

Paper No. 9

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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**EXOCAD GMBH AND EXOCAD AMERICA, INC.**  
Petitioner,

v.

**3SHAPE A/S,**  
Patent Owner.

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Patent No. 9,336,336  
Issue Date: May 10, 2016  
Title: 2D IMAGE ARRANGEMENT

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*Inter Partes* Review No. IPR2018-00785

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**PETITION FOR REHEARING OF  
DECISION DENYING INSTITUTION OF *INTER PARTES* REVIEW**

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## **I. INTRODUCTION**

In the related proceeding filed by this Petitioner on the same day as the Petition in this proceeding, against the same Patent Owner for the same patent, the Board recently instituted trial, based on two different primary prior art references, “Sachdeva” and “Wiedmann”. See *Exocad GmbH et al. v. 3Shape A/S*, IPR2018-00788, Paper 7 (Oct. 3, 2018). Nonetheless, Petitioner respectfully requests that the Board reconsider its Decision Denying Institution of *Inter Partes* Review in this proceeding.

In declining to institute a trial, under 35 U.S.C. § 325(d), the Decision (Paper 8) relies on the premise that the Examiner already considered Applicants’ argument. For the reasons explained below, Petitioner respectfully disagrees.

At issue in this petition for rehearing is the whether the Examiner considered whether Malfiet discloses arranging a 3D model relative to a 2D image when deciding whether this limitation is met:

arrange the at least one 2D image relative to the 3D virtual model... such that the at least one 2D image and the 3D virtual model are aligned... and remain separate representations....

Ex. 1001 (’336 patent), claim 1 (26:12-16).

The Examiner concluded that Malfiet did not, but three lines of Malfiet plainly do:

For instance when only a 2D photograph of the patient is available then the optimal [3D] tooth set-up should be positioned oriented, and scaled relative to the 2D photograph....

Ex. 1006 (Malfiet) at 18:27-30.

The Examiner likely missed this disclosure because the Applicants overcame Malfiet by arguing that it only discloses using 2D face images to create a 3D model of the face. The Applicants argued (incorrectly) that there is no disclosure of orienting a 3D model of an oral cavity relative to a 2D face image. While it is true that the bulk of Malfiet discloses use of a 3D face model, the sentence above establishes beyond doubt that Malfiet also discloses using a 2D face image in the alternative.

In its preliminary response in this IPR, the Patent Owner conceded that the above sentence discloses arranging a 3D model and 2D image. Patent Owner instead argued that the two have to remain separate and that the above sentence goes on to refer to “embedding” one in the other.

That is, in responding to the Petition, the Patent Owner had to resort to a new argument that had never been presented to the Examiner. The Petition also offers evidence and argument on this issue – evidence and argument also not considered by the Examiner.

Furthermore, in related IPR2018-00788, this Board construed the “remain separate” limitation as not imposing a time limit on how long the 2D image and 3D

model must remain separate. *Exocad*, IPR2018-00788, Paper 7 at 8. This Petition also presented the view (now adopted by the Board) that the two need not remain separate for a specific length of time, and that in *Malfiet*, at a minimum, they are aligned and viewed before “embedding” (and also that “embed” does not mean merged). The Examiner did not have this claim construction or argument when the application was allowed.

Combining the unquestionable disclosure in *Malfiet* of aligning a 2D face image and 3D tooth model, the new arguments and evidence of Petitioner, the Patent Owner’s (necessarily) new arguments in its Preliminary Response, and the Board’s claim construction, this IPR is plainly raising different issues than those considered by the Examiner. What is more, given the Board’s claim construction and the sentence quoted above, it is plain that this patent is invalid based on *Malfiet*. Petitioner respectfully requests that the Board reconsider denial of the Petition so that it may be heard by the Board alongside her sister petition.

Petitioner also respectfully requests reconsideration on the other grounds in the Petition as the Examiner never considered some of the references and never considered an obviousness rejection.

## **II. LEGAL STANDARD**

A request for rehearing of a decision whether to institute a trial “must specifically identify all matters the party believes the Board misapprehended or

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