

**UNITED STATES PATENT AND TRADEMARK  
OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL  
BOARD**

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MISSION INTEGRATED  
TECHNOLOGIES, LLC  
Petitioner

v.

JOSHUA CLEMENTE,  
Patent Owner

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Case No.: IPR2023-01285  
Patent 11,174,677

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**PETITION FOR INTER PARTES REVIEW**

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## **EXHIBITS**

| <b>Exhibit No.</b> | <b>Description</b>                                                                                                                                                   |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1001</b>        | U.S. Patent No. 11,174,677 (“the ‘677 patent”)                                                                                                                       |
| <b>1002</b>        | File History of the ‘677 patent                                                                                                                                      |
| <b>1003</b>        | U.S. Provisional Application No. 62/770,022 claiming benefit for the ‘677 patent                                                                                     |
| <b>1004</b>        | Declaration of Famhi Alubbad (“Alubbad”)                                                                                                                             |
| <b>1005</b>        | Paid invoice to Genovese Productions, LLC by Mission Integrated Technologies (“MIT”) for a video shoot of MIT’s Articulated Rapid Entry System (“ARES”) in July 2017 |
| <b>1006</b>        | MIT’s <i>Technical Offer</i> to the Kingdom of Saudi Arabia for two Armored Assault Vehicles with ARES by MIT dated June 12, 2017                                    |
| <b>1007</b>        | <i>ARES PROMO 6</i> (“the ARES 6 video”) posted on YouTube on October 11, 2017                                                                                       |
| <b>1008</b>        | Screenshot of search on YouTube that yields the ARES 6 video (Ex. 1007)                                                                                              |
| <b>1009</b>        | Screenshot of current YouTube webpage that features the ARES 6 video (Ex. 1007)                                                                                      |
| <b>1010</b>        | Screenshots taken from the ARES 6 video (Ex. 1007) with red annotations added                                                                                        |
| <b>1011</b>        | Screenshot of the Inventor and Patent Owner (“Joshua Clemente”) of the ‘677 patent featured in the ARES 6 video (Ex. 1007)                                           |
| <b>1012</b>        | Screenshot of MIT’s homepage of October 22, 2017, taken from the Internet Archive using the Wayback Machine                                                          |
| <b>1013</b>        | Screenshot of MIT’s homepage of November 30, 2018, taken from the Internet Archive using the Wayback Machine                                                         |
| <b>1014</b>        | MIT’s ARES Marketing Brochure created on October 31, 2017 (“the Oct. 2017 brochure”) with red annotations added                                                      |
| <b>1015</b>        | True and Correct copy of document properties for the Oct. 2017 brochure (Ex. 1014)                                                                                   |

| <b>Exhibit No.</b> | <b>Description</b>                                                                                                                                        |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1016</b>        | True and Correct copy of MIT's President's ("Tim Clemente") email dated November 8, 2017, sending the Oct. 2017 brochure (Ex. 1014) to a potential client |
| <b>1017</b>        | Screenshot of webpage showing MIT's exhibition site at Milipol Paris 2017 ("Milipol 2017")                                                                |
| <b>1018</b>        | Screenshot of a Milipol 2017 Exhibition webpage showing that MIT was an Exhibitor at Milipo1 2017                                                         |
| <b>1019</b>        | <i>ARES Elevated Tactics System</i> ("the Elevated ARES video") posted on YouTube on November 13, 2018                                                    |
| <b>1020</b>        | <i>Curriculum Vitae</i> of Matthew Hayduk                                                                                                                 |
| <b>1021</b>        | Declaration of Matthew Hayduk ("Hayduk")                                                                                                                  |
| <b>1022</b>        | Screenshot of search on YouTube that yields the Elevated ARES video (Ex. 1019)                                                                            |
| <b>1023</b>        | Screenshot of current YouTube webpage that features the Elevated ARES video (Ex. 1019)                                                                    |
| <b>1024</b>        | Screenshots taken from the Elevated ARES video (Ex. 1019) with red annotations added                                                                      |

## **I. INTRODUCTION**

Petitioner Mission Integrated Technologies, LLC (“Petitioner” or “MIT”) hereby respectfully requests the institution of *Inter Partes* Review (“IPR”) of Claims 1-17 (the “Challenged Claims”) of U.S. Patent No. 11,174,677 (Ex. 1001, “the ‘677 patent”). The USPTO records reflect that the ‘677 patent is assigned to Joshua Clemente (“Patent Owner”).

Petitioner asserts that it is more likely than not that at least one of the Challenged Claims is unpatentable for the reasons set forth herein and respectfully requests review of, and judgment against, all Challenged Claims under 35 U.S.C. §102 as anticipated. As demonstrated below, the prior art to the ‘677 patent overwhelmingly establishes that each and every limitation of the Challenged Claims was well-known and not novel. As a result, the Challenged Claims of the ‘677 patent should be found unpatentable.

This Petition is supported by the Declaration of Fahmi Alubbad (Ex. 1004, “Alubbad Decl.”) and the Expert Declaration of Matthew Hayduk (Ex. 1021, “Hayduk Decl.”). Mr. Hayduk’s *curriculum vitae* is attached as Ex. 1020.

## **II. MANDATORY NOTICES AND FEE PAYMENT AUTHORIZATION**

### **A. Real Party-in-Interest**

The real party-in-interest, on whose behalf this petition is filed, is Petitioner

MISSION INTEGRATED TECHNOLOGIES, LLC, of Virginia.

**B. Lead and Back-up Counsel and Service Information**

Lead and back-up counsel are identified in the signature block at the end of this petition. Service may be made upon such counsel by directing papers to the indicated addresses (including email).

**C. Fee Payment Authorization**

The Patent Office is authorized to charge all fees due to Deposit Account 50-2866, and credit any overpayment to the same account.

**III. GROUNDS FOR STANDING**

The Petitioner hereby certifies that the '677 patent is available for inter partes review, and that the Petitioner is not barred or estopped from requesting an inter partes review of the '677 patent.

**IV. STATEMENT OF PRECISE RELIEF REQUESTED**

The Petitioner requests that claims 1-17 of the '677 patent (Ex. 1001) be canceled based on the following grounds of unpatentability.

| <b>Ground</b> | <b>Statutory Basis for Challenge</b>                                                                                                  |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <b>1</b>      | Claims 1-17 are anticipated under 35 U.S.C. 102(a)(1) by ARES PROMO 6 Video (Ex. 1007, "The ARES 6 video").                           |
| <b>2</b>      | Claims 1-17 are anticipated under 35 U.S.C. 102(a)(1) by ARES Elevated Tactics System (Ex. 1019, "The Elevated ARES video").          |
| <b>3</b>      | Claims 1-8 and 10-17 are anticipated under 35 U.S.C. 102(a)(1) by MIT's ARES Marketing Brochure (Ex. 1014, "the Oct. 2017 brochure"). |

**V. FIELD OF THE INVENTION AND LEVEL OF SKILL IN THE ART**

The '677 patent, entitled "Vehicle-Mounted Elevated Access System,"

relates to a vehicle-mounted platform including an inclinable access structure connected to a base structure at a movable hinge point, which allows the entire access structure to move towards an elevated target position. Ex. 1001, the '677 patent at 3:45-51.

The Hayduk Decl. (Ex. 1021) is submitted in support of this Petition. Mr. Hayduk received a B.S. in Mechanical Engineering in 1982 and has over 30 years of experience in designing mechanical structural products across various industries. Mr. Hayduk is also a named inventor on at least 24 issued patents and pending applications. Ex. 1021, Hayduk Decl. ¶¶6-11.

A person of ordinary skill ("POSA") in the art pertaining to the '677 patent would have at least an undergraduate degree in mechanical engineering, and about two years of experience designing structural systems like tactical staircases or elevated tactical systems that can be vehicle mounted and can be folded and stowed and elevated for use by personnel or equivalent experience. Ex. 1021, Hayduk Decl. ¶¶ 12, 13.

Based on Mr. Hayduk's skills and experience, he has greater than ordinary skill in the art and is well qualified to testify as to what would be known and understood by POSA at all times relevant to this Petition.

## **VI. CLAIMS OF THE '677 PATENT, CLAIM CONSTRUCTION, AND EFFECTIVE FILING DATE**

### **A. General Description of Claims**

The '677 patent contains 17 claims, of which claim 1 is independent. Claim 1 reads as follows:

1. [a] A vehicle-mounted access system comprising: a fixed base structure comprising a plurality of track channels;

[b] a plurality of movable hinge carriages respectively on and configured to move along the plurality of track channels;

[c] an inclinable access structure having a proximal end and a distal end, the proximal end of the inclinable access structure being pivotably connected to the plurality of movable hinge carriages;

[d] a lifting mast having a proximal end and a distal end,

[e] the distal end of the lifting mast being connected to the distal end of the inclinable access structure by forward tension elements and

[f] being connected to the fixed base structure by rear tension elements,

[g] the proximal end of the lifting mast being pivotably connected to the fixed base structure; and

[h] an actuator connected between the movable hinge carriages and the fixed base structure,

[i] the actuator being configured to move the movable hinge carriages to raise the distal end of the inclinable access structure via the forward tension elements, the lifting mast, and the rear tension elements.

Ex. 1001, the '677 patent at 12:39-61

## **B. Claim Construction**

The general rule is, of course, that terms in the claims are to be given their ordinary and accustomed meaning. *Johnson Worldwide Associates, Inc. v. Zebco Corp.*, 175 F.3d 985, 989, (Fed. Cir. 1999); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc) (“We have made clear, moreover, that the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.”) Thus, the terms of the challenged claims should be construed according to their ordinary

meaning to POSA and do not require any further discussion.

### **C. Effective Filing Date**

The ‘677 patent was filed as U.S. Application No. 16/688,884 on November 19, 2019, and claims benefit of a U.S. Provisional Application 62/770,022 (Ex. 1003, “the ‘022 provisional application”) filed on November 20, 2018. The ‘677 patent includes more content than the ‘022 provisional application. Here, all of the cited references pre-date November 20, 2018 and, therefore, qualify as prior art even if the Challenged Claims were found to be entitled to the filing date of the ‘022 provisional application. Thus, based on the priority claim made in the ‘677 patent, the earliest effective filing date for the claims in the ‘677 patent is November 20, 2018.

## **VII. DESCRIPTION OF THE PRIOR ART RELIED ON IN THE PETITION**

### **A. The ARES 6 video (Ex. 1007)**

Exhibit 1007, the ARES 6 video, is a video promoting MIT’s new generation of ARES product that was published and continuously accessible to the public at the YouTube website at URL <https://www.youtube.com/watch?v=9gVnP18I39Q> from October 11, 2017 to the present and at <http://www.Mit.technology> which featured the YouTube link <https://www.youtube.com/watch?v=9gVnP18I39Q> from at least October 22, 2017 to at least November 20, 2018. Ex. 1004, Alubbad Decl. ¶¶ 6-15; Exs. 1008-1013.

The Internet Archive corroborates that the ARES 6 video (Ex. 1007) was continuously available to the public from October 22, 2017, to at least November 20, 2018, on the homepage of MIT's second website <http://www.Mit.technology>. Ex. 1004, Alubbad Decl. ¶¶12-14; Exs. 1012 and 1013.

And as explained by Mr. Hayduk, as a POSA, he searches “for and view videos on YouTube and other platforms for information regarding my client’s products.” Ex. 1021, Hayduk Decl. ¶63. YouTube is “a great resource to learn quickly about different structural products or devices that my clients may have some interest in.” *Id.* “Accordingly, a POSA would regularly include a YouTube search, among other searches, to research for on-line video content such as the ARES 6 video and would have understood it as relevant to the design of a vehicle mounted elevated tactical system as of October 11, 2017.” *Id.* “Exhibit 1008 illustrates how readily accessible the ARES 6 video (Ex. 1007) is to a POSA performing a relevant search on the YouTube search engine since October 11, 2017.” *Id.*

And further as explained by Mr. Hayduk, “a POSA would have been reasonably aware of websites for developers of vehicle mounted elevated systems, for example, by conducting a relevant Google search. Ex. 1021, Hayduk Decl. ¶64 “Therefore, if a POSA was involved in researching vehicle mounted elevated systems during this time period, it would have been logical for them to search for

and visit websites like MIT's to learn more about vehicle mounted elevated systems used to access elevated structures such as a building or an aircraft. *Id.* "The YouTube link <https://www.youtube.com/watch?v=9gVnP18I39Q> was provided on the homepage of MIT's website, so in my opinion, it was readily accessible to a POSA visiting the website from at least October 22, 2017 to at least November 20, 2018." *Id.*

The ARES 6 video (Ex. 1007) was made accessible to the public at the Milipol 2017 trade show, since it was repeatedly played to the attendees, which numbered over 24,000, on a video monitor at MIT's Exhibit site, with the Milipol 2017 trade show being open to the public. (Ex. 1004, Alubbad Decl. ¶¶19-23; Exs. 1017 and 1018).

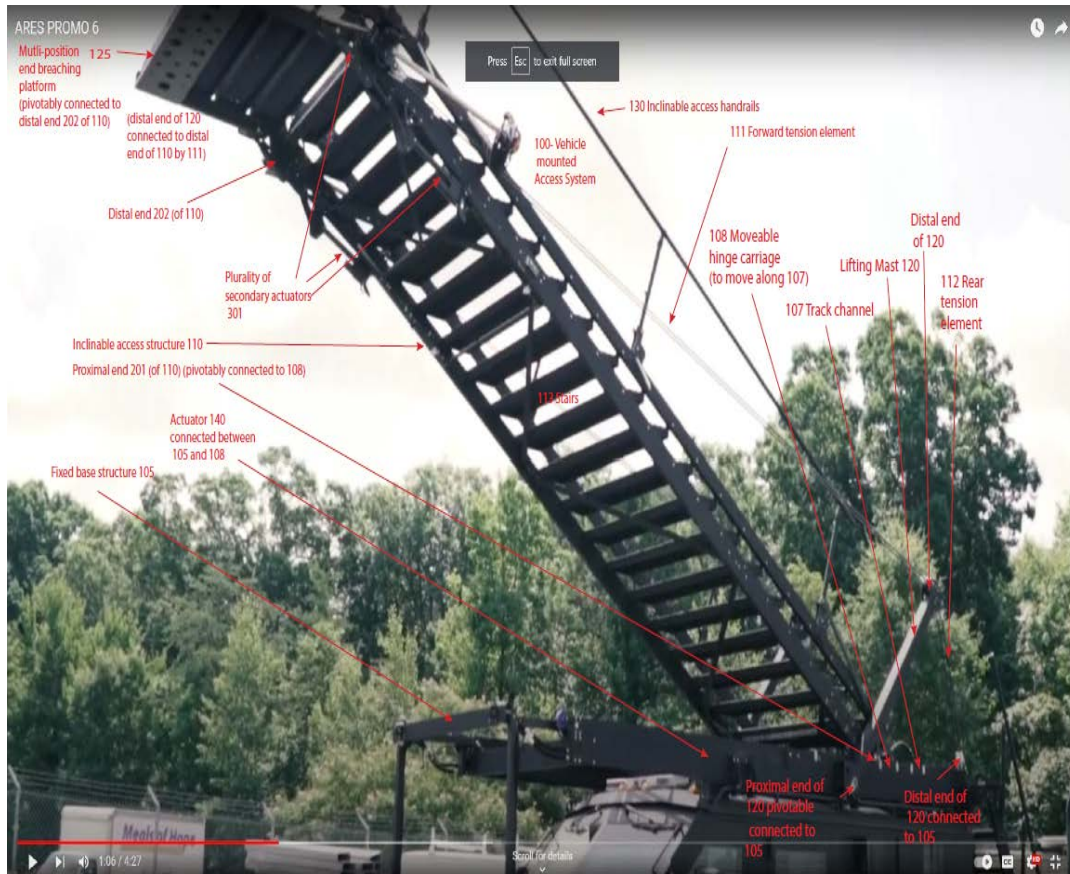
Copies of the URL at <https://www.youtube.com/watch?v=9gVnP18I39Q> for the ARES 6 video (Ex. 1007) were digitally distributed via the WhatsApp app in the weeks before Milipol 2017 to generate customer interest in the new generation ARES product at Milipol 2017. Ex. 1004, Dec of Alubbad ¶ 27. An email highlighting the ARES 6 video (Ex. 1007) on MIT's website was sent to a prospective client in early November 2017. Ex. 1004, Alubbad Decl. ¶16; Ex. 1016.

Thus, the ARES 6 video, Ex. 1007, was published and widely disseminated

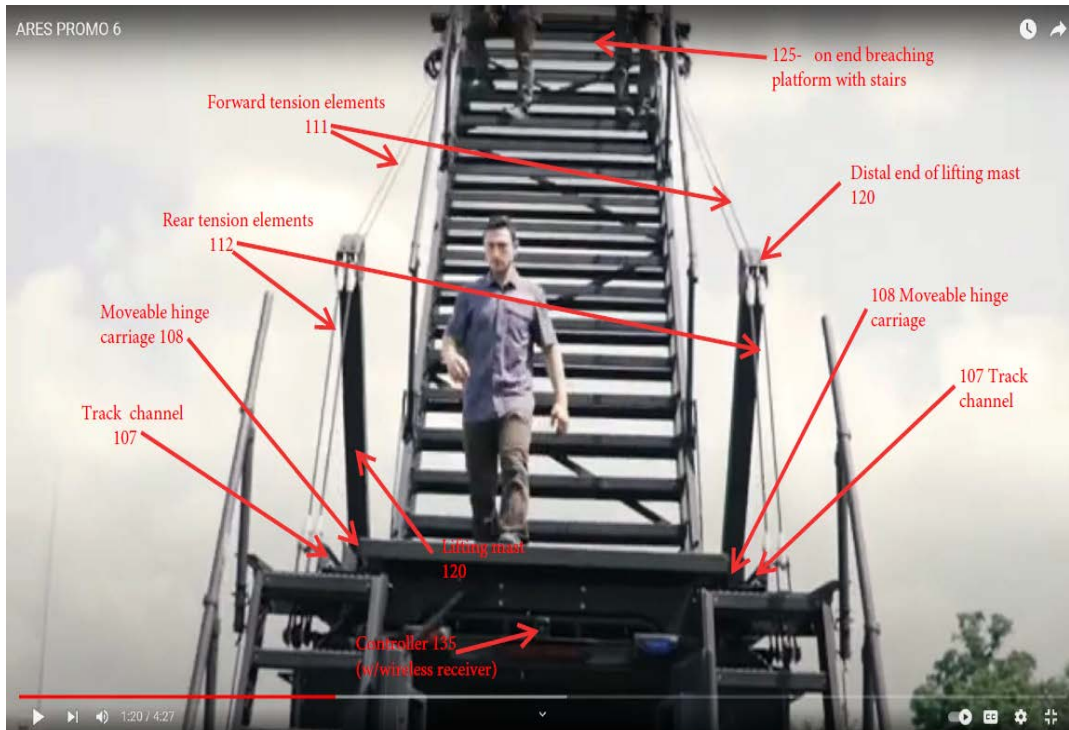
by MIT at least as early as October 11, 2017 and, therefore, qualifies as §102(a)(1) prior art because it was described in a printed publication and was accessible to the POSA before the earliest possible effective filing date of November 20, 2018 of the '677 Patent.

Exhibit 1010 is a collection of screenshots obtained from the ARES 6 video (Ex. 1007), with red annotations added. Ex. 1004, Alubbad Decl. ¶9. The ARES 6 video (Ex. 1007) discloses MIT's ARES mounted on a Lenco Bearcat host vehicle with the video showcasing the different features of the ARES. Ex. 1021, Hayduk Decl. ¶67.





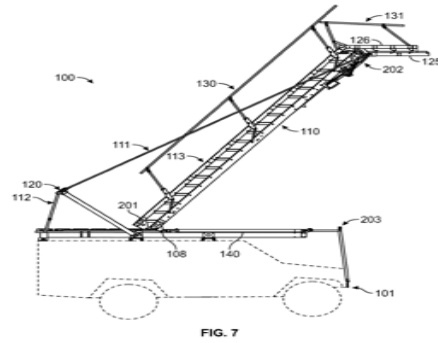
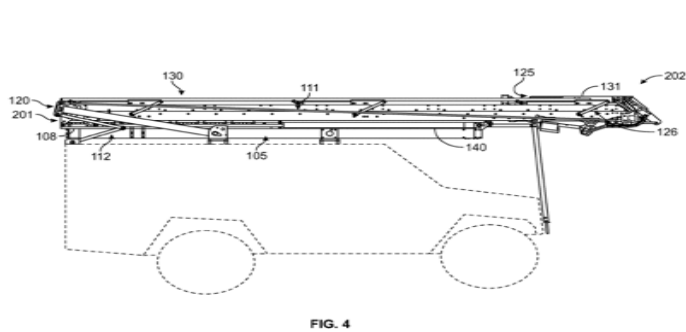
Ex. 1010 at pages 1-2.



Ex. 1010 at pages 3-4.



[illegible]



Ex. 1010 at pages 8 and 1; Ex. 1001 at pages 6 and 9.

In the stowed position, in both the ARES (Exs. 1007; 1010 at page 8) and the '677 patent (Ex. 1001 at page 6), the moveable hinge carriages (108) and the proximal end (201) are provided at the rear of the host vehicle with the proximal and distal ends (201, 202) of the inclinable access structure (110) flat with each other. Ex. 1021, Hayduk Decl. ¶¶75-76.

To transition from the stowed position to the deployed position, in both the ARES (Exs. 1007 at 1min, 2-7secs; 1010 at page 1) and the '677 patent (Ex. 1001 at page 9), the hydraulic cylinders/actuators (140) pull forward the moveable hinge carriages (108) along the track channels (107) toward the front of the host vehicle, which pulls forward the proximal end (101) of the inclined access structure (110) and raises the distal end (202) (via the fixed length forward tension elements (111), the lifting mast (120), and the fixed length rear tension elements (112)), higher than the proximal end (101) until a desired

height of the inclined access structure (110) is reached. Ex. 1021, Hayduk Decl. ¶¶ 77-79.

The ARES 6 video (Exs. 1007; 1010 at pages 1, 2 and 3) discloses 1[a] A vehicle-mounted access system comprising (100): a fixed base structure (105) comprising a plurality of track channels (107); and [b] a plurality of movable hinge carriages (108) respectively on and configured to move along the plurality of track channels (107). Ex. 1021, Hayduk Decl. ¶80.

The ARES 6 video (Exs. 1007; 1010 at pages 1 and 2) discloses [c] an inclinable access structure (110) having a proximal end (201) and a distal end (202), the proximal end (201) of the inclinable access structure (110) being pivotably connected to the plurality of movable hinge carriages (108). Ex. 1021, Hayduk Decl. ¶81.

The ARES 6 video (Exs. 1007; 1010 at pages 1, 2 and 4) discloses [d] a lifting mast (120) having a proximal end and a distal end, [e] the distal end of the lifting mast (120) being connected to the distal end (202) of the inclinable access structure (110) by forward tension elements (111) and [f] and being connected to the fixed base structure (105) by rear tension elements (112). Ex. 1021, Hayduk Decl. ¶82.

The ARES 6 video (Exs. 1007; 1010 at pages 1 and 2) discloses [g] the

proximal end of the lifting mast (120) being pivotably connected to the fixed base structure (105); and [h] an actuator (140) connected between the movable hinge carriages (108) and the fixed base structure (105). Ex. 1021, Hayduk Decl. ¶83.

The ARES 6 video (Exs. 1007 at 1min, 2-7secs; 1010 at pages 1 and 2) discloses [i] the actuator (140) being configured to move the movable hinge carriages (108) to raise the distal end (202) of the inclinable access structure (110) via the forward tension elements (111), the lifting mast (120), and the rear tension elements (112). Ex. 1021, Hayduk Decl. ¶84

The ARES 6 video (Exs. 1007; 1010 at pages 1 and 2) discloses an inclinable access handrail (130) positioned along and pivotably attached to the inclinable access structure (110). Ex. 1021, Hayduk Decl. ¶85.

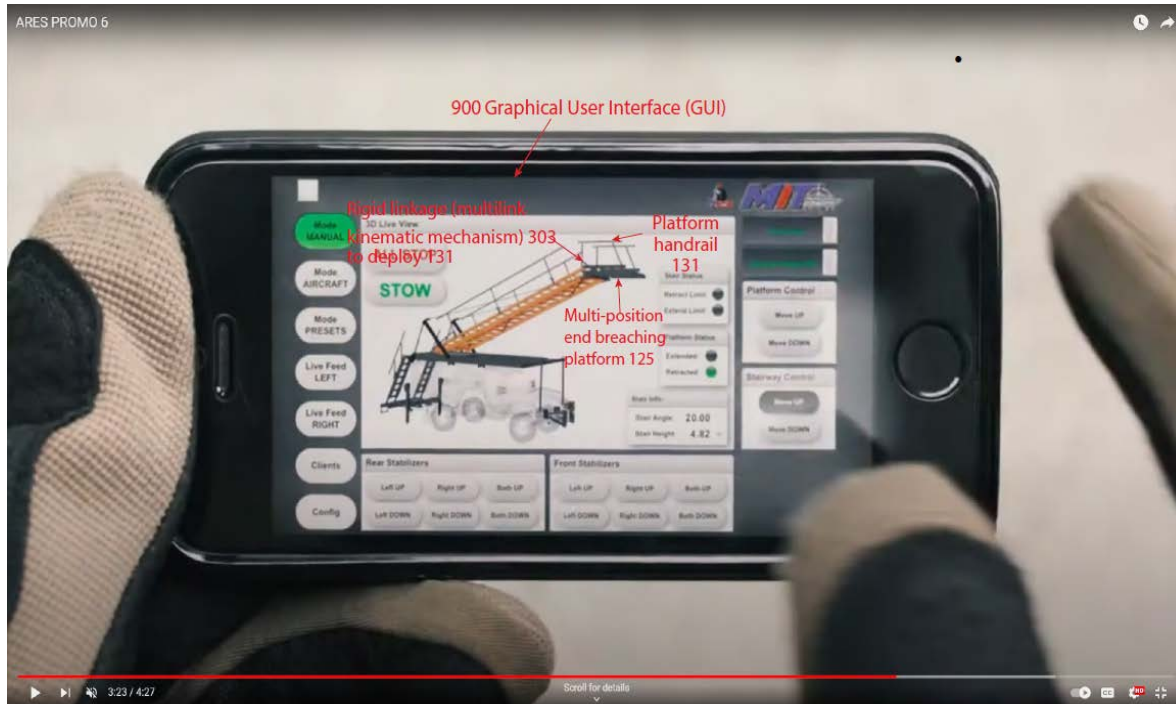
The ARES 6 video (Exs. 1007; 1010 at page 1) discloses the inclinable access handrail (130) is configured to extend into a deployed position by a plurality of linkages (115). Ex. 1021, Hayduk Decl. ¶86.

The ARES 6 video (Exs. 1007; 1010 at pages 1-4) discloses a multi-position end breaching platform (125) that is pivotably connected to the distal end (202) of the inclinable access structure (110). Ex. 1021, Hayduk Decl. ¶87.

The ARES 6 video (Exs. 1007; 1010 at page 5) discloses a platform handrail (131) positioned along and pivotably attached to the multi-position end breaching platform (125) and the platform handrail (131) is configured to extend

into a deployed position by an action of a multilink kinematic mechanism (303).

Ex. 1021, Hayduk Decl. ¶88.



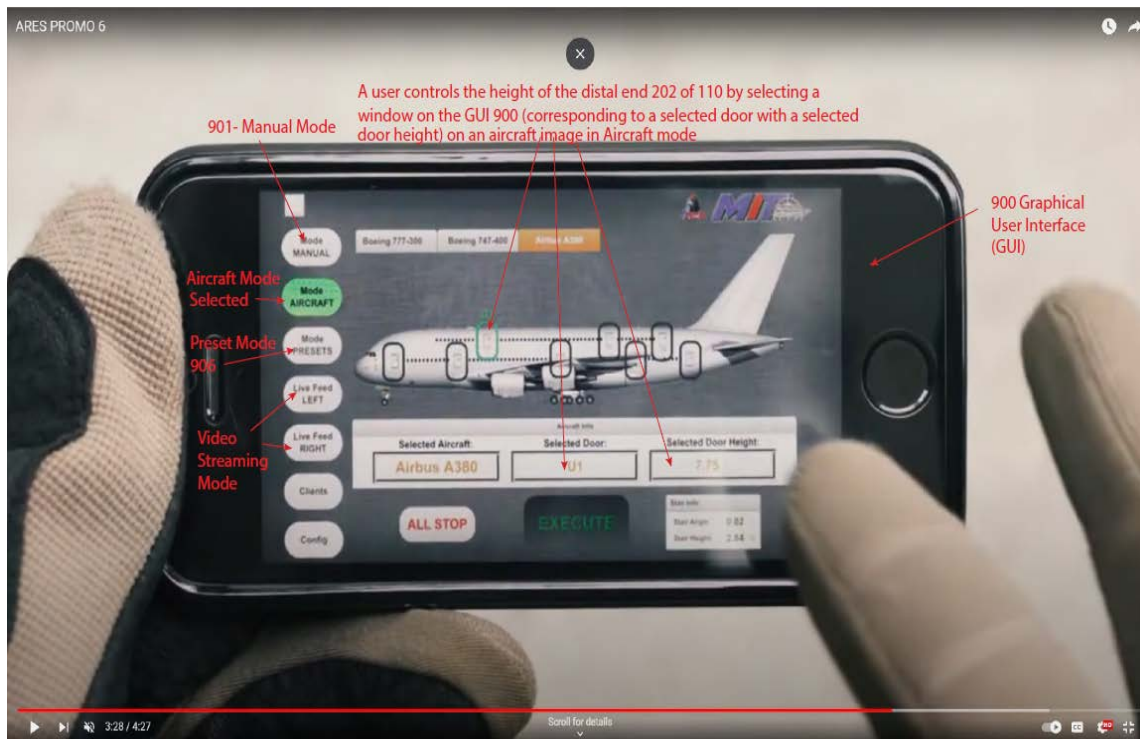
Ex.1010 at page 5.

The ARES 6 video (Exs. 1007 at 1min, 25-29 and 53-55secs; 1010 at pages 1, 2 and 4) discloses a plurality of secondary actuators (301) connected between the distal end (202) of the inclinable access structure (110) and the multi-position end breaching platform (125), wherein the secondary actuators (301) are configured to extend to pivot the multi-position end breaching platform (125) relative to the inclined access structure (110) and to transition a surface of the multi-position end breaching platform (125) into a series of stairs. Ex. 1021, Hayduk Decl. ¶89.

The ARES 6 video (Exs. 1007; 1010 at page 1) discloses wherein the inclinable access structure (110) further comprises a ramp (126). Ex. 1021, Hayduk Decl. ¶90.

The ARES 6 video (Exs. 1007; 1010 at page 2) discloses wherein the inclinable access structure (110) further comprises a plurality of stairs (113) and that the plurality of stairs (113) are configured to remain passively parallel to the ground (Fig. 1). Ex. 1021, Hayduk Decl. ¶91.

The ARES 6 video (Exs. 1007 at 3min, 18-41secs; 1010 at pages 3 and 6) discloses a controller (135) configured to control movement of the actuator 140. Ex. 1021, Hayduk Decl. ¶92.



Ex. 1010 at page 6.

The ARES 6 video (Exs. 1007; 1010 at pages 3, 5 and 6) discloses wherein the controller (135) is operated by a touchscreen user interface (900) comprising: a manual mode (901); a preset mode (906); a video streaming mode; and an aircraft mode. Ex. 1021, Hayduk Decl. ¶93.

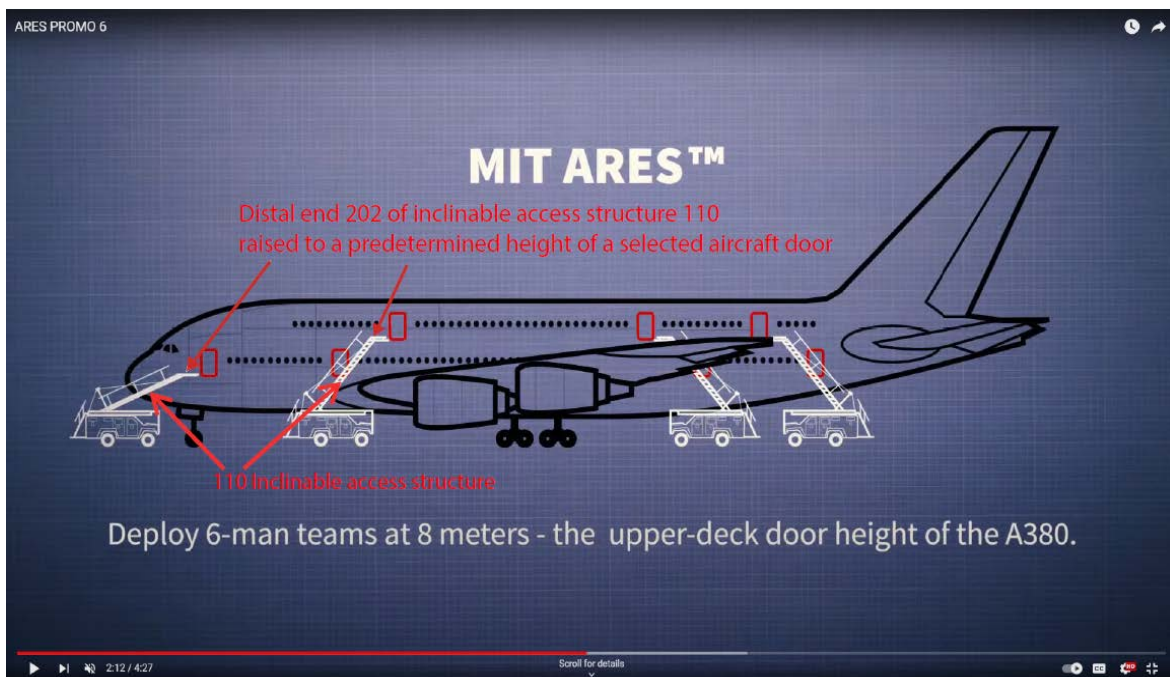
The ARES 6 video (Exs. 1107; 1010 at pages 6 and 7) and wherein the preset mode (906) is configured to allow a selection of pre-programmed heights of the distal end (202) of the inclinable access structure (110). Ex. 1021, Hayduk Decl. ¶94.

The ARES 6 video (Exs. 1007 at 3min, 23-30secs; 1010 at pages 3, 6 and 7) discloses wherein, in the aircraft mode, the touchscreen user interface (901) displays an aircraft, wherein, in the aircraft mode, the controller (135) is configured to allow for a selection of a pre-programmed height of the distal end (202) of the inclinable access structure (110) by selecting a window on the displayed aircraft. Ex. 1021, Hayduk Decl. ¶95.

The ARES 6 video (Exs. 1007 at 1min, 2-7secs; 1010 at pages 1 and 2) discloses the actuator is configured to pull the movable hinge carriages toward the actuator to raise the distal end of the inclinable access structure. Ex. 1021, Hayduk Decl. ¶96.

The ARES 6 video (Exs. 1007 at 3min, 23-30secs; 1010 at pages 1, 2, 3, 6 and 7) discloses by using a touchscreen user interface, the method comprising:

displaying, by the touchscreen user interface (901), an image of an aircraft;  
transmitting, by the touchscreen user interface (901), a preprogrammed height  
selected by a user by selecting a window on the image of the aircraft to a  
controller (125) of the vehicle-mounted access system; and raising, by the  
controller (135), a distal end (202) of an inclinable access structure (110)  
connected to the vehicle-mounted access system to the preprogrammed height.  
Ex. 1021, Hayduk Decl. ¶97.



Ex. 1010 at page 7.

**B. The Elevated ARES video (Ex. 1019)**

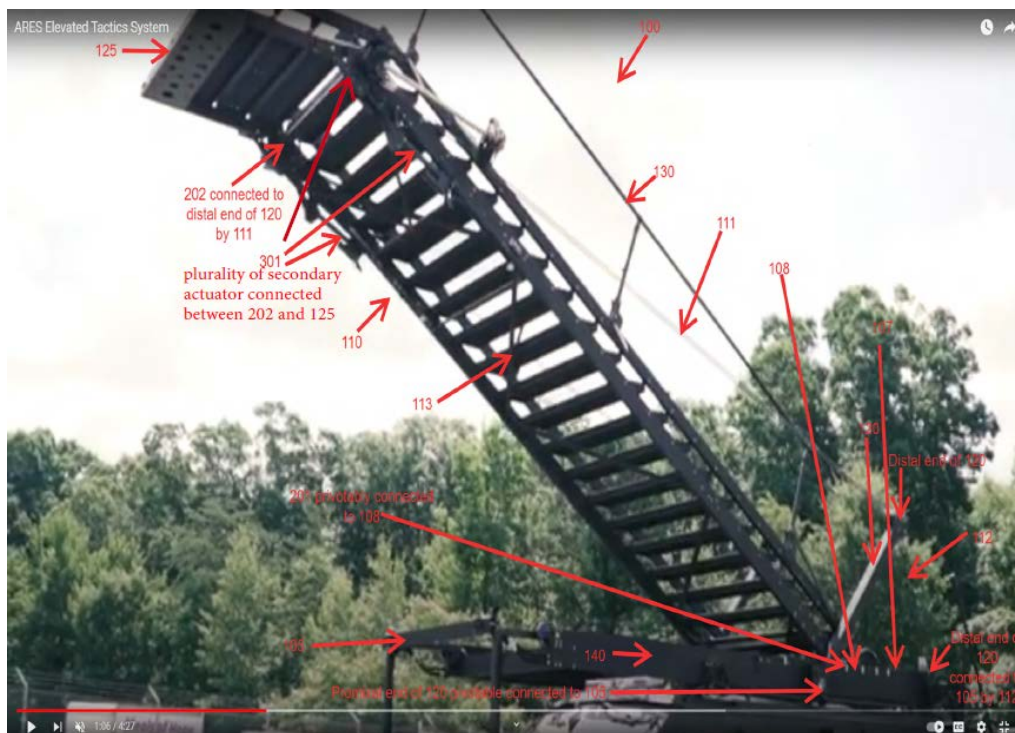
Ex. 1019, the Elevated ARES video, was published and continuously accessible to the public at the YouTube website at the URL <https://www.youtube.com/watch?v=oXIgPIKBAQ4> from November 13, 2018 to the present. Ex. 1004, Alubbad Decl. ¶¶28, 29. The URL at <https://www.youtube.com/watch?v=oXIgPIKBAQ4> for the ARES Elevated video (Ex. 1019) was digitally distributed to potential customers via the WhatsApp app in the days immediately after it was posted on YouTube on November 13, 2018. Ex. 1004, Alubbad Decl. ¶33.

And as explained by Mr. Hayduk, as a POSA, he searches “for and view videos on YouTube and other platforms for information regarding my client’s products.” Ex. 1021, Hayduk Decl. ¶99. YouTube is “a great resource to learn quickly about different structural products or devices that my clients may have some interest in.” *Id.* Accordingly, a POSA would regularly include a YouTube search, among other searches, to research for on-line video content such as the Elevated ARES video and would have understood it as relevant to the design of a vehicle mounted elevated system as of November 13, 2018. Exhibit 1022 illustrates how readily accessible the Elevated ARES video (Ex. 1019) is to a POSA performing a relevant search on the YouTube search engine since November 13, 2018. *Id.*

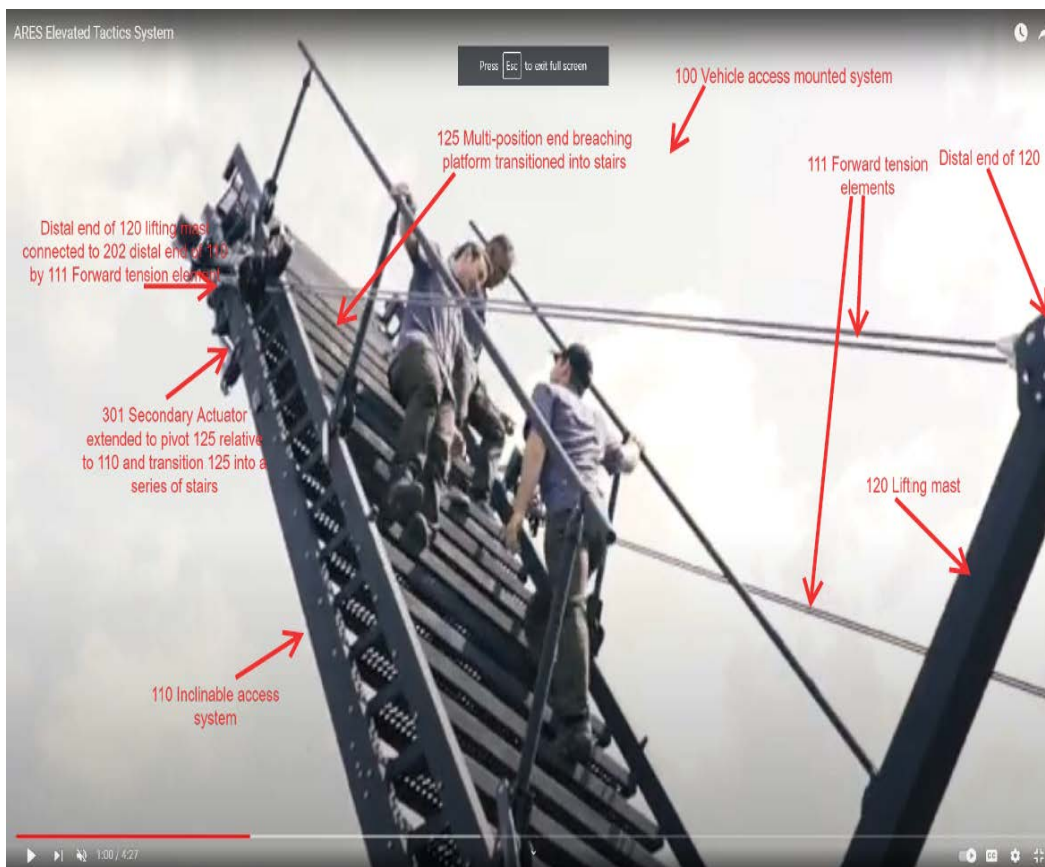
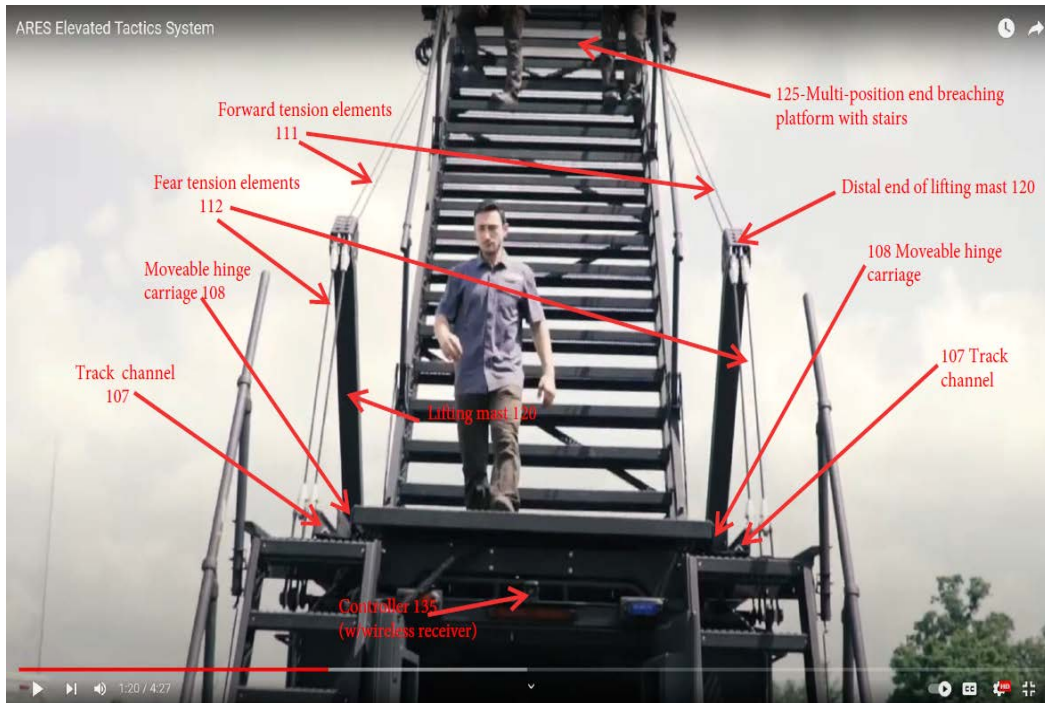
Thus, the Elevated ARES video, Ex. 1019, was published and widely disseminated by MIT at least as early as November 13, 2018 and therefore, qualifies as §102(a)(1) prior art because it was described in a printed publication and was accessible to the POSA before the earliest possible effective filing date of November 20, 2018 of the '677 Patent.

Ex. 1024 is a collection of screenshots from the Elevated ARES video (Ex. 1019), with red annotations added. Ex. 1004, Alubbad Decl. ¶32; Ex. 1021, Hayduk Decl. ¶100.

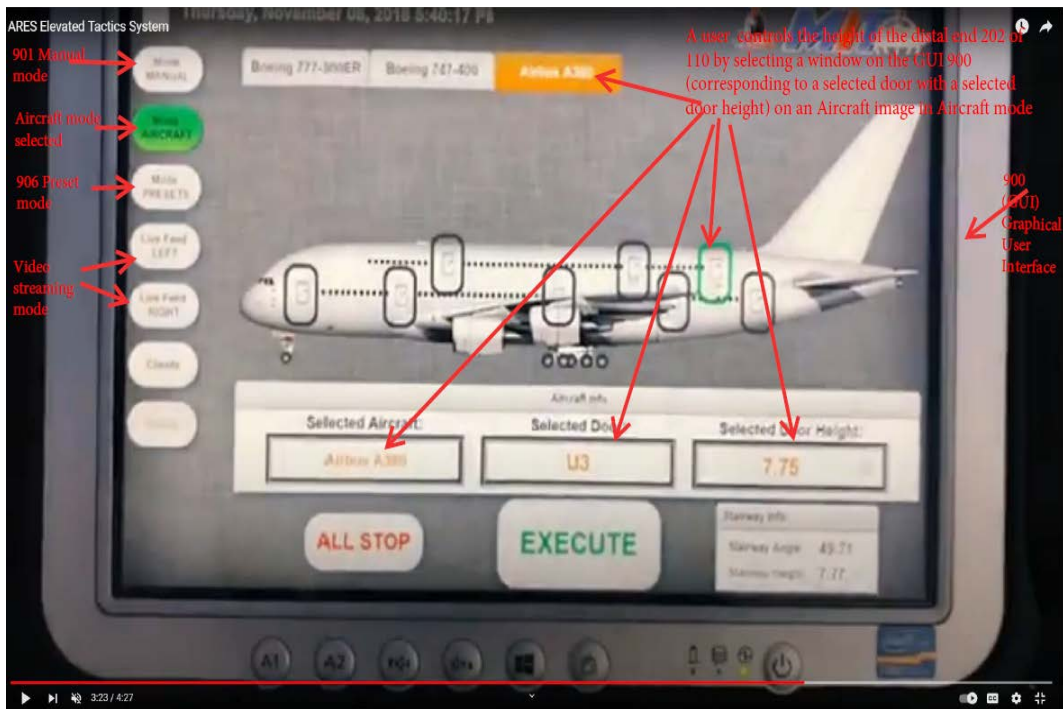
The screenshots shown in pages 1-4, 6 and 7 of Ex. 1024 taken from the Elevated ARES video (Ex. 1019) are identical or almost identical to the screenshots shown in pages 1-4, 6 and 8 of Ex. 1010 taken from the ARES 6 video. Ex. 1021, Hayduk Decl. ¶101. Therefore, the reasons provided in Section VII.A above are equally applicable to the disclosure of the Elevated ARES video (Ex. 1019) regarding the claim elements of the '677 patent (Ex. 1001).



Ex. 1024 at pages 1 and 2.

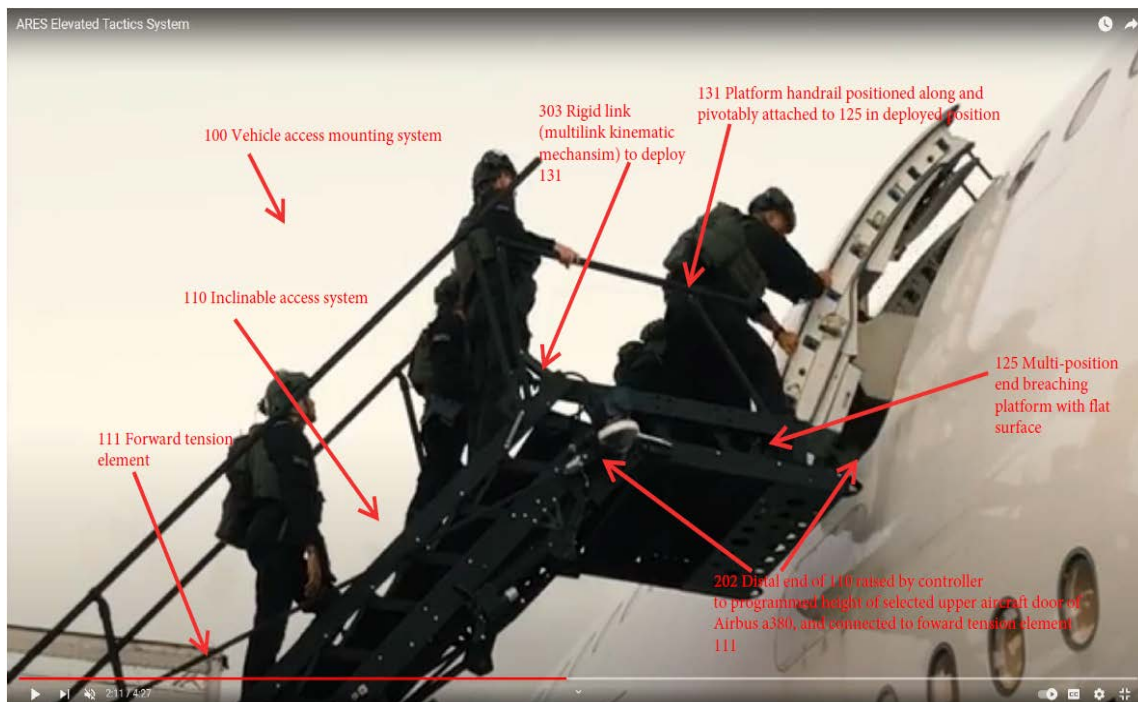


Ex. 1024 at pages 3 and 4.



Ex. 1024 at pages 6 and 7.

Additionally, the Elevated ARES video (Exs. 1019; 1024 at page 5) shows the ARES system being used to enter an upper deck fuselage door of an A380 aircraft. The Elevated ARES video (*id.*) discloses a platform handrail (131) positioned along and pivotably attached to the multi-position end breaching platform (125) and the platform handrail (131) is configured to extend into a deployed position by an action of a multilink kinematic mechanism (303).



Ex. 1024 at page 5.

### C. The Oct. 2017 brochure (Ex. 1014)

Exhibit 1014, the MIT's ARES Marketing Brochure ("The Oct. 2017 brochure") is a promotional brochure of the new generation ARES product that was created on October 31, 2017. Ex. 1004, Alubbad Decl. ¶¶16, 17, Ex. 1015.

MIT distributed dozens of hard copies of the Oct. 2017 brochure to attendees at MIT's exhibit site in November 2017 at the Milipol trade show. Ex. 1004, Alubbad Decl. ¶24. Copies of the Oct. 2017 brochure were also digitally distributed to potential customers via the WhatsApp app in the weeks before and after the Milipol trade show. Ex. 1004, Alubbad Decl. ¶¶25, 26. A copy of the Oct. 2017 brochure was emailed to a potential customer on November 8, 2017. Ex. 1004, Alubbad Decl. ¶18; Ex. 1016.

Thus, the Oct. 2017 brochure was published and widely disseminated by MIT at least as early as November 8, 2017, and therefore, qualifies as §102(a)(1) prior art because it was described in a printed publication and was accessible to the POSA before the earliest possible effective filing date of November 20, 2018 of the '677 Patent.

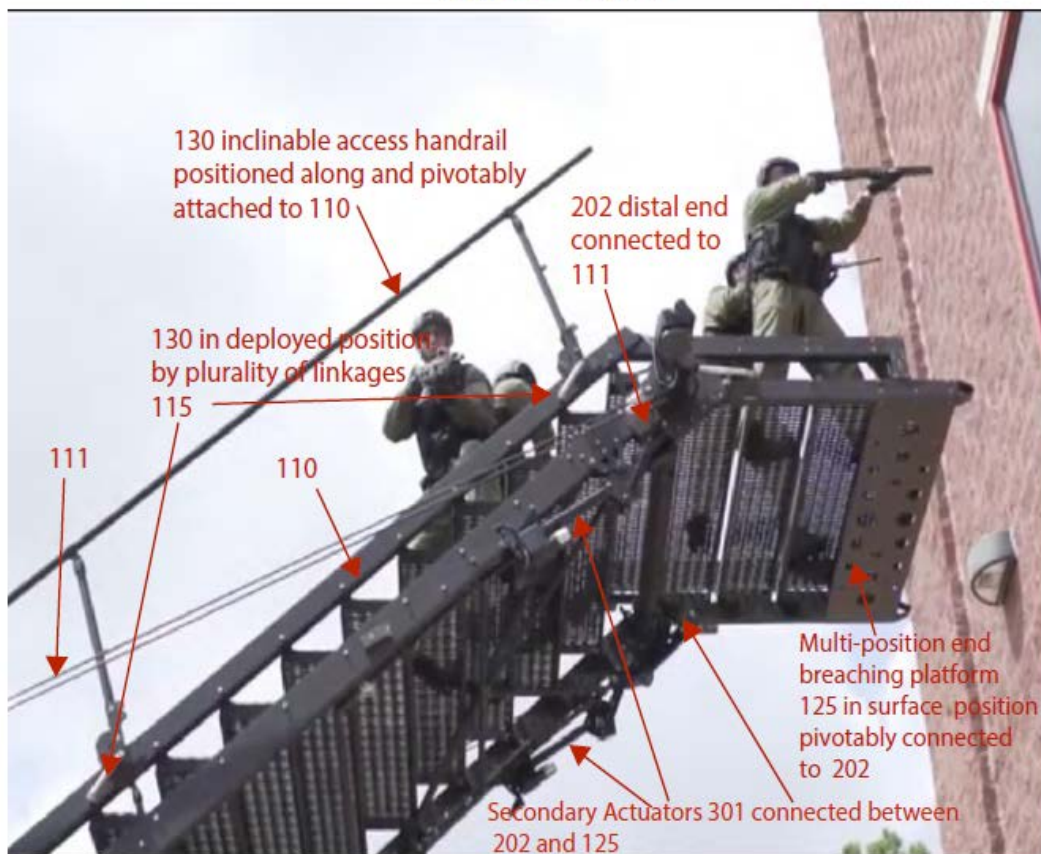
In the context of product catalogs, the Federal Circuit has "interpreted § 102 broadly, finding that even relatively obscure documents qualify as prior art so long as the relevant public has a means of accessing them." *GoPro, Inc. v. Contour IP Holding LLC*, 908 F.3d 690, 693, 695 (Fed. Cir. 2018) (finding a product catalog displayed and distributed to attendees at a show open *only* to dealers qualified as a printed publication).

Figures 2-7 on pages 7-12 of the Oct. 2017 brochure (Ex. 1014) are

substantially similar to the screenshots taken from the ARES 6 video provided on pages 2, 3, 5, 7, 6 and 8 of Ex. 1010, respectively, since the Oct. 2017 brochure (Ex. 1014) was created from the same July video shoot of the new generation ARES product as the ARES 6 video (Ex. 1010). Ex. 1004, Alubbad Decl. ¶¶4, 6, 16.

Therefore, the reasons provided in Section VII.A above are equally applicable to the disclosure of the Oct. 2017 brochure (Ex. 1014) regarding the claim elements of the '677 patent (Ex. 1001).

Brochure - Fig. 1

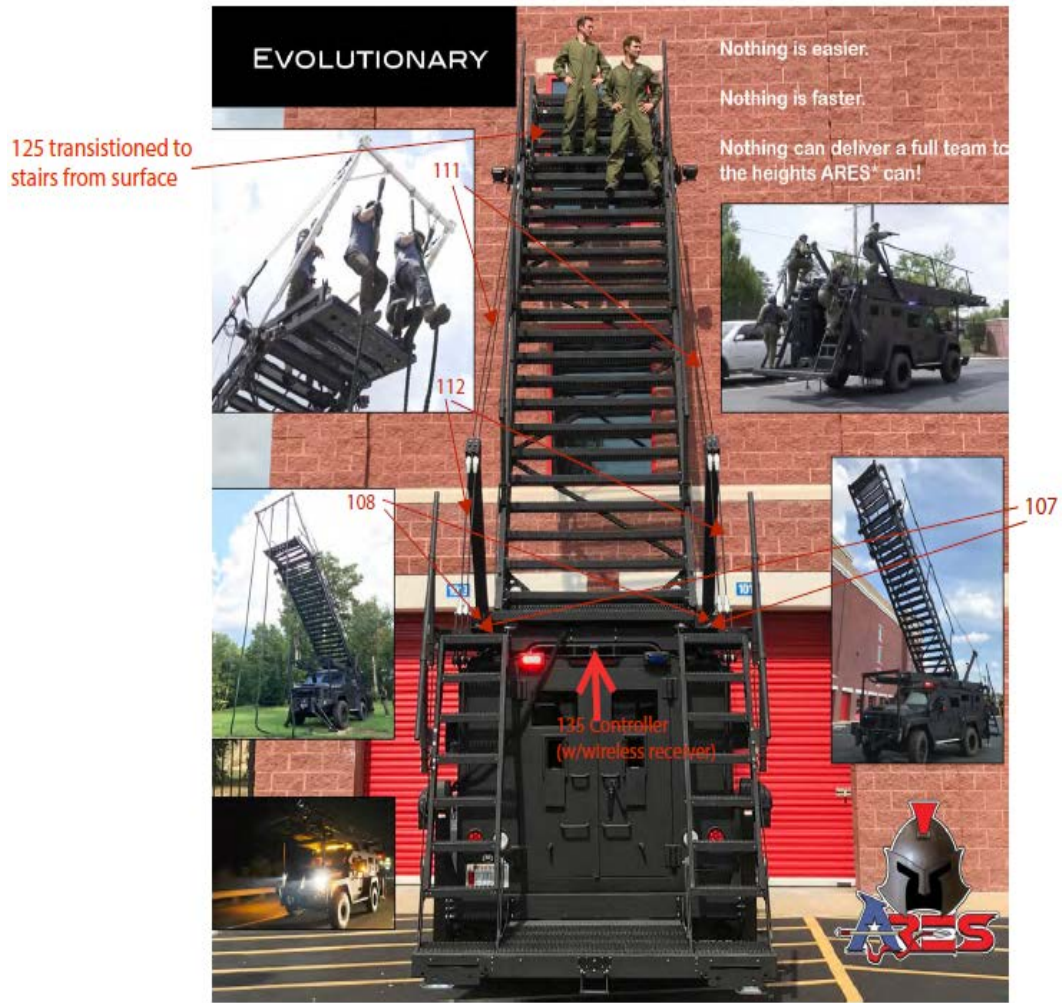


Ex. 1014 at page 6.

Brochure - Fig. 2



Brochure - Fig. 3



Ex. 1014 at pages 7 and 8.

Brochure - Fig. 4

Touchscreen graphical user interface 900

Rigid link 303 (multilink kinematic mechanism) to deploy platform handrail 131

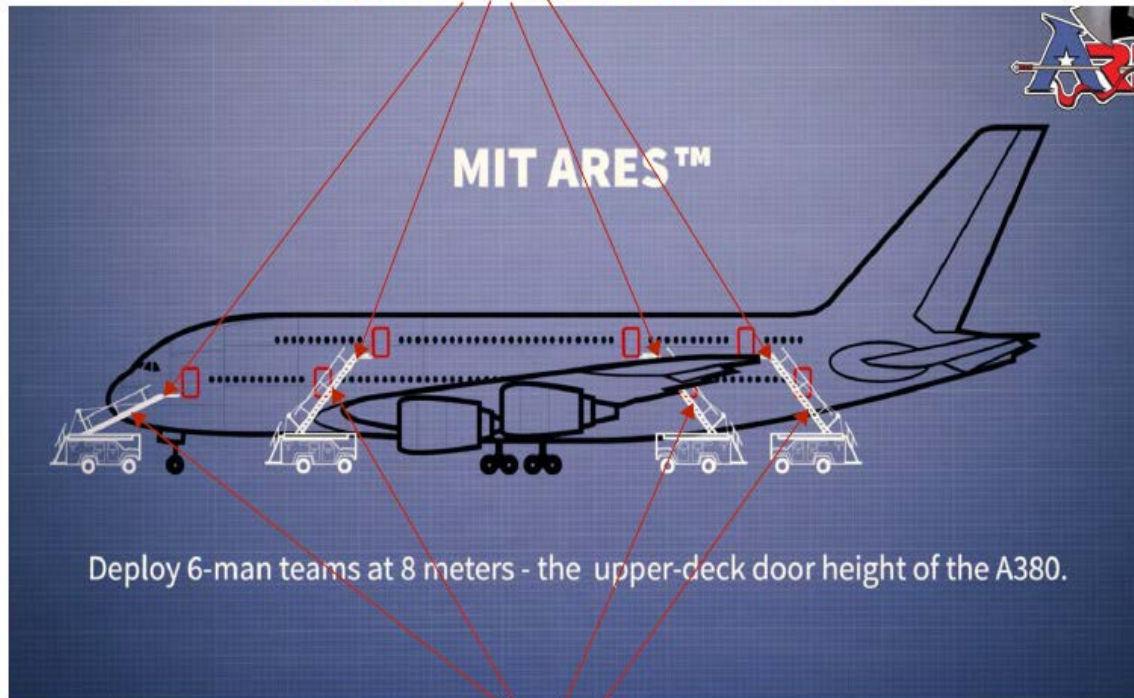


Platform handrail 131 (deployed) positioned along and pivotably attached to the multi-position end breaching platform 125

Multi-position end breaching platform 125

Brochure - Fig. 5

Distal ends 202 of inclinable access structures 110 raised to a predetermined height of selected aircraft doors



Inclinable access structure 110

Ex. 1014 at pages 9 and 10.

Brochure - Fig. 6

A user controls the height of the distal end 202 of 110 by selecting a window on the GUI (900) corresponding to a selected door with a selected door height) on an aircraft image in Aircraft Mode



Brochure - Fig. 7



Ex. 1014 at pages 11 and 12.

## **VIII. CLAIMS 1-7, 9-14, AND 16 ARE UNPATENTABLE**

### **A. Ground 1: Claims 1-17 Are Anticipated By The ARES 6 Video**

Exhibit 1007, the ARES 6 video, was published and continuously accessible to the public at the YouTube website at URL <https://www.youtube.com/watch?v=9gVnP18I39Q> from October 11, 2017 to the present and at <http://www.Mit.technology> which featured the YouTube link <https://www.youtube.com/watch?v=9gVnP18I39Q> from at least October 22, 2017 to at least November 20, 2018, as corroborated by the Internet Archive. Ex. 1004, Alubbad Decl. ¶¶ 6-15; Exs. 1008-1013.

And as explained by Mr. Hayduk, “a POSA would regularly include a YouTube search, among other searches, to research for on-line video content such as the ARES 6 video and would have understood it as relevant to the design of a vehicle mounted elevated tactical system as of October 11, 2017,” and that the ARES 6 video was readily accessible to a POSA performing a relevant search on the YouTube search engine since October 11, 2017. Ex. 1021, Hayduk Decl. ¶63.

And further as explained by Mr. Hayduk, “if a POSA was involved in researching vehicle mounted elevated systems during this time period, it would have been logical for them to search for and visit websites like MIT’s to learn more about vehicle mounted elevated systems used to access elevated structures such as

a building or an aircraft” and the YouTube link was readily accessible to a POSA visiting MIT’s website, since the YouTube link was provided on the homepage of MIT’s website. Ex. 1021, Hayduk Decl. ¶63.

The ARES 6 video (Ex. 1007) was accessible to the public at the Milipol 2017 trade show, since it was repeatedly played to the attendees, which numbered over 24,000, on a video monitor at MIT’s Exhibit site, with the Milipol 2017 trade show being open to the public. (Ex. 1004, Alubbad Decl. ¶¶19-23; Exs. 1017 and 1018).

Copies of the URL at <https://www.youtube.com/watch?v=9gVnP18I39Q> for the ARES 6 video (Ex. 1007) were digitally distributed via the WhatsApp app in the weeks before Milipol 2017 to generate customer interest in the new generation ARES product at Milipol 2017. Ex. 1004, Dec of Alubbad ¶ 27. An email highlighting the ARES 6 video (Ex. 1007) on MIT’s website was sent to a prospective client in early November 2017. Ex. 1004, Alubbad Decl. ¶16; Ex. 1016.

Thus, the ARES 6 video, Ex. 1007, was published and widely disseminated by MIT at least as early as October 11, 2017 and, therefore, qualifies as §102(a)(1) prior art because it was described in a printed publication and was accessible to the POSA before the earliest possible effective filing date of November 20, 2018 of

the '677 patent.

As shown in Section VII.A above, and as summarized in the table below, all of the limitations of claims 1-17 of the '677 patent are disclosed in the ARES 6 video, Ex. 1007. In particular, the ARES 6 video shows MIT's ARES mounted on a host vehicle having the exact same lifting apparatus for lifting an inclinable access structure (110) as provided in the '677 patent (Ex. 1001) and the two hydraulic cylinders (140) in the ARES (Exs. 1007 at 1min, 2-7secs; 1010 pages 1-3) are configured to deploy the ARES in the identical way as the actuators (140) are configured to deploy the inclinable access structure (110) or vehicle-mounted access system (100) in the '677 patent (Ex. 1001). Ex. 1021, Hayduk Decl. ¶¶68-79. For these reasons, claims 1-17 are invalid for anticipation under 35 U.S.C. §102(a)(1).

| <b>The '677 Patent Claims</b>                                                                                             | <b>The ARES 6 video</b>                                                                                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Claim 1. [a] A vehicle-mounted access system comprising: a fixed base structure comprising a plurality of track channels; | Claim 1. [a] A vehicle-mounted access system comprising (100): a fixed base structure (105) comprising a plurality of track channels (107);<br><b>See Ex. 1007; Ex. 1010 at Pages 1, 2 and 3</b> |
| [b] a plurality of movable hinge carriages respectively on and configured to move along the plurality of track channels;  | [b] a plurality of movable hinge carriages (108) respectively on and configured to move along the plurality of track channels (107);<br><b>See Ex. 1007; Ex. 1010 at Pages 1, 2 and 3</b>        |

| The '677 Patent Claims                                                                                                                                                                                | The ARES 6 video                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [c] an inclinable access structure having a proximal end and a distal end, the proximal end of the inclinable access structure being pivotably connected to the plurality of movable hinge carriages; | [c] an inclinable access structure (110) having a proximal end (201) and a distal end (202), the proximal end (201) of the inclinable access structure (110) being pivotably connected to the plurality of movable hinge carriages (108);<br><b>See Ex. 1007; Ex. 1010 at Pages 1 and 2</b> |
| [d] a lifting mast having a proximal end and a distal end,                                                                                                                                            | [d] a lifting mast (120) having a proximal end and a distal end,<br><b>See Ex. 1007; Ex. 1010 at Pages 1, 2 and 4</b>                                                                                                                                                                       |
| [e] the distal end of the lifting mast being connected to the distal end of the inclinable access structure by forward tension elements                                                               | [e] the distal end of the lifting mast (120) being connected to the distal end (202) of the inclinable access structure (110) by forward tension elements (111)<br><b>See Ex. 1007; Ex. 1010 at Pages 1, 2 and 4</b>                                                                        |
| [f] and being connected to the fixed base structure by rear tension elements,                                                                                                                         | [f] and being connected to the fixed base structure (105) by rear tension elements (112),<br><br><b>See Ex. 1007; Ex. 1010 at Pages 1 and 2</b>                                                                                                                                             |
| [g] the proximal end of the lifting mast being pivotably connected to the fixed base structure; and                                                                                                   | [g] the proximal end of the lifting mast (120) being pivotably connected to the fixed base structure (105);<br><br><b>See Ex. 1007; Ex. 1010 at Pages 1 and 2</b>                                                                                                                           |
| [h] an actuator connected between the movable hinge carriages and the fixed base structure,                                                                                                           | [h] an actuator (140) connected between the movable hinge carriages (108) and the fixed base structure (105),<br><b>See Ex. 1007; Ex. 1010 at Pages 1 and 2</b>                                                                                                                             |

| <b>The '677 Patent Claims</b>                                                                                                                                                                                       | <b>The ARES 6 video</b>                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [i] the actuator being configured to move the movable hinge carriages to raise the distal end of the inclinable access structure via the forward tension elements, the lifting mast, and the rear tension elements. | [i] the actuator (140) being configured to move the movable hinge carriages (108) to raise the distal end (202) of the inclinable access structure (110) via the forward tension elements (111), the lifting mast (120), and the rear tension elements (112).<br><br><b>See Ex. 1007 at 1min, 2-7secs; Ex. 1010 at Pages 1 and 2</b> |
| Claim 2. The vehicle-mounted access system of claim 1, further comprising an inclinable access handrail positioned along to and pivotably attached to the inclinable access structure.                              | an inclinable access handrail (130) positioned along to and pivotably attached to the inclinable access structure (110).<br><b>See Ex. 1007; Ex. 1010 at Pages 1 and 2</b>                                                                                                                                                           |
| Claim 3. The vehicle-mounted access system of claim 2, wherein the inclinable access handrail is configured to extend into a deployed position by a plurality of linkages.                                          | the inclinable access handrail (130) is configured to extend into a deployed position by a plurality of linkages (115).<br><b>See Ex. 1007; Ex. 1010 at Page 1</b>                                                                                                                                                                   |
| Claim 4. The vehicle-mounted access system of claim 1, further comprising a multi- position end breaching platform that is pivotably connected to the distal end of the inclinable access structure.                | a multi-position end breaching platform (125) that is pivotably connected to the distal end (202) of the inclinable access structure (110).<br><b>See Ex. 1007; Ex. 1010 at Pages 1-4</b>                                                                                                                                            |
| Claim 5. The vehicle-mounted access system of claim 4, further comprising a platform handrail positioned along and pivotably attached to the multi-position end breaching platform.                                 | a platform handrail (131) positioned along and pivotably attached to the multi-position end breaching platform (125).<br><b>See Ex. 1007; Ex. 1010 at Page 5</b>                                                                                                                                                                     |

| <b>The '677 Patent Claims</b>                                                                                                                                                                                                                                                                                         | <b>The ARES 6 video</b>                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Claim 6. The vehicle-mounted access system of claim 5, wherein the platform handrail is configured to extend into a deployed position by an action of a multilink kinematic mechanism.</p>                                                                                                                         | <p>the platform handrail (131) is configured to extend into a deployed position by an action of a multilink kinematic mechanism (303).<br/> <b>See Ex. 1007; Ex. 1010 at Page 5</b></p>                                                                                                                                                                                    |
| <p>Claim 7. The vehicle-mounted access system of claim 4, further comprising a plurality of secondary actuators connected between the distal end of the inclinable access structure and the multi-position end breaching platform.</p>                                                                                | <p>a plurality of secondary actuators (301) connected between the distal end (202) of the inclinable access structure (110) and the multi-position end breaching platform (125).<br/> <b>See Ex. 1007; Ex. 1010 at Pages 1, 2 and 4</b></p>                                                                                                                                |
| <p>Claim 8. The vehicle-mounted access system of claim 7, wherein the secondary actuators are configured to extend to pivot the multi-position end breaching platform relative to the inclined access structure and to transition a surface of the multi-position end breaching platform into a series of stairs.</p> | <p>wherein the secondary actuators (301) are configured to extend to pivot the multi-position end breaching platform (125) relative to the inclined access structure (110) and to transition a surface of the multi-position end breaching platform (125) into a series of stairs.<br/> <b>See Ex. 1007 at 1min, 25-29 and 53-55secs; Ex. 1010 at Pages 1, 2 and 4</b></p> |
| <p>Claim 9. The vehicle-mounted access system of claim 1, wherein the inclinable access structure further comprises a ramp.</p>                                                                                                                                                                                       | <p>wherein the inclinable access structure (110) further comprises a ramp (126).<br/> <b>See Ex. 1007; Ex. 1010 at Page 1</b></p>                                                                                                                                                                                                                                          |

| <b>The ‘677 Patent Claims</b>                                                                                                                                                                                       | <b>The ARES 6 video</b>                                                                                                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Claim 10. The vehicle-mounted access system of claim 1, wherein the inclinable access structure further comprises a plurality of stairs.                                                                            | wherein the inclinable access structure (110) further comprises a plurality of stairs (113, Fig. 1).<br><br><b>See Ex. 1007; Ex. 1010 at Page 2</b>                                                                                                        |
| Claim 11. The vehicle-mounted access system of claim 10, wherein the plurality of stairs are configured to remain passively parallel to the ground.                                                                 | wherein the plurality of stairs (113) are configured to remain passively parallel to the ground (Fig. 1).<br><br><b>See Ex. 1007; Ex. 1010 at Page 2</b>                                                                                                   |
| Claim 12. The vehicle-mounted access system of claim 1, further comprising a controller configured to control movement of the actuator.                                                                             | a controller (135) configured to control movement of the actuator (140).<br><br><b>See Ex. 1007 at 3min, 18-41secs; Ex. 1010 at Pages 3 and 6</b>                                                                                                          |
| Claim 13. The vehicle-mounted access system of claim 12, wherein the controller is operated by a touchscreen user interface comprising: a manual mode; a preset mode; a video streaming mode; and an aircraft mode. | wherein the controller (135) is operated by a touchscreen user interface (900) comprising: a manual mode (901); a preset mode (906); a video streaming mode; and an aircraft mode.<br><b>See Ex. 1007 at 3min, 18-41secs; Ex. 1010 at Pages 3, 5 and 6</b> |
| Claim 14. The vehicle-mounted access system of claim 13, wherein the preset mode is configured to allow a selection of pre-programmed heights of the distal end of the inclinable access structure.                 | wherein the preset mode (906) is configured to allow a selection of pre-programmed heights of the distal end (202) of the inclinable access structure (110).<br><br><b>See Ex. 1007; Ex. 1010 at Pages 6 and 7</b>                                         |

| <b>The '677 Patent Claims</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>The ARES 6 video</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Claim 15. The vehicle-mounted access system of claim 13, wherein, in the aircraft mode, the touchscreen user interface displays an aircraft, wherein, in the aircraft mode, the controller is configured to allow for a selection of a pre-programmed height of the distal end of the inclinable access structure by selecting a window on the displayed aircraft.</p>                                                                                                                                                         | <p>wherein, in the aircraft mode, the touchscreen user interface (900) displays an aircraft, wherein, in the aircraft mode, the controller (135) is configured to allow for a selection of a pre-programmed height of the distal end (202) of the inclinable access structure (110) by selecting a window on the displayed aircraft.</p> <p><b>See Ex. 1007 at 3 min, 23-30secs; Ex. 1010 at Pages 3, 6 and 7</b></p>                                                                                                                           |
| <p>Claim 16. The vehicle-mounted access system of claim 1, wherein the actuator is configured to pull the movable hinge carriages toward the actuator to raise the distal end of the inclinable access structure.</p>                                                                                                                                                                                                                                                                                                             | <p>the actuator is configured to pull the movable hinge carriages toward the actuator to raise the distal end of the inclinable access structure.</p> <p><b>See Ex. 1007 at 1min, 2-7secs; Ex. 1010 at Pages 1 and 2</b></p>                                                                                                                                                                                                                                                                                                                    |
| <p>Claim 17. A method for deploying the vehicle-mounted access system according to claim 1 by using a touchscreen user interface, the method comprising: displaying, by the touchscreen user interface, an image of an aircraft; transmitting, by the touchscreen user interface, a preprogrammed height selected by a user by selecting a window on the image of the aircraft to a controller of the vehicle-mounted access system; and raising, by the controller, a distal end of an inclinable access structure connected</p> | <p>by using a touchscreen user interface, the method comprising: displaying, by the touchscreen user interface (900), an image of an aircraft; transmitting, by the touchscreen user interface (900), a preprogrammed height selected by a user by selecting a window on the image of the aircraft to a controller (135) of the vehicle-mounted access system; and raising, by the controller (135), a distal end (202) of an inclinable access structure (110) connected to the vehicle-mounted access system to the preprogrammed height.</p> |

|                                                                   |                                                                            |
|-------------------------------------------------------------------|----------------------------------------------------------------------------|
| to the vehicle-mounted access system to the preprogrammed height. | <b>See Ex. 1007 at 3min, 23-30secs; Ex. 1010 at Pages 1, 2, 3, 6 and 7</b> |
|-------------------------------------------------------------------|----------------------------------------------------------------------------|

**B. Ground 2: Claims 1-17 Are Anticipated By The Elevated ARES Video**

Ex. 1019, the Elevated ARES video, was published and continuously accessible to the public at the YouTube website at the URL <https://www.youtube.com/watch?v=oXIGpIKBAQ4> from November 13, 2018 to the present. Ex. 1004, Alubbad Decl. ¶¶28, 29. The URL at <https://www.youtube.com/watch?v=oXIGpIKBAQ4> for the ARES Elevated video (Ex. 1019) was digitally distributed to potential customers via the WhatsApp app in the days immediately after it was posted on YouTube on November 13, 2018. Ex. 1004, Alubbad Decl. ¶33.

And as explained by Mr. Hayduk, “a POSA would regularly include a YouTube search, among other searches, to research for on-line video content such as the Elevated ARES video (Ex. 1019) and would have understood it as relevant to the design of a vehicle mounted elevated tactical system as of November 13, 2018,” and that the Elevated ARES video was readily accessible to a POSA performing a relevant search on the YouTube search engine since November 13, 2018. Ex. 1021, Hayduk Decl. ¶99.

Thus, the Elevated ARES video, Ex. 1019, was published and widely disseminated by MIT at least as early as November 13, 2018 and therefore, qualifies as §102(a)(1) prior art because it was described in a printed publication and was accessible to the POSA before the earliest possible effective filing date of November 20, 2018 of the ‘677 Patent.

As shown in Section VII.B above, and as summarized in the table below, all of the limitations of claims 1-17 of the ‘677 patent are disclosed in the Elevated ARES video, Ex. 1019. For these reasons, claims 1-17 are invalid for anticipation under 35 U.S.C. §102(a)(1).

| <b>The ‘677 Patent Claims</b>                                                                                                                                                                         | <b>The Elevated ARES video</b>                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Claim 1. [a] A vehicle-mounted access system comprising: a fixed base structure comprising a plurality of track channels;                                                                             | Claim 1. [a] A vehicle-mounted access system comprising (100): a fixed base structure (105) comprising a plurality of track channels (107);<br><b>See Ex. 1019; Ex. 1024 at Pages 1, 2 and 3</b>                                                                                            |
| [b] a plurality of movable hinge carriages respectively on and configured to move along the plurality of track channels;                                                                              | [b] a plurality of movable hinge carriages (108) respectively on and configured to move along the plurality of track channels (107);<br><b>See Ex. 1019; Ex. 1024 at Pages 1, 2 and 3</b>                                                                                                   |
| [c] an inclinable access structure having a proximal end and a distal end, the proximal end of the inclinable access structure being pivotably connected to the plurality of movable hinge carriages; | [c] an inclinable access structure (110) having a proximal end (201) and a distal end (202), the proximal end (201) of the inclinable access structure (110) being pivotably connected to the plurality of movable hinge carriages (108);<br><b>See Ex. 1019; Ex. 1024 at Pages 1 and 2</b> |

| The '677 Patent Claims                                                                                                                                                                                              | The Elevated ARES video                                                                                                                                                                                                                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [d] a lifting mast having a proximal end and a distal end,                                                                                                                                                          | [d] a lifting mast (120) having a proximal end and a distal end,<br><br><b>See Ex. 1019; Ex. 1024 at Pages 1, 2 and 4</b>                                                                                                                                                                                                            |
| [e] the distal end of the lifting mast being connected to the distal end of the inclinable access structure by forward tension elements                                                                             | [e] the distal end of the lifting mast (120) being connected to the distal end (202) of the inclinable access structure (110) by forward tension elements (111)<br><br><b>See Ex. 1019; Ex. 1024 at Pages 1, 2 and 4</b>                                                                                                             |
| [f] and being connected to the fixed base structure by rear tension elements,                                                                                                                                       | [f] and being connected to the fixed base structure (105) by rear tension elements (112),<br><br><b>See Ex. 1019; Ex. 1024 at Pages 1 and 2</b>                                                                                                                                                                                      |
| [g] the proximal end of the lifting mast being pivotably connected to the fixed base structure; and                                                                                                                 | [g] the proximal end of the lifting mast (120) being pivotably connected to the fixed base structure (105);<br><br><b>See Ex. 1019; Ex. 1024 at Pages 1 and 2</b>                                                                                                                                                                    |
| [h] an actuator connected between the movable hinge carriages and the fixed base structure,                                                                                                                         | [h] an actuator (140) connected between the movable hinge carriages (108) and the fixed base structure (105),<br><br><b>See Ex. 1019; Ex. 1024 at Pages 1 and 2</b>                                                                                                                                                                  |
| [i] the actuator being configured to move the movable hinge carriages to raise the distal end of the inclinable access structure via the forward tension elements, the lifting mast, and the rear tension elements. | [i] the actuator (140) being configured to move the movable hinge carriages (108) to raise the distal end (202) of the inclinable access structure (110) via the forward tension elements (111), the lifting mast (120), and the rear tension elements (112).<br><br><b>See Ex. 1019 at 1min, 2-7secs; Ex. 1024 at Pages 1 and 2</b> |

| <b>The '677 Patent Claims</b>                                                                                                                                                                               | <b>The Elevated ARES video</b>                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Claim 2. The vehicle-mounted access system of claim 1, further comprising an inclinable access handrail positioned along to and pivotably attached to the inclinable access structure.</p>               | <p>an inclinable access handrail (130) positioned along to and pivotably attached to the inclinable access structure (110).<br/> <b>See Ex. 1019; Ex. 1024 at Pages 1 and 2</b></p>                |
| <p>Claim 3. The vehicle-mounted access system of claim 2, wherein the inclinable access handrail is configured to extend into a deployed position by a plurality of linkages.</p>                           | <p>the inclinable access handrail (130) is configured to extend into a deployed position by a plurality of linkages (115).<br/> <b>See Ex. 1019; Ex. 1024 at Page 1</b></p>                        |
| <p>Claim 4. The vehicle-mounted access system of claim 1, further comprising a multi- position end breaching platform that is pivotably connected to the distal end of the inclinable access structure.</p> | <p>a multi-position end breaching platform (125) that is pivotably connected to the distal end (202) of the inclinable access structure (110).<br/> <b>See Ex. 1019; Ex. 1024 at Pages 1-4</b></p> |
| <p>Claim 5. The vehicle-mounted access system of claim 4, further comprising a platform handrail positioned along and pivotably attached to the multi-position end breaching platform.</p>                  | <p>a platform handrail (131) positioned along and pivotably attached to the multi-position end breaching platform (125).<br/> <b>See Ex. 1019; Ex. 1024 at Page 5</b></p>                          |

| The '677 Patent Claims                                                                                                                                                                                                                                                                                                | The Elevated ARES video                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Claim 6. The vehicle-mounted access system of claim 5, wherein the platform handrail is configured to extend into a deployed position by an action of a multilink kinematic mechanism.</p>                                                                                                                         | <p>the platform handrail (131) is configured to extend into a deployed position by an action of a multilink kinematic mechanism (303).<br/> <b>See Ex. 1019; Ex. 1024 at Page 5</b></p>                                                                                                                                                                         |
| <p>Claim 7. The vehicle-mounted access system of claim 4, further comprising a plurality of secondary actuators connected between the distal end of the inclinable access structure and the multi-position end breaching platform.</p>                                                                                | <p>a plurality of secondary actuators (301) connected between the distal end (202) of the inclinable access structure (110) and the multi-position end breaching platform (125).<br/> <b>See Ex. 1019; Ex. 1024 at Pages 1, 2 and 4</b></p>                                                                                                                     |
| <p>Claim 8. The vehicle-mounted access system of claim 7, wherein the secondary actuators are configured to extend to pivot the multi-position end breaching platform relative to the inclined access structure and to transition a surface of the multi-position end breaching platform into a series of stairs.</p> | <p>wherein the secondary actuators (301) are configured to extend to pivot the multi-position end breaching platform (125) relative to the inclined access structure (110) and to transition a surface of the multi-position end breaching platform (125) into a series of stairs<br/> <b>See Ex. 1019 at 1min, 23-25secs; Ex. 1024 at Pages 1, 2 and 4</b></p> |

| The '677 Patent Claims                                                                                                                                                                                                     | The Elevated ARES video                                                                                                                                                                                                                                            |
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| <p>Claim 9. The vehicle-mounted access system of claim 1, wherein the inclinable access structure further comprises a ramp.</p>                                                                                            | <p>wherein the inclinable access structure (110) further comprises a ramp (126).</p> <p><b>See Ex. 1019; Ex. 1024 at Page 1</b></p>                                                                                                                                |
| <p>Claim 10. The vehicle-mounted access system of claim 1, wherein the inclinable access structure further comprises a plurality of stairs.</p>                                                                            | <p>wherein the inclinable access structure (110) further comprises a plurality of stairs (113, Fig. 1).</p> <p><b>See Ex. 1019; Ex. 1010 at Page 2</b></p>                                                                                                         |
| <p>Claim 11. The vehicle-mounted access system of claim 10, wherein the plurality of stairs are configured to remain passively parallel to the ground.</p>                                                                 | <p>wherein the plurality of stairs (113) are configured to remain passively parallel to the ground (Fig. 1).</p> <p><b>See Ex. 1019; Ex. 1010 at Page 2</b></p>                                                                                                    |
| <p>Claim 12. The vehicle-mounted access system of claim 1, further comprising a controller configured to control movement of the actuator.</p>                                                                             | <p>a controller (135) configured to control movement of the actuator (140).</p> <p><b>See Ex. 1019 at 3min, 18-41secs; Ex. 1024 at Pages 3 and 6</b></p>                                                                                                           |
| <p>Claim 13. The vehicle-mounted access system of claim 12, wherein the controller is operated by a touchscreen user interface comprising: a manual mode; a preset mode; a video streaming mode; and an aircraft mode.</p> | <p>wherein the controller (135) is operated by a touchscreen user interface (900) comprising: a manual mode (901); a preset mode (906); a video streaming mode; and an aircraft mode.</p> <p><b>See Ex. 1019 at 3min, 18-41secs; Ex. 1024 at Pages 3 and 6</b></p> |

| <b>The '677 Patent Claims</b>                                                                                                                                                                                                                                                                                                                                             | <b>The Elevated ARES video</b>                                                                                                                                                                                                                                                                                                                                                                                       |
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| <p>Claim 14. The vehicle-mounted access system of claim 13, wherein the preset mode is configured to allow a selection of pre-programmed heights of the distal end of the inclinable access structure.</p>                                                                                                                                                                | <p>wherein the preset mode (906) is configured to allow a selection of pre-programmed heights of the distal end (202) of the inclinable access structure (110).</p> <p><b>See Ex. 1019; Ex. 1024 at Page 6</b></p>                                                                                                                                                                                                   |
| <p>Claim 15. The vehicle-mounted access system of claim 13, wherein, in the aircraft mode, the touchscreen user interface displays an aircraft, wherein, in the aircraft mode, the controller is configured to allow for a selection of a pre-programmed height of the distal end of the inclinable access structure by selecting a window on the displayed aircraft.</p> | <p>wherein, in the aircraft mode, the touchscreen user interface (900) displays an aircraft, wherein, in the aircraft mode, the controller (135) is configured to allow for a selection of a pre-programmed height of the distal end (202) of the inclinable access structure (110) by selecting a window on the displayed aircraft.</p> <p><b>See Ex. 1019 at 3min, 23-30secs; Ex. 1024 at Pages 3, 5 and 6</b></p> |
| <p>Claim 16. The vehicle-mounted access system of claim 1, wherein the actuator is configured to pull the movable hinge carriages toward the actuator to raise the distal end of the inclinable access structure.</p>                                                                                                                                                     | <p>the actuator is configured to pull the movable hinge carriages toward the actuator to raise the distal end of the inclinable access structure.</p> <p><b>See Ex. 1019 at 1min, 2-7secs; Ex. 1024 at Pages 1 and 2</b></p>                                                                                                                                                                                         |
| <p>Claim 17. A method for deploying the vehicle-mounted access system according to claim 1 by using a touchscreen user interface, the method comprising: displaying, by the touchscreen</p>                                                                                                                                                                               | <p>by using a touchscreen user interface, the method comprising: displaying, by the touchscreen user interface (900), an image of an aircraft; transmitting, by the touchscreen user interface (900), a preprogrammed height selected by a user by selecting a window on the image of</p>                                                                                                                            |

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| user interface, an image of an aircraft; transmitting, by the touchscreen user interface, a preprogrammed height selected by a user by selecting a window on the image of the aircraft to a controller of the vehicle-mounted access system; and raising, by the controller, a distal end of an inclinable access structure connected to the vehicle-mounted access system to the preprogrammed height. | the aircraft to a controller (135) of the vehicle-mounted access system; and raising, by the controller (135), a distal end (202) of an inclinable access structure (110) connected to the vehicle-mounted access system to the preprogrammed height.<br><br><b>Ex. 1019 at 3min, 23-25secs;</b><br><b>Ex. 1024 at Pages 1, 2, 3, 5 and 6</b> |
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**C. Ground 3: Claims 1-8 and 10-17 Are Anticipated by the Oct. 2017 Brochure**

Exhibit 1014, the MIT's ARES Marketing Brochure, was distributed to attendees at MIT's exhibit site in November 2017 at the Milipol trade show. Ex. 1004, Alubbad Decl. ¶24. Copies of the Oct. 2017 brochure were also digitally distributed to potential customers via the WhatsApp app in the weeks before and after the Milipol trade show. Ex. 1004, Alubbad Decl. ¶¶25, 26. A copy of the Oct. 2017 brochure was emailed to a potential customer on November 8, 2017. Ex. 1004, Alubbad Decl. ¶18; Ex. 1016.

Thus, the Oct. 2017 brochure was published and widely disseminated by MIT at least as early as November 8, 2017, and therefore, qualifies as §102(a)(1) prior art because it was described in a printed publication and was accessible to the

POSA before the earliest possible effective filing date of November 20, 2018 of the ‘677 Patent.

As shown in Section VII.C above, and as summarized in the table below, all of the limitations of claims 1-8 and 10-17 of the ‘677 patent are disclosed in the Oct. 2017 brochure, Ex. 1014. For these reasons, claims 1-8 and 10-17 are invalid for anticipation under 35 U.S.C. §102(a)(1).

| <b>The ‘677 Patent Claims</b>                                                                                                                                                                         | <b>The Oct. 2017 Brochure</b>                                                                                                                                                                                                                                                     |
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| Claim 1. [a] A vehicle-mounted access system comprising: a fixed base structure comprising a plurality of track channels;                                                                             | Claim 1. [a] A vehicle-mounted access system comprising (100): a fixed base structure (105) comprising a plurality of track channels (107);<br><br><b>Ex. 1014 at Pages 7 and 8</b>                                                                                               |
| [b] a plurality of movable hinge carriages respectively on and configured to move along the plurality of track channels;                                                                              | [b] a plurality of movable hinge carriages (108) respectively on and configured to move along the plurality of track channels (107);<br><br><b>Ex. 1014 at Pages 7 and 8</b>                                                                                                      |
| [c] an inclinable access structure having a proximal end and a distal end, the proximal end of the inclinable access structure being pivotably connected to the plurality of movable hinge carriages; | [c] an inclinable access structure (110) having a proximal end (201) and a distal end (202), the proximal end (201) of the inclinable access structure (110) being pivotably connected to the plurality of movable hinge carriages (108);<br><br><b>Ex. 1014 at Pages 7 and 8</b> |

| The '677 Patent Claims                                                                                                                                                                                              | The Oct. 2017 Brochure                                                                                                                                                                                                                                                                            |
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| [d] a lifting mast having a proximal end and a distal end,                                                                                                                                                          | [d] a lifting mast (120) having a proximal end and a distal end,<br><b>Ex. 1014 at Pages 7 and 8</b>                                                                                                                                                                                              |
| [e] the distal end of the lifting mast being connected to the distal end of the inclinable access structure by forward tension elements                                                                             | [e] the distal end of the lifting mast (120) being connected to the distal end (202) of the inclinable access structure (110) by forward tension elements (111)<br><b>Ex. 1014 at Pages 6, 7 and 8</b>                                                                                            |
| [f] and being connected to the fixed base structure by rear tension elements,                                                                                                                                       | [f] and being connected to the fixed base structure (105) by rear tension elements (112),<br><b>Ex. 1014 at Pages 7 and 8</b>                                                                                                                                                                     |
| [g] the proximal end of the lifting mast being pivotably connected to the fixed base structure; and                                                                                                                 | [g] the proximal end of the lifting mast (120) being pivotably connected to the fixed base structure (105);<br><b>Ex. 1014 at Pages 7 and 8</b>                                                                                                                                                   |
| [h] an actuator connected between the movable hinge carriages and the fixed base structure,                                                                                                                         | [h] an actuator (140) connected between the movable hinge carriages (108) and the fixed base structure (105),<br><b>Ex. 1014 at Pages 7 and 8</b>                                                                                                                                                 |
| [i] the actuator being configured to move the movable hinge carriages to raise the distal end of the inclinable access structure via the forward tension elements, the lifting mast, and the rear tension elements. | [i] the actuator (140) being configured to move the movable hinge carriages (108) to raise the distal end (202) of the inclinable access structure (110) via the forward tension elements (111), the lifting mast (120), and the rear tension elements (112).<br><b>Ex. 1014 at Pages 7 and 8</b> |

| <b>The '677 Patent Claims</b>                                                                                                                                                                               | <b>The Oct. 2017 Brochure</b>                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Claim 2. The vehicle-mounted access system of claim 1, further comprising an inclinable access handrail positioned along to and pivotably attached to the inclinable access structure.</p>               | <p>an inclinable access handrail (130) positioned along to and pivotably attached to the inclinable access structure (110).</p> <p><b>Ex. 1014 at Pages 6 and 7</b></p>                        |
| <p>Claim 3. The vehicle-mounted access system of claim 2, wherein the inclinable access handrail is configured to extend into a deployed position by a plurality of linkages.</p>                           | <p>the inclinable access handrail (130) is configured to extend into a deployed position by a plurality of linkages (115).</p> <p><b>Ex. 1014 at Page 6</b></p>                                |
| <p>Claim 4. The vehicle-mounted access system of claim 1, further comprising a multi- position end breaching platform that is pivotably connected to the distal end of the inclinable access structure.</p> | <p>a multi- position end breaching platform (125) that is pivotably connected to the distal end (202) of the inclinable access structure (110).</p> <p><b>Ex. 1014 at Pages 6, 7 and 8</b></p> |
| <p>Claim 5. The vehicle-mounted access system of claim 4, further comprising a platform handrail positioned along and pivotably attached to the multi-position end breaching platform.</p>                  | <p>a platform handrail (131) positioned along and pivotably attached to the multi-position end breaching platform (125).</p> <p><b>Ex. 1014 at Page 9</b></p>                                  |

| <b>The '677 Patent Claims</b>                                                                                                                                                                                                                                                                                         | <b>The Oct. 2017 Brochure</b>                                                                                                                                                                                                                                                                                                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Claim 6. The vehicle-mounted access system of claim 5, wherein the platform handrail is configured to extend into a deployed position by an action of a multilink kinematic mechanism.</p>                                                                                                                         | <p>the platform handrail (131) is configured to extend into a deployed position by an action of a multilink kinematic mechanism (303).</p> <p><b>Ex. 1014 at Page 9</b></p>                                                                                                                                                          |
| <p>Claim 7. The vehicle-mounted access system of claim 4, further comprising a plurality of secondary actuators connected between the distal end of the inclinable access structure and the multi-position end breaching platform.</p>                                                                                | <p>a plurality of secondary actuators (301) connected between the distal end (202) of the inclinable access structure (110) and the multi-position end breaching platform (125).</p> <p><b>Ex. 1014 at Page 6</b></p>                                                                                                                |
| <p>Claim 8. The vehicle-mounted access system of claim 7, wherein the secondary actuators are configured to extend to pivot the multi-position end breaching platform relative to the inclined access structure and to transition a surface of the multi-position end breaching platform into a series of stairs.</p> | <p>wherein the secondary actuators (301) are configured to extend to pivot the multi-position end breaching platform (125) relative to the inclined access structure (110) and to transition a surface of the multi-position end breaching platform (125) into a series of stairs (see Fig. 8).</p> <p><b>Ex. 1014 at Page 6</b></p> |
| <p>Claim 10. The vehicle-mounted access system of claim 1, wherein the inclinable access structure further comprises a plurality of stairs.</p>                                                                                                                                                                       | <p>wherein the inclinable access structure (110) further comprises a plurality of stairs (126, Fig. 1).</p> <p><b>Ex. 1014 at Pages 6, 7 and 8</b></p>                                                                                                                                                                               |

| <b>The '677 Patent Claims</b>                                                                                                                                                                                              | <b>The Oct. 2017 Brochure</b>                                                                                                                                                                                                     |
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| <p>Claim 11. The vehicle-mounted access system of claim 10, wherein the plurality of stairs are configured to remain passively parallel to the ground.</p>                                                                 | <p>wherein the plurality of stairs (113) are configured to remain passively parallel to the ground (Fig. 1).</p> <p><b>Ex. 1014 at Pages 6, 7 and 8</b></p>                                                                       |
| <p>Claim 12. The vehicle-mounted access system of claim 1, further comprising a controller configured to control movement of the actuator.</p>                                                                             | <p>a controller (125) configured to control movement of the actuator (140).</p> <p><b>Ex. 1014 at Pages 8, 9 and 11</b></p>                                                                                                       |
| <p>Claim 13. The vehicle-mounted access system of claim 12, wherein the controller is operated by a touchscreen user interface comprising: a manual mode; a preset mode; a video streaming mode; and an aircraft mode.</p> | <p>wherein the controller (135) is operated by a touchscreen user interface (900) comprising: a manual mode (901); a preset mode (906); a video streaming mode; and an aircraft mode</p> <p><b>Ex. 1014 at Pages 9 and 11</b></p> |
| <p>Claim 14. The vehicle-mounted access system of claim 13, wherein the preset mode is configured to allow a selection of pre-programmed heights of the distal end of the inclinable access structure.</p>                 | <p>wherein the preset mode (906) is configured to allow a selection of pre-programmed heights of the distal end (202) of the inclinable access structure (110), (see Fig. 9).</p> <p><b>Ex. 1014 at Pages 10 and 11</b></p>       |

| <b>The '677 Patent Claims</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>The Oct. 2017 Brochure</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Claim 15. The vehicle-mounted access system of claim 13, wherein, in the aircraft mode, the touchscreen user interface displays an aircraft, wherein, in the aircraft mode, the controller is configured to allow for a selection of a pre-programmed height of the distal end of the inclinable access structure by selecting a window on the displayed aircraft.</p>                                                                                                                   | <p>wherein, in the aircraft mode, the touchscreen user interface (900) displays an aircraft, wherein, in the aircraft mode, the controller (135) is configured to allow for a selection of a pre-programmed height of the distal end (202) of the inclinable access structure (110) by selecting a window on the displayed aircraft (see Fig. 10).</p> <p><b>Ex. 1014 at Pages 10 and 11</b></p>                                                                                                                                                |
| <p>Claim 16. The vehicle-mounted access system of claim 1, wherein the actuator is configured to pull the movable hinge carriages toward the actuator to raise the distal end of the inclinable access structure.</p>                                                                                                                                                                                                                                                                       | <p>the actuator is configured to pull the movable hinge carriages toward the actuator to raise the distal end of the inclinable access structure.</p> <p><b>Ex. 1014 at Pages 7 and 8</b></p>                                                                                                                                                                                                                                                                                                                                                   |
| <p>Claim 17. A method for deploying the vehicle-mounted access system according to claim 1 by using a touchscreen user interface, the method comprising: displaying, by the touchscreen user interface, an image of an aircraft; transmitting, by the touchscreen user interface, a preprogrammed height selected by a user by selecting a window on the image of the aircraft to a controller of the vehicle-mounted access system; and raising, by the controller, a distal end of an</p> | <p>by using a touchscreen user interface, the method comprising: displaying, by the touchscreen user interface (900), an image of an aircraft; transmitting, by the touchscreen user interface (900), a preprogrammed height selected by a user by selecting a window on the image of the aircraft to a controller (135) of the vehicle-mounted access system; and raising, by the controller (135), a distal end (202) of an inclinable access structure (110) connected to the vehicle-mounted access system to the preprogrammed height.</p> |

|                                                                                                         |                                             |
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| inclinable access structure connected to the vehicle-mounted access system to the preprogrammed height. | <b>Ex. 1014 at Pages 6, 7, 8, 10 and 11</b> |
|---------------------------------------------------------------------------------------------------------|---------------------------------------------|

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**IX. CONCLUSION**

For the foregoing reasons, the Petitioners respectfully request that this Petition be granted, and that the Board cancel claims 1-17 of the '677 patent as unpatentable.

Respectfully submitted,

August 7, 2023

/Thomas E. Brown/

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**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that, pursuant to 37 CFR §§ 42.6(e) and 42.105(a), copies of this petition (including its exhibits) and the other papers transmitting and accompanying this petition to the Patent Office are being deposited on August 7, 2023, with FedEx Express (a commercial overnight delivery service), for overnight delivery, shipping charges paid (Label No. 7729 7573 6663), in a box addressed to:

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which is the correspondence address of record (37 CFR § 1.33(c)) indicated in the Patent Office's public PAIR system for U.S. Patent No. 11,174,677.

August 7, 2023

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