

1                                   IN THE UNITED STATES DISTRICT COURT  
2                                   FOR THE DISTRICT OF COLUMBIA

3   UNITED STATES OF AMERICA,  
4   et al.,  
5                                   Plaintiffs,

Civil Action  
No. 1:20-cv-3010

6                                   vs.

Washington, DC  
September 14, 2023  
1:36 p.m.

7   GOOGLE, LLC,

8                                   Defendant.

Day 3  
Afternoon Session

9  
10                                   TRANSCRIPT OF BENCH TRIAL  
11                                   BEFORE THE HONORABLE AMIT P. MEHTA  
12                                   UNITED STATES DISTRICT JUDGE

13   APPEARANCES:

14   For DOJ Plaintiffs:

**KENNETH DINTZER**

U.S. Department of Justice  
1100 L Street, NW  
Washington, DC 20005

**JOSHUA HAFENBRACK**

**ERIN MURDOCK-PARK**

**RICHARD GOWER**

**MEAGAN BELLISHAW**

U.S. Department of Justice  
450 Fifth Street, NW  
Washington, DC 20001

19  
20   For Plaintiff  
21   State of Colorado:

**JONATHAN SALLET**

Colorado Department of Law  
CPS/Antitrust Section  
1300 Broadway, 7th Floor  
Denver, CO 80203

**WILLIAM CAVANAUGH, JR.**

Patterson, Belknap, Webb & Tyler, LLP  
1133 Avenue of the Americas #2200  
Suite 2200  
New York, NY 10036

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25

**APPEARANCES CONT:**

**For Defendant Google:**

**JOHN SCHMIDTLEIN**

Williams & Connolly, LLP  
725 12th Street, NW  
Washington, DC 20005

**Court Reporter:**

**JEFF HOOK**

Official Court Reporter  
U.S. District & Bankruptcy Courts  
333 Constitution Avenue, NW  
Washington, DC 20001

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ANTONIO RANGEL

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Exhibit DX723: .....Admitted into evidence.....

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Exhibit UPX7001 .....Admitted into evidence.....

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Exhibit UPX809: .....Admitted into evidence.....

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Exhibit UPX558: .....Admitted into evidence.....

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P R O C E E D I N G S

1  
2           **THE COURT:** Welcome back, everybody. Mr Schmidtlein,  
3 we're ready when you are. I hope everybody had a nice lunch  
4 hour.

5           **CONTINUED CROSS-EXAMINATION OF ANTONIO RANGEL**

6           **BY MR. SCHMIDTLEIN:**

7           **Q.** Thank you, Your Honor. Professor Rangel, before the  
8 lunch break, I'd asked you a couple of questions about the  
9 Amazon Fire, and just one last question to close the loop on  
10 that.

11           The search box that we were talking about before the  
12 break, do you know whether or not you can remove that search  
13 box?

14           **A.** I do not.

15           **Q.** You didn't investigate -- in the same way you  
16 investigated whether there was friction or what steps were  
17 needed to be able to remove the Google search widget box on  
18 Android devices, you didn't look into the steps that needed to  
19 be taken or whether in fact the search box on an Amazon Fire  
20 tablet could be removed at all?

21           **A.** For this specific search bar, I investigated changing  
22 the defaults, but not removing the bar.

23           **Q.** Okay. If you were to learn -- if you assume with me  
24 that that search bar cannot be removed, would you agree that  
25 that could affect the volume of Bing searches that are done

1 with that, particularly given, as we discussed before, you  
2 can't change the -- there's no second default that you can set  
3 for that box?

4 A. Yes, that is possible.

5 Q. Now, when you said previously that changing a default  
6 search engine on an Apple or Android device is cognitively  
7 costly, have you tried to quantify or calculate the cost?

8 A. I have not carried data to quantify that specific  
9 cost, no.

10 Q. Okay. Would you agree that if the choice architecture  
11 that a company decides is to present a choice screen, that  
12 there are cognitive costs for a consumer for trying to evaluate  
13 and make a selection with a choice screen?

14 A. Every mental operation, every consumption of  
15 information, every decision, Your Honor, of everyone involves  
16 some mental cost; some more than others.

17 Q. Okay. And have you evaluated, or tried to calculate  
18 in any relative sense, the cognitive costs of changing a  
19 default search engine with the cognitive costs of trying to  
20 evaluate and make the best selection with a choice screen?

21 A. In general, I'm not providing a quantitative  
22 comparison of interfaces, especially interfaces that are close  
23 by. But having said that, counsel and Your Honor, there are  
24 some interfaces that are so far apart that without quantifying,  
25 my expectations as a behavioral economist is that there is a

1 difference in the degree of choice friction. I can answer more  
2 questions about that.

3 Q. Okay. But you haven't done that comparison for  
4 purposes of your work here?

5 A. I have not collected data on this.

6 Q. Do you know what an app launcher is?

7 A. The term is familiar. The way you're asking the  
8 question is making me doubt myself.

9 THE COURT: Maybe if you rephrase.

10 BY MR. SCHMIDTLEIN:

11 Q. Okay. In the context of populating and getting sort  
12 of prominent distribution on a default home screen or some  
13 other real estate on a device, are you familiar with products  
14 that software companies offer that are called application  
15 launchers that can sort of launch sort of multiple devices into  
16 a new user interface?

17 A. I am not.

18 Q. Now, you've referred to the term choice architecture  
19 in your expert reports in this case, correct?

20 A. I do.

21 Q. And selecting a default search provider, whether it's  
22 a browser or a device manufacturer, is an example of choice  
23 architecture, right?

24 A. Yes.

25 Q. And would you agree that the selection of the default

1 search engine is an important product design decision for a  
2 browser developer?

3 **A.** I would agree.

4 **Q.** And do you consider yourself an expert on browser  
5 design?

6 **A.** I apologize, your question coincided with the  
7 coughing. Could you repeat it?

8 **Q.** Sure. Do you consider yourself an expert on browser  
9 design?

10 **A.** I do not.

11 **Q.** Would you agree that a browser developer has to make a  
12 design decision about whether to select a default search engine  
13 or find some other mechanism for a default to be employed with  
14 its browser?

15 **A.** Yes, and let me be specific. When you construct, Your  
16 Honor, a piece of software like a browser, which requires  
17 access to a search engine -- this is unavoidable, the software  
18 needs to have a way the first time a query is carried out of  
19 finding out a search engine. It can be through a default or it  
20 can be through a choice screen, but somehow either the user  
21 interface or the user interface plus user input is necessary to  
22 determine those settings.

23 **Q.** And you would agree that given the importance of  
24 search engine functionality to a browser's functionality, that  
25 having a default search engine through some mechanism is a good

1 product design?

2           **A.** Yes, because it would not be an ideal product design  
3 to have a user have to specifically select a search engine  
4 every time that they do a query.

5           **Q.** Now, you're not offering an opinion in this matter  
6 that a browser developer's decision to select a default search  
7 engine rather than employing some other mechanism for a default  
8 selection has harmed consumers, correct?

9           **A.** To be able to do that, I would have to carry a type of  
10 analysis that is called a welfare analysis, Your Honor, that  
11 quantifies the gains and losses. I have not done that,  
12 therefore I'm not offering an opinion.

13           **Q.** So you're not offering an opinion that Apple's  
14 decision to make Google the default search engine on the Safari  
15 browser has harmed consumers, correct?

16           **A.** I am not.

17           **Q.** And the same would be true for Mozilla, correct?

18           **A.** Yes.

19           **Q.** And the same would be true for any Android OEM or any  
20 carrier who has made some sort of default search engine  
21 selection in their configuration of an Android device?

22           **A.** Correct.

23           **THE COURT:** Dr. Rangel, can I ask you a question: You  
24 haven't done any such consumer harm analysis, but can you just  
25 give me an idea of what that would look like, how you would



1 construct a consumer harm analysis with respect to a product  
2 that does not charge for its use?

3           **THE WITNESS:** Of course, Your Honor. I am going to --  
4 there's a fundamental question: How would a behavioral  
5 economist approach it. For every user, you would like to know  
6 the following thing: For different interfaces, how much is the  
7 quality of the search experience that they get that will be  
8 affected by the usage and by the quality of the results, the  
9 well-being that they derive from there. That would be the  
10 value of the experience. You would have to subtract from that,  
11 for different interfaces, the effort of carrying out those  
12 queries and access that information. And different browsers,  
13 as we have discussed, vary. For example, counsel showed a  
14 picture of the Firefox in which they remind you there are  
15 different browsers, and for every query, if you want, you can  
16 click.

17           In addition -- and this is essential for your question,  
18 there is an issue of what is the cost associated with different  
19 default options, with different ways, in counsel's way of  
20 stating the question, of selecting a default, reaching a  
21 default. And there you will have to trade off the cost of  
22 going through the choice screen with the impact of the  
23 probability of selecting the incorrect browser and making a  
24 mistake in the short term. And if you wanted to -- that's for  
25 a short-term analysis. If you wanted to be more ambitious, you

1 would also want to ask, for different interfaces, what is the  
2 probability that a user ends up experimenting with different  
3 products, and maybe discover products, search engines that they  
4 like more. That's a potential that has to be taken into  
5 account. Because if somebody gets habitized and locked in in  
6 the default search engine, there may be other options down the  
7 line they prefer. It's a complicated analysis. And then you  
8 would have to do that for different types of users which have  
9 different preferences, different usage patterns, different  
10 mental efforts, and aggregate it. It's a complex calculation,  
11 but it's conceptually very clear.

12 **THE COURT:** Would you equate habituation to a product with  
13 consumer harm?

14 **THE WITNESS:** No, of course not, Your Honor. You can --  
15 the only key point about habits is the following: If you  
16 start -- and I'm going to phrase the question in the term of  
17 search engine just to facilitate the discussion, Your Honor.  
18 If you start using the default search engine, as we have been  
19 discussing, and you develop a habit to use it, for that habit  
20 to take place, it is necessary. Otherwise, it will not occur  
21 that you get a good consumer experience. However, it's not  
22 necessary that you get the best consumer experience; that's not  
23 required by habituation.

24 So you asked the question: Is it necessary that it  
25 creates harm. No, it is necessary that it generates a good

1 consumer experience. But you may have a welfare loss in the  
2 sense that you have habituated to a second best. To be clear,  
3 I am not testifying about what is the best search engine or the  
4 second best, I have no opinion to offer about the relative  
5 quality of Google. This is about the behavioral mechanisms.

6 **THE COURT:** Thank you. Sorry, Mr. Schmidtlein.

7 **BY MR. SCHMIDTLEIN:**

8 **Q.** Thank you, Your Honor. Now, defaults are often used  
9 by companies and governments to promote what the companies and  
10 governments view as the recommended option, correct?

11 **A.** I disagree with the phrasing. I would say that they  
12 are used -- they are a go-to tool in choice architecture to  
13 induce consumers to choose an option that is desired by the  
14 organization choosing the choice architecture. Now, the  
15 calculations that go behind them, it was a little bit -- I  
16 heard it implicit in your question, it will vary across  
17 organizations.

18 **Q.** Do consumers interpret preset defaults as a  
19 recommendation or endorsement by the manufacturer?

20 **A.** There are -- yes, with qualifications, and I would  
21 like to explain why to the Court. There are cases, Your Honor,  
22 in which defaults are interpreted by decision makers, by  
23 consumers as an implicit recommendation of what is the right  
24 product to use. And this tends to be more relevant for  
25 consumers that are not very sophisticated. They don't know

1 what is quite the right option. If they see something chosen  
2 as the default, they think maybe there is a reason for that,  
3 I'll go with that. That's called implicit recommendation in  
4 the world. And, yes, it's one of the mechanisms that is at  
5 work in amplifying the effect of the default bias.

6 Q. Have you conducted any analysis in this case as to  
7 whether consumers interpret a default search engine -- whether  
8 selected by a browser developer, whether selected by a device  
9 manufacturer -- as a recommendation or endorsement by that  
10 browser or device manufacturer as to the best search engine?

11 A. I have not collected data, Your Honor, on this, but I  
12 have encountered case materials from the participants of the  
13 market discussing this.

14 Q. Okay. And the materials that you've discussed -- I'm  
15 sorry, the materials you've reviewed or seen from the case are  
16 consistent with the notion that at least some consumers will  
17 interpret the default as a recommendation or an evaluation by  
18 the partner or the product manufacturer as to what they believe  
19 is the best search engine?

20 A. Yes.

21 Q. And would you agree that there are circumstances where  
22 users benefit from those recommendations?

23 A. Are you asking me specifically about defaults or in  
24 general?

25 Q. About defaults.

1           **A.** Conceptually, yes. Conceptually. I am not sure I  
2 would answer in the affirmative, not necessarily in the field.

3           **Q.** Well, you have -- you've made repeated references  
4 during your testimony to consumers who are not informed or who  
5 are confused or may not understand the products, their  
6 workings, the quality, all of those things.

7           Would you agree that for those consumers, they could  
8 benefit from the recommendation of a company like Apple or  
9 Mozilla as to a default search engine?

10          **A.** It would depend on the motives that are driving the  
11 decision by those companies to select the default.

12          **Q.** Did you do anything in this case to inform yourself as  
13 to the processes, the motives, the way those companies went  
14 about selecting default search engines?

15          **A.** Yes.

16          **Q.** What did you do?

17          **A.** I read a large body of case materials in which  
18 defaults, Your Honor, are -- and selection of defaults and  
19 changes of defaults are discussed. And within the limitations  
20 of the case documents being read outside a meeting, I tried to  
21 get a sense of the range of considerations and issues that are  
22 debated in determining those decisions.

23          **Q.** You're not offering any opinion in this case that the  
24 default browser selection process that Apple or Mozilla or  
25 Samsung or AT&T or any of the other Android carriers or

1 manufacturers was an inappropriate or ineffective process, are  
2 you?

3 **A.** I am not.

4 **Q.** Now, the Court asked you some questions earlier about  
5 whether there are instances where consumers get confused  
6 between a browser and a search engine.

7 Do you remember that?

8 **A.** I do.

9 **Q.** Okay. And you agree that there's at least some  
10 population of people who fall into that category that, you  
11 know, if they're using a -- they may not understand the  
12 difference between a browser and a search engine?

13 **A.** I agree.

14 **Q.** Okay. Would you agree that those consumers can  
15 benefit from a recommendation from a browser developer or a  
16 device manufacturer?

17 **A.** I agree that those consumers can benefit from help for  
18 any interface, any advice of how to make informed changes. The  
19 extent to which they benefit from the advice or the interfaces  
20 provided by manufacturers, again, is going to depend on the  
21 motives of those manufacturers.

22 **MR. SCHMIDTLEIN:** Your Honor, may I approach?

23 **THE COURT:** You may.

24 **BY MR. SCHMIDTLEIN:**

25 **Q.** Let me show you what I've marked as -- it's marked for

1 identification, Your Honor, as DX723. It's an article that  
2 Professor Rangel is very familiar with.

3 Did you cite this article in your expert report?

4 A. I do.

5 MR. SCHMIDTLEIN: I don't know that I need to move it into  
6 evidence because it's an article, but I'm -- I'd like to mark  
7 it and use it for purposes of the examination.

8 THE COURT: If you'd like to move it in, unless there's an  
9 objection, I think it's appropriate to allow it.

10 MR. HAFENBRACK: If you want to move it in, that's fine  
11 with us, Your Honor.

12 MR. SCHMIDTLEIN: Okay. We'll move in DX723.

13 THE COURT: Okay.

14 (Exhibit DX723 admitted into evidence)

15 BY MR. SCHMIDTLEIN:

16 Q. Now, DX723 is a Harvard Business Review article,  
17 correct?

18 A. Correct.

19 Q. And it's authored by several authors who I think you  
20 are familiar with, correct?

21 A. Yes.

22 Q. And one of the authors is a gentleman named Eric  
23 Johnson, right?

24 A. Yes.

25 Q. And you're familiar with Mr. Johnson?

1           A. I am.

2           Q. You think he is one of the leading experts or  
3 authorities on sort of default behavioral economics?

4           A. He has done seminal work in this area and written  
5 extensively in this area. The answer is yes.

6           Q. Okay. And you've -- even before you came to this  
7 case, you'd read this article many times during your career?

8           A. I have.

9           Q. And would you agree that this article tries to  
10 translate some concepts from behavioral economics into terms  
11 that even lawyers might understand?

12          A. I think that this article -- yes. And to provide  
13 context, this article, Your Honor, is a public service effort  
14 by these authors to help companies think about how to setting  
15 up mistakes, and more importantly, how to avoid making mistakes  
16 in setting up those defaults.

17          Q. And there's nothing in this article that you express  
18 disagreement with, do you?

19          A. There may be minor, minor quibbles somewhere, but not  
20 at a high level.

21          Q. Okay. Would you agree that well-designed product or  
22 service defaults benefit both company and -- companies and  
23 consumers by simplifying decision making, enhancing  
24 satisfaction, reducing risk and driving profitable purchases?

25          **THE COURT:** I'm sorry, could you just restate the



1 question -- or not restate it, but repeat the question, pardon  
2 me.

3 **MR. SCHMIDTLEIN:** Sure, let me pull it up. This is in the  
4 first paragraph.

5 **THE COURT:** I figured as much. It's helpful to just track  
6 it.

7 **BY MR. SCHMIDTLEIN:**

8 **Q.** Can you highlight the sentence that starts:  
9 "Well-designed product or service defaults benefit both company  
10 and consumer by simplifying decision making, enhancing customer  
11 satisfaction, reducing risk and driving profitable purchases."

12 **A.** I agree. I think the sentence -- this sentence has to  
13 be understood in context. I agree with the sentence in the  
14 following extent: If you're going to set a default, do it  
15 carefully. That is the big lesson of this article, because  
16 there are companies and examples of making mistakes with this.

17 **Q.** Okay. If you go to the --

18 **A.** I'm sorry, I apologize, to finish my previous  
19 sentence. May I, counsel?

20 **Q.** Of course.

21 **A.** If -- the reason I clarified that, Your Honor, is that  
22 as has been discussed during the cross, a default needs to be  
23 selected in many products, it's unavoidable: the car seat for a  
24 child, the search engine for a browser. But there is the  
25 option of how -- which -- whether to select the default or not

1 or to use some form of choice screen that's part of the menu.  
2 And I take this sentence as if you're going to use a default,  
3 be careful.

4 Q. Well --

5 A. Because if it's well selected, it can be very valuable  
6 within the class of defaults. If it's poorly selected, it can  
7 backfire.

8 Q. And under certain circumstances that they evaluate in  
9 here, depending on what environment you're in and what  
10 circumstances are presented, you may not want to set a default,  
11 correct?

12 A. Yes. The article, Your Honor, goes to talk about, for  
13 example, something called hidden defaults -- which was a word  
14 that was used before. And that is an idea that you set up a  
15 default and hide -- you work very hard to hide whether or not  
16 it can be changed. And interestingly, the article goes on to  
17 mention that that may be something that companies may want the  
18 consumer, when they describe this, either to make sure that --  
19 to protect the consumer from themselves or because it's in the  
20 interest of the company. Either may be a reason to do that.

21 Q. Can we go to the next section. This is on page -- the  
22 bottom of page three, and then it spills over subsequently:  
23 "In seeking a good default for all customers, firms will find  
24 that no simple formula applies to all cases."

25 I assume you agree to that?

1           **A.** Yes.

2           **Q.** "However, to arrive at a benign default configuration  
3 that will provide the greatest good to the greatest number, the  
4 questions a firm should ask include: What default would the  
5 majority of customers be most likely to prefer? What  
6 configuration would we recommend to someone without a  
7 preference? Can we save our customers time or effort with a  
8 given default?"

9           Do you agree with that, Professor?

10          **A.** Yes. If you are already decided that you are not  
11 going to go with a choice screen type of solution and you're  
12 going to choose a default, you want to address those kinds of  
13 questions. Your Honor, and I would like to relay this to the  
14 question you asked me earlier: How would you go about  
15 computing this welfare analysis. These are some types of  
16 questions that would go in the welfare analysis.

17          Now, one qualification is this is an HBR, Harvard Business  
18 Review, article so it's not precise. It's not only what  
19 default would the majority of customers prefer that you would  
20 like to think in determining a benign default, you may want to  
21 worry the people that prefer this search engine, by how much do  
22 they prefer it -- the people that prefer this one, by how much.  
23 Proper analysis would require this. I don't fault the authors,  
24 they're trying to provide a popular piece. But just, again, to  
25 link it to the question that Your Honor had before.

1           Q. In the work that you did in this case, did you try to  
2 get answers to those questions?

3           A. I did not carry out, again, a welfare economics  
4 analysis. That would be necessary to carry out these  
5 determinations.

6           Q. And, again, you looked at the record in this case, I  
7 think you said, to try to familiarize yourself with how various  
8 players in the industry who did set defaults, sort of how they  
9 went about doing that, right?

10          A. Yes.

11          Q. Okay. And did you see any evidence in the case that,  
12 for example, Apple considered what default would the majority  
13 of its customers be most likely to prefer? Did you see any  
14 evidence of that?

15          A. I've seen evidence that they considered that, yes.

16          Q. And you saw evidence that Mozilla considered that,  
17 too?

18          A. I think that generally is a fair statement.

19          Q. And did you see evidence of that with respect to  
20 Android OEMs or carriers?

21          A. I cannot recall for that specific one right now.

22          Q. The next question: "What configuration would we  
23 recommend to someone without a preference?"

24                 Did you analyze whether any of the entities, companies  
25 that set Google as the default asked that question?

1           **A.** Not phrased like that.

2           **Q.** "Can we save our customers time or effort with a given  
3 default?" Did you evaluate the record in this case, for  
4 example, to assess whether Apple considered that question?

5           **A.** I have not carried an evaluation of that.

6           **Q.** And is it fair to say you didn't carry that evaluation  
7 as to any other browser or any other Android device or carrier?

8           **A.** That is fair.

9           **Q.** And you yourself didn't try to apply that analysis  
10 with respect to any particular browser, Android OEM or Android  
11 carrier in this case, correct?

12           **A.** Correct, because that would be an example of a  
13 quantification of the behavioral economics analysis that, as I  
14 have already testified, I have not carried out.

15           **Q.** Now, sir, I just want to turn briefly and ask you a  
16 few questions, circle back on the defaults in consumer privacy  
17 topic, which I think was your third conclusion that you  
18 testified to.

19           You've not compared Google's search privacy policy against  
20 any other search engine's privacy policy, have you?

21           **A.** I have not. My scope was limited to Google for the  
22 privacy questions.

23           **Q.** Have you evaluated Google search's quality against  
24 DuckDuckGo or any other privacy search engine's quality?

25           **A.** I am interpreting your question to quality of consumer

1 experience in return for the searches. The answer is no.

2 Q. Yeah, I was talking about search results only.

3 A. Yes, the answer with that definition is no.

4 Q. In reaching your opinions regarding privacy, did you  
5 consider the work that Google has devoted to designing privacy  
6 and security features in its search and advertising products?

7 A. Not -- well, let me just be careful. To some extent.

8 Q. You're not here making any normative judgments about  
9 whether Google's privacy policies are serving or not serving  
10 consumer needs?

11 A. I am not carrying out, again, a welfare evaluation of  
12 that. My testimony in privacy is limited to the point that  
13 there is substantial bias towards the defaults, and therefore,  
14 Your Honor, one cannot look at the choices in privacy and  
15 conclude that people don't like privacy. That's basically the  
16 scope of my report on that.

17 Q. And you haven't done any analysis in this case to  
18 measure the potential trade-offs that consumers make or would  
19 have to make between privacy and search engine quality?

20 A. I have not.

21 Q. And you haven't done any analysis in this case about  
22 how consumers themselves view those trade-offs?

23 A. Correct.

24 Q. In other words, you're not offering an opinion today  
25 that any particular percentage of users want more, the same or

1 less in terms of privacy policy for Google search?

2 A. I am not quantifying that, no.

3 Q. You're not offering any opinion in this case comparing  
4 Google search's privacy policies with Bing or Yahoo's privacy  
5 policies?

6 A. I am not.

7 Q. And you did not compare choice friction regarding  
8 privacy policies for Google to see whether they are greater,  
9 the same or less than the choice friction that exists with any  
10 other search engine's privacy policies or settings?

11 A. The precise level, no, just with one qualification,  
12 counsel. It may be useful for the Court to know there are some  
13 browsers and some search engines that have privacy out of the  
14 box by design. One would not need to carry the analysis for  
15 those particular ones. But specifically for the question that  
16 you're asking, the answer is no.

17 Q. And Professor -- if we could pull up from his slides  
18 slide 58. Are you there?

19 A. I am.

20 Q. Okay. This slide that you presented references the  
21 Brave browser?

22 A. Yes.

23 Q. And its implementation of DuckDuckGo as the default  
24 search engine in four countries outside the United States; is  
25 that right?

1           **A.** Correct.

2           **Q.** And I believe you acknowledged that Brave, in your  
3 terminology, would be characterized as a privacy-centric  
4 browser?

5           **A.** Yes.

6           **Q.** And DuckDuckGo, in your vernacular, would be a  
7 privacy-centric search engine?

8           **A.** Yes.

9           **Q.** And so consumers confronted with this product would  
10 understand that the -- at least one of the significant  
11 marketing aspects of this product would be privacy?

12           **A.** I think that Brave browser's users have selected to do  
13 that. One clarification, all Brave browser users have been  
14 selected in the same way. Some of them are still searching  
15 with Google. Some of them have their search engine changed to  
16 this highly privacy one, and there is a large default effect  
17 within that class of similarly, Your Honor, selected users.

18           **Q.** Do you know what market share the Brave browser with  
19 DuckDuckGo as the default search engine has in any of these  
20 countries?

21           **A.** I cannot give you the number from the top of my head.  
22 My understanding is it is fairly small.

23           **Q.** And did you look -- in any of the choice screen  
24 results that we looked at earlier, either in Russia or in  
25 Europe, did you happen to evaluate what percentage of users



1 when presented with a choice screen chose Brave or DuckDuckGo?

2           **A.** I haven't. One small clarification -- I haven't, but  
3 I think it may be useful for the discussion, which is that in  
4 many of these choice screens, Your Honor, the consumer doesn't  
5 have the ability to select any search engine. There are  
6 criteria that determine what is shown. And there have been  
7 concerns, for example, about the search engines that pop up in  
8 some -- not in all of the incarnations -- not being these kind  
9 of alternatives, but heavily advertisement oriented browsers.  
10 But the answer is no.

11           **Q.** And the choice screens that you have looked at,  
12 whether it was in Russia or in Europe, those choice screens  
13 were decided upon by the local regulators, not Google, right?

14           **A.** Well, my understanding is that in some instances of  
15 these choice screens, there was a procedure of bidding for  
16 having the ability to be listed there. And there were  
17 concerns, because some of the way -- my understanding is --  
18 this is not my opinion, it's not my expertise, but you're  
19 asking me and I'm providing context. My understanding is that,  
20 for example, in some incarnations of this choice screen, Your  
21 Honor, you didn't pay if you want the option to be listed, you  
22 only pay if you got clicked and selected. And that created  
23 some perverse incentives for search engines that were very  
24 high an advertiser to put these very high bids with the  
25 knowledge that they were very unlikely to be selected, but if

1 they were selected, which is when they only have to pay, they  
2 would be very profitable. And I believe that this has changed  
3 across the incarnations.

4 Q. Right. The statistics that you showed on your  
5 slide --

6 A. Do not contain that.

7 Q. I was going to say, was during a time period when it  
8 was changed to address that?

9 A. Correct.

10 Q. Okay. If we can go to tab 11 of his slides. This was  
11 the slide that you presented, I believe yesterday, about the  
12 podcast default on Apple devices?

13 A. Correct.

14 Q. And I believe you -- well, let me ask you: Is there  
15 actually a default podcast on the device?

16 A. In my experience, there is. If, for example, I'm sent  
17 a message, Your Honor, with a podcast that is suggested and I  
18 click on it, it shows up there in my device. I cannot testify  
19 that happens in every device.

20 Q. In this instance, Apple provides its own podcast  
21 application, correct?

22 A. That is correct.

23 Q. In other words, Apple did not open up for public  
24 bidding or public evaluation various other podcasters to be  
25 able to be pre-loaded on the Apple device?

1           **A.** I have no expertise to testify to that.

2           **Q.** Well, you understand that Apple devices come  
3 pre-loaded with Apple applications, not third-party  
4 applications, correct?

5           **A.** Yes.

6           **Q.** So, in this instance, Apple did not, unlike it does  
7 when it selects a default search engine for Safari, go out and  
8 evaluate third parties to see who was the best podcast, right?

9           **A.** You're asking me a question about specific Apple  
10 business processes, I just don't know the answer.

11          **Q.** Can we go to slide 19.

12          **THE COURT:** Just to be clear, when you're talking about  
13 podcast, you mean the podcasting app itself that hosts  
14 podcasts, how you can reach a podcast?

15          **MR. SCHMIDTLEIN:** It's like a library, that's correct.

16          **THE COURT:** Okay, just want to make sure.

17 **BY MR. SCHMIDTLEIN:**

18          **Q.** Now, slide 19 says -- the title of it, Google Prevents  
19 Samsung and Other Android Partners from, and there's -- I  
20 believe you offered testimony that this has to do with making  
21 it difficult for users to change defaults; is that right?

22          **A.** I would phrase it slightly different, which is that as  
23 I testified yesterday, Your Honor, when we talk about sources  
24 of choice friction, there are these three top stages that has  
25 to do with realizing that there is a default: thinking about

1 the space, considering options, and only the final thing is the  
2 clicks. And what I'm saying is the requirement here that is  
3 listed -- I need to be very careful with the confidentiality,  
4 that is listed and highlighted in yellow increases that sort of  
5 choice friction as compared to one in which that information  
6 was shown on the screen. That is the statement.

7 Q. What agreement is being highlighted here?

8 A. My understanding -- and I am going to start  
9 speaking -- I don't think I'm going to violate confidentiality,  
10 but of course I want to be extremely respectful. In my  
11 understanding, this is a modification of a MADA agreement that  
12 was, yeah, an agreement that existed, it was signed, that was  
13 modified.

14 Q. So this is a mobile -- this is an Android mobile  
15 application distribution agreement between Google and Samsung,  
16 correct?

17 A. The specific one shown, yes.

18 Q. And I'll refer to this as the MADA. The MADA provides  
19 for a license for distribution of Google's applications,  
20 correct?

21 A. Yes.

22 Q. And you're aware that there are certain placement  
23 requirements that come with that license?

24 A. Yes.

25 Q. Is it your testimony that the Google mobile

1 application distribution agreement sets a default search  
2 engine?

3 A. I'm not providing testimony on the details of the  
4 MADA. My testimony here is very limited to the fact that that  
5 specific provision that is listed there is associated with high  
6 choice friction in trying to think about defaults, those first  
7 layers. That's what I'm saying here.

8 Q. But, sir, if the MADA agreement does not in fact set a  
9 default search engine, how can this provision block users or  
10 make it more difficult for users to change the default?

11 A. I assume that for this specific -- the next one on the  
12 next page is different, it's about a specific browser. But for  
13 this one, I am assuming, in context, that if these companies  
14 end up offering browsers and applications that have Google as  
15 the default, this will apply. I'm not saying that it has to  
16 apply to every device -- every application on their device,  
17 just to the extent that they use them.

18 Q. Again, not getting into too much of the details,  
19 because this is -- we're trying to keep this confidential, but  
20 the language you have cited here refers to prohibitions on  
21 certain behavior so that the device stays in compliance with  
22 the agreement, including section 3.3 of the agreement.

23 Did you read section 3.3 of the agreement to determine  
24 whether in fact a default search engine is part of that  
25 section?

1           **MR. HAFENBRACK:** I'll object to the extent he's asking for  
2 a legal conclusion.

3 **BY MR. SCHMIDTLEIN:**

4           **Q.** I'm just asking him if he read the agreement and he  
5 knows what he's talking about.

6           **A.** I have read all of these agreements. I have not  
7 processed them in the detail that a lawyer would, but I have  
8 read them.

9           **Q.** Your Honor, if I can approach, I'm going to hand up --  
10 and do not put this on the screen, Andrew, I think what has  
11 already been admitted as JX37.

12           Now, JX37 is the mobile application distribution agreement  
13 between Google and Samsung. I'll draw your attention to the  
14 effective date, which is March 2017. The language I think that  
15 you have referred to in 5511 -- you know, which is the slide of  
16 yours, is actually -- you may remember this, is an amendment  
17 document that only has certain provisions that are amended?

18           **A.** Yes.

19           **Q.** And so, therefore, you sort of have to read the  
20 documents together to cross-reference them, right?

21           **A.** Correct.

22           **Q.** Okay. And I would ask you, sir, to turn in the  
23 document to section 3.3.

24           **A.** I am there.

25           **Q.** You're there. It's on page six, Your Honor.

1           **THE COURT:** I'm with you.

2           **BY MR. SCHMIDTLEIN:**

3           **Q.** And section 3.3 deals with placement requirements.  
4           There's obviously a lot of language in here, but I would direct  
5           your attention -- because I think this is the relevant portion,  
6           to subsection four, which is about halfway down on the right  
7           side of section 3.3.

8           **A.** Could you give me one second?

9           **Q.** Yes.

10          **A.** I am in the section that you're referring to.

11          **Q.** And take your time to muddle through, but I think  
12          that's going to be the relevant section for our conversation.

13          **A.** Thank you.

14          (Witness reviews document)

15          **A.** I am sorry, legal writing slows my reading by a factor  
16          of 10. Okay, I think I have enough of a gist hopefully. If  
17          not, I may ask to be able to read it more carefully. But,  
18          please, go ahead.

19          **Q.** Absolutely. Now, section 3.3 broadly deals with the  
20          placement requirements for the MADA that the Court has heard  
21          about and seen on various demonstratives. There's a reference  
22          in here to default assist intent. Do you see that?

23          **A.** I do.

24          **Q.** Do you know what default assist intent refers to?

25          **A.** I do not.

1           Q. You don't know whether that actually refers to the  
2 search engine or an assistant product, do you?

3           A. I do not.

4           Q. Do you have an understanding as to what it would mean  
5 to be the default for search intent on a device?

6           A. Not with that language.

7           Q. When you were putting together slide 19 and you were  
8 providing an opinion about whether this language prevented  
9 Samsung and Android partners from, let's just say, providing  
10 certain information to users about whether they could take  
11 action to change a default, what did you think you were opining  
12 about?

13           A. Yes, my -- I did not -- I do not consider -- I'm using  
14 the present tense, my opinion associated with this particular  
15 slide as one specific to any particular process. I'm just  
16 trying to illustrate with this that there is a recognition in  
17 this, in the language of this as I understand it, that  
18 reminders of the kinds of things that are listed there and the  
19 possibility of changing some settings matter. And in  
20 particular, as a behavioral economist, it's my opinion that in  
21 general they matter, and they are regulated by contracts in  
22 general as a way of regulating the degree of choice friction.

23           Q. So just stepping back, do you understand that as part  
24 of the MADA agreement between Google and OEMs, Google licenses  
25 royalty-free a suite of applications to a manufacturer to be



1 able to pre-load on their device, correct?

2 A. Yes.

3 Q. And the exchange that Google asks in return for the  
4 free apps are certain placement requirements, for at least a  
5 couple of those applications, right?

6 A. That's one of the parts of the contract --

7 Q. That's --

8 A. -- or the agreement.

9 Q. That's part of the deal, right?

10 A. Yes.

11 Q. We give these to you for free, we'd like them to be in  
12 some certain specific places, right?

13 A. Yes, there's an agreement that they get this or they  
14 don't pay and vice versa.

15 Q. And this language is designed to ensure that with that  
16 as the deal, the OEM doesn't take money from somebody else to  
17 come in and say, advertise to the user: Oh, when you set it  
18 all up, get rid of all the Google applications that have been  
19 licensed and placed pursuant to this agreement. That's the  
20 purpose of this section, correct?

21 **MR. HAFENBRACK:** I'll object. He can't testify about the  
22 purpose in the design of Google's contractual provision.

23 **THE COURT:** I think that's fair. I'll sustain the  
24 objection.

25 **BY MR. SCHMIDTLEIN:**

1 Q. Do you know what the purpose of this section is?

2 A. I'm not qualified to evaluate that.

3 Q. Can you turn to the next slide, slide 20. This is  
4 another slide that you put together regarding some provisions  
5 in a Google agreement with Samsung, again, regarding sort of  
6 some actions that are and are not allowed in the agreement?

7 A. Correct.

8 Q. Do you have an understanding as to what particular  
9 conduct Samsung was engaged in that was the subject of the  
10 letter you reference here?

11 A. I do.

12 Q. And describe that for us.

13 A. Can I use specifics, because of the confidentiality?

14 Q. Let me see if I can phrase a question in a way that  
15 would be helpful. Do you have an understanding as to what the  
16 purpose for the restriction in the contract here was?

17 A. I cannot testify for the purpose of the contract, for  
18 the same reasons we discussed before.

19 Q. In other words, this deals with a particular type of  
20 dropdown menu and a placement of it on the SBrowser, which is  
21 Samsung's browser, correct?

22 A. Yes.

23 Q. And you don't have any information as to whether there  
24 were concerns at Google that the placement of that dropdown  
25 menu would lead people to think that they were switching their

1 search -- not the default overall, but just switching it in  
2 that particular search instance?

3 **A.** You're asking me a question about Google's intent or  
4 state of mind in some sense or thinking, I cannot testify -- I  
5 don't know what the concerns inside Google were, I cannot know.  
6 I know what I see in the document and the restrictions that it  
7 required, which are consistent with the type of choice friction  
8 that we have been discussing throughout. But to your specific  
9 question, I cannot testify what the thinking inside Google was.

10 **Q.** Do you have an understanding as to what -- the  
11 industry practice for switching defaults is through the  
12 settings menu on a device?

13 **A.** Not necessarily.

14 **Q.** You don't know that in the connection of search  
15 engines?

16 **A.** In Safari, in the PC, for example, is something, Your  
17 Honor, that after 20 plus years and having purchased over a  
18 hundred Macs in my life for my lab I discovered for this case.  
19 But it turns out that you can change the default search engine  
20 without going to settings. But in general, yes, you go through  
21 settings.

22 **Q.** You don't know whether this type of action here had  
23 any material impact on people's ability to change the default  
24 search engine, do you?

25 **A.** I don't have data on this. I have an expectation as a

1 behavioral economist.

2 Q. But do you know what percentage of people have changed  
3 the default search engine from Google to something else in the  
4 SBrowser?

5 A. I don't have that data.

6 MR. SCHMIDTLEIN: No further questions, Your Honor.

7 THE COURT: Any redirect examination?

8 **REDIRECT EXAMINATION OF ANTONIO RANGEL**

9 BY MR. HAFENBRACK:

10 Q. Yes, Your Honor. Professor Rangel, you recall  
11 Mr. Schmidtlein asked you a couple of questions about  
12 BlackBerry's?

13 A. Yes.

14 Q. Can we pull up slide 42. If you could turn to slide  
15 42 in your binder, Professor Rangel, and let me know when  
16 you're there.

17 A. I am there.

18 Q. And this is the slide showing Google's Code Red  
19 calculations about its projections if it lost the Safari  
20 default?

21 A. Correct.

22 Q. And can you tell us, what are the two data points?  
23 And, again, without revealing specific percentage amounts, what  
24 are the two data points that Google's relying on in this  
25 document?

1           **A.** Yes, Your Honor, counsel is referring to the things --  
2 the icons labeled one and two that are associated, number one,  
3 with the estimate for the Safari default impact, losing the  
4 Safari default impact in mobile, and below for losing the  
5 default in desktop. And as we have discussed before, for  
6 mobile, they're using as a data point the Google Maps event.  
7 And for desktop, they are using the Firefox data from the PCs  
8 that we discussed.

9           **Q.** And is this a document from January 2021?

10          **A.** Yes.

11          **Q.** And did you review this document closely in preparing  
12 your testimony?

13          **A.** I have reviewed this document, yes, I have spent time  
14 with it.

15          **Q.** And in this document, do the Google executives that  
16 are doing these projections refer to any BlackBerry data?

17          **A.** I mean, not to the best of my recollection.

18          **Q.** And in any of the Code Red documents that you've  
19 reviewed, do you recall seeing any Google financial executives  
20 referring to the BlackBerry data to project what might happen  
21 if Google lost the search default today on Apple devices?

22          **A.** I don't recall that.

23          **Q.** Mr. Schmidlein asked you a couple of questions about  
24 an article written by Professor Eric Johnson?

25          **A.** Yes.

1 Q. And where is he a professor?

2 A. Columbia University Business School.

3 Q. Okay. And have you seen any comments in the last few  
4 days from Professor Johnson about this case and Google search  
5 defaults?

6 MR. SCHMIDTLEIN: Objection, Your Honor.

7 MR. HAFENBRACK: And this is -- you know, we're not  
8 attempting to admit it for the truth, it's 703.

9 MR. SCHMIDTLEIN: They're admitting it for the truth.

10 THE COURT: Well, I think -- I don't know what --

11 MR. SCHMIDTLEIN: They want to bring Professor Johnson  
12 here and get --

13 THE COURT: Well, that's what I'm worried about. I mean,  
14 it sounds like you're trying to bring forth a third -- a  
15 nonexpert -- at least a person who's not designated as an  
16 expert here in this case, the opinion of that person. And if  
17 that's what you're trying to elicit, then that's not proper.

18 MR. HAFENBRACK: Okay, I withdraw. And, Your Honor, with  
19 that, we have nothing further.

20 THE COURT: Dr. Rangel, thank you very much for your time  
21 and your testimony here.

22 THE WITNESS: Thank you, Your Honor.

23 THE COURT: Safe travels home, nice to meet you.

24 THE WITNESS: Same, sir.

25 MR. GOWER: Good afternoon, Your Honor. Cameron Gower for

1 the United States. Just one quick matter before we call our  
2 next witness. This returns to the summary exhibit that was  
3 preliminarily entered during the Varian testimony. We have  
4 reached agreement with Google, and so we have a finalized copy  
5 of the exhibit for you now.

6 **THE COURT:** Okay, very good. Can you have just restate  
7 what the number is on the record? I don't remember what it  
8 was.

9 **MR. GOWER:** This is UPX7001. And just for the formality  
10 of it, we'd like to move it into evidence.

11 **MR. SCHMIDTLEIN:** No objection.

12 **THE COURT:** So it will be admitted in as a summary.

13 (Exhibit UPX7001 admitted into evidence)

14 **THE COURT:** And just to be clear, since this is a 1001  
15 summary, you all are seeking to admit the underlying records,  
16 correct?

17 **MR. GOWER:** They are in evidence already.

18 **THE COURT:** They're already in evidence either way?

19 **MR. GOWER:** Yes.

20 **THE COURT:** Okay, fine.

21 **MR. GOWER:** And you'll see the citations in there to the  
22 underlying documents.

23 **THE COURT:** Gotcha, okay.

24 **MR. GOWER:** Thank you.

25 **MS. MURDOCK-PARK:** Good afternoon, Your Honor. Erin

1 Murdock-Park for the United States. We call Jim Kolotouros.  
2 He is the Google vice president of android partnerships. Your  
3 Honor, because Mr. Kolotouros will be speaking about  
4 contractual terms, we expect that we will have to seal part of  
5 his session today.

6 **THE COURT:** Okay.

7 **DEPUTY CLERK:** Do you solemnly swear or affirm that the  
8 testimony you're about to give this Court will be the truth,  
9 the whole truth, and nothing but the truth?

10 **THE WITNESS:** I do.

11 **DEPUTY CLERK:** Thank you.

12 **THE COURT:** Mr. Kolotouros, welcome.

13 **THE WITNESS:** Thank you.

14 **DIRECT EXAMINATION OF JAMES KOLOTOUROS**

15 **BY MS. MURDOCK-PARK:**

16 **Q.** Good afternoon, Mr. Kolotouros. I'm Erin  
17 Murdock-Park, we met at one of your depositions.

18 **A.** Good afternoon.

19 **Q.** I'm going to hand up a witness binder, if I may  
20 approach.

21 **A.** Thank you.

22 **THE COURT:** Counsel, just for your -- well, let me ask you  
23 this: The closed session, approximately how far into your  
24 examination do you expect to need to go into a closed session?

25 **MS. MURDOCK-PARK:** My most earnest desire is we can get



1 there in about two hours.

2 **THE COURT:** Well, that's an earnest desire.

3 **MS. MURDOCK-PARK:** We'll see if it happens.

4 **THE COURT:** My question is thus moot, so anyway.

5 **MS. MURDOCK-PARK:** If we can't quite get there, then I  
6 believe we could start the morning with a closed session so we  
7 didn't have to go back and forth.

8 **THE COURT:** Let's just see where we are at the end of the  
9 day. I was more focused on the next afternoon break.

10 **MS. MURDOCK-PARK:** Oh, no, unfortunately.

11 **Q.** Mr. Kolotouros, you have a binder in front of you, and  
12 I will be asking you questions about the exhibits. There's red  
13 boxes around some of the terms in the exhibits. That's  
14 information that is designated as confidential. We will put  
15 redacted versions on the public screen, but I ask that anytime  
16 you see a red box, you just don't speak the information in it,  
17 okay?

18 **A.** Okay.

19 **Q.** Mr. Kolotouros, you've worked at Google for about 20  
20 years, right?

21 **A.** That's correct.

22 **Q.** During those 20 years, you've held jobs in search  
23 syndication, Chrome, Chrome and OS partnerships, and Android  
24 development and partnerships?

25 **A.** Android partnerships, that is correct.

1           Q. And you've worked in Android partnerships since  
2 January 2014?

3           A. Yes.

4           Q. Your current role is the vice president of Android  
5 partnerships?

6           A. Vice President, Android Platform Partnerships, that is  
7 correct.

8           Q. In your current position, you work with original  
9 equipment manufacturers, known as OEMs?

10          A. I do.

11          Q. And you're in charge of OEM mobile Android  
12 partnerships, correct?

13          A. I'm responsible for most of the Android OEM  
14 partnerships that we currently have in the ecosystem, that is  
15 correct.

16          Q. Since the spring of 2014, you've been responsible for  
17 overseeing the administration of Android OEM contracts?

18          A. I and my team have worked closely with broader teams  
19 within Android to administer those contracts, that is correct.

20          Q. So you're involved in negotiating those OEM contracts?

21          A. That is correct.

22          Q. Including the two core Android commercial contracts?

23          A. Can you define the two core Android contracts for me,  
24 please?

25          Q. The mobile application distribution agreement and the

1 revenue share agreements?

2 A. I would not frame those as the two core Android  
3 agreements.

4 Q. Okay. They are two of the main agreements at Google,  
5 would that be fair?

6 A. I would say that the Android compatibility commitment  
7 and the MADA are the two main agreements for the Android OEM  
8 ecosystem.

9 Q. And the revenue share agreements known -- different  
10 terms for various partners such as the mobile incentive  
11 agreement, you have responsibility for those contracts as well,  
12 correct?

13 A. For most of the larger OEMs, yes, but not all of them.

14 Q. Not Apple, right?

15 A. Apple's not an Android OEM, but there are some OEMs  
16 over whom I do not work on their revenue share agreements.

17 Q. You work on Samsung's revenue share agreements?

18 A. I do.

19 Q. And Motorola's revenue share agreements?

20 A. Yes.

21 Q. So let's talk about the MADA first. Actually, let's  
22 step back.

23 We mentioned Samsung and Motorola. Those are the two  
24 largest Android OEMs, correct?

25 MR. SCHMIDTLEIN: Objection.

1 BY MS. MURDOCK-PARK:

2 Q. Strike that. Together, Samsung and Motorola  
3 manufacture the majority of the Android phones for sale in the  
4 United States, correct?

5 A. I believe that to be the case.

6 Q. And with respect to the MADA, generally speaking,  
7 MADAs cover the distribution and placement of Google  
8 applications, correct?

9 A. MADAs cover the license for use of Google applications  
10 along with certain placement obligations as well.

11 Q. And so the MADA is the license to distribute Google  
12 Mobile Services, which is known as GSM?

13 A. It's intended to cover all Google services which are  
14 available on Android-compatible devices, yes.

15 Q. Including GSM?

16 A. Including what is traditionally known as Google Mobile  
17 Services, that is correct.

18 Q. And I'd like to show you UPX129, which we understand  
19 is in evidence -- and this is a redacted document. We'll pull  
20 it up on the screen in front of you. I'd like to show you  
21 first the first slide, it's titled MADA and RSA, Android  
22 Commercial Agreements, August 2019.

23 Mr. Kolotouros, you've been responsible for overseeing  
24 administration of OEM contracts since about the spring of 2014,  
25 right?

1           **A.** The negotiation and execution of the agreements, that  
2 is correct.

3           **Q.** So you're familiar with the contents of Android's  
4 core -- of the MADA and the RSA?

5           **A.** I am, yes.

6           **Q.** Let's go to slide two, please. It's titled Android's  
7 Core Commercial Agreements. If we could zoom in a little bit.  
8 So I read core as reading two of the most important commercial  
9 agreements, fair?

10          **A.** Yes.

11          **Q.** And there's two boxes on the left hand side of the  
12 slide. One says MADA, and then there's a plus sign and a box  
13 that says RSA. Do you see that?

14          **A.** I do.

15          **Q.** Meaning that the MADA and the RSA work together,  
16 right?

17          **A.** The -- both are optional agreements which the OEM can  
18 enter into. We do not enter into RSA agreements with all OEMs  
19 in the ecosystem. But the RSA is traditionally conditional on  
20 GMS being on a MADA device.

21          **Q.** And by that you mean that to have an RSA, you must  
22 have a MADA, correct?

23          **A.** As an Android OEM, most of the, if not all the,  
24 revenue share agreements are with OEMs who have elected to  
25 pre-load GMS on their devices, that is correct.

1           Q. Can you think of any Android OEM in the United States  
2 today that has a revenue share agreement but does not also have  
3 a MADA?

4           A. An Android OEM?

5           Q. Yes.

6           A. Amazon is an example of an Android OEM that doesn't  
7 have a MADA.

8           Q. And it has a revenue share agreement with Google?

9           A. Oh, I'm sorry, they do not have a -- I'm sorry, my  
10 apologies. They do not have a revenue share agreement. My  
11 apologies, that was my misstatement.

12          Q. Okay. So just to make sure we have the record clear,  
13 in the United States today, you cannot think of any Android OEM  
14 that has a revenue share agreement but does not have a MADA?

15          A. I think that is the case, yes.

16          Q. So the first bullet next to the MADA box on slide two  
17 says: "Secures baseline distribution of our apps on Android,"  
18 right?

19          A. Yes.

20          Q. And the first bullet next to RSA reads: "Reinforces  
21 MADA's distribution with additional protections for our revenue  
22 generating services," right?

23          A. Yes.

24          Q. And the last bullet reads: "Provides the mechanism to  
25 help fund the ecosystem," correct?

1           **A.** Yes.

2           **Q.** Okay. So with respect to the RSA reinforcing the  
3 MADA's distribution, the agreements -- the MADA and the RSA are  
4 complementary agreements, fair?

5           **A.** I would say to the extent the RSA generally does not  
6 happen unless an OEM has entered into a MADA, that is correct.

7           **Q.** Let's go to slide three, which is titled MADA  
8 Overview. And I'd like to -- oh, take that down, please. It  
9 looks like we have a problem with a redaction on that version,  
10 so we will skip over that for right now. Let's go instead to  
11 slide four, which does not have any redactions. If we could  
12 zoom up on that, which is: "MADA vs. 2019: Update rolling out  
13 now (two-year contract.)"

14           Do you see that, Mr. Kolotouros?

15           **A.** I do.

16           **Q.** So for a device to be a GMS device, all GMS apps must  
17 be pre-loaded, right?

18           **A.** The 11 -- all 11 devices depicted here must be  
19 pre-loaded as part of the bundle, that is correct.

20           **Q.** Okay. And the 11 GMS apps, if we start on the left  
21 where there's a triangle, that represents Google Play?

22           **A.** That is correct.

23           **Q.** And then there's the plus sign, and there's lines for  
24 non-deletable apps and for deletable apps, right?

25           **A.** That is correct.

1           Q. So some of the non-deletable apps include Chrome,  
2 correct?

3           A. Yes.

4           Q. One of those. And Google search is also one of the  
5 non-deletable apps, correct?

6           A. That is correct.

7           Q. The other five GMS apps are considered flexible, which  
8 also means deletable?

9           A. That is correct.

10          Q. So without a MADA, an OEM cannot distribute any GMS  
11 app, right?

12          A. Without a MADA, they do not have a license to pre-load  
13 Google apps, that is correct.

14          Q. So without a MADA, an OEM cannot distribute Google  
15 search?

16          A. Without a MADA, an OEM can still access Google search  
17 via a browser implementation on their device, but not the  
18 native Google app which is delivered via the form of an APK.

19          Q. And please explain what an APK is.

20          A. An APK is essentially the actual application package  
21 which is part of the system or user partition that represents  
22 the app, and is depicted oftentimes through an icon on one of  
23 the home screens or one of the screens of the device.

24          Q. So --

25          **THE COURT:** I'm sorry, but do you just simply mean to say



1 that an OEM that doesn't have a MADA could -- somebody could  
2 access Google search by downloading it from whatever app store  
3 is on the phone?

4 **THE WITNESS:** The application is not available on stores,  
5 but via a browser that's on an Android device, they could  
6 essentially -- if they had another browser on the phone, for  
7 example, they could access Google search through the browser on  
8 that device without having the native app that's built for it.

9 **THE COURT:** I see. So if you don't have a MADA, you can't  
10 even get the Google search app from whatever store is on the  
11 phone?

12 **THE WITNESS:** That is correct, yes. So Google search is  
13 available in another --

14 **THE COURT:** Just through the browser.

15 **THE WITNESS:** -- implementation point, through the  
16 browser, but not through the native application --

17 **THE COURT:** Gotcha.

18 **THE WITNESS:** -- that is correct.

19 **BY MS. MURDOCK-PARK:**

20 **Q.** But with respect to browsers, without a MADA, an OEM  
21 can't distribute Google Chrome, right?

22 **A.** That is correct.

23 **Q.** And without a MADA, an OEM cannot distribute Google  
24 Play either, right?

25 **A.** That is correct.

1 Q. So, now, with respect to the 11 GMS apps, all 11 GMS  
2 apps must be pre-loaded on a device, right?

3 A. To the extent the OEM elects to pre-load the 11, they  
4 come as a bundle as a level of apps, that's correct.

5 Q. Okay. So they're inseparable, those 11?

6 A. The 11 apps come as a bundle, that is correct.

7 Q. Google requires pre-installation of these 11 GMS  
8 applications, because it doesn't want to rely on users choosing  
9 to download any of the applications, right?

10 A. It's not a requirement for any Android OEM to pre-load  
11 GMS on the phone, it's a device-by-device election by the OEM.

12 Q. But to the extent that the OEM elects to sign the MADA  
13 and to load the GMS devices, Google does not want to rely on  
14 users choosing to download the 11 GMS apps, right?

15 A. Google prefers for the out-of-box experience on an  
16 Android device with GMS to come pre-installed with key  
17 utilities and functions --

18 **COURT REPORTER:** Can you please slow down. Thank you.

19 **THE WITNESS:** Oh, I'm sorry, my apologies. Google prefers  
20 for an Android-compatible device, to the extent an OEM elects  
21 to pre-load the bundle, to come with core services that we  
22 believe are critical for the user experience which allows it to  
23 compete, hopefully and successfully, with iPhone. So we think  
24 that just provides a consistent experience across devices that  
25 have been elective to have GMS.

1 Q. And by consistent experience -- strike that.

2 I'd like to go ahead and actually move ahead to UPX125,  
3 which is another document in evidence and is another redacted  
4 document. We'll start with the first slide there. If we can  
5 go to the top of the page, it's an e-mail from Peter Chang to  
6 you, correct?

7 A. That is correct.

8 Q. Who is Peter Chang?

9 A. I believe Peter Chang was a member of the strategy and  
10 operations team at the time.

11 Q. It looks like Mr. Chang was responding to changes that  
12 you'd recommended to a slide deck, right?

13 A. That is correct.

14 Q. I'm going to ask some questions about that slide deck,  
15 but I actually want to go to the bottom of page two first.  
16 There is an e-mail -- at the bottom, there's an e-mail from  
17 Christian Veer to you at 11:53 a.m. Do you see that?

18 A. Yes.

19 Q. And Mr. Veer is a director of product strategy and  
20 operations for platforms and ecosystems?

21 A. Yes, he was on the strategy and operations team, that  
22 is correct.

23 Q. Mr. Veer writes to you: "Shall we have actual slides  
24 on EU and Russia or just a placeholder with little content so  
25 we can do it verbally?"

1 Do you see that?

2 A. Yes.

3 Q. And by EU, he means European Union?

4 A. That is correct, yes.

5 Q. You respond to Mr. Veer just above: "All verbal on EU  
6 and Russia," correct?

7 A. Yes.

8 Q. You didn't want to put anything related to EU or  
9 Russia in writing?

10 A. We didn't feel that a certain level of detail was  
11 required for presentation to the audience assembled for this  
12 particular deck, so getting a voice-over for this particular  
13 content would have been just fine.

14 Q. Let's go on to page six, which is the first page of  
15 the linked slide deck, and it's titled Android Overview.

16 An Android overview is pretty much what it sounds like,  
17 right, just a general summary of Android ecosystem  
18 requirements?

19 A. I think it goes beyond just requirements. I think  
20 we're trying to summarize the history of Android in its  
21 original inception, and how it functions and operates as a  
22 whole.

23 Q. Let's go to page 18 of UPX125, and we'll pull that up  
24 on the screen. And the title of the slide is Google Play  
25 Services/GMS Core is an Important Element of Play.

1           The question that the slide is asking is what is Google  
2 Play Services and GMS core, right?

3           **A.** That is correct, yes. If you can give me one moment  
4 to find the...

5           **Q.** Of course.

6           **A.** I'm sorry, please continue.

7           **Q.** Sure. Well, Google Play Services is a set of APIs,  
8 right?

9           **A.** It is a set of APIs, that is correct.

10          **Q.** And API stands for application programming interfaces?

11          **A.** I believe that is the acronym, yes.

12          **Q.** So APIs are software?

13          **A.** I think APIs are APIs, meaning they're not necessarily  
14 an application that is interacted with by users as much as  
15 developers.

16          **Q.** Are APIs what cause hardware and software to talk to  
17 each other, so to speak?

18          **A.** APIs are, in this capacity, utilities that are  
19 available to developers to make their apps better within the  
20 Android-compatible ecosystem.

21          **Q.** The first bullet on page 18 reads: "Play Store  
22 provides a set of Google APIs that help support functionality  
23 of all Android applications, a.k.a GMS core APIs, Google Play  
24 Services."

25          So it references GMS core APIs. Those are the APIs that

1 support the 11 GMS applications?

2 **A.** GMS core APIs are not specific to the bundle of 11  
3 apps. GMS core, in this context, is specific to APIs available  
4 within Play Services that are available to all developers whose  
5 app resides in the Play Store catalog.

6 **Q.** If a developer -- strike that.

7 API features that support GMS for mobile devices are only  
8 available in GMS core, right?

9 **A.** I'm not as familiar with other areas where APIs may  
10 exist, but I do know that GMS core represents the ones that are  
11 intended for developers.

12 **Q.** And developers like third-party application  
13 developers?

14 **A.** Yes.

15 **Q.** And those third-party application developers rely on  
16 APIs available from Google Play Services to function, right?

17 **A.** They don't necessarily rely on them. They're  
18 available for their use, to the extent they choose to take  
19 advantage of them, but they're not required for use.

20 **Q.** But it looks like on slide -- or page 18, 826 out of  
21 the top thousand Android apps use one or more GMS core APIs,  
22 right?

23 **A.** At the time, I believe that was the number, yes.

24 **Q.** And the bullet above says: "Used by GMS" -- meaning  
25 Google Mobile Services, correct -- I'm sorry, the second bullet

1 on the slide?

2 A. Yes.

3 Q. "And also used by hundreds of thousands of third-party  
4 apps," correct?

5 A. That is correct.

6 Q. We can go ahead and put UPX125 aside. Both Google  
7 Play Services and GMS core are only available to Google's MADA  
8 partners, right?

9 A. By GMS core, do you -- GMS core is sometimes used in  
10 two different ways. It can refer to the actual APIs or to the  
11 set of 11 apps. When you say GMS core in this context, do you  
12 mean the set of 11 apps?

13 Q. Well, does it -- for purposes of what's available to  
14 OEMs, does it matter, aren't MADAs required for both?

15 A. The MADA is required to license both the GMS  
16 applications and also GMS core, otherwise known as Google Play  
17 Services, that is correct.

18 **THE COURT:** I'm sorry, can you say that again, just to  
19 make sure I have these concepts in my head again. So the MADA  
20 is required for what, again?

21 **THE WITNESS:** The MADA is the license to --

22 **THE COURT:** No, I know that. I'm sorry, the MADA is  
23 required for what, GMS core and what else?

24 **THE WITNESS:** The MADA's required as a license to access  
25 GMS core. If -- there's two loose uses of the term GMS core,

1 even within the company. It applies to the Google Play  
2 Services APIs, but also the set of 11 apps. For purposes of  
3 here, I think generally I considered GMS core to be the 11 apps  
4 as part of a bundle, and then Google Play Services as the APIs  
5 made available for developers, including Google.

6 **THE COURT:** Gotcha.

7 **THE WITNESS:** But that can create -- it is used a little  
8 loosely between those two concepts.

9 **THE COURT:** Thank you. Ms. Murdock-Park, actually, let me  
10 just interrupt. It may be a good time to take a break. It's  
11 3:00 o'clock now, so why don't we take our afternoon break.  
12 We'll resume a little bit after 3:15. See you all shortly.

13 Mr. Kolotouros, I'll just ask you not to discuss your  
14 testimony during the break with anyone.

15 **THE WITNESS:** I'm sorry?

16 **THE COURT:** Do not discuss your testimony with anyone  
17 during the break.

18 **THE WITNESS:** Oh, of course.

19 **THE COURT:** Thank you, sir.

20 (Recess taken at 2:59 p.m.)

21 (Back on the record at 3:17 p.m.)

22 **THE COURT:** Ms. Murdock-Park, whenever you're ready.

23 **BY MS. MURDOCK-PARK:**

24 **Q.** Thank you, Your Honor. I'm actually going to go back  
25 to UPX125. I was advised that I was overzealous on the



1 redactions and there were no redactions on the slide, so we can  
2 go ahead and talk about it. And this is slide three of UPX125,  
3 and it's titled MADA Overview.

4 Do you see that in front of you, Mr. Kolotouros?

5 **A.** I do.

6 **THE COURT:** I think you mean 129, correct?

7 **MS. MURDOCK-PARK:** My apologies. Yes, Your Honor, 129.

8 **THE COURT:** 129, okay.

9 **BY MS. MURDOCK-PARK:**

10 **Q.** So we are at slide three of 129, and there is a MADA  
11 box. Do you see that, Mr. Kolotouros?

12 **A.** I do.

13 **Q.** And underneath that box it says coverages -- or  
14 coverage. It looks like there's 2.3 billion active devices  
15 that have MADA, correct?

16 **A.** The 2.3 billion is in reference to the number of  
17 devices that have been activated with GMS or that --

18 **Q.** With GMS?

19 **A.** -- bundled the 11 apps. Yes.

20 **Q.** And so GMS, and also covered by the MADA then, right?

21 **A.** GMS as administered and licensed by the MADA, that is  
22 correct.

23 **Q.** And the approximately 1 billion activations a year,  
24 that refers to the number of activations for GMS devices that  
25 Google assumes for the following year?

1           **A.** The rough -- for the past several years, the number of  
2           GMS devices that have been activated during a calendar year is  
3           approximately 900,000,000 to a billion.

4           **Q.** If we go to -- there's a box that -- or, I'm sorry, in  
5           the middle of the screen it says "we give," and then there's  
6           three bullet points under that.

7           **THE COURT:** Sorry, the 1 billion, that's the number of new  
8           actual phones that come online, is that what that number  
9           represents?

10          **THE WITNESS:** It's the number of Android phones with GMS,  
11          number of phones where the OEMs elected to pre-load GMS. And  
12          then it hits our servers and we register an activation of GMS.

13          **THE COURT:** I see. But that the overall activation number  
14          doesn't necessarily go up by a full billion, because if people  
15          are replacing a phone, that activation would fall off -- or is  
16          this an aggregate number, the 2.3?

17          **THE WITNESS:** The 2.3 is an aggregate, so as phones drop  
18          out of the ecosystem. I don't know if it's measured over  
19          monthlies or dailies, but it represents phones that continue  
20          to -- we continue to see activity on the phone.

21          **THE COURT:** I see. Okay, thank you. Sorry about that.

22          **BY MS. MURDOCK-PARK:**

23          **Q.** To go back to that point, Mr. Kolotouros, is  
24          2.3 billion active devices right now the current number or is  
25          it higher?

1           **A.** I believe it is higher.

2           **Q.** Do you know approximately what that number is?

3           **A.** Approximately, I believe it is closer to I think  
4 three, but I'm not -- I don't have a precise measurement.  
5 That's plus or minus several hundred million, so...

6           **Q.** Okay. The three bullets in the middle of slide three  
7 under "we give," it says: "Play Store plus 10 Google apps."

8           That refers to the 11 GMS apps that we were talking about  
9 earlier?

10          **A.** Yes.

11          **Q.** And the box on the right of the slide lists as gets  
12 for Google: "Play plus 10 apps pre-loaded," right?

13          **A.** Yes.

14          **Q.** And so that means that Google gets all 11 of these GMS  
15 apps pre-loaded on any device -- any GMS device?

16          **A.** Yes. For the devices where the OEM has elected, yes,  
17 there's the Play plus the 10.

18          **Q.** And another get for Google is the search widget  
19 pre-loaded as well, right?

20          **A.** Pre-loaded and placed on the default home screen, that  
21 is correct.

22          **Q.** The default home screen, that's the screen -- like  
23 when you first open up your phone, it's the first screen you  
24 see?

25          **A.** Or whenever you invoke the home button or the swipe

1 gesture to go back to home, you'll go back to the default home  
2 screen.

3 Q. Now, when -- with respect to the Google search widget,  
4 the Google search widget, that's a visual representation of the  
5 Google search app, correct?

6 A. It's an access point for search where searches can be  
7 conducted within the search box that the widget looks like.

8 Q. We can go ahead and put down UPX129 for now.  
9 Mr. Kolotouros, all Android OEMs that currently install GMS  
10 apps have MADAs with Google, right?

11 A. Yes.

12 Q. And all OEMs that install GMS apps have had MADAs in  
13 place for the entire time that they have distributed GMS,  
14 correct?

15 A. Generally, the installation of GMS takes place after  
16 the MADA has been executed with the partner, that is correct.

17 Q. So, for example, Samsung has had a MADA for the  
18 entirety of the time it has distributed GMS apps, right?

19 A. Yes, I believe so. It predates my entry into the  
20 group, but I believe they've had a MADA for the duration of the  
21 time they are accessing and using -- or pre-loading GMS apps.

22 Q. And your entry to the group was in the spring of 2014  
23 approximately?

24 A. January 2014, approximately.

25 Q. To your knowledge, is there any Android OEM smartphone

1 in the United States that does not have GSM pre-loaded?

2 A. I have not seen it.

3 Q. You have a role in setting Google strategy with  
4 respect to Google's OEM contracts in the mobile sphere, right?

5 A. I have a role, yes.

6 Q. But Sundar Pichai, who Alphabet's CEO, approves  
7 Google's ultimate strategy with respect to the MADAs, right?

8 A. I don't know what the ultimate approval authority or  
9 chain looks like with respect to strategy. I don't know if  
10 it's just him or has a broader set of constituents engaged.

11 Q. So sitting here today, you don't know if Mr. Pichai  
12 approves Google's ultimate strategy with respect to Android  
13 OEMs?

14 A. I would believe he does, but I'm not a hundred percent  
15 sure.

16 Q. Let's talk about some of the specific MADA placement  
17 requirements. The MADA restricts where pre-loaded Google apps  
18 are placed on a device out of the box, right?

19 A. I don't know if I'd use the word restriction. There  
20 are placement obligations correlated with the bundle.

21 Q. So the apps have to go in the places that they are  
22 spelled out in the MADA?

23 A. Yes, there are implementation guidelines in connection  
24 with GSM -- or, the GSM apps.

25 Q. I'd like to take a look at JX49. This is another

1 document that's in evidence, and it is a redacted document.  
2 Mr. Kolotouros, you're familiar with Motorola's 2018 MADA,  
3 correct?

4 A. I can't say I've read it, but I'm familiar that they  
5 have a MADA, yes.

6 Q. Okay. You're familiar, though, with the MADA  
7 generally for all Android OEMs, yes?

8 A. Yes, I am.

9 Q. I'd like to go to page nine and 10 of the Motorola  
10 2018 MADA. And I appreciate that everybody loves contracts, so  
11 I will try not to go through too much of them. But if we could  
12 look at section 4.4 which discusses the placement requirements  
13 in the MADA, correct?

14 A. Yes.

15 Q. If we could zoom in on the -- on page nine of section  
16 4.4. And subsection B1 requires that the Google search widget  
17 is placed on the default home screen, correct?

18 A. On B1 of 4.4?

19 Q. Yes.

20 A. That is correct.

21 Q. All MADAs require the Google search widget to be  
22 placed on the default home screen, right?

23 A. That is correct.

24 Q. And the MADA requirement to place the Google search  
25 widget on the default home screen is non-negotiable for all

1 OEMs, right?

2 A. I would say that is correct, yes.

3 Q. The Google search widget must be set to Google search,  
4 correct?

5 A. That is correct, yes.

6 Q. And that's discussed in the RSAs?

7 A. I think the widget itself is part of the actual  
8 application, so I don't know if it's possible to change the  
9 default setting in the widget itself.

10 Q. If we could go to page 10 of JX49, and zoom in on B2  
11 and B3. Section 4.4 B2 requires that the Google Play Store is  
12 placed on the default home screen, correct?

13 A. That is correct.

14 Q. And all MADAs require the Play Store to be placed on  
15 the default home screen?

16 A. To the extent it's pre-loaded, yes.

17 Q. To your knowledge, are there any devices that do not  
18 have Play Store pre-loaded -- any GMS devices that don't have  
19 Play Store pre-loaded?

20 A. Not to my knowledge.

21 Q. And section 4.43 requires a Google-labeled folder or  
22 icon to be placed on the home screen, right?

23 A. That is correct.

24 Q. That Google folder provides direct access to some of  
25 the GMS core and flexible apps?

1           **A.** It provides two-click access. I wouldn't say  
2 immediate, because it's not like the Play Store or the search  
3 widget. But it provides two-click access via selecting the  
4 folder, and then the applicable app which the user selects.

5           **Q.** All MADAs require a Google-labeled folder or icon to  
6 be placed on the default home screen, right?

7           **A.** Yes.

8           **Q.** We can go ahead and put down JX49. And since we're  
9 talking about placement requirements, I just want to make sure  
10 we're all on the same page about what those are. You mentioned  
11 search access points before.

12           The Google search widget is one of those search access  
13 points?

14           **A.** Yes.

15           **Q.** And another search access point is the address bar on  
16 Chrome, which is known as the omnibox?

17           **A.** Yes.

18           **Q.** I'd like to show UPX76, which is in evidence. UPX76  
19 is a slide deck titled Search Entry Points on Android. Have  
20 you seen this document before, Mr. Kolotouros?

21           **A.** I have not.

22           **Q.** If we could go to slide two, please, and zoom in on  
23 the text there where it says: "You have marked this  
24 privileged" -- "You have this marked privileged, but it is  
25 shared with everyone at Google. Is this working as intended?"



1 Is it fair that this deck was available for you to review?

2 A. I'm sorry, is this a comment I included?

3 Q. No, this is a comment on the slide deck itself. So  
4 I'm asking whether you would have had access to review the  
5 document?

6 A. Oh, I'm sorry. To the extent that the document was  
7 open to everyone at Google, then I would have had access to the  
8 document, that is correct.

9 Q. We'll go to slide 11, please, which is a slide titled  
10 Search Entry Points on a Typical Android Phone. And there's a  
11 phone up on the screen with arrows to various search access  
12 points. If we could highlight the box that is -- I'm sorry,  
13 the text that says quick search box.

14 Do you see that on the left side of the screen?

15 A. I do.

16 Q. And the quick search box is also called QSB, correct?

17 A. That is correct.

18 Q. And it's also known as the widget?

19 A. Yes.

20 Q. There's a bracket on the bottom right of the screen  
21 where it shows -- pointing towards -- I guess to a folder. The  
22 bracket points to where the Google folder or Google icon must  
23 be placed, correct?

24 A. I believe that represents the Google folder, yes, if  
25 that's what is being denoted by the -- with the parenthetical

1 or the arrow. I'm sorry, can you repeat the question, please?

2 Q. Sure. I'm just trying to -- the icon on the little  
3 right -- the right hand side of the screen at the bottom,  
4 that's where -- the Google folder or the Google icon that's  
5 required to be pre-loaded by the terms of the MADA, that's  
6 where it's required to be placed?

7 A. So this particular iconography depicts it in the  
8 hotseat, which is not required per the MADA. I believe the  
9 folder can be anywhere on the default home screen. And in this  
10 particular instance, it's in the hotseat which is essentially a  
11 set of icons which are not moved when you swipe right to left  
12 on the device.

13 Q. So the entire row at the bottom of the phone on slide  
14 11, that's the hotseat?

15 A. That's called the hotseat, yes. And Google folder  
16 placement in the hotseat is not a requirement in the MADA, just  
17 the Google folder on the default home screen.

18 Q. So the -- okay. Is the Chrome app required to be in  
19 the hotseat for pre-loading?

20 A. No.

21 Q. On the upper right side of the screen --

22 **THE COURT:** I'm sorry, can I just ask a real quick  
23 question?

24 **MS. MURDOCK-PARK:** Of course.

25 **THE COURT:** Are there search feature differences between

1 the Google app and then searching through Chrome?

2 **THE WITNESS:** That's a very good question. Not that I'm  
3 aware of. I think they both essentially direct a query to  
4 Google which then fires a response back. And then the question  
5 is whether it's depicted via the search app or the Chrome  
6 results page. I don't know if the actual app itself lends  
7 itself to incremental functionality beyond what is rendered in  
8 a results page on a browser, for example. So I think they're  
9 identical, but I don't want to say a hundred percent sure if  
10 the actual search app has unique functionality. But I don't  
11 think it does.

12 **THE COURT:** Okay, thank you.

13 **MR. SCHMIDTLEIN:** And I assumed you were talking about on  
14 Android devices?

15 **THE COURT:** Right.

16 **BY MS. MURDOCK-PARK:**

17 **Q.** Mr. Kolotouros, on slide 11, at the top right it says:  
18 "Other AGSA entry points." AGSA stands for Android Google  
19 search app, right?

20 **A.** Yes, I believe so.

21 **Q.** So the other AGSA entry points means that there are  
22 other search app points on a typical Android phone?

23 **A.** I believe that's what it means, yes.

24 **Q.** You can put UPX76 aside. You are not aware of any  
25 Google-conducted analysis that indicates Google's MADA

1 requirements reflect consumer preferences, right?

2 A. Outside of usage of the apps themselves, I've not seen  
3 any such analysis or surveys.

4 Q. But MADAs prohibit OEMs from taking certain actions on  
5 GMS mobile devices that consumers might want, right?

6 A. I'm not familiar with what prohibitions or  
7 restrictions are in the MADA. There are certain mobile  
8 pre-load policies meant to prevent inappropriate content from  
9 being pre-loaded on a device, just because we don't want to  
10 correlate Google apps with a device that might have malicious  
11 software on them. But I don't know of any other restrictions  
12 that are within the MADA with respect to how a device is  
13 configured.

14 Q. So if we could go to JX99, which is another redacted  
15 document that is in evidence. You're familiar with amendments  
16 to the 2018 Motorola MADA, Mr. Kolotouros?

17 A. What is the date on this one?

18 Q. If we could go to -- well, it says the effective date  
19 of January 1, 2018, but if we could go to the last slide,  
20 please. The date is January 10th, 2020, signed by Google.

21 A. Okay.

22 Q. JX99, it looks like it was signed by Jamie Rosenberg.  
23 That's your former boss, right?

24 A. That is correct.

25 Q. If we could go back to page three, and if we could

1 zoom in on section 2.9. Google's MADA -- strike that.

2 The amendment to Motorola's MADA reads that: "The  
3 following is added as section 4.41(v) of the agreement. (v)  
4 not include any processes, instructions, promotions, or other  
5 means that directs, instructs or encourages the end user to  
6 change the device from being in compliance with this agreement,  
7 including this section 4.4," right?

8 A. Yes.

9 Q. And this provision is included in other MADAs as well,  
10 correct?

11 A. Okay.

12 Q. Am I incorrect or is that right?

13 A. I'm not familiar with this precise language, but I  
14 would not be surprised if it did find its way to other MADAs as  
15 part of the template.

16 Q. So the section 2.9 means that an OEM couldn't instruct  
17 the end user how to move the Google search widget off of the  
18 device's home screen, correct?

19 A. This language does not allow an OEM to essentially  
20 encourage the -- a user to change the settings or the defaults  
21 or the placements as has been configured per the MADA, that is  
22 correct.

23 Q. But also the OEM can't even tell the user how to do  
24 that, right? Not just encourage, but the OEM can't instruct  
25 the end user how to do so?

1           **A.** Yes, Romanette five, which mentions instructions,  
2 would prohibit the OEM from instructing a user how to change  
3 the configuration -- out-of-box configuration of a device.

4           **Q.** How to change the configuration to be contrary to the  
5 MADA, which one of the MADA terms is that the widget must be on  
6 the default home screen?

7           **A.** That is correct.

8           **Q.** And --

9           **THE COURT:** I'm sorry, does that extend to the -- the  
10 prohibition on instructions, for example, does that extend to  
11 places of information that are other than the phone? So, for  
12 example, say the Motorola website has information about a  
13 particular phone, and it has some instructions about how to use  
14 the phone.

15           Do you read this paragraph or do you understand this  
16 paragraph to mean that you couldn't -- that Motorola could not  
17 include instructions about how to re-configure the home page?

18           **THE WITNESS:** No, I think it's specific to what is allowed  
19 on the device itself, and to maintain the configuration for the  
20 device out of box as intended by the MADA, and to not somehow  
21 insert something which would implicate that configuration.

22           **THE COURT:** Okay.

23 **BY MS. MURDOCK-PARK:**

24           **Q.** Go ahead and put aside JX99. Another question I  
25 wanted to ask you about the MADA, Mr. Kolotouros, is about

1 launchers. You've heard the term launcher before?

2 A. I have.

3 Q. And a launcher is an app that provides customization  
4 and personalization over an Android device's display screen?

5 A. Yeah, it's a broader user experience that essentially  
6 administers how the user interacts with the phone on the app  
7 tray, the plus one screen, the default home screen, et cetera.

8 Q. And launchers are a search access point, right?

9 A. They can be. They can be.

10 Q. And a launcher can also -- can be a search widget?

11 A. A launcher can include a search widget as part of its  
12 implementation that covers the UI on the phone, that is  
13 correct.

14 Q. MADAs prohibit launchers that do not comply with other  
15 terms of the MADA, right?

16 A. To the extent the launcher, as part of the out-of-box  
17 experience, is not -- does not -- is not in compliance with the  
18 implementation guidelines, then yes.

19 Q. Carriers do not enter into MADAs, right?

20 A. That is correct.

21 Q. But carriers are bound by OEMs' MADAs?

22 A. I don't know if they're bound by them. I don't know  
23 if there's a contractual relationship that binds an OEM to a  
24 carrier with respect to the MADA.

25 Q. Well, if an OEM builds an Android mobile device for a

1 particular carrier, then the carrier has to follow the same  
2 terms of the MADA that the OEM must follow, right?

3 A. To the extent they're applicable, yes.

4 Q. So if Samsung wanted to build an Android mobile device  
5 for AT&T, that device could not include instructions about how  
6 to remove the Google search widget from the default home  
7 screen?

8 A. I believe that would be the case.

9 Q. You are not aware of any Samsung or Motorola  
10 smartphone sold in the United States at any time that was  
11 pre-loaded with more than one search widget, correct?

12 A. I'm not familiar with such a device.

13 Q. So that means no?

14 A. I'm not familiar with such a device. I don't want to  
15 speak to the inventory of phones that they've developed, but  
16 I've not seen them.

17 Q. Let's talk now about how Google reacts to OEMs trying  
18 to vary some of the standard terms in their MADA, okay?

19 A. Okay.

20 Q. An OEM partner can request a waiver or a variance to  
21 MADA terms, right?

22 A. Yes.

23 Q. And when an OEM requests a waiver, you have final say  
24 in denying such a request but not in approving such a request,  
25 right?



1           A. I don't know if I have final say, but I weigh in with  
2 a preference or an opinion with respect to denial and also  
3 approval.

4           Q. With respect to weighing in with an opinion on denial,  
5 is your opinion usually accepted?

6           A. I would say that's accurate, correct.

7           Q. Google does not grant any waivers for the 11  
8 pre-loaded GMS applications, correct?

9           A. I have not seen a waiver for the bundle.

10          Q. And for the bundle, you mean the 11 --

11          A. The 11, that is correct, yes.

12          Q. And you consider attempts to get variances for GMS  
13 apps to be attempts to snap the MADA, right?

14          A. It's an attempt to change the default configuration  
15 for the MADA implementations, yes.

16          Q. So an attempt to change the configuration is an  
17 attempt to snap the MADA or break the MADA?

18          A. I think break might be more accurate than the word  
19 snap. But yes, to essentially not adhere to the terms of the  
20 MADA.

21          Q. I'd like to show you UPX608, which is another document  
22 in evidence. The e-mail at the top of the first page is from  
23 Sidney Lee. Ms. Lee is a director of Android partnerships?

24          A. Mr. Lee, yes.

25          Q. Mr. Lee, my apologies. And the subject of the e-mail

1 is Android REM revenue share 3.0, correct?

2 A. OEM revenue share 3.0, that is correct.

3 Q. Thank you. Now, before we start talking about the  
4 MADA, let's go to page four of UPX608. This is an e-mail from  
5 Donald Harrison, correct?

6 A. That is correct.

7 Q. And Mr. Harrison is your current supervisor?

8 A. He's my manager's manager at this point.

9 Q. Manager's manager, okay. He's the president of global  
10 partnerships and corporate development?

11 A. Yes.

12 Q. It looks like Mr. Harrison was e-mailing about the  
13 revenue share agreement signed in mid 2020, fair?

14 A. With several OEMs I believe, yes.

15 Q. And so he was pointing out the number of devices  
16 covered by core search and assistant protections, which are  
17 redacted on the screen?

18 A. Yes.

19 Q. About halfway through his e-mail, Mr. Harrison writes:  
20 "Here is the rundown of devices where distribution, enhanced  
21 discoverability and defaults were secured, i.e., prominent  
22 placement on the hotseat, DHS and plus one screens."

23 Do you see that?

24 A. I do.

25 Q. And we talked about the plus -- well, we talked about

1 the hotseat. DHS refers to the designated hotseat?

2 A. The default home screen.

3 Q. Default home screen. And plus one means one swipe  
4 left from the home screen?

5 A. Plus one means one swipe left from the home screen,  
6 that is correct.

7 Q. So just going over one?

8 A. Yes, to the right.

9 Q. And if we could go to the first bullet in the second  
10 grouping there where it reads search, and then it says: "Lens,  
11 News, Podcast, Gboard," and then there's a redacted number.

12 The Gboard refers to the Google keyboard, correct?

13 A. That is correct.

14 Q. And you can run a Google search from the Google  
15 keyboard?

16 A. I don't know if you still can run a search through the  
17 keyboard, but I believe at one point you could, and it still  
18 might be possible.

19 Q. And the redacted number next to that search bullet,  
20 that shows the number of devices that are covered by the  
21 revenue share agreements as of May 28th, 2020, Mr. Harrison's  
22 e-mail?

23 A. I think it's a projection of how many devices will be  
24 covered by this -- these particular contracts.

25 Q. Okay. Which is it's exclusive of certain OEMs, fair?

1           **A.** This is specific to certain OEMs that Sidney Lee's  
2 team had signed.

3           **Q.** If we could go to page three, there are some e-mail  
4 exchange and the chain, and a Mr. Sabharwal asked you whether  
5 there were any devices or countries where Chrome is no longer  
6 distributed as part of GMS, right?

7           **A.** Yes.

8           **Q.** And you responded in the middle of page three,  
9 correct?

10          **A.** Yes.

11          **Q.** If we could pull that up a little bit bigger. You  
12 write: "Don, I think that somebody forgot to tell Anil that  
13 Sundar authorized the removal of Chrome from GMS a few months  
14 ago," right?

15          **A.** Yes.

16          **Q.** That was clearly a joke?

17          **A.** A poor attempt at humor, that is correct.

18          **Q.** You're kidding, because Mr. Pichai would never suggest  
19 removing Chrome from GMS, right?

20          **A.** No one would -- people would be sure to tell Anil  
21 about it.

22          **Q.** So there are no exceptions from any GMS MADA  
23 obligations, are there?

24          **A.** The -- we have given clean UI waivers in the past to  
25 move the folder to a plus one screen or an app tray

1 implementation, one requested by Samsung in the past. And we  
2 still provide them with it whenever they come up, but they  
3 don't come up very often -- with respect to the folder.

4 Q. With respect to Chrome, has there ever been any MADA  
5 variation that was approved for a change to the Chrome  
6 requirements in the MADA?

7 A. No, I don't recall seeing a request to remove Chrome  
8 from the MADA or the bundle.

9 Q. And you believe that Chrome exists to serve Google  
10 search, right?

11 A. I believe that Google search is available through  
12 Chrome, but Chrome exists to provide connections -- a  
13 connection to the internet and a browsing experience for a user  
14 on a smartphone device.

15 Q. We can go ahead and put UPX608 aside. I'd like to  
16 show you UPX809. I believe that there is a relevance objection  
17 to this e-mail. And to be clear, I'm only going to look at the  
18 e-mail from Mr. Kolotouros on page three.

19 **THE COURT:** Is there an objection to referring to that  
20 portion of the exhibit?

21 **MR. SCHMIDTLEIN:** Yeah, I think the objection here is this  
22 doesn't have anything to do with any deals that apply to the  
23 United States. This has to do with I think some sort of a deal  
24 involving a Russian company or Russian-distributed devices.

25 **THE COURT:** Okay.

1           **MS. MURDOCK-PARK:** And if I could show the exhibit, Your  
2 Honor, which relates directly to what Mr. Kolotouros just spoke  
3 about with respect to Chrome and the MADA.

4           **THE COURT:** Okay. I'll overrule the objection. I'll  
5 allow questioning about it so long as it gets tied up to what  
6 he's been testifying about. Go ahead.

7 **BY MS. MURDOCK-PARK:**

8           **Q.** If we could go to page three and the e-mail from  
9 Mr. Kolotouros at 8:16 p.m. on October 9th, 2020. You were  
10 responding to an e-mail from Ms. Chernikova; is that correct,  
11 Mr. Kolotouros?

12           **A.** Yes.

13           **Q.** And I'd like to go to the second bullet where you  
14 write: "I don't think I want Chrome in the hotseat if the user  
15 sets the default. Chrome exists to serve Google search."

16           Do you see that?

17           **A.** I do.

18           **Q.** So you believe that Chrome exists to serve Google  
19 search in any market, right?

20           **A.** I believe that in this capacity, I was sensitive to  
21 Chrome's default search being set to something which was then  
22 anticipated by the user. So in an instance where Google's not  
23 the default search engine in Chrome -- which is typically  
24 expected or implemented usually, then the -- it can create user  
25 confusion. And I think that is why the Russian situation was

1 unique in the connection with Chrome and search.

2 Q. So you believe that Chrome does not exist to serve  
3 Google search in the United States, but it does in Russia?

4 A. I believe it exists to serve Google search, but not  
5 exclusively. I think there's other benefit to what Chrome  
6 provides, including access to the internet.

7 Q. Google search does not exist to serve Chrome, right?

8 A. I think the services interact with each other to  
9 provide good access to the internet and a good access to  
10 search. It's the Russian implementation that makes the use  
11 case in this particular instance geographically somewhat  
12 unique.

13 MS. MURDOCK-PARK: Your Honor, I'd move to admit UPX809.

14 THE COURT: Okay, we'll admit it to the extent that it  
15 involves that short e-mail.

16 (Exhibit UPX809 admitted into evidence)

17 BY MS. MURDOCK-PARK:

18 Q. We can go ahead and take the document down. Let's  
19 switch gears and talk a little bit about Google's largest  
20 Android OEM, Samsung. You said that the Samsung partnership is  
21 part of the scope of your responsibilities.

22 Do you communicate with Samsung regularly?

23 A. Yes.

24 Q. And you communicate with Samsung about the MADA and  
25 the RSA?

1           **A.** When they're being renewed, yes. But otherwise, we  
2 typically discuss product implementations and platform goals  
3 and those kinds of things.

4           **Q.** And your direct reports also regularly communicate  
5 with Samsung?

6           **A.** That is correct.

7           **Q.** Is Christopher Li responsible for the Samsung  
8 relationship?

9           **A.** He's -- yes, he's more responsible from the standpoint  
10 of day-to-day engagement and responsibility.

11          **Q.** Samsung is headquartered in Suwon, South Korea?

12          **A.** Yes.

13          **Q.** And you've traveled to Samsung headquarters for work,  
14 right?

15          **A.** I have.

16          **Q.** Samsung's upper level executives are based out of  
17 their headquarters in Suwon?

18          **A.** Yes, I believe so.

19          **Q.** So would it be fair to say that Samsung is one of  
20 Google's most important partners?

21          **A.** Definitely one of if not the most important Android  
22 OEM partners. It would be hard for me to, on a relative basis,  
23 assess if it's one of its most important partners across the  
24 company, but I would make that assertion.

25          **Q.** Google looks for ways to keep the Samsung partnership



1 beneficial to Google, correct?

2           **A.** Google aspires to help Samsung be successful, and  
3 hopefully contribute to Google's success as well.

4           **Q.** And that includes giving Samsung the ability to  
5 personalize the MADA in ways that are unavailable to other  
6 OEMs?

7           **A.** There are a few carve-outs within the MADA for  
8 Samsung, but generally the vast majority of the terms are  
9 consistent across OEMs.

10           **Q.** And the -- I believe you referred to a clean UX before  
11 that was with respect to Samsung?

12           **MR. SCHMIDTLEIN:** Your Honor, if we're going to get into  
13 talking about specific provisions or if she's going to start  
14 trying to elicit testimony about specific provisions from the  
15 Samsung MADA that are not in other OEMs' MADAs, I would ask  
16 that those questions and answers be elicited in the closed  
17 session.

18           **THE COURT:** Okay. Well, I guess the question is are any  
19 of the -- are what you're about to ask him about these  
20 carve-outs reflected in any of the records that have already  
21 been admitted that can be discussed in an open session?

22           **MS. MURDOCK-PARK:** I will move on from that question, Your  
23 Honor. I'm not going to ask about specific MADA terms with  
24 respect to Samsung, at least in open session.

25           **THE COURT:** Okay.

1 BY MS. MURDOCK-PARK:

2 Q. Mr. Kolotouros, Samsung requested a waiver from Google  
3 for a GMS requirement in 2016, right?

4 A. Can you be more specific, please?

5 Q. Sure. We had discussed that one of the MADA  
6 requirements for all OEMs is that the Google search widget must  
7 be placed on a device's default home screen, right?

8 A. That is correct.

9 Q. Did Samsung request a waiver of that requirement in  
10 about 2016?

11 A. I believe so, yes.

12 Q. I'd like to call out UPX741, which is in evidence, and  
13 there are no redactions to the document. UPX741 is an  
14 August 23rd, 2016 e-mail from Jin Young Baik to you, right?

15 A. Yes.

16 Q. Ms. Baik requested clarification about Samsung's  
17 global MADA negotiations, right?

18 A. Yes.

19 Q. Specifically she asks for clarification about the MADA  
20 placement requirements?

21 A. Yes.

22 Q. And you responded to her: "Let me state it more  
23 stringently, the widget and Play Store icon are staying."

24 Do you see that?

25 A. I do.

1           **MR. SCHMIDTLEIN:** Excuse me, counsel, can you provide us  
2 with copies of this exhibit?

3           **MS. MURDOCK-PARK:** Of UPX741?

4           **MR. SCHMIDTLEIN:** Yes.

5           **THE COURT:** It appears to have not been included in the  
6 binder, but that's okay.

7           **MS. MURDOCK-PARK:** Oh, my apologies.

8           **THE COURT:** If somebody has a hard copy of it, that would  
9 be -- just provide that to counsel.

10          **MS. MURDOCK-PARK:** We can go ahead and take the document  
11 down right now, and we will find copies of that.

12          **THE COURT:** I mean, is there any reason not to question,  
13 as long as you have it and the witness can see the entirety of  
14 the document?

15          **MR. SCHMIDTLEIN:** I was going to say, I'd like the witness  
16 to have a full copy of the hard copy, if you have one. I'll  
17 see if we have one, if I can dig one out, but it wasn't in the  
18 binder.

19          **THE COURT:** No, I didn't see it either, but that's okay.

20          **MS. MURDOCK-PARK:** I can -- we will move on.

21          **THE COURT:** It looks like Mr. Schmidtlein has one in his  
22 hands.

23          **MR. SCHMIDTLEIN:** I've got one. I'll hand it up to the  
24 witness.

25          **THE WITNESS:** Thank you.

1           **MS. MURDOCK-PARK:** Our apologies, Mr. Kolotouros,  
2 Mr. Schmidlein.

3           **THE COURT:** Can we bring that back up on the screen for  
4 those of us who don't have a hard copy. Thank you.

5           **MS. MURDOCK-PARK:** Would you like us to get you a hard  
6 copy, Your Honor?

7           **THE COURT:** No, I've got plenty of documents. Thank you.

8 **BY MS. MURDOCK-PARK:**

9           **Q.** Mr. Kolotouros, with your response, "Let me state it  
10 more stringently, the widget and Play Store icon are staying,"  
11 you were expressing that there was no world in which Samsung  
12 could remove the widget from the home screen of its GMS  
13 devices, right?

14           **A.** We had, without exception, not granted waivers with  
15 respect to the widget or the Play Store, that is correct.

16           **Q.** And you're not aware of any Samsung device today that  
17 is not required to pre-install the Google widget on the default  
18 home screen?

19           **A.** There's no device that's required to install it, it's  
20 obviously a device-by-device election. But yes, amongst  
21 Samsung devices that are Android-compatible, they have the  
22 widget.

23           **Q.** The same question with respect to Motorola devices,  
24 you are not aware of any Motorola device that is not required  
25 to pre-install the Google widget on the default home screen?

1           A. That is correct.

2           Q. We can go ahead and take down UPX741. I'd like to  
3 switch gears and talk about how Google shares its ad revenues,  
4 so let's talk about some of the revenue share agreements.

5           A. Okay.

6           Q. You testified earlier that all OEMs who have revenue  
7 share agreements also have a MADA, if I recall correctly?

8           A. Yes.

9           Q. And an OEM must have a MADA to even be eligible to  
10 sign a revenue share agreement, right?

11          A. Yeah, every -- yes, to have a revenue share agreement  
12 that covers GMS access points, a MADA's required.

13          Q. I'd like to go back to UPX129, which we had reviewed  
14 before, and I'd like to go to slide five at this time. There  
15 are redactions on this one under the coverage.

16                 Slide five explains that the revenue share agreements  
17 reinforce MADA distribution and provide a mechanism to help  
18 fund the ecosystem, right?

19          A. Yes, that's what the slide says.

20          Q. You agree with the slide, right?

21          A. I believe that the revenue share agreements provide  
22 protections for the promotion of Google services out of box.  
23 And I personally think that the MADAs themselves are the  
24 mechanism to fund the ecosystem via the presence of the widget  
25 and the Play Store icon on the home screen.

1           Q. So the numbers under the coverage box are redacted,  
2 but like with on the MADA box, the number of actives, that  
3 refers to the number of devices that are covered by revenue  
4 share agreements?

5           A. Yes, I think that's a fair assessment.

6           Q. And the activations per year, that's the number of new  
7 devices every year that are covered by revenue share  
8 agreements?

9           A. That is correct.

10          Q. The middle box says as we give, search revenue share  
11 on Android, yes?

12          A. That is correct.

13          Q. And then the box on the right says that Google gets  
14 out-of-the-box search defaults and exclusivity, correct?

15          A. Yes.

16          Q. Defaults and search exclusivity are the goals of the  
17 RSA, right?

18          A. The goals of the RSA, more broadly, are to invest in  
19 the OEMs in the ecosystem to help them compete more  
20 successfully with iPhone. Part of that is out-of-box search  
21 defaults and out-of-box exclusivity for search, among other  
22 things that are in the RSAs.

23          Q. And the default and exclusivity provisions in the  
24 revenue share agreements apply to various search access points  
25 that we discussed earlier, correct?

1           A. That is correct.

2           Q. So that -- including the Google search widget which  
3 defaults to Google search?

4           A. It applies to alternative search services that could  
5 be pre-loaded on the device, yes.

6           Q. The revenue share agreement applies to alternative  
7 search services, if I heard you right?

8           A. Well, the revenue share deals ensure a consistent  
9 out-of-box search experience for users.

10          Q. So fair to say that all search access points on the  
11 device, if you're going to the highest revenue share in the  
12 RSA, all of those are set to Google search?

13          A. Yes.

14          Q. We can go ahead and take down UPX129. Now, some OEMs  
15 receive revenue share on new device activations, right?

16          A. Yes.

17          **THE COURT:** I'm sorry, what was the question again?

18          **BY MS. MURDOCK-PARK:**

19          Q. That some OEMs receive revenue share on new device  
20 activations?

21          A. Meaning that's the payment -- I'm sorry, you mean  
22 that's the payment trigger for revenue share or --

23          Q. Well, I guess let me take a step back. You've heard  
24 the term install base before, right?

25          A. Yes.

1 Q. And can you explain to the Court what the install base  
2 is?

3 A. The install base is the accumulated devices that are  
4 already in the field in connection with a particular OEM.

5 Q. And some OEMs receive revenue share payments on  
6 devices that are already activated and were covered by an  
7 earlier revenue share agreement, right?

8 A. Yes.

9 Q. And then OEMs will receive revenue share payments on  
10 new devices that are activated throughout the term of the RSA?

11 A. Correct.

12 Q. So if an OEM signed a revenue share agreement with  
13 another search provider, the OEM would lose its install base  
14 revenue share payments, right?

15 A. To the extent the OEM did not do another search  
16 revenue share deal with another provider.

17 Q. But it wouldn't receive any revenue share payments on  
18 the install base from Google?

19 A. To the extent there wasn't an active revenue share  
20 agreement with Google, they would not get paid on the install  
21 base.

22 Q. Google has revenue share agreements with AT&T, Verizon  
23 and T-Mobile, right?

24 A. I believe so, yes.

25 Q. And Google has revenue share agreements with Samsung



1 and Motorola?

2 A. Yes.

3 Q. And Google had a revenue share agreement with LG  
4 before LG exited the mobile device business in 2021?

5 A. Yes.

6 Q. You're involved with setting the terms of revenue  
7 share agreements with Android OEMs, right?

8 A. Yes.

9 Q. So let's talk a little bit about how the RSA has  
10 evolved over the years. The MADA used to secure Google search  
11 as the default search provider, right?

12 A. It secured Google -- there was a term in the MADA that  
13 secured default search on the access points, that is correct.

14 Q. I'd like to pull up UPX616, which is a document in  
15 evidence, and there's no redactions. UPX616 is an e-mail from  
16 you to Joan Braddi, right?

17 A. Yes.

18 Q. And Ms. Braddi was your boss at that time?

19 A. She was my manager at that time.

20 Q. Her current title is vice president of product  
21 partnerships?

22 A. I believe so.

23 Q. The subject of the e-mail is Android Leads Update, L  
24 Team Follow Up, right?

25 A. Yes.

1 Q. And that day's Android leads meeting discussed a  
2 suggested change to the MADA, right?

3 A. I was not present in the meeting, but I believe that's  
4 what it's discussing, yes.

5 Q. Well, you were explaining to your boss what happened  
6 at that meeting, right?

7 A. Yes.

8 Q. And, specifically, you were reporting about  
9 Mr. Pichai's recommendation that the default search language  
10 should be removed from the MADA, right?

11 A. Yes.

12 Q. If we could highlight number two in the second  
13 paragraph. Mr. Pichai suggested softening the MADA to make it  
14 more gentle, right?

15 A. Yes.

16 Q. And by softening the MADA, Mr. Pichai meant removing  
17 the default language?

18 A. I think that's one element of, quote, softening. I  
19 think there are other elements that could have been  
20 contemplated in connection with the meeting.

21 Q. Well, Mr. Pichai also suggested that OEM search  
22 revenue share deals is a good place to reinsert this kind of  
23 language and commitment, right?

24 A. Yes.

25 Q. And you sent this e-mail on September 4th, 2014?

1           A. Yes.

2           Q. September 2014 was near the end of a European  
3 Commission investigation into Google search, right?

4           A. I don't know if it was near the end or what their  
5 chronology was with respect to the European ruling -- or  
6 investigation.

7           Q. You were aware that there was an investigation at the  
8 European Union at that time?

9           A. I don't know if it had been formally initiated at that  
10 time in 2014, so I'm not really sure what the precise  
11 sequencing of the statement of objection was. And then moving  
12 on beyond that, I'm not sure what the exact chronology is.

13           **THE COURT:** Just a quick question. Mr. Pichai's position  
14 in 2014 was, at this time?

15           **THE WITNESS:** He was either only the executive vice  
16 president of Android and Chrome -- and I don't know when he was  
17 elevated to CEO of Google. It might have been during this  
18 time, but I'm not a hundred percent sure.

19           **THE COURT:** Okay, thank you.

20 **BY MS. MURDOCK-PARK:**

21           Q. Mr. Kolotouros, at some point after you sent UPX616,  
22 the search defaults were removed from the MADA, right?

23           A. I believe so, yes.

24           Q. And they were placed into the RSAs?

25           A. I believe that is the sequence, yes.

1           Q. We can go ahead and set the document aside, take it  
2 down. Now, in addition to defaults, the overall structure of  
3 revenue share agreements has changed in other ways over the  
4 years, right?

5           A. Yes.

6           Q. So specifically whether those agreements are  
7 device-by-device or platform-wide?

8           A. Or both.

9           Q. Or both, exactly. So -- but device-by-device means  
10 that an OEM can enroll just some of the devices that it has  
11 into revenue share, right?

12          A. That is correct.

13          Q. So -- and the OEM will earn revenue share on only  
14 those agreements?

15          A. Only those devices which it has elected to enroll into  
16 the deal, that is correct.

17          Q. So, for example, in a device-by-device only agreement,  
18 Samsung had enrolled just its Galaxy S23 phone, and it would  
19 receive revenue share only on proceeds from searches run on  
20 that phone, covered search points on that phone?

21          A. If a particular phone met the conditions correlated  
22 with the configuration requirements, then yes, it could receive  
23 a revenue share on that -- it would receive a revenue share on  
24 that device.

25          Q. And a platform-wide deal is basically an

1 all-or-nothing agreement?

2           **A.** It basically implies that all devices must be enrolled  
3 in the deal, that is correct.

4           **Q.** So for an OEM to get any revenue share on any device,  
5 all of its devices must be enrolled?

6           **A.** All of its GMS devices must be enrolled, with the  
7 exception of carve-outs for telecom operators which are usually  
8 embedded into the deals.

9           **Q.** So for Samsung, on a platform-wide deal, it would have  
10 to enroll all of its mobile devices in order to get revenue  
11 share on any device?

12           **A.** If that was the way the tiering was structured, yes.

13           **Q.** And before 2017, some OEM revenue share agreements  
14 were platform-wide, right?

15           **A.** Some were, yes.

16           **Q.** And in about 2017, Google changed the RSA payment  
17 structure to largely device-by-device?

18           **A.** In 2016, late 2016, we went for the approvals to  
19 migrate to a new structure, and began rolling it out  
20 thereafter.

21           **Q.** And it was generally -- that new structure is  
22 generally referred to as RSA 2.0?

23           **A.** Yes.

24           **Q.** And in about 2019, Google started to revise the RSA  
25 structure again, right?

1           A. Generally, yes, that is true.

2           Q. And, generally, the new structure is referred to as  
3 RSA 3.0?

4           A. Yes.

5           Q. The revised revenue share structure was meant to  
6 protect Google from key strategic risks, right?

7           A. I would interpret the migration from 2.0 to 3.0  
8 differently.

9           Q. Well, the tiered framework of RSA 3.0 included both  
10 platform-wide and device-by-device commitments, right?

11          A. Which?

12          Q. The RSA 3.0 structure includes both platform-wide and  
13 device-by-device, right?

14          A. Yes, yes, yes.

15          Q. I'd like to go to UPX1077, which is in evidence.  
16 UPX1077 is a slide deck titled PEX and BC Review: Google  
17 Distribution on Android Framework.

18                BC means business council, right?

19          A. Yes.

20          Q. And the business council is an approval entity within  
21 Google comprised of mostly vice presidents?

22          A. Vice presidents and senior/executive vice presidents,  
23 that is correct.

24          Q. The business council approves deals like the RSA?

25          A. Yeah, RSA structures, yes. Not specific deals, but

1 the overall framework for it.

2 Q. The first slide of UPX1077 says in red: "As presented  
3 at BC," meaning that this slide deck was actually presented to  
4 the business council in June 2019?

5 A. I believe so, yes.

6 Q. And you attended this business council meeting, right?

7 A. I believe I did, yes.

8 Q. Google distribution on Android framework is sometimes  
9 referred to as GDAF, right?

10 A. Yes.

11 Q. If we could go to page six, which is titled New  
12 Proposed Structure, GDAF: Offer Partners Choice of Three Tiers  
13 of RSA. Do you see that?

14 A. Give me one moment, please. That's page six?

15 Q. It should be slide six of UPX1077.

16 A. I see it, my apologies.

17 Q. And the old structure in the top level of the slide is  
18 in various shades of blue. That's the RSA 2.0 structure?

19 A. Yes.

20 Q. And in RSA 2.0, both the base and bonus tiers were  
21 device-by-device, correct?

22 A. I think there was only one tier in the -- there was a  
23 bonus tier in the 2.0s, I'm sorry. But yes, there was a base  
24 tier and a bonus tier in RSA 2.0. That was all  
25 device-by-device elections.

1           Q. And the new RSA 3.0 agreement is in the green boxes,  
2 right?

3           A. Yes.

4           Q. And the core platform in light -- I'm sorry, the core  
5 platform in light green is a platform-wide deal, right?

6           A. Yes.

7           Q. And then both the optimized experience and the Google  
8 forward tiers are device-by-device?

9           A. Yes.

10          Q. Google forward is available to OEMs only?

11          A. I don't know what is available to carriers.

12          Q. If we could go to slide --

13          **THE COURT:** I'm sorry, so what's the difference between  
14 those options that are on the left versus the right? Is it the  
15 amount of the revenue share?

16          **THE WITNESS:** The device-by-device deals are an  
17 all-or-nothing structure where here are the configuration  
18 requirements, if you meet them you get paid on the device; if  
19 you don't meet them, you don't. The new structure allows OEMs  
20 more flexibility on what they want to opt into versus not. At  
21 the foundation -- or the core tier, that basically covers  
22 defaults on first-party browsers and some assistant  
23 discoverability elements. And then they can elect to,  
24 device-by-device beyond the core tier or the foundation tier,  
25 earn more revenue share or potentially bounties if they



1 configured the device a certain way.

2 **THE COURT:** That's on -- that's sort the right side of --

3 **THE WITNESS:** That's the right side, yes.

4 **THE COURT:** Gotcha, okay.

5 **BY MS. MURDOCK-PARK:**

6 **Q.** If we could go to slide seven, that may answer part of  
7 the Court's question. There's some redacted numbers that set  
8 out the various percentages of revenue share available on the  
9 devices. I'd like to first, Mr. Kolotouros, draw your  
10 attention under the core experience platform.

11 The core experience requires OEM browser search defaults,  
12 right?

13 **A.** That's correct, yes.

14 **Q.** And then under the optimized experience, it requires  
15 full search exclusivity?

16 **A.** That is correct.

17 **Q.** And that's a higher revenue share than the core  
18 experience, correct?

19 **A.** And I also believe we pay more on certain access  
20 points, but yes, that is correct.

21 **Q.** And there's also -- Gboard is one of the defaults that  
22 is required under the optimized experience?

23 **A.** I believe so, yes.

24 **Q.** Under Google forward, that requires Google apps to be  
25 set as the default for all key functions, right?

1           **A.** Sure, key functions, key utilities, yes.

2           **Q.** And Play must be set as the primary or exclusive  
3 source of all third-party downloads?

4           **A.** Yes.

5           **Q.** And all access points for search must be set to Google  
6 on the Google forward tier?

7           **A.** Yes.

8           **Q.** And that's in exchange for the highest amount of rev  
9 share that's available, correct?

10          **A.** That is correct, yes.

11          **Q.** I'd like to go to slide nine, which is titled Search  
12 and Play Revenues are Top Priority for Google Forward Tier.  
13 The question I had for you is actually in the notes where it  
14 lists as P0 -- or, I'm sorry, it lists guiding principles. Do  
15 you see that?

16          **A.** I do.

17          **Q.** And P0 guiding principle -- that's like the primary  
18 guiding principle, would that be fair?

19          **A.** Yes.

20          **Q.** So the primary guiding principle is that core search  
21 and Play provisions are non-negotiable, correct?

22          **A.** That's what is written, yes.

23          **Q.** Is that accurate?

24          **A.** I think revenue shares are generally intended to help  
25 invest -- to invest in the OEMs to succeed versus iPhone and in

1 the ecosystem, and to sell more phones. So that's my  
2 general -- that's my general P0.

3 Q. Okay. But here it says that core search and Play  
4 provisions are non-negotiable meaning that Google does not  
5 negotiate with any of the platform-wide commitments on search?

6 A. I don't think there are any platform-wide commitments  
7 with respect to the Play provisions. And under the search  
8 provisions, it's just the defaults. The exclusivity is on the  
9 device-by-device basis.

10 Q. I misspoke, I meant defaults. Thank you for  
11 correcting me. We can go ahead and put the document aside.

12 Search default provisions, they're an important part of  
13 revenue share agreements, right?

14 A. Search defaults?

15 Q. Uh-huh.

16 A. Yes.

17 Q. Google search benefits from being set as the default  
18 on various search access points, correct?

19 A. To the extent there's a consistent search experience  
20 out of box, yes, we believe it's good for the user, and also  
21 can drive more queries through Google, that's correct.

22 Q. So Google finds defaults to be valuable?

23 A. Yes.

24 Q. And you consider any deal that invests in devices  
25 without Google search as the default to be a waste of time and

1 money, right?

2           **A.** I think that securing defaults is an important part of  
3 a device experience, but there are other components of a deal  
4 that matter as well.

5           **Q.** But with respect specifically to search as the  
6 default, if the default can be secured, you consider it to be a  
7 waste of time and money not to secure the default, right?

8           **A.** Can you repeat the question, please?

9           **Q.** With respect to if a default is available, right, if a  
10 default can be secured because it's permissible, you consider  
11 not securing that default to be a waste of time and money,  
12 right?

13           **A.** If we're not securing the default, the prospect of  
14 revenue share being paid goes down, so the investment in the  
15 deal itself is implicated. So the setting of the default is  
16 what will ideally generate revenue, which can then be paid to  
17 the OEM to invest in them and invest in the experience.

18           **Q.** And also earn Google more money?

19           **A.** To the extent the user maintains the search defaults,  
20 yes.

21           **Q.** Search exclusivity provisions are also an important  
22 part of RSAs, right?

23           **A.** Yes.

24           **Q.** Google finds exclusivity to be valuable?

25           **A.** Yes.

1           Q. Google decided to keep search exclusivity provisions  
2 in revenue share agreements even though some OEM partners  
3 pushed back, right?

4           A. We decided to keep them in the deals, yes.

5           Q. But some OEM partners did push back on those search  
6 exclusivity provisions, correct?

7           A. I'm trying to recall the instances when that might  
8 have happened. I can't -- I might just be drawing a blank, but  
9 I can't recall specific times, but it doesn't mean it hasn't  
10 happened on the default -- or on the exclusivity provisions.

11          Q. Let's go to UPX558.

12          **THE COURT:** Counsel, before you do that, I'm sorry, this  
13 may be an elementary question, I may be missing something.  
14 Sorry if I am. You mentioned default provisions and  
15 exclusivity provisions in the RSA?

16          **THE WITNESS:** Yes.

17          **THE COURT:** What's the difference?

18          **THE WITNESS:** The default basically -- for example, in a  
19 browser, sets the default for what search is accessed if  
20 someone conducts a search in the address bar, for example. And  
21 then the exclusivity is what -- with respect to a search  
22 widget -- or search application makes that search application  
23 the only search application pre-loaded on the device out of  
24 box. But it doesn't persist for the lifetime of the device, it  
25 only exists in the out-of-box experience, because it's possible

1 for a user to download any search application out of the Play  
2 Store. So it's called out-of-box exclusivity, because it's  
3 specific to the out-of-box experience versus the lifetime of a  
4 device.

5 **THE COURT:** But it does not mean it's a permanent -- it  
6 does not mean permanence?

7 **THE WITNESS:** Absolutely not, the exclusivity is specific  
8 to out of box.

9 **THE COURT:** Okay, thank you.

10 **BY MS. MURDOCK-PARK:**

11 **Q.** With respect to the search widget, though,  
12 Mr. Kolotouros, you said that the Google search widget can  
13 never be changed from Google search, right?

14 **A.** I don't -- the widget can be removed very easily, but  
15 the default or the actual search itself cannot be changed, I  
16 believe that is correct.

17 **MS. MURDOCK-PARK:** I'd like to go to UPX558. I understand  
18 there's a hearsay objection about this document.

19 **MR. SCHMIDTLEIN:** There's portions of this document that  
20 purport to be notes of a meeting with Samsung where there is  
21 embedded hearsay, I think, within the document. So I'm not  
22 sure what portions she's going to offer it for. If it's for  
23 portions that are e-mail communications between Google  
24 employees, there's no objection. To the extent that it's the  
25 embedded hearsay of things that Samsung people supposedly said

1 and somebody's now repeating, that's the portion we have an  
2 objection to.

3 **THE COURT:** Okay. Counsel, what are you intending to  
4 elicit from this e-mail?

5 **MS. MURDOCK-PARK:** Certainly, Your Honor. Mr. Kolotouros  
6 was at a meeting with Samsung, and I am asking him about his  
7 understanding of some of the comments that Samsung made with  
8 respect to exclusivity requirements.

9 **THE COURT:** Okay. So we're looking, for example, on --

10 **MS. MURDOCK-PARK:** I'm looking, for example, at page seven  
11 under TL;DR.

12 **THE COURT:** Okay. So I guess what I would say is that  
13 I'll admit them not for the truth of what Samsung is saying,  
14 but to the extent that these were statements made to Google or  
15 a Google executive, what they understood is Samsung's request  
16 or comments, criticisms, and what, if any, steps Google took in  
17 response to those comments.

18 (Exhibit UPX558 admitted into evidence)

19 **BY MS. MURDOCK-PARK:**

20 **Q.** Thank you, Your Honor. We can go ahead and put up  
21 UPX558. I'm going to start at page one, which is dated  
22 June 11, 2016, correct?

23 **A.** Yes.

24 **Q.** The subject is KR in Two Weeks. That means Korea?

25 **A.** Yes.

1           Q. If we go to page three, there's an e-mail that  
2 attaches notes on meetings with Samsung, and that's dated  
3 April 29th, 2015?

4           A. Okay.

5           Q. So these are notes from a meeting on April 29th, 2015,  
6 fair?

7           A. Yes.

8           Q. If we go to page seven where it says afternoon  
9 session, and if we could pull out from afternoon session to the  
10 end of the bullet points. It lists as attendees Ornella, Jim,  
11 Felix and Ashish. And I presume you are the Jim listed there?

12          A. Yes, that's safe to assume.

13          Q. Who are Ornella, Felix and Ashish?

14          A. Ornella Indonie was my manager at the time. Felix Lin  
15 was the vice president of Android partner engineering. Ashish  
16 Pimplapure was a member of my team.

17          Q. And from Samsung, it lists Hankil Yoon, Peter Ku and  
18 others. And who were Hankil Yoon and Peter Ku at Samsung?

19          A. Hankil Yoon and Peter Ku were Korea-based leaders on  
20 the Samsung partnerships/product teams.

21          Q. And under meeting notes, discussion on revenue share,  
22 it lists TL;DR. And that means too long; didn't read, right?

23          A. Or it's just a summary. I actually don't know what  
24 the acronym means, I'm afraid.

25          Q. Fair, I had to learn it. It says: "TL;DR, Samsung



1 pushed back strongly on, one, coupling revenue share with  
2 upgrades and, two, exclusivity requirements," right?

3 A. Yes.

4 Q. And it says that higher revenue share, 30 percent  
5 versus 25 percent also, correct?

6 A. Yes.

7 Q. And then it also says no exclusivity at the fourth  
8 bullet point?

9 A. Yes.

10 Q. And with respect to no exclusivity, Samsung didn't get  
11 what it wanted?

12 A. Well, Samsung was pushing back on everything at this  
13 point with respect to the negotiation, so we -- this was  
14 probably early-ish in the process of a two-year negotiation.  
15 And so we had offered a higher revenue share to them, and they  
16 had been pushing back on the conditions we were correlating  
17 with that particular deal on a device-by-device basis. So my  
18 apologies for the -- in this particular phase of the  
19 relationship, it was basically during hard negotiating where  
20 they were pushing back on everything.

21 Q. Okay. So they pushed back hard on no exclusivity as  
22 one of the things?

23 A. It's listed here they pushed back hard. The extent to  
24 which they were genuinely pushing back or just negotiating  
25 hard, that's not for me to say.

1 Q. Did Samsung get its request for no exclusivity?

2 A. No.

3 Q. And we can go ahead and put the document aside. I'm  
4 going to come back to that later, Your Honor.

5 Now, Mr. Kolotouros, under the RSA's exclusivity  
6 provisions, Google is the only search provider that can be  
7 pre-loaded on the device, right?

8 A. That is the typical provision correlated with search  
9 exclusivity, is out-of-box exclusivity or pre-loaded.

10 Q. And all search access points on the device must be set  
11 to Google?

12 A. As part of the -- within the current Samsung deal, as  
13 part of the device-by-device elective part, I think that's  
14 where that provision sits.

15 Q. Okay. But more broadly for revenue share agreements  
16 generally, all search access points on the device must be set  
17 to Google?

18 A. In the device-by-device tier, I believe that's  
19 correct.

20 Q. And, again, more broadly for all RSAs, Google is the  
21 only search provider that can be pre-loaded -- just to make  
22 sure we're clear?

23 A. Generally speaking, in connection with search  
24 exclusivity, it's out-of-box exclusivity with respect to  
25 pre-loading.

1           Q. Now, I'd like to, within the confines of  
2 confidentiality, speak about some of the specific agreements  
3 that Google has with OEMs, and the first is Motorola.

4           The Motorola 2020 revenue share agreement largely follows  
5 the RSA 3.0 template, correct?

6           A. I would say that the Motorola deal from 2020 actually  
7 strays, because it is not a revenue share percentage as much as  
8 a fixed monthly payment that is then governed by the enrollment  
9 of devices in the deal.

10          Q. It includes two tiers of devices, though?

11          A. It includes a foundation tier and a premier tier, that  
12 is correct.

13          Q. And Motorola's -- it's called the mobile incentive  
14 agreement, or MIA?

15          A. Yes, I believe so.

16          Q. And Motorola's MIA includes provisions about  
17 alternative search services, right?

18          A. I believe so, yes. Can I see the exhibit with that  
19 contract, please?

20          Q. Well, I'm not asking about any specific provision.  
21 Just to be clear, I'm asking generally at this point. And if  
22 you don't remember, that's --

23          A. Well, I just want to be able to specifically look at  
24 the -- if I'm -- it's not general if we're looking at a  
25 specific contract, so that's why I would just like to make sure

1 I can see the contract.

2 Q. Sure. I want to make sure I'm giving you the right  
3 number, and that it is in your binder. If you go to UPX5399,  
4 which should be all the way in the back.

5 A. Mobile incentive agreement.

6 Q. And I can point you to --

7 A. Okay.

8 Q. And, again, it's --

9 A. I see it, thank you. I'm sorry for the delay.

10 Q. No, of course. Again, without reading the specific  
11 provision, basically an alternative search service is a --

12 **THE COURT:** Sorry, can I interrupt for a moment?

13 **MS. MURDOCK-PARK:** Of course.

14 **THE COURT:** In looking at this document, is this  
15 something -- and the contents of it, that you have with  
16 Motorola discussed the forum in which it ought to be discussed;  
17 in other words, it ought to be in a confidential session versus  
18 a public one?

19 **MS. MURDOCK-PARK:** The specific questions that I have, we  
20 requested Google's position and Motorola's position on the  
21 general contents. And I'm not going to ask about any specific  
22 terms. So what -- my understanding is what I'm about to ask is  
23 acceptable within the confines of what I'm asking, and I will  
24 request -- or just speak about specific provisions and  
25 specifics in the confidential session.

1           **THE COURT:** Okay, as long as there's a general  
2 understanding of how to proceed.

3           **MR. SCHMIDTLEIN:** I think that's right. And I think --  
4 actually, I think we both have agreed that nothing about this  
5 contract should go up on the screen --

6           **MS. MURDOCK-PARK:** Yes.

7           **MR. SCHMIDTLEIN:** -- in terms of the actual --

8           **MS. MURDOCK-PARK:** In terms of the public, yes.

9           **THE COURT:** Right, okay.

10 **BY MS. MURDOCK-PARK:**

11           **Q.** And so very broadly, Mr. Kolotouros, not specific to  
12 the Motorola agreement, an alternative search service is a  
13 competing search service, right?

14           **A.** It's a service which is similar to Google search,  
15 that's correct.

16           **Q.** Okay. And it's a service that returns results from  
17 being connected to the web?

18           **A.** General web search results when connected, that is  
19 correct.

20           **Q.** And under the 2020 Motorola mobile incentive  
21 agreement, it could not install such an alternative search  
22 service on foundation or premier tier devices, right?

23           **A.** At such time that the deal was signed, that is the way  
24 the language was written. And it was later found to be a  
25 drafting error and corrected.

1 Q. And by that you mean now only foundation -- I'm sorry,  
2 that Google waived the limitation on foundation tier devices  
3 prohibiting alternative search services?

4 A. I believe so, yes.

5 Q. And let's move to the 2020 Samsung RSA. You had a  
6 role in drafting the terms of the Samsung 2020 RSA, right?

7 A. Yes.

8 Q. And it took a while to negotiate?

9 A. I think the negotiation was measured in months, which  
10 compared to 2017 and '16 was actually more abridged compared to  
11 the prior experience.

12 Q. How long did it take in 2017 and 2016 to negotiate?

13 A. Up to maybe 18 months, plus or minus.

14 Q. So I'd like to look at one of the documents from the  
15 Samsung negotiations. If we could go to UPX643. This is a  
16 redacted document that is in evidence.

17 UPX643 is a June 25th, 2020 e-mail from Christopher Li to  
18 you, right?

19 A. Yes.

20 Q. And you said Mr. Li was one of your direct reports?

21 A. Yes.

22 Q. The subject of the call is -- I'm sorry, the subject  
23 is call between Patrick and Hiroshi. Hiroshi refers to Hiroshi  
24 Lockheimer, who is the senior vice president of platforms and  
25 ecosystems at Google?

1           A. That's correct.

2           Q. And Patrick refers to Patrick Chomet, Samsung's  
3 corporate executive vice president, products and experience?

4           A. That's correct.

5           Q. At the bottom of UPX643, the first page, your former  
6 supervisor was asking you to send some notes to Mr. Lockheimer  
7 about possible issues that Samsung might raise in contract  
8 negotiations?

9           A. Yes.

10          Q. I'd like to draw your attention to your response in  
11 the middle of page one. You wrote at the first bullet: "We  
12 suspect that they drove some of the complaints against us, both  
13 in Europe and Korea," right?

14          A. Yes.

15          Q. And by the complaints, you meant the complaints  
16 against Google to the EU and Korean antitrust authorities?

17          A. Yes.

18          Q. And you also wrote about halfway down: "Maybe we need  
19 to reconsider our model for MADA," right?

20          A. Yes.

21          Q. So the Samsung negotiations included discussion about  
22 both the RSA and the MADA, right?

23          A. We were not discussing the MADA. The context for this  
24 e-mail was we were at a stalemate, and we were not where we  
25 wanted to be in the overall context of the conversation and

1 negotiation, which is why I was questioning what the notes  
2 should be and include, and what do we even mention for the  
3 notes for Hiroshi.

4 Q. In June 2020, was Google negotiating MADA terms as  
5 well as RSA terms with Samsung?

6 A. I don't believe so, for the RSA had my complete  
7 attention at that point in time.

8 Q. Okay. There were multiple amendments executed to  
9 Samsung's MADA, right?

10 A. I believe added as extensions, that's correct.

11 Q. You forwarded your e-mail to Christopher Li who sent  
12 you some notes, right?

13 A. Yes.

14 Q. I'm going to put some of those notes on the screen now  
15 at pages four and five. There's a box on the left, and the box  
16 on the left indicates a point that Samsung might make in the  
17 negotiations; is that fair?

18 A. Yes.

19 Q. And the bullets on the right indicate Google's  
20 intended response?

21 A. Yes -- well, potential response if it's brought up,  
22 yes.

23 Q. So Samsung is questioning whether Google sees Samsung  
24 as a strategic partner, right?

25 A. Yes.



1 Q. And the second bullet of Google's proposed response  
2 says that Google views its Samsung partnership expansively and  
3 strategically, correct?

4 A. That is correct.

5 Q. And that bullet goes on to explain that Google's  
6 proposal allows Samsung and Google more and more to start  
7 acting as one unit to the market, right?

8 A. That is correct.

9 Q. So the relationship between Google and Samsung is  
10 extremely close, right?

11 A. I would argue, yes.

12 Q. And they want to act as one company in the  
13 marketplace?

14 A. I wouldn't say acting as one company. We do work  
15 closely together on many initiatives, including Wear OS. We  
16 wanted to support them via go-to-market activities to help them  
17 sell more successfully into the premium marketplace globally.

18 **COURT REPORTER:** I'm sorry, can you slow down, please.

19 **THE WITNESS:** My apologies. So I think that we want --  
20 this is referencing as one unit to the market via go-to-market  
21 activity, which was contemplated in the go-to-market deal that  
22 we did with Samsung later that year.

23 **BY MS. MURDOCK-PARK:**

24 Q. And you mentioned premier devices. Samsung sells a  
25 large proportion of premier Android devices, right?

1           **A.** A very large proportion of premium devices within the  
2 Android ecosystem flow through Samsung, that is correct.

3           **Q.** Thank you. Premium, I said premier. What are premium  
4 Android devices?

5           **A.** There's different categories between ultra premium and  
6 premium and mass premium. Generally, premium is 700 and above,  
7 ultra premium is a thousand and above, mass premium is 400 and  
8 above. So there's different categories, but premium is  
9 generally 400 and above, but we try to focus more on 700 and  
10 above these days.

11           **Q.** And so you're saying that with respect to Samsung,  
12 Google and Samsung were trying to work together to bring more  
13 premium devices to market, right?

14           **A.** We were trying to both help them -- we were trying to  
15 collaborate more closely with them to bring higher quality  
16 premium devices to market, a better multi-device experience  
17 including Wear OS to market. And then help them with their  
18 go-to-market channel and marketing activities, succeed in  
19 selling those devices into the market to compete more  
20 successfully with iPhone.

21           **Q.** We can go ahead and put the document aside. Google  
22 and Samsung did reach an agreement on revenue share, correct?

23           **A.** We did.

24           **Q.** One of the terms of the RSA -- and I'm not asking  
25 about the specific definition, relates to alternative search

1 service, right?

2 A. Yes.

3 Q. I'm going to show you UPX314, which has a relevance  
4 objection. And the document is public -- or, there's no  
5 redactions, but --

6 **THE COURT:** Okay. What's the relevance objection?

7 **MR. SCHMIDTLEIN:** This goes to our objection about issues  
8 relating to Branch Metrics, which is not a search engine and  
9 not part of the relevant market in this case.

10 **THE COURT:** Okay. I'll allow it, it's got some probative  
11 value. Ultimately the question of whether it's in or out of  
12 the market -- and I guess maybe they're not suggesting it is,  
13 but it has some probative value here. And it's not more  
14 prejudicial than probative, so I'll allow it. Go ahead.

15 **BY MS. MURDOCK-PARK:**

16 Q. Thank you, Your Honor. I hope to show you its  
17 relevance. UPX314 is an e-mail exchange between you and  
18 Christopher Li dated June 10th, 2020, correct?

19 A. Yes.

20 Q. And let's go to the bottom of page one where you  
21 receive an e-mail from Anna Kartasheva, right?

22 A. Yes.

23 Q. Ms. Kartasheva is part of the Android business  
24 development team?

25 A. I think she was a part of the strategy team as opposed

1 to the partnership, sort of business development team.

2 Q. So is she one of the individuals who provides guidance  
3 on structuring RSAs?

4 A. Guidance on the overall Android ecosystem, in fact.  
5 She provides a lot of guidance on a lot of topics, including  
6 RSAs.

7 Q. And in the second paragraph of Ms. Kartasheva's  
8 e-mail, she says: "It was brought to Android BD team attention  
9 recently that Samsung partnered with Branch.io for building out  
10 Samsung Finder."

11 Branch.io refers to Branch Metrics?

12 A. I believe so, yes.

13 Q. And Samsung Finder is an on-device search, right?

14 A. Samsung Finder is intended to be an on-device search,  
15 I believe so, yes.

16 Q. In the third paragraph, Ms. Kartasheva writes that  
17 Google had permitted Samsung Finder previously, right?

18 A. I see that, yes.

19 Q. And she said that Samsung pointed to gaps in what  
20 Google search was able to do with this type of search. Was she  
21 referring to on-device search?

22 A. I believe so, yes.

23 **THE COURT:** Can you tell me what you mean by on-device  
24 search? Does that include --

25 **THE WITNESS:** It would mean --

1           **THE COURT:** -- to search on the internet?

2           **THE WITNESS:** -- if not connected. It's actually the  
3 opposite, if you're not connected, like what's on the device.  
4 So what apps are on the device, what settings, if you're  
5 looking for settings, those kinds of things.

6           **THE COURT:** So it's a search of what's on the phone?

7           **THE WITNESS:** What's on the phone, including the corpus of  
8 content that might be on the phone itself without being  
9 connected.

10          **THE COURT:** Gotcha, okay. Thank you for the explanation.

11 **BY MS. MURDOCK-PARK:**

12           **Q.** Ms. Kartasheva continues to write: "Now with Branch  
13 partnership, Samsung Finder has grown into search experience  
14 across multiple apps through deep linking."

15           Deep linking means searching through multiple apps at once  
16 instead of just one?

17           **A.** I think across multiple apps implies several apps on  
18 the phone, and deep linking applies to what is available within  
19 those specific applications.

20           **Q.** You forwarded Ms. Kartasheva's e-mail to Christopher  
21 Li, right?

22           **A.** I believe he was already on the thread, but I then,  
23 yes, just asked him a question about the e-mail.

24           **Q.** If we could go to Mr. Kolotouros' e-mail. You write:  
25 "How bad is this, i.e., how ubiquitous on Samsung devices? And

1 do we think they created an alternate access point which we'll  
2 now need to weigh in on with an opinion?"

3 You were asking whether Samsung had created an alternative  
4 search access point with Branch on S Finder, right?

5 A. Yes.

6 Q. And --

7 A. Well, I was wondering if S Finder had become an  
8 alternative -- had become a search access point, which might be  
9 covered as part of a revenue share deal potentially.

10 Q. And then by extension, Branch Metrics powered  
11 S Finder. S Finder was an alternative search access point, if  
12 I understand you right?

13 A. We generally don't mix the notion of alternative  
14 search access point. They're either -- it's either a search  
15 access point or it's not. I don't think we had treated  
16 S Finder as a search access point, because it was specific to  
17 being on-device search. And then the question I'm posing is --  
18 it's a little bit confusing, because I say alternate access  
19 point. Had they created a new access point is a more accurate  
20 way of representing what I was asking Chris.

21 Q. You were asking whether S Finder, powered by Branch  
22 Metric, was a search access point; would that be fair?

23 A. It didn't necessarily need to be powered by Branch, I  
24 was just wondering if S Finder was evolving into something more  
25 akin to an access point that we typically look at versus just

1 an on-device search utility.

2 Q. And Mr. Li responded to your e-mail, correct?

3 A. Yes.

4 Q. And he said: "We do cover it in our new term sheet  
5 (the piece around connected results being a no-go now)", right?

6 A. Yes.

7 Q. And Mr. Li is referring to alternative search  
8 services, right?

9 A. Yes, although I don't know if the connected results  
10 language found its way into the final contract.

11 Q. And RSAs, including Samsung's RSA, prohibit  
12 alternative search services, right?

13 A. Revenue share agreements -- typically as part of the  
14 pre-load, if they're elected to be in that tier, would, yes, as  
15 part of the out-of-box experience. Not a lot of alternate  
16 search services or alternative search services.

17 Q. We can go ahead and put that document aside.

18 **THE COURT:** Sorry, before you do that, can you just help  
19 me understand what this technology purports to do. I mean,  
20 there's an example toward the bottom of the first page that  
21 talks about searching for pizza, for example. And it will show  
22 you Yelp recommendations for restaurants, or if you look for  
23 shoes, it will show you recommendations from Amazon or eBay. I  
24 understood you to say that this technology searches what's on  
25 the device.

1           So how, if you're not connected to the internet, do you  
2 get these kind of search results with something like Branch  
3 Metrics from these apps?

4           **THE WITNESS:** So I didn't know what Branch was doing then,  
5 and I don't know what they're doing now either. So I just  
6 don't know how the implementation is manifested on Samsung  
7 devices. Searching within Yelp, the S Finder seems like it's  
8 an okay implementation. So I was trying to assess with Chris  
9 what's going on, how many devices is it on, and I just didn't  
10 know what the experience looked like.

11           **THE COURT:** But when you say -- maybe I'm just not  
12 following it. When you say on-device, in other words, it's not  
13 that it's not disconnected from the internet, it's just  
14 searching the applications that are actually on the device, but  
15 not applications that are not on the device?

16           **THE WITNESS:** It's searching applications that are on the  
17 device I believe, and then providing links to -- deep links  
18 into that application via being connected. So it's not  
19 specific to connected or not connected anymore. Now it's  
20 basically something which takes advantage of what its knowledge  
21 of the apps on the phone are, and then provides results in  
22 connection with those apps. I've never used it myself, so I  
23 don't want to speak authoritatively to the exact experience.

24           **THE COURT:** Okay, thanks. I'm sure we'll hear more about  
25 it later, but go ahead.



1           **MS. MURDOCK-PARK:** Yes, Your Honor, we'll have Alex Austin  
2 here, who's Branch's former CEO, and he can explain a little  
3 bit more the deep linking.

4           **THE COURT:** Okay.

5 **BY MS. MURDOCK-PARK:**

6           **Q.** Mr. Kolotouros, I'd like to change focus a bit and  
7 talk about RSA strikes --

8           **THE COURT:** Counsel, I just want to -- it's about 10 of  
9 5:00, so just in terms of your questioning.

10          **MS. MURDOCK-PARK:** I can finish these questions hopefully  
11 in just a few minutes. And then, unfortunately, my most  
12 earnest desire was not quite met, so I'm going to have possibly  
13 20 more minutes in open session in the morning, and then --

14          **THE COURT:** Why don't we get through what we can get  
15 through, and then at the end of the day we can discuss how best  
16 to proceed tomorrow.

17          **MS. MURDOCK-PARK:** Okay. There's a stop in -- we'll  
18 proceed however Your Honor would like.

19          **THE COURT:** Okay.

20 **BY MS. MURDOCK-PARK:**

21          **Q.** Let's talk about RSA strikes. You've heard the term  
22 strike, Mr. Kolotouros?

23          **A.** I have.

24          **Q.** A strike refers to Samsung failing to comply with a  
25 particular term in the RSA, correct?

1           **A.** Yes, I think that's a safe way of defining it.

2           **Q.** I'd like to -- well, strike that.

3           Samsung has received strikes before, right?

4           **A.** Not in the current deal from 2020, but in prior deals  
5 they have, yes.

6           **Q.** I'd like to show UPX1011, which is a redacted  
7 document. And there is an objection to completeness on this  
8 document.

9           **THE COURT:** I'm sorry, what's the number again?

10          **MS. MURDOCK-PARK:** 1011. And 1011 is an e-mail and a  
11 slide deck. My understanding is that the objection is to the  
12 fact that the deck is a draft, but I may be mistaken.

13          **MR. SCHMIDTLEIN:** We'll withdraw the objection.

14          **THE COURT:** Okay, thank you. So 1011 will be admitted  
15 then.

16                   (Exhibit UPX1011 admitted into evidence)

17          **BY MS. MURDOCK-PARK:**

18           **Q.** The first page of UPX10111 is an e-mail from  
19 Christopher Li to you, correct?

20           **A.** I think it's a comment that I was plussed into from  
21 the document itself which then triggered an e-mail being sent  
22 to me, that is correct.

23           **Q.** So it's showing that you and Mr. Li were  
24 collaboratively working on a document?

25           **A.** I think Chris was working on the deck and asking for

1 feedback, that's correct.

2 Q. And the deck you referred to was the slide deck about  
3 Samsung's commercial status in July 2019?

4 A. Yes.

5 Q. If we could go to page two of UPX1011. That shows the  
6 slide deck you were collaborating on with Mr. Li?

7 A. Yes.

8 Q. We can go now to page 18, which is titled Search  
9 Revenue Share Strike Status. There's part -- the bottom part  
10 of the slide is redacted.

11 A. Okay.

12 Q. But the first bullet notes: "Google identified three  
13 strikes and sent notice to Samsung in late 2017 and early  
14 2018," right?

15 A. Yes.

16 Q. Then it says: "Strike one and two sent December 2017,  
17 breach of alternative services on new tabs," right?

18 A. Yes.

19 Q. "Strike three sent in February 2018, breach of  
20 dropdown default not being set correctly," right?

21 A. That is correct.

22 Q. And the alternative services listed on strikes one and  
23 two, that includes alternative search services?

24 A. I don't recall the precise nature of strikes one and  
25 two.

1           Q. But do -- as a general matter, do alternative services  
2 include alternative search services?

3           A. I'm sorry, can you ask the question again?

4           Q. Sure. As a general matter, do alternative services  
5 include alternative search services?

6           A. Do alternative services -- there are alternative --  
7 there are alternate search services. I don't know what  
8 alternative services here is referencing unless they're  
9 referencing alternate -- or alternative search services.

10          Q. We can go ahead and put UPX1011 aside. I'd like to  
11 talk about the third strike that was referenced that we were  
12 just looking at. If we could pull up UPX853, which is in  
13 evidence.

14           And UPX853 is a January 17th, 2018 e-mail from Christopher  
15 Li to you, right?

16          A. Okay.

17          Q. The subject is action required, Samsung lettered  
18 upgrade and compliance?

19          A. This is 653?

20          Q. 853.

21          A. Sorry.

22          Q. I may have misspoken.

23          A. Everything's a blur. Okay.

24          Q. So the subject of the e-mail is action required,  
25 Samsung lettered upgrade and compliance. Do you see that?

1           **A.** Yes.

2           **Q.** So I'd like to draw your attention to your e-mail  
3 response on January 16th, 2018 where you say: "We also need to  
4 make sure that by January 31st, they OTA an update to  
5 SBrowser."

6           And by OTA, you mean over-the-air?

7           **A.** Yes.

8           **Q.** So: "They OTA an update to SBrowser so that it does  
9 not make the dropdown search default selection permanent. This  
10 is articulated within the center column of Exhibit F."

11           You were referring to Exhibit F from the Samsung RSA in  
12 effect at the time?

13           **A.** Yes.

14           **Q.** And the dropdown search default selection, can you  
15 explain what that is for the Court?

16           **A.** Yes. It's actually a misstatement in the e-mail,  
17 because the dropdown search election allowed for the user, upon  
18 typing a query into the address bar, to identify alternate  
19 search services they could elect to perform the search itself  
20 for the keyword that was input. But in connection with that  
21 particular implementation, there was no notice to user of the  
22 default being changed to the extent they actually just asked  
23 for a different search provider for that particular query.

24           **Q.** Okay. But generally speaking, so the dropdown menu,  
25 if you're in the address bar, you click on something and it

1 drops down different options, right?

2 A. Yes.

3 Q. And so you were stating that you needed to make sure  
4 the SBrowser was updated so that default search selection was  
5 not permanent?

6 A. It wasn't a default selection as much as a search  
7 selection for that particular query. Because the default  
8 changing for search status or search default for SBrowser was  
9 in just the regular settings menu. There was no notice to a  
10 user that, by selecting an alternative search provider, the  
11 default was being changed. And that was the issue at hand with  
12 that particular provision in the agreement, and I treated it as  
13 an implementation glitch.

14 Q. Okay. So Samsung had set up a device so when the user  
15 changed the search provider in the SBrowser dropdown menu, the  
16 user's search provider selection became the default?

17 A. Yes.

18 Q. Okay. And you objected to Samsung allowing the user's  
19 dropdown menu selection to change the default search browser?

20 A. We were sensitive to the user's selection of an  
21 alternate search service changing the whole default for the  
22 browser search setting in the browser without notifying the  
23 user of such default change.

24 Q. So Google sent a notification of the breach to  
25 Samsung?

1           **A.** I believe we did send a strike, that is correct.

2           **Q.** And Samsung ended up complying with Google's  
3 notification?

4           **A.** I believe so, yes.

5           **Q.** And we'll discuss that notification in the  
6 confidential session. You can put UPX853 aside.

7           **THE COURT:** Counsel, why don't we put up -- why don't we  
8 pause for the day now. But I'd just like to follow up on this,  
9 because I'm not sure I have this fully. SBrowser is what it  
10 sounds like, it's an alternative browser to Chrome?

11           **THE WITNESS:** It's Samsung's first-party browser, that is  
12 correct.

13           **THE COURT:** Right, okay. So that browser was designed in  
14 a way that it has a search bar in the same way that Chrome has  
15 a search bar?

16           **THE WITNESS:** It's a multi-bar. It's an address bar that  
17 fulfills -- you type in addresses or conduct queries, correct.

18           **THE COURT:** And so with the Samsung browser, a user could  
19 press that bar, and there would be a dropdown menu for  
20 different search engines; is that right?

21           **THE WITNESS:** There's a toggle on the right that indicates  
22 there's a dropdown menu available. And then if a user toggled  
23 that menu, they could scroll down the options available to  
24 select an alternate search or another search engine for the  
25 particular query in the address bar.

1           **THE COURT:** And so what was happening, in your estimation,  
2 was that when a user did that, instead of just using an  
3 alternative search engine for that particular query, it was  
4 actually defaulting the search engine on the browser?

5           **THE WITNESS:** It was resetting the default for the actual  
6 bar itself, yes.

7           **THE COURT:** Gotcha, okay.

8           **MS. MURDOCK-PARK:** Your Honor, I am informed that  
9 Mr. Pichai became the CEO on August 10th, 2015. That came up  
10 from one of our earlier questions.

11           **THE COURT:** Okay. So he was not CEO at the time we looked  
12 at that particular e-mail?

13           **MS. MURDOCK-PARK:** Correct.

14           **THE COURT:** Gotcha.

15           **THE WITNESS:** That's the September 2014 e-mail-ish?

16           **MS. MURDOCK-PARK:** Yes.

17           **THE WITNESS:** Apologies for not knowing that. I'm sure  
18 I'll be hearing about it at some point.

19           **THE COURT:** Well, thank you. So, Mr. Kolotouros, we'll  
20 begin tomorrow at 9:30, so if you would just be here before  
21 then. And I'll ask you, please, not to discuss your testimony  
22 with anyone overnight.

23           **THE WITNESS:** Of course.

24           **THE COURT:** Thank you, sir.

25           **THE WITNESS:** Thank you, Your Honor.



1           **THE COURT:** Why don't we have Mr. Kolotouros leave the  
2 courtroom, and then let's just talk logistics for tomorrow.

3           **THE WITNESS:** I assume I leave this here?

4           **THE COURT:** Yes, please. Thank you.

5           (Witness not present)

6           **THE COURT:** So just logistically with Mr. Kolotouros, what  
7 is your current thinking about public versus closed, and how  
8 much time you're thinking about?

9           **MS. MURDOCK-PARK:** I believe that the first 20 or so  
10 minutes are open, and we can get through everything there. And  
11 then there's another 20 to 30 minutes in a closed session that  
12 will discuss some contractual provisions that we can't discuss  
13 in open court.

14           **THE COURT:** Okay. Are Colorado plaintiffs going to have  
15 any questions for Mr. Kolotouros?

16           **MR. SALLET:** Not at this point, Your Honor. I don't  
17 anticipate any.

18           **THE COURT:** Well, let me ask you this: Do you need the  
19 public session to set up the 20 to 30 minutes you want to do in  
20 closed session?

21           **MS. MURDOCK-PARK:** No, Your Honor, we don't, provided that  
22 we can come back and ask more questions in public session.

23           **THE COURT:** What I'm trying to figure out is sort of one  
24 less movement, and so whether we can just start the morning in  
25 a closed session with your questions, and then we'll follow

1 with Google's questions in a closed session. And then once  
2 that's done, obviously if you have redirect on closed matters,  
3 you'll get that, too. And then we can reopen and then begin  
4 again with what you need to complete publicly, and then Google  
5 can complete its public examination.

6 **MS. MURDOCK-PARK:** We have no objection to that, Your  
7 Honor.

8 **THE COURT:** Does that make sense?

9 **MR. SCHMIDTLEIN:** Yeah, that makes sense to us.

10 **THE COURT:** And that way we'll only have to clear the  
11 courtroom one time -- or, really we'll be able to invite people  
12 in, I should say, which will be a little easier than clearing  
13 the courtroom. So let's proceed in that fashion. We'll begin  
14 at 9:30 tomorrow with a closed session, which will be  
15 approximately 45 minutes or so. And then once that's  
16 concluded, we'll reopen the courtroom and then proceed publicly  
17 until our first morning break.

18 And then in terms of Mr. Kolotouros, how long are we -- do  
19 we think he'll be done tomorrow?

20 **MR. SCHMIDTLEIN:** Yes, Your Honor.

21 **THE COURT:** And then so we'll be ready with another  
22 witness or two tomorrow; is that right?

23 **MS. BELLSHAW:** Yes, Your Honor. We actually wanted to  
24 clarify with the Court what time you'd like to end tomorrow's  
25 session?

1           **THE COURT:** Tomorrow's Thursday, right -- tomorrow's  
2 Friday.

3           **MS. BELLSHAW:** Tomorrow's Friday.

4           **THE COURT:** The plan would be to go until approximately  
5 12:30, because I have matters starting at 1:30 in the  
6 afternoon.

7           **MS. BELLSHAW:** Thank you, Your Honor. So if we'll be  
8 going until 12:30, then we anticipate finishing the testimony  
9 of Mr. Kolotouros, and then calling Mr. Higgins from Verizon.  
10 We expect that at least some of his testimony would take place  
11 in a confidential session. And it's possible that we could get  
12 to Mr. Yoo tomorrow, and then it's possible that some of that  
13 testimony could also take place in confidential session,  
14 although I'm not sure how much we would get through.

15           **THE COURT:** And Mr. Higgins is, you said, from Verizon?

16           **MS. BELLSHAW:** Yes, Your Honor. And then Mr. Yoo is a  
17 former employee of Google.

18           **THE COURT:** Well, we'll see where we are, and we'll  
19 proceed accordingly. I forgot tomorrow is a half day, so we'll  
20 go from -- I mean, we've got matters at 9:00, right?

21           **DEPUTY CLERK:** Yes.

22           **THE COURT:** So we can't start any earlier. So we'll just  
23 start at 9:30 and go until 12:30 tomorrow.

24           **MS. BELLSHAW:** Thank you, Your Honor. And we just had one  
25 additional housekeeping matter. I just wanted to clarify a

1 statement that Mr. Schmidtlein made earlier, that DOJ's not  
2 agreed with Google or any third party that the courtroom should  
3 be closed. But we are not opposing the request, given the  
4 confidentiality assertions.

5 **THE COURT:** Okay, gotcha.

6 **MS. BELLSHAW:** Thank you.

7 **THE COURT:** Anything else? Okay, we'll see everybody in  
8 the morning. Thank you.

9 (Proceedings adjourned at 5:04 p.m.)

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C E R T I F I C A T E

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I, **Jeff M. Hook, Official Court Reporter,**  
certify that the foregoing is a true and correct transcript of  
the record of proceedings in the above-entitled matter.

September 15, 2023

**DATE**



**Jeff M. Hook**

<p>BY MR. HAFENBRACK: [1] 767/8 BY MR. SCHMIDTLEIN: [10] 735/5 737/9 742/6 745/23 746/14 748/6 758/16 761/2 762/1 764/24 BY MS. MURDOCK-PARK: [24] 771/14 774/25 780/18 787/22 788/8 789/21 798/15 801/22 809/6 810/16 812/25 815/7 818/17 822/19 828/4 833/9 834/18 840/9 844/22 846/14 848/10 852/4 852/19 853/16 COURT REPORTER: [2] 781/17 844/17 DEPUTY CLERK: [3] 771/6 771/10 862/20 MR. GOWER: [6] 769/24 770/8 770/16 770/18 770/20 770/23 MR. HAFENBRACK: [5] 746/9 760/25 764/20 769/6 769/17 MR. SALLET: [1] 860/15 MR. SCHMIDTLEIN: [25] 745/21 746/4 746/11 748/2 758/14 767/5 769/5 769/8 769/10 770/10 774/24 798/12 808/20 812/11 813/25 814/3 814/14 814/22 833/18 840/2 840/6 846/6 853/12 861/8 861/19 MS. BELLSHAW: [6] 861/22 862/2 862/6 862/15 862/23 863/5 MS. MURDOCK-PARK: [33] 770/24 771/24 772/2 772/4 772/9 788/6 797/23 808/25 810/12 812/21 814/2 814/6 814/9 814/19 814/25 815/4 833/16 834/4 834/9 839/12 839/18 840/5 840/7 851/25 852/9 852/16 853/9 859/7 859/12 859/15 860/8 860/20 861/5 THE COURT: [123] 735/1 737/8 739/22 741/11 742/5 745/22 746/7 746/12 747/24 748/4 758/11 758/15 761/25 764/22 767/6 769/9 769/12 769/19</p>	<p>769/22 770/5 770/11 770/13 770/17 770/19 770/22 771/5 771/11 771/21 772/1 772/3 772/7 779/24 780/8 780/13 780/16 786/17 786/21 787/5 787/8 787/15 787/18 787/21 788/5 788/7 789/6 789/12 789/20 797/21 797/24 798/11 798/14 801/8 801/21 808/18 808/24 809/3 810/13 812/17 812/24 814/4 814/7 814/11 814/18 814/20 815/2 815/6 818/16 822/12 822/18 827/12 828/1 828/3 832/11 832/16 833/4 833/8 834/2 834/8 834/11 839/11 839/13 839/25 840/8 846/5 846/9 847/22 847/25 848/5 848/9 850/17 851/10 851/23 852/3 852/7 852/13 852/18 853/8 853/13 858/6 858/12 858/17 858/25 859/6 859/10 859/13 859/18 859/23 859/25 860/3 860/5 860/13 860/17 860/22 861/7 861/9 861/20 861/25 862/3 862/14 862/17 862/21 863/4 863/6 THE WITNESS: [42] 740/2 741/13 769/21 769/23 771/9 771/12 780/3 780/11 780/14 780/17 781/18 786/20 786/23 787/6 787/14 787/17 789/9 789/16 798/1 801/17 814/24 822/14 827/15 828/2 832/15 832/17 833/6 844/18 847/24 848/1 848/6 851/3 851/15 858/10 858/15 858/20 859/4 859/14 859/16 859/22 859/24 860/2</p>	<p>853/10 853/14 10th [3] 799/20 846/18 859/9 11 [27] 757/10 778/18 778/18 778/20 781/1 781/1 781/3 781/5 781/6 781/7 781/14 785/1 785/2 786/11 786/12 787/2 787/3 788/19 790/8 790/14 796/9 797/14 798/17 804/7 804/10 804/11 834/22 1100 [1] 732/14 1133 [1] 732/24 11:53 [1] 782/17 129 [4] 788/6 788/7 788/8 788/10 12:30 [2] 862/5 862/8 12:30 tomorrow [1] 862/23 12th [1] 733/3 1300 [1] 732/21 14 [1] 732/5 16th [1] 856/3 17th [1] 855/14 18 [5] 783/23 784/21 785/20 841/13 854/8 19 [3] 758/11 758/18 763/7 1:20-cv-3010 [1] 732/4 1:30 in [1] 862/5 1:36 [1] 732/6</p>	<p>805/13 806/21 809/9 838/4 838/6 840/20 841/5 841/6 841/17 843/4 846/18 853/4 2021 [2] 768/9 820/4 2023 [1] 732/5 2200 [2] 732/24 732/24 23rd [1] 813/14 25 percent [1] 836/5 25th [1] 841/17 28th [1] 806/21 29th [2] 835/3 835/5 2:59 p.m [1] 787/20</p>	<p>8:16 p.m [1] 809/9 <b>9</b> 900,000,000 [1] 789/3 9:00 [1] 862/20 9:30 [1] 859/20 9:30 and [1] 862/23 9:30 tomorrow [1] 861/14 9th [1] 809/9 <b>A</b> a bit [1] 852/6 a.k.a [1] 784/23 a.m [1] 782/17 ability [4] 756/5 756/16 766/23 812/4 able [8] 735/17 739/9 757/25 762/17 764/1 838/23 847/20 861/11 above [8] 783/5 785/24 845/6 845/7 845/8 845/9 845/10 864/5 above-entitled [1] 864/5 abridged [1] 841/10 Absolutely [2] 762/19 833/7 acceptable [1] 839/23 accepted [1] 804/5 access [40] 738/17 740/12 779/16 780/2 780/7 786/24 791/6 794/24 795/1 795/3 795/11 795/12 795/15 796/4 796/7 796/11 802/8 810/6 810/9 810/9 816/12 817/24 818/10 820/13 828/19 829/5 830/18 837/10 837/16 849/1 849/4 849/8 849/11 849/14 849/15 849/16 849/18 849/19 849/22 849/25 accessed [1] 832/19 accessing [1] 791/21 accordingly [1] 862/19 account [1] 741/5 accumulated [1] 819/3 accurate [4] 804/6 804/18 829/23 849/19 acknowledged [1] 755/2 acronym [2] 784/11 835/24 across [7] 742/16 757/3 781/24 811/23 812/9 848/14 848/17 act [1] 844/12 acting [2] 844/7 844/14 action [5] 732/3 763/11 766/22 855/17 855/24 actions [2] 765/6 799/4 activated [4] 788/17 789/2 819/6 819/10 activation [3] 789/12 789/13 789/15</p>
		<p><b>2</b> 2.0 [5] 824/22 825/7 826/18 826/20 826/24 2.0s [1] 826/23 2.3 [2] 789/16 789/17 2.3 billion [3] 788/14 788/16 789/24 2.9 [2] 800/1 800/16 20 [8] 765/3 766/17 772/19 772/22 852/13 860/9 860/11 860/19 20001 [2] 732/18 733/25 20005 [2] 732/14 733/3 2014 [10] 773/2 773/16 775/24 791/22 791/24 821/25 822/2 822/10 822/14 859/15 2015 [3] 835/3 835/5 859/9 2016 [7] 813/3 813/10 813/14 824/18 824/18 834/22 841/12 2017 [7] 761/14 824/13 824/16 841/10 841/12 854/13 854/16 2018 [8] 793/2 793/10 799/16 799/19 854/14 854/19 855/14 856/3 2019 [5] 775/22 778/12 824/24 826/4 854/3 2020 [13] 799/20</p>	<p><b>3</b> 3.0 [8] 805/1 805/2 825/3 825/7 825/9 825/12 827/1 838/5 3.3 [6] 760/22 760/23 761/23 762/3 762/7 762/19 30 [2] 860/11 860/19 30 percent [1] 836/4 3010 [1] 732/4 31st [1] 856/4 333 [1] 733/24 3:00 [1] 787/11 3:15 [1] 787/12 3:17 p.m [1] 787/21</p>	<p><b>4</b> 4.4 [5] 793/12 793/16 793/18 794/11 800/7 4.41 [1] 800/3 4.43 [1] 794/21 400 [2] 845/7 845/9 42 [2] 767/14 767/15 45 [1] 861/15 450 [1] 732/18 4th [1] 821/25</p>
			<p><b>5</b> 5511 [1] 761/15 58 [1] 754/18 5:00 [1] 852/9 5:04 p.m [1] 863/9</p>	
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			<p><b>7</b> 700 [2] 845/6 845/9 703 [1] 769/8 725 [1] 733/3 735 [1] 734/4 746 [1] 734/16 767 [1] 734/5 770 [1] 734/17 771 [1] 734/8 7th [1] 732/21</p>	
			<p><b>8</b> 80203 [1] 732/22 810 [1] 734/18 826 [1] 785/20 834 [1] 734/19 853 [2] 734/20 855/20</p>	

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