

**UNITED STATES DISTRICT COURT
MIDDLE DISTRICT OF FLORIDA
ORLANDO DIVISION**

CASE NO.: 6:23-cv-00920

YOLDAS ASKAN,

Plaintiff,

v.

FARO TECHNOLOGIES, INC.,

Defendant.

**AMENDED COMPLAINT FOR PATENT INFRINGEMENT (INJUNCTIVE RELIEF
DEMANDED)**

Yoldas Askan sues Defendant FARO Technologies, Inc. (“FARO”) and states as follows:

JURISDICTION AND VENUE

1. This is a civil action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. §§ 271, et. seq.
2. This Court has subject-matter jurisdiction under 28 U.S.C. § 1331, and 28 U.S.C. § 1338(a).
3. Venue properly lies within this Judicial District under 28 U.S.C. § 1400(a) because defendant FARO is a Florida corporation with its principal place of business in this district and a substantial part of the events or omissions giving rise to the claims in this suit occurred in this district.

PARTIES

4. Plaintiff Yoldas Askan (“Askan”), is an individual residing at 51 Pinfold St., Suite 542, Birmingham, B2 4AY, United Kingdom. Askan is a mathematician, physicist, and software developer with high degrees in mathematics and physics. He is a recognized expert in processing point cloud data from 3-D laser scanners.

5. Defendant FARO Technologies, Inc. (“FARO”) is incorporated in the State of Florida and is headquartered at 250 Technology Park, Lake Mary, FL 32746.

FACTS

6. I, Yoldas Askan, Plaintiff, under the United States penalties of perjury, do solemnly swear and affirm that the facts provided in this complaint are the truth, the whole truth, and nothing but the truth.

7. Askan requests that, in a similar move, FARO and its representatives provide their answer to this complaint fully, accurately and under oath of truth.

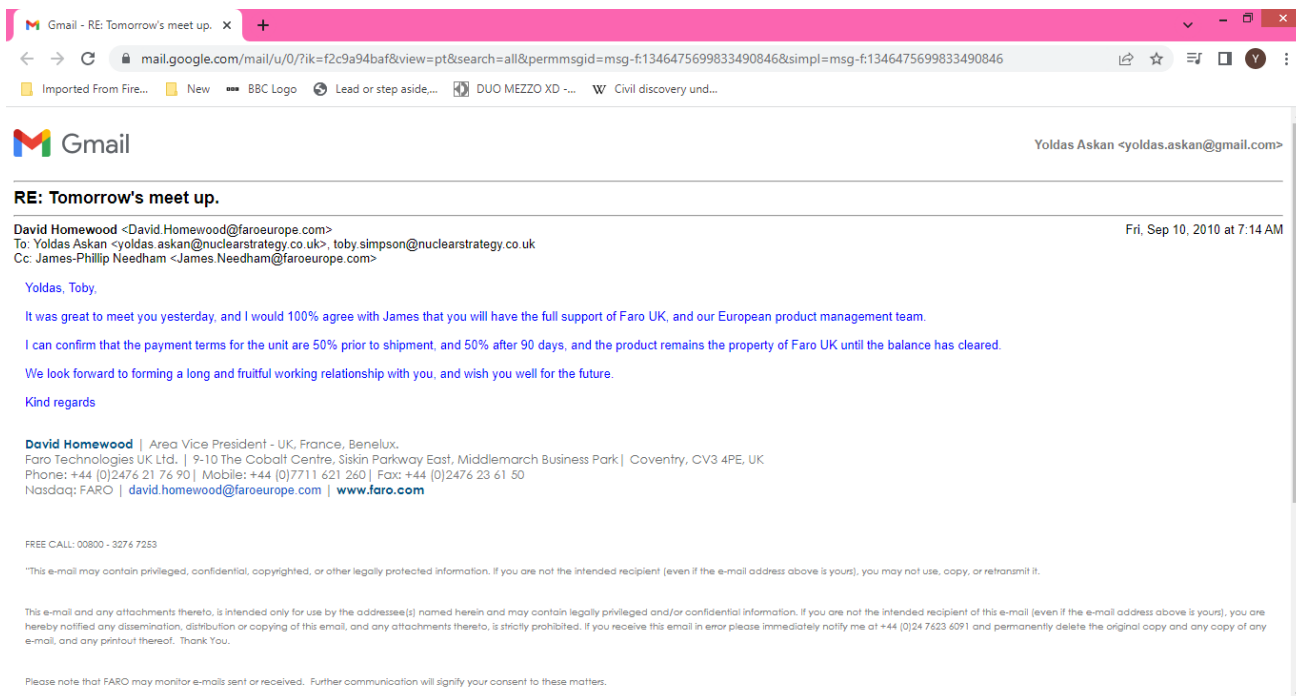
8. Askan is a Mathematician and Computer Programmer.

9. In December 2010, Askan purchased an S-PHOTON 120-DEMO-PH P3D laser scanner from FARO to develop his software.

10. Prior to the sale of the scanner, FARO promised a business partnership with Askan.

11. David Homewood, Area Vice President - UK, France, Benelux, writing specifically in Sep 10, 2010, "*We look forward to forming a long and fruitful working relationship with you, and wish you well for the future.*"

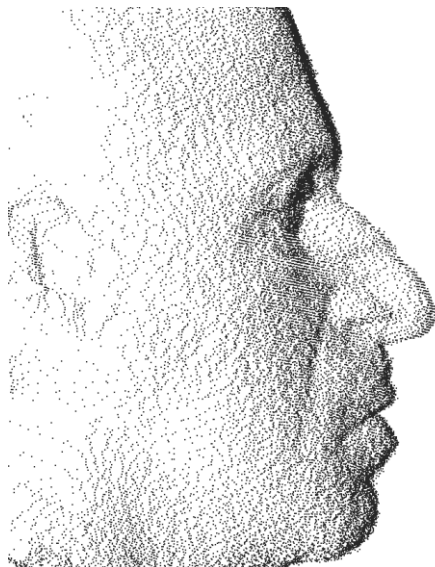
12. David Homewood Sep 10, 2010 email provided is below,



13. A 3D scanner emits laser beams in a systematic fashion to collect three-dimensional data to analyze real-world objects or environment.

14. The collected data commonly referred to as a "point cloud" can be used to construct digital 3D models.

15. For example, the 3D scan, or a point cloud, of a person generated by a 3D scanner is shown as below,



16. The scanners sold by FARO and the scanner Askan purchased from FARO were prone to noise.

17. "Noise" in this context is the erratic fluctuation of distance values revealed on the surface of point clouds, as shown in the below image, (close up of image at Par. 15)



18. Scanners manufactured and sold by FARO prior to 2011 produced raw untreated data, showing noise, as shown in figures of Par 15 and 17.

19. It is an axiomatic fact that had FARO treated noise prior to printing or displaying the 3D scan then FARO scanner users like Askan would not have accessed or observed noise on scans, figures of Par 15 and 17.

20. FARO provided optional external tools for post-processing.

21. "Post-processing" in this context is tools to treat noise on raw scans after scans are taken and available to users.

22. "Post-processing" is aimed at providing smooth, noise-free feel of scans with variable success.

23. FARO provided post processing "Smooth" filtering as post-processing.

24. FARO described "Smooth" filtering as; *"The smoothing filter is ideally suited for reducing the noise in the scans."*

25. FARO acknowledged deficiencies of its "Smooth" filter; *"However, you should not apply the filter to edges or highly detailed objects as the filtering will have a smoothing effect, causing some features to be blended into the surrounding points."*

26. FARO provided side-by-side images of a "raw" scan and the "Smooth" filtered counterpart to illustrate the destructions and/or alterations caused by "Smooth" filter to scans, as seen in the manual entitled E603 FARO Scene 4.5 Manual p. 24/155, as below,

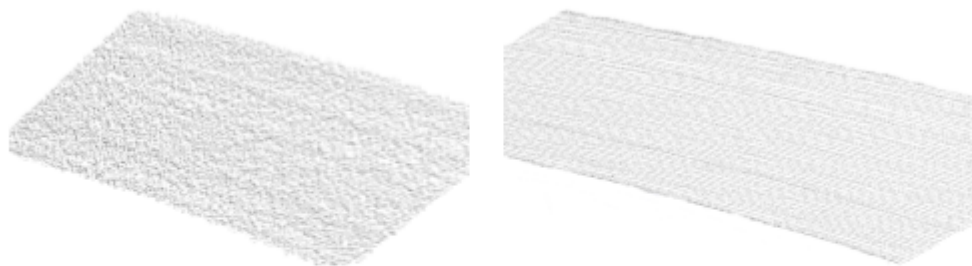


Figure 4-7: Smoothing of the floor

The smoothing filter is ideally suited for reducing the noise in the scans. However, you should not apply the filter to edges or highly detailed objects as the filtering will have a smoothing effect, causing some features to be blended into the surrounding points.

27. In 2010, Askan invented his technology in, "Smoothing point cloud surfaces from noisy raw 3D laser scanner generated data".

28. Askan's invention smoothes noisy point cloud surfaces whilst accentuating fine surface details, such as edges and fine features.

29. Raw scan of Par. 15 and 17 treated by Askan's inventive steps produces accurate 3D modeling of the scanned surfaces, as shown below,



30. FARO's "Smooth" filtering replaces a point distance value with the average of neighboring distance values.

31. By FARO's own admission, FARO's "Smooth" filtering function applied on raw noisy point clouds is destructive.

32. Askan's method iteratively replaces a point distance value with the average of neighboring distance values.

33. Askan's method enhances the point-cloud fine features, as shown in Par 29 images.

34. A repetitive application of a destructive method becoming or developing into a useful technique is counterintuitive.

35. Nuclear Engineers Institute in London published Askan's invention in the Nuclear Future Journal Volume 7, Issue 4 date June 2011.

36. FARO was sent an email notification of this issue.

37. FARO received and studied Askan's article in this issue.

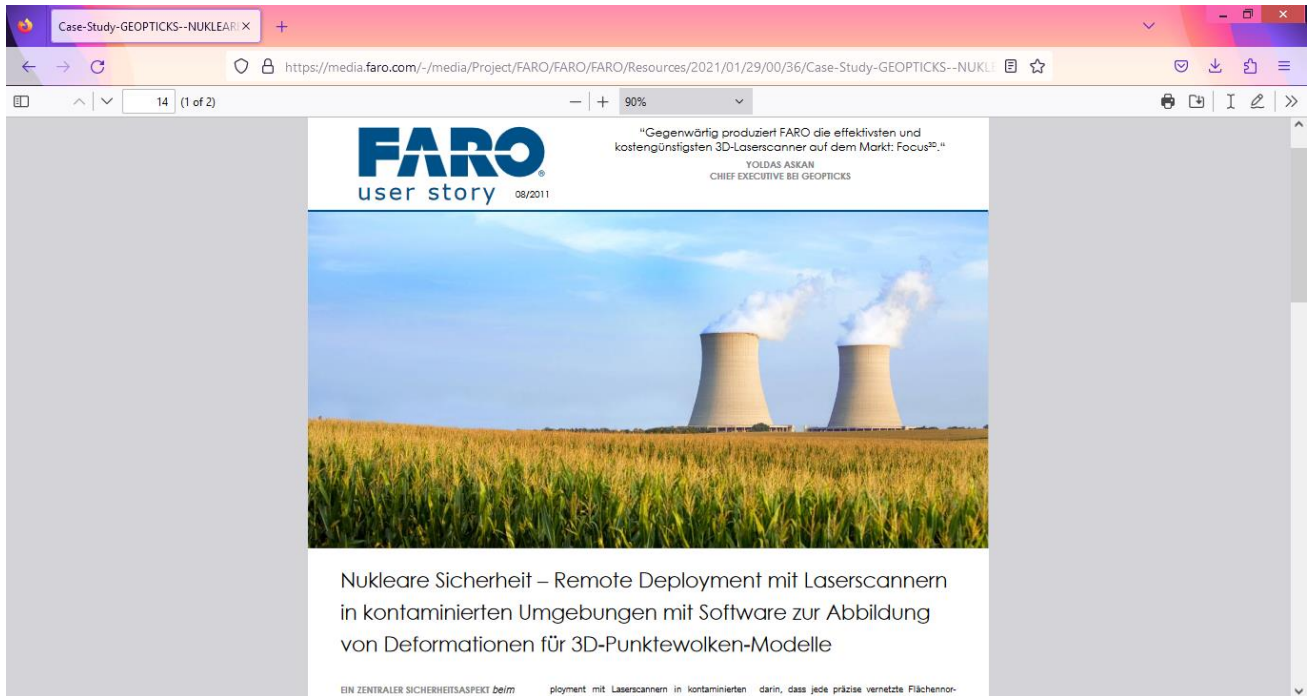
38. FARO evaluated Askan's invention presented in this article.

39. FARO posted the article on their FARO.com website in various languages.

40. FARO later destroyed most of these versions.

41. FARO did not destroy the German version.

42. German version is still visible at, [<https://media.faro.com/-/media/Project/FARO/FARO/FARO/Resources/2021/01/29/00/36/Case-Study-GEOPTICKS--NUKLEARE-SICHERHEIT--REMOTE-DEPLOYMENT-MIT-LASERSCANNERN-DEU.pdf?rev=22149c9d095f459a875042af3ef3a2ff>]

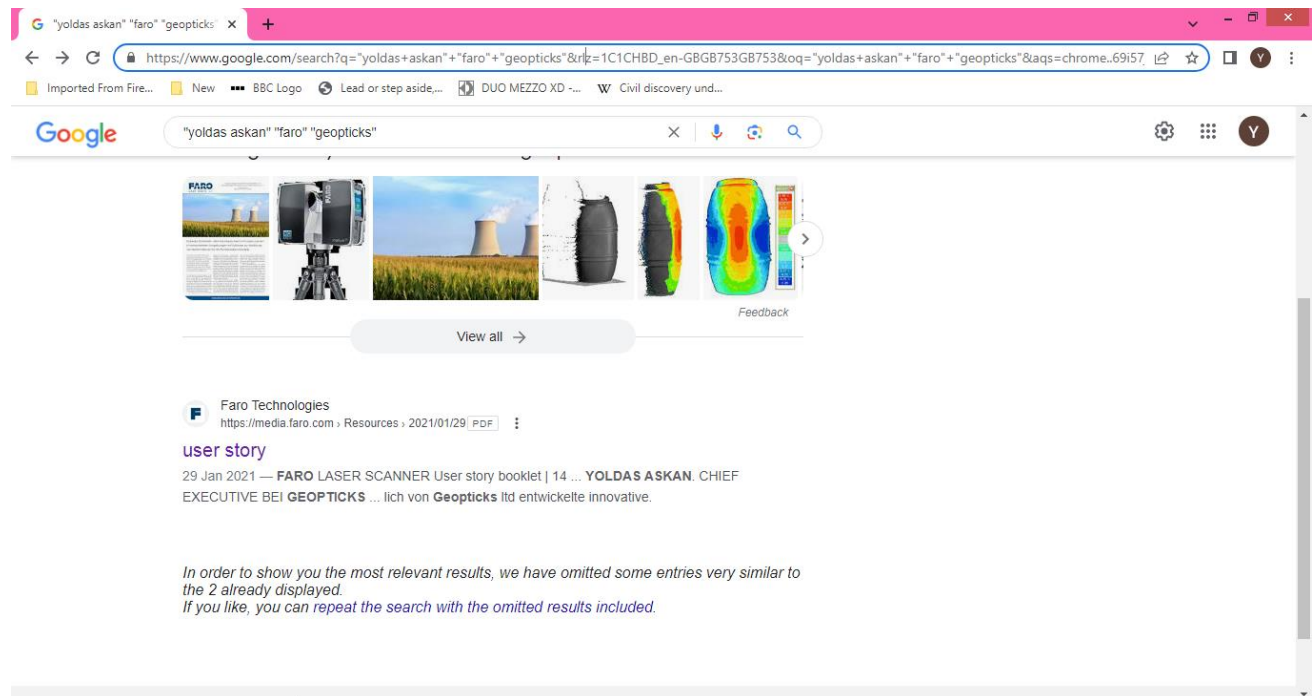


43. FARO is expected to destroy the German version of the page, as FARO now knows the website is still active.

44. Between the first issue of the complaint filed in May 18, 2023 and present amendment, FARO destroyed the website evidence cited in Par 42.

45. Google search however still shows the archive of the website in Par 42 with Plaintiff name, his business and his technology on Defendants website FARO.COM

[https://www.google.com/search?q=%22yoldas+askan%22+%22faro%22+%22geopticks%22&rlz=1C1CHBD_en-GBGB753GB753&oq=%22yoldas+askan%22+%22faro%22+%22geopticks%22&aqs=chrome..69i57j33i10i160l2.16136j0j15&sourceid=chrome&ie=UTF-8]



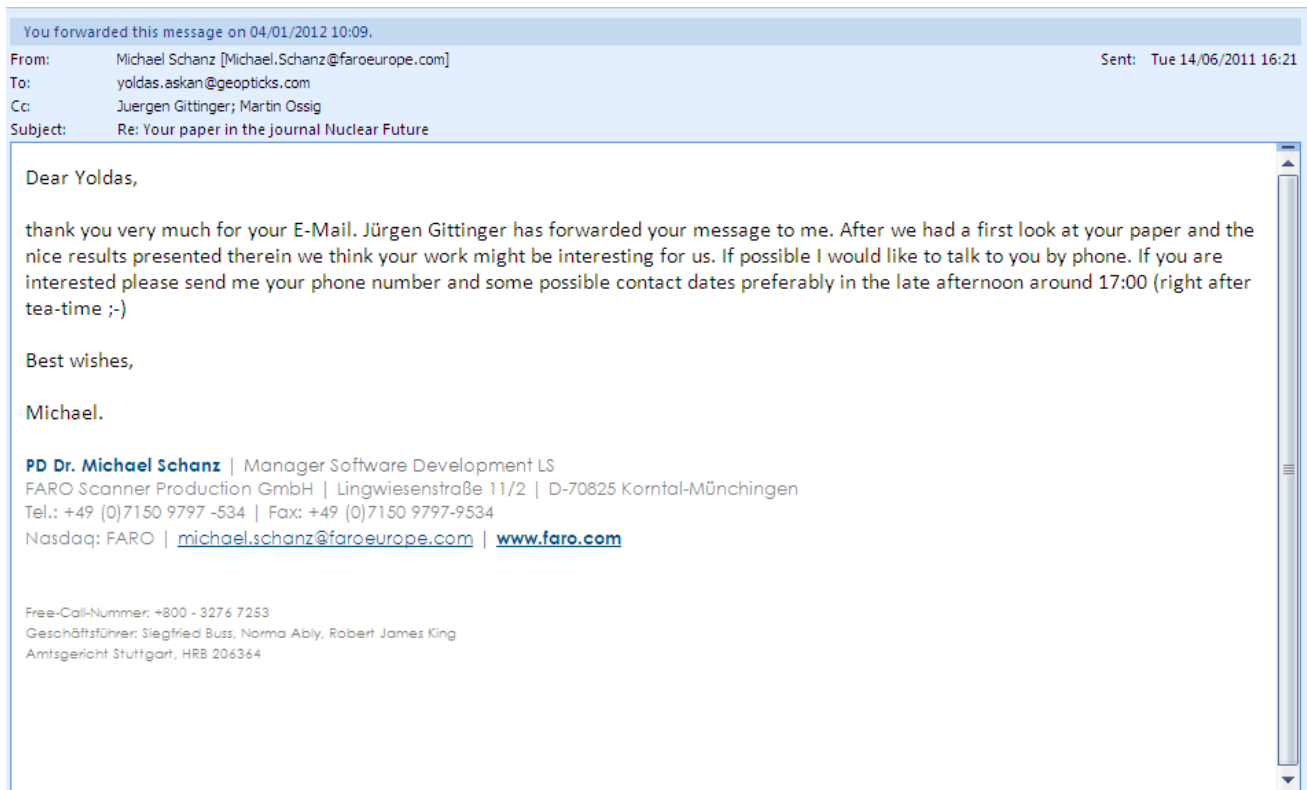
46. On June 26, 2023, Askan notified the Defendants that the website evidence was deliberately destroyed in order to deny the allegations. Plaintiff Askan asks for a copy of the destroyed article attached to this complaint.



47. FARO requested to implement Askan's technology in FARO scanners.

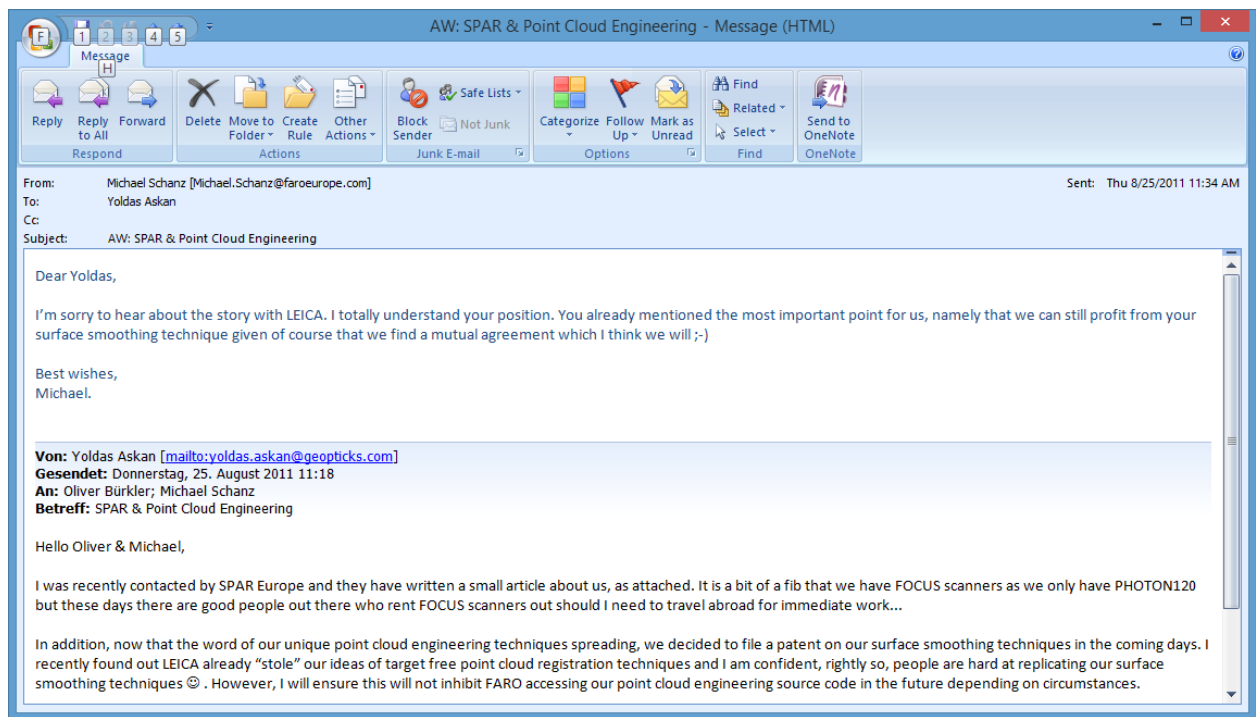
48. FARO's Software Development LS Manager, PD Dr. Michael Schanz

wrote, "*After we had a first look at your paper and the nice results presented therein we think your work might be interesting for us.*" Where "*your paper*" refers to the publication referred to in Par 35.

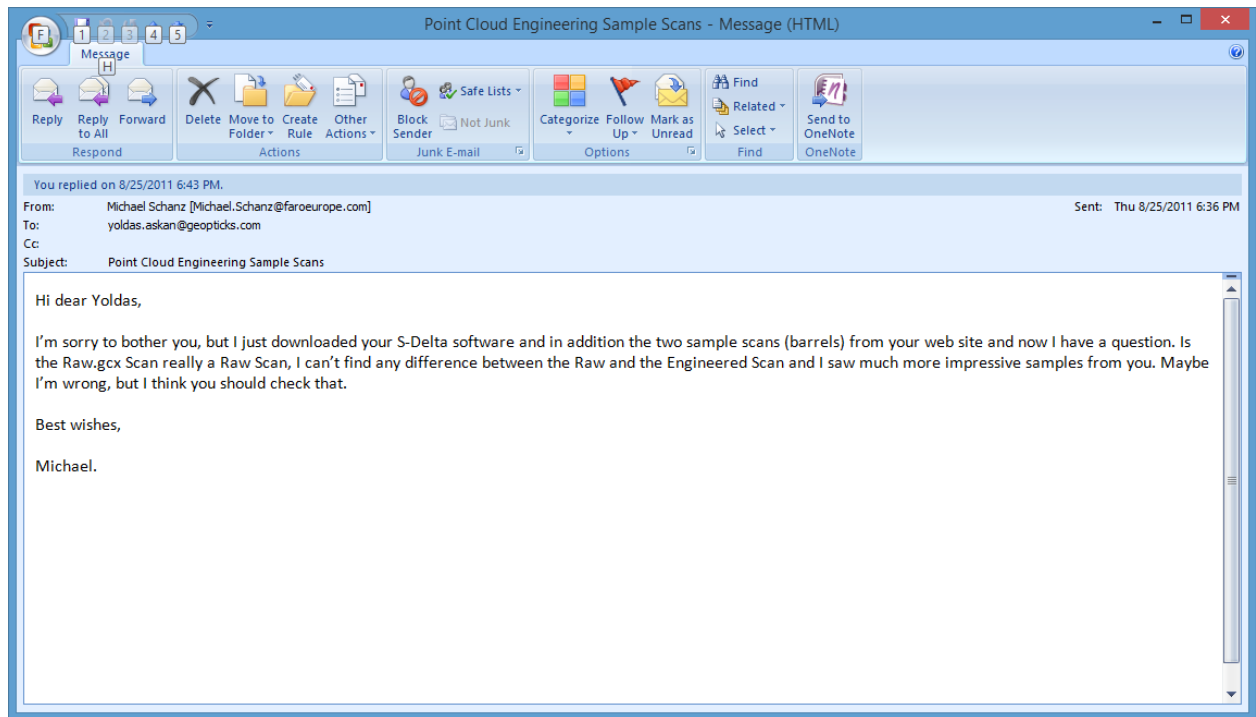


49. FARO wanted to profit from Askan's invention.

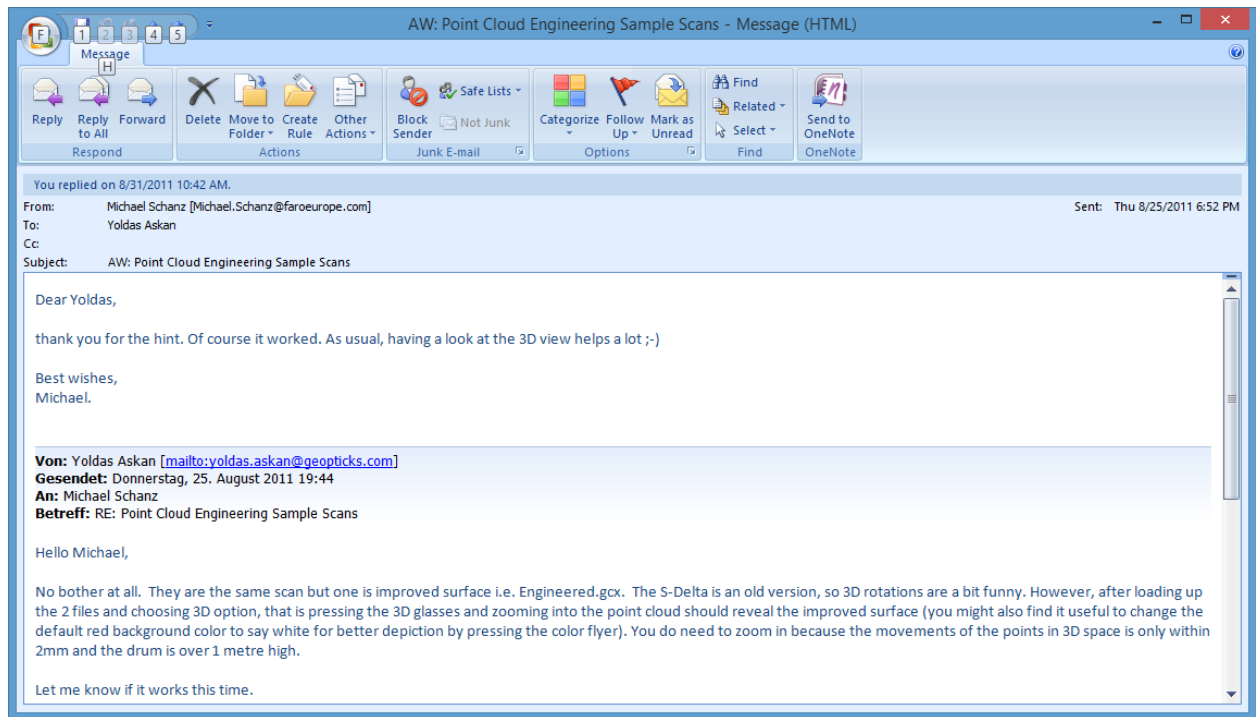
50. FARO's Software Development LS Manager, PD Dr. Michael Schanz on Aug 25, 2011, wrote an email in which mentioned, "*the most important point for us, namely that we can still profit from your surface smoothing technique given of course that we find a mutually agreement which I think we will ;-)*"



51. FARO downloaded Askan's software,



52. FARO studied and reverse engineered Askan's scans and software,



53. FARO learnt Askan's inventive steps.

54. FARO begun to treat raw data inside their in-camera processor.

55. In October 8, 2013, FARO ran an article on SPAR 3D website claiming,

"New Focus3D scanner cuts noise by 50% at nearly 3x range".

<https://www.spar3d.com/news/hardware/new-focus3d-scanner-cuts-noise-by-50-at-nearly-3x-range/> [Destroyed evidence]

<https://www.geoweekevents.com/news/new-focus3d-scanner-cuts-noise-by-50-at-nearly-3x-range> [Active link created on October 8, 2013]

56. FARO's software developer Juergen Gittinger based in Germany (Juergen.Gittinger@faroeurope.com) emailed Askan in November 08, 2011 15:00hrs, months after inquiring about Askan's software and confirmed the use of Askan's

technology, "*taking the distance measurements of 4 or more neighboring scan points together and calculating the mean value of it*".

57. Indeed in the related prior case, 6:21-cv-01366, FARO employee Jurgen Gittinger confirmed use to Askan's technology:

9. Once SCENE has read the scan data from the FOCUS scanner, portions of each of the 2019 Code and the 2020 Code can change the distance values of scan points by replacing the distance value of a given scan point with a mean distance value of scan points within a 2D grid, provided certain criteria are met. The source code executing, setting variables used by, and invoking such functions in the 2019 Code did not change in the 2020 Code and was also the same in all SCENE versions from the 2019 Code to SCENE version 2022.0. Neither the 2019 Code nor the 2020 Code, nor any other version from the 2019 Code to SCENE version 2022.0, executes any other algorithm that addresses averaging distance values of scan points. As such, that functionality of averaging distance values in the 2019 Code was not modified in the 2020 Code or in any SCENE code through SCENE 2022.0.

58. Par 55 confirms FARO moved Askan's invention inside their in-camera processor.

59. It is axiomatic fact that FARO would not operate their original "Smooth" filtering function inside their in-camera processor, which FARO recognized as destructive.

60. FARO believes, because it had an external tool that averaged point cloud data, it has a right to deploy repetitive averaging, thereby producing smooth point cloud surfaces.

61. FARO now filters the data according to Askan's invention and outputs noise free scans.

62. FARO redefined their Noise Compression function and released a two page backdated "Software Tips and Tricks" paper containing the description outlined in Gittenger email.

63. FARO does not have a patent in a non-destructive smooth point cloud technology.

64. Askan patented his invention and obtained his three patents, U.S. Patent No. 8,705,110 ("the '110 patent"), U.S. Patent No. 9,300,841 ("the '841 patent"), and U.S. Patent No. 10,032,255 ("the '255 patent").

65. Askan sued FARO in June 21, 2018 for infringement of two U.S. patents that name him as the inventor: '841 patent and '255 patent. Complaint, No. 6:18-cv-1122.

66. Askan sued FARO in August 20, 2021 for infringement of two U.S. patents that name him as the inventor: '841 patent and '255 patent. Complaint, No. 6:21-cv-01366.

67. Askan filed Application Number 16/006,534 on 06-12-2018, which is pending claims the benefit of '841 patent.

68. In the prior related cases, FARO stated, "*FARO also lacked any knowledge that any use of the FARO Focus 3D scanner would infringe*" on Askan patents.

69. In July 12, 2012 FARO's Vice President of Sales (Europe) David Homewood wrote a letter to Askan and inquired about Askan's patents, provided here,



FARO Technologies UK Ltd., 9-10 The Cobalt Centre, Siskin Park East
Middiarch Business Park, CV3 4PE Coventry, UK

Mr Askan
Geopticks
25 Osborne Court
Amphill
Bedford
MK42 9JE

Editor
David Homewood
email
david.homewood@faro-europe.com

Your ref
Phone / Fax
02476 217690

Our ref
Place, Date
Coventry, 12.07.2012

Dear Mr Askan,

This letter has been written to respond to your various communications concerning whether FARO would be interested in exploring an enhanced business relationship beyond the integration of the Geopticks software that is currently provided under the FARO SDK agreement (software development kit).

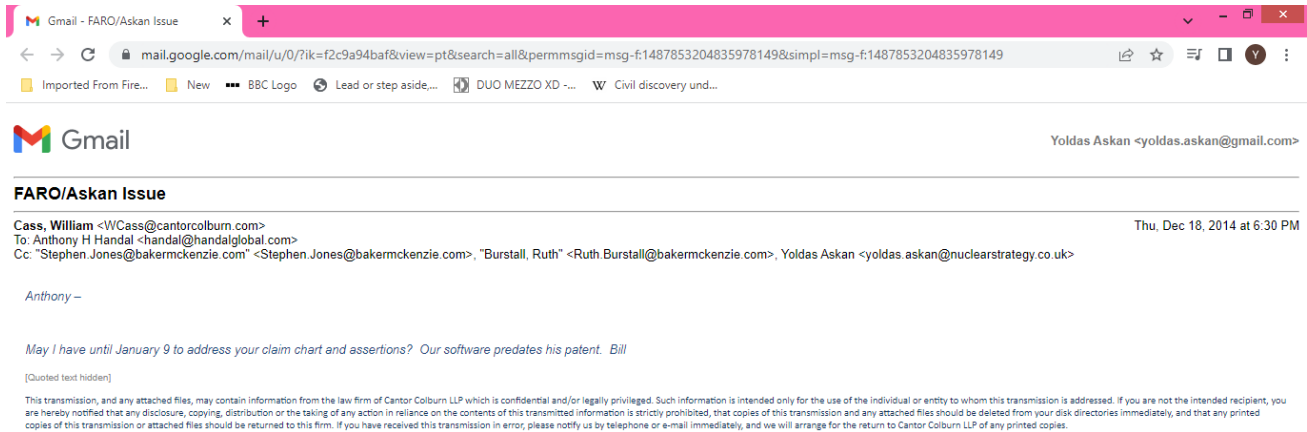
As I understand from your recent discussions with my colleagues, you have made several enquires to determine whether FARO is interested in reselling or acquiring the Geopticks software. You have also mentioned a patent or patent application that you believe may be of interest. To the extent you believe there is an applicable patent or patent application of interest, please send it to my attention and we will consider it. At this point, FARO is not interested in acquiring your company's software or acting as a reseller. This is not a typical business model for FARO. Please address any future enquires to the undersigned.

Yours sincerely,

A handwritten signature in blue ink, appearing to read "D Homewood".

David Homewood
Vice President of Sales – Europe
FARO Technologies UK Ltd

70. On December Dec 18, 2014 FARO attorney William Cass emailed Askan representative Anthony Handal and stated, "*May I have until January 9 to address your claim chart and assertions? Our software predates his patent. Bill*",



71. FARO software using repetitive averaging could not predate Askan invention.
72. Otherwise, FARO would not query how Askan obtained his results.
73. FARO would have applied its patents.
74. In fact, Askan invented the technology.
75. Moreover, FARO was in full knowledge of Askan patents.
76. FARO committed perjury by stating it was not aware of Askan patents in the prior suits.
77. On March 26, 2023, a settlement conference between FARO and Askan took place.
78. FARO's so called Rule 408 meetings were disingenuous and rehash of earlier offers, which were rejected.

79. FARO's Rule 408 meeting was made in bad faith.

80. FARO's Rule 408 meeting was made in bad faith because FARO stated, "*Faro wants to pay Askan for dismissal of the case and pay US\$300,000; Faro requests the transfer of Askan patents over to Faro; Faro has not valued Askan patents*".

81. In other words, Faro does not want to accept and acknowledge Askan's invention.

82. Faro simply wants bypass and safeguard itself from future Askan lawsuits.

83. "*Rule 408 amendment distinguishes statements and conduct (such as a direct admission of fault) made in compromise negotiations of a civil claim from an offer or acceptance of a compromise of such a claim. An offer or acceptance of a compromise of any civil claim is excluded under the Rule if offered against the defendant as an admission of fault. In that case, the predicate for the evidence would be that the defendant has admitted the validity and amount of the civil claim, and that this admission has sufficient probative value to be considered as evidence of guilt. See, e.g., Fishman, Jones on Evidence, Civil and Criminal, §22:16 at 199, n.83 (7th ed. 2000) ("A target of a potential criminal investigation may be unwilling to settle civil claims against him if by doing so he increases the risk of prosecution and conviction.")*".

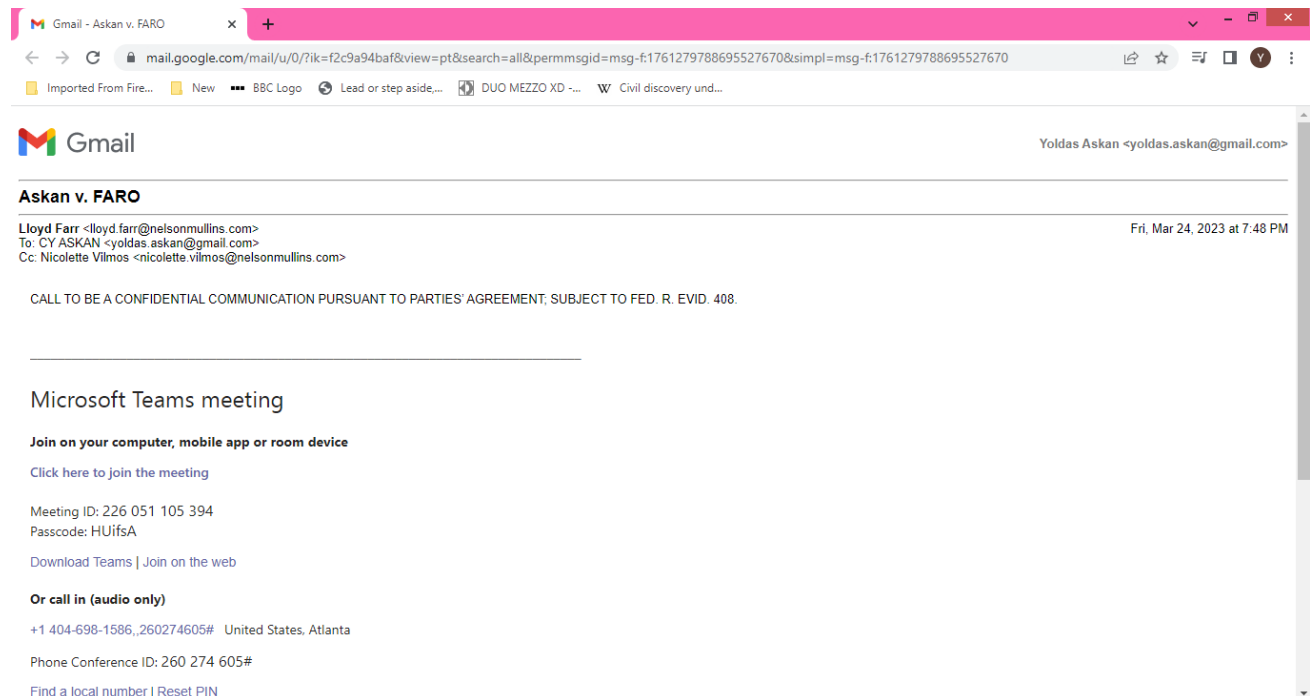
84. FARO set up March 26, 2023 Rule 408 meeting to cover earlier offers, which were not discussed under Rule 408.

85. Therefore, Plaintiff Askan has disclosed the Rule 408 meeting details according to the applicable law and in good faith.

86. Because of FARO's opposition, during the June 22, 2023 conferral meeting, Plaintiff Askan offered FARO to remove the discussion of Rule 408 meeting from the amended complaint in the understanding that it was disclosed in good faith.

87. FARO rejected Askan's offer of removal of Rule 408 discussion from the amended complaint.

88. FARO rejected Askan's offer because it is valuable to FARO to paint Askan as a bad character who publicly discloses FARO's confidential material and use that as an excuse to continue to hide the infringing source code.



89. During the March 26, 2023 settlement conference, FARO stated, "*FARO recognizes the strategic value of your patents*".

90. During the March 26, 2023 settlement conference, FARO requested transfer of ownership of Askan patents over to FARO.

91. FARO CEO Michael Burger total yearly compensation is between US\$3m and US\$5m, comprised of roughly 20.0% salary and 80.0% bonuses, including company stock and options.

92. FARO offered Askan one off US\$300,000 payment for permanent transfer ownership of Askan patents over to FARO.

93. That is less than the 10% yearly salary of FARO CEO.

94. FARO's exploitation of Askan patents and offer of pittance to take over Askan patents demonstrates FARO's greed.

95. Askan dismissed FARO's offer.

96. Askan offered FARO to license its products.

97. FARO refused to license its infringing products.

98. Subsequently, FARO denied stating, "*FARO recognizes the strategic value of your patents*".

99. FARO used to sell scanners outputting raw data.

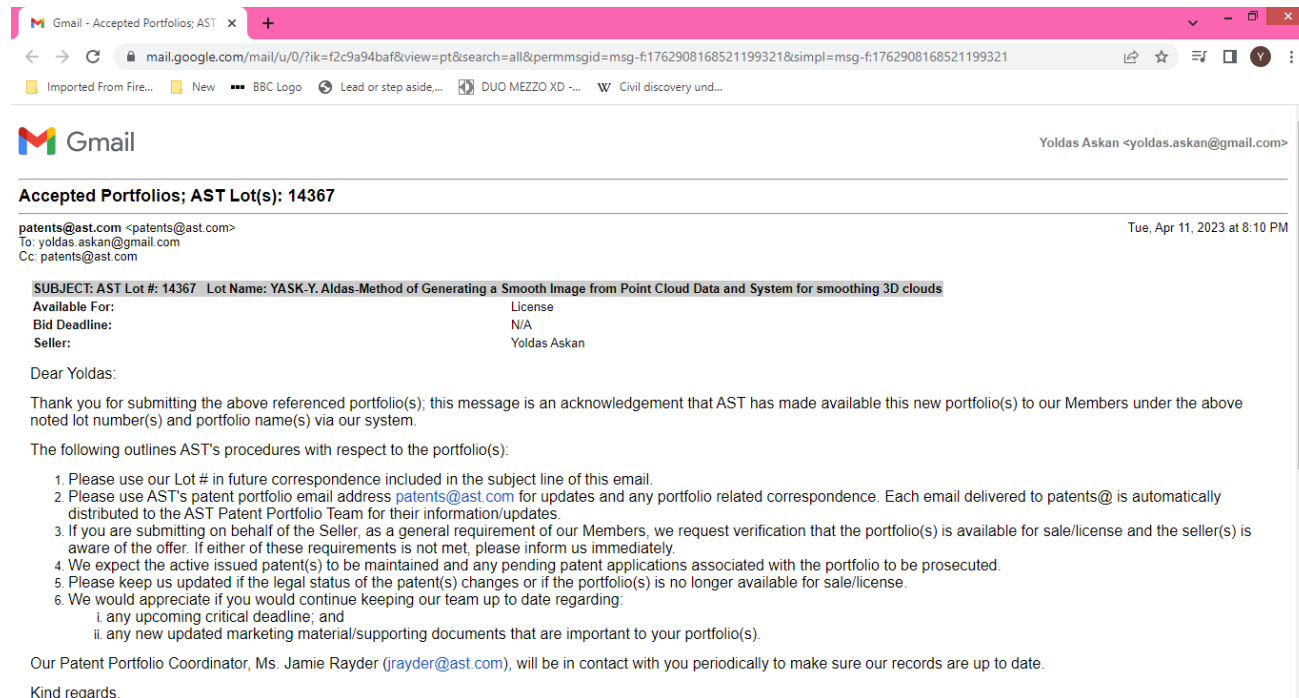
100. If FARO does not value Askan inventions then it can stop deploying it, clandestinely.

101. Askan set up his business, Geopticks, to sell his inventive technology.

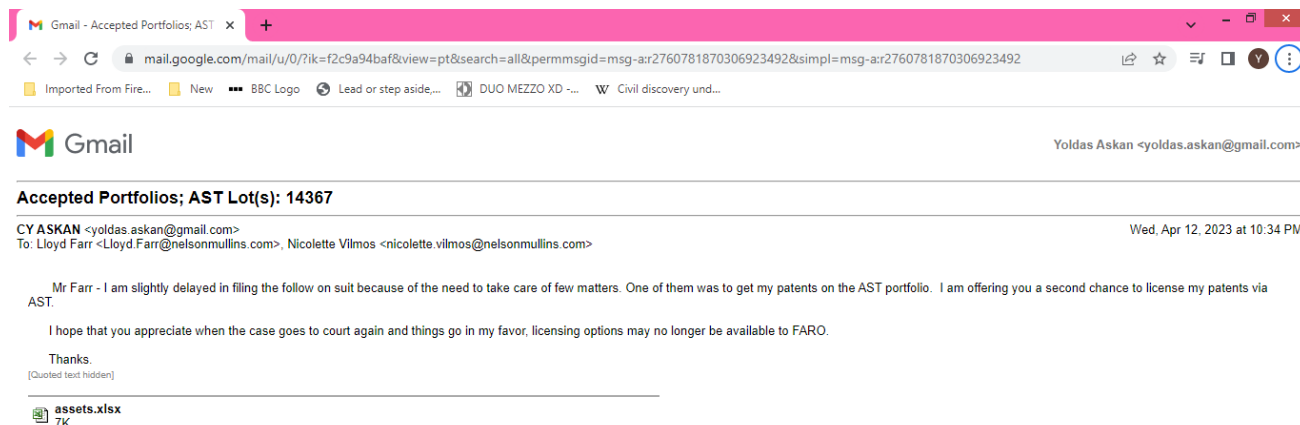
102. If FARO stops using Askan technology, then Askan can bring back his firm Geopticks.

103. Askan offered his patents to a firm specializing in patent risk mitigation solutions, Allied Security Trust (AST).

104. Acceptance of Askan patents by AST on Apr 11, 2023 is shown in the below email,



105. Askan emailed on Apr 12, 2023 and encouraged FARO to license its products, below email,



106. FARO did not respond.

107. In the lawsuit 6:18-cv-1122-Orl-40DCI FARO did not comply with Askan's discovery request, provided junk material, such as flyers, newsletters etc. but nothing pertinent to the patent infringement case was disclosed.

108. FARO expressed Askan's production were unreliable, in the previous lawsuit 6:18-cv-1122, FARO's "*Motion to Compel Responses to Request for Production*" dated December 5, 2018 FARO alleged, "*Documents such as e-mails, blogs, and webpages have all been altered by cutting and pasting them into various formats such as PDF, GIF, PNG, and JPEG*".

109. Hon. Judge Irick believed FARO that Askan in bad faith failed to comply with FARO discovery and Case 6:18-cv-1122-Orl-40DCI was dismissed with prejudice.

110. In the lawsuit 6:21-cv-01366 included notarized and apostilled emails between Yoldas Askan and the Defendant FARO Technologies as Exhibit 4.

111. Nothing Askan provided was therefore "unreliable".

112. FARO simply had to cover up facts, rewrite history, and behave in a deceptive way.

113. In the lawsuit 6:21-cv-01366 Askan served identical discovery.

114. Askan emailed FARO several times as a follow up on the identical discovery.

115. FARO ignored communication on collaboration with the discovery.

116. Askan stated that if FARO complies with Askan's discovery then FARO should fulfill its own.

117. FARO provided nothing pertinent to the discovery.

118. Throughout both prior related cases, all of FARO arguments were disingenuous, lacking in credibility and aimed at bullying Askan.

119. For example, in the related cases, FARO argued a baseless and spurious pretext that the accused source code is highly confidential.

120. In the related cases, FARO argued that Askan is an unreliable person.

121. Judge Byron agreed that Askan might not be an appropriate custodian of such information, namely FARO's source code, which FARO initially wanted to profit from.

122. Askan disclosed his invention and his source code in his patents from the day patent number 8,705,110 was filed in 2011.

123. FARO was aware that Askan source code was publicly available.

124. FARO is aware that Askan source code is publicly available because FARO accessed the Askan patent file wrapper and filed Askan source code in Askan patents with this Court and the Federal Circuit Court under appeal case number 2022-2117.

125. District Court accused Askan of being an unreliable person and not an appropriate custodian of FARO's source code.

126. District Court did not consider Askan's invention, which FARO wanted to benefit from, was publicly available in Askan patent wrapper files.

127. When Askan raised the point that a mere inspection of FARO source code on a computer screen would open up the possibility for FARO to hide the infringing source code and Askan cannot test the accused source code appropriately, the Court responded, *"that issue is speculative and premature. If this issue ripens, Plaintiff may seek appropriate relief once the inspection has occurred."*

128. District Court should have applied the equal measure when considering Askan arguments.

129. For example, Askan supposedly making FARO source code public was also speculative and premature.

130. Further, Askan invention and source code was already in the public domain.

131. This civil action is for patent infringement only.

132. Thus, no factual allegations of copyright infringement is made in this civil action.

133. Copyright registration details is provided as another possible source where FARO could have copied and copied Askan source code and apportioned it in its products.

134. FARO behaved as if it were untouchable.

135. In the related case Judge Byron admitted, "*Sanction imposed by the undersigned for continued discovery abuse was too stern*".

136. FARO's accused source code was not revealed and the case was closed prematurely.

137. FARO has concealed Askan inventive steps inside its products for over a decade.

138. District Court has not helped with the disclosure of the accused product.

139. The decision by the court not allow FARO source code inspection leaves unresolved significant legal questions that the courts will continue to face related to Askan patents infringement by FARO.

140. Judge Byron lack of interest has caused pain, stress and anxiety to Askan.

141. A plaintiff having to cope with this level of struggle is not justified.

142. Askan invented a system and patented it.

143. As well as the patents, Askan's invention is also a Copyrighted art with registration number TX 7-626-827.

Certificate of Registration



This Certificate issued under the seal of the Copyright Office in accordance with title 17, *United States Code*, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

Maria A. Pallante

Register of Copyrights, United States of America

Registration Number
TX 7-626-827

Effective date of
registration:

November 19, 2012

Title

Title of Work: Computer Program

Completion/Publication

Year of Completion: 2011

Date of 1st Publication: July 1, 2011

Nation of 1st Publication: United Kingdom

Author

Author: Yoldas Askan

Author Created: computer program

144. Therefore, Judge Byron should not reside over this case.

145. Another judge, who has more experience and appreciative of the patent law, should reside over this new case.

146. FARO, which has been benefiting from Askan invention for over the past decade, should finally get its comeuppance.

147. If FARO believes that it is not infringing, then FARO does not need to make feeble excuses.

148. For example, frivolous arguments such as Askan is an unreliable person.

149. For example, FARO's claim that if Askan publicly divulges FARO's source code for point cloud smoothing then the disclosed source code would become available to FARO's competitors.

150. FARO did not explain why FARO's competitors could not utilize the already disclosed software code for smoothing noisy point cloud from Askan's patent wrapper files of from his Copyrighted art.

151. Plaintiff Askan asserts that FARO does not have a competitor in the United States - that is, FARO is the exclusive laser scanner manufacturer in the United States.

152. FARO should list all its competitors selling 3-D scanners in the United States.

153. FARO should list all the competitors selling 3-D scanners producing unfiltered, raw point cloud data according to Par. 15 and 17.

154. Once FARO filters data in its in-camera software then a further filtering of the point cloud becomes obsolete.

155. The record shows FARO requested to benefit from Askan invention.

156. At that time, Askan was "*Hi dear Yoldas*". Par 47 & 48 email from FARO.

157. After FARO implemented Askan invention in its products and bankrupted Askan's firm Geopticks, Askan became "*an unreliable*" person

158. FARO should make the accused in-camera post processing of the point-cloud data tool available, attached to their response to this complaint, with an accompanying statement of truth.

159. Prior related suits between FARO and Askan were not litigated on the merits.

160. That is, the merits of the prior cases was not decided, or the question "*has infringement occurred*" was not answered.

161. In general, an earlier suit, if there was one, could not have covered asserted infringing activities of future products.

162. In this case, there was an earlier suit, namely, two of them.

163. Neither of the prior related cases could have covered infringing activities of future products of FARO.

164. The Kessler doctrine is a unique patent law that is separate from claim and issue preclusions. The doctrine is meant to take care of any gaps left by issue preclusion and claim preclusion that the patent owner would utilize to file a lawsuit against a product that has been cleared of patent infringement.

165. In the prior related case, 6:21-cv-01366, FARO stated, "*(1) a final judgment on the merits was entered;*" and, "*As explained above, there was a prior judgment on the merits*".

166. However, FARO was never cleared of patent infringement.

167. FARO deceived the court by stating that there was a prior judgment on the merits.

168. FARO should provide the details of the prior judgment on the merits, that is, where courts decided FARO did not infringe on Askan patents.

169. An agreement between FARO and Microsoft has led FARO to claim; "*A free app from FARO turns Microsoft Kinect and other popular motion sensors into smart 3D scanners*"

170. Microsoft Kinect and FARO collaboration [DESTROYED LINK]
<https://www.faro.com/en-gb/news/3d-scanning-for-everybody/>

171. Microsoft Kinect and FARO collaboration [ACTIVE LINK - created on February 08th 2013] <https://3dprintingindustry.com/news/free-scenect-app-opens-up-3d-scanning-to-a-wider-audience-5349/>

172. FARO disclosed a German student paper, "*Improved Laplacian Smoothing of Noisy Surface Meshes*" by J. Vollmer R. Mencl H. Müller as a "potential" prior art to Askan patents [herein Vollmer].

173. Third author Prof. Heinrich Muller presently works/lectures at the University of Dortmund.

174. I, Yoldas Askan, Plaintiff, under the United States penalties of perjury, do solemnly swear and affirm that the email communications with Prof. Heinrich Muller provided in this complaint as Exhibit 1 are the truth, the whole truth, and nothing but the truth.

175. Muller informed, "*He [Vollmer] submitted his diploma thesis (equivalent to a master's thesis in other countries) in 1998*" and, "*The [Vollmer research] paper emerged from the thesis*".

176. Muller informed, Vollmer paper contains, "*important steps to make 3D scan useful*".

177. Muller informed, "*The thesis is not in the catalog of the library of the university. Thus it is not publicly available from the university. You have to be referred to the owner of the copyright, Joerg Vollmer, or any public sources if there are any*".

178. The Vollmer article is nowhere named or found listed in the "*publications, PhD theses, diploma theses, and master theses*" or any other part of the on the Dortmund University server.

179. Wiley uploaded Vollmer on their website around in 2016. Internet Archive Wayback machine first saved the paper on July 11, 2016, suggesting that the Wiley link is recent (https://web.archive.org/web/*/http://onlinelibrary.wiley.com/doi/10.1111/1467-8659.00334/abstract).

180. When asked, "*why major laser scanner manufacturers recently (compared to the age of the paper) implemented the Vollmer technology*" Muller explained, "*the possibly increasing visibility of the paper on Joerg Vollmer' website which seem to be quite new*".

181. The appearance of Vollmer was also new on ResearchGate [German publication site for scientists], as the uploaded was Muller. ResearchGate confirmed, "*As far as we can see, there was but one article uploaded to our site on May 9, 2015. The uploader was Heinrich Müller, who appears to be one of the authors. Public records we have accessed suggest that he is associated with Technische Universität Dortmund, Faculty of Computer Science, Dortmund, North Rhine-Westphalia, Germany.*"

182. Muller has said no copyright and patent exist but despite all that, FARO provided "the seal" from Library of Congress for Vollmer in the case 6:18-cv-1122-Orl-40DCI.

183. FARO digitally added the Library of Congress stamp on a tampered version Vollmer paper and filed it with the District Court (6:18-cv-1122).

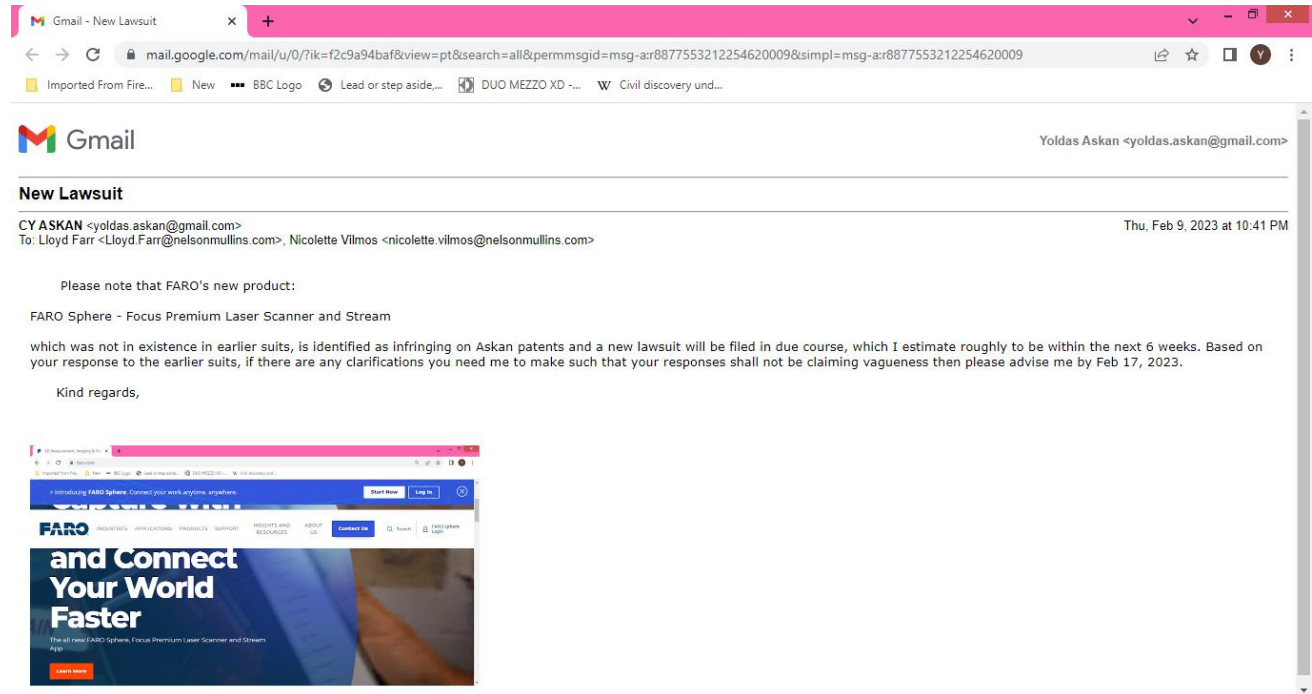
184. FARO knowingly and intentionally committed perjury.

185. FARO introduced new products since the termination of the case 6:21-cv-01366.

186. FARO's new products are, "FARO Sphere", "Focus Premium Laser Scanner", "Focus Core Laser Scanner" and "Stream". [<https://www.faro.com/en/LP/FARO-Sphere>] and [https://www.faro.com/en/Products/Hardware/Focus-Laser-Scanners?utm_source=google&utm_medium=search&utm_campaign=Product%20Pages%20Paid%20Search&cid=7013p0000016GPLAA2&ls=Search%20Advertising&pint=Laser%20Scanner&mc=9073112&psint=MULTI&vrt=AEC&lcs=Requested%20Demo&gclid=CjwKCAjwv8qkBhAnEiwAkY-ahuVPW_2PS-FENjvKrLhA-7_CaIocy_BiQydPfwQEpcDPjknX54gxOCfkWQAvD_BwE]

187. Askan emailed FARO on Feb 9, 2023 and wrote, "*FARO Sphere - Focus Premium Laser Scanner and Stream, which was not in existence in earlier suits, is identified as infringing on Askan patents and a new lawsuit will be filed in due course, which I estimate roughly to be within the next 6 weeks. Based on your response to the*

earlier suits, if there are any clarifications you need me to make such that your responses shall not be claiming vagueness then please advise me by Feb 17, 2023."



188. FARO did not respond.

189. FARO admitted its products average scan point distance values.

190. Askan US Patent for System for smoothing 3D clouds Patent # 10,032,255) state,

"generating second distance values from the first point cloud data set, at least one of the second distance values based on at least two neighboring points;"

191. Therefore, averaging one scan point one time is protected under Askan patent rights.

192. Therefore, FARO products identified in this lawsuit infringe on Askan patents because a raw data collected by FARO Focus Premium and FARO Focus Core are

displayed as smooth point cloud surface in the FARO Stream app and FARO Sphere environments.

193. FARO's introduction of new products identified in this lawsuit since the dismissal of the case 6:21-cv-01366 is therefore the cause of action of this complaint

194. FARO's belief that it can infringe on Askan's patents in perpetuity is therefore the cause of action of this complaint.

195. On June 21, 2023, Federal Circuit decided the appeals case from 6:21-cv-01366.

196. The case was affirmed.

197. Federal circuit wrote; "*Mr. Askan asserts that the district court failed to consider that the current litigation involves a new product, ostensibly suggesting that any preclusive effect of the prior litigation does not extend to the accused products in the current litigation. See Appellant's Br. 30–31, 38, 46–47; Appellant's Reply Br. 26–28. Mr. Askan did not raise this argument before the district court and, instead, only argued that the Kessler doctrine did not apply because there was no judgment of non-infringement in the prior litigation. See Order, 2022 WL 12058559, at *5 (explaining that Mr. Askan “does not attempt to rebut [FARO]’s factual assertions and opts instead to stand on the argument that the Kessler doctrine does not apply because the 2018 case was not decided on the merits”); Suppl. App. 2191–209 (failing to challenge the products being essentially the same in both cases). Thus, Mr. Askan forfeited this argument. In re Google Tech. Holdings LLC, 980 F.3d 858, 862 (Fed. Cir.2020).*"

198. Complaint 6:21-cv-01366 Par. 47 asserted; *"In Oct 27, 2020, FARO introduced a new/revised/updated product SCENE 2020.0.3, after the dismissal of the case 6:18-cv-1122-Orl-40DCI, Exhibit 5."*

199. In June 24, 2021, Plaintiff's Responded to Defendant's Motion to Dismiss Under FRCP 12(b)(4) and 12(b)(5) D.E. 7 6:21-cv-01366-PGB-DCI.

200. And stated, *"That complaint made clear that the cause of action was because of FARO's changed product "SCENE 2020.0.3" that was introduced as an infringing product on Askan's patented technologies after the dismissal of the earlier lawsuit (6:18-cv-1122-Orl-40DCI), par 47 & 48."*

201. FARO responded; *"FARO admits that it released a version of its FARO SCENE software in October, 2020 as Patch Release 2020.0.3 ("SCENE Patch Release 2020.0.3"). FARO admits that the previous litigation, 6:18-cv-1122-Orl-40DCI, was dismissed prior to October, 2020, including October 27, 2020. In all other aspects FARO denies the allegations of Paragraph 47 of the Complaint and demands strict proof thereof."*

202. Therefore, Askan has argued and Defendant accepted that the litigation involved a new product.

203. On that basis the case, 6:21-cv-01366 set to continue; Court writing at Doc. 57, *"...Plaintiff should recognize that Defendant has apparently abandoned its motion to dismiss in filing that answer. Doc. 17. Thus, Plaintiff's case is now set to move forward."*

204. Therefore, there was no need to argue the newness point, which was already accepted.

205. Federal Circuit decision is not uniform with its previous decisions.

206. On that basis, Plaintiff Askan will appeal at the Federal Circuit Court Rule Pursuant to Rule 35 En Banc Determination.

207. In computer science, compilation is, "*the process the computer takes to convert a high-level programming language into a machine language that the computer can understand*".

208. Since Askan's patents are computer programs, the infringing source code must be turned into machine language.

209. Visual inspection cannot turn a computer program into machine language.

210. Source code must be compiled on a computer, turned into machine language, take an input file and produce an output file.

211. The inspection of the input and output files from a computer program must be inspected.

212. Such as, inspection of Par. 17 and Par. 29 images which shows smoothed point cloud surfaces.

213. For that reason, Defendant must provide infringing source code in a text file to ascertain infringement. See par 15, 17 and 29.

214. Plaintiff Askan asked for evidence where Defendant attempted to recover court ordered fines from Plaintiffs previous representative Wayne Harper.

215. Defendant should provide these details.

216. Plaintiff Askan has tried to pay the previously ordered court fines.

217. Defendant is not engaging in a meaningful way such that Plaintiff can fulfill these fines.

218. However, discussions are taking place where defendant is offering money to Plaintiff Askan to make the lawsuits "go away".

219. Defendant is willing to pay Plaintiff Askan \$300,000 to eliminate lawsuits and transfer of Plaintiffs patents over to FARO.

220. Referring to the Defendants Technology Tutorial notes held for the case 6:21-cv-01366 on February 15, 2022, there is no mention of repetitive averaging to achieve smooth point cloud surfaces.

221. The depth/extend of noise observed in laser scanner generated point cloud surfaces, such as Par. 15 and 17 figures, cannot be smoothed - without destroying the fine surface details - by a single neighboring pixel averaging. [Because, fluctuations in distance values due to noise are most often larger than actual surface deviations; for example - if the scanner scanned a planar surface then the actual surface deviation is zero.]

222. Therefore, a repetitive averaging must be operated to successfully depress noise.

223. Defendants expert witness Dr. Kazhdan covered up this information.

224. Defendant's expert witness Dr. Kazhdan was under oath to tell the truth.

225. Hon. Judge Byron thanked Defendant's expert witness Dr. Kazhdan for his explanation of the technology, which was not accurately disclosed.

COUNT I
Literal Infringement of the '841 Patent by FARO

226. Askan restates the allegations set forth in paragraphs 1 to 225 above and incorporates them herein by reference.

227. FARO makes, uses, sells, offers to sell and/or imports into the United States for subsequent sale or use products, services, methods or processes that directly infringe, or which employ systems, components and/or steps that make use of other systems or processes that directly infringe, at least claim 1 of the '841 Patent.

228. FARO has been and continues to infringe one or more of the claims of the '841 Patent through the aforesaid acts, and will continue to do so unless enjoined by this Court.

229. FARO's wrongful conduct has caused Askan to suffer irreparable harm resulting from the loss of his lawful patent rights to exclude others from making, using, selling, offering to sell and importing the patented inventions.

230. FARO's infringement has been willful, deliberate and with knowledge of Plaintiffs' rights under the '841 Patent, and unless FARO is enjoined by this Court, such acts of willful infringement will continue. Therefore, Askan is without adequate remedy at law.

231. Askan is entitled to recover damages adequate to compensate for the infringement of the '841 Patent, as well as additional damages for willful infringement.

COUNT II
Literal Infringement of the '255 Patent by FARO

232. Askan restates the allegations set forth in paragraphs 1 to 225 above and incorporates them herein by reference.

233. FARO makes, uses, sells, offers to sell and/or imports into the United States for subsequent sale or use products, services, methods or processes that directly infringe, or which employ systems, components and/or steps that make use of other systems or processes that directly infringe, at least claim 1 of the '255 Patent.

234. FARO has been and continues to infringe one or more of the claims of the '255 Patent through the aforesaid acts, and will continue to do so unless enjoined by this Court.

235. FARO's wrongful conduct has caused Askan to suffer irreparable harm resulting from the loss of his lawful patent rights to exclude others from making, using, selling, offering to sell and importing the patented inventions.

236. FARO's infringement has been willful, deliberate and with knowledge of Plaintiffs' rights under the '255 Patent, and unless FARO is enjoined by this Court, such acts of willful infringement will continue. Therefore, Askan is without adequate remedy at law.

237. Askan is entitled to recover damages adequate to compensate for the infringement of the '255 Patent, as well as additional damages for willful infringement.

COUNT III
Infringement by Equivalents of the '841 Patent by FARO

238. Askan restates the allegations set forth in paragraphs 1 to 225 above and incorporates them herein by reference.

239. FARO makes, uses, sells, offers to sell and/or imports into the United States for subsequent sale or use products, services, methods or processes that directly infringe, or which employ systems, components and/or steps that make use of other systems or processes that infringe by equivalents, at least claim 1 of the '841 Patent.

240. FARO has been and continues to infringe one or more of the claims of the '841 Patent through the aforesaid acts, and will continue to do so unless enjoined by this Court.

241. FARO's wrongful conduct has caused Askan to suffer irreparable harm resulting from the loss of his lawful patent rights to exclude others from making, using, selling, offering to sell and importing the patented inventions.

242. FARO's infringement has been willful, deliberate and with knowledge of Plaintiffs' rights under the '841 Patent, and unless FARO is enjoined by this Court, such acts of willful infringement will continue. Therefore, Askan is without adequate remedy at law.

243. Askan is entitled to recover damages adequate to compensate for the infringement of the '841 Patent, as well as additional damages for willful infringement.

COUNT IV
Infringement by Equivalents of the '255 Patent by FARO

244. Askan restates the allegations set forth in paragraphs 1 to 225 above and incorporates them herein by reference.

245. FARO makes, uses, sells, offers to sell and/or imports into the United States for subsequent sale or use products, services, methods or processes that directly infringe, or which employ systems, components and/or steps that make use of other systems or processes that infringe by equivalents, at least claim 1 of the '255 Patent.

246. FARO has been and continues to infringe one or more of the claims of the '255 Patent through the aforesaid acts, and will continue to do so unless enjoined by this Court.

247. FARO's wrongful conduct has caused Askan to suffer irreparable harm resulting from the loss of his lawful patent rights to exclude others from making, using, selling, offering to sell and importing the patented inventions.

248. FARO's infringement has been willful, deliberate and with knowledge of Plaintiffs' rights under the '255 Patent, and unless FARO is enjoined by this Court, such acts of willful infringement will continue. Therefore, Askan is without adequate remedy at law.

249. Askan is entitled to recover damages adequate to compensate for the infringement of the '255 Patent, as well as additional damages for willful infringement.

COUNT V
Inducement of Infringement of the '841 Patent by FARO

250. Askan restates the allegations set forth in paragraphs 1 to 225 above and incorporates them herein by reference.

251. FARO makes, uses, sells, offers to sell and/or imports into the United States for subsequent sale or use products, services, methods or processes that directly infringe, or which employ systems, components and/or steps that make use of other systems or processes that directly infringe or infringe by equivalents, at least claim 1 of the '841 Patent.

252. FARO makes, uses, sells, offers to sell and/or imports into the United States for subsequent sale or use of products, FARO Focus Premium, FARO Focus Core, FARO Stream app and FARO Sphere that directly infringe or infringe by equivalents one or more of the claims of the '841 Patent.

253. FARO, by making, using, selling, offering to sell and/or importing into the United States for subsequent sale or use of products FARO Focus Premium, FARO Focus Core, FARO Stream app and FARO Sphere to users that directly infringe or infringe by equivalents one or more of the claims of the '841 Patent with knowledge of the infringement, FARO possessed specific intent to encourage its customers to infringe one or more claims on the '841 Patent.

254. Askan previously informed FARO of the '841 Patent and its relevance to FARO's business and products.

255. Notwithstanding FARO's knowledge, FARO continued to induce infringement by its 3D scanner customers.

256. Defendant's infringement has been willful, deliberate and with knowledge of Plaintiffs' rights under the '841 Patent, and unless Defendant are enjoined by this Court, such acts of willful infringement will continue. Therefore, Plaintiffs are without adequate remedy at law.

257. Askan is entitled to recover damages adequate to compensate for the infringement of the '841 Patent, as well as additional damages for willful infringement.

COUNT VI
Inducement of Infringement of the '255 Patent by FARO

258. Askan restates the allegations set forth in paragraphs 1 to 225 above and incorporates them herein by reference.

259. FARO makes, uses, sells, offers to sell and/or imports into the United States for subsequent sale or use products, services, methods or processes that directly infringe, or which employ systems, components and/or steps that make use of other systems or processes that directly infringe or infringe by equivalents, at least claim 1 of the '255 Patent.

260. FARO makes, uses, sells, offers to sell and/or imports into the United States for subsequent sale or use of products FARO Focus Premium, FARO Focus Core, FARO Stream app and FARO Sphere that directly infringe or infringe by equivalents one or more of the claims of the '255 Patent.

261. FARO, by making, using, selling, offering to sell and/or importing into the United States for subsequent sale or use of products FARO Focus Premium, FARO Focus Core, FARO Stream app and FARO Sphere to users that directly infringe or infringe by equivalents one or more

of the claims of the '255 Patent with knowledge of the infringement, FARO possessed specific intent to encourage its customers to infringe one or more claims on the '255 Patent.

262. Askan previously informed FARO of the '255 Patent and its relevance to FARO's business and products.

263. Notwithstanding FARO's knowledge, FARO continued to induce infringement by its 3D scanner customers.

264. Defendant's infringement has been willful, deliberate and with knowledge of Plaintiffs' rights under the '255 Patent, and unless Defendant are enjoined by this Court, such acts of willful infringement will continue. Therefore, Plaintiffs are without adequate remedy at law.

265. Askan is entitled to recover damages adequate to compensate for the infringement of the '255 Patent, as well as additional damages for willful infringement.

DEMAND FOR JURY TRIAL

Plaintiff demands a trial by jury on all claims so triable.

PRAYER FOR RELIEF

WHEREFORE, Askan prays for relief, as follows:

- A. A judgment that FARO has infringed, contributorily infringed, and/or induced infringement of one of more claims of each of the patents-in-suit;
- B. An order and judgment preliminarily and permanently enjoining FARO and its officers, directors, agents, servants, employees, affiliates, attorneys, and all others acting in privity or in concert with them, and their parents, subsidiaries, divisions, successors and assigns from further acts of infringement of the patents-in-suit;
- C. A judgment awarding Askan all damages adequate to compensate for FARO's infringement of the Askan Patents, and in no event less than a reasonable royalty for FARO's acts of infringement, including all prejudgment and post judgment interest at the maximum rate permitted by law;
- D. A judgment awarding Askan all damages, including treble damages, based on any infringement found to be willful, under 35 U.S.C. § 284, together with prejudgment interest;
- E. Actual damages suffered by Askan as a result of FARO's unlawful conduct, in an amount to be proven at trial, as well as prejudgment interest as authorized by law;
- F. A judgment that this is an exceptional case and an award to Askan of its costs and reasonable attorneys' fees incurred in this action as provided by 35 U.S.C. § 285;

G. A judgment awarding Askan all damages, including treble damages, based on any infringement found to be willful, pursuant to 35 U.S.C. § 284, together with prejudgment interest;

H. A judgment that this is an exceptional case and an award to Askan of its costs and reasonable attorneys' fees incurred in this action as provided by 35 U.S.C. § 285;

I. And such other relief as this Court deems just and proper.

Dated: June 26, 2023

/s/ Yoldas Askan

Yoldas Askan
Plaintiff Yoldas Askan

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Suite 542,
Birmingham
B2 4AY
United Kingdom

E: yoldas.askan@gmail.com

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Exhibit 1 UNIVERSITY OF DORTMUND COMMUNICATIONS

The screenshot shows a Yahoo! Mail interface. At the top, there are navigation icons for Home, Jay, and a search bar. Below the search bar is a toolbar with icons for Back, Forward, Archive, Move, Delete, Spam, and a menu icon. The main content area displays an email from Heinrich Muller (mueller@is7.cs.uni-dortmund.de) to jayrobertsonx@yahoo.com. The email subject is "Elimination von lokalem und globalem". The email body contains the following text:

Dear Mr. Robertson,

the history of the paper can be reconstructed from information in the paper and on the internet.

Joerg Vollmer has been a student of the Department of Computer Science of the University of Dortmund. He submitted his diploma thesis (equivalent to a master's thesis in other countries) in 1998; see reference 5 in the paper you have attached. The diploma thesis has been supervised by Robert Menci, who has been a PhD student in my group, and me. The paper emerged from the thesis. It has been submitted to the conference Eurographics 1999, and it has been accepted for the conference in a peer-reviewing process. The paper appeared in the conference proceedings series published as special issues of the Wiley-Journal "Computer Graphics Forum". The respective issue is No. 18(3), 1999. It is available on the home page of the journal, <http://onlinelibrary.wiley.com/doi/10.1111/cgf.1999.18.issue-3/issuetoc>.

The version of the paper you have attached seems to be slightly different from the version in the proceedings. I assume that it is the version which has been submitted to the conference and which has been revised according to the comments of the reviewers for publication in the proceedings. The differences may be found out by comparison of the two versions.

At the bottom of the email, there is a navigation bar with icons for Compose, Inbox, Unread, Starred, Drafts (2), Sent, Archive, Spam, Deleted items, Views, Photos, Documents, Subscriptions, Deals, Travel, and Folders.

The screenshot shows a web browser window displaying a Yahoo! Mail inbox. The browser's address bar shows the URL: https://cat.nl.eu.criteo.com/delivery/ck.php?cpv=38&cp=XXt5_GodW2HjWtly/C4Ez-fl_Mlimz2EPNTD3rl4L8jRQ66eNPDU5WynD7czScweKeleHfHa6_GaUy5PjbbtG9-LfyeLdQvMIGNFYRZEEFGJ088TpzecFwWDIM7xk2FlbTjk-3m1ke0kto_...

The Yahoo! Mail interface includes a search bar with the text "Find messages, documents, photos or people" and a navigation menu on the left with the following items: Compose, Inbox (2), Unread, Starred, Drafts, Sent, Archive, Spam, Deleted Items, Views, Photos, Documents, Subscriptions, Deals, and Travel.

The selected email is from "Improved Laplacian Smoothing" and contains the following text:

(<http://graphics.stanford.edu/data/3Dscanrep/>). There have been university institutes like http://www.3d-shape.com/up_down/presse/cva_reverse_engineering.pdf who have produced data sets. It also seems that Cyberware (<http://cyberware.com/>) provided selected data sets to everybody at that time.

Concerning "why have the laser scanning manufacturers implemented your techniques as recently as in the past few months when the technology required for almost two decades", I have no hard facts which can explain this. However, besides the possibly increasing visibility of the paper on Joerg Vollmer's website which seem to be quite new, the method also might have been disseminated by students. At least since 2008 I am teaching every year two courses ("Mensch-Maschine-Interaktion", "Geometrisches Modellieren") in which I present, among other topics, mesh processing and point-based graphics. This includes Laplacian smoothing, and a reference to the Vollmer paper is given. During those years, several hundred students have attended those courses. Hence there is some chance that at least one of those students has been hired by a 3D-laser scanning company.

> Now, if you do not mind, I am going to put you on the defense; I will throw you an account of what could have happened:

The screenshot shows a web browser window displaying a Yahoo! Mail inbox. The browser's address bar shows the URL: https://www.google.com/paged/ac/ik?sa=L&ai=CwvE9IV4HX56TK8OC-waOnZ_gB_q0sFessWAq_oLv-EaEAgyptz3l2C7hoCA44AggAsXjhdKyAECqAMByAPiBkEuwFP0MINCRCKO6TyhoarBVQZa8W5jgAeXuav0xeR0KMv3A-Oq_ttkomj1lxN...

The browser's address bar also shows several tabs, including "Improved Laplacian Smoothing" and "Elimination von lokalem und globalem".

The Yahoo! Mail interface includes a search bar, navigation icons (Back, Forward, Archive, Move, Delete, Spam), and a list of folders (Compose, Inbox, Unread, Starred, Drafts, Sent, Archive, Spam, Deleted Items, Less, Views, Photos, Documents, Subscriptions, Deals, Travel). The "Inbox" folder is selected, showing a list of messages. The selected message is from Heinrich Müller to Jay Robertson, dated Fri, 4 Nov 2016 at 16:28.

The email content is as follows:

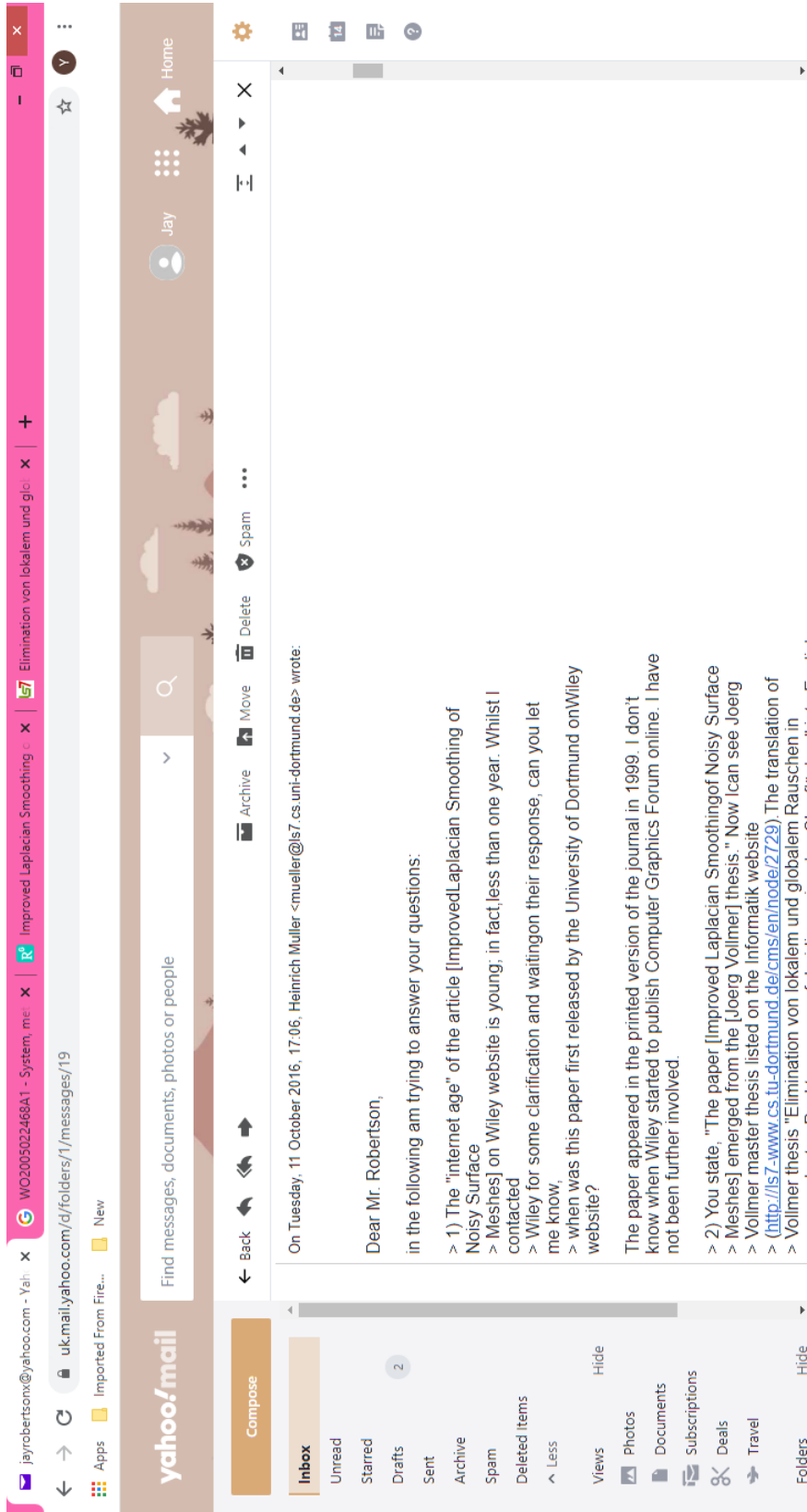
Jay Robertson Dear Prof. Dr. Müller, I was unable to reply to your email sooner however, thank you for the information provided. I will be emaili...

Heinrich Müller <mueller@is7.cs.uni-dortmund.de>
 To: jayrobertsonx@yahoo.com
 Cc: kanzler@tu-dortmund.de, rektorin@tu-dortmund.de

Dear Mr. Robertson,

concerning the question of availability of the diploma thesis of Joerg Vollmer which has been left open in my last email, the message is that the thesis is not in the catalog of the library of the university. Thus it is not publicly available from the university. You have to be referred to the owner of the copyright, Jorg Vollmer, or any public sources if there are any.

- > 1) Microsoft has applied for a patent Application number US13/566.796,
- > Publication number US20130321393 A1, titled: "Smoothing and robust normal
- > estimation for 3d point clouds" with Filing date Aug 3,
- > 2012[<https://www.google.com/patents/US20130321393>] This technology
- > essentially coverstechniques of Vollmer paper. Leaving any discussions of
- > the technology asideand simply accepting that both approaches attain a
- > "smooth pointcloud" how would you comment on:a) the gap in time of Vollmer
- > publication date [1999] and Microsoftpatent application date [2012]?b)
- > have Microsoft behaved unlawfully by submitting this patentapplication,
- > because it covers the technology of Vollmer which you say inventedin
- > 1999?



The screenshot shows a Yahoo! Mail interface. At the top, there is a browser window with several tabs open, including 'WO2005022468A1 - System, me...', 'Improved Laplacian Smoothing c...', and 'Elimination von lokalem und glob...'. Below the browser is a navigation bar with a search bar and a 'Home' button. The main content area displays an email with the following text:

> (<http://is.f-www.cs.tu-dortmund.de/cms/en/node/2729>). The translation of
 > Vollmer thesis "Elimination von lokalem und globalem Rauschen in
 > ungeordneten Punktmengen auf dreidimensionalen Oberflächen" into English
 > is "Elimination of local and global noise in disordered sets of points on
 > three-dimensional surfaces" according to Google. Assuming that you agree
 > with the translation, would it be correct to assume the Wiley version
 > might differ from Vollmer 1998 thesis? How can one obtain the Vollmer 1998
 > thesis?
 The translation is correct. The copyright is at Jörg Vollmer. According to
 reference 5 in the paper, he had made his diploma thesis available on the
 internet in 1998 and gave a link. However, it seems that the link is now
 dead.
 I assume that the paper content is a subset of the content of the diploma
 thesis. The reason is that diploma theses can treat topics more
 extensively since they don't have a page limit, in contrast to the Wiley
 publication.
 3) The Wiley paper uses the terms a "3-D scanner" and a "Laplacian
 > method". Whereas in the Vollmer 1998 thesis, it is not obvious whether if
 > a laser scanner is used or a Laplacian method is invoked. So, at what
 > point did the University of Dortmund enter into the world of 3-D Laser
 > Scanning? And who paid for the scanner (in the late 1990's the price of a
 > 3-D laser scanner was as much as \$200,000 [two hundred thousand U.S.
 > Dollars]).

The interface also shows a 'Compose' button, a list of folders (Inbox, Unread, Starred, Drafts, Sent, Archive, Spam, Deleted Items, Views, Photos, Documents, Subscriptions, Deals, Travel, Folders), and a search bar with the text 'Find messages, documents, photos or people'.

The screenshot shows a Yahoo! Mail interface. At the top, there's a navigation bar with 'Home' and a user profile for 'Jay'. Below that is a search bar and a toolbar with icons for Back, Forward, Archive, Move, Delete, and Spam. The main content area displays an email with the following text:

paint;

- > hisacomplixes would take care of aging process and its infiltration to themarket.
- > About Wiley, if they created a new website for Vollmerarticle then they would print
- > few copies to go with it, something they did inthe past and possibly do in the future
- > (#).Unless the Computer Graphics Forum copyright certified eachcopies of their
- > journal, I shall not be visiting another library soon.

The paper has been published before Blackwell merged with Wiley.

Under Item 2), I have mentioned two major libraries which seem to have printed versions of CGF.

Many other libraries might meanwhile have destroyed the paper version in order to save space.

- > [#">https://www.worldcat.org/title/eurographics-99-the-european-association-for-computer-graphics-20th-annual-conference-milano-italy-september-7-11-1999/oclc/429210972?referer=dl&ht=edition">#](https://www.worldcat.org/title/eurographics-99-the-european-association-for-computer-graphics-20th-annual-conference-milano-italy-september-7-11-1999/oclc/429210972?referer=dl&ht=edition)
- > http://www.nytimes.com/2005/04/30/technology/steve-jobss-review-of-his-biography-ban-it.html?_r=0
- > "But then I decided to check WorldCat.org ("public record. This show, only eleven
- > libraries in the world actually keep hardcopies of this journal and, half of them just
- > happen to be at your doorstep."

If the libraries you got are the same as I got, those seem to be indeed strange. However, according to the headline, only libraries close to Dortmund seem to be listed, and possibly all of them independent from having CGF. Possibly the query as to be improved.

At the bottom of the screen, there is a sidebar with navigation options: Compose, Inbox (2), Unread, Starred, Drafts, Sent, Archive, Spam, Deleted Items, Less, Views, Hide, Photos, Documents, Subscriptions, Deals, Travel, and Folders, Hide.

Browser address bar: ukmail.yahoo.com/d/folders/1/messages/19

Search bar: Find messages, documents, photos or people

Navigation menu (left): Compose, Inbox, Unread, Starred, Drafts, Sent, Archive, Spam, Deleted Items, Less, Views, Photos, Documents, Subscriptions, Deals, Travel, Folders

Email content:

3) It seems that Computer Graphics Forum is also archived by the US Library of Congress. I did not check for this in detail, but you might enter "Computer Graphics Forum" in the Web Interface and do it by yourself.

The relation between computer graphics and 3D (laser) scanning can be explained as follows. A subfield of computer graphics geometry processing, which in turn has, besides other, the subfields "mesh processing" and "point-based graphics", cf. e.g. https://graphics.ethz.ch/research/geometry_proc/. Point-based graphics deals of all aspects of point clouds independent from their type of acquisition (e.g. 3D scanning by stereo vision, by structured light, by tactile scanners, by computer tomography (CT, MR, ... and more). A particularly active time has been between 1995 and 2010, and many results are documented in the book "Point-Based Graphics (The Morgan Kaufmann Series in Computer Graphics)" which appeared in 2007 <https://www.amazon.com/Point-Based-Graphics-Morgan-Kaufmann-Computer/dp/0123706041>. More recently the field has been driven by low-cost 3D scanning devices like the Microsoft Kinect and the Leap Motion controller. Such devices probably influenced developments like the Point Cloud Library (<http://pointclouds.org/>). Many methods presented there are independent from the scanning device and may be applied to 3D-laser-scanning data as well, as the method in Vollmer's paper.

> 3) My pertinent question, which you seem to gloss over, "why have the laser scanning
> manufacturers implemented your techniques as recently as in the past few months
> when the technology required seemingly existed for almost two decades"? You do not

The screenshot shows a web browser window displaying a Yahoo! Mail inbox. The browser's address bar shows the URL: uk.mail.yahoo.com/d/folders/1/messages/19. The email content is a list of search results related to laser scanning technology and point cloud data.

Search Results:

- > when the technology required seemingly existed for almost two decades? You do not
- > own a 3-D laser scanner; nobody sponsoring this work; noisy nature of the point
- > cloud is not at the forefront of advertisements; there are no evidence of any online
- > laser-scanning community sharing point cloud data in 1998 and, no laser scanning
- > hire registered in 1998. Yet, somewhat extraordinarily, you come to know about the
- > laser scanning industries' noise problem, solve it, release a paper in 1999, over
- > 300 citations made but it takes seventeen years for the laser scanning firms to discover
- > the techniques of your method and implement? In the internet age that we live? What
- > would be the coherent explanation of this? Why nobody picks up the phone, call the
- > 3-D laser scanner manufacturer [there is one not too far away from you] and share
- > your results? -----

Additional Text:

Concerning "there are no evidence of any online laser-scanning community sharing point cloud data", I would like to note that I did not refer to laser-scanning data, but to point cloud data in general. Indeed, it seems that most of the early data sets are not acquired by laser scanners. Several data sets came from the pioneering work by Hughes Hoppe (<http://hohoppe.com/recon.pdf>). An old collection which contains some of those data sets is the "Stanford 3D Scanning Repository" (<http://graphics.stanford.edu/data/3Dscanrep/>).

The screenshot shows a Gmail mobile interface. At the top, there are browser tabs for 'jayrobertson@yahoo.com', 'Improved Laplacian Smoothing', 'Elimination von lokalem und gloc', and 'REQUEST FOR LEGAL INVESTIGA'. The Gmail header shows the sender as 'dale.shaw@uspto.gov not pertinent' and the subject as 'Patents Ombudsman Program'. The email content is as follows:

Patents Ombudsman Program PatentsOmbudsmanProgram@uspto.gov via uspto.gov onmicrosoft.com to Inc.

Fri, Jun 16, 2017, 2:40 PM

Mr. Askam, the Patents Ombudsman program **cannot** review your inquiry. On the website, we clearly state the following: "The Patents Ombudsman provides assistance to applicants and attorneys throughout the application process including initial filing, patent examination, and post examination. We assist applicants when the normal processing has stalled, helping to get applications back on track. The Patents Ombudsman Program is **not** intended to circumvent normal communication between applicants or their representatives and examiners or supervisory patent examiners (SPEs) or TC Directors." In short the Patents Ombudsman Program is neither pro Applicant nor pro Examiner. We are pro Process, and see that the process continues to work for everyone. In your application the process is working.

Secondly, you are asking for a legal opinion on the validity of the Vollmer reference. The Patents Ombudsman opinion **cannot** give you a legal opinion on the validity of a reference. If you want an legal analysis of a document, you will need to contact legal counsel to obtain such an opinion. The Patents Ombudsman Program does **not** give legal opinions to anyone.

Thirdly, the Vollmer reference was **not** cited as **pertinent** in your application or in Patent No. 9,082,220, therefore, there is **no** reason for the Patent Ombudsman Program to review an article that is **not** cited in your application.

Lastly, the Vollmer was attached to the end of the David A. Field reference filed 1/18/2005. This reference was filed by the applicant on the IDS filed on 1/18/05, and is the second reference listed on the IDS. It appears that it was filed, by applicant in error.

Therefore, the Patents Ombudsman Program, **will not** do an investigation into the validity of the Vollmer article. I am sorry.

Dale M. Shaw
Deputy Director Stakeholder Outreach and Patents Ombudsman
United States Patent and Trademark Office.

The bottom of the screen shows the Gmail navigation bar with folders like 'Compose', 'Inbox', 'Starred', 'Snoozed', 'Important', 'Sent', 'Drafts', 'Trash', 'Categories', and 'Social'. There are also 'Meet' and 'Chat' sections with meeting links and contact names like 'Yoldas', 'Debdipta Ghosh', and 'aralaina bnta'.