

Argument on Pending Discovery Motions

Twitter, Inc. v. Elon R. Musk, et al.

C.A. No. 2022-0613-KSJM

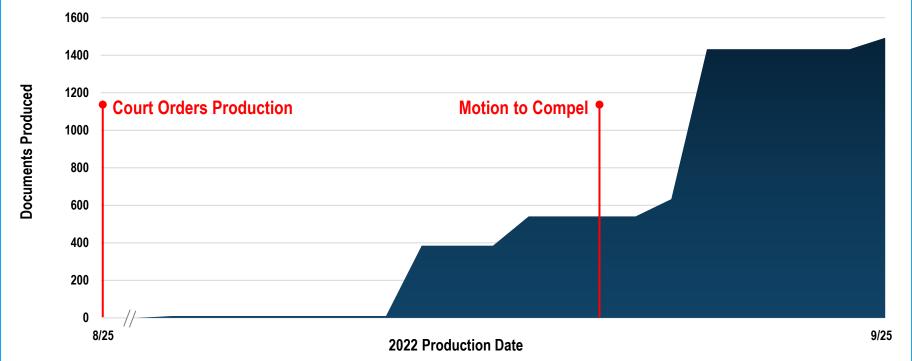
September 27, 2022

Twitter's Sixth Discovery Motion:

Data Scientists

Delayed Data Science Email Productions





Productions Expose Data Scientists' Findings

Date: Thursday, July 7 2022 05:32 PM Re: (Ext) Re: Follow up on sampling / analysis. Subject Dan Brahmy <dan@cyabra.com> Sahar, Adeeb <Adeeb Sahar@skadden.com>; Alex Spiro <alexspiro@quinnemanuel.com >: Christopher Kercher <christopherkercher@quinnemanuel.com>; Emily Kapur <emilykapur@quinnemanuel.com>; Ido Shraga <ido@cyabra.com>; Jones, Peter P < Peter.Jones@skadden.com>; Matthew Fox <matthewfox@quinnemanuel.com>: Ringler. Mike <Mike.Ringler@skadden.com>: Ron Hagiz <ronhagiz@quinnemanuel.com>; Scott Mortman <Mortmanscott@gmail.com>; Yossef Daar <vossef@cvabra.com>: Attachments: image001.png

At an 80% confidence level, Cyabra detected 1,119 fake users and 8,939 real/monetizable users, for a percentage of fake users at 11%, and real users at 89%.

Score Threshold⁵

0.9

Table 2: Ensemble Classifiers Results for Spam Rates Percent of Accounts Estimated Percent of Estimated Percent of Score Threshold Flagged mDAU Monetized Users 5 3% 7.5% 17.3% 33.0% 10.2% 14.2% 0.7 44.0% 13.6% 19.0% 61.0% 16 006 22.4% 55.7% Monetizability does not appear to be effective at filtering spam from mDAU counts. · Evidence: Among those posting content on Twitter on any given day, looking at the tweet source field in the Firehose data shows that fewer than 5% (1.8 million) are only posting from devices that are unmonetizable (i.e., not Twitter's web interface or mobile applications) - the rest can presumably be shown ads (see Table 1 above). Looking at users who did not post on a given day but did like one or more public tweets, most had Table 2: Ensemble Classifiers Results for Spam Rates Percent of Accounts **Estimated Percent of** Estimated Percent of Monetized Users mDAU 7.5%

CONFIDENTIAL & PROPRIETARY

帶 COUNTER ACTION

Flagged

17.3%

At an 80% confidence level, Cyabra detected 1,119 fake users and 8,939 real/monetizable users, for a percentage of fake users at 11% and real users at 89%. As previously stated, we believe that the representative sampling of approx 10k users does not provide as clear a picture of the actual percentage of fake and real users as a larger sampling would provide. We are prepared to do additional and larger samplings and analysis as requested from the 64.8m user database we've assembled from the Twitter API provided. Let us know if you'd like to discuss further. We remain available to assist and support per your request. On Wed, Jul 6, 2022 at 14:52 Dan Brahmy < dan@cyabra.com > wrote: Earlier today we were able to confirm that the monthly limit has been removed, and we immediately got to work. For each minute (1440) of each day (90) in Q1 2022, we are randomly selecting 500 tweets from the Twitter API provided. Each tweet correlates with a unique user (to the extent that a user profile appears more than once, we are accounting for and removing any "double counting"). So we have assembled a new database from the Twitter APT of approx 64.8m users (1440x500x90), >From this database, we intend to spend the next 24 hours using a random number generator to select 111 users each day. Multiplied by 90 days, we hope to be able to randomly sample almost 10k users (9990) by this time tomorrow and report to you on the % of fake accounts (and the inverse % of real accounts that are monetizable depending on how defined). We also can find other ways suggested by you and your expert Albert to sample from the new API database that we have assembled. Keep in mind that we still must contend with the Twitter rate limit, which seems to cap the number of searches we can do effectively over a 24-hour period to about 10k searches (more or less). Have a great day CONFIDENTIAL CYABRA 00000851

This is very closely aligned to the specific claim that Twitter has been making in recent days, that we cannot validate their mDAU reports because they are excluding some spam users from mDAU based on data unavailable to us. We cannot evaluate that claim specifically because they have not provided this key information, which is why this is rated as "moderate confidence" - it's indeed possible that the excluded information changes this calculus as they claim. THIS DOCUMENT IS A CONFIDENTIAL FILING.

ACCESS IS PROHIBITED EXCEPT AS AUTHORIZED BY COURT ORDER CONFIDENTIAL COUNTERACTION 00000068 COUNTERACTION 00000064

⁵ This is the "overall" score produced by the models, which also deliver scores for 6 specific types of hots / spam ("echo-chamber", "fake follower", "financial", "spammer", "self-identified", and "other" - see

get the highest individual scores in our samples.

https://botometer.osome.iu.edu/fag for definitions). Of these , the "other", "fake follower", and "spammer" categories

Musk's Termination Letter Relies on Data Scientists

that he could review data and information that is important to Twitter's business before financing and completing the transaction.

As Twitter has been on notice of its breach since at least June 6, 2022, any cure period afforded to Twitter under the Merger Agreement has now lapsed. Accordingly, Mr. Musk hereby exercises X Holdings I, Inc.'s right to Merger Agreement and abandon the transaction contemplated there letter constitutes formal notice of X Holding I, Inc.'s termination of Agreement pursuant to Section 8.1(d)(i) thereof.

In addition to the foregoing, Twitter is in breach of the Merge because the Merger Agreement appears to contain materially representations. Specifically, in the Merger Agreement, Twitter rep no documents that Twitter filed with the U.S. Securities and Exchange since January 1, 2022, included any "untrue statement of a material fi 4.6(a)). Twitter has repeatedly made statements in such filings regarding of its mDAUs that are false or spam, including statements that performed an internal review of a sample of accounts and estimate tha of false or spam accounts during the first quarter of 2022 represente 5% of our mDAU during the quarter," and "After we determine an acci malicious automation, or fake, we stop counting it in our mDAU, or metrics." Mr. Musk relied on this representation in the Merger Agr Twitter's numerous public statements regarding false and spam ac publicly filed SEC documents) when agreeing to enter into the Merger Mr. Musk has the right to seek rescission of the Merger Agreement these material representations are determined to be false.

Although Twitter has not yet provided complete information to Mr. Musk that would enable him to do a complete and comprehensive review of spam and fake accounts on Twitter's platform, he has been able to partially and preliminarily analyze the accuracy of Twitter's disclosure regarding its mDAU. While this analysis remains ongoing, all indications suggest that several of Twitter's public disclosures regarding its mDAUs are either false or materially misleading. First, although Twitter has consistently represented in securities filings that "fewer than 5%" of its mDAU are false or spam accounts, based on the information provided by Twitter to date, it appears that Twitter is dramatically understating the proportion of spam and false accounts represented in its mDAU count. Preliminary analysis by Mr. Musk's advisors of the information provided by Twitter to date causes Mr. Musk to strongly believe that the proportion of false and spam accounts included in the reported mDAU count is wildly higher than 5%. Second, Twitter's disclosure that it ceases to count fake or spam users in its mDAU when it determines that those

disclosures regarding its mDAUs are either false or materially misleading. *First*, although Twitter has consistently represented in securities filings that "fewer than 5%" of its mDAU are false or spam accounts, based on the information provided by Twitter to date, it appears that Twitter is dramatically understating the proportion of spam and false accounts represented in its mDAU count. Preliminary analysis by Mr. Musk's advisors of the information provided by Twitter to date causes Mr. Musk to strongly believe that the proportion of false and spam accounts included in the reported mDAU count is wildly higher than 5%. *Second*, Twitter's disclosure

Source: Dkt. 1, Ex. 3 at 6.

More Data Scientists Come to Light













Andrew Beers

goutam149@outlook.com





From: Justin Blackburn < justin@affinio.com>

To: "Susan Stallings" < susans@haloprivacy.com >

"Lanea Blackburn" < lanea.blackburn@halopriva

"Lanea Blackburn" <lanea blackburn@haloprivacy.com », "keith@nowvertical.com" <keith@novvertical.com », "Alec Harris" <alec. harris@aloprivacy.com », "Gary High" <a>gary.high@haloprivacy.com >, "Nick Coyle" <alec. coyle@haloprivacy.com > (a)

Subject: Re: Halo/Affinio \$ync #2 (T)

Date: Wednesday, June 1 2022 05:43 PM

ssage- <CAJHdDQkWiHDKzBCsimiJJ+6zr3T+-8izZ37YpAu29DKqWSUgQw@mail.gmail.com >

EXTERNA

Unfortunately, I am unable to join a call as I have another call I need to jump to shortly. I am happy to connect tomorrow morning. I will send over an invite.

As for the cluster labels - this is expected behaviour. A couple of bullets that should help.

- Affinio recommends cluster labels however, the end-user should always go in and double-check the
 labels. The recommendation is a time saver. For your particular use case of identifying spam, you will
 need to go into each report and review the clusters to relabel. It is not guaranteed that the platform will
 automatically label clusters as spam and it is not guaranteed to bale ever voluster.
 - Linked is a FAQ on our <u>Cluster Label Methodology</u>, "Affinio suggests cluster names based on a repository of thousands of machine-learned labels. A cluster name is only recommended when Affinio matches its interest patterns to a familiar pattern. The minimum pattern overlap is 75% based on a cluster's top 1000 interests. Cluster name recommendations have been filtered for chinic/religious/health or other controversial labels.
- . How to label a cluster (Document Attached)

Hope this helps clear up a bit of your confusion.

All the best,

On Wed, Jun 1, 2022 at 6:32 PM Susan Stallings <susans@haloprivacy.com > wrote:

From: Kevin Oden kevin.oden@kdoden.com">kevin.oden@kdoden.com

To: "Mark Kearns" kearns@haloprivacy.com

CC: "Jeff Hunter" <jeff@theontechnology.com >, "Gary High" <gary.high@haloprivacy.com >

Subject: RE: Intros

Date: Thursday, June 16 2022 09:17 AM

Message-ID: <BYAPR18MB244039F3F2D97AB7B63A0489EBAC9@BYAPR18MB2440.namprd18.prod.outlook.com >

Meeting invite going out shortly. Who should be on it from the Halo and Theon sides?

Kevin D. Oden, Ph.D.

Chief Executive Officer

Kevin D. Oden & Associates, LLC

505 Montgomery Street, 11th Floor, San Francisco, CA 94111

W: 415.539.9457 | M: 973.568.4399 E: kevin.oden@kdoden.com | www.kdoden.com

From: Mark Kearns <mark.kearns@haloprivacy.com > Sent: Thursday, June 16, 2022 8:50 AM

To: Kevin Oden <kevin.oden@kdoden.com >
Cc: Jeff Hunter <jeff@theontechnology.com >; Gary High <gary.high@haloprivacy.com >

Subject: RE: Intros

Kevin.

I'll look forward to receiving the engagement letter. Would it be possible to schedule a project kick off call for tomorrow? Maybe 1100 hrs eastern?

Best Regards,

From: Casey Schmidt <asey Segrovaroft.com>
To: <Nick.coyle@haloprivacy.com>
Subject: VoxCroft Monetizable Accounts Methodology
Date: Saturday, June 4 2022 07:59 AM

Message-ID: <CAGBq8iwEP5rJ=mw=q+CV7iusH+X19Xu Oo2EOSoWau1AZsBkWq@mail.gmail.com >

[EXTERNAL]

Good Morning Nick.

As discussed, below is a brief outline of our proposed methodology to estimate the percent of monetizable Twitter accounts. We feel confident we can deliver robust results within the short fuse timeline. Also, our approach is naturally conducive to a dynamic look at the data—we would sample our data every 5-7 days to demonstrate variations. Please pass along to the team and let us know if you have any questions or prefer to do a quick stand-up to walk through the methodology. I'll send you a separate note to discuss the business side of thines.

Kind regards

Casey

Guiding Research and Intelligence Question: What is the fraction of Daily Active Users (DAU's) that are bots, since this seems most close to monetizable accounts.

Our approach will be based on creating and analyzing a nested set of pristine datasets, P0, P1, P2 that we use to refine our estimates over the course of 3 weeks:

 Pull N hours of twitter firehose data (N a small multiple of 24 hours, e.g. 1 or 2) based on 10 randomly selected common English search terms. Fine tune the search terms so that this data across the 10 search terms gives about 1 million Twitter accounts. Call this dataset PO.

Data Scientists Use Signal

From: Nick Coyle <nick.coyle@haloprivacy.com >

"Casey Schmidt" <caseys@voxcroft.com>, "Gary High" <qary.high@haloprivacy.com> To:

"Seth Rodin" <seth.rodin@haloprivacy.com > CC: BCC: "Mark Kearns" <mark.kearns@haloprivacy.com> Subject: Re: VoxCroft Monetizable Accounts Methodology

Date: Sunday, June 5 2022 02:28 PM

Message-ID: <BY5PR14MB38311AEA329F7F4AB007F79284A39@BY5PR14MB3831.namprd14.prod.outlook.com >

Thanks, Casey. We'll countersign NDA and get it bound. Also - based on my last Signal message, Phase 2 is a go. We're super excited to work with you guys. That said, there are some tight deliverables (1 per week) showing progress, which I will coordinate. We hope to visualize this somehow. Additionally, I'm putting you in touch with our Business Development Director, Gary High who will coordinate the final figures and contract signing at soonest.

We really appreciate the assist here and look forward to the relationship. Gary... over to you.

Thanks!

Nick Coyle Director - IdM Halo Privacy

From: Casey Schmidt <caseys@voxcroft.com>

To: "Gary High" <gary.high@haloprivacy.com >, "Nick Coyle" <Nick.coyle@haloprivacy.com >

CC:

<fredl@voxcroft.com>, "Barend Lutz"<barendl@voxcroft.com>

Subject: Twitter Project Update #2 Friday, June 10 2022 08:47 AM Date:

Message-ID: <CAGBq8ixYUQTHVtgxUXyh4sZpKxq3yra Kj2=AFsF+g0m9hMBqQ@mail.gmail.com>

Attachments: VoxCroft Halo Update

Good Morning!

Attached is an updated PPT to address your latest questions and present our methodology and progress in simpler terms. I will add a couple folks (Fred L. and Barend L.) to our Signal chat to field questions during the weekend. They will be the liaisons with our tech team so we can mitigate the game of telephone. Sound good?

Kind regards.

Casev

Birchall's Lack of Preparedness During Deposition

Topic 21

- 21. The engagement of the Data Scientists, including without limitation (i) the identification of all Data Scientists and when they were engaged; (ii) the scope and purpose of any such engagement; (iii) how such Data Scientists came to be engaged; (iv) the nature of any agreements, arrangements, or understandings between the Data Scientists and Defendants or Defendants' Advisors.
- Q: Prior to this deposition, did you make any attempt to inform yourself regarding why the data scientists were engaged, what work they are doing, and their conclusions?

A: No.

Topic 22

22. All Persons that Defendants or Defendants' Advisors communicated with about a potential engagement as a Data Scientist that were not engaged as a Data Scientist, including without limitation (i) the identification of all such Persons; (ii) the timeline during which such potential engagement was considered; and (iii) all reasons such engagement did not take place.

- Q: Can you tell me what persons were communicated with about the potential engagement as a data scientist that were not engaged?
- A: I -- I'm not aware of any engagements or discussions beyond those that we engaged.
- Q: Prior to this deposition, did you make any effort to determine if there were any such discussions or communications?
- A: I didn't.

Topic 23

23. All work performed by the Data Scientists, including without limitation (i) the instructions received by the Data Scientists; (ii) the scope of the Data Scientists' work; (iii) the timeline of the Data Scientists' work; (iv) a description of the work performed by each individual working as or for a Data Scientist; (v) the findings, conclusions, and results of such work.

- Q: Okay. Starting with first little I, what instructions were received by the data scientists?
- A: Again, the -- you know, it was the legal team that engaged them and corresponded with them regarding these topics, instructions, scope, timeline, and so I -- I don't have that information.
- Q: Okay. You don't have any of that information?
- A: I don't.
- Q: Okay. Did you make any effort to obtain that information prior to your deposition today?
- A: I did not.

The Court's Word of Caution

EFIIEd: Aug 25 2022 03:17PM EUT Transaction ID 67974800 OF THE STATE OF DELAWARE

KATHALEEN ST. JUDE MCCORMICK CHANCELLOR LEONARD L. WILLIAMS JUSTICE CENTER 500 N. KING STREET, SUITE 11400 WILMINGTON, DELAWARE 19801-3734

August 25, 2022

Peter J. Walsh, Jr., Esquire Kevin R. Shannon, Esquire Christopher N. Kelly, Esquire Mathew A. Golden, Esquire Callan R. Jackson, Esquire Potter Anderson & Corroon LLP 1313 N. Market Street Hercules Plaza, 6th Floor Wilmington, DE 19801

Brad D. Sorrels, Esquire Wilson Sonsini Goodrich & Rosati, P.C. 222 Delaware Avenue, Suite 800 Wilmington. DE 19801

> Re: Twitter, Inc. v. Elor C.A. No. 2022-0613

Dear Counsel:

This letter resolves issues raised

Edward B. Micheletti, Esquire Lauren N. Rosenello, Esquire Skadden, Arps, Slate, Meagher & Flom LLP 920 N. King Street, 7th Floor

⁴⁰ As a word of caution, Defendants are reminded that a large volume of logged entries can raise a red flag for the court. *See*, *e.g.*, *Mechel Bluestone*, *Inc.* v. *James C. Justice Cos.*, *Inc.*, 2014 WL 7011195, at *6 (Del. Ch. Dec. 12, 2014).

Twitter, Inc. ("Plaintiff"), which this decision refers to as Plaintiff's "Second Discovery

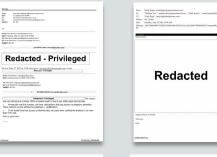
Motion." The motion seeks relief in connection with discovery directed to Defendants

Elon R. Musk, X Holdings I, Inc., and X Holdings II, Inc. ("Defendants") concerning

Defendants' data science analysts (the "Data Scientists").1

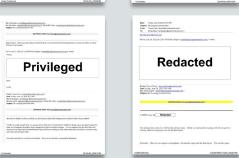
¹ C.A. No. 2022-0613-KSJM, Docket ("Dkt.") 160 ("Pl.'s Second Disc. Mot."); see also Dkt. 168 ("Defs.' Response to Pl.'s Second Disc. Mot."); Dkt. 196 (Pl.'s Reply to Pl.'s Second Disc. Mot.).

Defendants Heavily Redact the Data Scientist Productions



Redacted - Privileged



















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Twitter's Seventh Discovery Motion:

Discovery Sanctions

New Birchall Text Messages Produced September 16

April 23, 2022



Possible for us to get a few minutes with E? Want to pitch this plan I previewed with you. Best if we can talk soon. If he likes it we need tonight to prepare and would execute tomorrow late morning PT.

11:09 PM



May 1, 2022



Texts Sam to get on phone. Live call: one preamble comment then three branches of the tree based on what he says to the first question on how much he's investing Preamble: "We are firming up commitments and I wanted to see how much you want to invest. There is a limit for any non US investor related to CFIUS of no more than 2.5 billion for a single investor. " If he says I'm in for 1 billion or 500mm or 2bn the response is: "sounds good. I'm very eager to partner with you. Morgan Stanley will get you the documentation for singing". If he says he's out, the response is "love to know why and you are making mistake of your life" (some version of Orlando script) If he says "not sure yet", response is: "If you could tell me tomorrow please, as we have one of your competitors that wants to invest 500 if they are they only crypto exchange in the round and we would tell them they are out if we are partnering with vou -- but we would accept their investment if you decided to back away from what you had signaled to me and the letter you sent on your desire to invest"



10:40 PM

Missing Ellison Texts





Defendants' Evolving Representations About Signal

September 4

Exhibit M contains a screenshot of an exchange between Mr. Musk and Marc Andreeson on the Signal messaging platform, which Mr. Musk does not ordinarily use for business and which can be set to delete messages after a certain period of time;

September 14

litigation, which is that neither Elon Musk nor Jared Birchall conducted business related to the Merger using Signal messages.

September 15

Defendants have confirmed to counsel that they do not recall sending or receiving any other messages relating to the Merger through Signal or any other ephemeral messaging client.

Musk's Explicit Use and Endorsement of Signal





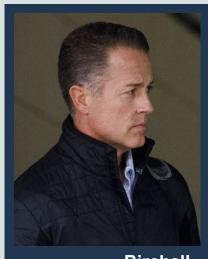
Musk's Additional Positive References to Signal







Birchall Affirms Use of Signal in His Deposition



Birchall
Managing Director
Excession LLC

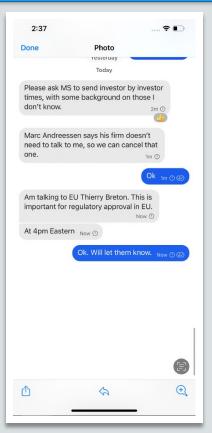
- Q. Is -- is there a manner in which you decide, if you have something you want to relay to Mr. Musk, how you will send it, whether by phone, text, Signal, or email?
- A. So that would depend on the -- on the content of -- of what I was sending and -- and the timing. There's certain topics, of course, now, that would -- would drive a type of communication a certain -- through a certain medium versus another. But, historically, things that are private and personal and involve his personal information would -- for the better part of the past four years, five years maybe, Signal is -- is primarily how that information is communicated

- Q. Do you ever use Signal for business?
- A. Again, I'm hired to manage his personal family office, and so I guess it depends on your definition of -- of business, but certainly for his personal financial matters, yes.
- Q. Would you view his investment in Twitter as one of his personal financial matters?
- A. His purchases of Twitter, definitely. Yeah.
- Q. So did you use Signal with regard to any matters relating to Twitter, including his purchase of Twitter?
- A. I don't recall using Signal for that purpose. The updates that I was giving him was in person on -- you know, when I was with him in the Friday meetings, but certainly there was a moment that when there were litigation holds where added care was taken to never use it for anything involving Twitter.
- Q. When do you recall that occurring?
- A. Approximately mid-May.

Source: Birchall Tr. 27:6-10; 29:2-22 © 2022 DOAR

This Morning's Revelation





IMG 7005.png

Musk's Affidavit Downplays Signal Usage

IN THE COURT OF CHANCERY OF THE STATE OF DELAWARE

TWITTER, INC.,)
Plaintiff and Counterclaim-Defendant, v.)))) C.A. No. 2022-0613-KSJM) CONFIDENTIAL
ELON R. MUSK, X HOLDINGS I, INC., and X HOLDINGS II, INC.,)))
Defendants and Counterclaim-Plaintiffs.))

AFFIDAVIT OF ELON R. MUSK

Elon R. Musk, having been duly sworn according to law, deposes and says as follows:

Signal. Signal encrypts messages, protecting them from interception and thereby protecting the privacy of the people sending and receiving the messages. Signal also allows users to set messages to delete after certain periods of time.

THIS DOCUMENT IS A CONFIDENTIAL FILING.
ACCESS IS PROHIBITED EXCEPT AS AUTHORIZED BY COURT ORDER.

- 3. I am familiar with, and I occasionally use, a messaging app called Signal. Signal encrypts messages, protecting them from interception and thereby protecting the privacy of the people sending and receiving the messages. Signal also allows users to set messages to delete after certain periods of time.
- 8. By the second week of May, I had developed concerns regarding certain representations made by Twitter in, and in connection with, the Merger Agreement, and I had begun to consult with my lawyers regarding my rights. Aside from the April 25, 2022 message from Andreesen, I do not recall having any other communications regarding my planned purchase of Twitter through the Signal app before that point, and I did not communicate regarding the Twitter transaction using Signal (or any other messaging service that deletes messages after a period of time) from that point onward.

Source: Dkt. 575.2, Ex. 7 at 1, 3 © 2022 DOAR