

# Anticipated Acquisition by Synopsys of Ansys

ME 7101/24

## SUMMARY

1. The Competition and Markets Authority (**CMA**) has found that the acquisition by Synopsys, Inc. (**Synopsys**) of ANSYS, Inc. (**Ansys**), gives rise to a realistic prospect of a substantial lessening of competition (**SLC**) as a result of horizontal unilateral effects in the global supply of (i) register-transfer-level (**RTL**) power consumption analysis for digital chips; (ii) optics software; and (iii) photonics software.
2. Synopsys has agreed to acquire Ansys pursuant to an agreement dated 15 January 2024. The CMA refers to this acquisition as the **Merger**. Synopsys and Ansys are together referred to as the **Parties** and, for statements relating to the future, the **Merged Entity**.
3. As the CMA has found that the Merger gives rise to a realistic prospect of a substantial lessening of competition (an **SLC**) in the UK, the Parties have until 31 December 2024 to offer undertakings in lieu of a reference (**UILs**) to the CMA that will remedy the competition concerns identified. If no such undertaking is offered, then the CMA will refer the Merger for an in-depth phase 2 investigation pursuant to sections 33(1) and 34ZA(2) of the Enterprise Act 2002 (the **Act**).

## Who are the businesses and what products/services do they provide?

4. Synopsys, headquartered in the United States and listed on the Nasdaq Global Select Market, is a global software supplier. One of its main business segments is the supply of electronic design automation (**EDA**) software, which allows customers to design semiconductors (integrated circuits, or **chips**). EDA software helps chip design customers and 'system' customers (such as aerospace and mobile phone manufacturers that use chips in their products) to plan, design and verify chips before they are sent for manufacturing. Synopsys also supplies optics and photonics software, which is used to design and simulate light-related products like camera lenses and lasers for customers in a wide range of industries.

5. Ansys, also headquartered in the United States and listed on the Nasdaq Global Select Market, is a global EDA software and multiphysics simulation and analysis (**S&A**) software supplier. S&A software is used to simulate and analyse the behaviour of products, systems or processes digitally and is used across a wide range of industries including semiconductors, aerospace and defence and automotive. Like Synopsys, Ansys' EDA software products are also used by customers in the chip design process. Ansys' S&A software (which includes optics and photonics software) is also used by customers in a wide range of other industries.

### **Why did the CMA review this merger?**

6. The CMA's primary duty is to seek to promote competition for the benefit of consumers. It has a duty to investigate mergers that could raise competition concerns in the UK, provided it has jurisdiction to do so. In this case, the CMA has concluded that the CMA has jurisdiction to review this Merger because a relevant merger situation has been created: each of Synopsys and Ansys is an enterprise that will cease to be distinct as a result of the Merger and the share of supply test is met.
7. Synopsys announced on 16 January 2024 that it had agreed to acquire Ansys for a purchase price of approximately \$35 billion. The Merger is undergoing merger control investigations by other competition authorities in multiple jurisdictions including but not limited to the EU, United States, Japan, and South Korea.

### **What evidence has the CMA looked at?**

8. In assessing this Merger, the CMA considered a wide range of evidence in the round.
9. The CMA received several submissions and responses to information requests from the Parties. The CMA gathered information about the Parties' current and pipeline products to better understand the extent to which they currently compete or may compete in future. The CMA requested and reviewed a significant number of the Parties' internal documents on their current and future strategy to understand how they run their businesses and how they view their rivals, including in the ordinary course of business. These internal documents were also helpful in understanding the Parties' plans for the future, including the rationale for the Merger.
10. The CMA spoke to and gathered evidence from other market participants, including competitors and a large range of customers of the Parties' products. This evidence included both written and oral submissions, which the CMA reviewed to

better understand the competitive landscape and to get market participants' views on the impact of the Merger.

## **What did the evidence tell the CMA about the effects on competition of the Merger?**

11. The CMA carefully examined the overlaps and relationships between Synopsys' and Ansys' products across a wide range of EDA and S&A software markets to assess the impact of the Merger. The CMA found that the Merger raises significant competition concerns in three global software markets. The CMA is concerned that the Merger would eliminate competition between two major suppliers that already enjoy strong market positions and exert strong constraints on each other in the following global software markets:
  - (a) **register transfer level (RTL) power consumption analysis for digital chips**, which is a type of EDA software that is used to check how much power a semiconductor chip consumes and requires to function;
  - (b) **optics software**, which is a type of S&A software that is used to design and simulate optical systems that manipulate light on a large scale; and
  - (c) **photonics software**, which is a type of S&A software that is used to design and simulate photonic devices and systems (specifically, to design and simulate nanostructures where it is not appropriate to simplify light as a linear ray).
12. In all of these markets, the CMA found that the Merged Entity would be the clear market leader, and would not face sufficient constraints from remaining competitors post-Merger. The CMA also found that barriers to entry and expansion in these markets are high, in particular because of the high levels of investment in research and development, technical expertise and time required to develop the software. The Merger could therefore result in increased prices and reduced quality and innovation in these markets.
13. Given the Parties' different strengths and inter-relationships across various EDA and S&A markets (with Synopsys primarily active in EDA software and Ansys primarily active in S&A software), the CMA also considered whether the Merger would lead to rivals in various EDA and S&A software markets being harmed as a result of the Merged Entity limiting rivals' access to a key input, reducing or removing interoperability between its products and rivals' products and/or bundling the Parties' tools. Ultimately, however, the CMA considered that the Merged Entity would not have the incentive to engage in this behaviour as the losses of such a strategy would outweigh the gains. In coming to this conclusion, the CMA placed weight on the fact that, amongst other evidence, a significant number of the Parties' top customers – all of whom are sophisticated global companies with

extensive industry knowledge – considered that the Merger was unlikely to have such effects. This is because, for example, customers use what they consider to be the best quality software during each stage of their chip design flow (ie they mix and match software from different suppliers) and so interoperability is important to the value of these products, and a significant proportion of customers would switch away from the Merged Entity if interoperability were removed or degraded. The vast majority of customers that responded to the CMA’s merger investigation had positive or neutral views on the Merger.

14. Finally, the CMA considered whether the Merger could lead to a loss of future competition between the Parties in the supply of certain S&A software where Synopsys may have entered the market in the future. However, in each of the areas where Synopsys was considering (or had taken steps) to enter, the CMA found that its products would not compete, or would not compete closely, with Ansys’ products, which would also continue to face competitive constraints post-Merger.

### **What happens next?**

15. As a result of these concerns, the CMA believes the Merger gives rise to a realistic prospect of an SLCs as a result of horizontal unilateral effects in the supply of the following products globally (i) RTL power consumption analysis for digital chips; (ii) optics software; and (iii) photonics software. The Parties have until 31 December 2024 to offer UILs which might be accepted by the CMA to address the SLCs. If no such UIL is offered, or the CMA decides that any undertaking offered is insufficient to remedy its concerns to the phase 1 standard, then the CMA will refer the Merger for an in-depth phase 2 investigation pursuant to sections 33(1) and 34ZA(2) of the Act.