

Anticipated Acquisition by Synopsys, Inc. of ANSYS, Inc.

Decision on acceptance of undertakings in lieu of reference

ME/7101/24

The Competition and Markets Authority's decision to accept undertakings in lieu of reference under section 73(2) of the Enterprise Act 2002 given on 5 March 2025. Full text of the decision published on 10 March 2025.

Please note that [X] indicates figures or text which have been deleted or replaced in ranges at the request of the parties for reasons of commercial confidentiality.

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1. INTRODUCTION

1. Synopsys, Inc. (**Synopsys**) has agreed to acquire ANSYS, Inc. (**Ansys**) (the **Merger**). Synopsys and Ansys are together referred to as the **Parties** and, for statements relating to the future, the **Merged Entity**.
2. On 20 December 2024, the Competition and Markets Authority (**CMA**) decided under section 33(1) of the Enterprise Act 2002 (the **Act**) that it is or may be the case that the Merger consists of arrangements that are in progress or in contemplation which, if carried into effect, will result in the creation of a relevant merger situation, and that this may be expected to result in a substantial lessening of competition (**SLC**) within a market or markets in the United Kingdom (the **SLC Decision**).
3. On 31 December 2024, the Parties offered undertakings in lieu of reference to the CMA for the purposes of section 73(2) of the Act. The CMA gave notice to the Parties on 8 January 2025, pursuant to section 73A(2)(b) of the Act, that it considered that there were reasonable grounds for believing that the undertakings offered, or a modified version of them, might be accepted by the CMA under section 73(2) of the Act and that it was considering the Parties' offer (the **UILs Provisional Acceptance Decision**).
4. The text of the SLC Decision and the UILs Provisional Acceptance Decision are available on the CMA webpages.¹

2. THE UNDERTAKINGS OFFERED

5. As set out in the SLC Decision, the CMA found that the Merger gives rise to a realistic prospect of an SLC as a result of horizontal unilateral effects in the supply of the following products globally:
 - (a) Register-transfer-level (**RTL**) power consumption analysis for digital chips;
 - (b) optics software; and
 - (c) photonics software.
6. As set out in the UILs Provisional Acceptance Decision, to address the SLC identified by the CMA, the Parties have offered the following undertakings in lieu of a reference:
 - (a) In relation to RTL power consumption analysis, Ansys to divest by way of asset transfer the entire global business comprised of researching,

¹ See [Synopsys / Ansys merger inquiry - GOV.UK](#).

developing, distributing, licensing, selling, marketing, commercialising and otherwise making available Ansys' RTL power consumption analysis (**PCA**) product known as PowerArtist (the **PCA Divestment Business**) to Keysight Technologies, Inc. (**Keysight**) or another suitable purchaser. The PCA Divestment Business will include all necessary assets associated with PowerArtist, including commercial contracts, intellectual property (**IP**), software and business records, as well as at least [X] personnel across product management, R&D and application engineering functions. All interoperability agreements that apply to the tools of the PCA Divestment Business will be divested and transferred with the PCA Divestment Business.

- (b) In relation to optics software and photonics software, Synopsys to divest by way of asset transfer Synopsys' Optical Solutions Group (the **OSG Divestment Business**), a standalone business unit comprising Synopsys' entire global optics and photonics device design and simulation offerings business to Keysight or another suitable purchaser. The OSG Divestment Business includes the equity interest in [X], Synopsys' optics software products (CODE V, LightTools, LucidShape, ImSym), pipeline [X] software products ([X]), photonic software product (RSoft Photonic Device Tools), all related IP and licences, as well as associated services, customer contracts, personnel and four facilities.² All interoperability agreements that apply to the tools of the OSG Divestment Business will be divested and transferred with the OSG Divestment Business.

7. The PCA Divestment Business and the OSG Divestment Business are together referred to as the **Divestment Businesses**, and are described in more detail in the text of the consultation on the CMA webpage³ (the **UILs**).
8. As described above, the Parties also offered to enter into an agreement for the sale and purchase of the Divestment Businesses with an upfront buyer, before the CMA finally accepts the UILs. The Parties proposed Keysight as the upfront buyer. On 21 December 2024, Keysight and Ansys entered into a binding agreement for the sale of the PCA Divestment Business to Keysight, and on 3 September 2024, Keysight and Synopsys entered into a binding agreement for the sale of the OSG Divestment Business to Keysight. These agreements are conditional on acceptance by the CMA of the UILs, including approval of Keysight as the buyer of the Divestment Businesses.

² Facilities used wholly or mainly in provision of the OSG Businesses products and services namely: Pasadena, California; Ossining, New York; Hyeres, France; and Paderborn, Germany.

³ See [Synopsys / Ansys merger inquiry - GOV.UK](#).

3. CONSULTATION

9. On 12 February 2025, pursuant to paragraph 2(1) of Schedule 10 to the Act, the CMA published the UILs, inviting interested parties to give their views on the UILs. The relevant text from the consultation is set out at Annex 1 of this decision.⁴ For the reasons set out in the consultation, the CMA's preliminary view was that the UILs would resolve the SLC identified in the SLC decision in a clear-cut manner, ie without giving rise to material doubts about the overall effectiveness of the UILs or concerns about their implementation.⁵
10. The CMA received two submissions regarding the UILs (one preceding the consultation, and one in response to the consultation). The CMA also proactively reached out to a number of global customers of the Parties' OSG and PCA Divestment Businesses. None of these customers raised concerns in relation to the UILs or the proposed sale of the Divestment Businesses to Keysight. One global customer noted various capabilities that it considered it would be important for Keysight to maintain in relation to the PCA Divestment Business specifically. These include maintaining continuous interoperability and integration within the customer's existing flows and methodologies involving solutions from different providers, as well as retaining key personnel, the loss of which would be concerning. The CMA notes that all interoperability agreements that apply to the PCA (and OSG) Divestment Business will be transferred to Keysight. Moreover, key personnel required to effectively operate the PCA (and OSG) Divestment Business will transfer to Keysight. This submission did not therefore change the CMA's preliminary view that the UILs would be acceptable and that Keysight would be a suitable purchaser of the Divestment Businesses.
11. Another third party raised concerns with the UILs (in relation to both the PCA and OSG Divestment Businesses) and Keysight as a proposed purchaser prior to the consultation. However, the CMA considers that the issues raised in this submission either concerned matters not relevant to the CMA's consideration of the proposed UILs; were not supported by the CMA's findings in its SLC Decision, or other feedback and evidence gathered as part of its consultation on UILs; and/or are already addressed by the proposed UILs.
12. Accordingly, nothing in this submission (or other submissions, as outlined above) changed the CMA's preliminary view that the UILs would be acceptable and that Keysight would be a suitable purchaser of the Divestment Businesses (and the CMA has not otherwise become aware of any information that might cause a change in this view).

⁴ The full consultation text was published on [Synopsys / Ansys merger inquiry - GOV.UK](#).

⁵ [Merger remedies, \(CMA87\), December 2018](#), Chapter 3, in particular paragraphs 3.27, 3.28 and 3.30.

13. The CMA therefore considers that the UILs offered by the Parties are clear-cut and appropriate to remedy, mitigate or prevent the competition concerns identified in the SLC Decision and that Keysight is a suitable purchaser of the Divestment Businesses.

4. ENFORCEMENT

14. Section 94 of the Act places a duty on any person to whom the Final Undertakings accepted by the CMA relate to comply with them. Any person who suffers loss or damage due to a breach of this duty may bring an action. Section 94 of the Act also provides that the CMA can seek to enforce the Final Undertakings accepted by the CMA by civil proceedings for an injunction or for any other appropriate relief or remedy. Under sections 94AA and 94AB of the Act, the CMA can impose financial penalties in respect of a failure to comply with the Final Undertakings accepted by the CMA without reasonable excuse as set out in Annex 2 and the [Administrative penalties: Statement of Policy on the CMA's approach \(CMA4\)](#).

DECISION

15. For the reasons set out above, the CMA considers that the UILs provided by the Parties are as comprehensive a solution as is reasonable and practicable and remedy, mitigate or prevent the SLC identified in the SLC Decision and any adverse effects resulting from it. The CMA has therefore decided to accept the UILs offered by the Parties pursuant to section 73 of the Act. The Merger will therefore not be referred for a phase 2 investigation.
16. The UILs, which have been signed by the Parties and will be published on the CMA webpages, will come into effect from the date of this decision.

Naomi Burgoyne
Senior Director, Mergers
Competition and Markets Authority
5 March 2025

ANNEX 1

Anticipated Acquisition by Synopsys, Inc. of ANSYS, Inc.

NOTICE UNDER PARAGRAPH 2(1) OF SCHEDULE 10 TO THE ENTERPRISE ACT 2002 (THE ACT) – CONSULTATION ON PROPOSED UNDERTAKINGS IN LIEU OF REFERENCE PURSUANT TO SECTION 73 OF THE ACT.

ME/7101/24

1. INTRODUCTION

1. Synopsys, Inc. (**Synopsys**) has agreed to acquire ANSYS, Inc. (**Ansys**) (the **Merger**). Synopsys and Ansys are together referred to as the **Parties** and, for statements relating to the future, the **Merged Entity**.
2. On 20 December 2024, the Competition and Markets Authority (**CMA**) decided under section 33(1) of the Enterprise Act 2002 (the **Act**) that it is or may be the case that the Merger consists of arrangements that are in progress or in contemplation which, if carried into effect, will result in the creation of a relevant merger situation, and that this may be expected to result in a substantial lessening of competition (**SLC**) within a market or markets in the United Kingdom (the **SLC Decision**). The text of the SLC Decision is available on the CMA webpages.⁶
3. On 31 December 2024, the Parties offered undertakings in lieu of reference to the CMA for the purposes of section 73(2) of the Act.
4. On 8 January 2025, the CMA gave notice to the Parties, pursuant to section 73A(2)(b) of the Act, that it considers that there are reasonable grounds for believing that the undertakings offered, or a modified version of them, might be accepted by the CMA under section 73(2) of the Act and that it is considering the Parties' offer (the **UIL Provisional Acceptance Decision**).

⁶ See [Synopsys / Ansys merger inquiry - GOV.UK](#).

2. THE UNDERTAKINGS OFFERED

5. As set out in the SLC Decision, the CMA found that the Merger gives rise to a realistic prospect of an SLC as a result of horizontal unilateral effects in the supply of the following products globally:
- (a) Register-transfer-level (**RTL**) power consumption analysis for digital chips;
 - (b) optics software; and
 - (c) photonics software.
6. As set out in the UIL Provisional Acceptance Decision, to address the SLC identified by the CMA the Parties have offered the following undertakings in lieu of a reference:
- (a) In relation to RTL power consumption analysis, Ansys to divest by way of asset transfer the entire global business comprised of researching, developing, distributing, licensing, selling, marketing, commercialising and otherwise making available Ansys' RTL power consumption analysis (**PCA**) product known as PowerArtist (the **PCA Divestment Business**) to Keysight Technologies, Inc. (**Keysight**) or another suitable purchaser. The PCA Divestment Business will include all necessary assets associated with PowerArtist, including commercial contracts, intellectual property (**IP**), software and business records, as well as at least [X] personnel across product management, R&D and application engineering functions. On 21 December 2024, Keysight and Ansys entered into a binding agreement for the sale of the PCA Divestment Business to Keysight, subject to the CMA's approval.
 - (b) In relation to optics software and photonics software, Synopsys to divest by way of asset transfer Synopsys' Optical Solutions Group (the **OSG Divestment Business**), a standalone business unit comprising Synopsys' entire global optics and photonics device design and simulation offerings business to Keysight or another suitable purchaser. The OSG Divestment Business includes the equity interest in [X], Synopsys' optics software products (CODE V, LightTools, LucidShape, ImSym), pipeline [X] software products ([X]), photonic software product (RSoft Photonic Device Tools), all related IP and licences, as well as associated services, customer contracts, personnel and four facilities.⁷ On 3 September 2024, Keysight and Synopsys entered into a binding agreement for the sale of the OSG Divestment Business to Keysight, subject to the CMA's approval.

⁷ Facilities used wholly or mainly in provision of the OSG Businesses products and services namely: Pasadena, California; Ossining, New York; Hyeres, France; and Paderborn, Germany.

7. Ansys and Synopsys will also offer certain transitional service arrangements to the purchaser for a limited period of time to ensure the continuity of operations.
8. The PCA Divestment Business and the OSG Divestment Business are together referred to as the **Divestment Businesses**. The text of the undertakings is available on the CMA webpages (the **Proposed Undertakings**).⁸
9. Under the Proposed Undertakings, for each Divestment Business, the Parties have offered to enter into a purchase agreement with a buyer approved by the CMA before the CMA finally accepts the Proposed Undertakings (**Upfront Buyer Condition**). As noted above, Ansys and Synopsys have each entered into a purchase agreement with Keysight for the sale of the PCA Divestment Business and the OSG Divestment Business respectively, conditional on buyer approval from the CMA.

3. CMA ASSESSMENT

10. The CMA currently considers that, subject to responses to the consultation required by Schedule 10 of the Act, the Proposed Undertakings will resolve the SLC identified in the SLC Decision in a clear-cut manner, ie the CMA currently does not have material doubts about the overall effectiveness of the Proposed Undertakings or concerns about their implementation.⁹
11. This is because the CMA believes that the Proposed Undertakings, or a modified version of them, would remove the overlap between the Parties in the supply of RTL power consumption analysis for digital chips, optics software and photonics software globally.
12. Furthermore, the CMA currently considers that the PCA Divestment Business and the OSG Divestment Business include all assets required to allow Keysight or an alternative suitable purchaser to operate effectively as a global supplier of RTL power consumption analysis for digital chips, optics software and photonics software respectively.
13. As such, the sale of the Divestment Businesses may result in the replacement of the competitive constraint provided by Ansys in the supply of RTL power consumption analysis for digital chips (through the sale of the PCA Divestment Business) and Synopsys in the supply of optics software and photonics software (through the sale of the OSG Divestment Business) that would otherwise be lost following the Merger.

⁸ See [Synopsys / Ansys merger inquiry - GOV.UK](#).

⁹ Merger remedies guidance ([CMA87](#)), December 2018, paragraph 3.28.

14. The CMA also considers that the Proposed Undertakings would be capable of ready implementation, because while the Divestment Businesses will need to be carved out from the wider Ansys and Synopsys businesses, the information currently available to the CMA suggests that the OSG Divestment Business already largely operates as a standalone business and that the separation of the assets constituting the PCA Divestment Business from the wider Ansys business would not give rise to material implementation risks.
15. The Parties have also identified a purchaser, Keysight, that they submit meets the CMA's purchaser suitability criteria, and with whom they have already signed purchase agreements in respect of the Divestment Businesses conditional on the CMA's approval. Both Divestment Businesses have also drawn interest from a variety of other potential purchasers.
16. The Upfront Buyer Condition means that the CMA would only accept the Proposed Undertakings after the Parties have entered into an agreement with a nominated buyer that the CMA considers to be suitable. The CMA considers that an Upfront Buyer Condition is necessary because the identity of the purchaser will affect the effectiveness of the Proposed Undertakings to remedy the SLC identified in the SLC Decision.

3.1 Suitability of the proposed purchaser

17. In approving a purchaser, the CMA's starting position is that it must be confident without undertaking a detailed investigation that the proposed purchaser will restore pre-merger levels of competition:
 - (a) The acquisition by the proposed purchaser must remedy, mitigate or prevent the SLC concerned and any adverse effect resulting from it, achieving as comprehensive a solution as is reasonable and practicable.
 - (b) The proposed purchaser should be independent from and have no significant connection to the merger parties that may compromise the purchaser's incentives to compete with the merged entity (eg an equity interest, common significant shareholders, shared directors, reciprocal trading relationships or continuing financial assistance). It may also be appropriate to consider links between the purchaser and other market players.
 - (c) The purchaser must have sufficient capability, including access to appropriate financial resources, expertise (including managerial, operational and technical capability) and assets to enable the divested business to be an effective competitor in the market. This access should be sufficient to enable the divestiture package to continue to develop as an effective competitor.

- (d) The CMA will wish to satisfy itself that the purchaser has an appropriate business plan and objectives for competing in the relevant market(s), and that the purchaser has the incentive and intention to maintain and operate the divested business as part of a viable and active business in competition with the merged entity and other competitors in the relevant market.
- (e) Divestiture to the purchaser should not create a realistic prospect of further competition or regulatory concerns.¹⁰

Keysight

- 18. Keysight is a publicly-traded, S&P 500 global technology company headquartered in California, USA. Keysight supplies hardware for design, emulation and testing of electronic systems, and also design and test software solutions (including, electronic design automation (known as EDA software)).
- 19. Subject to the responses to this consultation, and having regard in particular to the criteria set out in paragraph 17 above, the CMA currently considers Keysight to be a suitable purchaser of the Divestment Businesses based on its initial view that:
 - (a) The acquisition by Keysight would remedy, mitigate or prevent the SLC concerned and any adverse effect resulting from it, achieving as comprehensive a solution as is reasonable and practicable. This is because the sale of the Divestment Businesses would remove the entire overlap between the Parties in relation to the SLC identified in the SLC Decision and would allow Keysight to compete effectively as a global supplier of (i) RTL power consumption analysis for digital chips; (ii) optics software; and (iii) photonics software.
 - (b) The evidence available to the CMA indicates that Keysight is independent from and does not appear to have any significant connection to Synopsys or Ansys that may compromise its incentives to compete with the Merged Entity if it were to acquire the Divestment Businesses (eg an equity or debt interest, common significant shareholders, or structural links such as shared directors). While there are a number of existing customer-supplier and other forms of commercial arrangements (such as interoperability agreements) between Keysight and the Parties, the CMA does not consider these to be so material to Keysight's business that they would compromise Keysight's incentives to compete with the Merged Entity. The CMA also notes that strategic partnerships in the form of, for example, interoperability agreements are common industry practice in the global software markets in which Keysight and the Parties operate.

¹⁰ CMA87, Chapter 5, paragraphs 5.20 — 5.27.

- (c) The evidence available to the CMA indicates that Keysight will have sufficient capability, including access to appropriate financial resources, expertise (including managerial, operational and technical capability) and assets needed to maintain and develop the Divestment Businesses as an effective competitor in the market.
- (i) Although Keysight is not currently active in the global supply of RTL power consumption analysis for digital chips, Keysight is a significant global supplier of EDA software solutions, and owing to its experience in the overall EDA space, shares several large customers with each of the Divestment Businesses. Similarly, although Keysight is not currently active in the global markets for optics software or photonics software, Keysight has recently entered a neighbouring global market (for photonic chip simulation software), and is familiar to customers of the OSG Divestment Business through its broader EDA activities. Keysight has access to appropriate managerial, operational and technical expertise (including, in the form of R&D capabilities), as well as existing assets and infrastructure worldwide which are likely to enable Keysight to operate the Divestment Businesses as an effective competitor in the relevant markets.
- (ii) In relation to its financial resources, the available evidence to the CMA suggests that Keysight has a credible plan to finance the acquisition of the Divestment Businesses, and concurrently to invest in developing the competitiveness of the Divestment Businesses.
- (d) The evidence available to the CMA indicates that Keysight's acquisition of the Divestment Businesses, and continued commitment to the relevant markets, is consistent with its overall strategy, and that therefore Keysight has the incentive and intention to maintain and operate the Divestment Businesses as part of a viable and active business in competition with the Merged Entity and other competitors in the relevant market.

20. The evidence available to the CMA indicates that divestiture to Keysight would not create a realistic prospect of further competition or regulatory concerns, as Keysight does not compete with either of the Divestment Businesses in the relevant markets. Keysight is not active in the field of optics software, photonics software¹¹ or RTL power consumption analysis markets, as defined in the SLC Decision.¹²

¹¹ As noted above, Keysight has recently entered the market for photonic chip simulation software with its tool Photonic Designer, which the CMA considered as a different market to the photonics software market in the SLC Decision.

¹² CMA87, Chapter 5, paragraphs 5.20 — 5.27.

21. Therefore, subject to responses to this consultation, the CMA currently considers Keysight to be a suitable purchaser of the Divestment Businesses.

4. PROPOSED DECISION AND NEXT STEPS

22. For the reasons set out above, the CMA currently considers that the Proposed Undertakings and the purchase of the Divestment Businesses by Keysight are, in the circumstances of this case, appropriate to remedy, mitigate or prevent the SLC identified in the SLC Decision and form as comprehensive a solution to these competition concerns as is reasonable and practicable.
23. The CMA therefore gives notice that it proposes to accept the Proposed Undertakings in lieu of a reference of the Merger for a phase 2 investigation. The text of the Proposed Undertakings is available on the CMA web pages.¹³
24. Before reaching a decision as to whether to accept the Proposed Undertakings, the CMA invites interested parties to make their views known to it. The CMA will have regard to any representations made in response to this consultation and may make modifications to the Proposed Undertakings as a result. If the CMA considers that any representation necessitates any material change to the Proposed Undertakings, the CMA will give notice of the proposed modifications and publish a further consultation.¹⁴
25. Representations should be made in writing to the CMA and be addressed to:

Joanne Webb

Email: Joanne.Webb@cma.gov.uk

And

Gulalay Hammad

Email: Gulalay.Hammad@cma.gov.uk

Deadline for comments: 26 February 2025

¹³ See [Synopsys / Ansys merger inquiry - GOV.UK](#)

¹⁴ Under paragraph 2(4) of Schedule 10 to the Act.

ANNEX 2

ENFORCEMENT OF UNDERTAKINGS GIVEN UNDER SECTION 73 – IMPOSITION OF CIVIL PENALTIES

Imposition of civil penalties

1. Under section 94AA(1), the CMA may impose a penalty on a person—
 - (a) from whom the CMA has accepted an enforcement undertaking, or
 - (b) to whom an enforcement order is addressed,where the CMA considers that the person has, without reasonable excuse, failed to comply with the undertaking or order.
2. In deciding whether and, if so, how to proceed under section 94AA(1) the CMA must have regard to the statement of policy which was most recently published under section 94B at the time of the failure to comply.

Amount of penalty

3. A penalty under section 94AA(1) is to be such amount as the CMA considers appropriate.
4. The amount must be—
 - (a) a fixed amount,
 - (b) an amount calculated by reference to a daily rate, or
 - (c) a combination of a fixed amount and an amount calculated by reference to a daily rate.
5. A penalty imposed under section 94AA(1) on a person who does not own or control an enterprise must not—
 - (a) in the case of a fixed amount, exceed £30,000;
 - (b) in the case of an amount calculated by reference to a daily rate, exceed £15,000 per day;
 - (c) in the case of a fixed amount and an amount calculated by reference to a daily rate, exceed such fixed amount and such amount per day.
6. A penalty imposed under section 94AA(1) on any other person must not—

- (a) in the case of a fixed amount, exceed 5% of the total value of the turnover (both in and outside the United Kingdom) of the enterprises owned or controlled by the person on whom it is imposed;
- (b) in the case of an amount calculated by reference to a daily rate, for each day exceed 5% of the total value of the daily turnover (both in and outside the United Kingdom) of the enterprises owned or controlled by the person on whom it is imposed;
- (c) in the case of a fixed amount and an amount calculated by reference to a daily rate, exceed such fixed amount and such amount per day.

7. In imposing a penalty by reference to a daily rate—

- (a) no account is to be taken of any days before the service on the person concerned of the provisional penalty notice under section 112(A1), and
- (b) unless the CMA determines an earlier date (whether before or after the penalty is imposed), the amount payable ceases to accumulate at the beginning of the day on which the person complies with the enforcement undertaking or enforcement order.