THE MOBILE APP ECOSYSTEM REMAINS STABLE AND COMPETITIVE

June 2017

EXECUTIVE SUMMARY

Mobile app publishers and developers agree that platforms like Android and iOS enable competition in the mobile app ecosystem and are direct catalysts for growth and innovation. Developers are in the best position to assess the true impact on players and platforms in the app economy, as they are the front lines of the fastest-growing industry in the world, which supports over two million jobs in Europe alone,. Further, they are the first to identify and raise concerns over unfair practices.

The opinion of developers and publishers runs counter to the European Commission's antitrust complaint against Android. The nearly unanimous opinion of those in the app ecosystem – including consumers – is that they see a competitive and thriving industry. The Developers Alliance first published our opinion research last summer, based off the results of 673 mobile app publishers and developers worldwide. Ongoing research over the past twelve months has only further confirmed these findings.

The competitiveness of the industry – and the role of platforms like Android in fostering it – is central to this debate, but can easily be misunderstood due to outdated or surface-level thinking. Rather than block competition, platforms create more opportunity for developers, including potential competitors. Rather than hinder the industry, platforms contribute to its phenomenal growth.

Any attempt to assess or regulate the app industry must take into account the interdependent ecosystem of publishers, developers, advertisers, agencies, carriers, consumers, and platforms.

Upheaval in any one area creates disorder for all. Put more plainly, developers and consumers depend on platforms like Android.

Android must behave responsibly and respond to consumer demand and developer preferences, in order to maintain their position. In an industry that constantly faces disruption through innovation, anti-competitive behavior from a platform like Android is simply bad business.

We have seen too often recently the unfortunate cycle of government bureaucracies that cannot keep up with the pace of technology, then cause untold unintended consequences as a result of ill-advised, overreaching regulations. Developers and publishers know this risk all too well, which is why the strong preference of the app industry is for the government to play a more limited, less expansive, role in the app ecosystem.

This report will bring together new and previous findings on three central topics:
1) The competitiveness of the app industry;
2) The impact of pre-loaded apps; and
3) The role of Android in addressing fragmentation.

THE MOBILE APP MARKET IS COMPETITIVE, STABLE, AND THRIVING

Last summer, the Developers Alliance reported that 96% of publishers and developers globally (97% in Europe) say the app industry is competitive. Any notion that publishers lack for opportunities is false on its face.

How competitive is the mobile app industry?

	Global	Europe
	96%	97%
Very Competitive		80%
Total Competitive	76%	
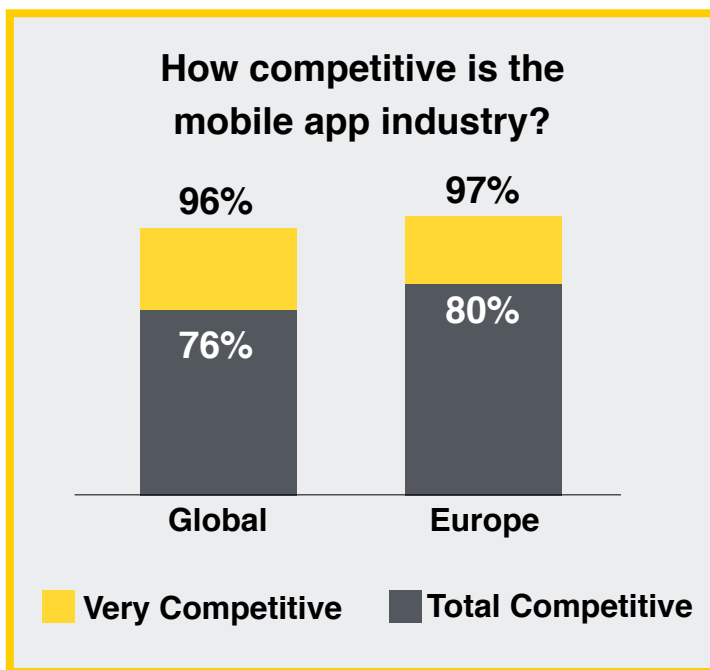
Stability is a significant outcome of and contributor to the industry's competitiveness. Stability creates predictability, which minimizes risk and enables investment. Publishers are able to more keenly identify markets of opportunity and specialize to take advantage of niche audiences. Developers can more easily find ways to apply their talents, whether at a company or self-publishing. Advertisers can predict traffic and set rates. Carriers can predict need and growth. Platforms can identify problems and proactively address them.

The minimization of risk produces its own opportunities, like the exploration of new ways to monetize. For example, mobile games often use the freemium model; others generate revenue through advertising; others offer a paid-download version that has fewer or no ads. Some use a combination of the three. Our 2016 survey showed publishers use some combination of six major revenue models; no one model had greater than 27% adoption. There are many paths to success, which reduces the barrier to entry for consumers and attracts (or creates) new consumers.

Diversity in opportunity also minimizes the role of platforms like Android and iOS. Contrary to the European Commission's belief, the two platforms do compete with one another, as affirmed by both companies as well as 89% of respondents in the European Commission's own survey. Over 40% of publishers use at least one distribution platform other than Apple Store or Google Play, and 23% do not use either of them. While platforms like Android remain the most common path for content from publishers to reach consumers, the stability of the app ecosystem has produced other avenues.

All of this increased opportunity is not to say that failure is impossible for apps. However, failure due to uncertainty or unforeseen obstacles are less common among app publishers due to the stability of the app ecosystem. In fact, a major cause of uncertainty now comes from outside, not inside, the ecosystem: the specter of new regulations that impact platforms and publishers alike, potentially altering revenue models, closing established pipelines to consumers, and picking winners and losers.

The consequences of uncertainty due to potential regulation can be far-reaching. As one developer put it, the very concept of what can be considered an "app" is expanding. The rise and evolution of personal assistants, chat bots, and other service-oriented applications are blurring the lines between verticals. Health care, banking, manufacturing, automotive, agricultural, and other industries are being remade by apps, serviced by publishers, and assembled by developers. The integration of developers across industries continues apace, and the risk and impact of uncertainty due to regulation grows with it.

APP DISTRIBUTION

Google Play	Apple Store	Google/Apple (one or both)	Windows	Side-loaded	Amazon	Pre-loaded	Other App Store	Other
65%	64%	77%	17%	14%	12%	9%	7%	11%

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PRE–LOADED APPS ARE BENEFICIAL TO DEVELOPERS AND CONSIDERED ESSENTIAL BY CONSUMERS

A major focus of the European Commission is the presence of pre-loaded apps, yet the overwhelming majority (63% globally, 68% in Europe) of publishers are not concerned about pre-loaded apps. In fact, most publishers (62%) say it's a fair practice for platforms to have them. Even more (69%) say that the impact of pre-loaded apps is mitigated by the fact that consumers are easily able to move, hide, or disable them.

How concerned are you about the difficulty of competing against pre-loaded apps?

37%   32%   63%   68%

Concerned   Not Concerned

Globally   Europe
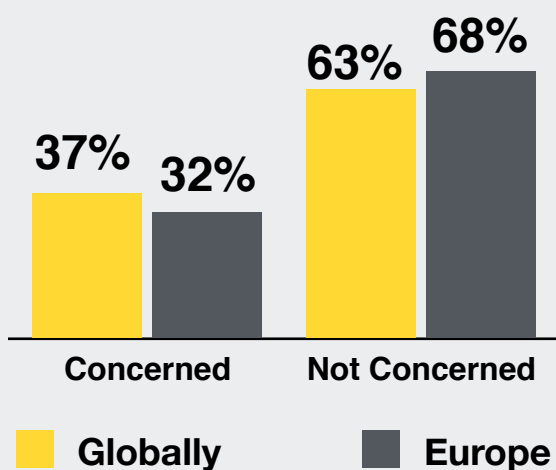
The scope of pre-loaded apps is limited, as the aim of many publishers is to create products that fill a need not currently being served.

However, even in cases where a new app competes as a better version of something existing, most publishers (73%) say that a higher-quality app will surpass a preloaded app (Apple Maps is a prime example of this).

Many developers view pre-loaded apps as a benefit rather than as competition. Similar to how stability in the industry allows publishers to make assumptions, stability in the content that comes standard on a smartphone allows developers to take advantage of its capabilities. For example, a pre-loaded PDF reader on a smartphone allows developers to integrate the PDF format in their product, without concern over whether the end-user currently has such an app or having to direct the consumer to go download one.

Restricting pre-loaded apps comes with the obvious downside of limiting functionality for both consumers and developers. A consumer would have to proactively seek out and find apps to replace the capabilities they currently expect to have. This costs time and maybe money, and still runs the risk of ending up with less than what they would have had before. Developers who can no longer count on universal capabilities are faced with options like launching a product that may not work, or spending more time and money to compensate.

Consumers expect and prefer out-of-the-box functionality. The Developers Alliance conducted a survey of over 4,500 European smartphone users who download and use apps in September of last year. Seven in ten want their smartphone to come with pre-loaded apps, for the simple reason that it is more convenient and ready-to-use immediately.

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This overwhelming preference for pre-loaded apps hasn't diminished the ability for other apps to compete. To the contrary, there are over 2 million apps available in the Google Play app store. Almost all (90%) Android users have changed the apps that appear on their homescreen, through some combination of downloading new apps and hiding or disabling pre-loaded apps. Customization is one of the most important features of a smartphone – the ability to make it "yours" – and consumers don't hesitate to seek out new apps, even if a competing app already exists on their phone.

Our research found in almost every category of app (e.g., messaging, shopping, music, etc.) a majority of Android customers who use the top app in that category also use another app in the same category. For example, the average European Android user has 2-3 messaging apps on their smartphone, moving beyond the basic messaging app that comes with the device. In several categories, use of pre-loaded apps lag far behind the category leader.

Few consumers use apps exclusively, which is both a result of competition in the app marketplace and a sign that competition is strong. Even in cases with clear category leaders (e.g., Amazon for shopping), there is still room for users to discover, download, and use a competing app.

Consumers prefer a smartphone…

30%

70%

- **Without pre-loaded apps**
- **With pre-loaded apps**

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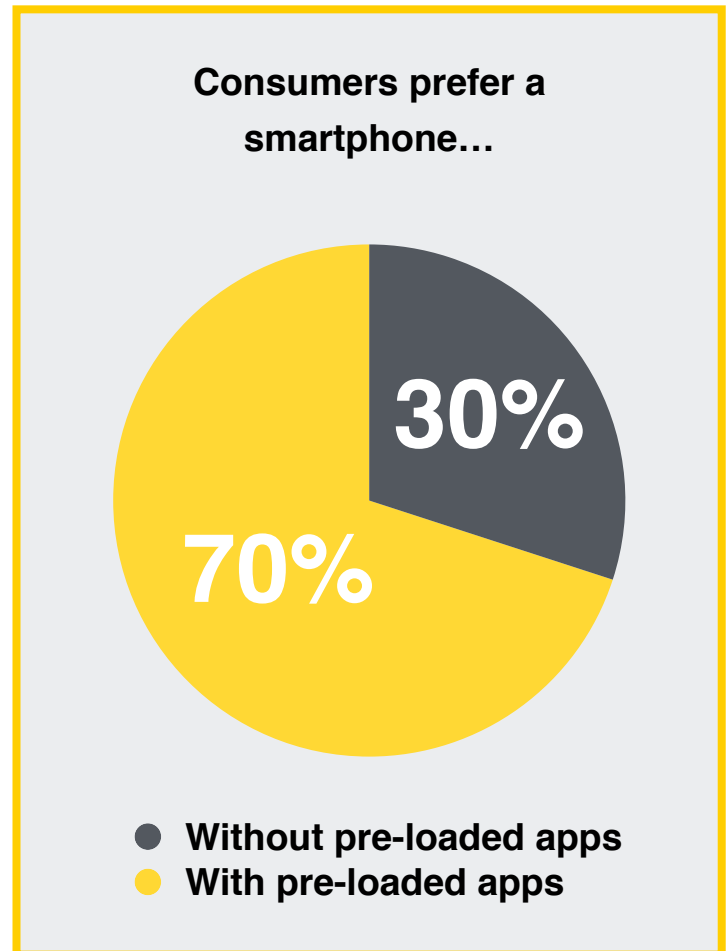
ANDROID'S ANTI–FRAGMENTATION EFFORTS GREATLY BENEFIT DEVELOPERS

Our 2016 research showed 62% of publishers and developers who work with Android were familiar with the issue of fragmentation, and 48% said it had been a problem for them on some level. The threat of fragmentation is launching an app that consumers cannot use properly on their devices, potentially alienating a customer base and limiting the ceiling of product launch.

On average, developers say they have had to develop for five different types of operating systems. Nearly 10% of developers say they have had to account for 10 or more different versions. Developers characterize the time invested in either months (on average, adding 6-8 weeks to the project lifecycle) or in percentages (on average, adding 30% more time).

However, most developers (53%) recognize that the issue has been getting better. As a result, only 11% of developers and publishers see a role for government to play in addressing issues like fragmentation. This is due, in part, to the steps Google has already taken to address the issue. These steps have only benefitted developers and consumers. Google encouraged manufacturers who use Android OS to standardize updates and to increase access for developers to certain apps and APIs.

Last year, Google announced Instant Apps, the ability to offer Android apps through the smartphone web browser. The service has been in beta testing through Q1 of 2017, and has recently been made available to all Android developers. As a result, developers can develop only one version of their app and trust that it will work across most Android devices, even ones who are running on older OS versions. This is unquestionably a huge benefit for developers, who can spend less time catching bugs and more time innovating and acquiring users.

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CONCLUSIONS

The mobile app ecosystem remains prosperous, predictable, stable, and competitive. Platforms like Android connect publishers and consumers, while responding to market pressure as any business would. The resulting stability has minimized risk and increased opportunities for developers, as technology continues to blur the lines between verticals. Developers celebrate the access and opportunities platforms provide, while their feedback helps the industry reduce inefficiencies and improve over time.

Any view that sees the app industry as uncompetitive has not taken a close enough look at it, nor has spoken to a developer who is currently working in the industry. We encourage critics and supporters alike to review the research the Developers Alliance has conducted among both developers and the consumers they serve. The mobile app market and the developer workforce is thriving, and will only continue to grow.

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This report is produced by the Developers Alliance, a non-profit global membership organization that supports developers as creators, innovators, and entrepreneurs.

We promote the continued growth of the industry and advocate on behalf of our members on public policy and industry issues.

Our membership includes a global network of tens of thousands of developers with diverse skills, expertise, and interests; and hundreds of companies that depend on and work with developers.

Learn more at AppAlliance.org

METHODOLOGY STATEMENT

This report is a synthesis of three research projects:

1) A global survey of 673 of developers and staff, conducted May – June 2016, at companies that develop, publish, or support mobile apps. The survey data was collected using an online survey questionnaire constructed by the Application Developers Alliance which was distributed to developers and publishers. Responses came from across the world, with 52% of respondents based in the United States or Canada, 21% based in Europe, 13% based in Asia-Pacific, and the remainder based elsewhere.

   The report for this research project can be found here: https://www.appdevelopersalliance.org/competition-app-ecosystem-report/

2) A survey of 4,000 European consumers conducted in September 2016, on app usage and approaches to smartphone customization and downloading apps. Survey data was collected via an online survey of a panel of Android users in four European countries: France, Germany, Italy, and Spain. For each app category, respondents were shown the names and logos of apps and asked to select which ones they have downloaded and use on their own device.

   The report for this research project can be found here: https://static1.squarespace.com/static/53864718e4b07a1635424cdd/t/582b459c440243e4d6cbef3c/1479230883971/Android+EU+Consumer+Customization+Report+%281%29.pdf

3) In-depth interviews with mobile app developers and publishers conducted in July 2016 and May 2017, probing on similar issues to the above as well as responding to the results.

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DEVELOPER Q&AS

As part of our research, we interviewed developers one-on-one over the course of Spring 2017. Our conversations focused on the results of last year's research, competition in the marketplace, and the impact of regulation in their day-to-day operations. Excerpts of these Q&A sessions are reproduced on the following pages.

Interview #1: Pre-loaded apps give opportunities to developers" - Android Developer in Croatia

Q: When we talked last year, you told me the app marketplace was "very competitive". Has that view changed at all for you in the last year?

A: No, it hasn't. It became a lot easier to make apps, due to new projects coming out that make developers lives easier and enable new apps people to get into the industry. There's been an increase in what you can see as an app – personal assistants, chatbots, and all kinds of stuff coming into play. Watching technologies like instant instreaming makes things more competitive.

Q: Android is a central topic in this discussion. What do you see as Android's role in the industry?

A: The best thing about Android is that it is open, but it's controlled, and it has a real great community. The community is large and Google is constantly in contact with developers, making new stuff and listening to the problems of the community, and supporting us in whatever direction we choose to use to develop apps.

The state of the platform is getting better. There are new tools coming in, communities getting more mature – developers and ways to develop are getting more mature – and we're now having a huge change in the way the Android system is developed, so it's less fragmentation from now on and less out-of-date devices. So that's going pretty great.

Q: Have you gone out of your way to avoid competing with pre-loaded apps?

A: I haven't come across them, because most pre-loaded apps like Google Suite, those are top of the line and the best there can be on the market. Only really big companies can compete with that kind of quality. Usually, those are covering the same areas as other popular apps, just trying to get more users. It's less that they're pre-loaded, and more that those apps and the apps they compete with is a hyper-competitive vertical, as well as a question of quality.

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Q: Does that mean you feel pre-loaded apps takes opportunities away from developers?

A: No, in fact I'd say it actually gives opportunities to developers. If you have an app so popular and great that it gets pre-loaded on devices, then that's amazing. But I wouldn't say it hurts in terms of developers, because there are some apps that aren't really high-quality but are still pre-loaded and developers can easily compete with that.

Q: What do you think about claims that pre-loaded apps are anti-competitive?

I don't think it's anti-competitive at all. Android is actually supporting competitiveness. You can install any kind of API to, for example, open PDF files. This means us as developers have an easier job because we don't have to integrate PDF reading. We can trust that it's pre-loaded with Google Docs, they have a standard API, and we can trust that app will be on the device and be able to open the file properly. Instead of having to implement a PDF reader in our own application, or believe the user may have a PDF Reader and just let the user decide what to do with it. This enables competitiveness, rather than limiting it.

There's a dialogue when you want to open an Excel link. Android by default which app do you want to use and you can choose which one you want. I think that's pretty great, because users can see all options and not just the one the manufacturer said you should use.

Q: What are the major barriers to entry to young entrepreneurs getting into the industry today?

A: Speaking in the experience of me trying to start something, and my friends who have started their own companies – the major obstacle is regulation. There are country-level regulations on users' APIs and users' data, you need to have a lawyer just to put together terms of agreement for your app. That's a pretty hard regulatory burden for small companies and small developer teams to overcome.

Q: Do you think it's still the case that anybody can build the next million-dollar business from their garage in the app industry?

A: They absolutely can. We see new business popping up, new billion-dollar unicorns coming out every month. There's a lot of competition, and I'd say our boom is just starting.

INTERVIEW #2 – "It's like you're an army of one. It's just amazing the power an app developer has today." - System Architect in U.S.

Q: When we talked last year, you said you believe the app economy is competitive. In fact, you also agreed that the app marketplace is a meritocracy where the highest-quality apps will win out over time. Has that view changed for you in the past twelve months?

A: No. I still believe that if you have something superior, it'll win out. I know there's been a lot published about the "app market is a lock", it's locked for certain people. I really believe, though, that if you come up with something that's different and high-quality there's a great shot at being successful.

Q: What has your relationship with Android been like? What do you like and don't like?

A: The ability for me to reuse any part of an app, I thought that was really smart. The fact that it can go up and down the chain within an app was really clever. The way they adhere to a standard for queries – I've actually taken that same concept and moved it into APIs and others outside of Android. At first it looked a little odd, but the more you work with their data access it really makes a lot of sense.

The biggest issue remains all the different sized images and fonts. Microsoft actually came up with a better way to understand those differences that's better than both iOS and Android. On Android, you still have all those different images you have to supply and how exactly that's going to work with the different device options.

Q: How responsive is Android to these pain points of developers?

A: I believe they listen. Perhaps if not enough developers speak up, and folks like Samsung keep breaking away, but it is pretty open you can still develop as you desire. I think they're helping developers, though. They supported, you may have heard about Android study camp. It was essentially free, and they partnered with Udacity for a free class called "Fundamentals", not sure if anyone else is doing that. They are there for developers and trying to get as many people to understand their platform as possible.

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Q: Do you think pre-loaded apps take opportunities away from developers?

A: Obviously you'd have to have a leg up in those areas, but I've seen companies – I'll chose something very basic like a mail application. If you have a superior mail application, with POP3 you can hook into anyone's back end, and people will use it. If what's out there right now is poor, people can build something to compete. I'm old enough to remember opening up a computer when all you had was DOS, with no applications, and I don't think we want to go back to that.

With Android, you're able to re-use a lot of their pre-built offerings. If you wanted an application that includes sending mail, you wouldn't have to rebuild that, you can just it. Having some of that basic plumbing there is a good thing.

Q: As a developer, you're on the front lines of the industry. Do you feel a regulatory body getting involved in the app industry is a good thing or a bad thing?

A: I don't think it's a good thing. I don't think the government should be picking winners and losers.

Q: Do you still think its still possible to create the next million-dollar company in your garage?

A: Yes. Just take a look at the latest rinky-dinky company that's competing with Amazon and all the others. It's called Blue Apron, and they're going to be doing an IPO soon. So there's an example of a company with just a little niche and a superior product, and people are willing to pay for it. So the opportunity is still there.

The biggest challenge facing developers is time. How do you gather that much knowledge in a short amount of time? But that's in the people, not the industry itself. I go to a lot of these Hackathons, and there's a lot of people trying. The big companies, they're all out there trying to support the community. With the higher level components like AI and predictive analytics, you can put an app together pretty quickly because you're nimble.

This is the power that one individual has. You can come up with an idea, implement the whole thing, and then refine it, and it's like you're an army of one. It's just amazing the power an app developer has today compared to years ago, when you had to know every bit and byte to make something work.

Q: What's been the change between then and now?

A: You have the mobile web, the Cordova implementations. At one point in time, when you had companies like Cymbal and Research in Motion, you really had to know everything inside and out, but now you can really concentrate on the app itself, and there so many tools to help you. All you need to do is come up with the right idea.

Q: What have you been working on in the past twelve months?

A: So due to circumstances in my private life, I've changed my focus. I've stopped working on apps in a lot of spaces where I used to work, and I'm working more now in the medical space and clinical research. So a dramatic change for me. It's on the bleeding edge of technology. We're using things like wearables and sensors, we're take data collection and AI trying to enhance how people live with a disease and how pharmaceuticals can be drawn into space by collecting data that wasn't previously available.

Q: Given the work that you do, what is your view of the proper role of government regulation to be involved in what you're doing?

A: That's a sort of difficult question. Here in the Europe, there's several types of structures, like the EMA [European Medicines Agency]. They have some motivated, brilliant, compassionate people who are a sheer joy to work with, but it's even larger than anything you have in the States, and there's lots of bureaucracy and things taking humungous amounts of time. There's the official side of the EU and how things work, and then there's the people you interact with, and they're committed and even struggling to help you and being supportive. But there will always be things that are slowing us down, and that's very scary.

The established body of laws and regulations, it's a humungous black cloud hovering over the horizon threatening everything we do.

Q: The word "scary" is an interesting word to use. What do you mean by that?

A: So we're collecting data, very personal private data. These numbers, they're not just numbers in a database, they mean something, sometimes life or death for people. We understand it's important to guard these numbers with your lives. So any conversation about sharing data, it automatically leads to this sort of, "You cannot do that".

That means we cannot be as flexible or as fast, at sharing data that we feel we need and have to to work on these projects. The way they look at collecting data is from a very theoretical perspective, and it's something different from collecting someone browsing online to sharing the health data that needs to be shared for people to survive. Coming up with one type of regulation for data sharing is very dangerous.

It's easy to say, if you're a big company, that you have millions to spend on privacy issues, so maybe it's tough but they can still do it. But the data we are sharing, it may look the same in the sense that it was collected in the U.K. and say it needs to be shared to someone in the U.S. or the other way around, but people's lives depend on it. It's a whole different ballgame. You cannot set up one rule to fix all the privacy issues on this earth. That's scary, when you see people with not enough knowledge of the actual topic with the approach of "That's data between the U.S. and Europe. You cannot do that." They have this political view of things of the topic and they're not willing to look at the different aspects.

You know, the result of a clinical trial may depend on this data. If you're preventing us from sharing this data, the clinical trials may just plain may not happen. Or pharmaceuticals will be too scared to enter into the space because of regulations. Or even if just on the horizon people threatening regulations, and they go "If that happens, we're not going to invest anymore." And if that happens, for us, people die. It's different, and it's scary. That's what I meant.

Q: When regulators don't have the knowledge they need, they're not experts in the field. What do you see as the ideal role of regulators?

A: The ideal would be they're open to the aspect of its not one-rule-fits-all type of solution, that they cannot and should not want to come up with one type of regulation for all the data being shared on earth. That's plain overreaching. There is no one solution.

So me trying to be positive, I have to be a glass-half-full type person. I see there's lots of people opening up and trying to involve organizations such as ours and say "Yes, we're willing to talk to you and yes, you're important" because we offer a perspective on data that they don't know. It's very fortunate that it's a group of people in the EMA, they've been able to speak up without being reassigned or fired, and they seem to be gaining ground. There's been proactive outreach to talk to us and its encouraging.

Q: I have to ask: that's the glass half-full perspective. Can you give me the glass half-empty perspective?

A: That's the scary part. You're talking to new, young dynamic people who are willing to do things and want to change the world, and you have that phone call or seminar, but then they go home and they talk to the boss of their boss of their boss of their boss, and those are the people who actually decide. The people you engage with are good and cool and willing to listen and learn, but there's a shitload of bureaucracy behind that. If they can't make their point of view heard, then someone just comes in and says "We're just going to do it like we did five years", and they don't care about new perspectives.

Q: How do you overcome those obstacles?

A: Engage with like-minded people. I'm learning strength in numbers. If you just say, I'm a small-time developers, we have 3 or 5 or 10 employees and we're doing our best to survive as a small company, the EMA or EU Commission and say, "An app? That's the thing on the phone, right? You're in the health space? Never heard of it." And keep walk on and never talk to you. If you're a lot of companies in one structure, and you have a European frame over it, and you represent lots of people, they tend to be a lot more interested in talking to you.