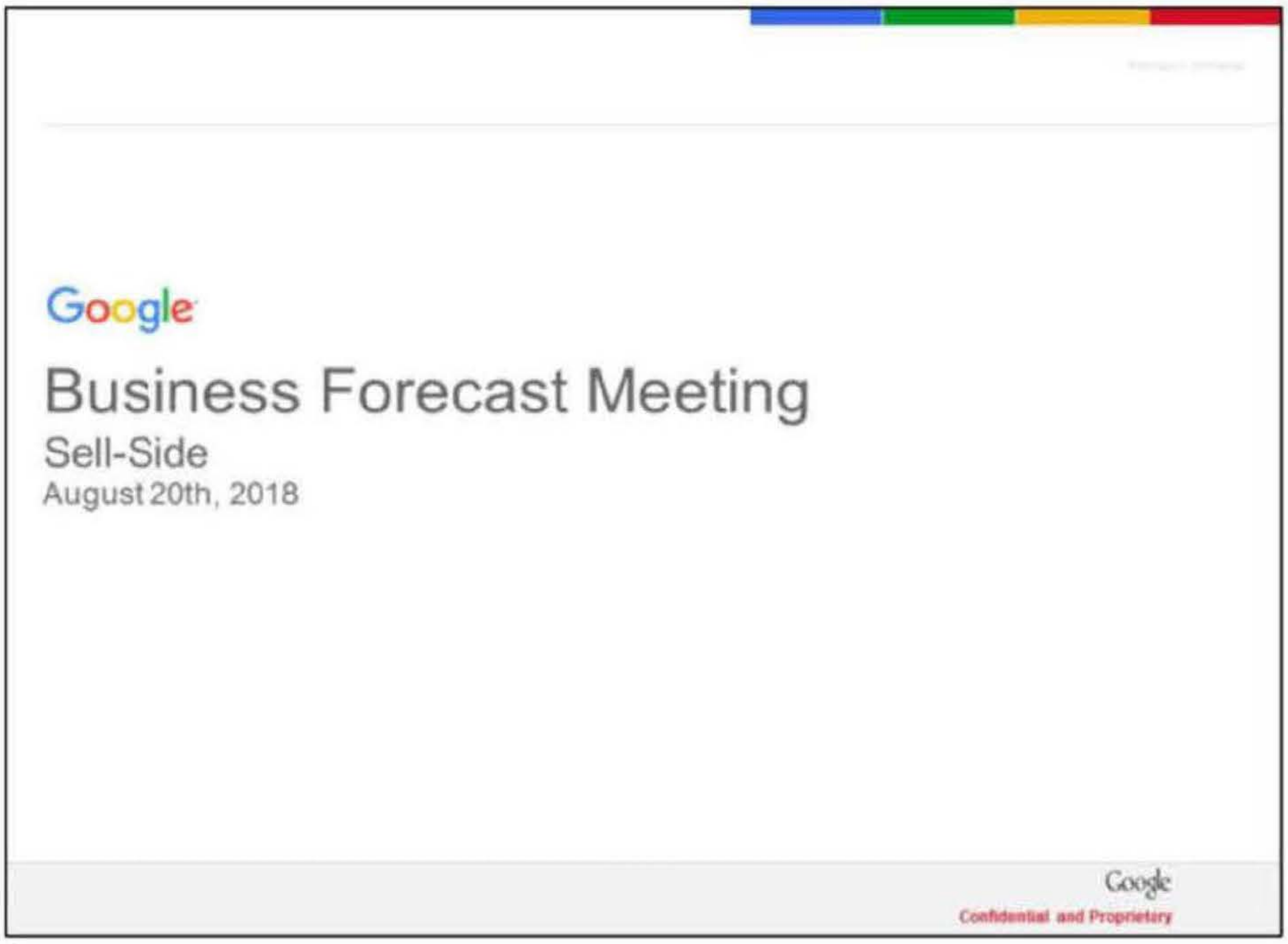


Narrative
BFM one sheeter

PTX0767
1:23-cv-00108

Global Product Forecast

To be updated by Sales Finance (template)

amounts shown in USD millions	Revenue	Q4 2017 Y/Y Growth		Performance		W/W Outlook Change	
	EOQ $	EOQ %	$	% vs. Target	$ vs. Target	%	$
Search							
CT Google.com							
Mobile Google.com							
AFS							
Display							
Network Display							
non-Google Display							
O&O Display							
Video							
O&O Video							
Network Video							
non-Google Video							
Total Quota-Bearing Ads							
Total YouTube							
Total Programmatic							
Total App Promo							
Total Sell-Side							

*Total Programmatic Media includes AdX Buyers, DBM, DBM Video on YT, and DBM non-YT Video
*Total YouTube includes DBM Video on YouTube
*App Promo forecast sourced from Sales Finance

Sell side Revenue

Google
Confidential and Proprietary

Region-Channel Performance

To be updated by Sales Finance (template)

	LCS+AUX				GMS				TOTAL			
Region vs. Channel	*% Target*	*$ vs Target*	*w/w*	*QTD YoY*	*% Target*	*$ vs Target*	*w/w*	*QTD YoY*	*% Target*	*$ vs Target*	*w/w*	*QTD YoY*
Americas												
EMEA												
APAC												
TOTAL												

Notes: Only captures quota-bearing revenues. Marked green if % Target above 102% and red if below 98%. All metrics (except QTD yoy) are based on current quarter's EoQ revenue outlook.

Google
Confidential and Proprietary

Agenda

Sell-Side Revenue Review	SF	10 min
Product Adoption Metrics	Chris	10 min
Explanation of the new metrics	Chris	15 min
Deep Dive: Programmatic Guaranteed	Chris	25 min
Appendix		

Sell-Side Growth & Adoption Metrics

Sell-Side revenue by inventory type

Apr 24 - Jul 22	Network Web Rev	Network Web Rev YoY	Network Web MQ YoY	Network App Rev	Network App Rev YoY	Network App Imp YoY	Network Instream Video Rev	Network Instream Video Rev YoY	Network Instream Video MQ YoY	Total Display Rev	Total Display Rev YoY	Total Display MQ YoY	AFS + AFD Rev	AFS + AFD Rev YoY	AFS + AFD MQ YoY	Total Sell Side Revenue Rev	Total Sell Side Revenue Rev YoY	Total Sell Side Revenue MQ YoY
LPS - Americas	$378	12%	9%	$89	5%	-17%	$47	58%	51%	$513	14%	3%	$451	-17%	-22%	$964	-3%	-3%
OPG - Americas	$624	6%	-3%	$203	40%	-6%	$29	8%	-20%	$857	13%	-3%	$20	-21%	3%	$877	12%	-7%
Americas	***$1,002***	***9%***	1%	***$291***	***27%***	-10%	***$76***	***34%***	11%	***$1,369***	***13%***	-2%	***$471***	***-17%***	-21%	***$1,841***	***3%***	-3%
LPS - EMEA	$252	17%	3%	$32	52%	6%	$26	54%	34%	$309	22%	4%	$190	-11%	26%	$499	7%	6%
OPG - EMEA	$527	9%	-3%	$315	54%	31%	$22	68%	-2%	$864	23%	6%	$41	1%	16%	$905	22%	6%
EMEA	***$779***	***11%***	-2%	***$346***	***54%***	28%	***$48***	***60%***	11%	***$1,173***	***23%***	5%	***$230***	***-9%***	24%	***$1,404***	***16%***	6%
LPS - APAC	$87	-3%	-15%	$187	95%	28%	$6	33%	93%	$279	48%	10%	$29	33%	-6%	$308	46%	10%
OPG - APAC	$331	8%	-8%	$546	71%	32%	$2	-42%	-30%	$878	40%	6%	$9	-34%	-10%	$887	38%	6%
APAC	***$418***	***5%***	-9%	***$733***	***77%***	34%	***$8***	***4%***	29%	***$1,158***	***41%***	7%	***$38***	***7%***	-8%	***$1,195***	***40%***	7%
LPS	***$716***	***12%***	0%	***$307***	***53%***	18%	***$78***	***55%***	49%	**$1,101**	***23%***	6%	***$669***	***-14%***	-10%	***$1,770***	***6%***	4%
OPG	***$1,482***	***7%***	-5%	***$1,063***	***59%***	25%	***$53***	***23%***	-14%	**$2,599**	***24%***	3%	***$70***	***-12%***	9%	***$2,669***	***23%***	4%
Total	**$2,199**	**9%**	-3%	**$1,370**	**58%**	23%	**$132**	**40%**	13%	**$3,700**	**24%**	4%	**$739**	**-14%**	-8%	**$4,440**	**16%**	4%

1 Web in transition from OT (-3% Y/Y, 52% of rev) to mobile (+26% Y/Y, 48% of rev)

2 Apps main growth driver. APAC fastest growing and +50% of overall Apps revenue and +60% of growth

3 In stream video still small, but growing, +50% of growth driven by Programmatic Guaranteed

4 AFS is highly concentrated (top 5 partners ~58% of revenue). Only area with negative Y/Y growth

Total Video = $508M (165% Y/Y) and it has 3 components: 1) $32M in Web outstream, 264% y/y, $4.4 CPM; 2) $344M in Apps outstream, 285% y/y, $2.9 CPM; 3) $132M instream, 40% y/y, $10.6 CPM

[illegible]

Google

Confidential and Proprietary

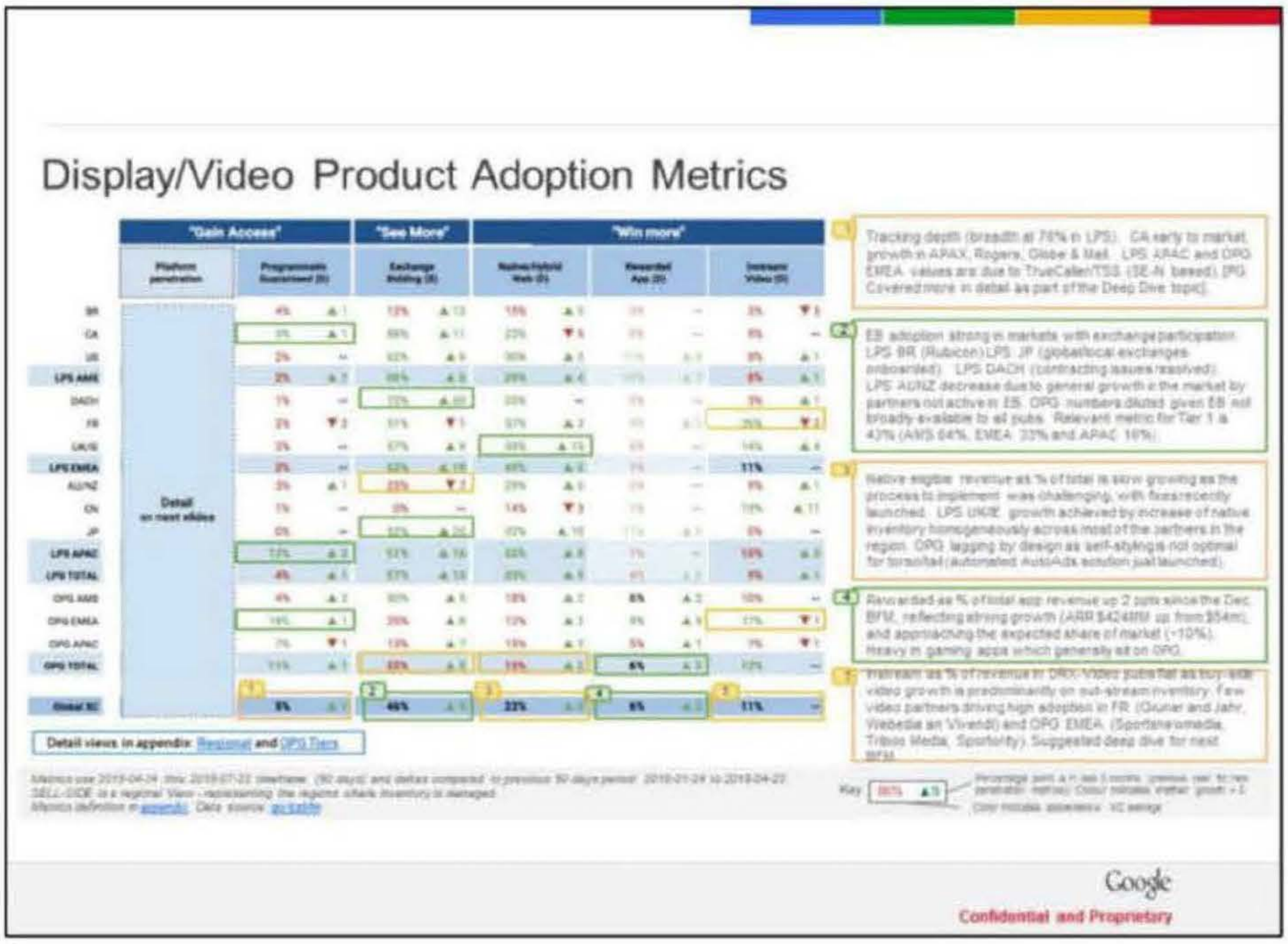
Recap: Sell-side Display & Video monetization framework

Web | Apps | Instream Video

"Gain Access"
(Be the ad serving decision engine)

"See More"
(Optimize so AdX buyers compete fairly)

"Win More"
(Optimize to improve chances AdX buyers win)



Need to call out OPG EB numbers. Tier 1 numbers are more in-line with LPS and that's the only segment eligible for EB

Id	Date	Text
1	08/09/2018 23:31:01	+dpeters@google.com +genevievek@google.com Do you guys have any insights on why EB for ANZ is down 7 points? (Formula is # indirect MQs served in DFP by partners enabled in EB / # indirect MQs served in DFP)
1	08/11/2018 01:14:37	this is being driven by News who are experimenting with multiple demand partners and their existing HB setup (this partners growth is shifting to PG) ~ team is investigating no systemic problem to call out
1	08/11/2018 01:14:47	+abisarya@google.com +dheymann@google.com Any added color on this point about LPS AUNZ...is it as simple as reservations growing faster than PG adoption? if so, why? is it a problem?
2	08/11/2018 01:14:47	+chrisl@google.com

Google
Confidential and Proprietary

New metrics to track “Access”

	WEB	APP	VIDEO
	Web DFP Penetration	Google App Mediation Penetration (Admob or DRX)	DFP Video Penetration
Breadth	# domains with DFP tag over addressable domains running ads	# developers with Google Mediation over addressable developers running ads	# publishers with DFP Video over addressable pubs running video instream ads (tbc)
Depth	# DFP impressions over est. total imps in addressable domains	# App ad revenue served by Google over est. total app ad revenue in addressable developers using Google Mediation	# Video instream impressions served by DFP Video over est. total video instream imps in addressable publishers (tbc)
Scope	Top publishers (5k domains)	Top publishers (4k developers)	Top video publishers
Key Sales Initiatives to improve Google penetration	• Review top 158 addressable sites representing 80% of remaining opportunity (Reddit, Syosetu, Auone. jp, Nicovideo.jp, Imgur); Consider 'demand product' as option where relevant (Ok.ru, Naver.jp, Ebay, Daum, Livedoor) • Review "non-addressable" inventory for Demand Product (Twitter, Yahoo, Mail.ru, Linkedin, Tumblr) • Pursue Trade Marketing opportunity with eCommerce providers	• 2018 OPG priority OKR to drive platform access: (70+ flips from Top 1000 pubs; 1000+ SoV optimizations) • Deal Program of upfront payments/ increased rev share to drive platform flips for top global targets [not final] • Targeted pilots of the Demand Product to access select walled gardens (Twitter, Linkedin, Pinterest, Gameloft)	• Custom development for 'whale' partners (Disney), leveraging custom deal structures and potential custom developments • Pursue distributor monetization opportunity for both VOD & linear addressable • DVC launched in Alpha to gain access to mApp and CTV programmatic demand from 3PAS (FW) partner

Google

Confidential and Proprietary

2018 priority OKRs to drive platform access: (70+ flips from Top 1000 pubs; 1000+ SoV optimizations) - OPG only OKR

Id	Date	Text
2	07/19/2018 14:49:03	+bkremen@google.com Ben - are Twitter, LinkedIn, Pinterest, Gameloft considered 'addresseable' in the Web and App market share calc? Are they in the denominator for either? both? +carmengh@google.com

New metrics to track "Access"

	"Gain Access"									
	WEB				APP				VIDEO INSTREAM	
	Web DFP penetration (Breadth)		Web DFP penetration (Depth)		Google App mediation penetration (Breadth)		Google App mediation penetration (Depth)		DFP Video penetration (Breadth)	DFP Video penetration (Depth)
LPS AMS	98%	–	63%	▲7	37%	▼6	WIP			
LPS EMEA	97%	▲1	84%	▲15	31%	▲10				
LPS APAC	96%	–	69%	▲13	50%	▲7				
LPS TOTAL	97%	–	73%	▲12	44%	▲4				
OPG AMS	86%	▼5	82%	▲14	36%	▲2				
OPG EMEA	78%	▼9	53%	▲5	34%	▼8				
OPG APAC	76%	▼6	41%	▲1	28%	▲3				
OPG TOTAL	79%	▼9	60%	▲7	32%	–				
Global XC	84%	▼5	66%	▲1	32%	–				

1.1 Web
[Breadth] High breadth in all regions/channels. OPG lower than average consistent with expectations given partner mix.

[Depth] Growing share in all regions and countries. Reddit (US) and IAB (CA) driving much of gap relative to average in AMS. EMEA out performance to average driven by increased share across many partners. APAC seeing intense pricing competition together with less sophisticated customers for which advanced DFP features are less compelling.

2 Apps - *Breadth*
Highly competitive ecosystem [e.g. MoPub, Iron Source (rewarded)]. Large developers also building proprietary platforms where Google can bid in without having AdMob/GAM installed.

LPS penetration higher than OPG due to metric methodology (only 95% of the pubs/developers with 2/3 of the addressable ads opportunity sit in OPG).

OPG EMEA has seen a large growth of app developers out of which only a segment is using Google mediation.

OPG APAC has a long tail of dev with own platforms.

Detail views in appendix: Countries and Regional

Platform: Web metric use Q2-2018 timeframe (90 days). Deltas are y/y. Data source: here
AdMob: Mediation metric uses Q2 2018 data. Deltas are y/y. Data source: here
SELL-SIDE is a regional View - representing the regions where inventory is managed. Metrics definition in appendix.

Key: 95% ▲5 — Percentage point Δ in last 3 months (previous year for new penetration metrics). Colour indicates whether growth > 0. Color indicates above/below XC average.

Deep Dive: Programmatic Guaranteed

Level Set: Why Programmatic Guaranteed?

1. **Long-term ambition: consolidate programmatic spend in buy & sell side platforms**
2. **$26b+ of direct deals between advertisers and publishers continues to mainly be on tags[1].**
3. **High quality inventory via reservations**
   - **Prem. Video (incl. linear)** primarily via deals
   - **Brand Safety**: Buyer 'flight to quality'
   - **Data & User Privacy:** GDPR, ITP
4. **Opportunity to extract incremental fee revenue relative to tag based reservations in buy and sell-sides. (~1% → ~10%)[2]**

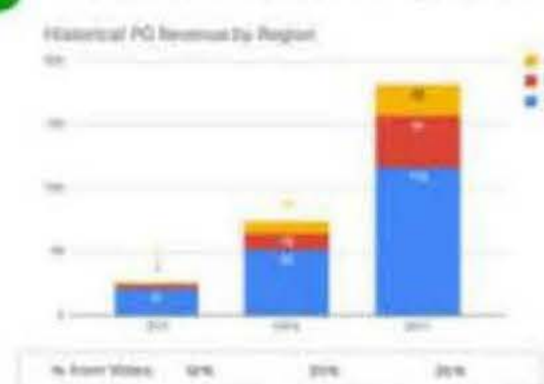
PG opportunity is large, but there are headwinds to drive adoption.

- **Organizational changes** in agencies and publishers
  - OpCo/ATD fees & budget allocation are a major challenge in APAC
- Customer **education & training** required
- Advertiser and Publisher 'pull' is limited given **pricing** (value not yet proven at scale - only in pockets)
- **Product gaps & serviceability** issues must be addressed

Google
Confidential and Proprietary

Current efforts driving growth, with upside potential

The Revenue growth is on target



Depth metric low in early days

PG Imps / Total Reservation Imps for pubs in PG[1]

AMS	3%	+1ppt
EMEA	5%	+1ppt
APAC	11%	+2ppt
Overall	5%	+1ppt

CUSTOMER STATS[2]

Publishers

505 YTD (up 50%)

15% of pubs = 80% of rev

very low churn rate 1.6%

Advertisers

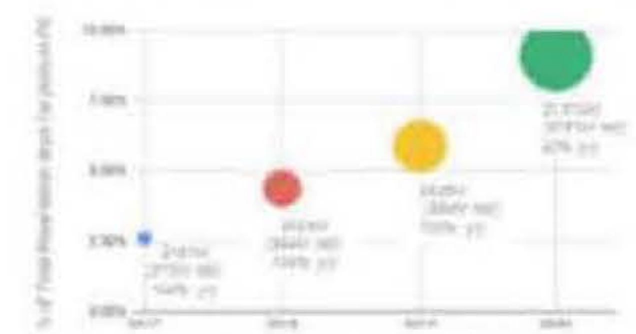
799 YTD (up 49%)

12% adv represent 80% of rev

low churn rate 7%

Avg rev/pub: $0.2M ($1.2M top 17%)

Current trajectory leads to $1.6B* in 2020



*Note: We report externally on net, not gross revenue for PG. This is a preliminary estimate – official PG forecast will be part of 2019 Annual Plan

~$900M-$1B in served revenue (~$90M in net rev) to cover Sales/gTech costs[3] assuming # of FTE does not grow

- **Revenue Model:** PG fees across buy and sell are ~10% of total served revenue (a ~10x increase in fee revenue versus tags)
- **Sales Costs:** ~159 FTEs in Sales (76 LCS, 63 MBS, 20 GP) based on time survey, representing ~20% of time spent when pitching DBM or AdX (not 20% of total time)
- **gTech Costs:** High-serviceability (costs 3x vs tags) but improving (halved in the last 2 years)

[1]Source: [illegible]
[2]Analysis at the parent level for publishers with [illegible] and [illegible]. Detail on 15% top publishers and advertisers in appendix. [illegible]

[3]Breakeven including 'Other Opex' costs [illegible] would increase to [illegible] in served revenue

Google
Confidential and Proprietary

PG delivers more value for buyers relative to price

		Advertisers	Publishers
Cost	Rev Share	**3.7%** (rate card: 4%)	**6.7%** (rate card: 10% w/ 20% pubs (63% of rev) at 5%)
Value	Campaign Value	**Increase in reach efficiency as high as 39% in early testing *(realized 11% on average)*[1]** **-- Audience Guaranteed:** Target desired imps (ScotiaBank reduced CPA by 46%, Financial Times saw 18% increase in subscriptions.) **-- Global frequency management:** Pass on imps outside of f-cap while meeting guarantee (~10% unwanted imps) **-- Access to premium inventory:** Buy inventory (esp. video) not available in the auction.	**Optimize revenue per impression *(opportunity)*** -- Increase CPMs on the 'target' imps important to buyers -- Create differentiated inventory via PG (eg. TripAdvisor) -- Sell 'other' imps lost to efficiency gains at direct rates -- Source "new" programmatic direct demand (Turkish Airlines found new pubs outside their geo using Marketplace) **Sell campaigns targeted to Google audience data *(not broadly available)***
	Operational Efficiency	**29% time savings[2]**	**57% time savings[2]**
	Financial Savings (Cost of capital)	N/A	**~0-2.7% savings from faster clearing and reduced AR risk[3]**

[1] Source: Nielsen report [2] Operational savings on a per campaign basis - requires major organizational changes to turn these time savings into hard cost savings. Source: BCG report
[3] Source: Savings estimates calculator
Source for rev shares: [illegible]

Google
Confidential and Proprietary

Evolve GTM plan w/ focus on influencing decision makers

Adjustments to Plan in Progress

Increased Incentives — Complete
- PG included in DVIP as qualifying spend for 2019, comms plan in development

Better Segmentation: — Complete
- **Buyers:** Advertiser/agency setup, active DCM spend, PG budget potential
- **Pubs:** Direct sales force, large direct spend, video focus, DBM advertisers

Increased Marketing/PR Support — Under Review
- 2H '18 Buy/Sell Global Marketing plan to continue industry momentum, create pitch deck/case studies for updated narratives, & hold customer events. (In region activation in some of these areas ongoing.)

External Training Support for Practitioners — Under Review
- 1 curriculum manager HC & $250k in opex for TVC resources to create educational videos, playbook, & webinars for DBM/DFP users

Sell-Side Pricing — Complete
- Re-evaluating rate card

Product Improvements — Some Commitment
- Buyer User Access (2019)
- Reservation Parity Features: Rich Media & Makegood Support (Not committed for 2H '18 but do not block 2019 sales activation)

Thesis: Acceleration of PG will more naturally be driven by agencies/marketers as short-term economics are more favorable. With PG's inclusion in DVIP, we have an opportunity to further accelerate growth with a coordinated focus on the top players.

Discussion Topic: What are the key learnings in the teams on how to transfer direct budgets into programmatic guaranteed? How have buy-sell side been organized?

Request: Evaluate increased focus on this opportunity as part of 2019 planning

Google

LCS Engagement:
Mandatory LCS AM PG trainings
Executive buy-in from LCS leadership to support platform sales in accessing large advertiser opportunities.
OKR: 50 intros to LCS clients based on platform prio list

Concentration in buyers and sellers-
2015, 2016, 2017, 2018: # of buyers/sellers and the ratio of what % of the revenue is made up of which segment

GCAS, Agency, LCS teams engage at the client level and time when digital budget allocation decisions are made. To incent platform usage and accelerate PG, should these teams play a more structured role?:
X-team 2019 revenue OKR
LCS/Platforms joint PG priority account list with product adoption goals
Mandatory training

Top Product Asks

Status of Top Product Asks from Sales

Category	Product/Feature Requests Jointly Agreed to by PM and GPL	Status v Roadmap	Progress Update If relevant include alpha/beta timelines, issues, risks	GA ETA	Availability at launch
Prog. G'teed	▲ Google Audience (Demo, Affinity) in PG		• Tested Google Demo Audience on 7 pubs in 1H • Decision made to tie Demo with Affinity and launch to 10 full stack strategic publishers at 20% rev share	Q1'19 Beta	Global
	■ Achieve parity with reservation functionality		• Makegoods, rich media support (incl pub testing functionality) are not on the 2H '18 roadmap	-	Global
Exchange Bidding	■ Exchange Bidding (DRX)		Exchange Bidding launched to GA for DFP premium and we have revamped our pricing structure final (web: 5%, app & video: 10%). Video and deals in beta, targeting GA before EOY. Developing plans to encourage fair competition between AdX & Exchanges	Q4 18	Global
	▲ Open Bidding (AdMob)		Open Bidding (EB+NB on AdMob) transacting with 3 exchanges and 50 apps (>$100/day). Slower than expected implementation by networks. Pushing OB open beta to 1H19	1H 19	Global
	▲ Network Bidding (DRX & AdMob)		Negotiations still underway with FAN (DRX & AdMob). Signed 5 App network partners (Vungle, Adcolony, Inmobi, Applovin, TapJoy) integrations slower than expected	1H 19	Global
Native web	■ Hybrid performance analysis		Experiments underway comparing native vs banner performance, on same inventory. Results will inform ongoing positioning & sales activation	2H 19	Global
	■ Auto Native - Match pub site/app & automatically optimize for revenue		Native instant in alpha [auto-create ad that matches feed]; scaled placements starts alpha mid-Q3	2H18	Global
Video (instream)	▲ Linear addressable solution for TV operators		Proof-of-concept approved & signed with 2 operators (Bouygues, Total Play); product launch review planned in Q4 with target go-live in Q1'19	-	Global
	■ Google Audience asks for DRX Video		Scoped and approved Disney Audience asks, awaiting client final go/no-go, pending approval to expand Disney asks to other TV "whales"	-	Disney
	■ Direct VAST Calls / Programmatic Access Library		PAL/DVC alpha launched to 8 Pubs in Aug, DVC success dependent on OMSDK adoption by 3PAS (FW)	PAL: 1H 19	Global
Native apps	■ Higher Native CPMs via Video improvements		Higher CPMS via more auction pressure via DBM VAST demand to GA, instream video demand, square & portrait video demand [Q4] (MediaView policy to reduce friction - Q4)	Q3 18	Global
	■ Quantitative assessment of best practices for native implementation, to be promoted		OKR to deliver playbook of best practices to pubs and "look book" of best implementations driven by qualitative assessment. Unclear plan for quantifying best practices (UX, eCPM)	Q4 18	Global
Rewarded	■ Higher Rewarded CPMs via incremental demand & optimizing existing demand		Experiments underway w/ Playable demand; Ongoing optimizations of DBM demand, video CTD demand. EVC uplift to be at 100% in Q3	Q3 18	Global
	▲ Server-side reward notification for reward mediation		Server-side verification callbacks in beta but low pub adoption; GA in Q3	Q3 18	Global

Google

Confidential and Proprietary

APPENDIX

Google
Confidential and Proprietary

Back to main slide

Sell-Side Revenue Metrics: C/T and M split

Apr 24 - July 22	Display: Google Network CT Web Rev	Rev YoY	MQ YoY	Google Network mWeb Rev	Rev YoY	MQ YoY	Google Network App Rev	Rev YoY	Imp YoY
LPS - AMS	$229.5	3%	-4%	$148.1	30%	23%	$88.5	5%	-17%
LPS - EMEA	$160.0	6%	-11%	$91.9	42%	34%	$31.5	52%	6%
LPS - APAC	$41.0	-11%	-22%	$45.7	6%	-9%	$186.6	95%	38%
OPG - AMS	$305.1	-7%	-10%	$319.3	24%	5%	$202.9	40%	-6%
OPG - EMEA	$276.7	-4%	-14%	$250.6	28%	8%	$314.6	54%	31%
OPG - APAC	$131.7	-9%	-23%	$199.1	22%	3%	$545.9	71%	32%
OPG	$713.4	-7%	-16%	$769.0	25%	6%	$1,063.4	59%	35%
Total	$1,143.9	-3%	[illegible]	$1,054.6	26%	[illegible]	$1,370.2	58%	[illegible]

Apr 24 - July 22	Display: Google Network Video Premium Instream Inventory Only Rev	Rev YoY	MQ YoY	Search: AFS + AFD Rev	Rev YoY	MQ YoY	Total Sell Side Revenue Rev	Rev YoY	MQ/Imp YoY
LPS - AMS	$46.8	58%	51%	$450.8	-17%	-22%	$964	-3%	9%
LPS - EMEA	$25.6	54%	34%	$189.6	-11%	26%	$499	7%	2%
LPS - APAC	$6.1	33%	93%	$28.6	33%	-6%	$308	46%	-15%
OPG - AMS	$29.2	8%	-20%	$20.5	-21%	3%	$877	12%	-3%
OPG - EMEA	$22.3	68%	-2%	$40.8	1%	16%	$905	22%	-3%
OPG - APAC	$1.6	-42%	-30%	$8.9	-34%	-10%	$867	38%	-8%
OPG	$53.2	23%	-14%	$70.2	-12%	9%	$2,669	23%	-6%
Total	$131.7	40%	[illegible]	$739.2	-14%	[illegible]	$4,440	16%	[illegible]

Metrics use 2018-04-24 thru 2018-07-22 timeframe (90 days) and deltas compared to previous year
SELL-SIDE is a regional View - representing the regions where inventory is managed
Video includes instream only (AdX Video, AdX Games, AFV, AFG video format). Outstream included under Web (AdX, Adsense) and Apps (AdX Apps, [illegible])

Google
Confidential and Proprietary

Sell-Side Revenue Metrics: Video Instream + Outstream

Back to main slide

	Display						Video			Search					
	Google Network Web			Google Network App			Google Network Video - Instream and Outstream			AFS + AFD			Total Sell Side Revenue		
Apr 24 - July 22	Rev	Rev YoY	MQ YoY	Rev	Rev YoY	Imp YoY	Rev	Rev YoY	MQ YoY	Rev	Rev YoY	MQ YoY	Rev	Rev YoY	MQ/Imp YoY
LPS - AMS	$374	11%	8%	$71	-11%	-21%	$67.6	94%	91%	$450.8	-17%	-22%	$964	-3%	8%
LPS - EMEA	$248	15%	2%	$30	48%	4%	$30.5	79%	117%	$189.6	-11%	38%	$499	7%	3%
LPS - APAC	$85	-4%	-16%	$163	81%	34%	$31.1	202%	171%	$28.6	33%	-6%	$308	46%	-18%
OPG - AMS	$613	5%	-4%	$142	10%	-12%	$101.4	121%	99%	$20.5	-21%	3%	$877	12%	-4%
OPG - EMEA	$519	8%	-4%	$204	14%	24%	$140.8	232%	113%	$40.8	1%	16%	$905	22%	-4%
OPG - APAC	$329	7%	-8%	$415	48%	26%	$134.4	232%	121%	$8.9	-34%	-10%	$887	38%	-4%
OPG	$1,461	6%	-3%	$762	29%	18%	$376.6	193%	113%	$70.2	-12%	9%	$2,669	23%	-5%
Total	$2,168	8%	[illegible]	$1,026	31%	[illegible]	$505.8	165%	[illegible]	$739.2	-14%	[illegible]	$4,440	16%	[illegible]

REVENUES DISTRIBUTION

	Google Network Web *(AFC + AdX + Adx Video + AFV + AFG + Adx Games) when format is not video*	**Google Network App** *(AdX Apps + Admob + AFV + Adx Video) when format is not video)*	**Google Network Video** *(AdX Video + AFV + AdX + AFC + AFG + ADX-Games + AdX-Apps + Admob) when format is Video*

Metrics use 2019-04-24 thru 2019-07-22 timeframe (90 days) and deltas compared to previous year
SELL-SIDE is a regional View - representing the regions where inventory is managed
Video includes both instream (AdX Video, AdX Games, AFV, AFG video format) and Outstream; web and app only include display

Google

How is Sell-Side Revenue distributed across inventory

Back to main slide

	Display									Search					
	Google Network Web			Google Network App			Google Network Video Premium Instream Inventory Only			AFS + AFD			Total Sell Side Revenue		
Apr 24 - Jul 22	Rev	Rev YoY	MQ YoY	Rev	Rev YoY	Imp YoY	Rev	Rev YoY	MQ YoY	Rev	Rev YoY	MQ YoY	Rev	Rev YoY	MQ/Imp YoY
LATAM	$12.6	-9%	-22%	$2.2	144%	-35%	$0.8	-23%	-47%	$1.5	45%	474%	$17	2%	-32%
CA	$20.8	28%	16%	$4.3	12%	-13%	$4.3	380%	293%	$0.1	-42%	21%	$29	39%	18%
US	$344.2	12%	14%	$82.1	3%	-16%	$41.7	51%	52%	$449.2	-17%	-32%	$917	-4%	14%
LPS - AMS	**$377.5**	**12%**	9%	**$88.5**	**5%**	-17%	**$46.8**	**58%**	31%	**$450.8**	**-17%**	-22%	**$964**	**-3%**	9%
DACH	$60.1	11%	4%	$7.8	51%	-7%	$0.9	-21%	-24%	$82.2	-9%	31%	$151	0%	4%
FR	$13.8	30%	-10%	$2.8	77%	-8%	$4.6	67%	33%	$4.3	-10%	90%	$23	30%	-16%
GB	$46.2	2%	-6%	$5.0	25%	-2%	$5.9	74%	101%	$5.8	-29%	12%	$63	4%	-6%
LPS - EMEA	**$251.9**	**17%**	3%	**$31.5**	**52%**	6%	**$25.6**	**54%**	34%	**$189.6**	**-11%**	28%	**$499**	**7%**	3%
AU/NZ	$16.9	31%	18%	$1.8	39%	57%	$2.6	-18%	-38%	$0.5	-9%	33%	$22	22%	18%
CN	$3.3	-29%	-29%	$167.5	115%	57%	$0.6	19%	-62%	$0.0	-67%	-53%	$171	106%	-33%
JP	$46.0	-10%	-10%	$2.3	-15%	-41%	$0.0	280%	42%	$27.7	38%	40%	$76	3%	-10%
LPS - APAC	**$86.7**	**-3%**	-15%	**$186.6**	**95%**	28%	**$6.1**	**33%**	93%	**$28.6**	**33%**	-4%	**$308**	**46%**	-13%
OPG - AMS	$624.4	6%	-2%	$202.9	40%	-6%	$29.2	8%	-20%	$20.5	-21%	3%	$877	12%	-3%
OPG - EMEA	$527.2	9%	-3%	$314.6	54%	31%	$22.3	68%	-2%	$40.8	1%	16%	$905	22%	-5%
OPG - APAC	$330.8	8%	-4%	$540.9	71%	32%	$1.6	-42%	-30%	$8.9	-34%	-10%	$887	38%	-4%
OPG	**$1,482.4**	**7%**	-5%	**$1,063.4**	**59%**	23%	**$53.2**	**23%**	-14%	**$70.2**	**-12%**	9%	**$2,669**	**23%**	-5%
Total	**$2,198.5**	**9%**	[illegible]	**$1,370.2**	**58%**	[illegible]	**$131.7**	**40%**	[illegible]	**$739.2**	**-14%**	[illegible]	**$4,440**	**16%**	[illegible]

Metrics use 2019-04-24 thru 2019-07-22 timeframe (90 days) and deltas compared to previous year
SELL-SIDE is a regional view - representing the regions where inventory is managed.
Video includes instream only (AdX Video, AdX Games, AFV, AFG video format); Outstream included under Web (Adsense, AdX) and Apps (AdX Apps, Admob)

BFM Product Adoption Metrics Definition

DEPTH = BREADTH X DEPTH'

$$\frac{\text{Gross Revs generated by feature}}{\text{Gross Revs generated by the platform (*)}} = \frac{\text{Gross Revs generated in the platform by the partners that have enabled the feature}}{\text{Gross Revs generated by the platform}} \times \frac{\text{Gross Revs generated by feature}}{\text{Gross Revs generated in the platform by the partners that have enabled the feature}}$$

DEPTH:

- Gives an idea of how relevant the feature is as compared to the whole business (hence refers to both number of partners penetrated and to what extent).
- Useful for mature products - goal is to get as many pubs as possible to try the feature as well as increase how much they use it.

BREADTH:

- Gives an idea of how many of the total portfolio of partners are penetrated with the feature.
- Useful for early products - goal is to get as many pubs as possible to try the feature.

DEPTH':

- Gives an idea of how much share do we have on the partners that are penetrated
- Useful for mature products - adding more pubs is incremental and the goal is to increase the usage by the ones already using the feature.

Example Rewarded:

$$\frac{\text{Gross Revs generated by Rewarded}}{\text{Gross Revs generated by Admob}} = \frac{\text{Gross Revs generated in Admob by the partners that have at least one rewarded impression}}{\text{Gross Revs generated by Admob}} \times \frac{\text{Gross Revs generated by Rewarded}}{\text{Gross Revs generated in admob by the partners that have at least one rewarded impression}}$$

Note: When the #partners is very small, instead of gross revs it can be used #partners (otherwise, breadth might be look ok due to small or low quality partners enabling the feature).

Google

Display/Video Product Adoption Metrics Definition (I)

Back to main slide

		Why is this opportunity important?	Opp Size	Metric tracked
"Gain Access"	Programmatic Guaranteed	• Convert the CPM-based fee business to a share of media model by shifting these transactions to programmatic.	$11.2B ($423M rev targeted in 2018)	% of matched queries that PG represent over the total amount of direct sales queries of the portfolio of partners that serve PG (depth).
"See More"	Exchange Bidding (EB)	• Google's response to Header bidding, increasing threat as FB and Amazon have teamed up to launch a joint HB effort.	$5.8B ($450M rev targeted in 2018, 180% YOY)	% of partners enabled in EB (breadth)
"Win More"	Native ads web	• Invest in 'mobile first' formats to defend mweb inventory.	1B+	% of revenues generated by native enabled inventory over the total web revenues (depth)
	Rewarded	• Large revenue oppty, particularly for Game developer segment. User engagement model in games provides clear value trade-off for ad type.	$1.9B in 2018	% of revenues rewarded represent over the total apps revenues (depth)
	Instream video	• Capture the opportunity of monetizing programmatically the premium long video content (complementary to YT budgets)	$10B digital ads ($185B linear TV)	% of revenues that video (instream) represent over total display/video revenues for the partners with long video content who monetize with us through Adx-video (depth).

Google
Confidential and Proprietary

OPPORTUNITY SIZE

EB: 5.8B represents the total dollar value transacting on DFP via line items by Indirect Competitors that AdX is eligible to compete against. This is where HB competitors transact but they are nowhere near the $5.8B at this point. Most of the opportunity is still tied up in traditional line items transactions (avg price). Both Google and HB are going after this same opportunity. There is another pool of Indirect inventory in DFP that AdX does not get to compete against. This represents $2.5B in publisher revenue (totaling $8.3B in Indirect line item based revenue in DFP). There are valid reason for AdX not competing, namely policy. It could also be that pubs have made a mistake or have deals with other indirect partners to get this access.

Two sources of opp: defend Publishers with HB who unfairly disadvantage AdX by booking HB LIs at Standard Priorities (instead of Price Priority) and/or using correct sub-optimal HB LIs pricing granularity in DFP.

5.8B represents the total dollar value transacting on DFP via line items by Indirect Competitors that AdX is eligible to compete against.. This is where HB competitors transact but they are nowhere near the $5.8B at this point. Most of the opportunity is still tied up in traditional line items transactions (avg price). Both Google and HB are going after this same opportunity. There is another pool of Indirect inventory in DFP that AdX does not get to compete against. This represents $2.5B in publisher revenue (totaling $8.3B in Indirect line item based revenue in DFP). There are valid reason for AdX not competing, namely policy. It could also be that pubs have made a mistake or have deals with other indirect partners to get this access.

Currently: 206 pubs with 14 exchanges ($86M captured YTD) with an ARR of $260M - represents about 4% of AdX revenues - source: OPG Q3 QBR

Native web: No externally-vertified estimates of Native Web market; internal rough estimates from $500M to $1B in 2018. Critical assumption is degree to which native replaces banner (so not incremental inventory necessarily). GSL recommends using the wide range.

Video: Using the Industry metrics projections (minus YouTube projections for 2018) brings the opportunity size to $30B. That includes instream & outstream; there aren't reliable estimates for instream and oustream broken out (source for US instream: $4.7B)

Rewarded estimations and Project Contra

Native apps: IHS Technology the future of mobile advertising: 2018 Native 3rd party in North America $1.5B, EMEA $0.6M, APAC $0.8M; internal estimations placed the native app opp in $2B in 2016.

Display/Video Product Adoption Metrics Definition (II)

Back to main slide

		Metric Definition	Rationale	Risks
"Gain Access"	Programmatic Guaranteed	# PG matched queries # Direct sales and PG matched queries in DFP of the partners who have served at least one PG impression	Depth metric as 2018 growth is expected to come mostly from PG and partners already using the feature.	
"See More"	Exchange Bidding (EB)	# Indirect matched queries served in DFP by partners enabled in EB # Indirect matched queries served by DFP	Breadth metric given early stage of the feature	
"Win More"	Native ads web	Gross revenues generated by ad units eligible for native hybrid or native purely (both express and advanced) in AdX and AFC Total Gross Revs generated in AdX and AFC on web	Depth metric on native eligibility given the current focus for sales teams is to gain native inventory.	If adx/AFC revenues grow due to other formats, the metric decreases.
"Win More"	Rewarded	Gross Revs generated by rewarded in Admob and AdX-Apps Gross Revs generated by Admob and AdX-Apps	Depth metric to compare progress against 2018 target and industry benchmark.	
"Win More"	Instream video	Gross Revs generated by instream in AdX-Video (video format)* Total Gross Revs generated by AdX, AdX-apps, AdX-Video and AdX-Games by the partners who have Adx-video	Depth metric given the maturity level of the product	If the denominator grows due to other formats (eg: outstream served by adx or adx-apps), the metric decreases.

Threshold to consider a partner active: "at least one impression served"
*DRX revenue only

Metrics Goals: here

Back to main slide

Display/Video Product Adoption Metrics - Regional view

	"Gain Access"		"See More"		"Win more"					
	Programmatic Guaranteed (D)		Exchange Bidding (S)		Native/Hybrid Web (D)		Instream Video (S)		Rewarded App (D)	
LPS-Americas	2%	▲1	56%	▲4	29%	▲4	8%	▲1	10%	▲7
OPG-Americas	4%	▲2	50%	▲3	18%	▲2	10%	--	6%	▲1
Americas	3%	▲1	53%	▲3	23%	▲3	9%	--	7%	▲4
LPS-EMEA	2%	--	62%	▲13	40%	▲6	11%	--	1%	--
OPG-EMEA	18%	▲1	25%	▲8	12%	▲2	17%	▼1	9%	▲3
EMEA	5%	▲[illegible]	45%	▲14	22%	▲3	14%	--	8%	▲2
LPS-APAC	12%	▲3	51%	▲16	32%	▲6	10%	▲3	1%	--
OPG-APAC	7%	▼1	13%	▲7	15%	▲3	7%	▼1	5%	▲1
APAC	11%	▲2	33%	▲11	19%	▲4	9%	▲2	4%	▲1
LPS TOTAL	4%	▲1	67%	▲13	33%	▲5	9%	▲1	4%	▲2
OPG TOTAL	11%	▲1	33%	▲1	15%	▲2	12%	--	6%	▲2
Global XC	5%	▲1	46%	▲[illegible]	22%	▲[illegible]	11%	--	6%	▲[illegible]

Metrics use April 24 to July 22, 2018 timeframe (90 days) and deltas compared to previous 90 days period. SELL-SIDE is a regional View - representing the regions where inventory is managed. Metrics definition in appendix. Data source: [illegible]

Key

(B) Breadth
(D) Depth

Display/Video Product Adoption Metrics - OPG Tiering

Back to main slide

	"Gain Access"		"See More"		"Win more"					
	Programmatic Guaranteed		Exchange Bidding		Native/Hybrid Web		Instream Video		Rewarded App	
LPS	6%	▲2	61%	▲16	59%	▲5	9%	▲2	4%	▲6
Americas LPS	3%	▲1	59%	▲5	29%	▲4	8%	▲1	10%	▲7
EMEA LPS	2%	–	42%	▲15	40%	▲8	11%	–	7%	–
APAC LPS	12%	▲3	51%	▲14	22%	▲5	10%	▲3	1%	–
OPG	11%	▲1	30%	▲5	15%	▲2	12%	–	6%	▲2
American OPG	6%	▲3	50%	▲6	18%	▲2	18%	–	6%	▲2
Tier 1	4%	▲2	64%	▲6	27%	▲1	9%	▼1	3%	▲1
Torso			6%	–	6%	▲1	31%	▲4	7%	▲2
Tail	2%	▲4	0%	–	4%	–	7%	▼31	3%	▲1
EMEA OPG	16%	▲1	29%	▲8	12%	▲2	13%	▼3	9%	▲3
Tier 1	16%	▲1	39%	▲10	16%	▲2	17%	▼1	15%	▲4
Torso			2%	–	9%	▲1	30%	▲3	9%	▲1
Tail	5%	–	1%	▲1	7%	–	13%	▼11	3%	▲1
APAC OPG	7%	▼1	13%	▲7	19%	▲5	7%	▼1	3%	▲1
Tier 1	7%	▼1	14%	▲5	26%	▲3	7%	▼1	6%	▲2
Torso			3%	–	10%	–	8%	▲1	3%	▲1
Tail	6%	▲1	5%	–	15%	▲2	50%	▼14	3%	▲1
Global Tier 1	11%	▲2	43%	▲5	20%	▲2	11%	▼1	9%	▲2
Global Torso			0%	–	8%	▲1	31%	▲7	3%	▲1
Global Tail	5%	▲1	0%	–	8%	▲1	12%	▼28	3%	▲1
Global SC	5%	▲1	46%	▲7	22%	▲2	11%	–	6%	▲2

New metrics to track "Access" - Country view

Back to main slide

	"Gain Access"											
	WEB				APP				VIDEO INSTREAM			
	Web DFP penetration (Breadth)		Web DFP penetration (Depth)		Google App mediation penetration (Breadth)		Google App mediation penetration (Depth)		DFP Video penetration (Breadth)		DFP Video penetration (Depth)	
BR	98%	▼4	95%	▲13	22%	▲5	WIP					
CA	100%	–	38%	▲27	100%	▲100						
US	99%	▲1	64%	▲6	39%	▼11						
LPS AMS	98%	–	63%	▲7	37%	▼8						
DACH	99%	▲1	95%	▲32	50%	▲39						
FR	98%	▼1	48%	▲12	0%	–						
UK/IE	100%	–	90%	▲18	25%	▲23						
LPS EMEA	97%	▲1	84%	▲15	31%	▲16						
AU/NZ	99%	▼8	99%	▲26	0%	–						
CN	-	–	-	–	40%	▼3						
JP	91%	▼5	30%	▲14	35%	–						
LPS APAC	96%	–	68%	▲13	30%	▲7						
LPS TOTAL	97%	–	78%	▲10	45%	▲4						
OPG AMS	94%	▼3	82%	▲14	38%	▲3						
OPG EMEA	76%	▼5	55%	▲6	34%	▼6						
OPG APAC	76%	▼4	41%	▲1	28%	▲5						
OPG TOTAL	79%	▼8	60%	▲7	32%	–						
Global SC	84%	▼6	66%	▲9	32%	–						

Key 88% ▲9

Google

Confidential and Proprietary

Back to main slide

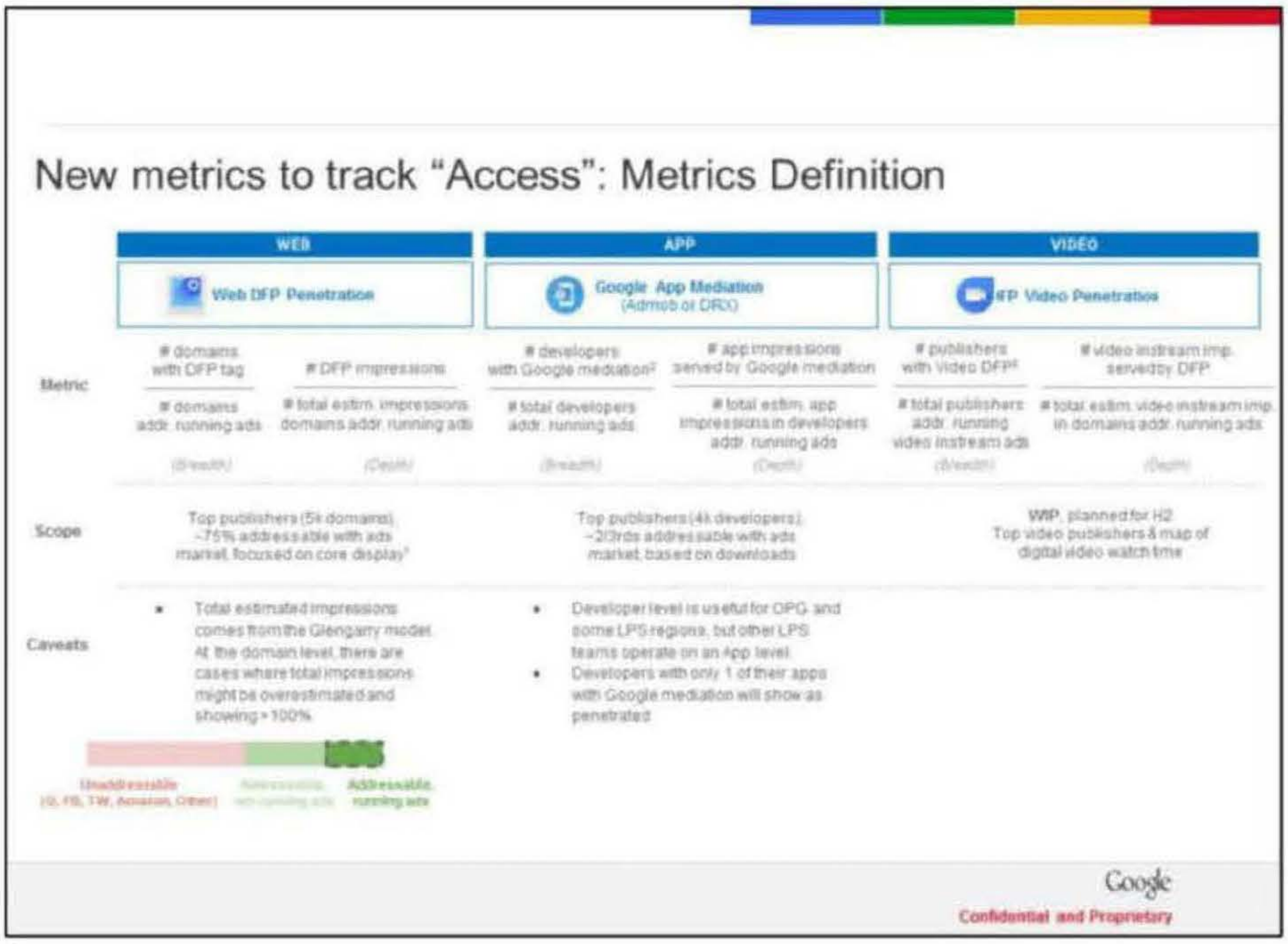
New metrics to track “Access” - Regional view

	"Gain Access"									
	WEB				APP				VIDEO INSTREAM	
	Web DFP penetration (Breadth)		Web DFP penetration (Depth)		Google App mediation penetration (Breadth)		Google App mediation penetration (Depth)		DFP Video penetration (Breadth)	DFP Video penetration (Depth)
LPS-Americas	90%	--	63%	▲ 7	37%	▼ 6	WIP			
OPG-Americas	85%	▼ 5	82%	▲ 14	38%	▲ 2				
Americas	89%	▼ 4	72%	▲ 11	38%	▲ 1				
LPS-EMEA	97%	▲ 1	84%	▲ 15	31%	▲ 10				
OPG-EMEA	78%	▼ 9	53%	▲ 3	34%	▼ 8				
EMEA	82%	▼ 6	69%	▲ 10	34%	▼ 7				
LPS-APAC	96%	--	68%	▲ 12	50%	▲ 7				
OPG-APAC	76%	▼ 9	41%	▲ 1	28%	▲ 3				
APAC	80%	▼ 8	52%	▲ 6	30%	▲ 5				
LPS TOTAL	97%	--	73%	▲ 12	44%	▲ 9				
OPG TOTAL	79%	▼ 9	60%	▲ 7	32%	--				
Global XC	84%	▼ 6	66%	▲ 5	32%	--				

Key 98% ▲9

30

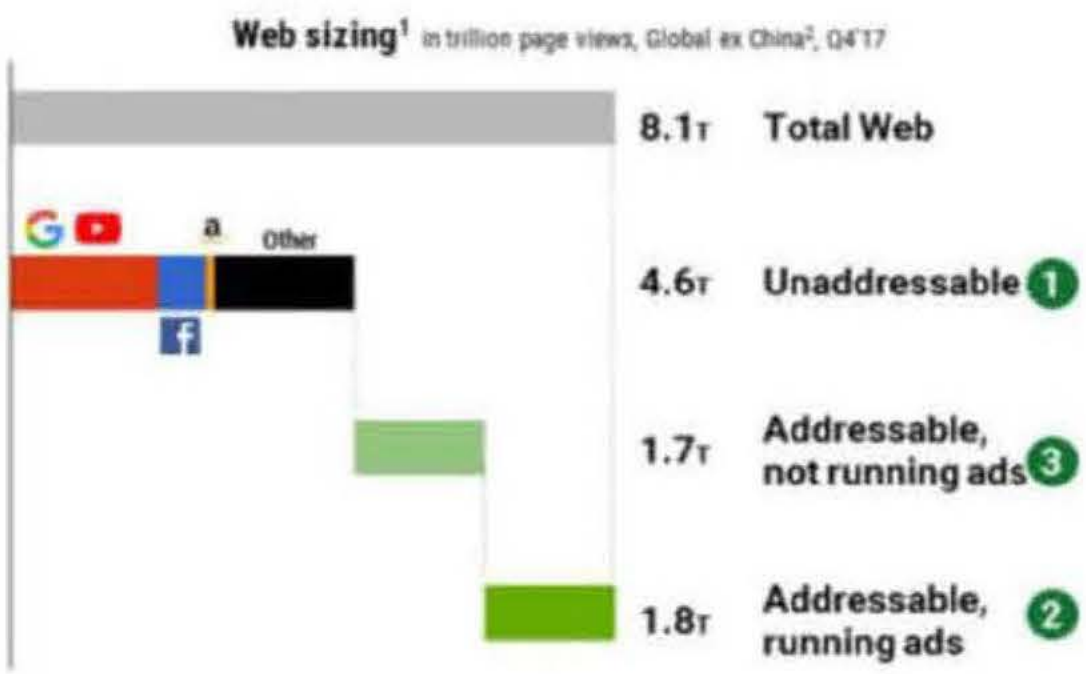
Google
Confidential and Proprietary



2018 priority OKRs to drive platform access: (70+ flips from Top 1000 pubs; 1000+ SoV optimizations) - OPG only OKR

Id	Date	Text
3	07/18/2018 17:58:50	AI to create depth metric going forward

Opportunities within "Other Unaddressable", "Addressable, running ads", and "Addressable, not running ads"



1 62% Unaddressable (Search and other competitors, Adult/Policy); 38% Opportunity via Emerging Monetization solutions (Demand Product, eCommerce, AFS)

2 Majority of opportunity remaining in the top 168 sites. We are engaged with all of these. Opportunity remains for both Core Monetization and Emerging Monetization solutions

3 Mostly single brand retail (eg. nike.com) and B2C (Steam) - very difficult to convert to ads model

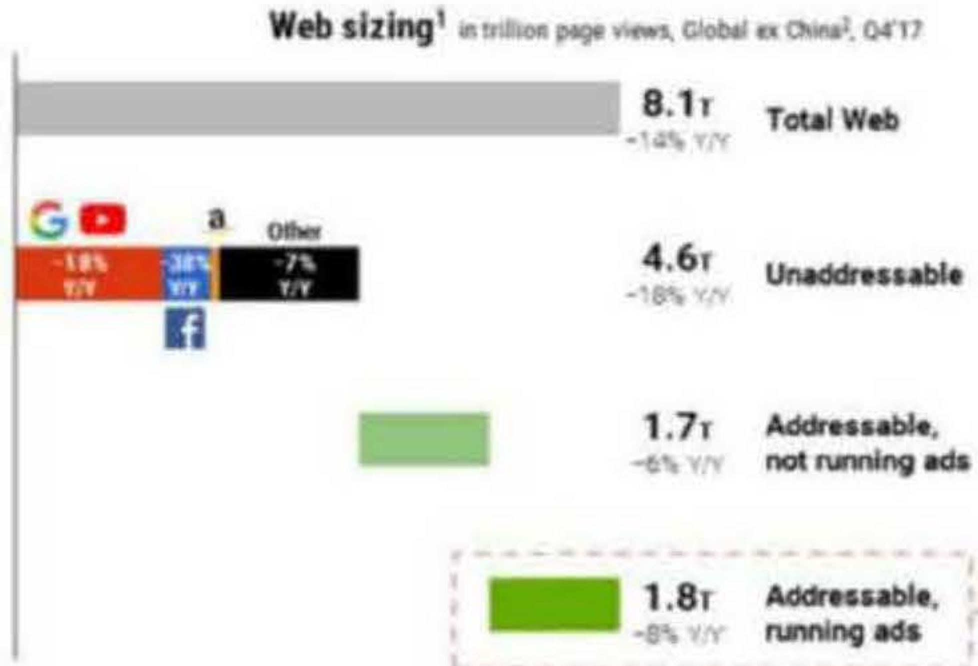
1: Based on the [illegible] data model, utilizing Chrome data   2: ex China & 6 specific Japanese domains

Source: Q1 2018 Sell side Monetization QBR, Web SOW Follow-up

Google Google
Confidential and Proprietary

New Platform Penetration metric (Web) - Scope

Web sizing[1] in trillion page views, Global ex China[2], Q4'17



1: Based on the Glengarry data model, utilizing Chrome data
2: ex China & 6 specific Japanese domains

"The Wallet"[3]

	# Domains	% of total ad imps[1]
Americas	1,291	75%
EMEA	2,821	76%
APAC[2]	1,082	79%
Global[3]	**5,194**	**76%**

1: Based on the Glengarry data model, utilizing Chrome data
2: ex China & 6 specific Japanese domains
3: Universe of 5,194 domains selected so that two-thirds of each GBO cluster are covered

Id	Date	Text
4	07/16/2018 16:00:26	+carmengh@google.com get we get a slide like this (from Courtney or Ben) for apps?

Video Ad Spend - 2017 Market Estimation

Back to main slide

Source: Video Velocity Follow up June 2018 Update; 2018 numbers being estimated

PG Breadth, Depth and Share Metrics

-	Breadth	-	Depth	-	Share	-
BR	80%	▲1	4%	▲1	4%	▲1
CA	69%	▼1	9%	▲1	9%	▲1
US	69%	–	2%	–	1%	–
Americas LPS	73%	–	2%	–	2%	–
DACH	82%	▲1	0%	–	0%	–
FR	82%	–	2%	–	2%	–
UK/IE	89%	▲1	3%	–	3%	–
EMEA LPS	83%	▲1	2%	–	1%	–
AU/NZ	92%	▼1	3%	▲1	3%	▲1
CN	83%	▼[illegible]	1%	–	0%	▼1
JP	48%	▲1	0%	–	0%	–
APAC LPS	88%	▲1	10%	▲1	9%	▲1
LPS	78%	▲1	3%	▲1	3%	▲1
Americas OPG	26%	▼1	3%	▲1	1%	–
EMEA OPG	25%	▲1	17%	▲1	4%	▲1
APAC OPG	14%	▲4	8%	▲1	1%	–
OPG	23%	▲1	10%	▲1	2%	▲1
Global XC	60%	▲1	4%	▲1	3%	▲1

SHARE = BREADTH X DEPTH

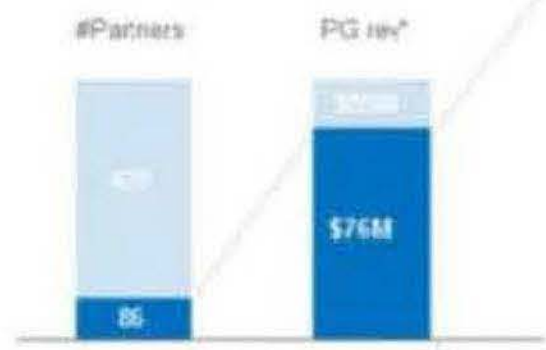
SHARE = # PG matched queries / # Direct sales and PG matched queries in DFP of all partners

BREADTH = # Direct sales and PG matched queries in DFP of the partners who have served at least one PG impression / # Direct sales and PG matched queries in DFP of all partners

DEPTH = # PG matched queries / # Direct sales and PG matched queries in DFP of the partners who have served at least one PG impression

Link to data source

Top 15% pubs represent 80% of PG revs while using 5% of their reservation imp



1. **LPS AMS**: The top 35 partners represent 7% of the total number of pubs doing PG globally and 49% of the total PG revs.
2. **LPS EMEA**: The top 21 partners represent 4% of the total number of pubs doing PG globally and 13% of their revs.
3. **LPS APAC**: The top 8 partners represent 2% of the total number of pubs doing PG globally and 6% of their revs.
4. **OPG AMS and OPG EMEA**: The top 12 and 10 partners in each region represent 4% of the total number of pubs doing PG globally and 12% of their revs.

* Data from [illegible] from 2018-04-24 thru 2018-07-22. Detail per publishers: Analysis (restricted access).

Google

Top 15% of advs represent 80% of PG revs; only 16% of DBM accounts active in PG

1. **LCS AMS**: The top 71 advertisers represent 10% of the total number of pubs doing PG globally and 44% of their revs.
2. **LCS EMEA**: The top 54 advertisers represent 7% of the total number of pubs doing PG globally and 16% of their revs.
3. **LCS APAC**: The top 14 advertisers represent 2% of the total number of pubs doing PG globally and 5% of their revs.
4. **SMB AMS, EMEA and APAC**: The top 3 advertisers in each region represent 1% of the total number of advertisers doing PG globally and 5% of their revs.

Data from [illegible] from 2015-04-24 thru 2015-07-22. Detail per advertisers: Analysis (restricted access). Additional detail on PG depth per advertiser (parent level) here (restricted access)
16% of DBM accounts are using PG, representing 6% of revenue
Some advertisers operate in more than one team and hence the sum of each team do not match with the total numbers. 11Mio PG rev under auxiliary accounts not mapped.

Google
Confidential and Proprietary

Advertisers

a) DCM imps | Direct and 3P imps | DBM imps | PG imps

Error in mapping where adv has DCM and DBM but we cannot map. Size of the error: $34 Mio (current PG ARR $100M) generated by 800 parent accounts; highly concentrated as 100 parent accounts generate 80%.

b) DCM imps | Direct and 3P imps | DBM imps | No PG

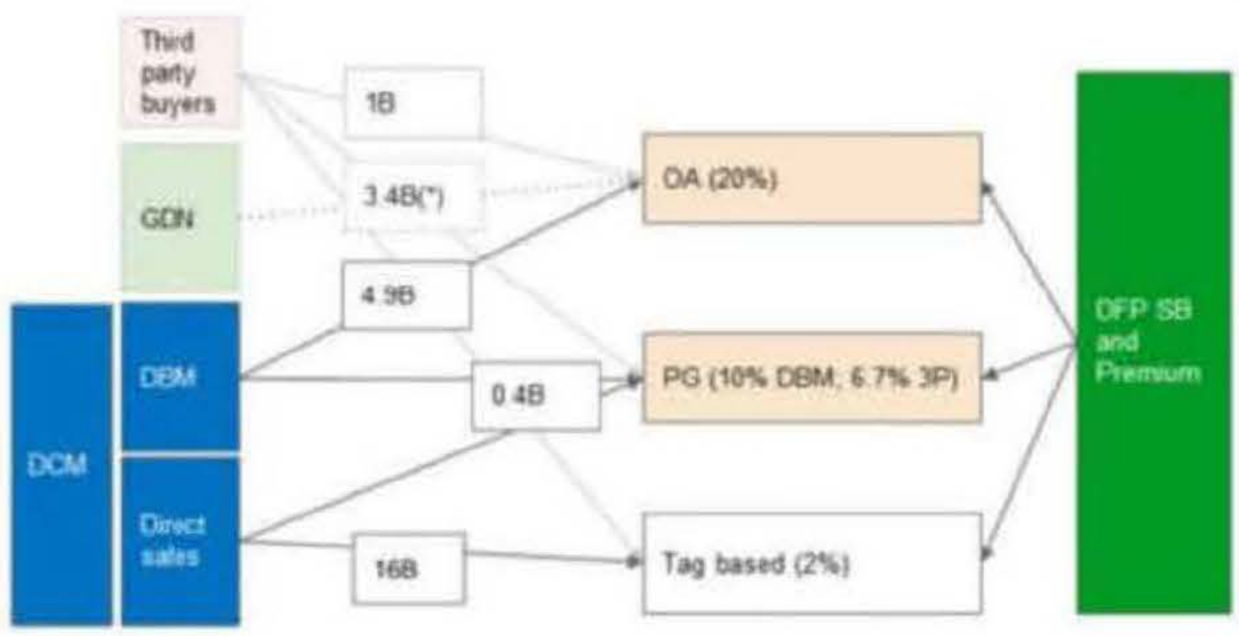
c) DCM imps | Direct and 3P imps

Error in mapping where DCM adv ids are not mapped to a GT company name (may or may not have DBM) - 56K (current 73K pubs in DCM)

Google

Id	Date	Text
1	07/26/2018 20:53:07	+jnussbaum@google.com Hi Jess, I just setup some time for us to chat tomorrow to discuss this live.
		After the latest BFM review with execs, we've been asked to provide a data-driven list of the top PG prospects. We have the data on top PG spenders and Diego is working on also pulling advertisers not yet spending on PG. We're hoping you (along with the buyside GTM teams) can help us validate whether this list makes sense. (FYI +carmengh@google.com) _Assigned to Jessica Nussbaum_

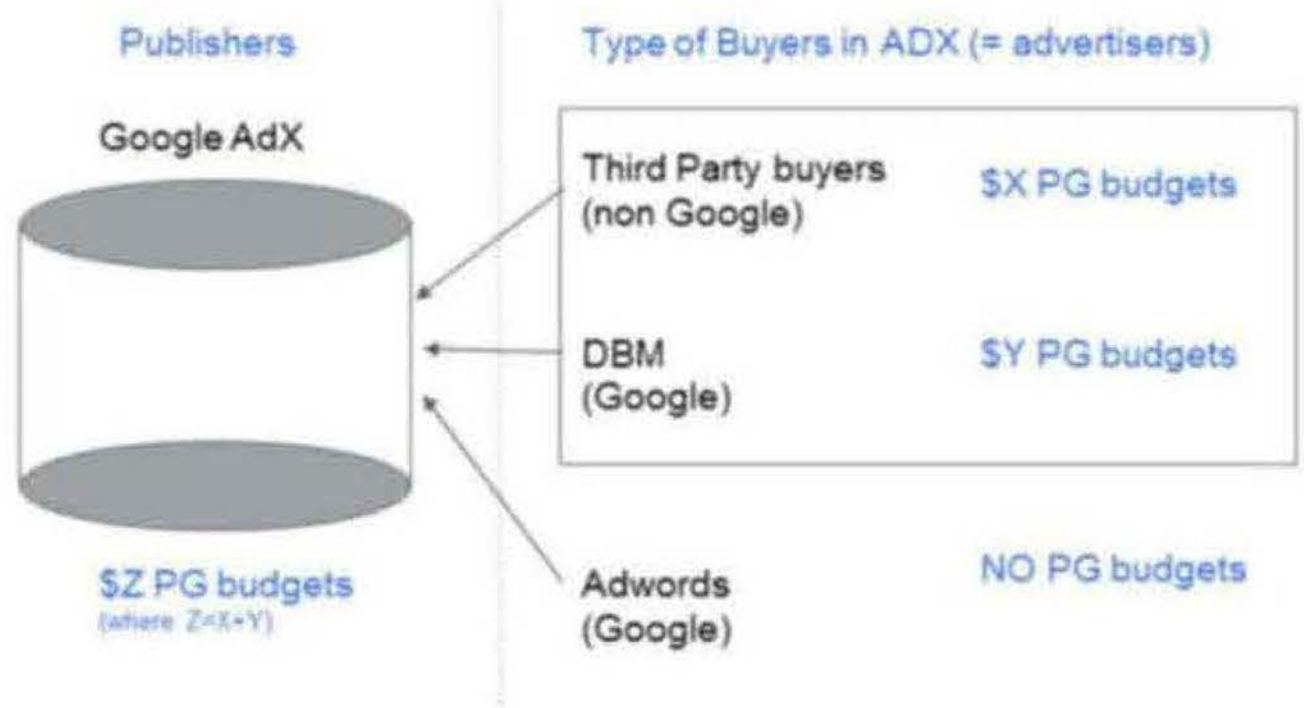
Cannibalization would be highly unlikely



Any budgets moving from OA to PG would be highly unlikely due to the following reasons:

- Efforts required to make and maintain direct connections
  - Deals sourcing: PG requires a salesforce
  - Deals mg: need to set up an order for each PG vs one time set up for OA
- Supply and demand dynamics
  - PG CPMS higher than OA and hence targeting different advertiser budgets
- Google's GTM Strategy
  - Ideal state for buyers is decisioning on every impression (hence: tags -> PG -> OA)
- Google's product Strategy
  - Safety features only available only on OA (as PG allows buyer/sell freedom)

PG Budgets



Note: While Other third party buyers can buy PG in Google AdX, DBM can only buy PG on Google adx (there is a beta for other exchanges but revenues is negligible for now)

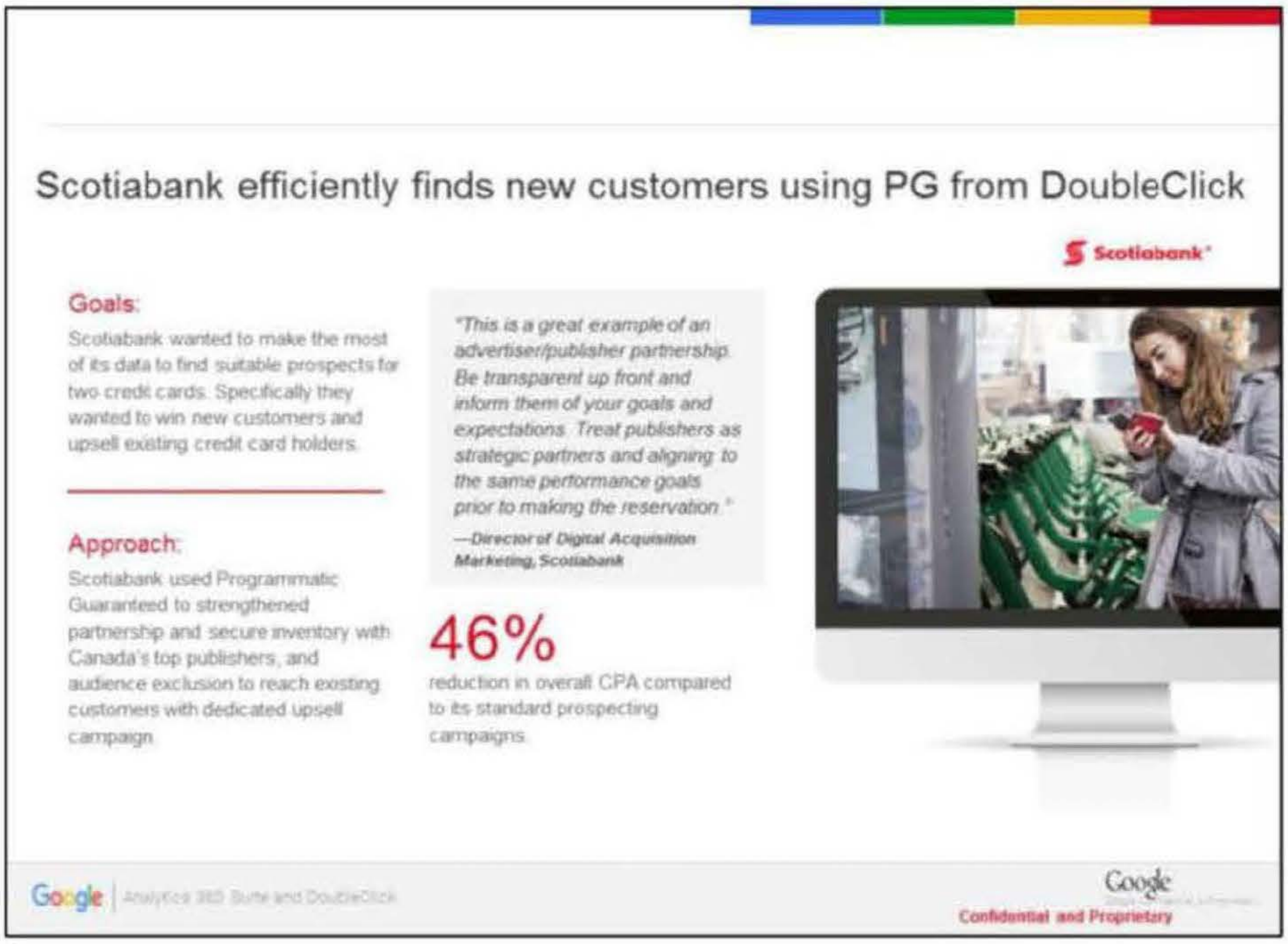
Advertisers budgets in Google AdX and selling costs

Advertisers sophistication Size of Advertising Budgets	Distribution of Adv Spend in Google		Fee structure	
	PG	Direct sales	On direct sales	On PG
Big 6 agencies	67% (DCM + 3P Adservers in DFP)	[illegible]	- 0.06 DCM ad serving fee + D% cut on media spend + F% Rebate on annual budget (paid by pub)	- 0.06 DCM ad serving fee - 4% tech fee + 1.3 to 2*D% cut on media spend (*) + F% Rebate on annual budget (paid by pub) + G% DVIP discount paid by Google
TechSavy agencies (eg Accenture) Medium/Small agencies	5% (DBM + 3P Buyers in DFP)	[illegible]	- 0.06 DCM ad serving fee + D% cut on media spend + F% Rebate on annual budget (paid by pub)	- 0.06 DCM ad serving fee - 4% tech fee + D% cut on media spend (**) + F% Rebate on annual budget (paid by pub) + G%DVIP discount paid by Google
Medium/Big Advertisers (Typically through DBM)	28% (DBM + 3P Buyers in DFP)	[illegible]	- 0.06 DCM ad serving fee	- 0.06 DCM ad serving fee - 4% tech fee
[illegible]	n/a [illegible]	[illegible]	[illegible]	[illegible]

(*) Anecdotal feedback in APAC: Agencies fees can be 30-100% higher in PG (claiming operational complexity of setting up the deals). Approach followed to avoid the extra 30%-100% extra markup to advertisers: train the OpCo (Mindshare) to do the PG themselves instead of going through the Trading desk (Xaxis).

(**) Smaller/Medium/Tech savy agencies - media planning and digital spend done by the same team so no extra mark up is charged (hypothesis tbv but kept for simplification).

Google
Confidential and Proprietary



Scotiabank efficiently finds new customers using Programmatic Guaranteed from DoubleClick

GOALS
Win new customers
Upsell existing credit card holders

APPROACH
Used Programmatic Guaranteed to secure inventory with Canada's top publishers
Used audience exclusion to reach existing customers with dedicated upsell campaign

RESULTS
Strengthened partnership with key publishers
Reduced the overall cost per acquisition (CPA) by 46%

SOURCE:
https://www.doubleclickbygoogle.com/articles/scotiabank-efficiently-finds-new-customers-using-programmatic-guaranteed-doubleclick/

Id	Date	Text
1	01/16/2019 15:46:43	+ericllo@google.com +aazab@google.com

Goals

Drive FT subscriptions

Target key audience segments on premium inventory

Prevent media wastage

Approach

Sold campaign through DoubleClick Ad Exchange

Employed Programmatic Guaranteed with Audience Lists

Results

86% of ads were in view

22% increase in users in target frequency range

18% increase in users who subscribed to the FT having been exposed to the campaign

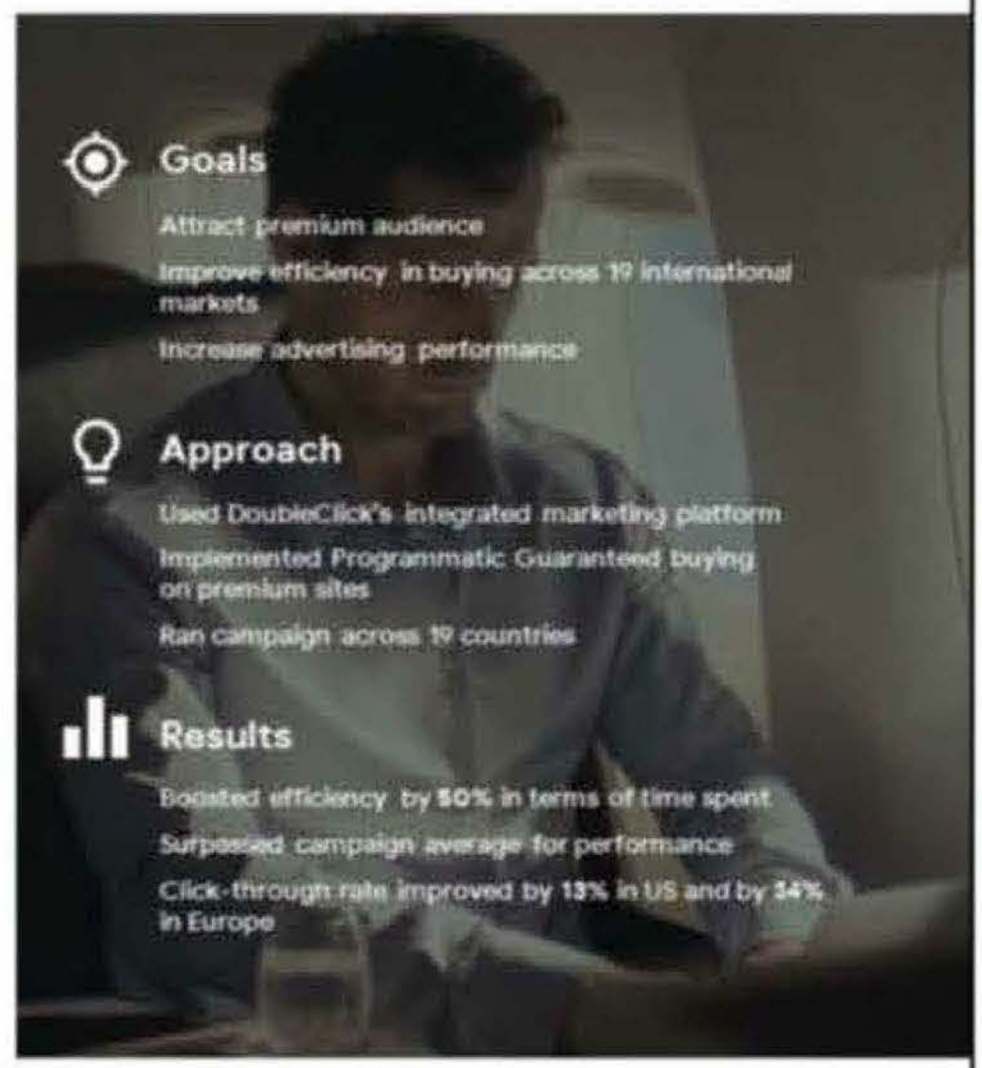
Google
Confidential and Proprietary

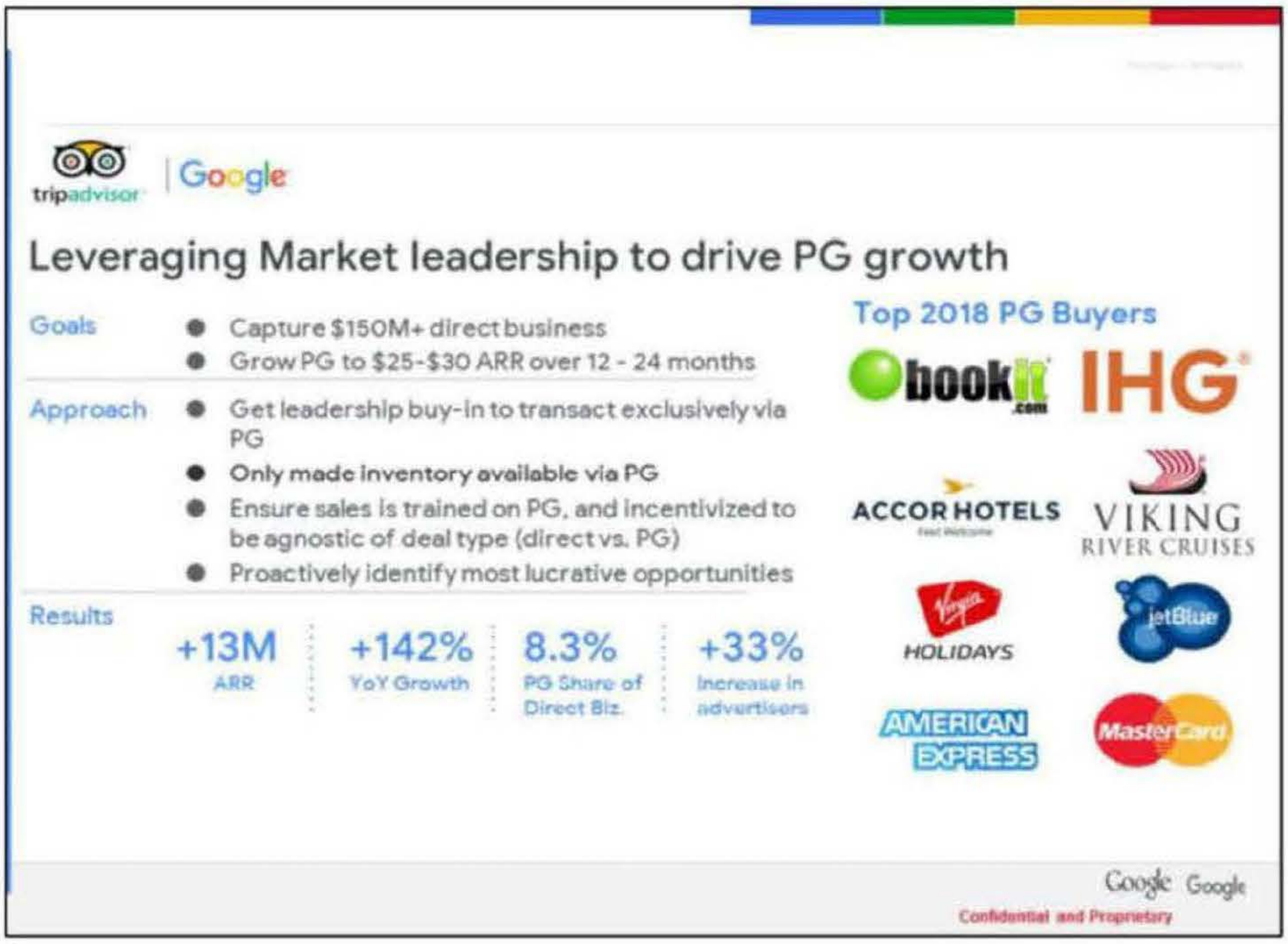
TURKISH AIRLINES | Google

Turkish Airlines boosts business class travel using DoubleClick's Programmatic Guaranteed

"Programmatic guaranteed creates a difference in our business in terms of operational efficiency and return on investment."

Rafet Fatif Ozgur, Advertising Manager, Turkish Airlines





Want to talk about TripAdvisor, which is our largest partner today in terms of PG spend (followed closely by CBS)
Leadership bought in early into the value proposition of PG
Two factors leading TA to be able to influence transaction type (PG) compared to other publishers
Do not transact via any other deal type for US inventory
One of three major players in the digital travel space

Sell-Side Pricing - Option 3 Selected

- Ratecard: 10%, LPS discounts most pubs to 5%, OPG maintains 10%. Effective rev share is 6.5%
- The product delivers 4.5-7.5% value to publishers
- Publisher feedback suggests that pricing is not an issue today, but longer term as adoption grows it may be an issue.
- Data shows that there is not a correlation between discounts & accelerated adoption

Option 1: Status Quo	Option 2: Update Rate Card	Option 3: Maintain ratecard with global discount criteria
Continue to discount LPS to 5% and limit OPG discounts	Move all publishers to 5% rate card price	Establish global criteria for OPG to offer discounts to strategic pubs
PROS/CONS: ✓ Collect higher fees from pubs willing to pay them (driven by buyers pushing PG adoption) ✓ Keeps P&L steady ✗ Long term may be a blocker for adoption	**PROS/CONS:** ✓ Price aligns better with value delivered ✓ Long term may be necessary ✗ Based on 2017 data, this would reduce Google fees by $2.9M ✗ No evidence to suggest this will lead to short term revenue gains ✗ No optionality to move back to a higher price point	**PROS/CONS:** ✓ Price aligns better with value delivered ✓ Allows sales to use discounts as a negotiation lever ✗ Will reduce some Gooogle fee revenue

Google
Confidential and Proprietary

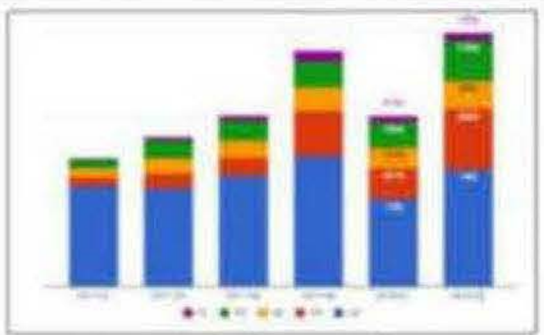
PG Deep Dive: Top Product Asks

Prio	Buy/Sell	Product Ask	Status
0	Buy	**Buy-Side User Access for Media Planners:** Reservation budget holders and media planners cannot access DBM due to limited permissioning capabilities. We need to unblock their access today vs. waiting for a shift in the ecosystem	2H Beta
0	Buy	**Buy-Side PG with Frequency Management (DBM):** Allow buyers to manage frequency on their PG campaigns	2H GA
0	Both	**Makegood Support** Ad servers allow for make-goods, which are necessary for true consolidation & reservation parity	Not Committed
0	Both	**Rich Media Support** We need to support advanced creatives that are prevalent in reservation buys. This is a parity feature and will boost revenue (these creatives have higher CPMs)	Not Committed
0	Both	**Serviceability Investments:** In order for PG to scale, we must continue to invest in features that prevent users from making mistakes om the products and self-service troubleshooting improvements	Ongoing
0	Both	**CPM Sponsorships** Allow pubs to sell sponsorships based on CPM pricing	2H Beta
1	Buy	**PG with Buyer Decisioning (AdX Buyers):** Allow 3p buyers the ability to pass on impressions while still meeting the PG committed goal	2H Beta
1	Sell	**Multi-Account Payment Support** Ability to disperse payments to separate AdX accounts incl. those using different currencies	2H Beta
1	Sell	**Direct Vast Calls:** Allow pubs who do not use our SDKs to monetize video content via PG	2H Beta
1	Sell	**Google Affinity & Demo Targeting:** Allow pubs to target include/exclude Google affinity/demo segments to drive higher CPMs	1H '19 Limited Beta (10 pubs)
1	Sell	**Pricing recommendations/benchmarks:** Pubs are not gaining incremental value from features like Audience Guarantees. In product pricing recommendations are key to helping publishers get the maximum value from their inventory	Not Committed
2	Buy	**Inventory Recommendations:** This is needed to scale match-making efforts between buyers and pubs	Not Committed
2	Buy	**Buy-Side Reporting Improvements:** Unique reach reporting at the campaign level and UI stats to show impressions passed when consolidated linked back to media CPM to show value	Not Committed

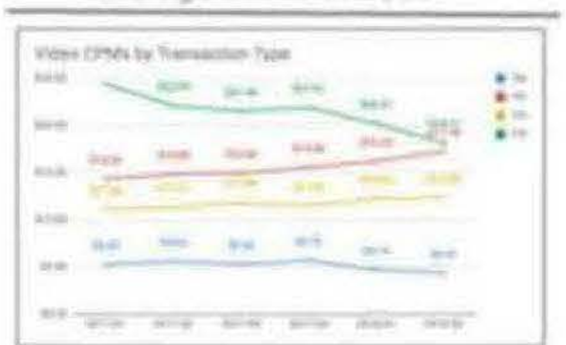
Google
Confidential and Proprietary

Video is 37% of PG spend YTD - Large Untapped Opportunities

PG deal spend is growing fastest



Average CPMs are $20+



Opportunity	Solution
Grow premium video inventory Enable PG monetization for pubs who do not use our SDKs and those who need greater control over video creatives ***Sample Pubs:*** Turner, PlutoTV, Disney, Pandora, ESPN, Spotify, MLB, BAMTech, TV2 Norway, CBS	- Direct VAST Calls (DVC) [Q3 Beta] - PG for STB [Q4 Beta] - Pub-Hosted Custom Creatives for Video [Q3 Beta]
Enable buyers to discover premium inventory Launch improvements across DV360 to improve the video buying experience ***Sample Pubs:*** ANY pub, including DFP pubs that don't appear in Marketplace (i.e. Vevo, CBS, MLB)	- Marketplace Ranking improvements [Q3] -Spotlights [Beta Q3] -Bulk RFP & Consolidated Negotiations [Beta Q2]
Enable audience based buying/selling Offer publishers more insights and targeting capabilities based on Google data ***Sample Pubs:*** CBS, yNet, Fairfax, Seven West, CWTV	- Google demo targeting [50 pub test in '18, 10 pub pilot in '19] - Google affinity targeting [5 pub beta in '19]

Data from Jan 1 2018 to July 30 2018 (Source: Video Spend Metrics)

Google
Confidential and Proprietary

Winning Video Inventory

53

Google
Confidential and Proprietary

Id	Date	Text
1	08/01/2018 17:49:15	Given the previous slide mentions discoverability as a key challenge, I think that address this issue, no?
1	08/01/2018 18:16:33	Discoverability is more about finding what we already have. I think this slide would be more or less our DRX video strategy to win more broadcasters
2	08/02/2018 02:51:15	I am not sure what this slide is meant to add on top of whats in slide 47. Opportunity #1 being: Grow premium video inventory, with 4 solutions outlined. Side note, I'm also a little worried we're going in circles. The BFM metric is a depth metric: % of impressions from PG / total DFP impressions. So what we're saying is to grow the depth metric we need to grow the denominator? I think the problem statement we all started with was that that metric should be growing faster.
2	08/02/2018 15:15:10	+kheinz@google.com +chrisl@google.com Hi Kristin, Chris and I were just chatting and we want to be prepared to address the concern that the buyside will likely raise around how we don't have all the premium video inventory in Google Ad Manager. I created the previous slide to show some of the PG-related efforts to win this inventory. Can you create a slide that shows our overall efforts across Ad Manager to win more video inventory? +bitetti@google.com (FYI) _Reassigned to Kristin Wiechmann_
3	08/02/2018 15:15:10	It's not the focus of the BFM conversation, but in the last review the buyside flagged that we have a gap in coverage for premium video. We want to have this slide in the appendix so we are prepared with the answer on our ongoing strategy to win more pubs on the full Google Ad Manager stack for video.

GRAVEYARD

Google
Confidential and Proprietary

WIP

Customer Segmentation

Google

Confidential and Proprietary

Publisher Segmentation List (AMER)

WIP

Google

Publisher Segmentation List (EMEA)

WIP

WIP Here

Google
Confidential and Proprietary

Publisher Segmentation List (APAC)

WIP

Country	Publisher name
AUNZ	Fairfax
AUNZ	Optus
AUNZ	Nine
AUNZ	Ten
AUNZ	NewsCorp
AUNZ	Cricket Australia
AUNZ	Seven West Media
AUNZ	SBS
IN	Times Internet
IN	TrueCaller
IN	Sony Liv
IN	Viacom18
IN	Network18
IN	NDTV
IN	Dailyhunt
IN	Dainik Bhaskar
IN	Zee
IN	Cricbuzz
IN	Reliance Jio

Country	Publisher name
TH	Premium Publishers Network (PPN)
TH	Tencent Thailand
TH,ID,PG	Naspers
VN	VNG
VN	24H
VN	FPT
SG	SPH
SG	Mediacorp
ID	Kompas
ID	Detik
ID	Kapanlagi
ID	KMK
CN	Meitu Technology
CN	ZhangiTV
CN	DouyuTV.com
CN	http://www.panda.tv
JP	Asahi Shimbun
JP	Nikkei
JP	Nikkei BP
JP	Mainichi

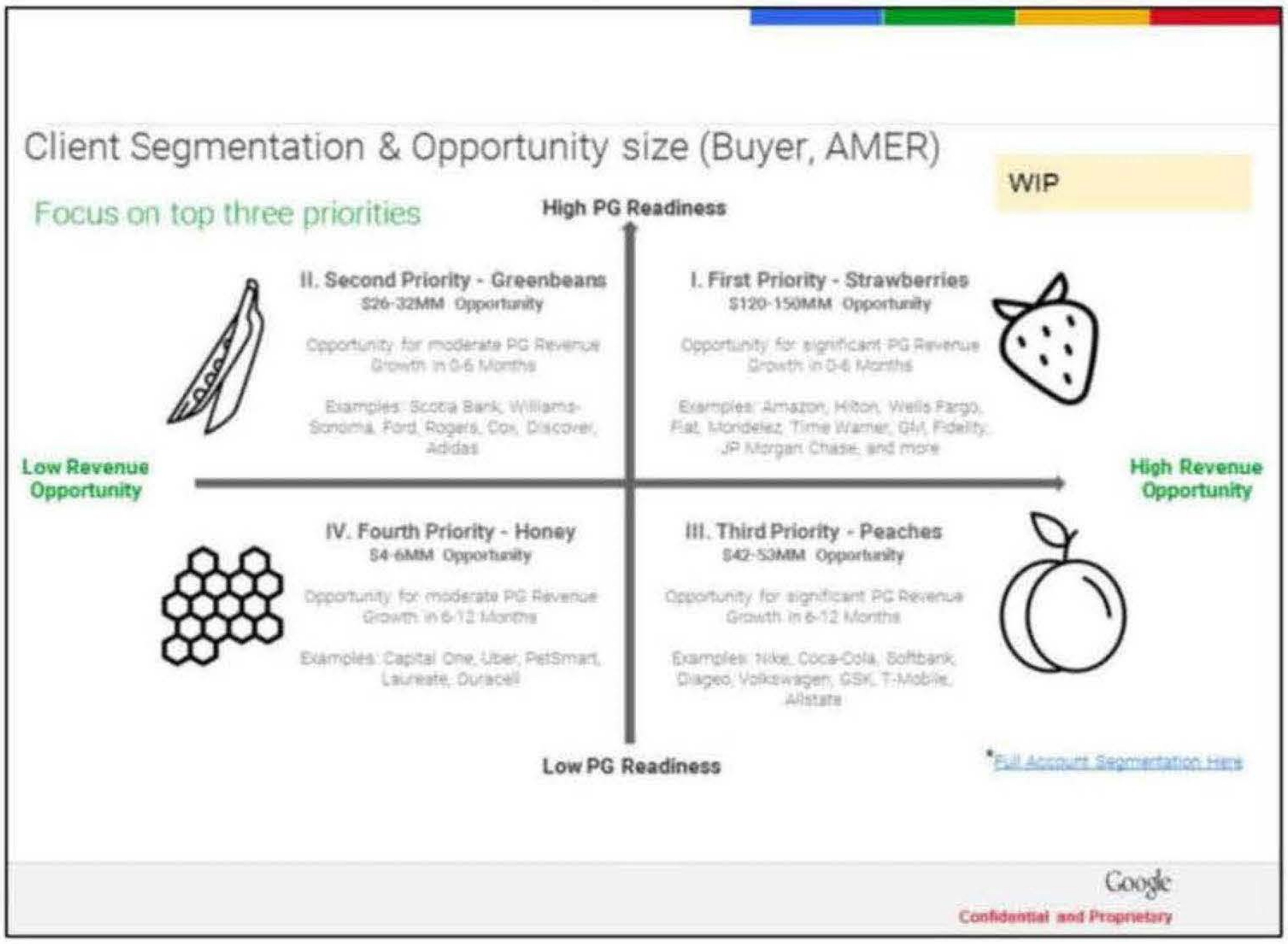
Google

Publisher Segmentation List (OPG)

WIP

Region	Publisher Name
NA	SendtoNews Video Inc
NA	Wikia
NA	Prometheus Global Media
NA	Evolve Media
NA	Entrepreneur.com
NA	Refinery29 -
NA	POPSUGAR, Inc.
NA	Woven Digital, Inc.
NA	Bonnier Corporation
NA	Evite
NA	AARP
NA	XO Group - DFP
NA	Bustle
NA	The Atlantic Online
NA	New York Magazine
NA	NASDAQ
LATAM	Futbol Sites Network
LATAM	NZN - Premium
LATAM	Metro International

Region	Publisher Name
LATAM	Copesa
LATAM	GFR Media
LATAM	InfoMoney
LATAM	Editora O DIA SA
LATAM	Webmotors
EMEA	Grupo Zeta
EMEA	Estetik Yayincilik A.S.
EMEA	Adconion Spain
EMEA	TgAdv
EMEA	Postimees
EMEA	Webisaba Limited
EMEA	Spil Games Production
EMEA	GOLDBACH Audience AG
EMEA	Onedio
EMEA	Concept
EMEA	Esi Media (Independent UK)
EMEA	Monrif Net S.r.l.
EMEA	Sxm-Network Kft
EMEA	ABC Startsiden AS



Indicate where focus will be: I,II,III
$134MM is display + DFP Video

Buyer Segmentation List (EMEA)

WIP

Parent	Advertiser Country	Advertiser
Mondelez	FR	Mondelez MEU - France
Ferrero	IT	Ferrero_FMCG_IT
Klarna	SE	Klarna
Microsoft	GB	Microsoft UK
Johnson & Johnson	AE	JJ_DB_J&J_Pharma_DCM
HM Government	GB	EDI_GOV_Visit Scotland
Ceconomy	DE	DE-MM-Display-Awareness-plannet
Intercontinental Hotels Group	GB	AdvantagedPricing
Delve	PL	Delve - Book it (DCM-Linked)
Mondelez	ES	Mondelez MEU - Spain
Mondelez	DE	Mondelez MEU - Germany
Starcomme	GB	Lidl_UK_Starcom
Samsung Group	GB	Samsung_DCM_UK_Starcom
Unilever	NL	Unilever Netherlands
Hewlett Packard	GB	OMG_HP_PRINT_EMEA_GB_UK
Daimler Group	GB	Mercedes-Benz_UK_ZenithOptimedia
Bel Group	FR	Bel_FR_SPRK
Giorgio Armani	IT	Armani IT
Mars	FR	Mars Chocolat_FR_STA
Anheuser-Busch InBev	FR	ABI_PLAY
Mondelez	IT	Mondelez MEU - Italy
Nike	GB	WE_Running
Norgesgruppen	NO	NO - Kiwi
Saudi Telecom Company	AE	STC-CONSUMER

Google

Confidential and Proprietary

https://www.google.com/url?hl=en&q=https://docs.google.com/spreadsheets/d/1EzpMSrd-8tE71vQ4YCyk8IETGeCrqNhwylqh-mQ0ZWQ/edit%23gid%3D623425285&source=gmail&ust=1531229910735000&usg=AFQjCNFLNyiLGsW9qAyUcthvVUouB0BswA

Id	Date	Text
1	08/15/2018 12:28:40	+kfletcher@google.com +carmengh@google.com here is the EMEA buy side lead list for PG: https://docs.google.com/spreadsheets/d/1EzpMSrd-8tE71vQ4YCyk8IETGeCrqNhwylqh-mQ0ZWQ/edit?ts=5b2a0b8a#gid=623425285

Buyer Segmentation List (APAC)

WIP

Country	Buyside Partner Name
AUNZ	Telstra AU c/o OMD AU
AUNZ	Ladbrokes AU
AUNZ	Starcom AUNZ
AUNZ	Cadreon AU
AUNZ	Stan AU
AUNZ	Accuen AU
AUNZ	Amnet AU
AUNZ	Air New Zealand c/o Amnet NZ
AUNZ	Qantas Loyalty Accuen AU ZenithOptimedia AUNZ Qantas Loyalty Accuen INSEA OMD Programmatic NZ
AUNZ	Amnet AU
GRCN	Ascension HK - Oppo -IN Ascension HK - Oppo
GRCN	L'Oreal HK - DBM
GRCN	Accuen HK Livehouse.in TW
GRCN	Livehouse.in TW
GRCN	AMNET Hong Kong
GRCN	Livehouse.in TW
GRCN	PCCW

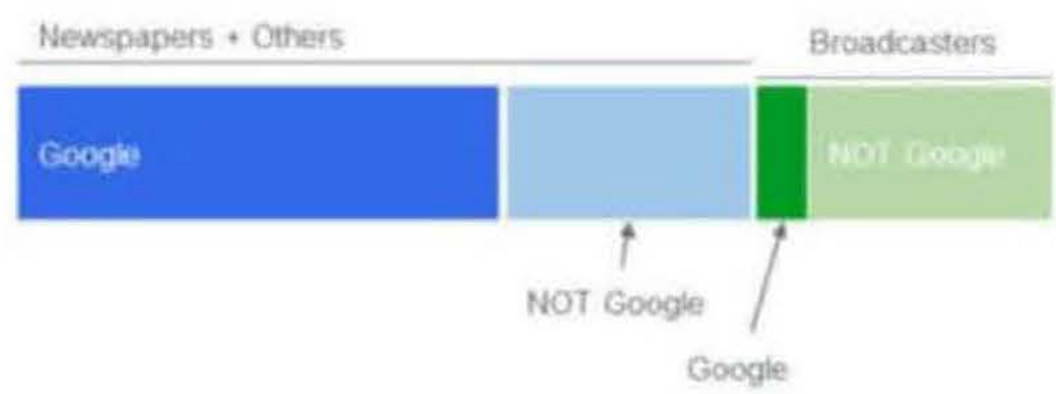
Country	Buyside Partner Name
GRCN	FiveStones China Sales Frontier TW P&G_SC_TW_V1_DBM
GRCN	Bytlink
GRCN	Unilever HK c/o OMG Programmatic
INDIA	Hindustan Unilever Limited c/o Omnicom India
INDIA	Maruti Suzuki C/o Amnet India Maruti Suzuki 2 C/o Amnet India MSIL Nexa c/o AGL DBM Progbuy Media India
INDIA	ZO_Nestle_IN_V2
INDIA	Brandmap DBM India Vivo c/o Omnicom India Brandmap INR India
INDIA	Xaxis India Airtel c/o GroupM India
INDIA	Volkswagen Group Sales India Pvt Ltd (INR)
INDIA	GroupM Media India Private Limited Xaxis India Flipkart Adiquity India Flipkart c/o GroupM India Xaxis India
INDIA	Cadreon India (INR) Amazon C/o pivotroots INR
INDIA	GroupM Media India Private Limited Madison Media India

Country	Buyside Partner Name
INDIA	Mindshare India Hotstar_Rx_IN
JAPAN	Group M Japan
JAPAN	iProspect Japan
JAPAN	CCI
JAPAN	HDY Digital (irep)
JAPAN	Group M Japan
JAPAN	HDY Digital (irep)
JAPAN	Essence Global Japan KK
JAPAN	OPT
JAPAN	CCI
JAPAN	Group M Japan
SEA	Precision_All_SEA_V1_DBM Brainchild Communications - Pakistan - DG&A - SEA
SEA	AirAsia Group - DBM
SEA	Airy Rooms c/o MightyHive SEA
SEA	AMNET SOUTH EAST ASIA PTE LTD
SEA	ZO SIA - SG ZO SIA - GLOBAL
SEA	Hotels.com APAC
SEA	Accuen TH
SEA	HP Inc. APAC – PHD
SEA	Accuen INSEA

Google

https://docs.google.com/spreadsheets/d/1igPPw53yGDO7SI7d6S6qYEsfrF3EC01SsgJQ2V40R3c/edit?ts=5b331eed&pli=1#gid=186860766

Ad to be deleted - for discussion purposes only



Source: Product analysis

New Platform Penetration metric (Web)

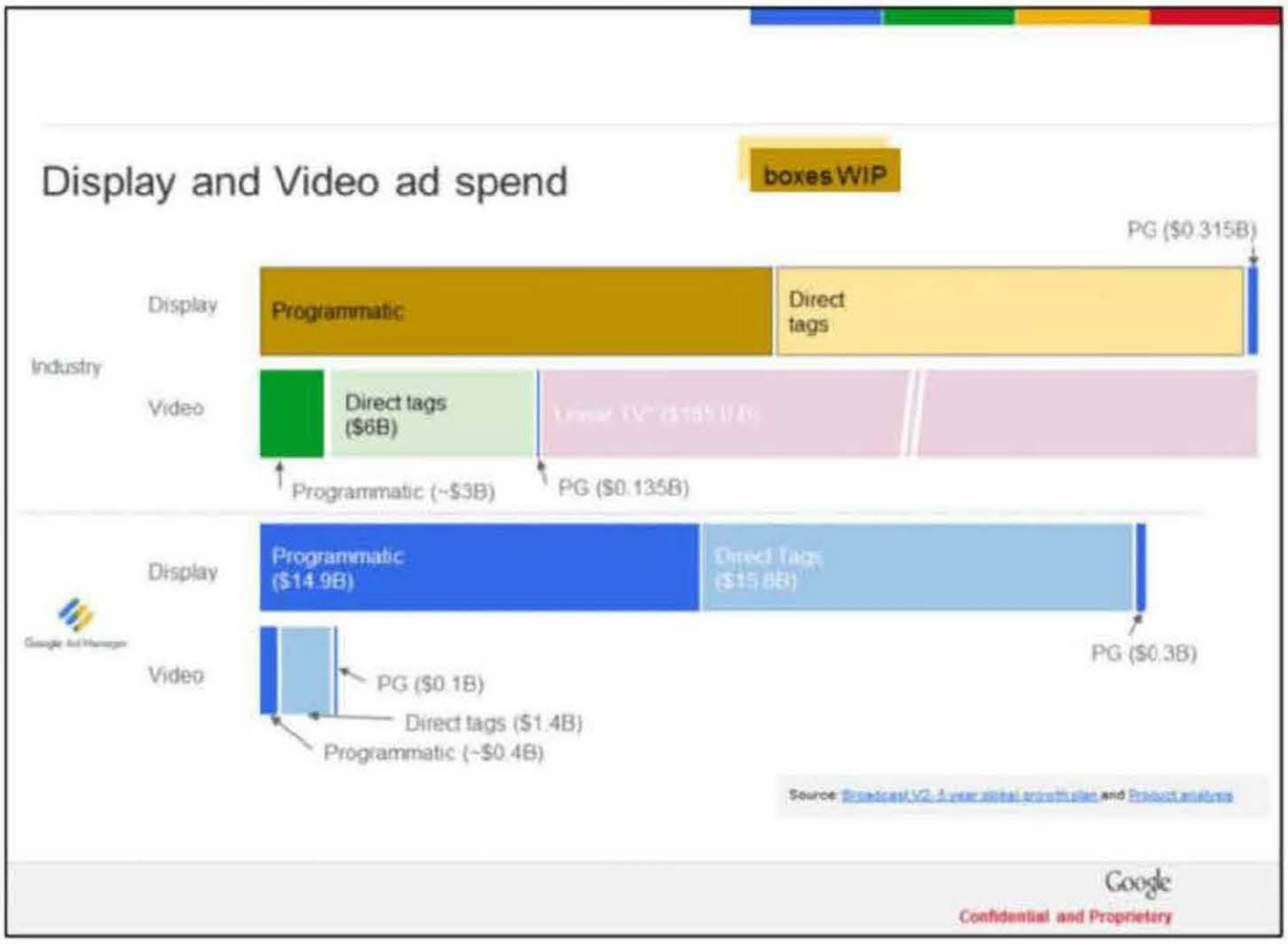
	DFP penetration			
	Tag presence[1] (Breadth)	YoY	Depth[2]	YoY
BR	41%	[illegible]	93%	[illegible]
CA	100%		96%	[illegible]
US	99%	[illegible]	88%	[illegible]
LPS AMS	**98%**	<1	**75%**	[illegible]
DACH	98%	[illegible]	95%	[illegible]
FR	99%	[illegible]	45%	[illegible]
UK/IE	100%	[illegible]	75%	[illegible]
LPS EMEA	**96%**	<1	**83%**	[illegible]
AU/NZ	100%		40%	[illegible]
CN				
JP	86%	[illegible]	27%	[illegible]
LPS APAC	**91%**	[illegible]	**42%**	[illegible]
OPG AMS	89%	[illegible]	86%	[illegible]
OPG EMEA	79%	[illegible]	58%	[illegible]
OPG APAC	73%		25%	[illegible]
OPG TOTAL	**79%**	[illegible]	**54%**	[illegible]
Global XC	**84%**	[illegible]	**63%**	[illegible]

Q4 2017 data. Based on the Glengarry data model, utilizing Chrome data
[1]Tag presence defined as the % of top domains using DFP for at least one impression
[2]Depth defined as the % of total estimated impressions of the top publishers (5k) that are being served using DFP (accessed or not)

Some considerations:

- We're doing well at driving platform adoption (for top 5k publishers), overall penetration at 84%
- Now, what is the longer term aspiration for this marketplace, what is our goal depth?
- Actions we should look at to increase depth:
  1. DFP renewals
  2. DFP flips (complete flips, and flips where there are two ad servers present right now on same domains)
  3. convert to ads (e.g. where DFP is just a tracking pixel right now)
  4. increase ad load where it's too low
- Google team is working to deep dive on:
  1) the top unaddressable domains ("black sites" from previous slide),
  2) top addressable with no ads domains,
  3) top 168 underserved domains by partner & team (go deeper) - results to be delivered in the next QBR (July/August)

Google
Confidential and Proprietary



Display and Video ad spend
boxes WIP
PG ($0.315B)
Display
Programmatic
Direct tags
Industry
Video
Direct tags ($6B)
Programmatic (~$3B)
PG ($0.135B)
Display
Programmatic ($14.9B)
Direct Tags ($15.8B)
Video
PG ($0.3B)
PG ($0.1B)
Direct tags ($1.4B)
Programmatic (~$0.4B)
Source:
Google
Confidential and Proprietary

%Video over total PG

Reviewing numbers

Link to main slide

VIDEO PG REVENUES	2015	2016	2017
Americas	1.6	6.8	23.7
APAC	0.7	6.0	10.7
EMEA	0.9	3.6	15.6
UNKNOWN	0.0	0.0	0.0
Total	**3.2**	**16.4**	**50.0**

TOTAL PG REVENUES	2015	2016	2017
Americas	20.9	51.2	116
APAC	1.6	9.6	24.5
EMEA	3.2	13.3	40.6
Total	**26**	**74**	**181**
			144.40%

%VIDEO OVER TOTAL PG REVENUES	2015	2016	2017
Americas	7.66%	13.28%	20.43%
APAC	43.75%	62.50%	43.67%
EMEA	28.13%	27.07%	38.42%
Total	**12.49%**	**22.13%**	**27.61%**

Link to data source