UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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TRW AUTOMOTIVE US LLC,
Petitioner,

v.

MAGNA ELECTRONICS, INC.,
Patent Owner.

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Case IPR2014-00258
Patent 7,994,462 B2

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Before JUSTIN T. ARBES, BENJAMIN D. M. WOOD, and
NEIL T. POWELL, *Administrative Patent Judges*.

WOOD, *Administrative Patent Judge*.

DECISION
Petitioner's Request for Rehearing
*37 C.F.R. § 42.71*

# I. INTRODUCTION

TRW Automotive US LLC ("TRW") filed a request for rehearing (Paper 17) ("Reh'g Req.") of our decision, dated June 26, 2014 (Paper 16) ("Dec.") denying institution of an *inter partes* review of U.S. Patent No. 7,994,462 B2 ("the '462 patent"). Reh'g Req. 1. TRW requests that we reconsider our determination not to institute an *inter partes* review on the following grounds: (1) claims 1, 3, 5-7, 10, 15, 19, 23, 26, and 27 as anticipated by Kenue;[1] (2) claims 1, 3, 5-8, 10, 15, 19, 21, 23, 26, and 27 as obvious over Yanagawa,[2] Bottesch,[3] and Wilson-Jones;[4] (3) claim 11 as obvious over AURORA[5] and either Kenue or the combination of Yanagawa, Bottesch and Wilson-Jones; (4) claims 12 and 13 as obvious over Zheng[6] and either Kenue or the combination of Yanagawa, Bottesch and Wilson-Jones; (5) claims 16 and 17 as obvious over Vellacott[7] and either Kenue or the combination of Yanagawa, Bottesch and Wilson-Jones; and (6) claim 9 as obvious over the combination of Yanagawa, Bottesch, Wilson-Jones and

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[1] U.S. Patent No. 4,970,653 to Kenue, Ex. 1004.

[2] JP S62-121837 to Yanagawa et al., Ex. 1005.

[3] U.S. Patent No. 5,166,681 to Bottesch, Ex. 1006.

[4] EP0640903A1 to Wilson-Jones et al., Ex. 1007.

[5] Mai Chen, *AURORA: A Vision-Based Roadway Departure Warning System*, 1995 IEEE/RSJ Int'l Conf. on Intelligent Robots and Systems (Aug. 9, 1995), Ex. 1009.

[6] Yon-Jian Zheng, et al., *An Adaptive System for Traffic Sign Recognition*, INTELLIGENT VEHICLES '94 SYMPOSIUM (Oct. 24-26, 1994), Ex. 1010.

[7] Oliver Vellacott, *CMOS in Camera*, IEE REVIEW (May 1994), Ex. 1008.

Tadashi.[8]  *Id*.  For the reasons stated below, TRW's Rehearing Request is denied.

## II.     STANDARD OF REVIEW

Under 37 C.F.R. § 42.71(c), "[w]hen rehearing a decision on petition, a panel will review the decision for an abuse of discretion."  An abuse of discretion occurs when a "decision was based on an erroneous conclusion of law or clearly erroneous factual findings, or . . . a clear error of judgment." *PPG Indus. Inc. v. Celanese Polymer Specialties Co.*, 840 F.2d 1565, 1567 (Fed. Cir. 1988) (citations omitted).  The request must identify, specifically, all matters the party believes the Board misapprehended or overlooked. 37 C.F.R. § 42.71(d).

## III.     DISCUSSION

A.     *Claims 1, 3, 5-7, 10, 15, 19, 23, 26, and 27—Anticipation by Kenue*

1.     *Claims 1, 3, 5-7, 10, 15, and 19*

In its Petition, TRW alleged that Kenue anticipates claims 1, 3, 5-7, 10, 15, and 19.  Pet. 12-21.  Claim 1 is independent, and claims 3, 5-7, 10, 15, and 19 depend, either directly or indirectly, from claim 1.  Claim 1 is drawn to an "image sensing system" that "identifies objects . . . via processing of . . . captured image data," and "wherein said image processing comprises pattern recognition . . . based at least in part on at least one of (i) shape, (ii) reflectivity, (iii) luminance and (iv) spectral characteristic." Ex. 1002, 12:57-13:11.  Claim 1 further recites "wherein said pattern recognition is enhanced by comparing image data of objects over successive

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[8] JP HEI4-127280 to Tadashi, Ex. 1011.

frames of captured image data" (hereinafter, the "enhanced-pattern-recognition limitation"). *Id*., 13:12-14. TRW alleged in the Petition that Kenue discloses image processing algorithms that use pattern recognition "based at least in part on at least one of shape and luminance." Pet. 14. TRW further alleged that Kenue discloses the enhanced-pattern-recognition limitation, relying on the following passages from Kenue:

> [The] algorithms . . . dynamically define the search area for lane markers based on the lane boundaries of the previous frame, and provide estimates of the position of missing markers on the basis of current frame and previous frame information. . . . Moreover, the search area changes with marker position MP, and increases in size if the marker was not found in the search of the previous frame. . . . After the centroid of each marker is calculated[,] . . . if the markers are not found where expected . . . . based on the previously detected lane geometry, the marker locations from the previous frame are used.

Pet. 16 (quoting Ex. 1004, 2:44-48, 4:27-29, 5:15-18).

We denied institution as to this ground because we were not persuaded that Kenue discloses the enhanced-pattern-recognition limitation. Dec. 13. We stated that "neither TRW nor [its declarant] Dr. Miller explains sufficiently how these passages correspond to the limitation at issue. . . . [I]t is not self-evident how the quoted passages relate to 'enhanc[ing] pattern recognition,' based on 'at least one of shape and luminance.'" *Id*.

TRW contends that this determination was erroneous. Reh'g Req. 6-8. First, TRW asserts that "[t]he Board incorrectly requires the enhancement to be based on 'at least one of shape and luminance." *Id*. at 7. TRW misunderstands our analysis. The required enhancement must be to "said" pattern recognition. We based our analysis on TRW's assertion that Kenue teaches pattern recognition "based at least in part on *at least one of*

*shape and luminance*." Pet. 14 (emphasis added). Therefore, the "said" pattern recognition that TRW had to show was "enhanced" must be based at least in part on at least one of shape and luminance. TRW did not attempt to connect Kenue's alleged pattern recognition with the passages from Kenue that allegedly teach *enhancing* pattern recognition. In fact, TRW provided no analysis at all on this point. Accordingly, TRW has not persuaded us that we erred in this regard.

Second, TRW alleges that "[t]he cited portion of Kenue nonetheless describes enhancing pattern recognition based on shape," and explains why this is so. Reh'g Req. 8. TRW does not explain, however, why it failed to provide this analysis in its Petition. A rehearing request under 37 C.F.R. § 42.71(d) is not an opportunity to submit new arguments that could have been submitted in the petition. Accordingly, we decline to consider this new argument.

### 2. *Claims 23, 26, and 27*

In its Petition, TRW alleged that Kenue anticipates claims 23, 26, and 27. Pet. 42-48. Claim 23 is independent, and claims 26 and 27 depend from claim 23. Claim 23 recites, *inter alia*, "wherein objects are at least one of (a) qualified and (b) disqualified based, at least in part, on object motion in said field of view of said imaging sensor" (hereinafter, the "qualified-disqualified limitation"). Ex. 1002, 14:59-61. TRW relied on two separate excerpts from Kenue as disclosing this limitation. Pet 18-20 (citing Ex. 1004, 5:14-22, 3:10-21). The first excerpt reads:

> After the centroid of each marker is calculated[,] . . . if the markers are not found where expected . . . based on the previously detected lane geometry, the marker locations from the previous frame are used. . . . The determination of expected

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