IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

MONUMENT PEAK VENTURES, LLC, *Plaintiff*, v. SENSORMATIC ELECTRONICS, LLC and JOHNSON CONTROLS, INC., *Defendants.*	§ § § § § § § § § §	Case No. 6:21-cv-01009-ADA

PLAINTIFF'S FIRST AMENDED COMPLAINT

Monument Peak Ventures, LLC ("MPV" or "Plaintiff"), by and through the undersigned counsel, hereby brings this action and makes the following allegations of patent infringement relating to U.S. Patent Nos. 7,106,333 (the "'333 Patent"), 7,212,668 (the "'668 Patent"), 7,730,036 (the "'036 Patent"), 8,024,311 (the "'311 Patent"), 8,305,452 (the "'452 Patent"), 8,643,746 (the "'746 Patent"), 8,665,345 (the "'345 Patent"), 8,842,155 (the "'155 Patent"), and 9,013,604 (the "'604 Patent") (collectively the "Asserted Patents") against Defendants Sensormatic Electronics, LLC ("Sensormatic") and Johnson Controls, Inc. ("JCI") (collectively, "Defendants") as follows, upon actual knowledge with respect to itself and its own acts, and upon information and belief as to all other matters:

I. PARTIES

1. Monument Peak Ventures, LLC ("MPV") is a Texas limited liability company with its principal place of business in Allen, Texas.

2. Sensormatic Electronics, LLC is a wholly owned subsidiary of Johnson Controls International, plc and is a company organized and existing under the laws of the State of Nevada and, by agreement (Dkt. No. 11), may be served electronically through its counsel Michael E. Jones at mikejones@potterminton.com.

3. Johnson Controls, Inc. is a Wisconsin Corporation registered to do business in Texas and may be served through its registered agent for service of process, CT Corporation at 1999 Bryan St., Ste. 900, Dallas, TX 75201.

II.
JURISDICTION AND VENUE

4. The Court has federal question jurisdiction under 28 U.S.C. §§ 1331, 1332, 1338, and 1367.

5. Venue is proper in this Court pursuant to 28 U.S.C. §§ 1391 and 1400(b). Upon information and belief, Defendants maintain a regular and established place of business and commit regular acts of infringement within this District by (a) selling, offering to sell, and importing its infringing products within the District; (b) using its infringing products and performing infringing methods regularly within the District; and (c) making its infringing products through infringing methods and processes within the District.

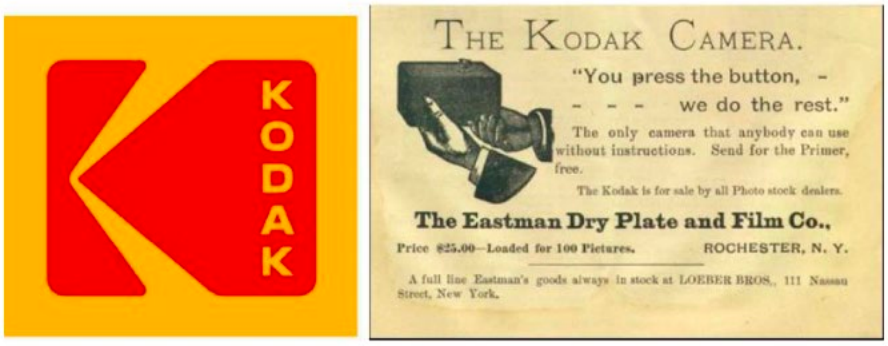
6. Furthermore, Defendant JCI maintains a regular and established place of business at a "Waco Office" located at 18 South Main Street, Suite 902, Temple, TX 76501. Defendant Sensormatic maintains regular and established places of business in this District, *inter alia*, an office in El Paso, Texas.

III.
FACTS

7. The Asserted Patents claim inventions born from the ingenuity of technology pioneering companies including the '333 Patent from Vistascape Security Systems Corp. (now

SIEMENS), and from the Eastman Kodak Company ("Kodak"), an iconic American imaging technology company that dates back to the late 1800s.

8. The first model of a Kodak camera was released in 1888.



9. In 1935 Kodak introduced "Kodachrome," a color reversal stock for movie and slide film.

10. In 1963 Kodak introduced the Instamatic camera, an easy-to-load point-and-shoot camera.

11. By 1976 Kodak was responsible for 90% of the photographic film and 85% of the cameras sold in the United States.

12. At the peak of its domination of the camera industry, Kodak invented the first self-contained digital camera in 1975.

13. By 1986 Kodak had created the first megapixel sensor that was capable of recording 1,400,000 pixels.

14. While innovating in the digital imaging space Kodak developed an immense patent portfolio and extensively licensed its technology in the space.

15. In 2010, Kodak received $838,000,000 in patent licensing revenue.

16. As part of a reorganization of its business, Kodak sold many of its patents to some of its biggest names in technology that include Google, Facebook, Amazon, Microsoft, Samsung, Adobe Systems, HTC and others for $525,000,000.

17. While scores of digital imaging companies have paid to license the Kodak patent portfolio owned by MPV, Defendants, without justification, have refused to do so.

A. Nature of the Action

18. MPV is the owner by assignment of all right, title and interest in and to the ’333 Patent, the ’668 Patent, the ’036 Patent, the ’311 Patent, the ’452 Patent, the ’746 Patent, the ’345 Patent, the ’155 Patent, and the ’604 Patent.

19. This is an action for direct and indirect patent infringement.

20. MPV alleges that Defendants have infringed and continue to infringe, directly and indirectly, the ’333 Patent, the ’668 Patent, the ’036 Patent, the ’311 Patent, the ’452 Patent, the

'746 Patent, the '345 Patent, the '155 Patent, and the '604 Patent.

21. A true and correct copy of the '333 Patent is attached as Exhibit A to this Complaint.

22. The USPTO granted the '333 Patent on September 12, 2006, after a full and fair examination.

23. The '333 Patent is valid and enforceable.

24. A true and correct copy of the '668 Patent is attached as Exhibit B to this Complaint.

25. The USPTO granted the '668 Patent on May 1, 2007, after a full and fair examination.

26. The '668 Patent is valid and enforceable.

27. A true and correct copy of the '036 Patent is attached as Exhibit C to this Complaint.

28. The USPTO granted the '036 Patent on June 1, 2010, after a full and fair examination.

29. The '036 Patent is valid and enforceable.

30. A true and correct copy of the '311 Patent is attached as Exhibit D to this Complaint.

31. The U.S. Patent and Trademark Office ("USPTO") granted the '311 Patent on September 20, 2011, after a full and fair examination.

32. The '311 Patent is valid and enforceable. A true and correct copy of the '452 Patent is attached as Exhibit E to this Complaint.

33. The USPTO granted the '452 Patent on November 6, 2012, after a full and fair examination.

34. The '452 Patent is valid and enforceable.

35. A true and correct copy of the ’746 Patent is attached as Exhibit F to this Complaint.

36. The USPTO granted the ’746 Patent on February 4, 2014, after a full and fair examination.

37. The ’746 Patent is valid and enforceable.

38. A true and correct copy of the ’345 Patent is attached as Exhibit G to this Complaint.

39. The USPTO granted the ’345 Patent on March 4, 2014, after a full and fair examination.

40. The ’345 Patent is valid and enforceable.

41. A true and correct copy of the ’155 Patent is attached as Exhibit H to this Complaint.

42. The USPTO granted the ’155 Patent on September 23, 2014, after a full and fair examination.

43. The ’155 Patent is valid and enforceable.

44. A true and correct copy of the ’604 Patent is attached as Exhibit I to this Complaint.

45. The USPTO granted the ’604 Patent on April 21, 2015, after a full and fair examination.

46. The ’604 Patent is valid and enforceable.

1. The ’333 Patent

47. The ’333 Patent is titled “Surveillance System” and generally relates to the field of systems for surveillance, and more particularly, to systems for collection, analysis and distribution of surveillance data.

48. At the time that the application leading to the ’333 Patent was filed, systems

designed to monitor predetermined areas through a continuous feed of video data either displayed the video feed in real time or recorded the data to a recording device. However, the systems did not have a means of determining where or when an occurrence of interest had taken place nor any means of analyzing the information within the video feed. These systems had several shortcomings, such as inherent data storage limitations and an inability to analyze video data for determination of, for example, how long an intruder has been in a monitored area; whether the intruder is alone; how the intruder got into the monitored area; where the intruder has previously been; what the intentions of the intruder might be; or where the intruder is going next.

49. The invention described in the ’333 Patent improves upon the prior art systems by providing a means to detect predetermined conditions within surveillance data and generate surveillance data representative of the detected conditions, rather than simply recording, storing, and distributing video data. These features of the claimed invention further allow the surveillance device to utilize position data to control and adjust the position of surveillance equipment. This is accomplished, in part, through the detection of predetermined conditions by way of sensor units configured to identify certain criteria, such as position information. The prior art systems of surveillance did not provide means for capturing and recording surveillance data based on predetermined conditions, such as position data, and further utilizing such position data to establish a position control signal.

50. The methods and systems described in the ’333 Patent improved upon the prior art by, without limitation, (1) preserving memory in a surveillance system including a database; (2) capturing only relevant surveillance data based on predetermined conditions; and (3) establishing position control of a surveillance system based on captured position data.

51. The shortcomings of the prior art surveillance systems were solved by the

unconventional and inventive methods and systems claimed by the ’333 Patent. A person of ordinary skill in the art at the time of the invention would recognize the steps and methods claimed in the ’333 Patent were unconventional and that the described surveillance systems including the capture, collection, and utilization of predetermined condition data were not routine or well-understood.

2. The ’668 Patent

52. The ’668 Patent is titled “Digital Image Processing System and Method for Emphasizing a Main Subject of an Image” and generally relates to the field of digital image processing, and more particularly, to processing image pixels to emphasize the main subject of an image.

53. At the time that the application leading to the ’668 Patent was filed, it was difficult to digitally distinguish the main subject of a digital image (such as a person or group of people) from the background image for the purpose of, for example, manipulating the background image. The prior art largely contemplated a manual process whereby an individual would use a computer to manually identify a main subject and use a computer program to distinguish it from the background image. This process was expensive, cumbersome, labor-intensive, and required a great degree of skill and repetition to accomplish efficiently.

54. The invention described in the ’668 Patent improves upon the prior art by providing a means to automate the recognition of the main subject of a digital image. This is accomplished, in part and among other techniques, through the alteration of pixel values within the digital image among the main subject, background, or both. In one embodiment, the segmentation is, in turn, accomplished through “belief mapping,” or calculating the likelihood that a pixel is that of a main subject based on certain criteria.

55. The prior art methods of identifying main subjects within digital content did not provide means of efficiently automating such identification. The methods and systems described in the ’668 Patent improved upon the prior art by, without limitation, (1) providing a means for automated image segmentation; (2) providing a means for automated object recognition within a digital image; (3) providing a robust method of belief mapping to pixel-based images; and (4) providing a means for automated alteration of pixel value and characteristics.

56. The shortcomings of the prior art digital image processing methods were solved by the unconventional and inventive methods and systems claimed by the ’668 Patent. A person of ordinary skill in the art at the time of the invention would recognize the steps and methods claimed in the ’668 Patent were unconventional and that the described methods and systems of identification of main subjects within digital images through the generation of belief values were not routine or well-understood.

3. The ’036 Patent

57. The ’036 Patent is titled “Event-Based Digital Content Record Organization” and generally relates to the field of digital image processing, and more particularly, to event-based organization of digital image, video and audio files.

58. At the time that the application leading to the ’036 Patent was filed, collections of digital images, videos and/or audio files were largely manually organized and shared into collections and shared, for example, by uploading digital content online and self-selecting content relating to particular events. The invention described in the ’036 Patent improves upon this process through the identification of “event boundaries” that are then applied to metadata associated with digital content, such that the content is organized based upon the metadata. The invention further describes defining event boundaries based on objects that are identified through object recognition

metadata within digital content.

59. The prior art methods of digital content organization did not provide means to identify and select event boundaries based on a wide variety of metadata, including object recognition, location, and geographic location. The ’036 Patent improved upon the prior art by, without limitation, (1) automating selection criteria for digital content organization; (2) expanding the selection criteria available for the organization of digital content; (3) improving the accuracy of automated organization of digital content into events; and (4) associating digital content selection and organization with internet geolocation features.

60. The shortcomings of the prior art digital content organization methods were solved by the unconventional and inventive methods and systems claimed by the ’036 Patent. A person of ordinary skill in the art at the time of the invention would recognize the steps and methods claimed in the ’036 Patent were unconventional and described methods and systems of event-based organization of digital content that was not routine or well-understood.

4. The ’311 Patent

61. The ’311 Patent is titled “Identifying Media Assets from Contextual Information” and generally relates to the field of assisted annotation and retrieval of digital media assets, such as digital still images or video.

62. At the time that the application leading to the ’311 Patent was filed, access and retrieval of digital still images and video had become increasingly daunting as the amount of digital image content to search drastically increased compared to access and retrieval of physical film. One solution provided that such content was manually annotated with text labels and stored in a database to be retrieved by keyword. However, manual annotation was both tedious and would take increasingly unreasonable amounts of time to perform. Algorithms available at the time

attempting to automate the task generally suffered from lack of high accuracy or would require excessive effort by the user.

63. The invention described in the ’311 Patent improved upon these prior art systems by using an event to identify media assets having associated contextual information, allowing fewer and more relevant media assets to have to be required to be retrieved and annotated as compared to the conventional techniques used at the time.

64. The methods and systems described in the ’311 Patent improved upon the prior art by, without limitation, (1) providing for automated identification of media assets that are based on an event relevant to received contextual information; (2) providing a superset of captured images based on the contextual information; and (3) providing enhanced search results from the superset using an additional set of contextual information received after the first set.

65. The shortcomings of the prior art image enhancement methods were solved by the unconventional and inventive methods and systems claimed by the ’311 Patent. A person of ordinary skill in the art at the time of the invention would recognize the steps and methods claimed in the ’311 Patent were unconventional and described methods and systems for image enhancement were not routine or well-understood.

5. The ’452 Patent

66. The ’452 is titled “Remote Determination of Image-Acquisition Settings and Opportunities” and generally relates to remote determination of image-acquisition settings and opportunities for a digital camera using pre-image-acquisition information.

67. At the time application leading to the ’452 Patent was filed, many digital cameras relied on users selecting a “scene mode” (e.g., a “snow,” “portrait,” or “backlit”) setting on the camera to set certain image acquisition settings (e.g., gain, and exposure time). One method for

improving the camera's image acquisition settings was to increase the number of "scene" options available to the user. However, increasing the number of possible scene scenarios led to users being overwhelmed by the number of options. Further, cameras following this solution could have difficult-to-navigate menus that added to the problem of users finding the setting of such settings excessively complex.

68. Additionally, attempted automation of image acquisition settings tended to be computationally intensive thus increasing the cost and energy drain of the camera and/or cause a highly undesirable lag between shutter trip and image acquisition to occur in some cameras. Such lag is particularly undesirable when a subject to be photographed is in motion.

69. The '452 Patent provided a technical solution to address the problems above, in part, by remotely obtaining pre-image-acquisition information such as audio information, illumination information, camera position information, camera orientation information, motion information, an announcement of the digital camera's presence, temperature information, humidity information, ceiling detection information, distance-to-subject information, spectral information, etc., allowing the determination of image-acquisition settings to be performed where data-processing resources and available data sources can greatly exceed those within the digital camera.

70. A person of ordinary skill in the art at the time of the invention would recognize that the steps and methods claimed by the '452 Patent were unconventional and would understand that the conventional way of generating image-acquisition settings were excessively complex and /or cause undesirable lag.

71. The novel use and arrangement of the specific combination, steps, system, and devices recited by the '452 Patent were not well-understood, routine, or conventional to a person skilled in the relevant field at the time of the inventions. In particular, the combination of steps in

at least Claim 1 of the ’452 Patent were not well understood, routine, or conventional to a person of skill in the relevant field at the time of the inventions.

72. Juxtaposing the ’452 claimed inventions against the conventional state of the art at the time of the invention show, in part, the unconventionality and inventiveness of the ’452 claimed inventions. The inventive features of ’452 claimed inventions have multiple inventive advantages over conventional prior art, including with respect to overcoming the shortcomings noted above.

73. The ’452 Patent systems and methods for remote determination of image-acquisition settings and opportunities for a digital camera improves the prior art systems and methods, providing the advantages of allowing a relatively simpler and more cost-effective digital camera to be produced without an undesirable lag between shutter trip and image acquisition.

6. The ’746 Patent

74. The ’746 Patent is titled “Video Summary Including a Particular Person” and generally relates to the improved formation of a digital video summary, and more particularly, is directed to solving the problems of providing a quick, readily sharable, and particularized summary of a digital video.

75. At the time the application for the ’746 Patent was filed, managing digital video content could be a difficult task. One difficulty was facilitating a quick review and sharing of captured videos. Videos were often represented visually with a thumbnail image of the first frame of the video, and thus did not necessarily provide much insight into the content of the video. Further, determining if something specific was contained in a given video often required viewing the entire video. This could be very time consuming, especially for a lengthy video.

76. Additionally, managing digital videos presented practical problems from a sharing perspective. For example, many digital capture devices recorded video at 30 or 60 frames per

second at spatial resolutions of 1920 x 1080 pixels. Even if compressed, the amount of data generated in even relatively short videos could make the videos impractical to share.

77. Although video editing software could be used to manually summarize a video into a shorter version that could be shared more easily, this type of editing could be a lengthy, laborious process. Additionally, providing particular context for a video summary to have a specific feature within the summary; (e.g., people), by manually creating such a tailored video summary, could be an undesirably tedious process.

78. A person of ordinary skill in the art at the time of the invention would recognize that the steps and methods claimed by the '746 Patent were unconventional and would understand that the conventional way of generating a video summary were time-consuming and tedious. This person would also recognize the problems of videos and summaries not being easily sharable, and not necessarily specifically reflective of particular content in the video.

79. The novel use and arrangement of the specific combination, steps, system, and devices recited by the '746 Patent were not well-understood, routine, or conventional to a person skilled in the relevant field at the time of the inventions. In particular, the combination of steps in at least Claim 16 of the '746 Patent were not well understood, routine, or conventional to a person of skill in the relevant field at the time of the inventions.

80. For example, conventional prior art did not disclose using a data processor to automatically analyze image frames using a person recognition algorithm to identify a subset of the image frames that contain a particular person in a reference image; forming a video summary including fewer than all of the image frames in the video sequence, wherein the video summary includes at least part of the identified subset of image frames containing the particular person;

storing the received video sequence in a storage memory; or storing the video summary in the storage memory as a separate summary digital video file.

81. The foregoing noted shortcomings in the prior art were solved by the unconventional and inventive methods of the ’746 claimed inventions, which in one embodiment, comprise using a data processor to automatically analyze the image frames using a person recognition algorithm to identify a subset of the image frames that contain the particular person; forming a video summary including fewer than all of the image frames in the video sequence, and storing the video summary in the storage memory as a separate summary digital video file.

82. Juxtaposing the ’746 claimed inventions against the conventional state of the art at the time of the invention illustrates, in part, the unconventionality and inventiveness of the ’746 claimed inventions. The inventive features of ’746 claimed inventions have multiple inventive advantages over conventional prior art, including with respect to overcoming the shortcomings noted above.

83. The ’746 Patent systems and methods for computing a video summary improves the prior art systems and methods, providing the advantages of allowing a relatively small video summary to be generated on a digital device with minimal delay at the completion of video capture and providing a particularized video summary that containing an image of a particular person.

7. The ’345 Patent

84. The ‘345 is titled “Video Summary Including a Feature of Interest” and generally pertains to the improved formation of a digital video summary, and more particularly, is directed to solving the problems of providing a quick, readily sharable, and particularized summary of a digital video.

85. At the time of the priority application for the ’345 Patent, managing digital video content could be a difficult task. One difficulty was facilitating a quick review and sharing of captured videos. Videos were often represented visually with a thumbnail image of the first frame of the video, and thus did not necessarily provide much insight into the content of the video. Determining if something specific was contained in a given video often required viewing the entire video which could be very time consuming, especially for a lengthy video.

86. Additionally, managing digital videos presented practical problems from a sharing perspective. For example, many digital capture devices recorded video at 30 or 60 frames per second at spatial resolutions of 1920 x 1080 pixels. Even if compressed, the amount of data generated in even relatively short videos could make the videos impractical to share.

87. Further, providing particular context for a video summary to have a specific feature within the summary; (e.g., people, pets, events, locations, activities, or objects), by manually creating such a tailored video summary, could be an undesirably tedious process.

88. Although video editing software could be used to manually summarize a video into a shorter version that could be shared more easily, this type of editing could be a lengthy, laborious process. Further, complex summarization algorithms required decoding the video to perform the analysis required to make the video summary. Thus, it was not possible on a digital capture device to immediately view a video summary corresponding to a just captured video. This shortcoming made it difficult to facilitate quick review and sharing of captured videos.

89. The ’345 Patent provides systems and methods for computing a video summary to automatically analyze image frames in a video sequence using a feature recognition algorithm and to identify a subset of the image frames that contain the feature or a desired characteristic. A video

summary is then formed including at least part of the identified subset of image frames containing the feature of interest and having the desired characteristic.

90. A person of ordinary skill in the art at the time of the invention would recognize that the steps and methods claimed by the '345 Patent were unconventional and would understand that the conventional way of generating a video summary were time-consuming and tedious as well as not being easily sharable, and not necessarily specifically reflective of particular content in the video.

91. The novel use and arrangement of the specific combination, steps, system, and devices recited by the '345 Patent were not well-understood, routine, or conventional to a person skilled in the relevant field at the time of the inventions. In particular, the combination of steps in at least Claim 16 of the '345 Patent were not well understood, routine, or conventional to a person of skill in the relevant field at the time of the inventions.

92. For example, during prosecution of the '345 patent the patent examiner acknowledged that the primary prior art reference did not disclose "reference data separate from a reference in the captured video sequence" that is used to "form a video summary ... containing the feature of interest." Further, even the cited combination of references did not disclose, among other things, reference data including information specifying a "desired characteristic" of the image frames or a video summary including fewer than all of the image frames in the captured video sequence, wherein the video summary includes at least part of the identified subset of image frames containing the feature of interest and having the "desired characteristic."

93. Juxtaposing the '345 Patent claimed inventions against the state of the art illustrates, in part, the unconventionality and inventiveness of the claimed inventions. Further, the inventive features of the '345 Patent claims have multiple inventive advantages over conventional

prior art, including with respect to overcoming the shortcomings noted above. Thus, the novel use and arrangement of the specific combination, steps, system, and devices recited by the ’345 Patent were not well-understood, routine, or conventional to a person skilled in the relevant field at the time of the inventions including the combination of steps in Claim 16 of the ’345 Patent.

94. The ’345 Patent systems and methods for computing a video summary improves the prior art systems and methods, providing the advantages of allowing a relatively small video summary to be generated on a digital device with minimal delay at the completion of video capture and providing a particularized video summary that contain a specified desired characteristic of the image frames.

8. The ’155 Patent

95. The ’155 Patent is titled “Portable Video Communication System” and generally relates to two-way video communication systems adapted to hand-held video communication devices.

96. In particular, the ’155 Patent aims to provide an improved apparatus for video communication with a video system that provides improved video privacy and security including an apparatus and methods to restrict image capture for a displayed image where in certain cases it will be desirable not to record portions of the image captured at the recording site.

97. At the time the application leading to the ’155 Patent was filed, two-way video systems could include a display and camera in each of two locations allowing for communication of video images and audio between two different sites. Such systems sometimes relied on a setup at each site with a video monitor to display a remote scene and a separate video camera located on or near the edge of the video monitor to capture a local scene. The system also including microphones to capture the audio and speakers to present the audio thereby providing a two-way

video and audio telecommunication system between two locations.

98. However, numerous problems existed relative to ease of use, security, and privacy, of these systems that had not yet been adequately addressed. One previous solution was to disable video completely, but this did not provide a sufficiently versatile approach wherein the user would like to show a portion of the image during video communication without showing a private or secure portion in the background image.

99. The ’155 Patent provided a technical solution to address the problems above, in part, by adapting a digital capture device to adjust the captured digital image to create a modified captured digital image such that at least a portion of a background of the digital video or still image is removed from the digital video or still image.

100. The novel use and arrangement of the specific combination, steps, system, and devices recited by the ’155 Patent were not well-understood, routine, or conventional to a person skilled in the relevant field at the time of the inventions.

101. Juxtaposing the ’155 claimed inventions against the conventional state of the art at the time of the invention show, in part, the unconventionality and inventiveness of the ’155 claimed inventions. The inventive features of ’155 claimed inventions have multiple inventive advantages over conventional prior art, including with respect to overcoming the shortcomings noted above.

102. The ’155 Patent systems and methods for remote determination of image-acquisition settings and opportunities for a digital camera improves the prior art systems and methods, providing the advantages of providing increased security and privacy.

9. The ’604 Patent

103. The ’604 Patent is titled “Video Summary Including a Particular Person” and generally relates to the improved formation of a digital video summary. Like the ’746 Patent

(described above) the ’604 Patent is directed to solving the problem of providing a quick, readily sharable, and particularized summary of a digital video.

104. At the time of the priority application for the ’604 Patent, managing digital video content could be a difficult task including difficulty facilitating a quick review and sharing of captured videos.

105. The shortcomings in conventional prior art were solved by the unconventional and inventive methods of the ’604 claimed inventions, which in one embodiment, comprise receiving a designation regarding a reference image containing a particular person, analyzing image frames to identify a subset of the image frames that contain the particular person, and forming/storing a summary including at least part of the identified subset of image frames containing the particular person.

106. Juxtaposing the claimed inventions of the ’604 Patent against the conventional state of the art illustrates, in part, the unconventionality and inventiveness of the claimed inventions. The inventive features of ’604 Patent have multiple inventive advantages over conventional prior art, including with respect to overcoming the shortcomings noted above.

107. A person of ordinary skill in the art at the time of the invention would recognize that the steps and methods claimed by at least Claim 1 of the ’604 Patent were unconventional and would understand that the conventional way of generating a video summary were time-consuming and tedious as well as not being easily sharable, and not necessarily specifically reflective of particular content in the video.

108. The novel use and arrangement of the specific combination, steps, system, and devices recited by the ’604 Patent were not well-understood, routine, or conventional to a person skilled in the relevant field at the time of the inventions. In particular, the combination of steps in

at least Claim 1 of the ’604 Patent were not well understood, routine, or conventional to a person of skill in the relevant field at the time of the inventions.

109. The ’604 Patent systems and methods for computing a video summary improves the prior art systems and methods, providing the advantages of allowing a relatively small video summary to be generated on a digital device with minimal delay at the completion of video capture and providing a particularized video summary that contain a particular person.

B. Defendants’ Notice of the Asserted Patents and Refusal to License

110. Since at least May 6, 2019, MPV has contacted JCI over sixty (60) times concerning its infringement with no response. In its initial communications with JCI, MPV provided JCI information concerning the Kodak patent portfolio, including charts detailing their infringement of the ’604, ’746, ’155, and ‘345 Patents, and offering licensing opportunities. Following those initial communications, Defendants continued to use, sell, offer for sale, and/or import into the United States their infringing products (detailed below) through the filing of this Complaint. JCI never responded.

111. Thereafter, MPV continuously renewed its requests to discuss licensing of the Asserted Patents for another 27 months through August 4, 2021. Again, JCI never responded. Throughout those subsequent communications, Defendants continued to use, sell, offer for sale, and/or import into the United States the infringing products (detailed below) through the filing of this Complaint. Thus, with knowledge of their ongoing infringement, Defendants not only continued their infringing activity with knowledge of the Asserted Patents and reckless disregard for MPV’s exclusive patent rights, but also intentionally ignored MPV's requests to discuss licensing arrangements. Defendants’ infringement has been ongoing, willful and in bad faith since at least May 6, 2019.

112. Following the filing the MPV's Original Complaint in this matter, JCI responded for the first time to the same email thread used by MPV for its repeated contact.

IV.
CAUSES OF ACTION
COUNT I: DIRECT INFRINGEMENT OF THE '333 PATENT

113. Plaintiff realleges and incorporates by reference the allegations set forth above, as if set forth verbatim herein.

114. MPV owns by assignment the entire right, title, and interest in the '333 Patent, including the right to sue for past infringement.

115. The '333 Patent was issued by the United States Patent and Trademark Office on September 12, 2006 and is titled "Surveillance System." A true and correct copy of the '333 Patent is attached as Exhibit A.

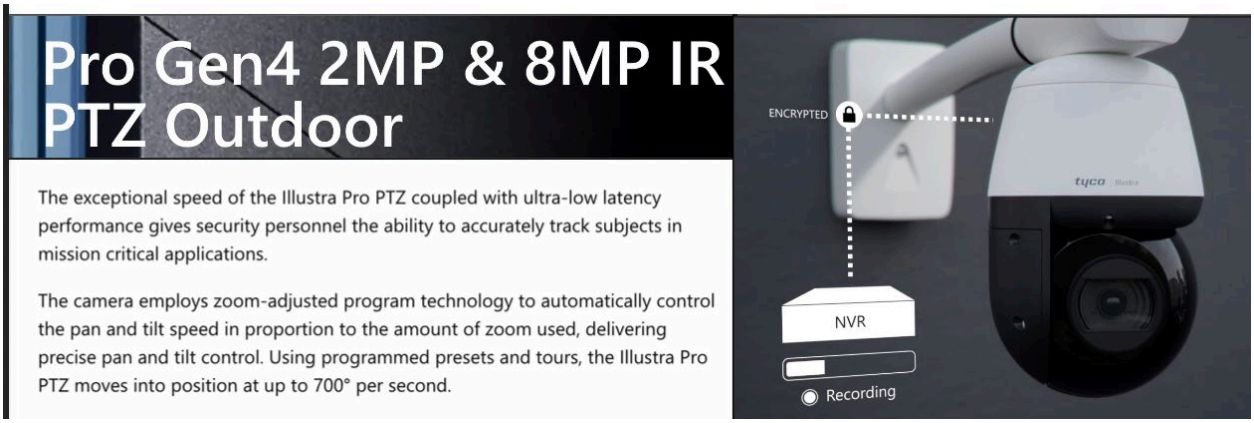
116. To the extent any marking is required for the '333 Patent, Plaintiff is in compliance with 35 U.S.C. § 287.

117. At least claim 9 of the '333 Patent is infringed by Defendants, including under 35 U.S.C. §271(a), at least by methods comprising the use of Defendants' Tyco Brand ("Tyco") Illustra PTZ camera and NVR system (the '333 Infringing Instrumentalities). Without limitation, sale, importation and/or use of the '333 Infringing Instrumentalities has comprised the steps noted below.

118. Claim 9 of the '333 Patent covers a "surveillance management system for providing a position control signal usable by a position-controllable surveillance device comprising: a memory; a surveillance database stored on said memory, said surveillance database operative for storing surveillance data collected by a surveillance sensor unit, said surveillance data including position data; and a surveillance server associated with said memory and configured to receive surveillance data including said position data from a surveillance sensor unit configured to detect

predetermined conditions, to generate surveillance data representative of the detected conditions, and to generate a position control signal for utilization by said position-controllable surveillance device."

119. The '333 Infringing Instrumentalities provide a surveillance management system for providing a position control signal for controlling a PTZ camera unit (e.g., a "position-controllable surveillance device"). *See, e.g.*, https://illustracameras.com/cameras/pro-gen4-8mp-ir-ptz-outdoor/; https://www.americandynamics.net/Products/VideoEdge_NVR.aspx.



120. The '333 Infringing Instrumentalities further receive data from Defendants' cameras and stores it in memory. *See, e.g.*, https://illustracameras.com/cameras/pro-gen4-8mp-ir-ptz-outdoor/; https://www.americandynamics.net/Products/VideoEdge_NVR.aspx.

Key Features

- 300 Mbps recording throughput
- Support up to 64 IP cameras
- RAID or JBOD storage configurations up to 50 TB
- Enterprise-class hard drives

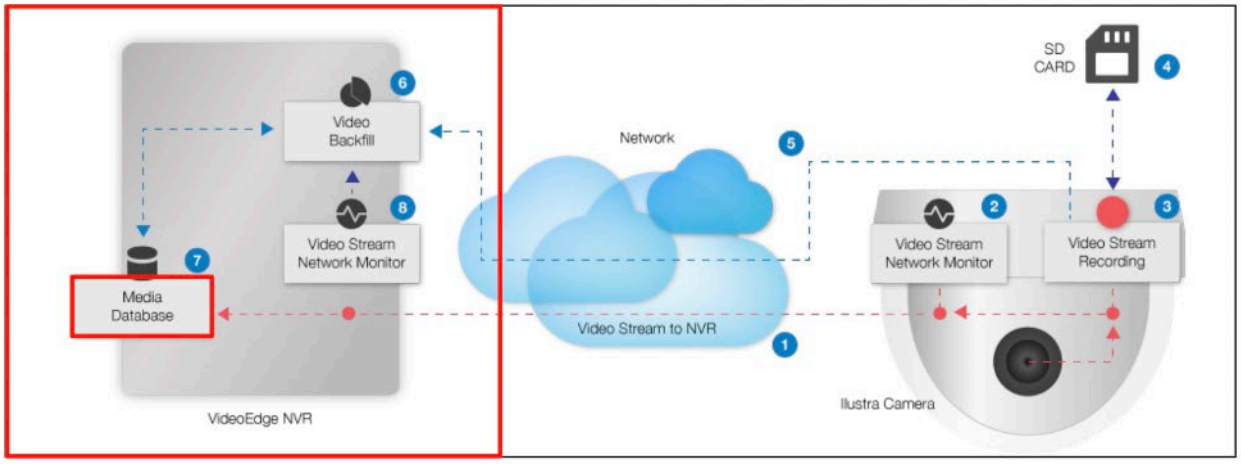
121. The '333 Infringing Instrumentalities further receive surveillance video from Defendants' cameras and incorporate it into configured storage ("a surveillance database") along with relevant metadata. *See, e.g.*, https://www.americandynamics.net/products/videoedge-tricklestor.aspx; https://manuals.plus/m/6bbf4b1540245065fcb66164931d09624642fba0d2202d0213c61a43e03020fa.pdf.

VideoEdge

VideoEdge is a scalable video surveillance solution. Its open platform solution supports third party devices, storage and clients, allowing management of video systems and edge devices through a single, logical interface.

VideoEdge manages a number of devices (e.g. video cameras, encoders, audio devices, text devices etc.) and records onto its configured storage. It also provides clients with secure access to live and recorded data from its devices.

- Edge based metadata is recorded in the NVR occupying storage space. It is important to ensure that the edge analytic parameters are configured accurately to prevent occupying storage space unnecessarily.



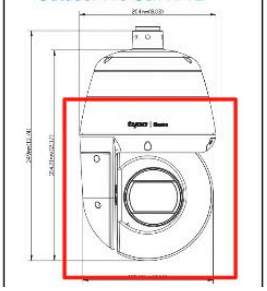
122. The database of the '333 Infringing Instrumentalities further stores surveillance video and analytic metadata ("surveillance data") collected by Defendants' cameras ("surveillance sensor unit"). *See, e.g.*, https://manuals.plus/m/6bbf4b1540245065fcb66164931d09624642fba0d2202d0213c61a43e03020fa.pdf; https://illustracameras.com/wp-content/uploads/2021/02/Illustra-PRO-Gen4-Outdoor-PTZ-Data-Sheet-V5.pdf.

Edge Analytics

Edge Analytics are camera-based analytic operations which forward alarms and metadata to the NVR. This minimizes the impact on the NVRs CPU usage in comparison to Motion Detection and Video Intelligence which are both server-based operations.

- Edge based metadata is recorded in the NVR occupying storage space. It is important to ensure that the edge analytic parameters are configured accurately to prevent occupying storage space unnecessarily.
- Edge based events and metadata are created by the camera's analytics. Refer to the camera's Installation and User manual for configuring analytics to ensure proper operation.

Outdoor Pro Gen4 PTZ

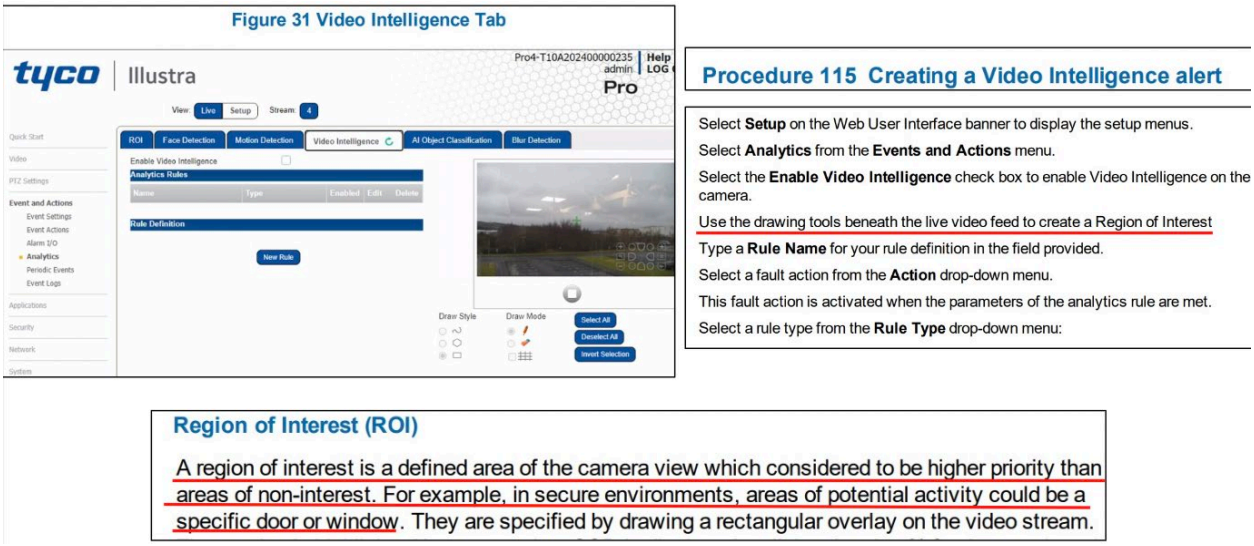


Specifications

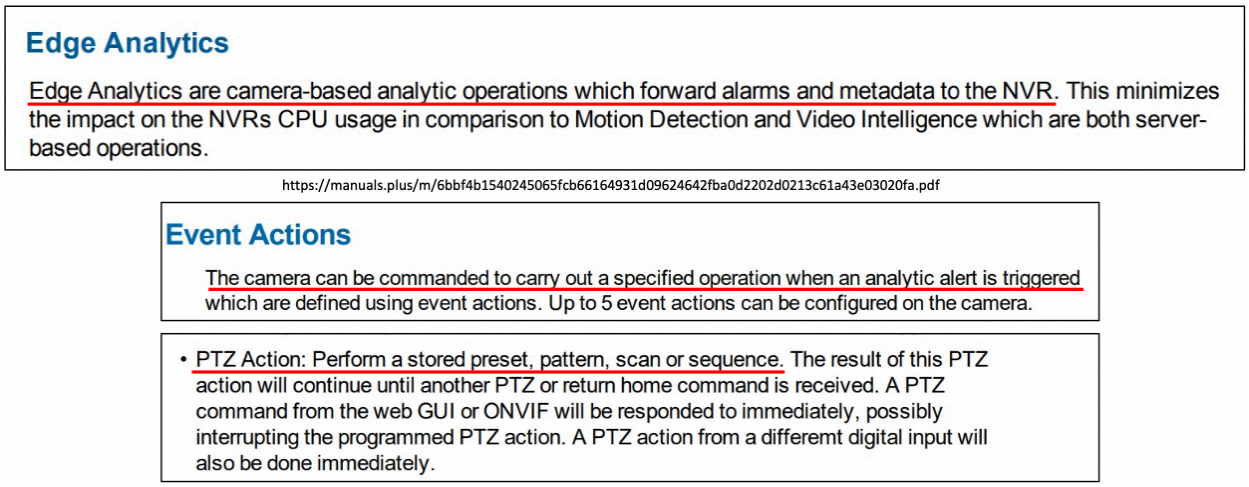
Operational	2MP	8MP (4K)
Imager	CMOS 1/2.8"	CMOS 1/1.8"
Video Compression	H.264 / H.265 / MJPEG / IntelliZip	
Configurable Streams	Quad Streaming	
Max Frame Rate	2MP@60fps	8MP@30fps/ 2MP@60fps
Resolution & Aspect Ratio	1920 x 1080, 1664 x 936, 1280 x 720 1024 x 576, 960 x 544, 816 x 464 640 x 360, 480 x 272, 640 x 368	3840 x 2160, 3264 x 1840, 2688 x 1520 1920 x 1080, 1664 x 936, 1280 x 720 1024 x 576, 960 x 544, 816 x 464 640 x 360, 480 x 272, 640 x 368
Lens Type	Varifocal Lens, DC-Iris, IR Corrected	
Image Stabilisation	Electronic Image Stabilisation	Electronic Image Stabilisation (Future firmware)
Focus Control	Motorized,Continuous Auto Focus, Manual Focus	

123. The database of the '333 Infringing Instrumentalities further stores surveillance

data when an alert is triggered in a particular region of interest (i.e., "including position data"). *See, e.g.*, https://illustracameras.com/wp-content/uploads/2021/02/PG4-2MP8MP-PTZ-Domes-UM-8200-2007-02-B0-en-1.pdf.



124. The '333 Infringing Instrumentalities further include onboard analytics servers ("surveillance server") that forwards alarms and metadata to system memory. The onboard analytics server receives surveillance data, including position information, from the camera unit and generates an alarm representative of the detected conditions ("generates surveillance data") when a predetermined position-based event ("predetermined conditions") is detected. The '333 Infringing Instrumentalities include Defendants' camera ("position-controllable surveillance device") that utilizes position control signals received in response to said event in order to carry out a specific pattern scan or sequence. *See id.*



Edge Analytics

Edge Analytics are camera-based analytic operations which forward alarms and metadata to the NVR. This minimizes the impact on the NVRs CPU usage in comparison to Motion Detection and Video Intelligence which are both server-based operations.

https://manuals.plus/m/6bbf4b1540245065fcb66164931d09624642fba0d2202d0213c61a43e03020fa.pdf

Event Actions

The camera can be commanded to carry out a specified operation when an analytic alert is triggered which are defined using event actions. Up to 5 event actions can be configured on the camera.

- PTZ Action: Perform a stored preset, pattern, scan or sequence. The result of this PTZ action will continue until another PTZ or return home command is received. A PTZ command from the web GUI or ONVIF will be responded to immediately, possibly interrupting the programmed PTZ action. A PTZ action from a differemt digital input will also be done immediately.

125. To the extent that Defendants have divided the performance of these steps among themselves, Defendants as their respective agents to infringe at least Claim 9 of the '333 Patent. Alternatively, the Defendants contract with each other to perform the infringing steps. Alternatively, Defendants condition each others' participation on the infringing activity, and it receives benefits from performance of the infringing activity. Defendants further establish the timing and manner of their respective performance of the infringing activity.

126. Alternatively, the Defendants form a joint enterprise through their implied or express agreement, shared common purpose and pecuniary interest, and shared equal right of control and right to a voice in the performance of the infringing activity.

127. To the extent that Defendants have assigned performance of these steps to third parties, the third parties act as agents of the Defendants to infringe at least Claim 9 of the '333 Patent. Alternatively, the Defendants contract with the third parties to perform the infringing steps. Alternatively, the Defendants condition the third parties' participation and receipt of benefits on the performance on the infringing activity and further establish the respective timing and manner of the third parties' performance of the infringing activity.

128. Defendants' infringing activities were without authority or license under the '333 Patent. Thus, Defendants have, and continue to infringe at least Claim 9 of the '333 Patent under at least 35 U.S.C. § 271(a) by their continued use, testing, manufacture, sale, offer for sale, licensing, and/or importation of the Accused Products without authority.

129. Defendants' acts of direct infringement caused damage to MPV and MPV is entitled to recover from Defendants the damages sustained by Plaintiff as a result of Defendants' infringing acts in an amount subject to proof at trial, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court, pursuant to 35 U.S.C. § 284.

COUNT II: DIRECT INFRINGEMENT OF THE '668 PATENT

130. MPV realleges and incorporates by reference the allegations set forth above as if set forth verbatim herein.

131. MPV owns by assignment the entire right, title, and interest in the '668 Patent, including the right to sue for past infringement.

132. The '668 Patent was issued by the United States Patent and Trademark Office on May 1, 2007 and is titled "Digital Image Processing System and Method for Emphasizing a Main Subject of an Image." A true and correct copy of the '668 Patent is attached as Exhibit B.

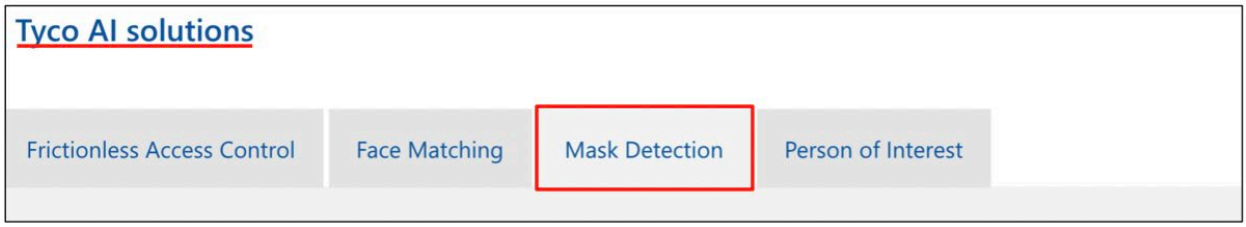
133. To the extent any marking is required for the '668 Patent, Plaintiff is in compliance with 35 U.S.C. § 287.

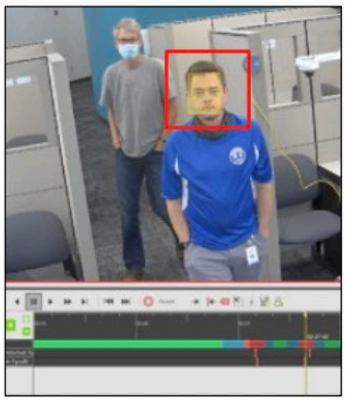
134. At least claim 1 of the '668 patent is infringed by Defendants, including under 35 U.S.C. §271(a), at least by methods comprising the use of Defendants' Tyco Brand ("Tyco") AI system (the "'688 Infringing Instrumentalities"). Without limitation, sale, importation and/or use of the '688 Infringing Instrumentalities has comprised the steps noted below.

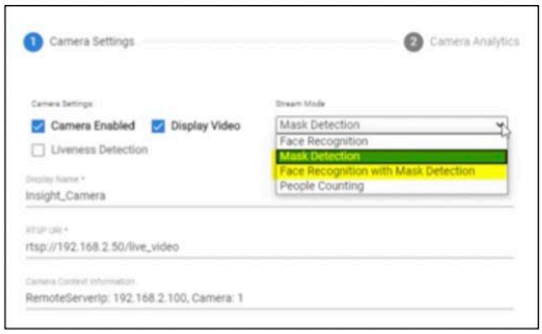
135. Claim 1 of the '668 Patent covers a "computer method for modifying an image having a main subject and a background pixels, comprising the steps of: automatically identifying

the main subject of the image, and automatically altering pixel values of said image to emphasize said main subject, said altering following said identifying; said altering follows any and all identifying of said main subject and wherein said identifying further comprises: segmenting said image into a plurality of regions; and generating a plurality of belief values, each said belief value being associated with one of a plurality of regions of the image, said belief values each being related to the probability that the associated region is a main subject of the image, to provide a main subject belief map."

136. The '668 Infringing Instrumentalities provide a computer method of modifying an image that has a main subject and background pixels. *See, e.g.*, https://learn.tycosecurityproducts.com/video/v1226-Tyco-AI-Mask-Missing-Event/4144d4a4db7198dfe607b6d68d2201f5; https://tyco-tsp.com/ai/.

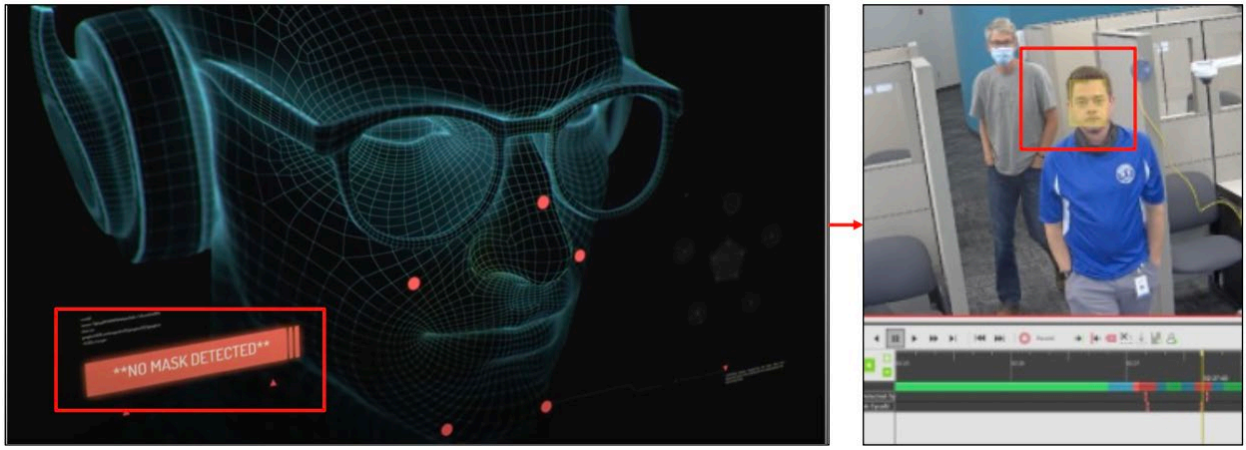






137. The '668 Infringing Instrumentalities further automatically identify the main subject image, for example, a maskless face. *See, e.g.*, https://www.youtube.com/watch?v=I3Ej_YYqZxU&ab_channel=Exacq.

138. The ’668 Infringing Instrumentalities further automatically alter pixel values by inserting a box to highlight the mask-less face (“main subject”). *See, e.g.*, https://tyco-tsp.com/ai/; https://www.youtube.com/watch?v=I3Ej_YYqZxU&ab_channel=Exacq.



139. Before altering the pixel values, the ’668 Infringing Instrumentalities, segments images into regions (e.g., maskless faces) and a plurality of belief values are generated related to the probability that the associated region is a main subject of the image, to provide a main subject belief map (e.g., maskless faces versus background or masked faces). *See, e.g.*, https://www.youtube.com/watch?v=I3Ej_YYqZxU&ab_channel=Exacq.

140. To the extent that Defendants have divided the performance of these steps among themselves, Defendants act as their respective agents to infringe at least Claim 1 of the '668 Patent. Alternatively, the Defendants contract with each other to perform the infringing steps. Alternatively, Defendants condition each other's respective participation on the infringing activity, and it receives benefits from performance of the infringing activity. Defendants further establish the timing and manner of their respective performance of the infringing activity.

141. Alternatively, the Defendants form a joint enterprise through their implied or express agreement, shared common purpose and pecuniary interest, and shared equal right of control and right to a voice in the performance of the infringing activity.

142. To the extent that Defendants have assigned performance of these steps to third parties, the third parties act as agents of the Defendants to infringe at least Claim 1 of the '668 Patent. Alternatively, the Defendants contract with the third parties to perform the infringing steps. Alternatively, the Defendants condition the third parties' participation and receipt of benefits on the performance on the infringing activity and further establish the respective timing and manner of the third parties' performance of the infringing activity.

143. Defendants' infringing activities were without authority or license under the '668 Patent. Thus, Defendants have, and continue to infringe at least Claim 1 of the '668 Patent under

at least 35 U.S.C. § 271(a) by their continued use, testing, manufacture, sale, offer for sale, licensing, and/or importation of the Accused Products without authority.

144. Defendants' acts of direct infringement have caused damage to MPV and MPV is entitled to recover from Defendants the damages sustained by Plaintiff as a result of Defendants' infringing acts in an amount subject to proof at trial, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court, pursuant to 35 U.S.C. § 284.

COUNT III: DIRECT INFRINGEMENT OF THE '036 PATENT

145. MPV realleges and incorporates by reference the allegations set forth above as if set forth verbatim herein.

146. MPV owns by assignment the entire right, title, and interest in the '036 Patent, including the right to sue for past infringement.

147. The '036 Patent was issued by the United States Patent and Trademark Office on June 1, 2010 and is titled "Event-Based Digital Content Record Organization." A true and correct copy of the '036 Patent is attached as Exhibit C.

148. To the extent any marking is required for the '036 Patent, Plaintiff is in compliance with 35 U.S.C. § 287.

149. At least Claim 1 of the '036 patent is infringed by Defendants, including under 35 U.S.C. § 271(a), at least by methods comprising the use of Defendants' Tyco Brand ("Tyco") Cloud Security System, (the "'036 Infringing Instrumentalities"). Without limitation, sale, importation and/or use of the '036 Infringing Instrumentalities has comprised the steps noted below.

150. Claim 1 of the '036 Patent covers "a method implemented at least in part by a computer system, the method for organizing digital content records and comprising the steps of: receiving a plurality of digital content records, at least some of said digital content records having

associated metadata identifying at least a time-date of capture, a location of capture, or a time-date of capture and a location of capture, wherein at least one of the digital content records has associated metadata identifying a time-date of capture, and at least one of the digital content records has associated metadata identifying a location of capture; defining an event at least by identifying a set of event boundaries associated at least with a span of time and a geographic area; identifying digital content records ("event content-records") of the plurality of digital content records to be associated with the event, at least some of the digital content records being identified as event-content records because they meet metadata conditions, wherein the metadata conditions include that the time-date-of-capture metadata and location-of-capture metadata of the corresponding digital content records identify a time-date-of-capture and a location-of-capture within the span of time and the geographic area, respectively; associating at least some of the event content-records ("associated event-content-records") with the event; storing information identifying the association of the at least some of the event content-records with the event in a computer-accessible memory; and wherein the location-of-capture metadata identifies a network address of a network access point, wherein the geographic area event boundary is defined at least in part by a particular network address, and wherein the metadata conditions include that the network address correspond to the particular network address.

151. The '036 Infringing Instrumentalities use a computer system to organize digital content and records (videos) and organize them according to event rules and camera metadata information. *See, e.g.*, https://www.youtube.com/watch?v=_3TKSfptcps&t=25s&ab_channel=CloudvuebyJohnsonControls; https://www.cloudvue.io/cloudvue-security-suite-service/.

SIMPLE AND POWERFUL RECORDED VIDEO

Point and click interfaces makes finding the right HD recorded video a snap. Search by events, date, time, camera, then save and download any length clip or share it with anyone online using custom bookmarks.

152. The ’036 Infringing Instrumentalities further provide cameras and receive recorded videos (i.e., “receiving a plurality of digital content records”) saving them to the “cloud.” *See id.*

153. The ’036 Infringing Instrumentalities, which include Defendants’ cameras, include associated metadata which describe a date-time and associated camera IP addresses, identifying the location of recorded videos (i.e., “metadata identifying the location of a capture” and “time-date of capture”). *See, e.g.*, https://www.johnsoncontrols.com/insights/2021/thought-leadership/5-reasons-why-migrating-to-the-cloud-is-easier-than-you-think; https://www.cloudvue.io/cloudvue-security-suite-service/.

SIMPLE AND POWERFUL RECORDED VIDEO

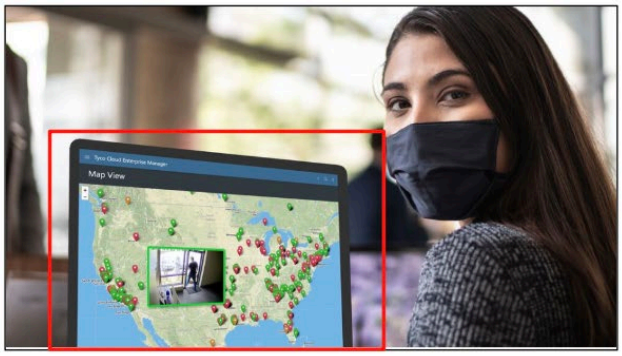
Point and click interfaces makes finding the right HD recorded video a snap. Search by events, date, time, camera, then save and download any length clip or share it with anyone online using custom bookmarks.

1. **Simple installation**—Getting set up is easy. Leveraging POE switches and Ethernet cables, you can connect cloud cameras quickly, with automated syncing of new devices through IP addresses. For those who cannot install new cloud cameras, a cloud gateway can enable that cloud connection. As installation costs continue to skyrocket, saves time and can connect multiple properties or locations through a single dashboard. Cloud cameras can also be connected using a mobile or cellular network to support connectivity for remote sites, such as construction sites, which may not have access to a network.

MAP CAMERAS ON YOUR LOCATION

Drag and drop different camera types onto a map of your building floor and assign live cameras to them. Upload your own blueprints quickly. Easily view live video from any camera on your floor map with one click.

154. The recorded videos of the ’036 Infringing Instrumentalities further include associated metadata which describe a date-time and associated IP address, identifying the location of recorded videos (“i.e., “metadata identifying a location of a capture”). *See, e.g.*, https://www.cloudvue.io/howitworkshome; https://www.cloudvue.io/cloudvue-security-suite-service/.

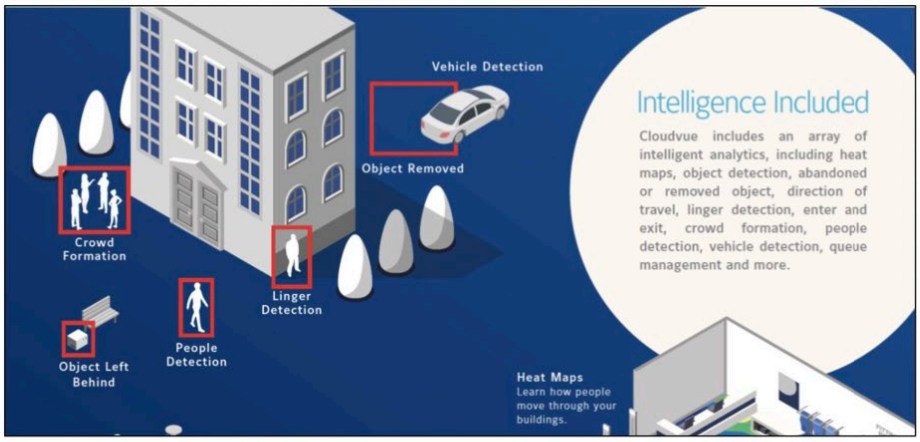


WATCH YOUR WORLD FROM ONE SCREEN

Map View gives you a view of all your cameras worldwide and click on any location to see the video. Also use Map View to see the status of all your cameras and instantly troubleshoot any of them.

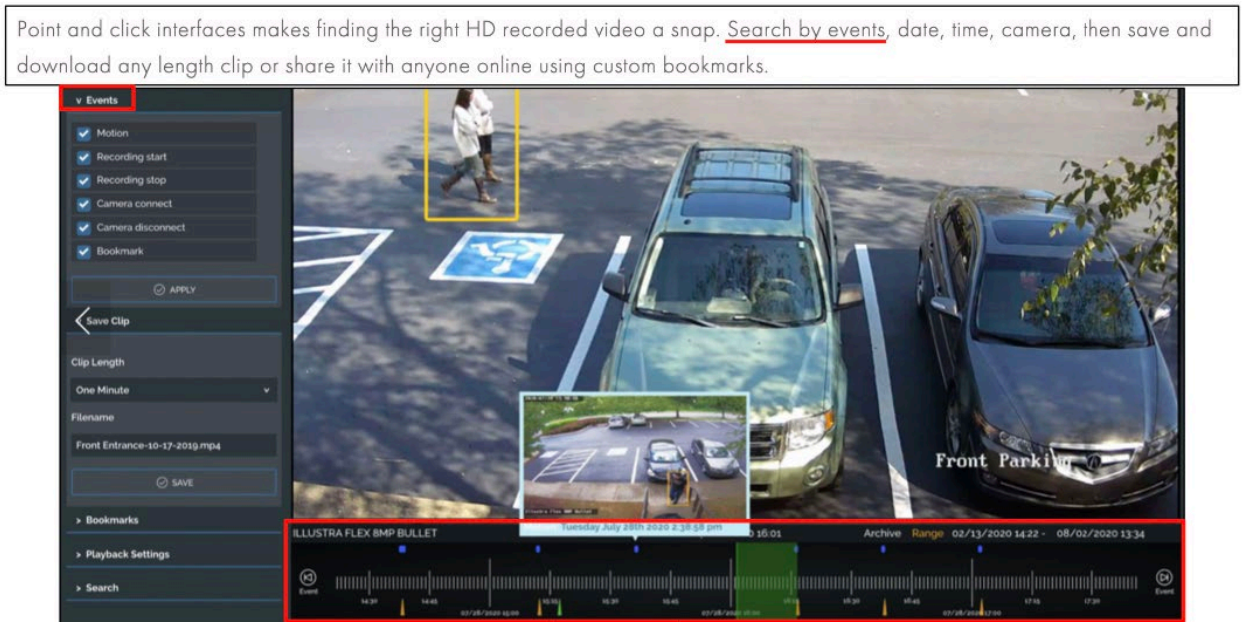
155. The ’036 Infringing Instrumentalities further allow creation of event rules based on, e.g., “linger detection and abandoned objects” (i.e., “defining an event at least by identifying a set of event boundaries”). And the system further allows creation of specific timeframes and

regions in which event rules will be applied and specify cameras that identified rules shall be applied (i.e., "associated with a span of time and geographic area"). *See, e.g.*, https://www.cloudvue.io/cloud-video-surveillance; https://illustracameras.com/smart-technologies/.

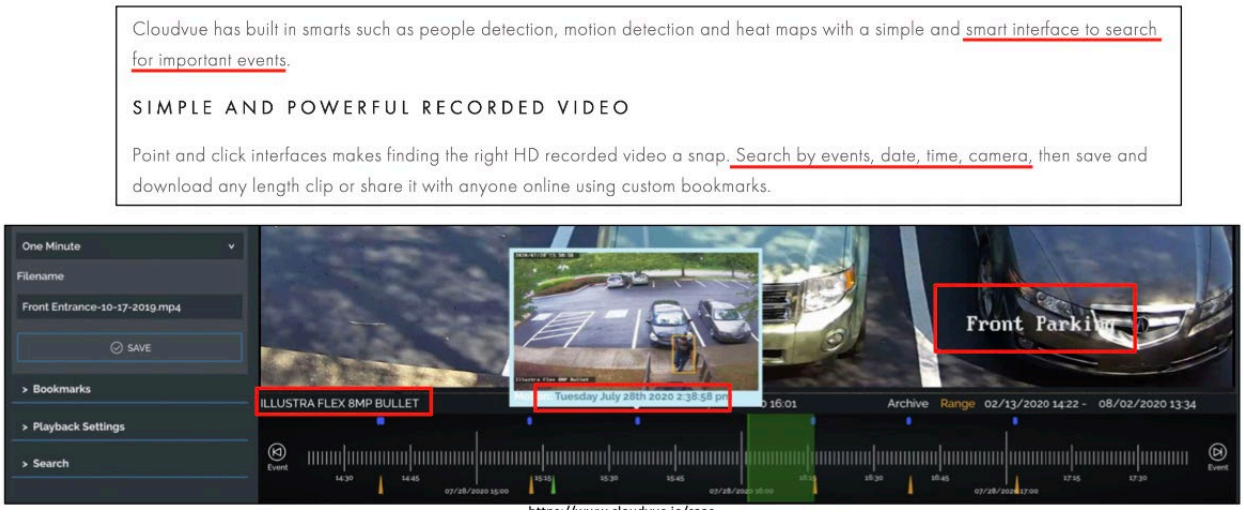


People detection integrated with every connected camera to reduce false alarms. Other analytics include motion with reporting and heatmaps. Cloudvue also enables nine different analytics including object detection, abandoned/removed object, direction of travel, linger, dwell, enter and exit, crowd formation, and queue management when used with Illustra Pro cameras.

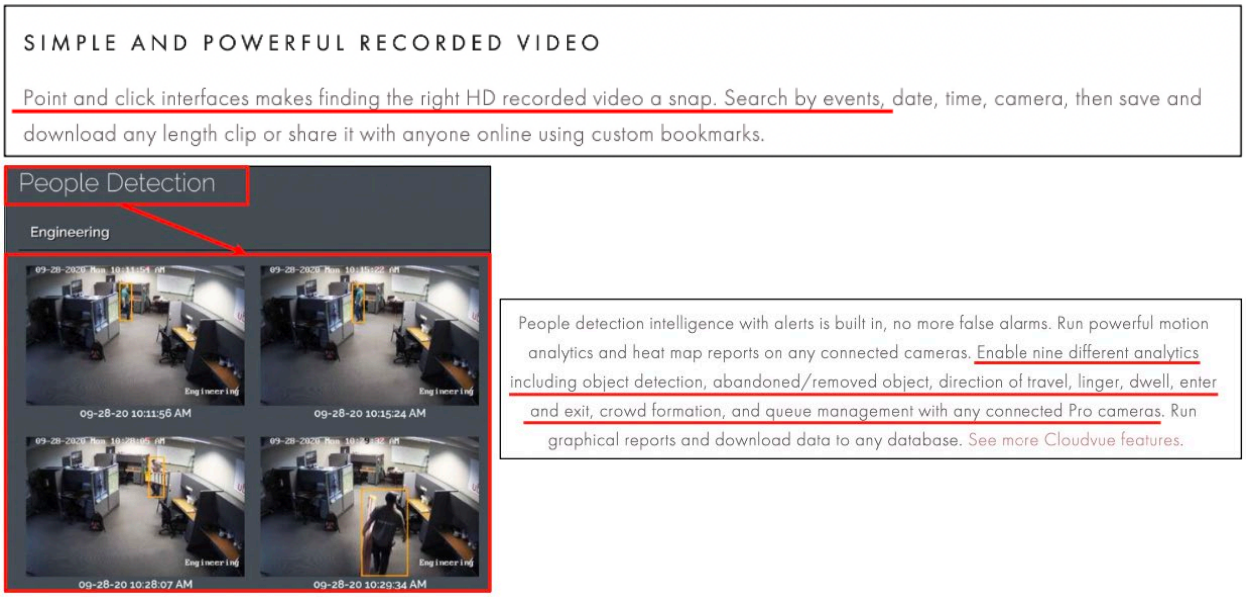
156. The recorded videos of the '036 Infringing Instrumentalities ("digital content records") that fulfill the user specified event conditions are viewable on its interface (i.e., "identifying digital content records . . . associated with the event"). *See, e.g.*, https://www.cloudvue.io/saas; https://www.cloudvue.io/howitworkshome.



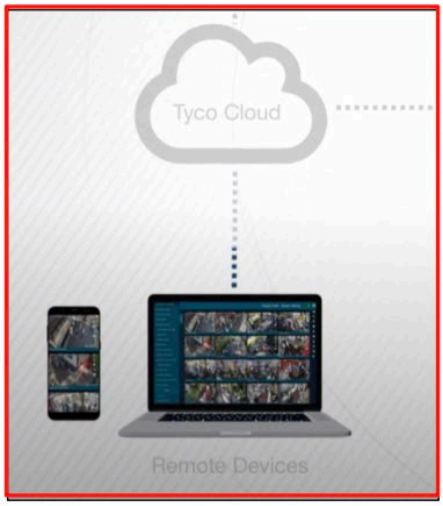
157. The '036 Infringing Instrumentalities identify digital content records (digital videos) as event-content records when they meet certain metadata conditions including, for example, that the data and time ("time-date-capture metadata") of capture is within a particular range and that the video was captured with a particular camera ("location-of-capture"). *See id.*



158. The '036 Infringing Instrumentalities associate event-content records (video) with a particular event when the contents of the video meets user specified event conditions. *See, e.g.*, https://www.cloudvue.io/intelligence; https://www.cloudvue.io/saas.



159. The ’036 Infringing Instrumentalities further store metadata associating the video event content records to the event in the “cloud,” accessible from internet-enabled devices. For example, each event-content record corresponding to a person detection event is associated with person-detection event metadata. *See, e.g.*, https://www.youtube.com/watch?v=_3TKSfptcps&t=25s&ab_channel=CloudvuebyJohnsonControls; https://www.cloudvue.io/intelligence; https://www.cloudvue.io/cloudvue-security-suite-service.



> COST EFFECTIVE CLOUD ARCHIVING
>
> Securely and cost effectively store up to 5 years of video in the cloud using Cloudvue cold storage archiving.

160. The '036 Infringing Instrumentalities further use their camera's IP address to connect the camera to the cloud (i.e., "location-of-capture metadata identifies a network address of a network access point"). *See, e.g.*, https://www.johnsoncontrols.com/insights/2021/thought-leadership/5-reasons-why-migrating-to-the-cloud-is-easier-than-you-think; https://www.johnsoncontrols.com/media-center/news/press-releases/2019/08/05/johnson-controls-introduces-tyco-cloud.

> 1. **Simple installation**—Getting set up is easy. Leveraging POE switches and Ethernet cables, you can connect cloud cameras quickly, with automated syncing of new devices through IP addresses. For those who cannot install new cloud cameras, a cloud gateway can enable that cloud connection. As installation costs continue to skyrocket, saves time and can connect multiple properties or locations through a single dashboard. Cloud cameras can also be connected using a mobile or cellular network to support connectivity for remote sites, such as construction sites, which may not have access to a network.
>
> The Tyco Cloud Enterprise Manager portal provides users with a comprehensive view of their entire security solution through a single interface. It provides real-time status and management of every connected device on a clickable global map. This simple dashboard also enables tracking and management of users, bandwidth utilization, cloud storage and device firmware.

161. The '036 Infringing Instrumentalities further associate user identified events with geographic event boundaries with specific cameras using their network address metadata. *See, e.g.*, https://www.johnsoncontrols.com/insights/2021/thought-leadership/5-reasons-why-migrating-to-the-cloud-is-easier-than-you-think; https://www.cloudvue.io/howitworkshome.

162. To the extent that Defendants have divided the performance of these steps among themselves, Defendants act as their respective agents to infringe at least Claim 1 of the '036 Patent. Alternatively, the Defendants contract with each other to perform the infringing steps. Alternatively, Defendants condition each other's participation on the infringing activity, and they receive benefits from performance of the infringing activity. Defendants further establish the timing and manner of their respective performance of the infringing activity.

163. Alternatively, the Defendants form a joint enterprise through their implied or express agreement, shared common purpose and pecuniary interest, and shared equal right of control and right to a voice in the performance of the infringing activity.

164. To the extent that Defendants have assigned performance of these steps to third parties, the third parties act as agents of the Defendants to infringe at least Claim 1 of the '036 Patent. Alternatively, the Defendants contract with the third parties to perform the infringing steps. Alternatively, the Defendants condition the third parties' participation and receipt of benefits on the performance on the infringing activity and further establish the respective timing and manner of the third parties' performance of the infringing activity.

165. Defendants' infringing activities were without authority or license under the '036 Patent. Thus, Defendants have, and continue to infringe at least Claim 1 of the '036 Patent under at least 35 U.S.C. § 271(a) by their continued use, testing, manufacture, sale, offer for sale, licensing, and/or importation of the Accused Products without authority.

166. Defendants' acts of direct infringement have caused damage to MPV and MPV is entitled to recover from Defendants the damages sustained by Plaintiff as a result of Defendants' infringing acts in an amount subject to proof at trial, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court, pursuant to 35 U.S.C. § 284.

COUNT IV: DIRECT INFRINGEMENT OF THE '311 PATENT

167. MPV realleges and incorporates by reference the allegations set forth above as if set forth verbatim herein.

168. MPV owns by assignment the entire right, title, and interest in the '311 Patent, including the right to sue for past infringement.

169. The '311 Patent was issued by the United States Patent and Trademark Office on September 20, 2011 and is titled "Identifying Media Assets from Contextual Information." A true and correct copy of the '311 Patent is attached as Exhibit D.

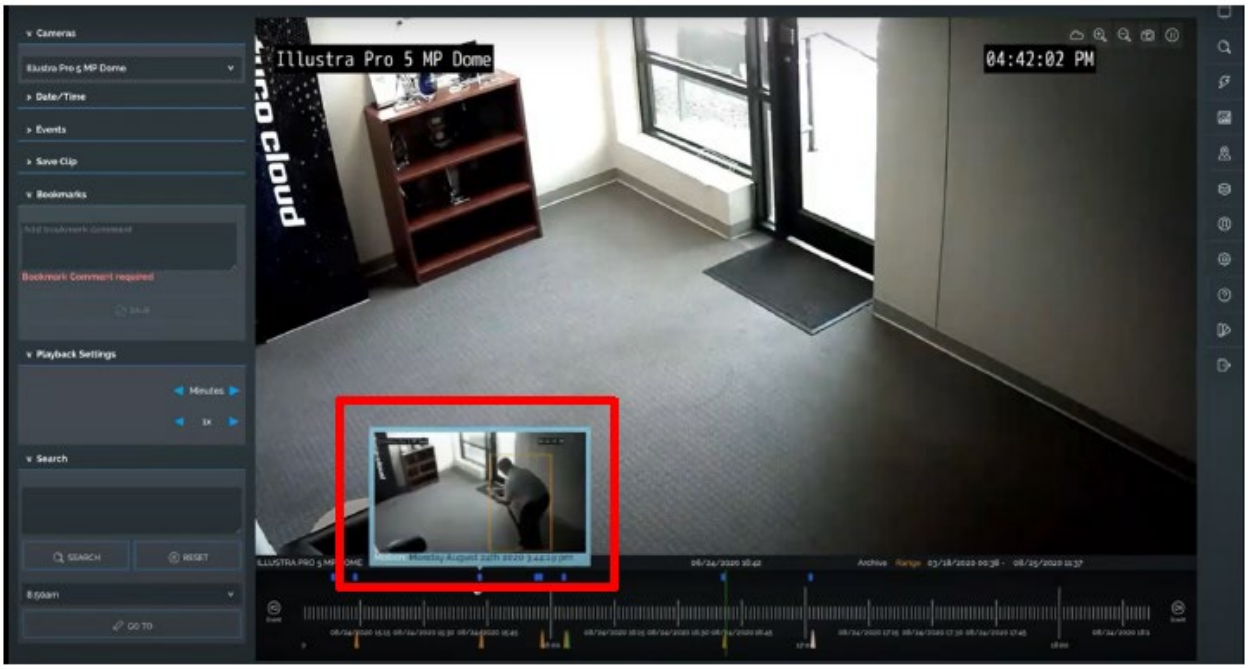
170. To the extent any marking is required for the '311 Patent, Plaintiff is in compliance with 35 U.S.C. § 287.

171. At least Claim 1 of the '311 Patent is infringed by Defendants, including under 35 U.S.C. § 271(a), at least by methods comprising the use of Defendants' Tyco Brand ("Tyco") Cloudvue product using a connected camera (e.g., Defendants' Illustra Pro 4 MP Dome) (the '311 Infringing Instrumentalities). Without limitation, sale, importation and/or use of the '311 Infringing Instrumentalities has comprised the steps noted below.

172. Claim 1 of the '311 Patent covers a "method implemented at least in part by a data processing system, the method for identifying media assets that are potentially relevant to contextual information" and comprises the steps of "receiving, by the data processing system, the contextual information, wherein the received contextual information comprises a first set of contextual information and a second set of information, the second set being received after the first set; identifying a chosen event based at least upon an analysis of the contextual information; identifying a set of media assets based at least upon an analysis of the identified event wherein the step of identifying the set of media assets comprises: identifying a superset of media assets associated with the chosen event based at least upon an analysis of the first set of contextual

information at a time when the second set of contextual information has not yet been received, the superset of media assets comprising more media assets than the set of media assets; and identifying the set of media assets from the superset of media assets based at least upon an analysis of the second set of contextual information; associating, in a processor-accessible memory system, at least some of the contextual information with the chosen event, or at least one asset in the set of media assets, or both the chosen event and at least one asset in the set of media assets."

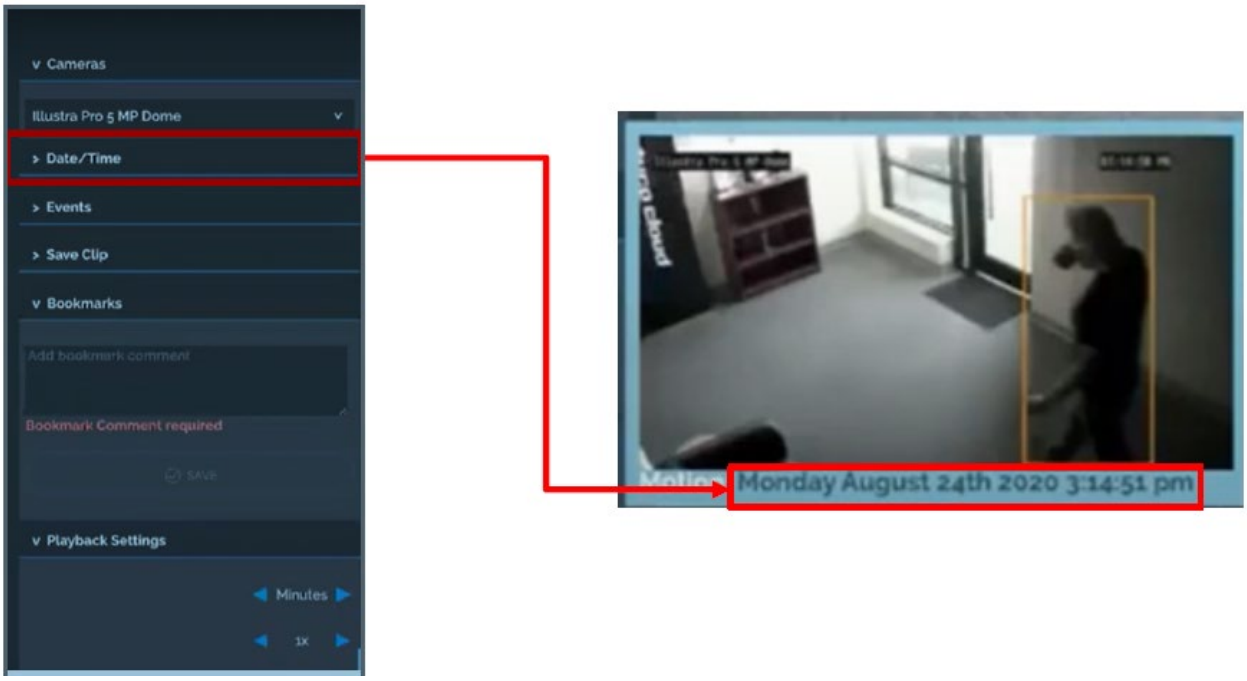
173. The '311 Infringing Instrumentalities perform a method implemented at least in part by a data processing system, the method for identifying media assets that are potentially relevant to contextual information. *See* https://www.youtube.com/watch?v=WypJ2aYWt-Y "Simplify Your Security Installations With Tyco Cloudvue | Webinar" (hereinafter "Cloudvue Webinar") (showing how Defendants' Tyco brand "Cloudvue" solutions identify media assets that are relevant to received contextual information).



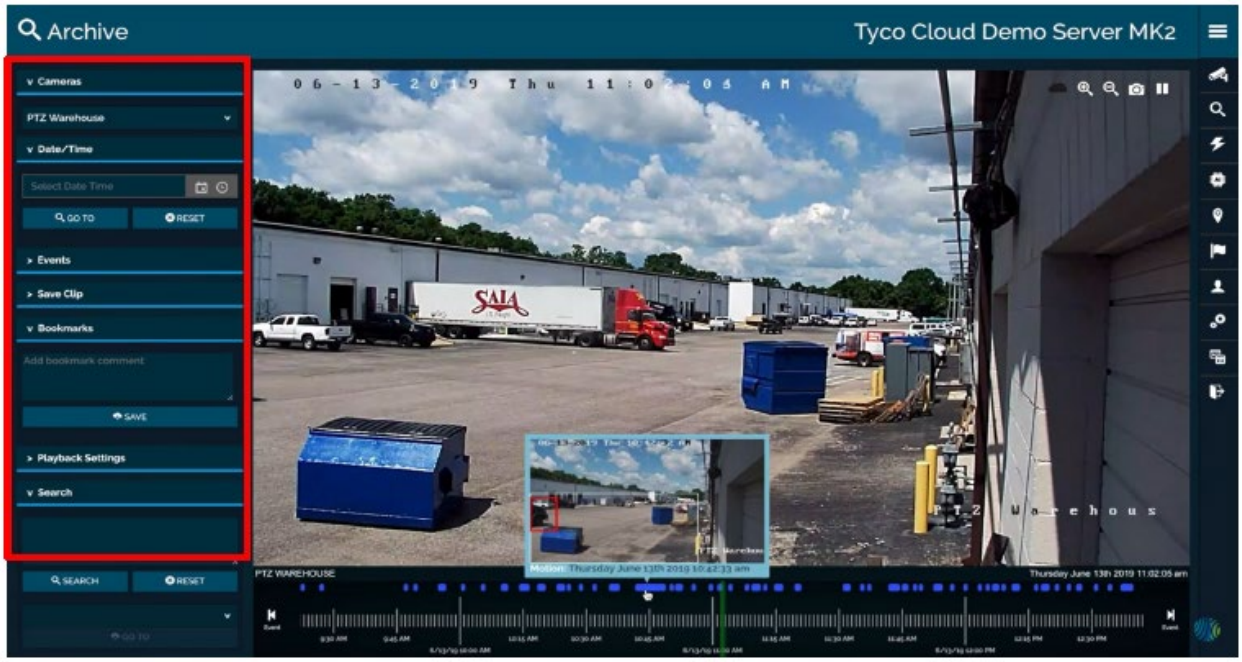
Cloudvue Webinar.

174. Defendants' Cloudvue interface receives "the contextual information, wherein the received contextual information comprises a first set of contextual information." For example, the Cloudvue interface allows users to search captured video by, for example, event information such as motion or people detection (i.e., "contextual information") as shown in Cloudvue Webinar and https://titaniumintelligentsolutions.com/tyco-cloud-cameras-2/ (showing Defendants' cloud camera "search by events" capability).

175. The '311 Infringing Instrumentalities further show where the Defendants' Cloudvue product allows a user to further filter their search results by an additional feature such as a date/time (i.e., "a second set of information … received after the first set") *See* https://titaniumintelligentsolutions.com/tyco-cloud-cameras-2/ (showing Defendants' cloud camera search by "date, time, and camera" capabilities.); Cloudvue Webinar (annotated)



176. The '311 Infringing Instrumentalities further identify a chosen event based upon an analysis of the event and date filters. *See, e.g.,* https://www.youtube.com/watch?v=IwLqWhD0I68 "Tyco Cloud Surveillance Key Features Demo" (hereinafter "Key Features Demo").

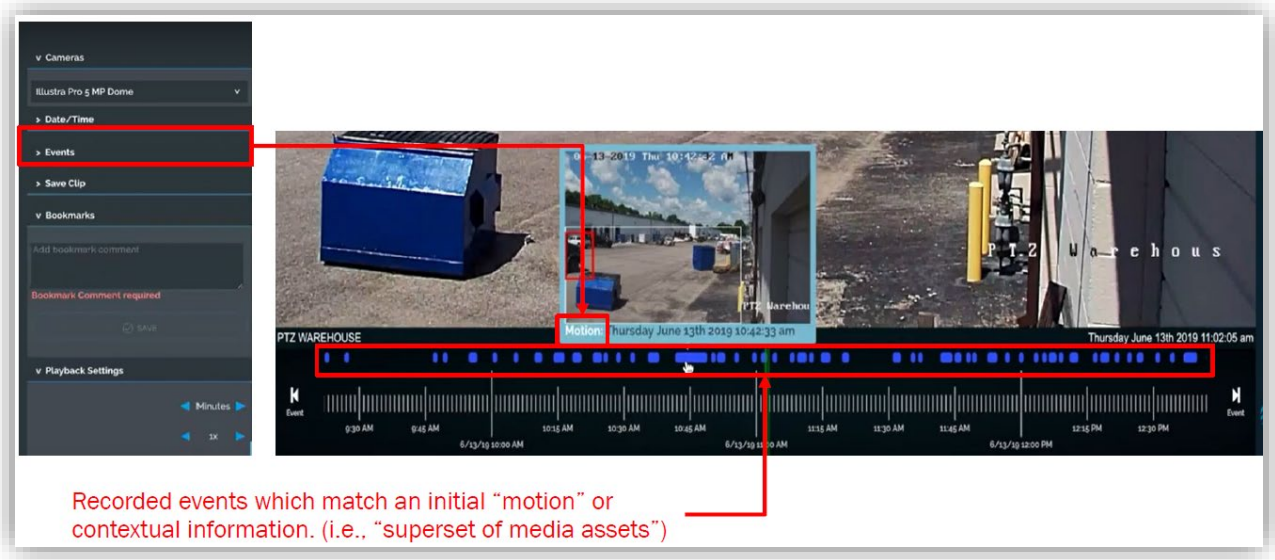


Key Features Demo; *see also* https://titaniumintelligentsolutions.com/tyco-cloud-cameras-2/ (describing "search capabilities" allowing a user to "search by events, date, time, and camera").

177. The '311 Infringing Instrumentalities further identify "a set of media assets based at least upon an analysis of the identified event . . ." in Defendants' Cloudvue which provides users with a set of event previews identifying ("a set of media assets") based on the identified event (e.g., motion).

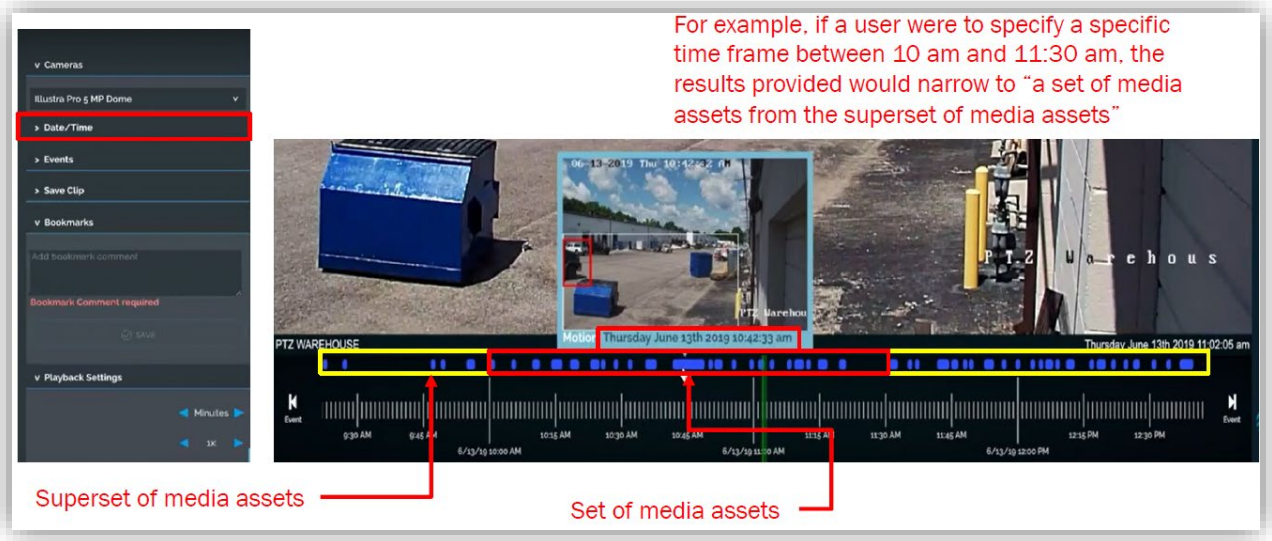
Key Features Demo (annotated); *see also* https://titaniumintelligentsolutions.com/tyco-cloud-cameras-2/ (describing "search capabilities" allowing a user to "see a preview of a motion event in the instant pop-up window on the timeline").

178. The '311 Infringing Instrumentalities further identify "a superset of media assets associated with the chosen event . . ." in Defendants' Cloudvue which provides a superset of captured images based on a first contextual information, such as an event which contains detected motion.



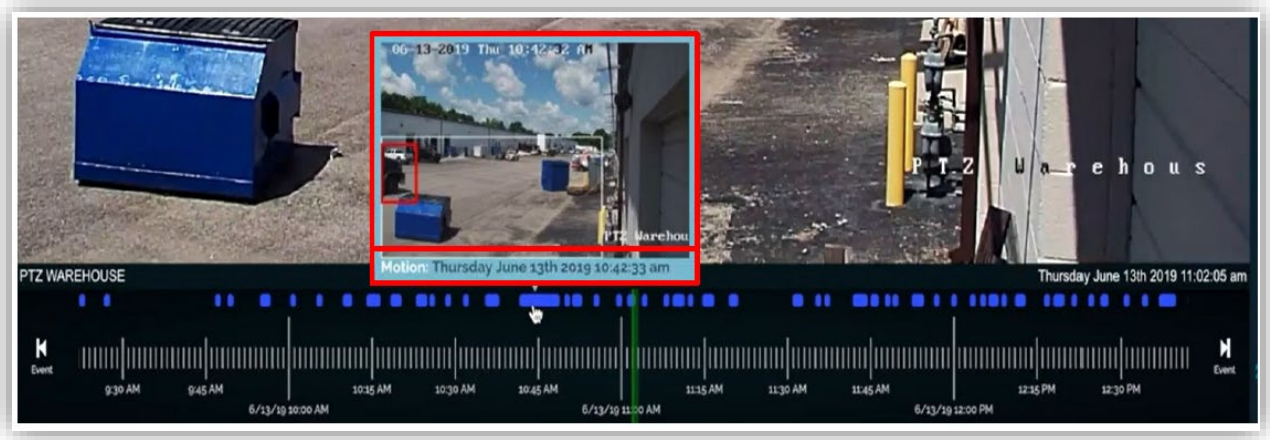
Key Features Demo.

179. The '311 Infringing Instrumentalities further identify a "set of media assets from the superset of media assets . . ." in Defendants' Cloudvue which provides a set of event snapshots (i.e., "media assets") based on an additional user provided filter such as a date/time (i.e., "the second set of contextual information").



Key Features Demo (annotated); *see also* https://titaniumintelligentsolutions.com/tyco-cloud-cameras-2/ (describing "search capabilities" allowing a user to "see a preview of a motion event in the instant pop-up window on the timeline").

180. The '311 Infringing Instrumentalities further associate "at least some of the contextual information with the chosen event . . ." in Defendants' Cloudvue which associates the contextual information with at least one asset in the set of media assets.



Key Features Demo (annotated); *see also* https://titaniumintelligentsolutions.com/tyco-cloud-cameras-2/ (describing "search capabilities" allowing a user to "see a preview of a motion event in the instant pop-up window on the timeline").

181. To the extent that Defendants have divided the performance of these steps among themselves, Defendants act as their respective agents to infringe at least Claim 1 of the '311 Patent. Alternatively, the Defendants contract with each other to perform the infringing steps. Alternatively, Defendants condition their respective participation on the infringing activity, and receive benefits from performance of the infringing activity. Defendants further establish the timing and manner of their respective performance of the infringing activity.

182. Alternatively, Defendants form a joint enterprise through their implied or express agreement, shared common purpose and pecuniary interest, and shared equal right of control and right to a voice in the performance of the infringing activity.

183. To the extent that Defendants have assigned performance of these steps to third parties, the third parties act as agents of the Defendants to infringe at least Claim 1 of the '311 Patent. Alternatively, the Defendants contract with the third parties to perform the infringing steps. Alternatively, the Defendants condition the third parties' participation and receipt of benefits on

the performance on the infringing activity and further establish the respective timing and manner of the third parties' performance of the infringing activity.

184. Defendants' infringing activities were without authority or license under the '311 Patent. Thus, Defendants have, and continue to infringe at least Claim 1 of the '311 Patent under at least 35 U.S.C. § 271(a) by their continued use, testing, manufacture, sale, offer for sale, licensing, and/or importation of the Accused Products without authority.

185. Defendants' acts of direct infringement caused damage to MPV and MPV is entitled to recover from Defendants the damages sustained by Plaintiff as a result of Defendants' infringing acts in an amount subject to proof at trial, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court, pursuant to 35 U.S.C. § 284.

COUNT V: DIRECT INFRINGEMENT OF THE '452 PATENT

186. MPV realleges and incorporates by reference the allegations set forth above as if set forth verbatim herein.

187. MPV owns by assignment the entire right, title, and interest in the '452 Patent, including the right to sue for past infringement.

188. The '452 Patent was issued by the United States Patent and Trademark Office on November 6, 2012 and is titled "Remote Determination of Image-Acquisition Settings and Opportunities." *See* Exhibit E.

189. To the extent any marking is required for the '452 Patent, Plaintiff is in compliance with 35 U.S.C. § 287.

190. At least claim 1 of the '452 patent is infringed by Defendants, including under 35 U.S.C. § 271(a), at least by methods comprising the use of Defendants' Tyco Brand ("Tyco") PowerG Wireless Camera System using "PIR Motion Detector" (the "'452 Infringing

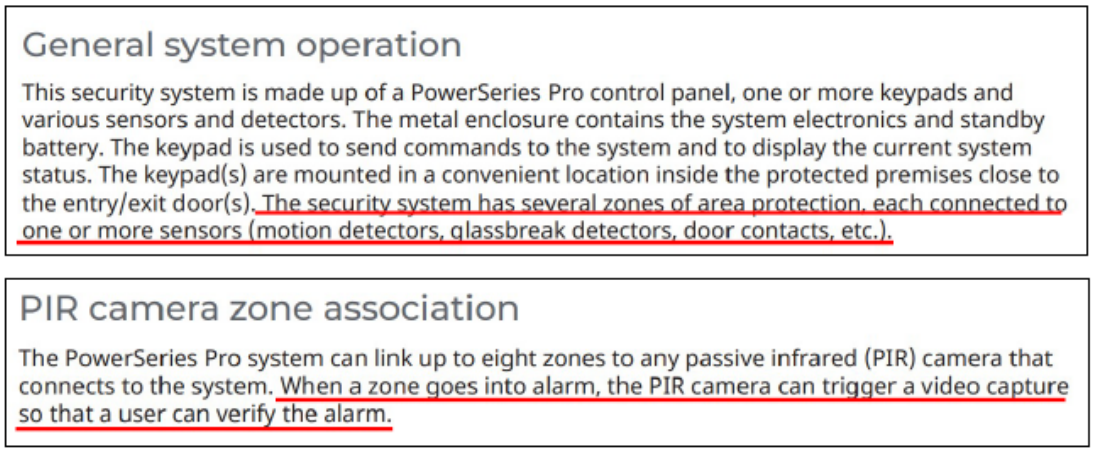
Instrumentalities"). Without limitation, sale, importation and/or use of the '452 Infringing Instrumentalities has comprised the steps noted below.

191. Claim 1 of the '452 Patent covers a method "implemented by a digital camera for determining image acquisition settings and acquiring an image" The method comprising "obtaining with the digital camera and one or more associated sensors, pre-image-acquisition information prior to an image acquisition comprising audio information, and at least one of: illumination information, camera position information, camera orientation information, motion information, an announcement of the digital camera's presence, temperature information, humidity information, ceiling detection information, distance to subject information, spectral information including histograms, a measure of the dynamic range of a scene, or present time; transmitting only the pre-image-acquisition information to an image-acquisition-setting providing system that is external to the digital camera; the digital camera receiving from the system a determination of image acquisition settings based on only the pre-image-acquisition information; and the digital camera performing the image acquisition based upon the received image acquisition settings."

192. The '452 Infringing Instrumentalities comprise a method implemented by a digital camera for determining image acquisition settings and acquiring an image. S*ee, e.g.,* https://cms.dsc.com/download.php?t=1&id=25558 (showing e.g., Tyco's PowerG Wireless Outdoor PIR ("passive infrared") Security Motion Detector with Camera) determining recording settings (i.e., "image acquisition settings") and record video (i.e., "acquiring an image")).

193. The '452 Infringing Instrumentalities comprise obtaining with the digital camera and one or more associated sensors, pre-image-acquisition information prior to an image acquisition comprising audio information. *See, e.g.*, https://www.dsc.com/alarm-security-

products/PG9922%20-%20Wireless%20PowerG%20Glass%20Break%20Detector/2585 and https://cms.dsc.com/download.php?t=1&id=25847.



General system operation

This security system is made up of a PowerSeries Pro control panel, one or more keypads and various sensors and detectors. The metal enclosure contains the system electronics and standby battery. The keypad is used to send commands to the system and to display the current system status. The keypad(s) are mounted in a convenient location inside the protected premises close to the entry/exit door(s). The security system has several zones of area protection, each connected to one or more sensors (motion detectors, glassbreak detectors, door contacts, etc.).

PIR camera zone association

The PowerSeries Pro system can link up to eight zones to any passive infrared (PIR) camera that connects to the system. When a zone goes into alarm, the PIR camera can trigger a video capture so that a user can verify the alarm.

194. This shows that prior to image acquisition, the Tyco cameras obtain motion, audio, and an announcement of the digital camera's presence, from a motion detection camera (e.g., "PIR Camera") and a sound sensor (e.g., "Glass Break Detector") (i.e., "associated sensors"). In particular, the general system operation shows that the security system has "several zones of area protection" connected to "one or more sensors (motion detectors, glassbreak detectors, door contacts, etc." and that "the PIR camera triggers a video capture so that a user can verify the alarm." *Id*.

195. The '452 Infringing Instrumentalities also comprise obtaining with the digital camera and one or more associated sensors at least one of: illumination information, camera position information, camera orientation information, motion information, an announcement of the digital camera's presence, temperature information, humidity information, ceiling detection information, distance to subject information, spectral information including histograms, a measure of the dynamic range of a scene, or present time. Without limitation *See, e.g.*, https://www.dsc.com/alarm-security-products/PG9944%20-%20Outdoor%20PIR%20Motion%20Detector%20with%20Integrated%20Camera/2563 and

https://cms.dsc.com/download.php?t=1&id=25847. This shows that in addition to audio information from the connected sound sensor, Defendants obtain at least motion detection information ("motion information") (e.g., "true motion recognition processing for each of the detectors") from the connected PIR detectors and a digital camera presence link indicator (i.e., "announcement of the digital camera's presence").

196. The '452 Infringing Instrumentalities also comprise transmitting only the pre-image-acquisition information to an image-acquisition-setting providing system that is external to the digital camera. *See, e.g.,* https://cms.dsc.com/download.php?t=1&id=25558; https://www.dsc.com/?n=products&o=view&id=2650:

197. *See also* https://cms.dsc.com/download.php?t=1&id=25847. This shows that Defendants transmit only the detected motion, sound, and camera presence information to a control

panel (i.e., "image-acquisition-setting providing system") (e.g., the PIR camera is "activated the moment an alarm is triggered" after the PowerSeries Pro system is armed, such as in "away mode") external to the digital camera.

198. The '452 Infringing Instrumentalities also comprise the digital camera receiving from the system a determination of image acquisition settings based on only the pre-image-acquisition information and the digital camera performing the image acquisition based upon the received image acquisition settings. *See, e.g.*, https://cms.dsc.com/download.php?t=1&id=24942 and https://cms.dsc.com/download.php?t=1&id=25558 (showing the creation of an alarm 'video clip'). This shows that the control panel communicates to the Tyco cameras an instruction to record video (e.g., "when a zone goes into alarm, the PIR camera can trigger a video capture") (i.e., "determination of image acquisition settings"), based on an alarm being trigged by motion or sound. Defendants' cameras then perform a video recording based upon the received instructions.

199. To the extent that Defendants have divided the performance of these steps among themselves, Defendants as their respective agents to infringe at least Claim 1 of the '452 Patent. Alternatively, the Defendants contract with each other to perform the infringing steps. Alternatively, Defendants condition each other's participation on the infringing activity, and it receives benefits from performance of the infringing activity. Defendants further establish the timing and manner of their respective performance of the infringing activity.

200. Alternatively, the Defendants form a joint enterprise through their implied or express agreement, shared common purpose and pecuniary interest, and shared equal right of control and right to a voice in the performance of the infringing activity.

201. To the extent that Defendants have assigned performance of these steps to third parties, the third parties act as agents of the Defendants to infringe at least Claim 1 of the '452

Patent. Alternatively, the Defendants contract with the third parties to perform the infringing steps. Alternatively, the Defendants condition the third parties' participation and receipt of benefits on the performance on the infringing activity and further establish the respective timing and manner of the third parties' performance of the infringing activity.

202. Defendants' infringing activities were without authority or license under the '452 Patent. Thus, Defendants have, and continue to infringe at least Claim 1 of the '452 Patent under at least 35 U.S.C. § 271(a) by their continued use, testing, manufacture, sale, offer for sale, licensing, and/or importation of the Accused Products without authority.

203. Defendants' acts of direct infringement caused damage to MPV and MPV is entitled to recover from Defendants the damages sustained by Plaintiff as a result of Defendants' infringing acts in an amount subject to proof at trial, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court, pursuant to 35 U.S.C. § 284.

COUNT VI: DIRECT AND INDIRECT INFRINGEMENT OF THE '746 PATENT

204. MPV realleges and incorporates by reference the allegations set forth above as if set forth verbatim herein.

205. MPV owns by assignment the entire right, title, and interest in U.S. Patent No. 8,643,746 ("the '746 Patent"), including the right to sue for past infringement.

206. The '746 Patent was issued by the United States Patent and Trademark Office on February 4, 2014 and is titled "Video Summary Including a Particular Person." *See* Exhibit F.

207. To the extent any marking is required for the '746 Patent, Plaintiff is in compliance with 35 U.S.C. § 287.

208. At least claim 16 of the '746 patent is infringed by Defendants, including under 35 U.S.C. §271(a)-(b), at least by methods comprising the use of Defendants' Tyco Brand ("Tyco") Illustra Insight Camera System using "Tyco AI" (the "'746 Infringing

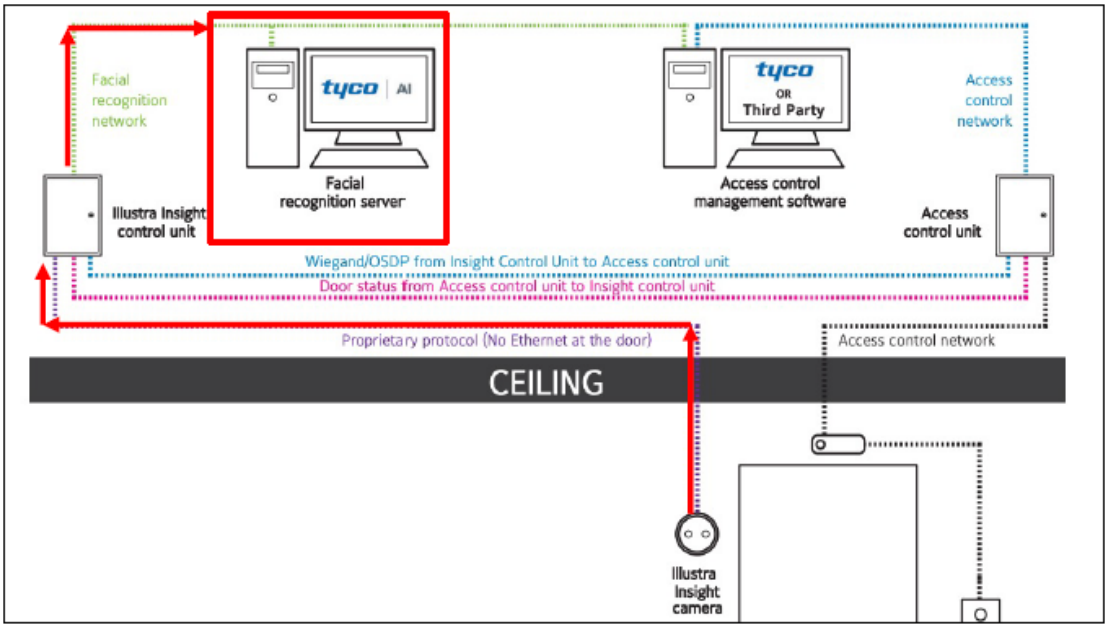
Instrumentalities"), and/or by inducement of the use of the '746 Infringing Instrumentalities. Without limitation, sale, importation and/or use of the '746 Infringing Instrumentalities has comprised and/or has induced the steps noted below.

209. Claim 16 of the '746 patent covers: "[a] method comprising: receiving a video sequence including a time sequence of image frames; receiving a designation with respect to a reference image, wherein the reference image contains a particular person; using a data processor to automatically analyze the image frames using a person recognition algorithm to identify a subset of the image frames that contain the particular person; forming a video summary including fewer than all of the image frames in the video sequence, wherein the video summary includes at least part of the identified subset of image frames containing the particular person; storing the received video sequence in a storage memory; and storing the video summary in the storage memory as a separate summary digital video file."

210. The '746 Infringing Instrumentalities comprise receiving a video sequence including a time sequence of image frames (*e.g.*, recorded video). S*ee, e.g.* https://illustracameras.com/wp-content/uploads/2020/11/illustra-Insight_ds_r06_hs_en.pdf.

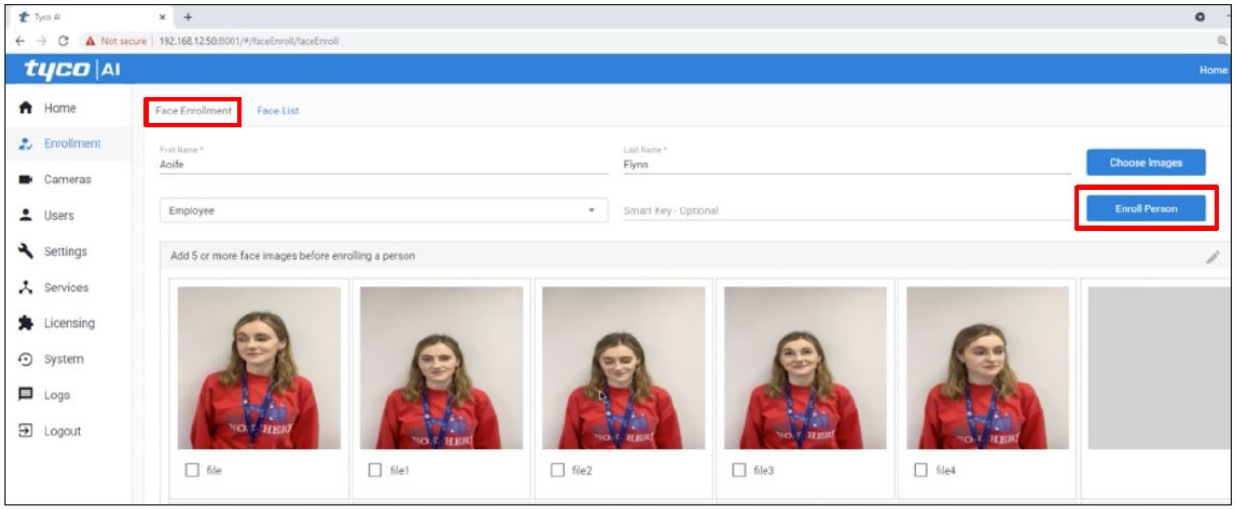
Facial Recognition Enabled by Tyco AI

Tyco AI artificial intelligent is a cerebral engine that goes beyond surveillance and access to enhance a security ecosystem. Illustra Insight integrates with Tyco AI to enhance the best in class video surveillance and access control solutions from Tyco with leading-edge facial recognition that is designed to identify and alert security to tailgating and eliminate the risk of card pass back or spoofing via photographic image.



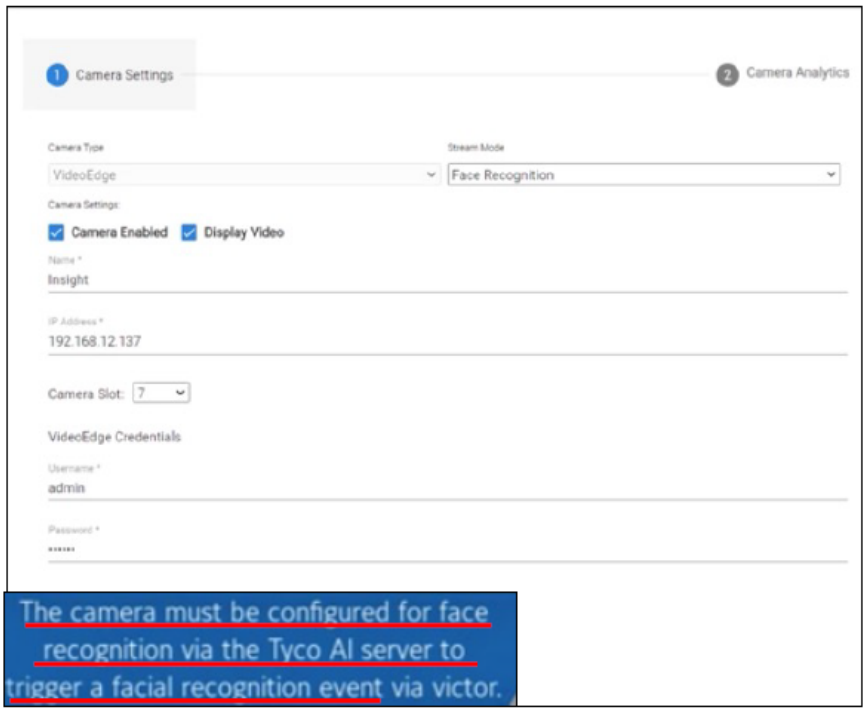
Id. This shows that Defendants receive live video images (i.e., "video sequence including a time sequence of image frames") from Defendants' cameras (e.g., the Illustra Insight camera").

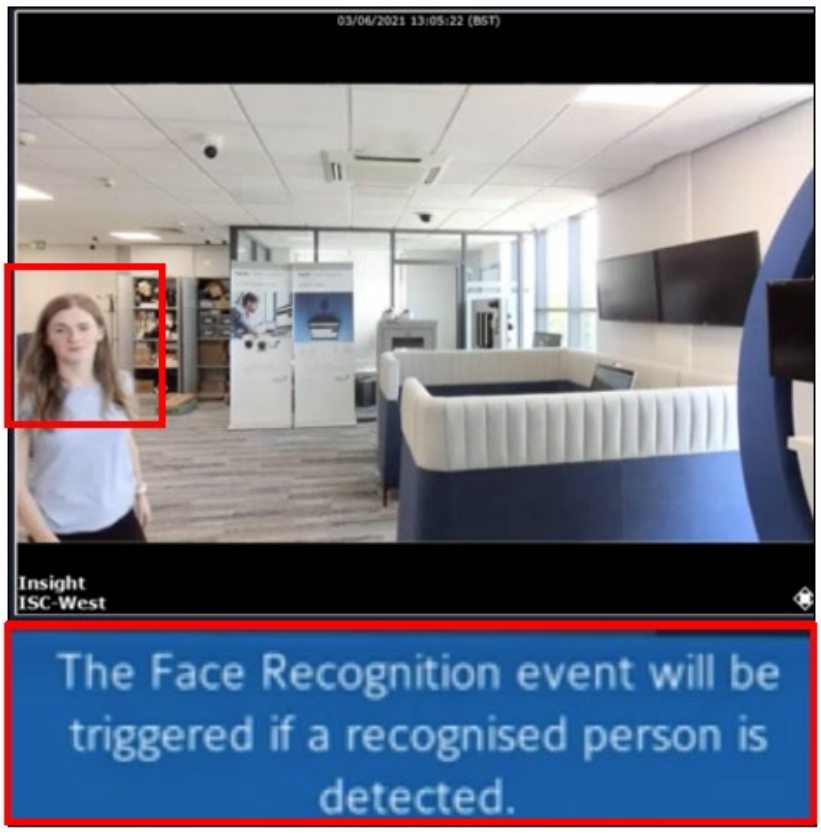
211. The '746 Infringing Instrumentalities comprise receiving a designation with respect to a reference image, wherein the reference image contains a particular person (e.g., a person of interest). *See, e.g.*, https://learn.tycosecurityproducts.com/video/v1308-Tyco-AI-Face-Enrollment/af3815a0f48cb56c596f7170b29019c1.



Id. This shows Tyco's "Face Enrollment" receives a designation with respect to a reference image containing a particular person.

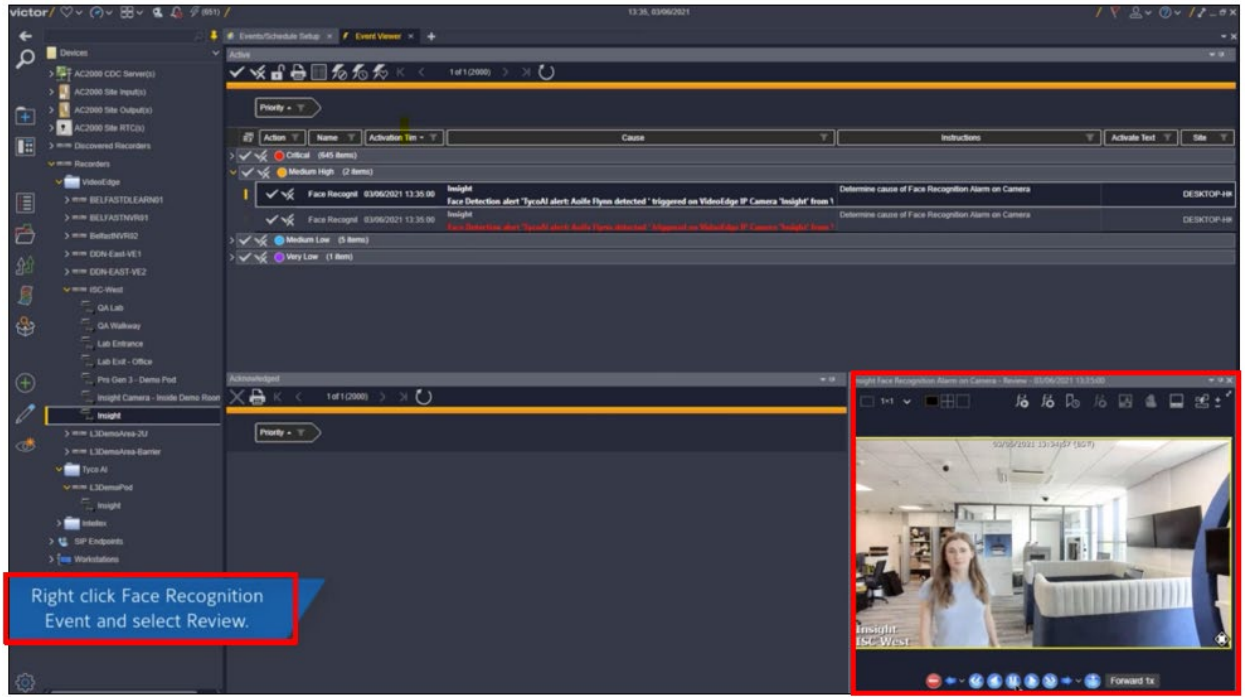
212. The '746 Infringing Instrumentalities comprise using a data processor (e.g., a search-engine) to automatically analyze the image frames using a person recognition algorithm (e.g., a face detection algorithm) to identify a subset of the image frames that contain the particular person (see above). S*ee, e.g.*, https://learn.tycosecurityproducts.com/category/video/v1308-Tyco-AI-Face-Recognition-Event/a37c3f19ae8f87c4b9a1c97ff0c36a0a/84.


1 Camera Settings
2 Camera Analytics
Camera Type
VideoEdge
Stream Mode
Face Recognition
Camera Settings:
Camera Enabled
Display Video
Name *
Insight
IP Address *
192.168.12.137
Camera Slot: 7
VideoEdge Credentials
Username *
admin
Password *
The camera must be configured for face recognition via the Tyco AI server to trigger a facial recognition event via victor.


03/06/2021 13:05:22 (BST)
Insight
ISC-West
The Face Recognition event will be triggered if a recognised person is detected.

Id. Tyco uses the Tyco AI server ("a processor") to analyze live video using a person recognition algorithm to identify those frames (i.e., "a subset of the image frames") that include the particular person.

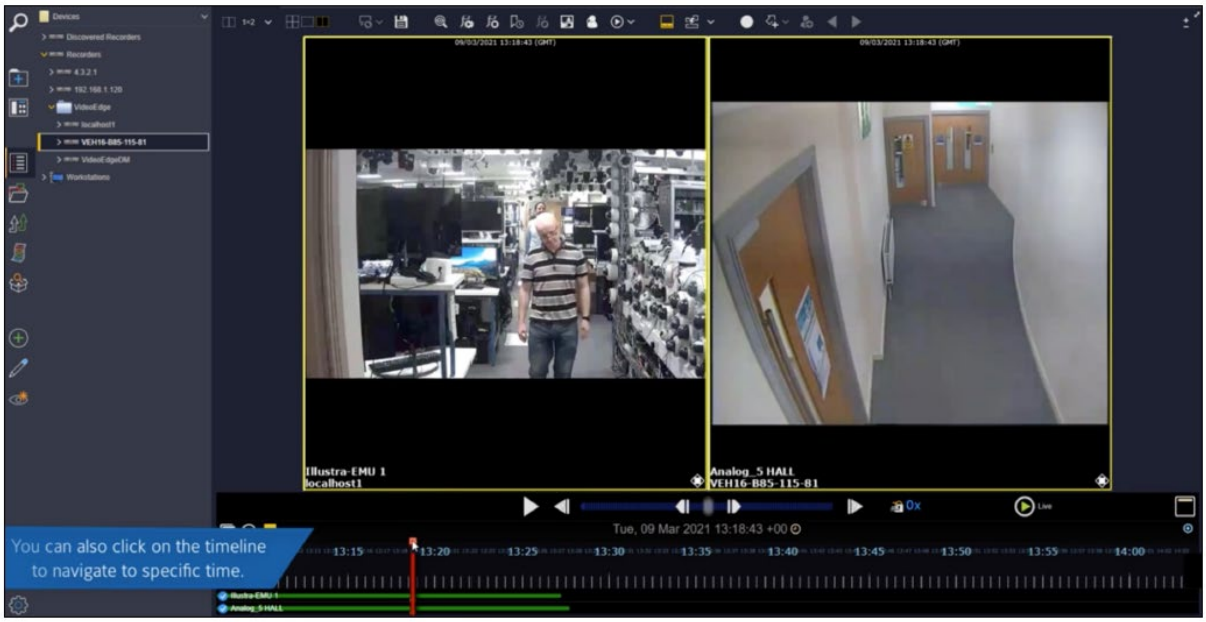
213. The '746 Infringing Instrumentalities comprise forming a video summary including fewer than all of the image frames in the video sequence, wherein the video summary includes at least part of the identified subset of image frames containing the particular person (see above). S*ee, e.g.*, https://learn.tycosecurityproducts.com/category/video/v1308-Tyco-AI-Face-Recognition-Event/a37c3f19ae8f87c4b9a1c97ff0c36a0a/84.



Id.

214. Tyco forms review video clips (i.e., "video summary") including frames containing the detected particular person (i.e., "includes at least part of the identified subset of image frames containing the particular person").

215. The '746 Infringing Instrumentalities comprise storing the received video sequence in a storage memory; and storing the video summary (see above) in the storage memory as a separate summary digital video file. *See, e.g.*, https://learn.tycosecurityproducts.com/video/57-Easy-to-Use-Timeline-Control/a2d805ce4646e722e7ef00998a6a28c8.



Id.

216. This shows that Defendants store captured video in a searchable storage location (i.e., "storage memory").

217. To the extent that Defendants have divided the performance of these steps among themselves, Defendants act as their respective agents to infringe at least Claim 16 of the '746 Patent. Alternatively, Defendants contract with each other to perform the infringing steps. Alternatively, Defendants condition each other's participation on the infringing activity, and it receives benefits from performance of the infringing activity. Defendants further establish the timing and manner of their respective performance of the infringing activity.

218. Alternatively, the Defendants form a joint enterprise through their implied or express agreement, shared common purpose and pecuniary interest, and shared equal right of control and right to a voice in the performance of the infringing activity.

219. To the extent that Defendants have assigned performance of these steps to third parties, the third parties act as agents of the Defendants to infringe at least Claim 16 of the '746 Patent. Alternatively, the Defendants contract with the third parties to perform the infringing steps. Alternatively, the Defendants condition the third parties' participation and receipt of benefits on the performance on the infringing activity and further establish the respective timing and manner of the third parties' performance of the infringing activity.

220. Defendants' infringing activities were without authority or license under the '746 Patent. Thus, Defendants have, and continue to infringe at least Claim 16 of the '746 Patent under at least 35 U.S.C. § 271(a), (b) by their continued use, testing, manufacture, sale, offer for sale, licensing, and/or importation of the Accused Products without authority.

221. Further, since at least May 6, 2019, Defendants have actively induced the direct infringement of customers and/or end users, including by providing the '746 Infringing Instrumentalities and instructions/specifications for their use, and including with the intent that such direct infringement occur by its customers and/or end users. Defendants were made aware of their infringement of the '746 Patent, including via an infringement chart, at least in May 6, 2019. Defendants had knowledge of the '746 Patent and actively encouraged its customers to infringe the '746 Patent with the specific intent to do so.

222. Defendants' acts of infringement of the '746 Patent have been willful and intentional. Defendants' infringement has been and remains clear and unauthorized. On

information and belief, Defendants knew or should have known of their clear and unauthorized infringing conduct at least as early as May 6, 2019.

223. Considering facts set forth above, Defendants' knowing and intentional pre-suit and post-suit infringement of the '746 Patent is willful, deliberate, and flagrant, constitutes egregious misconduct worthy of a finding of willful infringement.

224. Defendants' acts of direct and indirect infringement caused damage to MPV and MPV is entitled to recover from Defendants the damages sustained by Plaintiff as a result of Defendants' infringing acts in an amount subject to proof at trial, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court, pursuant to 35 U.S.C. § 284.

COUNT VII: DIRECT AND INDIRECT INFRINGEMENT OF THE '345 PATENT

225. MPV realleges and incorporates by reference the allegations set forth above as if set forth verbatim herein.

226. MPV owns by assignment the entire right, title, and interest in U.S. Patent No. 8,665,345 ("the '345 Patent"), including the right to sue for past infringement.

227. The '345 Patent was issued by the United States Patent and Trademark Office on March 4, 2014 and is titled "Video Summary Including a Feature of Interest." *See* Exhibit G.

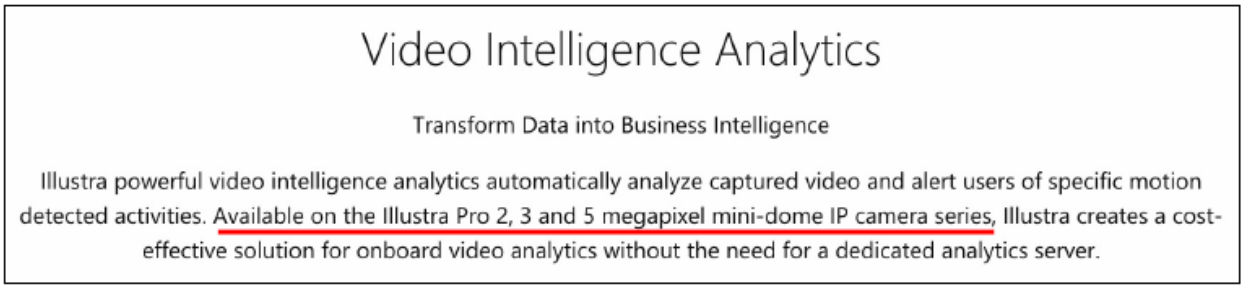
228. To the extent any marking is required for the '345 Patent, Plaintiff is in compliance with 35 U.S.C. § 287.

229. Claim 16 of the '345 Patent covers: a method comprising "receiving a video sequence including a time sequence of image frames; specifying reference data separate from a reference in the received video sequence, wherein the reference data indicates a feature of interest, and wherein the reference data includes information specifying a desired characteristic of the image frames; using a data processor to automatically analyze the image frames using a feature

recognition algorithm to identify a subset of the image frames that contain the feature of interest and have the desired characteristic; forming a video summary including fewer than all of the image frames in the video sequence, wherein the video summary includes at least part of the identified subset of image frames containing the feature of interest and having the desired characteristic; and storing a representation of the video summary in a processor-accessible storage memory."

230. At least claim 16 of the '345 patent is infringed by Defendants, including under 35 U.S.C. §271(a)-(b), by methods comprising the use of Defendants' Tyco Brand ("Tyco") Illustra Pro Gen 4 PTZ Dome Camera Systems (the "'345 Infringing Instrumentalities"), (e.g., the Illustra Pro 2, 3, and 5 megapixel mini-dome IP camera series using video intelligence analytics) and/or by inducement of the use of the '345 Infringing Instrumentalities. Without limitation, sale, importation and/or use of the '345 Infringing Instrumentalities has comprised and/or has induced the steps noted below.

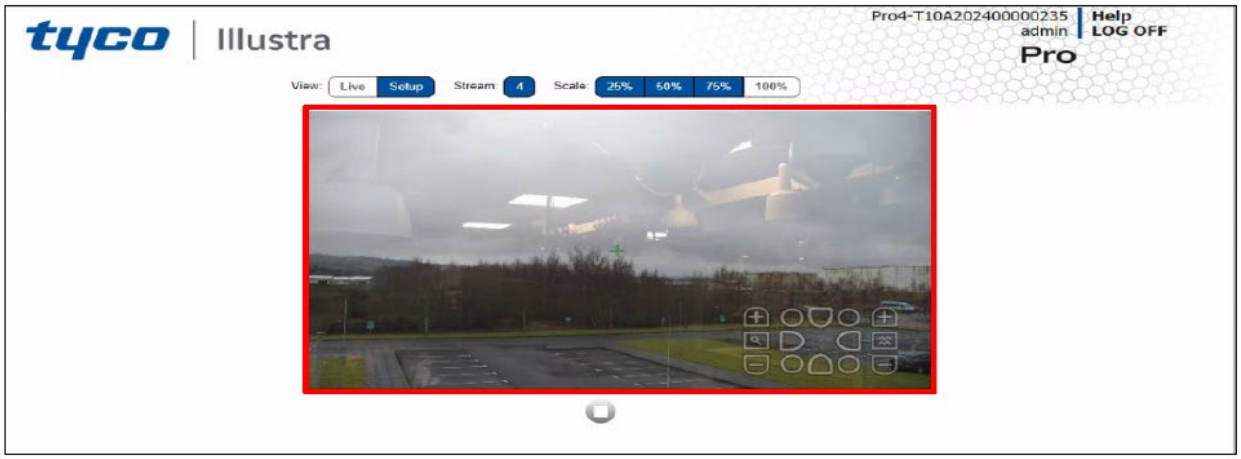
231. The '345 Infringing Instrumentalities comprise receiving a video sequence including a time sequence of image frames. *See, e.g.*: https://illustracameras.com/wp-content/uploads/2021/02/PG4-2MP8MP-PTZ-Domes-UM-8200-2007-02-B0-en-1.pdf.



Video Intelligence Analytics

Transform Data into Business Intelligence

Illustra powerful video intelligence analytics automatically analyze captured video and alert users of specific motion detected activities. Available on the Illustra Pro 2, 3 and 5 megapixel mini-dome IP camera series, Illustra creates a cost-effective solution for onboard video analytics without the need for a dedicated analytics server.



Id.

232. This shows Defendants receive live video images (i.e., "video sequence including a time sequence of image frames") from their cameras (e.g., Illustra Pro 2,3, and 5 megapixel mini-done IP camera).

233. The '345 Infringing Instrumentalities comprise specifying reference data (e.g., a request) separate from a reference in the received video sequence, wherein the reference data indicates a feature of interest (e.g., the face of a person of interest), and wherein the reference data includes information specifying a desired characteristic (e.g., information indicative of the face of a person of interest) of the image frames. *See, e.g.*, https://illustracameras.com/wp-content/uploads/2021/02/PG4-2MP8MP-PTZ-Domes-UM-8200-2007-02-B0-en-1.pdf

Video Intelligence Camera Alarms

After enabling Video Intelligence on a camera, you can define alarm rules that trigger an event.

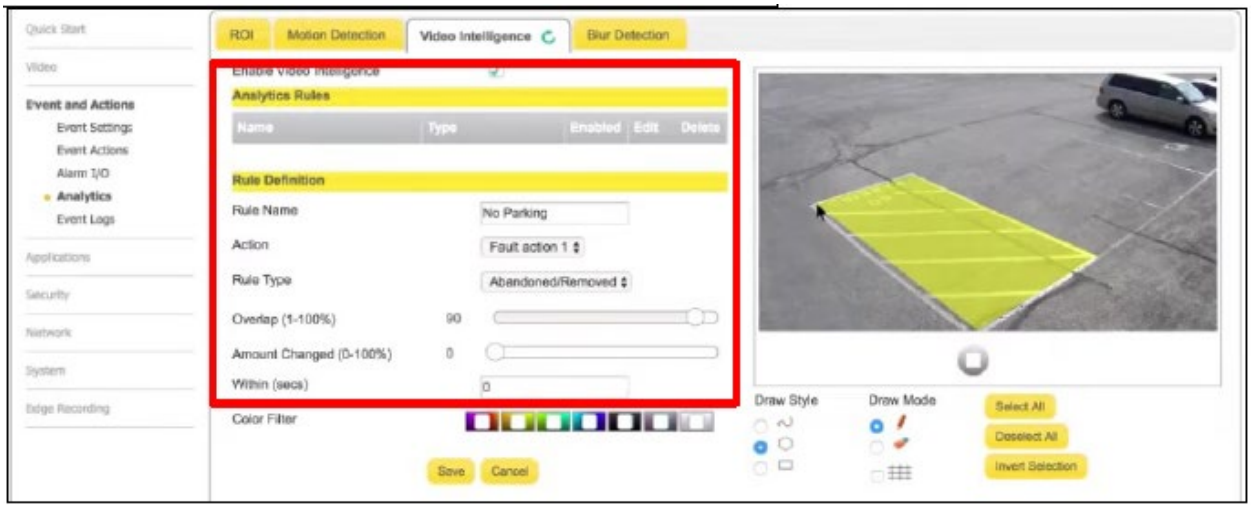
Each camera can have any number of independent Video Intelligence rules. In each rule you can define the areas in the cameras view that you want to monitor. You can name each alarm rule. It is best to use descriptive names like 'Back Door' or 'Conference Room', as these names make it easier to identify the alarm rule in the alerts log better than an abstract name. You can choose the Video Intelligence or Deep Intelligence type for the rule.

The areas that you want to monitor in a cameras view are configured in the Camera Alarm Configuration drawing window, a live display of the camera view. To determine the areas of the camera view that you want monitored, you need to draw on the window. Use the drawing tools to draw on the Camera Alarm Configuration window.

Benefits of Video Analytics

- Automatically detect and notify security personnel of suspicious events
- Streamline security operations to see relevant video evidence immediately
- Minimize search time with configured video analytic alarms
- Save expenses and network load with intelligent analytics on the edge
- Choose from nine analytic alarms including: Object Detection / Abandoned/Removed / Direction / Linger / Dwell / Enter/Exit / Crowd / Queue / Perimeter

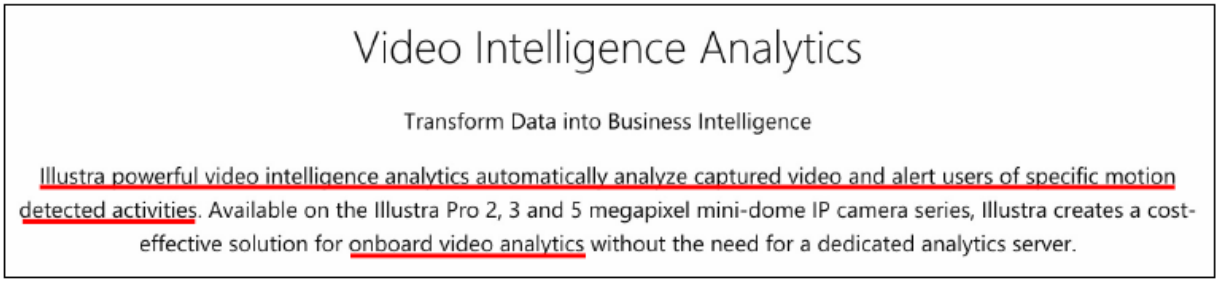
Id.



"Illustra Video Analytics" https://www.youtube.com/watch?v=DaovXkVwY24&t=73s

234. In particular, this shows that Defendants specify video intelligence event data (i.e., "reference data") separate from a reference in the received live video, wherein the data indicates an abandoned object, a moving object, etc. (i.e., "feature of interest") and wherein the event data includes information specifying, for example, the percent overlap of the object and a region of interest, the length of time the object has been in a region of interest, etc. (i.e., "a desired characteristic of the image frames").

235. The '345 Infringing Instrumentalities comprise using a data processor to automatically analyze the image frames using a feature recognition algorithm to identify a subset of the image frames that contain the feature of interest (see above) and have the desired characteristic (see above). *See, e.g*. https://illustracameras.com/wp-content/uploads/2021/02/PG4-2MP8MP-PTZ-Domes-UM-8200-2007-02-B0-en-1.pdf.

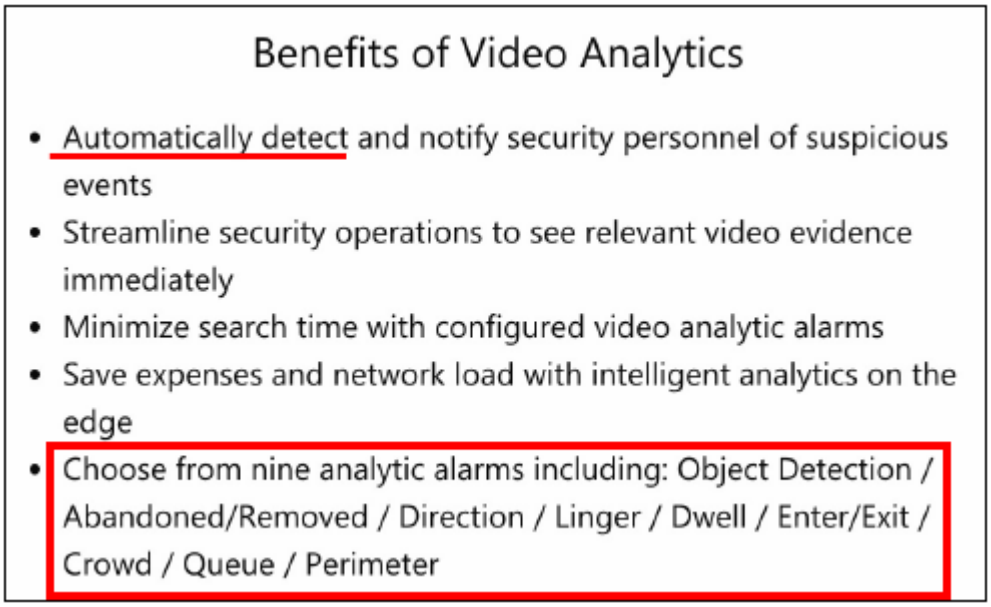


Video Intelligence Analytics

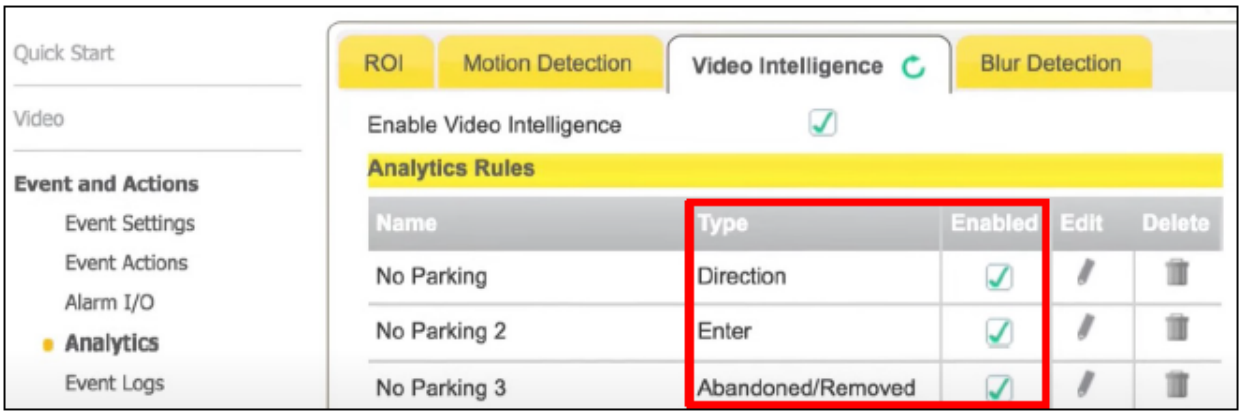
Transform Data into Business Intelligence

Illustra powerful video intelligence analytics automatically analyze captured video and alert users of specific motion detected activities. Available on the Illustra Pro 2, 3 and 5 megapixel mini-dome IP camera series, Illustra creates a cost-effective solution for onboard video analytics without the need for a dedicated analytics server.

Id.



https://illustracameras.com/smart-technologies

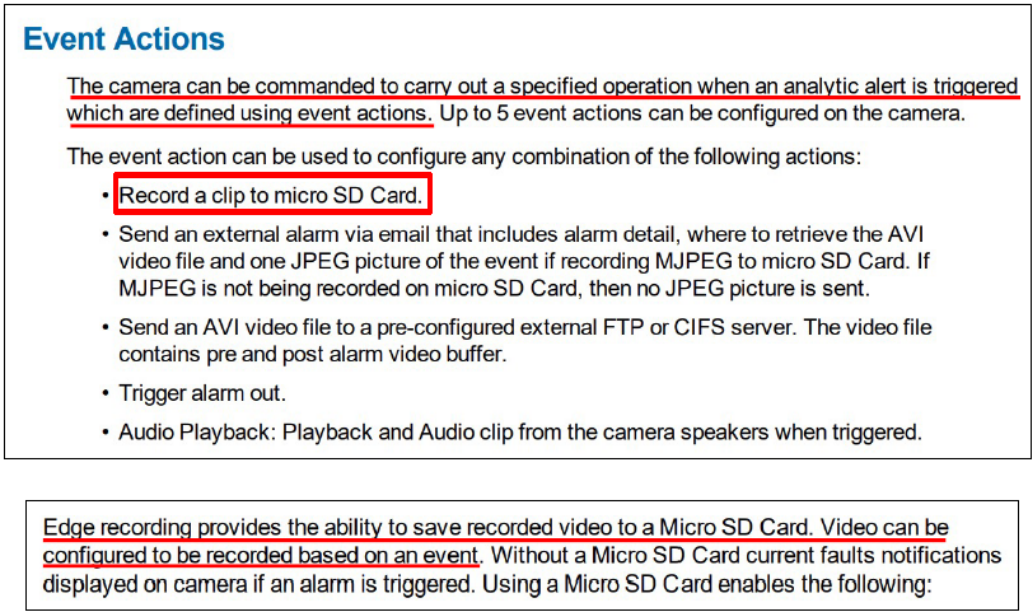


https://www.youtube.com/watch?v=DaovXkVwY24

236. Defendants use a processor to automatically analyze the live video images using Illustra video intelligence analytics (i.e., "feature recognition algorithm") to identify those video frames (i.e., "a subset of the image frames") that contain an object of interest according to the desired characteristics specified in the event data.

237. The '345 Infringing Instrumentalities comprise forming a video summary including fewer than all of the image frames in the video sequence (e.g., a short sequence of video frames), wherein the video summary includes at least part of the identified subset of image frames

containing the feature of interest and having the desired characteristic; and storing a representation of the video summary in a processor-accessible storage memory.



Event Actions

The camera can be commanded to carry out a specified operation when an analytic alert is triggered which are defined using event actions. Up to 5 event actions can be configured on the camera.

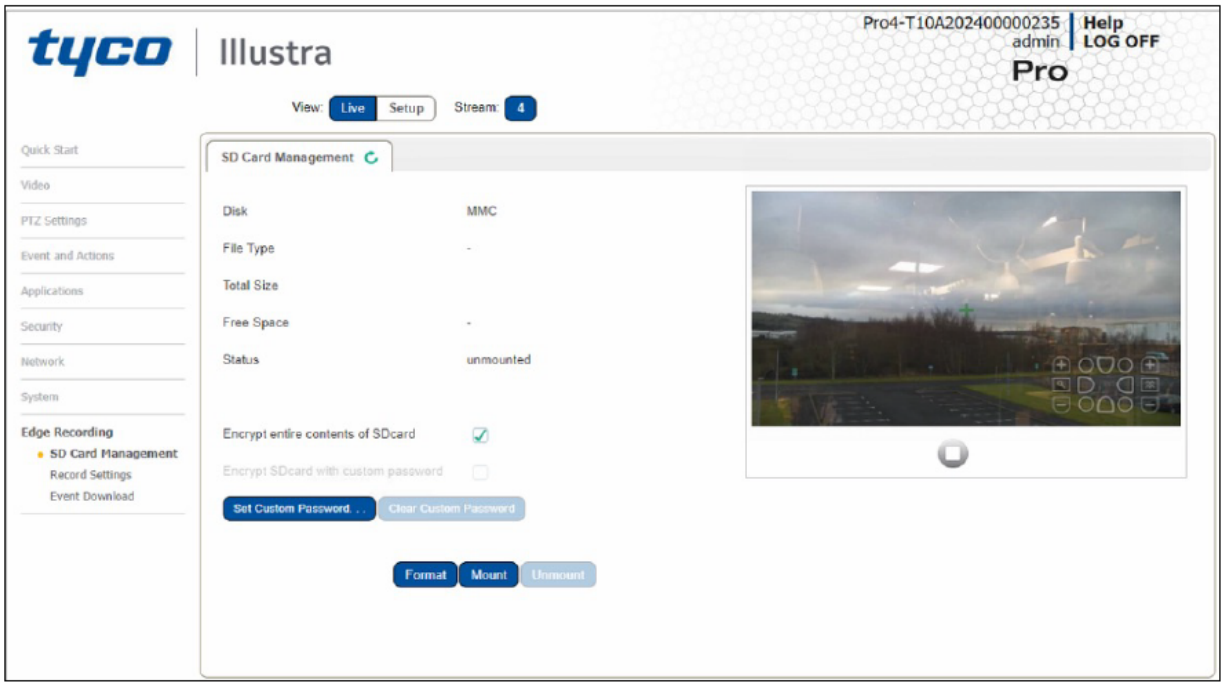
The event action can be used to configure any combination of the following actions:

- Record a clip to micro SD Card.
- Send an external alarm via email that includes alarm detail, where to retrieve the AVI video file and one JPEG picture of the event if recording MJPEG to micro SD Card. If MJPEG is not being recorded on micro SD Card, then no JPEG picture is sent.
- Send an AVI video file to a pre-configured external FTP or CIFS server. The video file contains pre and post alarm video buffer.
- Trigger alarm out.
- Audio Playback: Playback and Audio clip from the camera speakers when triggered.

Edge recording provides the ability to save recorded video to a Micro SD Card. Video can be configured to be recorded based on an event. Without a Micro SD Card current faults notifications displayed on camera if an alarm is triggered. Using a Micro SD Card enables the following:

See, e.g., https://illustracameras.com/wp-content/uploads/2020/04/EG4-2MP-Dome-Bullet-UM_8200-1929-03-A0_en.pdf; https://illustracameras.com/wp-content/uploads/2020/01/ProG3-2MP-3MP-5MP-8MP-Series-UM_8200-1630-02-D0_en.pdf

If an event action has record mode enabled, when triggered, the associated video is logged in the event download table where it can later be downloaded from an Micro SD Card using the specified upload protocol.



238. The '345 Infringing Instrumentalities form recordings (i.e., "a video summary including fewer than all of the image frames"), wherein the recordings include at least those frames (i.e., "identified subset of image frames") that contain the detected object and have the desired characteristics specified in the event data. Defendants further store the recorded event clips (i.e., "a representation of the video summary") in a micro SD card (i.e., "processor-accessible storage memory").

239. To the extent that Defendants have divided the performance of these steps among themselves, Defendants act as their respective agents to infringe at least Claim 16 of the '345 Patent. Alternatively, Defendants contract with each other to perform the infringing steps. Alternatively, Defendants condition each other's participation on the infringing activity, and it receives benefits from performance of the infringing activity. Defendants further establish the timing and manner of their respective performance of the infringing activity.

240. Alternatively, the Defendants form a joint enterprise through their implied or express agreement, shared common purpose and pecuniary interest, and shared equal right of control and right to a voice in the performance of the infringing activity.

241. To the extent that Defendants have assigned performance of these steps to third parties, the third parties act as agents of the Defendants to infringe at least Claim 16 of the '345 Patent. Alternatively, the Defendants contract with the third parties to perform the infringing steps. Alternatively, the Defendants condition the third parties' participation and receipt of benefits on the performance on the infringing activity and further establish the respective timing and manner of the third parties' performance of the infringing activity.

242. Defendants' infringing activities were without authority or license under the '345 Patent. Thus, Defendants have, and continue to infringe at least Claim 16 of the '345 Patent under at least 35 U.S.C. § 271(a), (b) by their continued use, testing, manufacture, sale, offer for sale, licensing, and/or importation of the Accused Products without authority.

243. Further, since at least May 6, 2019, Defendants have actively induced the direct infringement of customers and/or end users, including by providing the '345 Infringing Instrumentalities and instructions/specifications for their use, and including with the intent that such direct infringement occur by its customers and/or end users. Defendants were made aware of their infringement of the '345 Patent, including via an infringement chart, at least May 6, 2019. Defendants had knowledge of the '345 Patent and actively encouraged its customers to infringe the '345 Patent with the specific intent to do so.

244. Defendants' acts of infringement of the '345 Patent have been willful and intentional. Defendants' infringement has been and remains clear and unauthorized. On

information and belief, Defendants knew or should have known of their clear and unauthorized infringing conduct at least as early as May 6, 2019.

245. Considering facts set forth above, Defendants' knowing and intentional pre-suit and post-suit infringement of the '345 Patent is willful, deliberate, and flagrant, constitutes egregious misconduct worthy of a finding of willful infringement.

246. Defendants' acts of direct and indirect infringement caused damage to MPV and MPV is entitled to recover from Defendants the damages sustained by Plaintiff as a result of Defendants' infringing acts in an amount subject to proof at trial, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court, pursuant to 35 U.S.C. § 284.

COUNT VIII: DIRECT AND INDIRECT INFRINGEMENT OF THE '155 PATENT

247. MPV realleges and incorporates by reference the allegations set forth above as if set forth verbatim herein.

248. MPV owns by assignment the entire right, title, and interest in the '155 Patent, including the right to sue for past infringement.

249. The '155 Patent was issued by the United States Patent and Trademark Office on September 23, 2014 and is titled "Portable Video Communication System." *See* Exhibit H.

250. To the extent any marking is required for the '155 Patent, Plaintiff is in compliance with 35 U.S.C. § 287.

251. At least claim 15 of the '155 Patent is infringed by Defendants, including under 35 U.S.C. §271(a)-(b), at least by the use of Defendants' Tyco Brand ("Tyco") Illustra Essentials Camera System using "Privacy Zones" (the "'155 Infringing Instrumentalities"), and/or by inducement of the use of the '155 Infringing Instrumentalities. Without limitation, sale,

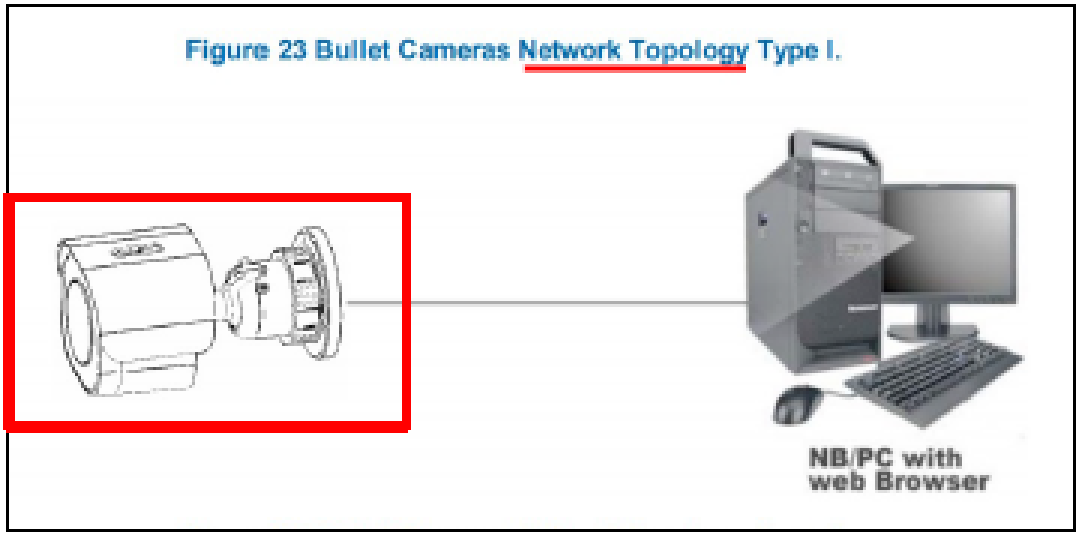
importation and/or use of the ’155 Infringing Instrumentalities has comprised and/or has induced the steps noted below.

252. Claim 15 of the ’155 patent covers an “apparatus for adapting a displayed image” comprising: “a capture device configured to capture a digital video or still image, wherein the digital video or still image is captured based on instructions received from a remote device over a wireless communication network; a processor operatively coupled to the capture device and configured to adjust an allowed image capture area of the digital video or still image such that at least a portion of a background of the digital video or still image is removed from the digital video or still image; a transmitter operatively coupled to the processor and configured to transmit the adjusted digital video or still image over the wireless communication network to the remote device; and a display device configured to present a verification image, wherein the verification image is configured to provide visual verification as to what the transmitted adjusted digital video or still image looks like.”

253. The ’155 Infringing Instrumentalities comprise an apparatus for adapting a displayed image configured to capture a digital video or still image, wherein the digital video or still image is captured based on instructions received from a remote device over a wireless communication network. *See, e.g.*, https://illustracameras.com/wp-content/uploads/2020/12/EG4-2MP-Dome-Bullet-UM_8200-1929-03-C0_en.pdf (showing the camera system’s use of “Privacy Zones” that “mask” selections of the camera’s viewing area.) For example, Defendants provide that “Privacy Zones” may be “‘masked’ sections of the camera’s viewing area” to “prevent operators of the surveillance system who do not have access to the camera password from viewing these designated zones.” *Id.* Further, “[e]ach zone has four sides, and the zones may overlap to

form irregular shapes. The apparent size of the Privacy Zone adjusts automatically as the zoom level is adjusted." *Id.*

254. The Tyco cameras (i.e., "capture device") also capture a video or photo image (i.e., "digital video or still image"), wherein the video or photo image is captured based on configurations (i.e., "instructions") received from a remote computer (i.e., "remote device") over a WiFi internet connection (i.e., "wireless communication network"). *Id.*



255. Tyco cameras (i.e., "capture device") capture a video or photo image (i.e., "digital video or still image"), wherein the video or photo image is captured based on configurations (i.e., "instructions") received from a remote computer (i.e., "remote device") over a WiFi internet connection (i.e., "wireless communication network").

256. The '155 Infringing Instrumentalities comprise a processor operatively coupled to the capture device and configured to adjust an allowed image capture area of the digital video or still image such that at least a portion of a background of the digital video or still image is removed from the digital video or still image. Without limitation see *Id.*

257. Defendants' systems include a processor configured to enable a Privacy Zone (i.e., "adjust an allowed image capture area") such that at least a portion includes a masked area (i.e., "at least a portion of the background") is removed (i.e., "removed from the digital video or still image") (e.g., such that certain operators of the surveillance system may be prevented from having access to view these "designated zones."). *Id.*

258. The '155 Infringing Instrumentalities comprise a transmitter operatively coupled to the processor and configured to transmit the adjusted digital video or still image over the wireless communication network to the remote device. For example, Defendants' system includes a transmitter operatively coupled to the processor and configured to transmit the video or photo image with the Privacy Mask over the wireless connection to the remote computer. *See Id.* (explaining that the "Illustra Essentials Gen4 cameras deliver video images in real-time using the internet and intranet.").

259. The '155 Infringing Instrumentalities also comprise a display device configured to present a verification image, wherein the verification image is configured to provide visual verification as to what the transmitted adjusted digital video or still image looks like. *See Id.*

260. Tyco presents a preview image (i.e., "a verification image") on a monitor ("display device") to provide a visual verification as to where the privacy mask will appear (i.e., "what the transmitted adjusted digital video or photo image looks like") in the captured video or photo. *See, e.g.*, Tyco's American Dynamics line of home monitors available at https://www.americandynamics.net/Products/Monitors_Home for use with "Network Topology Type I."

261. To the extent that Defendants have divided the performance of these steps among themselves, Defendants act as their respective agents to infringe at least Claim 15 of the '155

Patent. Alternatively, Defendants contract with each other to perform the infringing steps. Alternatively, Defendants condition each other's participation on the infringing activity, and it receives benefits from performance of the infringing activity. Defendants further establish the timing and manner of their respective performance of the infringing activity.

262. Alternatively, Defendants form a joint enterprise through their implied or express agreement, shared common purpose and pecuniary interest, and shared equal right of control and right to a voice in the performance of the infringing activity.

263. To the extent that Defendants have assigned performance of these steps to third parties, the third parties act as agents of the Defendants to infringe at least Claim 15 of the '155 Patent. Alternatively, the Defendants contract with the third parties to perform the infringing steps. Alternatively, the Defendants condition the third parties' participation and receipt of benefits on the performance on the infringing activity and further establish the respective timing and manner of the third parties' performance of the infringing activity.

264. Defendants' infringing activities were without authority or license under the '155 Patent. Thus, Defendants have, and continue to infringe at least Claim 15 of the '155 Patent under at least 35 U.S.C. § 271(a), (b) by their continued use, testing, manufacture, sale, offer for sale, licensing, and/or importation of the Accused Products without authority.

265. Further, since at least May 6, 2019, Defendants have actively induced the direct infringement of customers and/or end users, including by providing the '155 Infringing Instrumentalities and instructions/specifications for their use, and including with the intent that such direct infringement occur by its customers and/or end users. Defendants were made aware of their infringement of the '155Patent, including via an infringement chart, at least in May 6,

2019. Defendants had knowledge of the '155 Patent and actively encouraged its customers to infringe the '155 Patent with the specific intent to do so.

266. Defendants' acts of infringement of the '155 Patent have been willful and intentional. Defendants' infringement has been and remains clear and unauthorized. On information and belief, Defendants knew or should have known of their clear and unauthorized infringing conduct at least as early as May 6, 2019.

267. Considering facts set forth above, Defendants' knowing and intentional pre-suit and post-suit infringement of the '155 Patent is willful, deliberate, and flagrant, constitutes egregious misconduct worthy of a finding of willful infringement.

268. Defendants' acts of direct and indirect infringement caused damage to MPV and MPV is entitled to recover from Defendants the damages sustained by Plaintiff as a result of Defendants' infringing acts in an amount subject to proof at trial, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court, pursuant to 35 U.S.C. § 284.

COUNT IX: DIRECT AND INDIRECT INFRINGEMENT OF THE '604 PATENT

269. MPV realleges and incorporates by reference the allegations set forth above as if set forth verbatim herein.

270. MPV owns by assignment the entire right, title, and interest in U.S. Patent No. 9,013,604 ("the '604 Patent"), including the right to sue for past infringement.

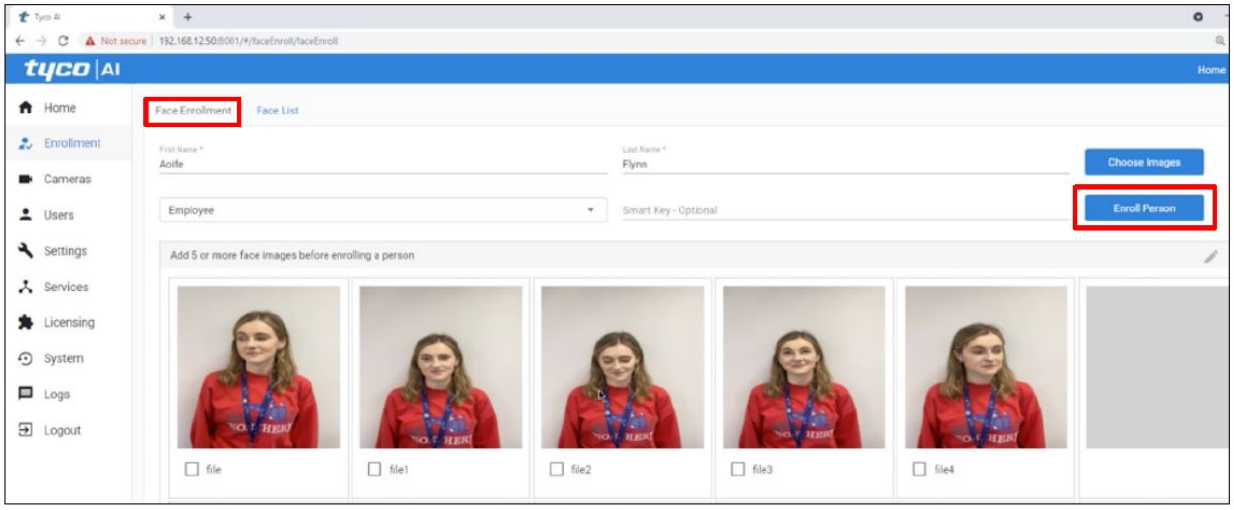
271. The '604 Patent was issued by the United States Patent and Trademark Office on April 21, 2015 and is titled "Video Summary Including a Particular Person." *See* Exhibit I.

272. To the extent any marking is required for the '604 Patent, Plaintiff is in compliance with 35 U.S.C. § 287.

273. At least claim 1 of the ’604 Patent is infringed by Defendants, including under 35 U.S.C. §271(a)-(b), at least by methods comprising the use of Defendants’ Tyco Brand (“Tyco”) Illustra Insight Camera System using “Tyco AI” (the “’604 Infringing Instrumentalities”), and/or by inducement of the use of the ’604 Infringing Instrumentalities. Without limitation, sale, importation and/or use of the ’604 Infringing Instrumentalities has comprised and/or has induced the steps noted below.

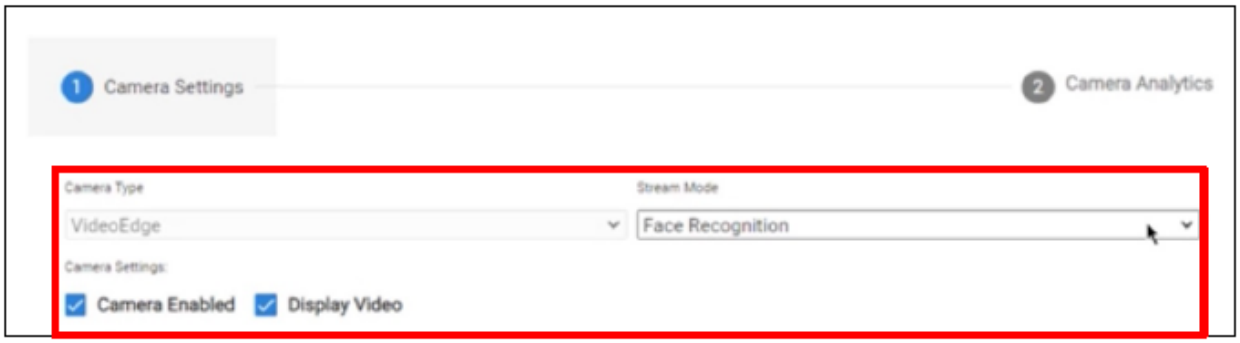
274. Claim 1 of the ’604 Patent covers: “[a] method comprising: receiving a designation regarding a reference image, wherein the reference image contains a particular person; analyzing, using a processing system, image frames to identify a subset of the image frames that contain the particular person; forming, using the processing system, a summary including fewer than all of the image frames, wherein the summary includes at least part of the identified subset of image frames containing the particular person; and storing the summary in storage memory as a separate summary file.”

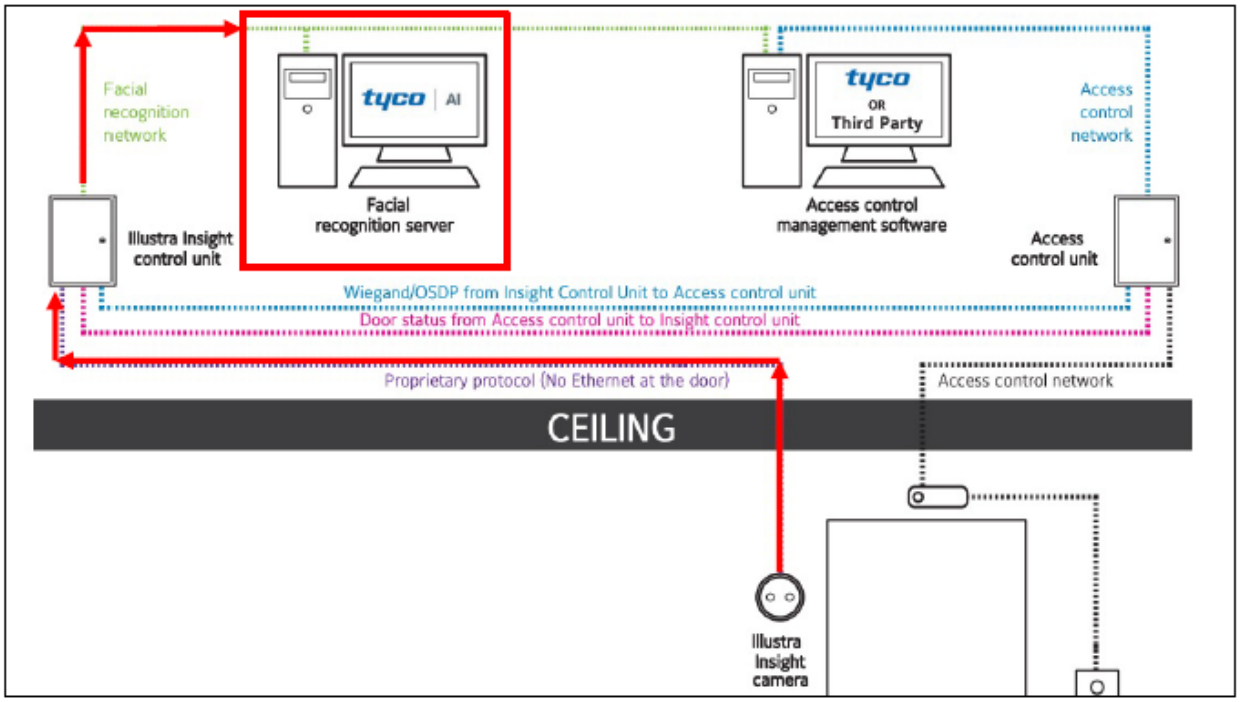
275. The ’604 Infringing Instrumentalities comprise receiving a designation regarding a reference image (e.g., receiving a request including an image), wherein the reference image contains a particular person (e.g., a person of interest). *See, e.g.*, http://www. https://learn.tycosecurityproducts.com/video/v1308-Tyco-AI-Face-Enrollment/af3815a0f48cb56c596f7170b29019c1.

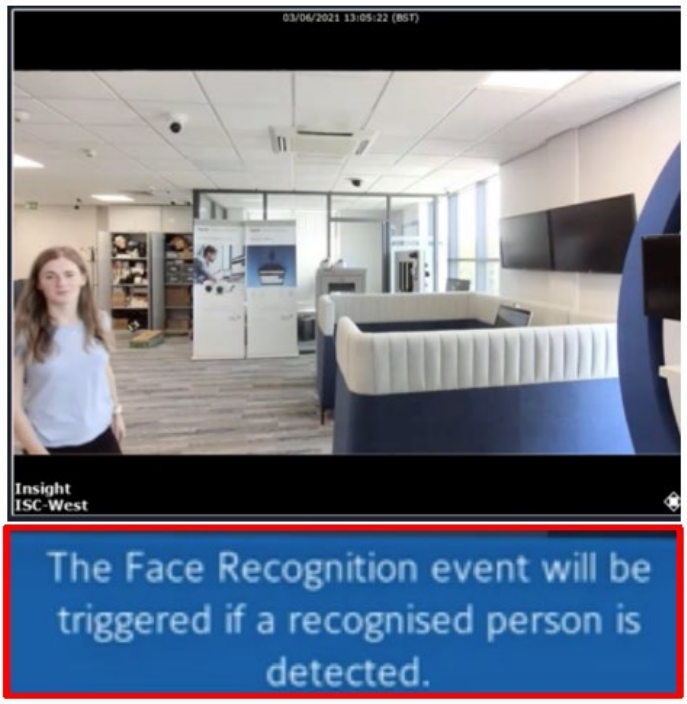


276. Defendants' "Face Enrollment" receives a designation with respect to a reference image containing a particular person.

The '604 Infringing Instrumentalities comprise analyzing, using a processing system (e.g., a processor), image frames to identify a subset of the image frames (i.e., those frames in the video) that contain the particular person. *See, e.g.*, https://learn.tycosecurityproducts.com/category/video/v1308-Tyco-AI-Face-Recognition-Event/a37c3f19ae8f87c4b9a1c97ff0c36a0a/84; https://illustracameras.com/wp-content/uploads/2020/01/ProG3-2MP-3MP-5MP-8MP-Series-UM_8200-1630-02-D0_en.pdf.

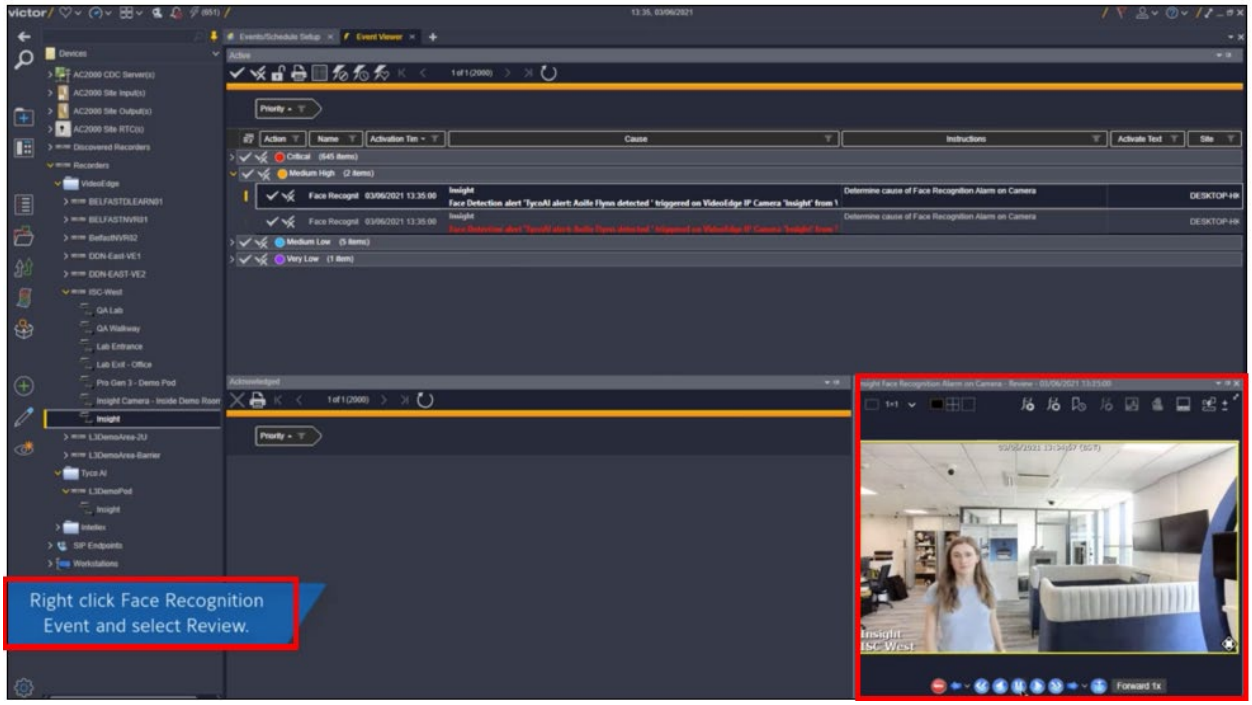

1 Camera Settings
2 Camera Analytics
Camera Type
VideoEdge
Stream Mode
Face Recognition
Camera Settings:
Camera Enabled
Display Video


Facial recognition network
tyco AI
Facial recognition server
tyco OR Third Party
Access control management software
Access control network
Illustra Insight control unit
Access control unit
Wiegand/OSDP from Insight Control Unit to Access control unit
Door status from Access control unit to Insight control unit
Proprietary protocol (No Ethernet at the door)
Access control network
CEILING
Illustra Insight camera



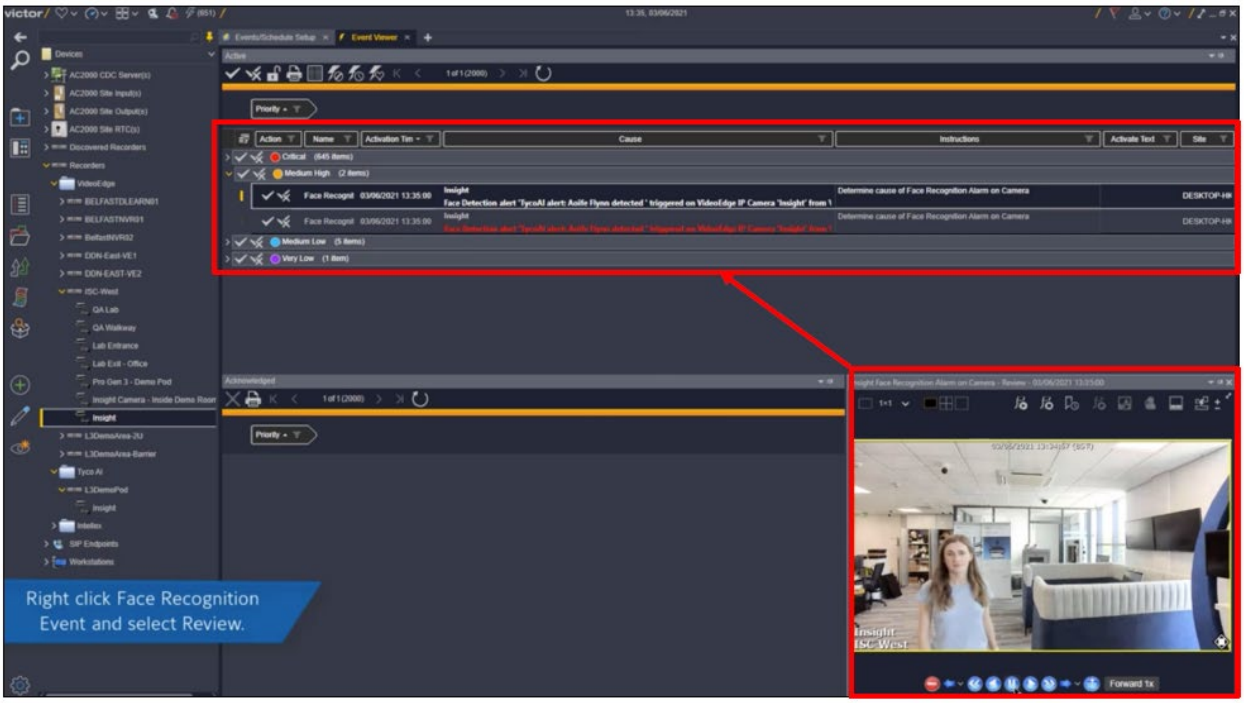
277. Defendants analyze, using the Tyco AI server (i.e., "processing system"), live video received from, for example, the Tyco Illustra Insight camera, to find frames (i.e., "subset of the image frames") that contain a particular recognized person (i.e., "the particular person").

The '604 Infringing Instrumentalities comprise forming, using the processing system, a summary including fewer than all of the image frames (e.g., extracting a short sequence of video frames), wherein the summary includes at least part of the identified subset of image frames including the particular person (e.g., includes a short sequence of those frames containing the person of interest). *See, e.g.*, https://learn.tycosecurityproducts.com/category/video/v1308-Tyco-AI-Face-Recognition-Event/a37c3f19ae8f87c4b9a1c97ff0c36a0a/84.



278. Defendants form review video clips (i.e., "a summary") including frames containing the detected person (i.e., "wherein the summary includes at least part of the identified subset of image frames including the particular person").

279. The '604 Infringing Instrumentalities comprise storing the summary in storage memory (e.g., a database) as a separate summary file. *See, e.g.*, https://learn.tycosecurityproducts.com/category/video/v1308-Tyco-AI-Face-Recognition-Event/a37c3f19ae8f87c4b9a1c97ff0c36a0a/84 (highlighting how Tyco stores the review clips generated by, for example, facial detection events featuring a particular person in separate files).



280. To the extent that Defendants have divided the performance of these steps among themselves, Defendants act as their respective agents to infringe at least Claim 1 of the '604 Patent. Alternatively, the Defendants contract with each other to perform the infringing steps. Alternatively, Defendants condition each other's participation on the infringing activity, and it receives benefits from performance of the infringing activity. Defendants further establish the timing and manner of their respective performance of the infringing activity.

281. Alternatively, Defendants form a joint enterprise through their implied or express agreement, shared common purpose and pecuniary interest, and shared equal right of control and right to a voice in the performance of the infringing activity.

282. To the extent that Defendants have assigned performance of these steps to third parties, the third parties act as agents of the Defendants to infringe at least Claim 1 of the '604 Patent. Alternatively, the Defendants contract with the third parties to perform the infringing steps. Alternatively, the Defendants condition the third parties' participation and receipt of benefits on

the performance on the infringing activity and further establish the respective timing and manner of the third parties' performance of the infringing activity.

283. Defendants' infringing activities were without authority or license under the '604 Patent. Thus, Defendants have, and continue to infringe at least Claim 1 of the '604 Patent under at least 35 U.S.C. § 271(a), (b) by their continued use, testing, manufacture, sale, offer for sale, licensing, and/or importation of the Accused Products without authority.

284. Further, since at least May 6, 2019, Defendants have actively induced the direct infringement of customers and/or end users, including by providing the '604 Infringing Instrumentalities and instructions/specifications for their use, and including with the intent that such direct infringement occur by its customers and/or end users. Defendants were made aware of their infringement of the '604 Patent, including via an infringement chart, at least May 6, 2019. Defendants had knowledge of the '604 Patent and actively encouraged its customers to infringe the '604 Patent with the specific intent to do so.

285. Defendants' acts of infringement of the '604 Patent have been willful and intentional. Defendants' infringement has been and remains clear and unauthorized. On information and belief, Defendants knew or should have known of their clear and unauthorized infringing conduct at least as early as May 6, 2019.

286. Considering facts set forth above, Defendants' knowing and intentional pre-suit and post-suit infringement of the '604 Patent is willful, deliberate, and flagrant, constitutes egregious misconduct worthy of a finding of willful infringement.

287. Defendants' acts of direct and indirect infringement caused damage to MPV and MPV is entitled to recover from Defendants the damages sustained by Plaintiff as a result of Defendants' infringing acts in an amount subject to proof at trial, which, by law, cannot be less

than a reasonable royalty, together with interest and costs as fixed by this Court, pursuant to 35 U.S.C. § 284.

V.
WILLFUL INFRINGEMENT

288. As described above, Defendants' acts of infringement of the Asserted Patents have been willful and intentional under the standard of *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 136 S. Ct. 1923 (2016).

VI.
JURY DEMAND

289. Plaintiff hereby demands a trial by jury of all issues so triable pursuant to Fed. R. Civ. P. 38.

VII.
PRAYER

For the reasons above, Plaintiff respectfully requests that the Court find in its favor and against Defendants, and the Court grant Plaintiff the following relief:

a. An adjudication that Defendants have infringed the Asserted Patents, either literally and/or under the doctrine of equivalents;

b. A judgment that MPV be awarded damages adequate to compensate it for Defendants' past infringement of the Asserted Patents, but no less than a reasonable royalty, and for any continuing and future infringements, including pre-judgment and post-judgment interest costs and disbursements as justified under 35 U.S.C. § 284 and an accounting;

c. That the Court declare this to be an exceptional case and award Plaintiff its reasonable attorneys' fees and expenses in accordance with 35 U.S.C. § 285; and

d. Any further relief that this Court deems just and proper.

Dated: December 13, 2021

Respectfully submitted,

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