divestment business would be stand-alone, viable and competitive, Korean Air committed to divest all air cargo assets and personnel currently owned and employed by Asiana in the operation of its global cargo freighter activities, including its fleet of freighter aircraft, slots, traffic rights, flight crew and other employees, as well as customer cargo contracts. Any assets solely related to Asiana's belly space or passenger operations were excluded from the divestment.

Given this complexity, the Commission only accepted the remedy on the basis of a careful design with sufficient safeguards, including strict purchaser criteria and an 'upfront buyer' solution, a detailed description of the assets and personnel pertaining to the divestment business in order to ensure the viability and competitiveness of the divestment business, as well as strict legal safeguards ensuring the integrity of the assets during the transition period.

Conclusion

While the spotlight of concentrations in the airline industry most often falls on the effects for passengers, *Korean Air/Asiana* proves that significant competition issues can also be identified in other areas.

Although air transport represents only a small share of the EU's trade volumes, it accounts for a significant proportion of trade *value*, as it is the preferred mode for high-value, time-sensitive, or perishable goods. This means that the effects of increased concentration in the air cargo market may ultimately be felt in our daily lives and cost of living, even beyond travelling. *Korean Air/Asiana* was a rare example of a case where the Commission took an in-depth look at the specificities of the air cargo market, investigated what drives the customers' choice and demand, and assessed the effects on competition when – in a highly differentiated market – the two competitors with the closest offerings to one another decided to merge. The case also illustrated that a traditional divestiture remedy in an airline merger was successfully implemented and helped preserve competition.

Issue 2/2025 | Article 3

Competition Merger Brief

Buying Ansys: A Synopsys of a chip design story

Julie Eve, Joachim Marchandise, Leonor Bettencourt Nunes, Ana Pendes

Introduction

On 10 January 2025, the Commission conditionally cleared the acquisition of Ansys, Inc. ('Ansys') by Synopsys, Inc. ('Synopsys'), for USD 35 billion (the 'Transaction') in Phase I, subject to the divestment of the Parties' businesses relating to the markets in which the Commission found competition concerns.

Synopsys is a US-based company providing electronic design automation ('EDA') software tools used to develop and verify the design of semiconductor integrated circuits (commonly referred to as 'chips') before these are sent to manufacturing plants (commonly referred to as 'foundries') for production. Synopsys also offers semiconductor IP, for instance for memory access, which customers can incorporate in their chip designs. Ansys is a US-based company offering simulation and analysis ('S&A') software that is used across a range of industries (including semiconductors) to simulate and analyse the various physical effects (e.g. heat dissipation, wind circulation) encountered by a product in a given environment. Some of Ansys' S&A tools are exclusively used for the design of semiconductor chips and compete with Synopsys' EDA tools.

The increasing complexity of chip applications and smart systems has been driving innovation in EDA, with transformative market trends such as multi-die[1] chips and silicon-to-systems[2] shifting the chip design paradigm and posing new challenges to be solved by EDA tools. In this context, the combination of Synopsys and Ansys aims to address these trends by allowing a deeper integration of EDA and S&A software to meet customer requirements. While the Parties' portfolios are largely complementary, the Commission expressed concerns in three markets where their activities directly overlap, and where limited alternatives would remain post-Transaction. The Commission also carefully assessed potential competition and conglomerate relationships to ensure innovation and interoperability would not be harmed.

Relevant Markets

Electronic Design Automation (EDA) tools

The chip development process typically consists of the following stages: design (defining what the chip will do), implementation (creating and optimizing the physical layout of the chip), functional verification (ensuring that the chip functions according to the intended design), physical verification (testing the chip's layout design) and sign-off (testing compliance with foundry requirements and regulations).

Depending on the chip being developed, customers may use between five and twenty EDA tools across the different stages, often sourced from different EDA companies. Those customers thereby rely on the interoperability between the different vendors' EDA tools, which ensures that each tool works with an adjacent tool in the design flow, irrespective of the EDA provider.

A noteworthy feature of the case is the Commission's engagement with the Parties and their main competitors to comprehensively map the Parties' and their competitors' EDA tools, the different EDA segments in which these products

In a nutshell

The Commission conditionally approved the combination of the largely complementary businesses of the chip design software of Synopsys and the simulation and analysis software of Ansys, after they committed to divest to a suitable purchaser the entire overlap on the three global software markets where the Commission had identified competition concerns.

This case is an example of the Commission assessing an innovation-driven industry affected by transformative market trends, such as multi-die chip design, where it investigated the possible impact of a proposed transaction from various angles: actual competition, potential competition and conglomerate effects.

[1] Muti-die chip design consists in integrating multiple dies, or chiplets, into a single package by stacking dies on top of each other (3D design).

[2] Chips, software, and hardware of an electronic system being designed together instead of separately, leveraging virtual models of the chip. The silicon-to-systems design paradigm allows the creation of high-fidelity virtual models of the full physical product (i.e., a "digital twin" including the electronics, electrical and mechanical components) and its changing environment conditions to enable comprehensive virtual testing through simulation

compete with one another as well as how these products interoperate, both with EDA tools from the same provider and with EDA tools from other providers.

Based on this feedback, the Commission concluded that markets for EDA tools should be defined at the functional (i.e. tool) level, without further segmentation into narrower markets, according to the type of chip that is being developed, design stage or industry. These markets are all worldwide in scope.

Optics and photonics software

Optical and photonic software are both used to simulate the ways in which light behaves, in macro-scale systems (e.g., screen or car headlight) for optical software, and in nano-scale systems (e.g., digital camera or solar panel) for photonic software.

The Commission concluded that the market for optics software is distinct from the market for photonics software, as they each serve distinct purposes.

Semiconductor IP

While Ansys does not offer any semiconductor IP, the Commission looked at these products because they are purchased by customers designing chips as well as by companies developing EDA tools. The Commission concluded that the precise market definition for semiconductor IP (predesigned building blocks that perform a specific function within a chip, and that can be used in different chip designs), can be left open since the Transaction does not raise competition concerns in this area regardless.

Concerns found in three markets where the Parties' activities horizontally overlap

Synopsys and Ansys' tool offerings are **largely complementary**, and the **Transaction gives rise to nine horizontal overlaps** in EDA tools and optics and photonics software. The Commission investigated the effects of the Transaction on overlapping markets where the Parties hold high market shares.

In **optics and photonics software**, the Parties' combined market shares post-Transaction are significant. The Commission had competitive concerns on these markets, as the market investigation confirmed that the Parties' tools compete closely and switching provider will be difficult given the limited number of credible alternatives remaining on both markets.

In **EDA tools**, the Commission focused its investigation on the tools offered by the Parties at the chip design stage for analysing how much power a chip consumes (called **register-transfer-level ('RTL') power consumption analysis tool**), where the combined share is high. The Commission concluded that the Transaction **raises competitive concerns**, since the Parties' tools have similar features and Cadence and Siemens (the Parties' main competitors) were not considered to closely compete with Synopsys or Ansys. [3]

Multi-die chip design: no loss of potential competition

Multi-die chip design is a growing trend in EDA tools, driven by the increased demand for higher processing power and performance of chips, namely for AI and hyperscaler data centers. Such type of design poses more challenges in terms of multiphysics effects (thermal effects, structural integrity, etc) and therefore calls for better integration between EDA and S&A software.

Both Synopsys and Ansys have been investing in R&D for multi-die chip design. As previously mentioned, Synopsys focuses on EDA, while Ansys is a broader S&A player offering EDA tools as part of a wider portfolio. Accordingly, Ansys EDA tools are generally used for multiphysics analysis, which is typically done at the sign-off stage of the EDA design flow.

In this context, the Commission analysed each of Synopsys' and Ansys' R&D projects in the EDA field to assess whether the Transaction would result in elimination of potential competition in certain functional markets for EDA tools for multi-die chip design, specifically whether either of them was likely to grow into an effective competitor in such markets. In line with case law,[4] the Commission checked whether there were **"real and concrete possibilities" of entry** by reviewing the Parties' internal documents. It found that the R&D projects were developing **capabilities that would be embedded into existing tools**, which would not be sufficient to enter new markets, and **did not constitute sufficiently concrete plans** to develop tools which would be substitutable with those of the other Party. In addition, the Commission concluded that the **economic viability** to enter certain specific markets was merely hypothetical and there were **other potential competitors** (namely S&A players) **better placed** to enter those functional markets.
In conclusion, the internal documents showed that these R&D projects would only increase the functionality of existing tools but **would not lead either party to enter new markets.**

Conglomerate links

As part of the transaction rationale, Synopsys announced the integration of Ansys' software with its own. The Commission's assessment therefore also concerned the Parties' relationships in closely related EDA markets and semiconductor IP. Both Synopsys and Ansys supply EDA tools, albeit largely at different stages of

[3] The Commission dismissed concerns in the six other EDA tools' overlaps, where the Parties' combined share is moderate, the increment brought by the Transaction is limited, sufficient credible alternatives remain or when the Parties' EDA tools compete loosely.

[4] General Court judgment of 13 November 2024, *Deutsche Telekom AG* v *CMA* (T-64/20, ECLI:EU:T:2024:815), paragraph 135 and Court of Justice judgment of 30 January 2020, *Generics (UK) e.a.* v *CMA* (C-307/18, ECLI:EU:C:2020:52) paragraph 36, and case law cited therein.

the chip design process (commonly referred to as the design flow). Most of Ansys' EDA tools are typically used for the physical verification and sign-off analysis, i.e. for the final stage of the chip design flow before sending the chip for manufacturing in the foundry. In contrast, Synopsys offers a suite of EDA tools used across all chip design stages EDA tools interoperate in the chip design process by exchanging data through a bi-directional import or export relationship. Interoperability is required for EDA tools to function properly as it enables EDA tools to read input from other EDA tools and send output that can be read by other EDA tools in the chip design flow. In addition, customers usually mix and match several EDA tools from different vendors in search of "best of breed" tools. In that context, interoperability is particularly important as it enables the tools of different vendors to work well together. On a similar basis, the Commission also considered the relationship between Ansys' EDA tools and Synopsys' semiconductor IP. Companies designing a chip need to procure both semiconductor IP and EDA tools, and EDA tools are also used by semiconductor IP licensors to develop their semiconductor IP.

The Commission considered two practices by way of which the merged entity could potentially leverage a strong position in EDA and semiconductor IP markets to foreclose its competitors in EDA and semiconductor IP markets: (i) technical tying via total restriction or degradation of interoperability between EDA tools and EDA tools and semiconductor IP based on industry standards and/or proprietary interfaces, and (ii) anticompetitive (pure and/or mixed) bundling. As part of the Transaction rationale, Synopsys was planning to "natively" integrate some of Ansys' EDA tools into Synopsys' EDA tools at the source code level such that they deliver their capabilities as one single product. Native integration is generally not possible between EDA competitors due to the risks of IP expropriation that appear when combining EDA tools at the source code level. When investigating impact on interoperability, the Commission focused on whether the Transaction could change the *existing* interoperability between the parties' and rival EDA tools enabling effective competition, while the future native integration between the Parties' products was not considered in this context.

The Commission concluded that the merged entity would not have the ability or incentive to foreclose EDA and semiconductor IP competitors, with either foreclosure strategy.

In terms of ability, the Commission found that the merged entity would unlikely have the technical ability to hamper interoperability between its EDA tools and semiconductor IP, and third-party EDA tools. The investigation distinguished between different types of interoperability to fully assess the practical ability to diminish interoperability. Nearly all design IP and EDA tools interoperate through industry-based standard interfaces ("baseline interoperability"), but companies may also develop proprietary interfaces. The investigation confirmed that it would be unlikely possible to hamper baseline interoperability. In addition, interoperability is based only on industry standards in most cases, while for products interoperating based on proprietary interfaces, industry standards are a "fall-back" option in almost all cases. Further, interoperability between EDA software as well as design IP is particularly important in the chip design process. EDA vendors are generally incentivised to maintain effective interoperability and interoperability agreements are a standard practice. In addition, customers often demand interoperability as they generally do not rely on a single vendor's tools for an entire chip design flow but choose the "best of breed" EDA tools and semiconductor IP. Finally, the merged entity's main EDA competitors have themselves strong EDA tools that customers combine with Synopsys' and Ansys' EDA tools and that must effectively interoperate. Such mutual dependence on interoperability gives rivals ample possibility to retaliate.

In terms of incentives, the Commission found it unlikely that sufficient customers would switch to the merged entity's EDA tools or semiconductor IP to make any hampering of interoperability or anticompetitive bundling profitable post-Transaction. For instance, some EDA tools pairings based on proprietary interfaces are not used by a significant proportion of customers, because they are an optional step required only for a specific use-case. In addition, having investigated Synopsys' and Ansys' past acquisitions and industry practices, the Commission found no convincing evidence of examples where the Parties hampered interoperability or refused to sell EDA tools on a standalone basis.

The Commission ultimately concluded that Synopsys would not have the ability or the incentive to foreclose competitors in EDA- and semiconductor IP markets, either through totally restricting or degrading interoperability or by means of anticompetitive bundling to such an extent that competitors could no longer effectively compete or have no counter-strategies available to them. The evidence further confirmed that the effect of any such strategy would in any case be limited.

Remedies addressing all competition concerns

Given the Parties' important position in optics and photonics software, Synopsys offered at an early stage of the Commission's investigation to **divest Synopsys' optics and photonics businesses** ('OSG business'). To address the Commission's competitive concerns based on the market investigation, Synopsys also committed to divest **Ansys' RTL power consumption software** ('PCA business) to a suitable purchaser. These commitments cover the **entire overlap** in terms of the Parties' respective activities in the markets where the Commission identified competition concerns.

In light of the results of the market test, the Commission considered that the **remedies are suitable to address the Commission's competition concerns** by ensuring that there will be sufficient competition and choice in optics and photonics

software and in RTL power consumption analyse software.[5] The Commission also concluded that the remedies include all assets and staff that contribute to the **current operation, or are necessary to ensure the viability and competitiveness**, of the OSG business and PCA business (in particular, all tangible and intangible assets, as well as licenses, authorisation, contracts, personnels, and transitional supply arrangements). In that respect, the Commission required a clear and exhaustive description of what is included in both PSG business and OSG business to ensure the purchaser has everything it needed to operate in the markets .

The Parties were in discussions with a technology company already active in software tools designed to support electronic design and simulation, Keysight. The Parties had already signed the purchase agreement with Keysight for the OSG business but had not had time to finalise an agreement with Keysight for the PCA business before submitting the commitments. The Commission considered there to be a need for an additional safeguard in the form of an **upfront buyer clause** as the market test revealed little interest of buying in the PCA business[6]. Therefore, Synopsys would only be able to implement the acquisition of Ansys following the approval of a suitable purchaser. The Commission also requested to have a condition that any purchaser must be active in the EDA sector.

Based on the reasoned opinion from the monitoring trustee, the purchaser and the purchase agreements were approved by the Commission on 23 May 2025. In its purchaser approval decision, the Commission:

a) Considered that Keysight **fulfils all the Purchaser criteria** as set out in the commitments, including that it has the resources, expertise, and incentive to maintain and develop the divestment businesses as a viable and active competitor.
b) Concluded that the **purchase agreements** relating to the OSG business and the PCA business are **in line with the commitments**.
c) **Approved Keysight** as a suitable purchaser.

It is worth mentioning that the commitments contained a "non-assertion mechanism". The commitments mentioned that the Parties and Keysight will enter into a **"customary arrangement"** where they will agree not to enforce their **intellectual rights ('IP') relating to the divestment businesses**, that needed to be reviewed by the monitoring trustee and the Commission at the time of the purchaser approval. The signed purchase agreements did not contain a "non-assertion" clause, and the Parties have not entered into any separate agreement. The Parties explained that the transfer of the IP assets in a legally valid and proper manner serves as a self-executing non-assertion mechanism. The Trustee, as well as the Commission, agree with this approach.

The Commission has been in close contact with national competition authorities which had to assess the transaction, such as the Competition and Markets Authority in the United Kingdom, during its investigation and including for the remedies workstream. The national competition authorities also authorised the transaction with remedies. .

Conclusion

The Commission's investigation showed that, while the companies' activities are largely complementary, the transaction, as initially notified, would have reduced competition in the global markets for the supply of: (i) optics software; (ii) photonics software; and (iii) RTL power consumption analysis software.

However, the comprehensive commitment package - involving the divestment of the entire overlap on the above-mentioned markets - fully addresses the competition concerns by ensuring that there will be sufficient competition and choice in said markets.

In a separate procedure, the Commission has approved Keysight as a suitable buyer for the divested businesses, allowing Synopsys to proceed with the acquisition of Ansys.

This case is an example of the Commission assessing the possible impact of a proposed transaction from various angles: actual competition, potential competition and conglomerate effects.

.

[5] Based on the results of the market test, the following main improvements have been made in the final commitments: (i) the purchaser will have to be active in the EDA sector, (ii) clearer wording with respect to intellectual property rights, (iii) customer contracts will be transferred in their entirety (including intellectual property rights and price terms), and (iv) interoperability agreements will be transferred to the purchaser.

[6] While Keysight had already signed the agreement for the OSG business, the commitments did not mention Keysight as the purchaser and the assessment was therefore not a fix-it-first but a standard assessment. However, given the above agreement the Commission did market test the suitability of Keysight as purchaser of the OSG business.

Issue 2/2025 | Article 4

Competition Merger Brief

International Paper / DS Smith – Blurred Lines in a Square-Box Deal

Anne Jussiaux, João Barreiros, Schéhérazade Oozeerally, Gonçalo Gomes

1. Introduction

On 24 January 2025, the European Commission conditionally cleared International Paper's acquisition of DS Smith (the 'Transaction'). International Paper ('IP', United States) and DS Smith ('DSS', United Kingdom) (together, the 'Parties') are two vertically integrated companies active worldwide in the pulp, paper, and packaging sectors.

This Transaction combines two paper and packaging companies with geographically complementary activities, with IP primarily active in the US and DSS in the EEA. Despite this, the Commission's Phase I market investigation showed that the Transaction, as initially notified, would have reduced competition in many local markets for the manufacture and supply of corrugated sheets and cases in France, Portugal, and Spain.

A consolidation wave in the paper sector?
In recent years, a number of M&A deals in the paper and packaging sectors suggests that the industry might be witnessing a consolidation wave. By way of example, in 2025 the Commission cleared the acquisition by Mondi (United Kingdom) of the Western European operations of Schumacher Packaging (Germany).1 A year earlier, it had approved the merger between Smurfit Kappa (Ireland) and WestRock (United States), creating Smurfit WestRock, a global paper and packaging company.2

The Commission had looked at corrugated packaging markets in some of the same regions in the context of DSS's acquisition of Europac in 2018.[3] In that case, competition concerns relating to France and Portugal had required DSS to divest two plants in France and one in Portugal. The remedy taker at the time was IP. As such, by possibly combining DSS' and IP's corrugated packaging activities, the Transaction would have united businesses that the Commission had required to remain separate only a few years prior.

Against this background, in its 2025 assessment of the Transaction, the Commission not only carefully reviewed all overlaps between the Parties' activities but also assessed in detail whether the competitive landscape in these specific areas of France and Portugal had changed sufficiently to warrant a different conclusion from the one in the *DSS/Europac* case.

This Brief analyses the Commission's approach to competitive issues raised by this Transaction and the remedies ultimately put forward by the Parties.

In a nutshell

Following a Phase I investigation, the Commission conditionally cleared IP's acquisition of DSS, bringing together two global paper and packaging suppliers.

While largely complementary, the Transaction as initially notified would have resulted in high combined market shares, high concentration levels, and insufficient remaining competitive pressure in certain local markets in France, Portugal, and Spain.

Following the submission by the Parties of a comprehensive remedy package, by which IP committed to divest five plants in the EEA, eliminating the entire overlaps in the problematic areas, the Commission could clear the Transaction.

2. Unclear market definition borders

In the EEA, the Parties are notably active in the supply of corrugated sheets and cases. Corrugated sheets are made of base paper components (i.e., flutings and liners). Sheets are combined to form the walls of corrugated cases. These cases – i.e., boxes – are used by businesses to deliver their products to customers. Corrugated cases' walls may be one or more sheets thick, depending on the transported products.

Product market definition. The investigation showed that it is necessary to segment the markets for corrugated sheets and cases, between conventional and heavy-duty products. This is because heavy-duty cases' walls are thicker, more resistant, and therefore more expensive to produce than conventional ones. As such, heavy-duty cases are mostly procured by businesses

[1] M.11786 – Mondi / Schumacher Packaging (German & Dutch & UK Business).
[2] M.11323 – SKG / WestRock.
[3] M.8915 – DS Smith / Europac.

delivering bulkier, heavier, and/or delicate products to customers (e.g., automotive spare parts). Companies active in the sector agree that a distinction should be made, but, in the absence of an industry-wide definition, disagree on what exactly qualifies as a 'heavy-duty' sheet and case. Most market participants consider that products with three sheets or more are to be considered heavy-duty, while it was difficult to determine at which point the weight would mean that a two-sheet case is heavy-duty.

Geographic market definition. The transport costs of sheets and cases are relatively high compared to the low cost of production of these simple products, making it uneconomical to transport them beyond a limited distance. Most suppliers informed the Commission that they supply within a certain radius around their plants, while customers agreed that proximity of suppliers to their own factories was of key importance.

In cases with these characteristics, the Commission may define the relevant geographic markets based on catchment areas. The exact market boundaries and the methods used to define the size of catchment areas can vary significantly from sector to sector. With this Transaction, supply patterns revealed that it was appropriate to define catchment areas corresponding to radii of (i) 400 km from the Parties' plants producing corrugated sheets and (ii) 300 km from the Parties' plants producing corrugated cases.

For purposes of market share calculation, the Commission considered all sales generated by each production plant in the catchment area, regardless of where these actually took place, in line with the Market Definition Notice.[4] In addition, it explored an alternative approach whereby the sales of each production plant would be proportionally allocated to a catchment area only if they were made to customers in that catchment area. In this case, the alternative proportional approach did not yield significant market share differences.

Topographic elements, insofar as they impacted the delivery of the relevant products, were also reflected in the analysis. By way of example, the fact that, practically, corrugated sheets are not transported from the island of Sicily to mainland Italy (or vice-versa) led the Commission to consider that the Parties were not actual competitors in this region – while both are active in the same catchment area covering Sicily and part of the mainland, one of them is active on the island and another on the mainland.

3. Competitive assessment

As the relevant markets are local, the market investigation required a tailormade approach to obtain feedback from purely local, often family-owned, businesses in several EU countries. The investigation showed that, in view of the Parties' overlaps, the merged entity would be able to increase price, reduce output, or otherwise deteriorate the quality of (i) conventional corrugated sheets in the North and West of Portugal, (ii) heavy-duty corrugated sheets in North-East Spain, and (iii) conventional corrugated cases in North-West France.

The Commission's conclusions were supported by the large pre-Transaction market share of DSS in the relevant markets, the significant increment from IP, the high degree of market concentration, the closeness of competition between the Parties, and the absence of sufficient competitive pressure. The Commission also noted high barriers to entry, limited countervailing buyer power, and negative market feedback from both customers and competitors.

Sheets in Portugal

When the Commission last assessed the competitive landscape in Portugal, in its 2018 *DSS/Europac* decision, it found significant levels of concentration in the local markets for conventional corrugated sheets.

The Parties argued that the market had changed significantly since then, with expansion by existing competitors and entry by new players. To verify the accuracy of this argument, the Commission conducted a market reconstruction by collecting the actual sale volumes of all main competitors in the Portuguese markets. This exercise found that the Parties' accounted for [40-50]% of the relevant markets, a much higher estimate than that submitted by the Parties.

The Commission's market investigation further concluded that there were high barriers to entry in the market and a lack of credible supply alternatives. Corrugated sheets suppliers active in Portugal were found to focus their production predominantly on their own internal needs (for subsequent production of corrugated cases) rather than on external sales available to the wider market. On that basis, customers producing corrugated cases showed widespread concern that they would be vulnerable to significant price increases post-Transaction.

Cases in France

In France, the market investigation revealed that the competitive situation did not dramatically change since the Commission's previous review of the relevant markets in the context of the *DSS/Europac* transaction.

While in most catchment areas the Transaction did not raise concerns, the Commission found that the Transaction would raise serious doubts in the North-West region. In the relevant catchment areas, not only would the Parties have had high market shares, but the Transaction would also have further reinforced an already high level of concentration in the markets. In most areas, the top two competitors, including the merged entity, would have represented more than 60% of the market, and in some cases more than 80%. The Commission's investigation also revealed that despite IP having more limited market shares, the Parties were close competitors.

[4] Communication from the Commission – Commission Notice on the definition of the relevant market for the purposes of Union competition law, OJ C/2023/6789 ('Market Definition Notice'), paragraph 109.

The market investigation also confirmed that one competitor had expanded its capacity by opening a new plant. However, the production plant was either not located in the same catchment area or the added capacity would not be sufficient to substantially change the competitive dynamics.

As a result, customers would have been left with very few alternatives post-Transaction and limited options to secure competitive prices.

Sheets in Spain

In Spain, the Commission's market reconstruction similarly resulted in market shares significantly higher than those estimated by the Parties. This was particularly true in the markets for heavy-duty sheets in North-East Spain, where the Parties had initially estimated a market share of [20-30]% and [30-40]% around the two local markets. The Commission's reconstruction rather pointed to significantly higher combined market shares, which also suggest the markets changed materially since the Commission's decision in the *DSS/Europac* case.

The Commission's market investigation corroborated this finding, with market participants concerned that no sufficient alternative to the Parties now merging existed. The Commission also contacted heavy-duty sheet suppliers in neighbouring countries to enquire whether they could step in to serve the Spanish market. This outreach however confirmed that it was uneconomical to transport heavy-duty sheets beyond a certain distance, and that customers in the Spanish market could not rely on international suppliers.

3. A *déjà vu* divestment package

As a rule, the Commission accepts remedies in Phase I when they unambiguously eliminate competition concerns. Structural solutions removing the entire overlap normally qualify, as a clear-cut solution. The divested assets also need to be a viable business that a purchaser can use to effectively compete post-transaction on a lasting basis.

In this case, IP offered to divest all its plants located in the problematic catchment areas, thereby eliminating the entire overlaps in these areas and allowing the new purchaser to replicate IP's current position in those areas. The Commission's assessment confirmed that the plants were viable and relatively autonomous entities, that could be easily transferred to another owner, especially as three of them had been previously divested by DS Smith in the context of the *DSS/Europac* transaction.

In view of the local nature of the problematic markets, the plants did not have to be divested to a single purchaser, with the exception of the French plants, which had to be divested as a package, in order to recreate the competitive pressure exerted by IP locally.

Finally, the commitments provide that the purchaser of the divested plants must have a preexisting footprint in the paper industry in the EEA or in the UK (with plans for expansion in the EEA), in particular in the production of corrugated sheets and/or cases.

4. Conclusion

The Commission's review of this Transaction reflects its extensive experience in the paper and packaging paper sectors, in a period of growing M&A deals in this industry. The expertise allowed the Commission to navigate the blurred boundaries of product and geographic market definition and assess the Transaction's effects in the dozens of affected catchments areas throughout Europe – within a Phase I timeline.

At the same time, this experience allowed the Commission to clearly identify, at an early stage of the procedure, the most problematic areas of concern in France, Portugal, and Spain, paving the way to an efficient Phase I investigation and clear-cut remedies.

Finally, this Transaction illustrates the Commission's openness to approving complex deals between large global operators in Phase I, provided that their activities are largely complementary and/or the parties present comprehensive divestment packages eliminating – in a clear and straightforward manner – all the Commission's serious doubts.

Issue 2/2025 | Article 5

Competition Merger Brief

Constantia / Aluflexpack – Unpacking comPETition concerns

Rosa Aldonza Rubio, Amine Mansour, Constanza Marco Dufort, Caterina Papadimitriou, Andreas Sowa

Introduction

On 29 January 2025, the Commission conditionally cleared the acquisition of Aluflexpack AG ('AFP', Switzerland), by Constantia Flexibles GmbH ('Constantia', Austria).

Both AFP and Constantia produce many packaging products and they are both strong players in aluminium packaging for human food (e.g. aluminium foil for chocolate). But the main overlap in the parties' activities concerned the production and supply of aluminium packaging for wet pet food. As this overlap gave rise to competition concerns, the parties offered to divest AFP's overlapping activities in aluminium wet pet food packaging.

Aluminium packaging for wet pet food

Aluminium is used as a packaging material for many end applications, including for a wide range of food products. While alternative packaging materials are in use for food products (e.g. paper or plastic, depending on the food product in question), aluminium has certain characteristics that make it preferable for some customers and end-uses. For example, aluminium packaging is in principle infinitely recyclable and has superior barrier protection qualities compared to other packaging materials (ensuring long shelf-life while retaining the high quality of the packaged product).

In particular, aluminium containers and lids used for packaging wet pet food are complex products. Wet pet food is packaged into the container, the container is closed with a lid, and then the packaged wet pet food is retorted, i.e. the pet food is cooked inside the sealed packaging, thereby making it storable for a long time. This means that the closed container and lid have withstood the retorting process, while remaining easy to open for the customer.

Crucially, aluminium containers and lids for wet pet food also have to pass quality control with a group of very picky testers: pets. Pet food makers test their packaged food products with cats and dogs – the pets may reject certain batches of the containers and lids (smelling or tasting impurities impossible for humans to detect), thereby forcing the container and lid producers to adjust their production.

While wet pet food is also packaged in other packaging materials like plastic pouches, supply- and demand-side substitutability is limited. Not all suppliers make both aluminium- and plastic-based wet pet food packaging, and significant investment is needed to enter the aluminium segment. This is the case, in particular, due to the required expertise and long qualification times to get a new containers and lids product into the market. Also, pet-food makers are unwilling to switch away from aluminium containers and lids, because a segment of end-customers value the barrier protection qualities of aluminium and single-portion containers.

In a nutshell

In particular in a context of high grocery prices, food makers should have access to affordable packaging materials that are competitively produced.

The combination of Constantia and AFP would have created a very large player in the already concentrated market for wet pet food aluminium packaging.

The proposed remedies alleviate that concern, and ensure that the purchaser, MTX, is able to effectively compete post-transaction by becoming vertically integrated, hence managing the availability and quality of its own material supplies.

Constantia and AFP are market leaders

Europe is a centre of excellence for aluminium production. This applies also in particular to aluminium for food packaging and even more so for complex packaging like retortable containers and lids (for wet pet food or human food like pâté). Therefore, there are no relevant imports of aluminium containers and lids for wet pet food into Europe – in fact, European producers export containers and lids to the rest of the world.

In the European market for aluminium containers and lids for wet pet food, Constantia and AFP would have had a very large

combined market share [70-80%].[1] The transaction brought about a significant increment [20-30%], and the market was highly concentrated overall. Post-transaction, only two rivals with a market share of more than 5% would have remained.

The Commission's market investigation further showed that Constantia and AFP competed head-to-head for customers, and that customers considered them to be close competitors. Further, the barriers to entry and expansion in the production and supply of aluminium containers and lids for wet pet food are significant, as explained above.

In light of these market dynamics, customers expressed concerns that the acquisition of AFP by Constantia would lead to a price increase for retortable aluminium containers and lids for wet pet food in Europe. Such price increases for pet food makers could in turn translate to higher prices for customers shopping for packaged wet pet food.

Remedies

In order to address the Commission's concerns, the parties submitted structural remedies.

The remedies consisted of the divestiture of AFP's entire EEA business for retortable aluminium containers and lids for wet pet food and for the human food business of AFP, removing the complete overlap between the parties' activities in these two markets ('Divestment Business'). The remedies did not include AFP's upstream production assets for pre-treated (co-extruded) aluminium foil which AFP used for the production of retortable aluminium lids for pet and human food. These assets were located in another AFP plant.

In parallel, the parties indicated that they had signed a Share and Purchase Agreement with MTX Group a.s ('MTX'), a holding company active in packaging via its subsidiary AL INVEST Břidličná, a.s. ('AL Invest'), which produces flexible packaging for food, non-food, animal feed, industry, and household applications.

The Commission conducted a market test on these remedies. In particular, the Commission sought to understand (among other things) (i) the suitability of MTX as a potential purchaser, and (ii) whether the separation of AFP's upstream pre-treated foil production from AFP's downstream retortable aluminium containers and lids production would prevent the Divestment Business from operating on the market on a long-term basis.

While the market test broadly confirmed the suitability of MTX, it raised some key risks about the proposed structure of the remedies. In particular, market participants highlighted that they did not consider that a purchaser, such as MTX, would be able to start producing internally the pre-treated foil, which would disadvantage that purchaser in the market. Indeed, customers prefer to purchase aluminium retortable containers and lids from producers who are vertically integrated, for both quality and cost considerations. Furthermore, the customers for containers and lids indicated that it was very difficult to begin production of this foil internally, meaning that it would be necessary for AFP to transfer knowledge to the purchaser of the Divestment Business.

In light of this feedback, the parties introduced into the remedies a Technology Transfer Agreement ('TTA'), enabling the purchaser to replicate AFP's capabilities to internally produce the required pre-treated foil. On the basis of these improvements, the Commission conditionally approved the Transaction on 29 January 2025 and MTX as a purchaser on 6 May 2025.

The structural remedies enable MTX to run the Divestment Business as a viable competitor on the market on a lasting basis, replacing the competition that would have been lost following the merger. The remedies will also enable MTX to become vertically integrated and, therefore, a fully independent market player, able to compete with the parties on an equal footing.

Conclusion

The transaction as notified would have left customers of aluminium containers and lids for wet pet food with fewer choices and the risk of price increases. The divestiture of AFP's aluminium containers and lids packaging business to MTX preserves effective competition in the European market for aluminium containers and lids for wet pet food and ensures that European pet food shoppers will not be harmed.

[1] With respect to aluminium containers and lids for human food, the Parties have a combined market share of [50-60%] – the Commission also found competition concerns with respect to this market.

Issue 2/2025 | Article 6

Competition Merger Brief

Safran/Collins – Remove Concerns Before Flight

Fotios Filios-Metentzidis

Introduction

On 4 April 2025, the Commission conditionally approved the acquisition of parts of Collins Aerospace's actuation business ('the Target') by Safran S.A. ('Safran') (together referred to as 'the Parties').

Safran, headquartered in France, is involved in the entire lifecycle of engines, systems, and equipment for both civil and military aircraft. The Target, part of RTX (formerly Raytheon Technologies, previously United Technologies Corporation), is an aerospace and defence company based in the United States. Through this transaction, Safran will strengthen its presence in the aerospace sector and expand its product offerings for aircraft manufacturers in both civil and defence sectors.

Initially, Italy vetoed Safran's acquisition of Microtecnica, an Italian subsidiary of the Target, on public security grounds. This veto was later lifted following bilateral discussions between Italy and Safran, without impacting the Commission's review.

Both Safran and the Target operate globally, manufacturing a wide array of aircraft systems and components. While most of the horizontal overlaps and non-horizontal relationships arising from this transaction were deemed unproblematic, the Commission's investigation revealed that the transaction, as initially notified, would reduce competition in the market for trimmable horizontal stabiliser actuator systems (THSA), because Safran and the Target were two of the main THSA system suppliers.

The Commission conditionally cleared the transaction, subject to Safran's commitment to divest its entire North American THSA business, which primarily serves civil aviation and represents most of Safran's THSA business.

THSA systems – Reviving an Old Concern

A THSA system moves the horizontal stabiliser wing that is incorporated in the tail of an aircraft, which in turn controls the angle of the aircraft's nose up or down. Its purpose is to optimise the aircraft's balance and aerodynamic efficiency as conditions change during flight, minimising drag and helping the aircraft fly more smoothly and efficiently. This not only improves passenger comfort but also leads to lower fuel consumption and, as a result, reduced CO_2 emissions—making it an important feature for more sustainable aviation.

Safran became one of the two largest suppliers of THSA systems in 2018, when it acquired the THSA business of United Technologies Corporation ('UTC'), as a remedy buyer in the context of UTC's acquisition of Rockwell Collins (M.8658 – UTC / Rockwell Collins). Back then, the Commission had found that the combination of UTC's and Rockwell Collins' THSA businesses would raise competition concerns.

By acquiring the Target, Safran would recreate the same overlap the Commission previously found problematic in M.8658, i.e. by combining Safran's (previously UTC's) THSA business with (Rockwell) Collins' THSA business. The Commission's investigation therefore focused on whether the concerns from M.8658 still existed.

The Commission evaluated whether the market dynamics had changed since 2018 to warrant distinguishing THSA systems by

In a nutshell

Safran's acquisition of parts of Collins Aerospace recreated an overlap in the supply of THSA systems that the Commission had found problematic in a previous concentration. The Commission conditionally cleared the transaction, subject to the divestment of Safran's THSA operations.

Even though at the time of notification Safran had already agreed to divest its THSA business to Woodward, the Commission, adhering to the standard practice and legal framework, reviewed the entire scope of the transaction and treated the divestment as a formal remedy.

The case underscores the importance of international regulatory cooperation, exemplified by the coordinated efforts of the Commission, the DoJ and the CMA. This facilitated an efficient review process, safeguarding competition while respecting each jurisdiction's regulatory frameworks.

technology—hydraulic ('H-THSA') vs. electric ('E-THSA'). Such a distinction would eliminate the overlap, as Safran focuses on E-THSA and the Target on H-THSA. The investigation revealed a trend towards more electric motors in aircraft, driven by fuel efficiency needs to meet carbon targets. However, the investigation suggested that the shift will be gradual, with both hydraulic and electric actuators coexisting for the coming decades. Airframers still consider both technologies in the development of new aircraft, indicating continued competition. Moreover, the Commission found that, absent the transaction, the Target was likely to expand into the supply of E-THSA systems, and that it would likely maintain its position as an important supplier in the increasingly electric future of the market for THSA systems.

The Commission's market investigation further confirmed that the Target and Safran were the two largest THSA system suppliers globally. It confirmed, moreover, that the Parties were close competitors, in particular for the supply of THSA systems to large commercial aircraft, which account for more THSA sales than all other types of aircraft combined (e.g. regional aircraft, business jets etc.). The Commission did not find substantial evidence that new entrants or competitor expansion would offset the transaction's adverse effects on the THSA supply market.

Thus, the Commission concluded that this transaction posed competition concerns related to THSA systems.

The Remedy

To address these concerns, Safran offered to divest its North American THSA business (the 'Divestment Business'), covering sites in Canada and in the US, as well as assets in Mexico. This business largely comprises what Safran acquired from UTC as a remedy in case M.8658 and represents nearly all of Safran's THSA operations.

Recognising the likelihood of competition issues, Safran indicated to the Commission its intention to divest its THSA business already during the pre-notification period and started engaging with potential purchasers. Safran's original intention was to exclude its THSA business from its notification of the transaction. The Commission, however, in line with its legal framework, recalled that the notification should include all of the Parties' activities, and that any divestment should be treated within the formal remedy framework after the notification. Therefore, Safran's THSA activities were included in the notification. The Commission monitored Safran's continued negotiation process with potential purchasers. Some guidance was provided at case team level on the remedy package and suitable purchaser characteristics, though without prejudice to the Commission's assessment during the formal remedy and purchaser assessments.

After a full market test, the Commission's decision confirmed that selling the Divestment Business to a purchaser with proven expertise in aerospace actuation would address competition concerns. The conditional clearance decision noted Safran's agreement to sell the business to Woodward, though without formally approving Woodward as purchaser.[1] The Commission separately reviewed Woodward's suitability and approved it as the purchaser of the Divestment Business on 17 June 2025.

Cooperation with other competition authorities

During the investigation, the Commission closely cooperated with the US Department of Justice (DoJ) and the UK Competition and Markets Authority (CMA).

A major focus was the timing of each jurisdiction's review process. In the US process, Safran was willing to divest its THSA business before the notification of the transaction, which would have constituted a "fix-it-first" approach in that process, excluding the problematic overlap from the notification with a view to receiving an unconditional clearance. As explained above, the process before the Commission was different and required a formal remedies' assessment.

Safran made sure that the Commission, DoJ, and CMA could align on their timelines to the extent possible, so as to ensure all authorities reviewed the proposed remedy and purchaser in parallel before any decisions were issued.

The Commission, the DoJ and the CMA cooperated on their substantive assessments of the transaction, as well as on their assessments on the suitability of the proposed remedy and the remedy purchaser.

Key takeaways

In line with the standard practice and legal framework, the notification to the Commission should cover the full scope of a transaction as envisaged, in the context of which any divestments to address competition concerns are considered as formal commitments. The Commission welcomes the early engagement of parties in discussing solutions to potential competition concerns but still expects to formally approve any remedies once officially submitted and market tested.

The case also underscores the importance of cooperation between competition authorities to ensure an efficient review while respecting procedural differences across jurisdictions.

In this case, Safran's constructive engagement, including granting information exchange waivers, facilitated effective authority cooperation, resulting in a remedy that resolved competition concerns across all jurisdictions.

[1] As would have been the case in a fix-it-first remedy, where the exact identity of the purchaser is crucial for the effectiveness of the remedy. See also Commission notice on remedies acceptable under Council Regulation (EC) No 139/2004 and under Commission Regulation (EC) No 802/2004, paragraphs 56 *et seq.*