

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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BMW OF NORTH AMERICA, LLC,

Petitioner,

v.

NORTHSTAR SYSTEMS LLC,

Patent Owner.

Patent No. 8,032,297

Filing Date: May 8, 2008

Issue Date: October 4, 2011

Inventor: Gabriel Jakobson

Title: METHOD AND SYSTEM FOR DISPLAYING NAVIGATION  
INFORMATION ON AN ELECTRONIC MAP

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**PATENT OWNER'S RESPONSE**

Case No. IPR2023-00890

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**EXHIBIT LIST**

| <b>Exhibit No.</b> | <b>Description of Document</b>                                                                                                                                                  |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2001               | Docket Control Order, Dkt. 57, in <i>NorthStar Systems LLC v. Volkswagen AG</i> , Case No. 2:22-cv-00486-JRG (E.D. Tex. Aug. 9, 2023)                                           |
| 2002               | A printout taken from the web site<br><a href="https://patents.google.com/patent/US7634354B2/en?q=7%2c634354">https://patents.google.com/patent/US7634354B2/en?q=7%2c634354</a> |
| 2003               | Declaration of Dr. Omid Kia, dated March 1, 2024                                                                                                                                |
| 2004               | Deposition of Craig Rosenberg, Ph.D., taken February 2, 2024                                                                                                                    |

## **I. INTRODUCTION**

On May 5, 2023, BMW of North America, LLC (“BMW” or “Petitioner”) submitted a Petition for *Inter Partes* Review (Paper No. 1, “Petition” or “Pet.”) of U.S. Patent No. 8,032,297 (Ex. 1001, the “’297 Patent”), challenging Claims 1-30 pursuant to §§ 311-319 and § 42.100, *et seq.* (“the Challenged Claims”). On November 9, 2023, the Board issued a decision instituting *Inter Partes* Review (Paper No. 11, “Inst.”).

The Board should issue a Final Written Decision finding all of the Challenged Claims of the ’297 Patent not unpatentable because BMW fails to show that the combination of U.S. Patent No. 6,697,734 to Suomela (“Suomela”), and U.S. Patent No. 9,607,092 to Kreitler (“Kreitler”) render obvious any of the Challenged Claims. Petitioner does not assert any grounds of anticipation, but asserts nine grounds of obviousness, combining both Suomela and Kreitler with one or more of U.S. Patent No. 6,480,783 to Myr (“Myr”), U.S. Patent No. 8,099,109 to Altman (“Altman”), and U.S. Patent No. 7,158,878 to Rasmussen (“Rasmussen”).

The combination of Suomela and Kreitler does not teach key claim elements of the ’297 Patent’s Challenged Claims, such as “creating an OVI containing the distance and travel-related information.” Additionally, Petitioner cannot show by a preponderance of the evidence that one of ordinary skill in the art would have been motivated to combine Suomela and Kreitler to arrive at the Challenged Claims with

any reasonable expectation of success. Furthermore, Suomela is directed to a map “with two scales,” whereas the proposed combination eliminates one of the scales—this combination renders Suomela inoperative for its intended purpose and therefore the combination must fail. *See In re Gordon*, 733 F.2d 900, 902 (Fed. Cir. 1984).

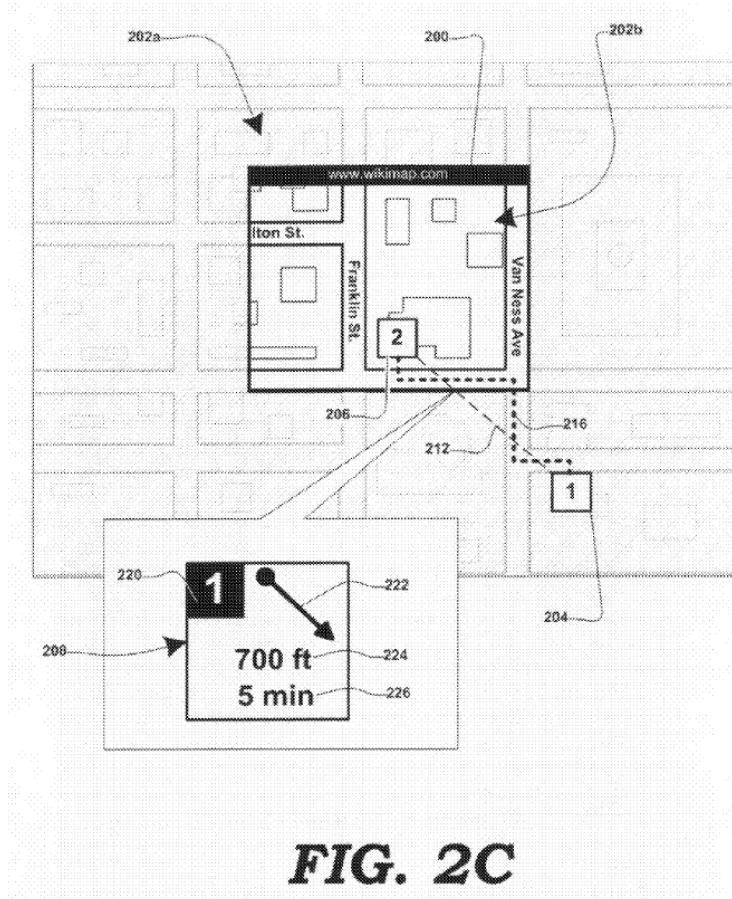
Patent Owner respectfully submits that Petitioner’s deficient arguments, Patent Owner’s arguments presented herein, and the additional evidence submitted herewith, such as the Declaration of Dr. Omid Kia and the deposition testimony of Dr. Craig Rosenberg, demonstrate that the Challenged Claims are patentable. Accordingly, the Board should issue a Final Written Decision finding all the Challenged Claims of the ’297 Patent not unpatentable.

## **II. THE ’297 PATENT**

The ’297 Patent is entitled “Method and System for Displaying Navigation Information on an Electronic Map” and issued on October 4, 2011. The ’297 Patent relates to novel ways of displaying and interacting with map-objects (“MO”), such as points-of-interest or way-points. ’297 Patent at 1:7-11. The prior art as of 2008 allowed for conventional “zoom in” and “zoom out” functionality to allow users to see beyond a particular map view. *Id.* at 1:15-23. When an MO is beyond the boundary of the visible map, the prior art further allowed a user to view such object by one of the following mechanisms: (1) panning a map in the general direction of

the MO until the visible area of the map includes the MO, (2) zooming out until the visible area of the map includes the MO, and (3) selecting a reference to the MO from a menu or hyperlink. *Id.* at 1:35-45. Indeed, option (2) is the prior problem created by the Suomela reference, and option (3) is the prior problem created by the Kreitler reference. The prior art as of 2008 (including both Suomela and Kreitler) did not permit users to easily view locations of off-screen MOs, or to select or navigate to these off-screen MOs. Declaration of Dr. Omid Kia (“Kia Decl.”) Ex. 2003, ¶ 33.

The ’297 Patent solves these problems by utilizing an Object Vector Indicator (“OVI”). According to the ’297 Patent, OVIs may include information referencing MOs, as well as information on the MO’s direction, distance, travel-time to the MO, estimated time-of-arrival, and other information. ’297 Patent at 1:49-2:17. The ’297 Patent teaches several examples of OVIs that reference remote location markers. *Id.* at 3:39-54. For example, Figure 2C depicts two map objects, 1 and 2, where Map Object 1 has a corresponding OVI 208:



*Id.* at FIG. 2C. Furthermore, the '297 Patent describes various calculations that may be used to create and place OVIs including Figure 2D and Figure 4B and in the specification. *Id.* at FIGS. 2, 4; 8:60-9:25. As described in an example embodiment, such calculations may include obtaining a location of an MO, calculating a vector of a current location to an MO, calculating travel distance from a current location to an MO, and calculating a travel time from a current location to an MO, and calculating the placement of an OVI on the periphery of a map. *Id.* Ex. 2003, ¶ 34.

The prior art of record does not teach or disclose the use of OVIs in computer maps. Moreover, the prior art in the Petition does not teach or disclose how to create or use OVIs. The Petition relies on mere speculation and hindsight to arrive at the claimed OVIs. *Id.*, ¶ 35.

### **III. THE ALLEGED PRIOR ART**

The Petition primarily relies on two prior art references: U.S. Patent No. 9,607,092 to Kreitler (Ex. 1005, “Kreitler”) and U.S. Patent No. 6,697,734 to Suomela (Ex. 1006, “Suomela”). While both references relate to map technology, neither reference describes Object Vector Indicators as claimed in the ’297 Patent. Ex. 2003, ¶ 36.

Kreitler describes “icons” of interest to users that are displayed on maps and that may allow users to interact with them. Ex. 1005 at 6:14-42. For example, Kreitler says that “icon[s] may have hyperlinks to other parts of the information system.” *Id.* at 6:34-35. Maps with hyperlinks to points of interest were already of record in the prior art as set forth in the ’297 Patent. (“[S]electing the reference to the MO from the menu/the hyperlinked list item”). ’297 Patent at 1:44-45. Kreitler’s mapping system was primitive and was not focused on providing directions or distances between two points on the map. The only depictions of cardinal direction are in Figure 1 and the accompanying discussion in Column 6, which states that “if the user is looking at the center of San Francisco, and San Francisco International

Airport is to the south of the city, an icon may be displayed on the south border of the image that points in the general direction of San Francisco Airport.” Ex. 1005 at 6:50-55. While Kreitler only mentions the “South” icon, it could be inferred that other cardinal direction icons may be used such as “North,” “East,” and “West.” However, Kreitler does not allow these icons to be displayed dynamically based on changing positions. Also, while Kreitler discloses points of interest on the map (e.g., hotels) and point of interest off the map (e.g., airports), Kreitler does not disclose any direction or distance calculations between a point of interest on the map, and a point of interest off the map and thus vectors are not contemplated. Furthermore, because Kreitler only describes the “South” icon in relation to the center of San Francisco and because vector calculations are not disclosed, it is possible that a vector between a point of interest and the relevant airport could be West or East, but Kreitler’s icon could display South. The Petition does not address any of these limitations of Kreitler. Ex. 2003, ¶ 37.

A POSITA would know, understand, and appreciate in 2008 that the display of a single map showing locations of interest as MOs does not require calculation of distance and direction. That is because a map showing MOs only requires location information, readily available from a data store, that can easily be converted to pixel locations to be overlaid on the map. However, distance and direction require additional computing power, multiplied by the number of MOs that are to be

displayed prior to the user selecting any of them. Once the user selects an MO, further processing can provide additional information such as distance, direction, travel route and other features commensurate with an associated delay in processing; however, in 2008 conserving power for both a graphically agile system and limited processing capability in relevant devices would be a huge concern to the POSITA. Therefore, wasting processing resources on determining distance and direction for initial visualization of all the MOs in either Kreitler or Suomela would have been counterintuitive. It would have been extremely taxing to calculate distance and direction for all the resulting MOs for every location search. Instead, the feature of just displaying the MOs quickly on a map would render the service much more palatable. *Id.*, ¶ 38.

For example, the calculation necessary to place the “airport” icon in a specific place is not disclosed by Kreitler, whereas the ’297 Patent describes express teachings for calculating placement of the icon. The ’297 Patent includes express teaching of an “imaginary line” as disclosed in the ’297 Patent. ’297 Patent, 7:13-46, 15:16-33. A POSITA would understand from the description in the ’297 Patent how to draw a line from a current location to the Map Object for placement of the MO as an OVI. The POSITA would further understand, through teachings of the ’297 Patent, that an imaginary line can also be computed in the same way with map coordinates that are off the display region and extrapolate along that line to place the

OVI on the outer edge of the display region since the map considered in the '297 Patent consists of “[v]isible area of a map 106 [that] may represent a small portion 35 of a much larger virtual map”. *Id.*, 2:66-3:6. The data, information, and procedure to implement this is readily available to the POSITA by considering the teachings of the '297 Patent and is not present in Kreitler. Furthermore, certain aspects of the '297 Patent require recalculation of position of an OVI, which Kreitler is completely incapable of performing. Ex. 2003, ¶ 39.

Suomela is similarly rudimentary. Suomela describes mapping software depicted on a primitive Nokia phone. Suomela further describes a map 24 with a border region, where objects may be displayed. While Suomela describes these objects as including an airport icon 34, lighthouse icon 30, and mountain icon 32, icons themselves do not include any distance or direction information, and therefore are not vectors. To the extent Suomela describes distance and direction, it is as separately reported and displayed functionality: direction indicators 42 and distance indicators 44. Ex. 1006 at 4:34-56. In other words, while Suomela may have access to this information, it is not provided as part of the icon itself, and there is no indication that Suomela's icons could be created with distance and direction information in those icons. Furthermore, Suomela simply discloses a natural extension to the traditional map by showing **two maps**. Thus, the icons disclosed by Suomela are displayed on a map at or near their actual locations. Suomela discloses

“a system and method for displaying a map having two scales” (*Id.* at 1:7-8) in the field of the invention and numerous other references to two scales throughout the disclosure. A POSITA reading Suomela will not recognize that the subject matter of Suomela “relates to displaying information pertaining to map-objects . . . that are outside the visible area of a map” (’297 Patent, 1:8-11) as is disclosed in the field of invention of the ’297 Patent. A POSITA reading Suomela would know and understand how to query a map system for retrieval of relevant objects in the visible region of the detailed map and would have to only modify that slightly with a different query that includes a larger radius. Once the “map features” (Ex. 1006 at 4:22) are available, the POSITA can for the “detail area . . . generate a map display of geographical area” (*id.* at 4:23-26) and “generate a map display of a geographical area in a band . . . around the . . . detail area 24.” (*Id.* at 4:31-33) Generating both the detailed and the band of maps is a generation of a visible map and does not constitute a map that is not visualized, a fundamental divergence from the spirit and scope of the ’297 Patent where objects outside of the visible area of a map are visualized. Furthermore, Dr. Rosenberg’s concept of OVIs (Ex. 1003 ¶¶ 77-79; Ex. 2004, Rosenberg Tr. at 66:14-67:14, 68:10-71:9, 71:14-72:5, Feb. 2, 2024) that are on the perimeter of the map is actually a description of objects rendered in what Suomela refers to as an object area. *See, e.g.*, “The digital map includes a detail area having a first scale located in a substantially central portion of the map and an object area

having a second scale located in a peripheral portion of the map. Objects are shown in the object area in orientations related to the detail area.” (Ex. 1006, Abstract). Given that Suomela only considers display of objects on maps, a POSITA would not be informed as to how to derive any insight into the computing of any relevant information for objects that are *outside of the map*, a requirement for implementing claimed OVIs. Thus, Suomela is not directed to object vector indicators. Ex. 2003, ¶ 40.

#### **IV. LEVEL OF ORDINARY SKILL IN THE ART**

For the purposes of this Preliminary Response only, Patent Owner utilizes Petitioner’s proposed level of ordinary skill in the art: “would have had at least a bachelor’s degree in Computer or Electrical Engineering or equivalent engineering discipline, and approximately three years’ experience in telecommunications, navigation, or geolocation systems. Additional education could substitute for professional experience, and significant work experience could substitute for formal education.” Pet. at 3-4.

#### **V. CLAIM CONSTRUCTION**

Petitioner identifies no terms in its Claim Construction section. Instead, Petitioner generally states that several terms are indefinite; in other words, that the Petitioner cannot identify the boundaries of those claim terms. While Patent Owner contends that these terms are sufficiently definite in scope, it is the Petitioner’s

burden to set forth an explanation of how the prior art can be mapped to each claim limitation. By punting on these issues, Petitioner simply cannot meet its burden and the Board should confirm all Challenged Claims.

## **VI. LEGAL STANDARD**

The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so called secondary considerations. *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966). Failure to identify the differences between the claimed subject matter and the prior art is fatal to an obviousness challenge. *See Apple, Inc. v. Contentguard Holdings, Inc.*, IPR2015-00355, Paper 9 at 9-10 (P.T.A.B. June 26, 2015).

To arrive at obviousness, the Board must sufficiently explain and support the conclusions that the prior art references disclose all the elements recited in the Challenged Claims and a relevant skilled artisan not only could have made but would have been motivated to combine all the prior art references in the way the patent claims. *Pers. Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 994 (Fed. Cir. 2017).

Even if all the claim elements are found across a number of references, an obviousness determination must consider whether a POSITA would have been motivated to combine those references. *Intelligent Bio-Sys., Inc. v. Illumina*

*Cambridge Ltd.*, 821 F.3d 1359, 1368 (Fed. Cir. 2016); *Los Angeles Biomedical Rsch. Inst. at Harbor-UCLA Med. Ctr. v. Eli Lilly Co.*, 849 F.3d 1049, 1067 (Fed. Cir. 2017).

The Supreme Court explained in *KSR Int'l Co. v. Teleflex Inc.* that “[o]ften, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicit.” 550 U.S. 398, 418 (2007). This combination determination, as supported by an articulated motivation to combine, requires a plausible rationale as to why those prior art references would have worked together. *Broadcom Corp. v. Emulex Corp.*, 732 F.3d 1325, 1335 (Fed. Cir. 2013). Additionally, “knowledge of a problem and motivation to solve it are entirely different from motivation to combine particular references.” *Innogenetics, N.V. v. Abbott Lab’ys.*, 512 F.3d 1363, 1373 (Fed. Cir. 2008).

## **VII. PETITIONER HAS NOT PROVED INVALIDITY OF THE CHALLENGED CLAIMS BY A PREPONDERANCE OF THE EVIDENCE**

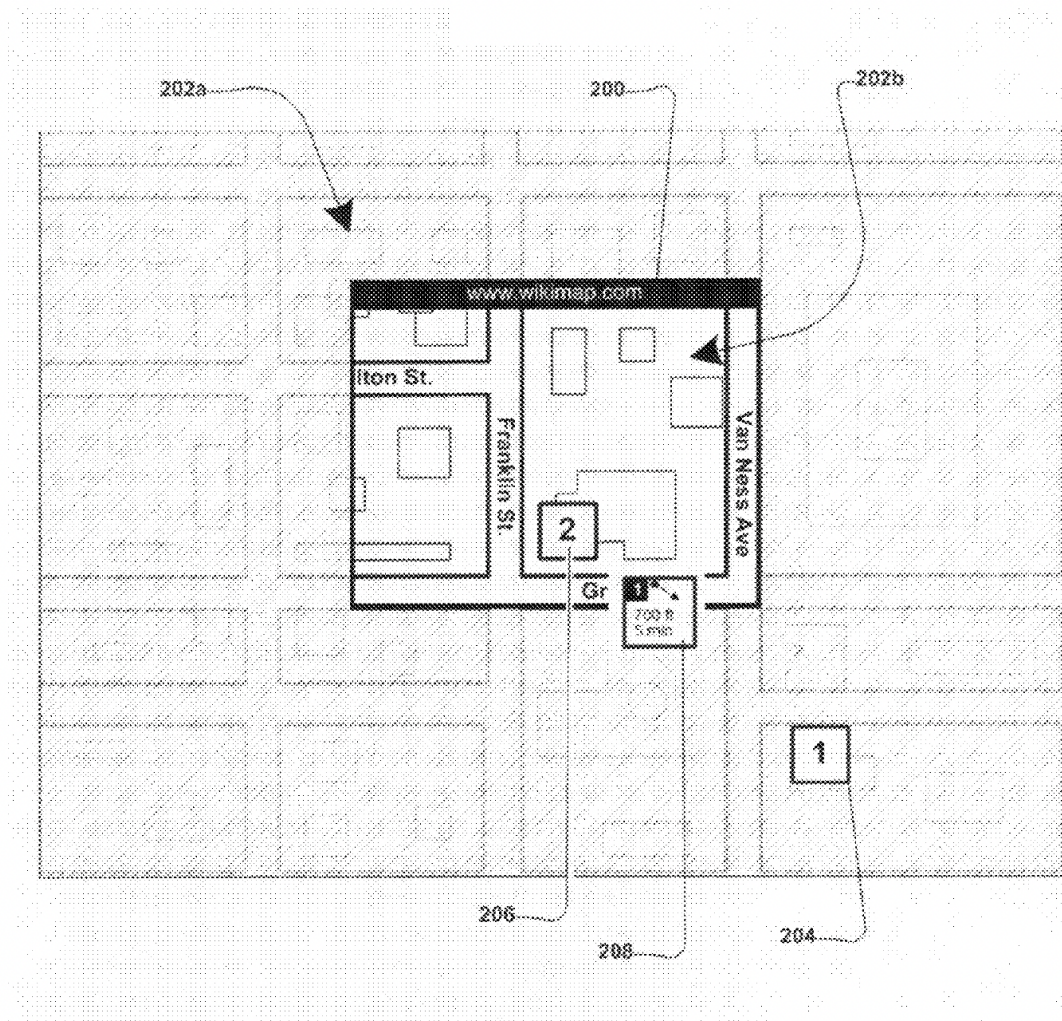
As set forth below, and in view of both the Petition (Paper No. 1) and the Board’s Institution Decision (Paper No. 11), Petitioner has failed to demonstrate by

a preponderance of the evidence that the Challenged Claims are obvious in view of the asserted prior art.

**A. The Prior Art Does Not Disclose “Creating the OVI Containing the Distance and Travel-Related Information”**

The Petition does not identify any computation disclosed in the prior art, let alone “computing distance and travel-related information from a location within the selected area of the electronic map to the MO”, “computing a placement position of an OVI referencing the MO on the map-display application”, or “calculating a placement position of an OVI on the display.” Because the claim terms are similar, Patent Owner addresses this argument in the context of Claim 1. Ex. 2003, ¶ 41.

The '297 Patent describes several methods of computing and displaying a placement position of the OVI. For example, the '297 Patent describes an example of an OVI as being “displayed on the periphery of the map region 202b.” '297 Patent at 4:36-48. The placement of OVI 208 is calculated based on “the intersection of an imaginary line 212 connecting the location markers 204 and 206 and the periphery of the map region 202b. *Id.*



*Id.* at FIG. 2B. The '297 Patent further describes an alternate embodiment where the “OVI 208 may be positioned at the intersection of the imaginary line 212 and the border of the map-display application 200.” *Id.* at 4:36-48. This process is readily understood specifically with relation to placement of the OVI and other features shown in Figures 2B-C, 8C, 9A-E because of the explanation of a “virtual map” as disclosed by the '297 Patent. The patent discloses “[a] map display application 100 (e.g., an internet browser), on a computing device (e.g., a personal computer, a

personal digital assistant, a cellular phone, etc.) may display a visible area of a map 106. The visible area of a map 106 may represent a small portion of a much larger virtual map—while the larger virtual map (e.g., the entire globe, continent, state, city, etc.) may be outside the display area and not visible to the user, the portion comprising the visible area of a map 106, may be visible to the user. The visible area of a map 106 may include location markers visible to the user. The map-display application 100 may also include references to location markers outside a visible area of a map 106” (*id.*, 2:63-3:8) and “FIG. 7 is a generalized block diagram illustrating displaying object vector indicators (“OVI”) on a directions map, according to one embodiment of the present invention. A map display application 700 (e.g. an internet browser), on a computing device (e.g. a personal computer, a personal digital assistant, a cellular phone, etc.) may display a visible area of a map 750. The visible area of a map 750 may represent a portion of a larger virtual map—while the larger virtual map (e.g., the entire globe) may remain invisible to the user, its portion comprising the visible area of a map 750, may be visible to the user. The visible area of the map 750 may include one or more MOs visible to the user. The map-display application 700 may also include references to MOs outside a visible area of a map 750.” (*Id.*, 12:12-25). Ex. 2003, ¶ 42.

Nothing in the prior art approaches the disclosure of placement of an OVI. The Petition relies only on Figure 1 of the Kreidler reference and the statement that

“an icon may be displayed on the south border of the image that points in the general direction of San Francisco Airport.” Pet. at 23-24. The mere fact that an icon *may be displayed* does not necessitate computation of a placement position referencing the map object. The placement of the “south” icon is hard coded as static information and therefore not computed by Kreitler. This interpretation of Kreitler is supported by Dr. Omid Kia’s testimony. As Dr. Kia explains, Kreitler does not teach or disclose any algorithms for calculating position or direction information. Ex. 2003, ¶ 43.

Dr. Kia explains that Kreitler discloses functionality for Yahoo maps from the mid 2000’s. *Id.*, ¶ 44. Indeed, Kreitler worked for Yahoo! at the time of the filing of the patent and the patent was assigned to Yahoo!. Furthermore, Kreitler discloses that it is intended for use with a map server that is “developed and used by Yahoo! Maps.” Ex. 1005, 10:29-32. Accordingly, one of ordinary skill in the art at the time of the filing of Kreitler would have been informed by the Yahoo! Maps application and would have understood the teachings of Kreitler in view of this map application. Dr. Kia further explains that the Yahoo! Map application did not have functionality to dynamically create the “south” icon. Instead, these resources would have been statically loaded from XML resources. Kreitler describes its application as running in a “browser.” *E.g., id.* 1005 at Col. 12; FIG. 4. The Yahoo! Map applications were basic web browser applications and required the use of stock image resources. The graphic resource for 110 would therefore have been a static image like the compass

108, the update button, and the zoom levels 106. These resources would have been loaded as images via HTML in the web browser. Accordingly, one of ordinary skill in the art would not have understood Kreitler to teach or disclose “computing distance and travel-related information from a location within the selected area of the electronic map to the MO”, “computing a placement position of an OVI referencing the MO on the map-display application”, or “calculating a placement position of an OVI on the display.” Ex. 2003, ¶ 44.

Additionally, Dr. Kia had practical experience with Yahoo! Maps in the relevant time period and recalls that there were no movable position icons where “the position is based on the location of the off-map MO.” Dr. Kia’s experience with Yahoo! Maps in the relevant time period echoes what one of ordinary skill in the art would have understood from the combination: that Kreitler does not teach or disclose OVIs that contain distance or travel related information. Accordingly, the combination fails and the claims should be confirmed. Ex. 2003, ¶ 45.

**B. The Petition Does Not Sufficiently Set Forth How the Prior Art Discloses OVIs**

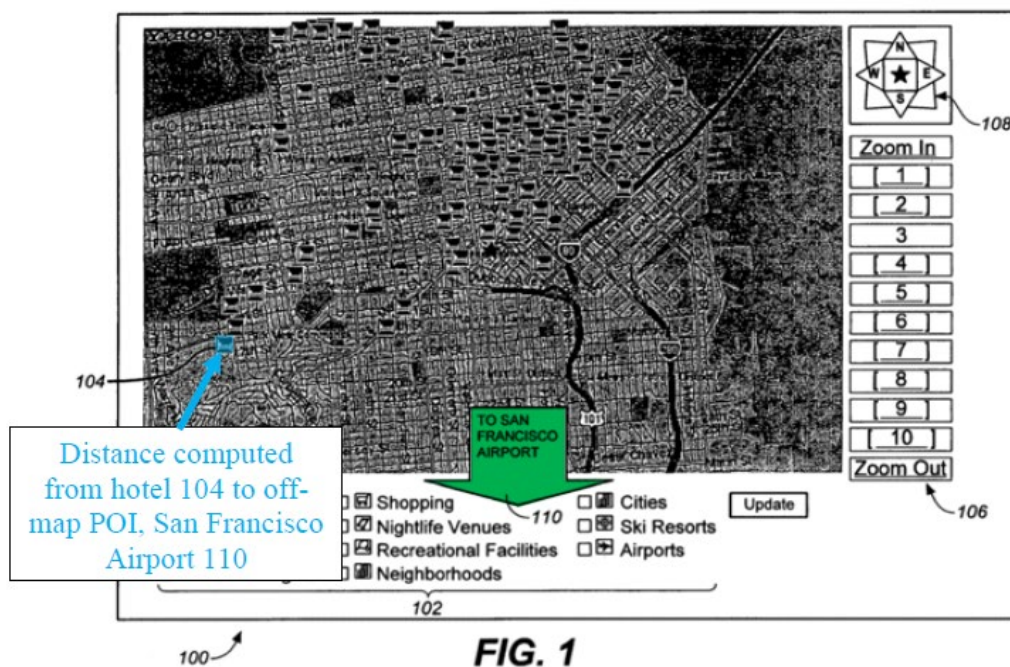
Challenged Claims 1-30 require “displaying the/an OVI” with reference information for an MO (e.g., distance and travel-related information). The Petition does not teach or disclose the OVI, let alone creating an OVI containing Distance and Travel-Related Information as required by Claims 1-30. Ex. 2003, ¶ 46.

The '297 Patent describes an OVI as more than merely a link to a map object. '297 Patent at 1:43-45. More specifically, the '297 Patent describes creating an OVI by calculating distance and travel-related information as, for example, “computing an imaginary travel path 216 between the location marker 206 and the location marker 204.” *Id.* at 4:65-67. The '297 Patent further states that travel-related information, such as direction of travel, may be calculated based on “an angle alpha 230 between the imaginary line 212, connecting the location markers 206 and 204, and the Y axis of the display or any other direction.” *Id.* at 5:22-37. The result is that “the vector 222 may point to the location marker 204.” *Id.* Neither Suomela nor Kreitler teaches or discloses an OVI, and the combined teachings of Suomela and Kreitler also fail to arrive at the claimed OVI. Ex. 2003, ¶ 47.

### **1. Claims 1-30**

Petitioner relies primarily on Kreitler to teach the “OVI” required by the claims. Petitioner’s rationale appears to be that, because Kreitler depicts a “special icon” where the special icon “indicat[es] an off-map MO including the direction of the MO,” the OVI limitation is met. *See, e.g.,* Pet. at 22. However, the “special icon” of Kreitler is essentially just a static hyperlink as was present in the prior art – it is not a vector. A vector must be more than a mere hyperlink—it must have some magnitude and direction associated with the indicator. Even if the claims do not require Euclidean vectors, the OVI must be more than a static hyperlink disclosed

by Kreitler. While the “special icon” can be depicted as an arrow on the border of Kreitler’s map, there is no relation between the off-screen object and any object on the screen as explained by Dr. Kia. Ex. 2003, ¶ 48. The Petition refers to a distance/direction calculated as between the San Francisco Airport and “hotel 104” which are depicted in green and blue annotations in the Petition:



*Kreitler*, Fig. 1.

Pet. at 22 (annotations in original). However, nothing in Kreitler indicates that the direction arrow has anything to do with the magnitude of distance and direction between the hotel 104 and the San Francisco Airport. Instead, the arrow merely depicts that the San Francisco Airport is below the bottom of the map, without any regard as to whether it is East or West of any particular point on the map. For

example, even if the direction from the hotel 104 to the San Francisco Airport were predominantly “East,” the arrow depicted on screen would still point South. Indeed, Dr. Kia reviewed standard maps of the area and overlaid a larger map onto Figure 1 of Kreitler. Based on the location of the hotel and the location of San Francisco Airport, one of ordinary skill in the art would not have expected the airport icon to appear in the bottom middle of the map. Instead, the icon should have appeared in the bottom right corner if it were to have had the claimed distance and travel-related information. Ex. 2003, ¶ 48.

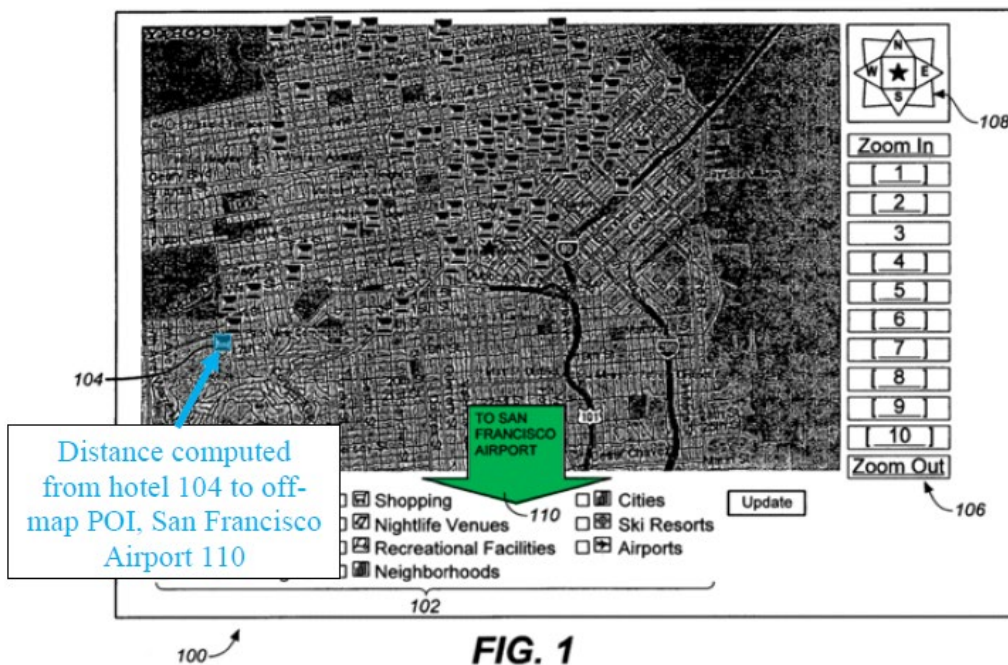
Petitioner does not attempt to explain how this rudimentary arrow could be encoded with sufficient information to create the claimed OVI. Accordingly, the Board should confirm all claims. Ex. 2003, ¶ 49.

## **2. Additional Distinctions for Claims 1-17**

Claims 1-17 require additional limitations regarding creation and display of the claimed OVIs including explicit calculations of both distance and travel-related information. For these calculation limitations, Petitioner relies on the combination of Kreitler and Suomela. However, Petitioner does not acknowledge teachings in Suomela that teach against or otherwise negate the combination. Ex. 2003, ¶ 50.

The prior art does not disclose “computing distance and travel-related information from a location within the selected area of the electronic map to the MO.” This computation must be performed before displaying the OVI. However,

for the computation of distance and travel-related information, Petitioner relies only on Kreitler. Pet. at 21-22. Petitioner shows an annotated version of Figure 1, which displays the alleged “OVI” prior to any map object being selected:

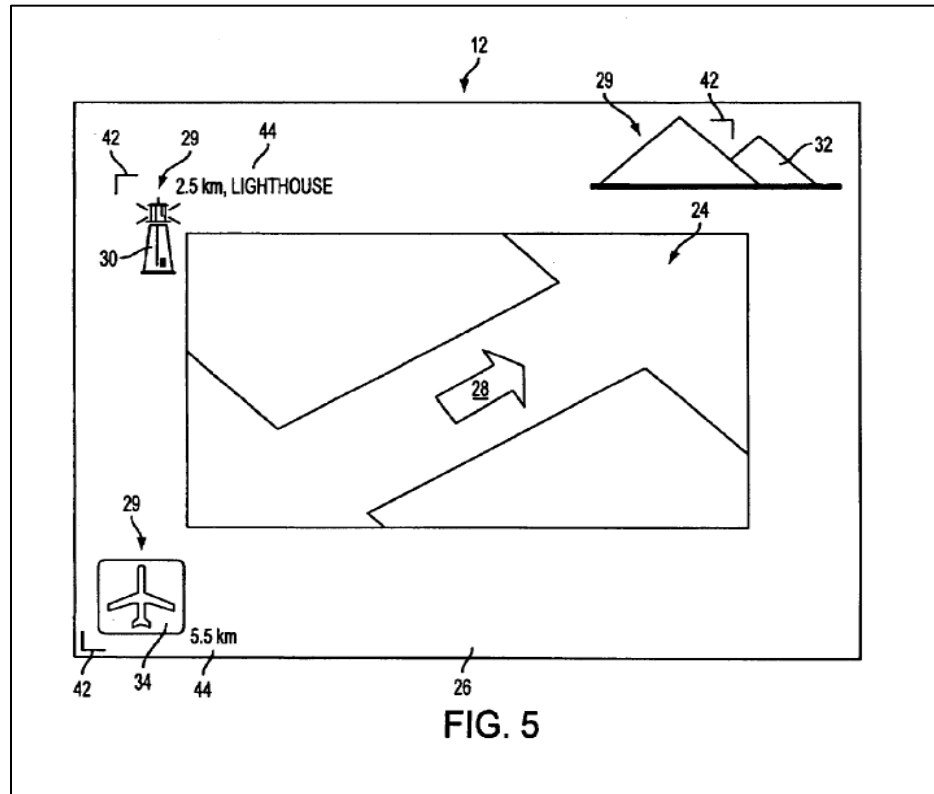


*Kreitler*, Fig. 1.

Pet. at 22 (annotations in original). Because the green arrow is displayed without any map object selected, distance and direction cannot be known at the time of the green arrow’s creation and placement. Indeed, distance and direction are not known until after a map object is later selected because Kreitler states that “selecting a hotel would allow the user to obtain the distance of other items in relation to the selected hotel.” *Id.*; Ex. 1005 at 7:5-9. Kreitler’s disclosure, instead, indicates that the “special icon” is unrelated to any calculation of distance or direction, and thus the

“special icon” is not *created* containing the distance and travel-related information. Therefore, the creation limitations are not met. Ex. 2003, ¶ 51.

Regarding limitation 1e, Petitioner admits that Kreitler on its own does not disclose an OVI with distance information. Instead, Petitioner relies on Suomela to “expressly disclose[] displaying both distance and travel-related information.” Pet. at 25. However, Petitioner relies on the bare conclusion that “a POSITA would have been motivated to add *Suomela’s* distance and travel-related information to *Kreitler’s* OVI to provide further helpful information to a user.” *Id.* at 25-26. This hindsight-based statement ignores the disclosure of Suomela, which teaches distance and direction information as *separate* from object indicators, not *contained* in object indicators. For example, Figure 5 of Suomela may depict that distance and direction are associated with objects 29; however, the claims require something programmatic not mere association.



Ex. 1006 at FIG. 5. Suomela further states that “direction indicators 42 and distance indicators 44 may be selectively shown,” indicating that these are *not contained* by the objects 29. *Id.* at 4:45-47. In other words, if the objects 29 themselves were able to indicate distance or direction on their own, these additional display parameters would not be needed. Suomela’s teaching of separate indicators for distance and direction teaches against an OVI *containing* distance and direction or, at the very least, provides contradictory teachings that the Petitioner should have addressed. Ex. 2003, ¶ 52.

Rather than address the fact that Suomela’s objects 29 do not *contain* distance indicators 44 and direction indicators 42, Petitioner entirely ignores this disclosure

and concludes that one of skill in the art would have combined these parameters in Kreitler's objects without any rational basis. More specifically, Petitioner states that one of skill in the art would have been motivated to modify Kreitler's special icons to include distance information taught by Suomela but does not explain why one of skill in the art would have modified the separate distance and direction indicators of Suomela to include those within Kreitler's objects. Pet. at 9. Petitioner's mappings of the combined teachings of Kreitler and Suomela miss the mark and it is not possible for one of skill in the art to arrive at the claims without impermissible hindsight. More specifically, Suomela's depiction of objects as separate from distance and direction notations appears to be a deliberate design choice. Because the objects of Suomela are on-map (as opposed to the claimed off-map), Suomela does not need to include direction indicators as the direction is apparent from the icon itself by virtue of Suomela's "two map" solution. Indeed, there is no motivation either technical or logical, for Suomela to include yet another attribute as part of the icon itself. Indeed, Suomela's small form factor Nokia device would already have been taxed with many computations and adding yet another attribute to the icons would not have been optimal. Ex. 2003, ¶ 53.

Accordingly, the Board should confirm all Challenged Claims.

**3. The Petition Does Not Explain How the Prior Art Discloses “creating an object vector indicator (“OVI”) for each of the MOs”**

Petitioner acknowledges that Claims 18-22 require multiple OVIs. Pet. at 29. While Petitioner relies primarily on Kreitler for disclosing one OVI (which is not taught for reasons set forth *supra*), Petitioner pivots its argument for Claim 18 to map “multiple OVIs with icons” to Suomela. *Id.*. One of ordinary skill in the art would not have been motivated to modify Kreitler to add more OVIs, despite the teachings of Suomela at least because such an addition would render Kreitler inoperable. For example, if Kreitler were modified to add a second icon whose location is “south,” Kreitler does not explain how or where that icon could be displayed other than by overwriting the San Francisco Airport icon and Petitioner does not attempt to explain the inoperability of this combination. Even if one of ordinary skill in the art would place the icons side-by-side that would be nothing more than a list of links, which is already in the prior art and noted in the ‘297 Patent. Kreitler had the opportunity and knowledge to add Oakland airport generally to the east, but he only included San Francisco Airport to the south indicating that it is a hardcoded link. Ex. 2003, ¶ 54.

In the alternative, even if one were to assume that Petitioner intended to present a combination of Suomela’s icons with Kreitler’s map, that combination also fails. Petitioner only identifies the “lighthouse icon 30,” the “mountain icon 32,” and

the “airport icon 34.” Pet. at 30. None of these icons contain distance or travel-related information. Distances are presented separately (e.g., 44) and travel-related information, such as direction, is presented with arrows 42. Suomela’s icons alone would not satisfy the OVI limitations and, thus, the combination fails. Ex. 2003, ¶ 55.

Accordingly, because Kreidler cannot support multiple direction icons, and because Suomela’s icons alone are not OVIs, the combination fails.

**C. Petitioner’s Motivation to Combine Is Conclusory and Does Not Support a Finding of Obviousness Under a Preponderance of the Evidence**

Petitioner attempts to combine two different approaches to mapping interfaces and relies primarily on its expert, Dr. Rosenberg, to support this combination. The combination fails for two reasons: first, the conclusory combination fails because it is based on Dr. Rosenberg’s personal experience—an approach that has already been rejected by the Board in prior cases involving Dr. Rosenberg; second, the proposed combination vitiates the inventive concept of the Suomela by eliminating the “two scale” solution. *See Chemours Co. FC, LLC v. Daikin Indus., Ltd.*, 4 F.4th 1370, 1376–77 (Fed. Cir. 2021) (finding insufficient motivation to modify a prior art reference “when doing so would necessarily involve altering the inventive concept of” the reference). *See also Google LLC v. Singular Computing LLC*, IPR2021-00155, Paper No. 57 at 80 (P.T.A.B., May 11, 2022) (finding no obviousness where

petitioner's asserted combination was predicated on removing a "fundamental feature" of the prior art). Ex. 2003, ¶ 56.

**1. Dr. Rosenberg's Motivation to Combine Is  
Conclusory and Should be Rejected**

Dr. Rosenberg's proposed combination of Suomela and Kreitler relies on three separate rationales, where an error in any of his rationales would render his entire analysis incomplete. *See, e.g.*, Ex. 1003 at 36-41. His first conclusory motivation is that one of skill in the art would have combined the icons from Suomela with the icons of Kreitler to arrive at the claimed OVIs. *Id.* at 36. Dr. Rosenberg reduces this combination to "adding that information to the display" which he alleges "would have required only a modification of the graphical display [...]". *Id.* at 37. This rationale is conclusory and presupposes that because the improvement of the '297 Patent is "graphical," that it would have been routine and therefore obvious. However, graphical improvements may encapsulate an algorithmic baseline encapsulating an innovative process, may be patentable, and are not per-se obvious. Dr. Kia has numerous personal experiences in enabling certain algorithmic designs into a graphical depiction providing unique and innovative features to the end-user. There are virtually infinite graphical configurations and Dr. Rosenberg does not indicate why one of ordinary skill in the

art would have deviated from the different approaches of either Kreitler or Suomela to arrive at the claims without hindsight. Ex. 2003, ¶ 57.

Indeed, Dr. Rosenberg has been criticized by the Board in prior cases for similar “conclusory testimony.” *See, e.g., Fidelity Info. Servs., LLC v. Groove Digit., Inc.*, IPR2019-00050, Paper No. 65 at 61 (P.T.A.B., April 20, 2020). When asked about whether he made the same mistakes in this proceeding as in the ’050 proceeding, Dr. Rosenberg testified “I don’t believe I have made mistakes.” *See, e.g.,* Ex. 2004 at 30:23-31:6. Despite these criticisms, Dr. Rosenberg did not modify his approach in the present case and has provided the same conclusory type of argument without any technical rationale. The Board should, therefore, decline to adopt Dr. Rosenberg’s conclusory analysis and should find that the challenged claims are patentable. Ex. 2003, ¶ 58.

**2. Dr. Rosenberg Failed to Acknowledge the “Two Scale” Solution of Suomela and His Obviousness Analysis Fails**

It is well-settled law that obviousness combinations are improper if doing so would alter the inventive concept of the prior art. *Chemours*, 4 F.4th 1377. Petitioner’s proposed combination eviscerates the inventive concept of the Suomela reference because the combination eliminates Suomela’s “two scales.” Ex. 2003, ¶ 59.

The title of the Suomela reference is “System and Method for Displaying a Map Having Two Scales.” Ex. 1006 at 1. Suomela’s Abstract states that “[t]he digital map includes a detail area having a first scale located in a substantially central portion of the map and an object area having a second scale located in a peripheral portion of the map.” *Id.* at Abstract. Ex. 2003, ¶ 60.

In describing the prior art, Suomela explains that “conventional maps typically show[] only one scale at a time and [are] thus limited to providing either detailed large scale views with few, if any, landmarks included therein, or small scale views.” Ex. 1006 at 1:51-55. Suomela then describes how such single-view solutions are not optimal. *Id.* at 1:55-60. Suomela then describes the invention unequivocally as follows: “the present invention provides a system and method for displaying a map having two simultaneously displayed scales.” *Id.* at 1:66-2:1. Suomela describes various embodiments where each of the two scales have different areas, such as 1:5,000 and 1:500,000. Suomela describes these as “large scale” and small scale” and allocates the different scales to the “object area 26” and “detail area 24.” *Id.* at Col. 4. Suomela then claims the invention as “a cohesive map having areas of different scales” with “a first scale” and “a second scale.” *Id.* at Claim 1. Indeed without at least two different scales, the inventive concept of the Suomela reference is completely vitiated. Ex. 2003, ¶ 61.

Despite Suomela's emphasis on two scales, Dr. Rosenberg did not even mention this concept in his Declaration. Indeed, a search for "two scales" turns up no results. *See generally* Ex. 1003. Indeed, Dr. Rosenberg's combination of Kreitler with Suomela presumes that Suomela would apply to maps with only one scale. Dr. Rosenberg states that "a person of ordinary skill in the art would have been motivated to modify *Kreitler's* special icons to include distance information, as taught by *Suomela*, to provide the user with distance information without requiring the user to specifically request navigation to the **off-map items of interest**." Ex. 1003 at 36 (emphasis added). This argument does not make sense because Kreitler solved its problem by **eliminating off-map items of interest**. Kreitler provides a two-scale solution where the items of interest are always on the map and are therefore never "off-map." Dr. Rosenberg's failure to acknowledge this difference is fatal to his analysis because not only does it undermine his reasoning in his motivation to combine, but it also removes the inventive concept of Suomela. Ex. 2003, ¶ 62.

At his deposition, Dr. Rosenberg's error became apparent. Dr. Rosenberg admitted that he did not believe scales were relevant to the Suomela reference.

Q. According to the Nokia reference, Figure 5 shows two scales, two map scales, a zoomed-in scale and a zoomed-out scale, right?

A. I would not characterize it in that way. I would say there is a scale associated with zoomed in but there is not a scale associated with the object area, that border area. There does not -- there is not necessarily a scale. A scale wouldn't imply a certain number of centimeters on the screen corresponds to a certain number of kilometers in the real world. And I don't believe that that's required in the object area to have a scale.

Ex. 2004 at 67:18-68:9. Even though he specifically cited Suomela disclosing the detail area with correspondence of display screen size to real world distance from Suomela (Ex. 1006) 4:23-27 (Ex. 1003, ¶ 165) but completely ignoring Suomela's very next sentence describing the object area in the same fashion where "[f]urther, suppose object area 26 had a display size of 6 cm by 5 cm centered around display area 24; thus, having an effective object area 26 that is 2 cm wide around display area 24. For a 1:500,000 scale, processor 14 would generate a map display of a geographical area in a band about 10 kilometers around the geographical area represented in detail area 24". (Ex. 1006 at 4:27-33). Dr. Rosenberg then stated that the focus of Suomela was "not around the specifics of scales. . . . I guess that's not the focus of the invention." Ex. 2004 at 73:3-7. However, after reviewing the reference at his deposition and realizing that it is titled "System and Method for Displaying a Map Having Two Scales," Dr. Rosenberg finally began to change his

answers. When pressed again regarding the object of the Suomela invention, Dr. Rosenberg stated:

[I]t would **require two scales** because the object area is necessarily a much more zoomed-out scale than the detailed area.

Ex. 2004 at 74:18-21 (emphasis added). Ex. 2003, ¶ 63.

The concept of two map areas with different maps scales directly contradicts the combination required to meet the Challenged Claims. Indeed, the solution of the '297 Patent, as described by Dr. Kia, achieves its result without requiring two or more mapping areas with differing scales. For example, Claim 1 of the '297 Patent specifies a “selected area of an electronic map.” If objects are inside this area, they are displayed as Map Objects. If objects are outside of this area, OVIs are created and displayed **on the selected area of the electronic map**, not in a separate map area with a different scale. Ex. 2003, ¶ 64.

Therefore, the Board should find that the Challenged Claims are not invalid at least because Dr. Rosenberg did not address the inventive “two scale” concept in his motivation to combine section and the Petitioner fails to meet its burden of proof. Now, in view of Dr. Kia’s testimony regarding the incompatibility of Suomela’s “two scales” with the claims of the '297 Patent, Petitioner should not be able to carry its burden and the claims should be confirmed. Ex. 2003, ¶ 65.

## VIII. CONCLUSION

Petitioner's combinations fail to render obvious any Challenged Claim. The Board should issue a Final Written Decision finding the Challenged Claims not unpatentable.

Respectfully submitted,

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**CERTIFICATE OF WORD COUNT**

The undersigned hereby certifies that the portions of the above-captioned PATENT OWNER'S RESPONSE TO PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,032,297 specified in 37 C.F.R. § 42.24 has 7,010 words in compliance with the 14,000-word limit set forth in 37 C.F.R. § 42.24. This word count was prepared using Microsoft Word for Office 365.

Dated: March 1, 2024

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**CERTIFICATE OF SERVICE**

A copy of PATENT OWNER'S RESPONSE TO PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,032,297 and EXHIBITS 2003 and 2004 have been served on Petitioner's counsel of record as follows:

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