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ADYEN.AS - Adyen NV Corporate Analyst Meeting

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## PRESENTATION

**Pieter Willem van der Does** - *Adyen N.V. - Co-Founder, CEO, President & Member of Management Board*

All right. Good morning, everybody, and welcome here. What we're going to do today is try to give you as much transparency on what we actually do, Adyen as a company, what actually like about maybe anecdotal, but what you see here is a little movie and in this film, you see a robot working on a payments terminal. And why do I think that this is funny? That is if you are putting new software on the terminal, there are about 150 tests that the engineer needs to go through. Adyen is a company where about 40% of us are engineers. So if you ask an engineer to do boring repetitive tasks, they obviously are going to think about something better than that. So we have an engineer who was interested in robotics and what he did is he built a robot to do the test. So when there's a new version, overnight a robot is doing the test, there is a camera filming what's in the display and the tests involve doing everything that could go wrong with the terminal. Say halfway the transaction, suddenly it pulls out the card, stuff like that. And each time when we find in the field something that our terminal didn't react optimal to, we put it in a new version and it's tested. We started with 1 robot, now we have a whole room full of robots doing that. So we say redefining them is, of course, we always take a different look at things, but the robots do not exist, so we make them ourselves, they're 3D printed. So more anecdotal, but that's what you see here.

This is the agenda for today. And so after a quick introduction, I'm going to hand it over to Brian and Edgar here. And this is the team that we have present here. We will be around also during lunch. We end the day with Q&A. So there is enough room for questions and interaction with us.

What you see -- what I like here is that Michiel is one of the -- we founded the company with myself; the CTO, Arnout, and we have 4 engineers that we started with. Michiel is one of them. So he's part of the founding team.

This is something that should be recognizable for you and that we're going to talk about today. Why do we feel that working on a single platform puts us in a very different position? Total addressable market, we don't think it's a limitation to what we do. Look at who we work with. We have a proven track record of working with the largest most advanced customers in this market and consequently -- and always consistently, they give us more and more share of wallet.

Ingo will talk about the numbers and also talk about how the business model works with further growth in the company.

We defined for ourselves as a company the 3 things that we do from the highest level, what is Adyen's objectives? And #1 obviously is to help our merchants grow because if we help our merchants grow, we grow with it. But also that defines the differentiator between us and our competitors. The better we are in helping our merchants grow, higher authentication rates, more countries, unifying channels, all of things that we do, it's a region, it's the delta that they see if they move from competitor to us. So that's #1 focus.

Secondly. We redefined the payments market. And what does that mean? The way how things used to operate. We don't take it as given. We challenge it. Maybe somebody will talk today about how we integrate our payments terminals. We do that in a different way because how it's commonly done, we feel create too much trouble. So that something is standard and that's done in a certain way we challenge.

This one, we have fun whilst doing it. We feel that if we are capable of quickly developing new software, quickly taking into production, really helping our merchants, that will create an environment which is attractive to the highest talent. We've never done an acquisition because we don't think it will -- we should veer away from doing that single platform, but we also don't like doing it. It would be negative on being able to attract the best talent. The way we've structured the company is a company in which your day job, it's not the after work, but during work, this is something you feel the traction, you feel that you could actually have an impact. This company feels that the people who work for Adyen feels that that's the fun in their job.

So I'd like to hand it over to Brian and to Edgar.

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**Brian Dammeir** - *Adyen N.V. - Head of Product*

Thank you very much, Pieter. Unfortunately, I'm not Ingo. I won't be talking about numbers. You'll have to listen about product for a little bit, so pardon me. Pieter talked a little bit about us doing new things in the market and setting new expectations and really turning over payments and assets and doing it differently. If you'd come to one of these before, you've seen this slide. There isn't a discussion that we don't have with a prospective merchant at Adyen, in which we don't start the discussion with this. And it's the fundamentally different approach that we've taken to payments in the industry.

If you're not familiar with payments, the top is the value chain that most payment companies embrace.

You have a merchant on one side, they interact with a gateway or an API layer. Underneath that gateway or API layer is a risk management system or totally another company managing that risk management. There is then a set of acquirers who then use underlying processing systems. That underlying processing system then manages that communication between that acquirer and the schemes or the networks, Visa, Mastercard, Amex, Discover, JCB, Cub, et cetera. The other side is the issuer and then the communication goes all the way back, right. So entering 16 digits goes through all those players, comes back and you get an approval or decline. We believe that this model is fundamentally broken if you're trying to achieve the best amount of performance and efficiency in the market. There is a few things that go wrong there.

First and foremost, most of these different entities are completely different companies and systems, all at different stages of growth and maturity. So generally what a merchant working with the traditional player in the space would see is degradation of data between those different points and because of that degradation of data, degradation of performance generally seen in authorization rate.

So for every 100 transactions that go through, do 100 get approved? Do 99, 98, et cetera? And that is the primary metric that any merchant is looking for in terms of the payment partner and what they can achieve.

So what we did is we came into the market with a fundamentally different approach, which is to have one universal platform that is completely channel agnostic that can achieve the entire value chain with one platform and one partner. So this not only achieves significant benefits from a cost-saving standpoint. You have one contract, one partner to work with, but we achieve better data, better performance and better overall global reach because we have one platform, plugging that platform into different regions over time becomes very easier and Edgar is going to speak to that at length in just a moment.

Now what does this result in? We like to talk about 4 key benefits for our merchants. The first is global reach, letting merchants find customers throughout the world and do payments with them. That at the end of the day is why we're here, it's why we work with merchants. The second is unified commerce and that's a new way of thinking of a channel-agnostic approach to payments that our merchants are embracing with us. The third is data enablement doing the things with data and the fourth is ongoing innovation, and we believe that at the end of the day that's what truly sets us apart, our unparalleled speed in terms of bringing innovation into the market.

Now I'm going to come back and talk about 2 through 4. But Edgar, who is our Head of Global Acquiring, is going to speak to the theme of global reach.

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**Edgar Verschuur** - *Adyen N.V. - Head of Global Acquiring*

Thank you. Hi, everyone. So my name is Edgar, and I'm looking after the global card networks and payment methods that we have available in our platform. And I would like to talk you through what it means to have an overlap of global domestic licenses with strength of our single global platform. How that helps us innovate and how that helps us provide the best services to our merchants.

And to start with, I would like to show you the map. You've seen in our recent reports that around 70% of the process we fully know is on full stack acquiring, that means that a transaction, when it leaves the merchant until it reaches the card network does not leave our rails. We're in full control of data quality, of processing quality and innovation. The benefits that it has for a merchant is something Brian will talk more about, but also on the card network side, this is something more and more new. It means that if we develop a new product with card networks or we implement a new global payment method, let's say Apple Pay or Google Pay or we derive or we build realtime account of data with Visa or Mastercard, we don't need to build it market by market and that's the common practice in the payment world.

We don't need to wait until a local acquirer, a local processor is ready until we can offer it to our merchants. We build it once and we push it into every domestic market that you see here. And that gives us our speed. So that's the benefit of global, but of course, why do we localize our offering to merchants? Why do we not offer acquiring out of one region for a merchant? Many of the merchants we serve are either having an entity in one of these markets or in multiple markets. And the way card schemes are set up is that to grab the full benefit of payment processing, you need to set up a local registration into the Visa, Mastercard, Amex network to qualify for key benefits.

So before we can do that, we as Adyen, we set up domestic entities, we integrate with the relevant bank systems. We make sure we meet all the regulatory requirements and then we apply for a license and from that moment onwards, we can start onboarding merchants.

And what do we then offer in each markets? When we offer them the localized service of Adyen, we can provide higher authorization rates because the bank of a shopper will see a transaction coming in as a local transaction, which is considered lower risk. So there is a higher likelihood of approving a transaction. The second is lower processing costs. So the card scheme rules and pricing tables are set up in such a way that domestic transactions are priced lower than international ones and because of our pricing model, global Interchange++, we pass the benefit on to our merchants.

Third one is faster settlement. Domestic transactions are typically in a single currency, gets cleared over the local clearing solution. So we get our money faster and we can pay out to our merchants faster. So it's a matter of key benefits of localizing our offering.

And the fourth one which sort of comes more into the product space is the local shopper experience, which is maybe less quantifiable, but it's very key that in many -- so our merchants spend a lot of time to fully localize their connection with a shopper, setting the right language, opening up stores. And then in your payment experience, you expect as a shopper something you know and recognize, something your bank has explained to you. Contactless works in a certain way. You don't get a weird surcharge on your card. You recognize what is written on your statement. All these small things matter and local acquiring helps to obtain that goal.

If you then take the concept of localization and offerings or helping a merchant present themselves as local as possible to a merchant to the next step, they come into the domain of local payment methods. And you know that on our platform we are offering almost -- we are offering more than 200 different local payment methods. And in every key market where we're active, we are making a mix of global payment methods like the Visa, the Mastercard, American Express, all the ones a shopper knows and add the relevant local payment methods to it so that if a merchant goes live with a website or a store in a country that the shopper has the right choice and the merchants can present whatever is relevant to reach that shopper.

And to make it more concrete, I would like to run through 4 different scenarios. And the first one is Germany. Not that far away and I know many in the room are coming from more card-heavy markets, but it's good to realize that in many markets it works slightly different. Even in Germany, it's not that common if you pay online to use your credit card, it's more common to identify yourself against your own bank using your IBAN details, for instance, or your bank details and the transaction is processed over the SEPA rails.

So if you want to go -- reach your German shoppers, you need to have this as a payment method in your checkout flow. Second one is Alipay. Recent reports say that domestic electronic transactions in China are now over 50% done over the Alipay network. That means that if you want to offer service in China or you want to reach Chinese shoppers outside of China, you can actually make an impact by offering this as a payment method.

Even here in the Netherlands where people -- everyone has a debit card in their pockets and pays contactless all the time. When you want to pay online, you cannot do it as with your debit card. You need to use payment methods called iDEAL, which basically is a flow where if you checkout online you get redirected to your banking app, you authenticate, you select your current account and you come back to the merchant environment.

With PSD2 coming up, and we'll explain more on that, we expect to see more and more diversity in payment methods in Europe coming up with different kinds of authentication against your banking environment.

The fourth example I would like to highlight is Brazil, which is a very card-heavy market. People pay with their Visa or their Mastercard, but they still expect at moment of checkout to select in how many installments, instances they would like to pay; if it's 3, 6, 12 slices, and they do that to manage cash flow. So as a shopper if you don't get that option, you feel something is off. So also for us to localize our offering, we're building all the relevant local variations of card payment processing to make sure that the merchants can reach their shopper in a way that the shopper feels trusted and that they get exactly the experience they like and get most out of it.

The main thing I want to explain here is that our single global platform gives us speed in terms of innovation with global payment methods in global card networks. We build something once and we push it into every market, which is unique in a market and also in our partnership with Visa and Mastercard has -- that helps us drive speed. We complement it with relevant local payment methods. And on top of that, next to all the data that generates, we also have a global team, of course, to help merchants exceed -- excel in individual markets. So that they can also give relevant advice on how payments work in a market, how they need to set up their checkout flow and which payment methods they need to offer to reach the shoppers in the best possible way.

Now onto more merchant focus and products for Brian.

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**Brian Dammeir** - *Adyen N.V. - Head of Product*

Thank you very much, Edgar. So going off of the theme of, let's say, I think there was a China example there, Alipay and WeChat Pay, if anybody in the room has been to China lately and you've gone to sort of like which is called normal restaurants or non-high-end, right. So the way it works now it is actually you sit down at your table, there is a QR code at the table, you scan it and the menu is actually in WeChat, you're not handed a paper menu, you go through, you select all the different things that you want, the food comes, waitress brings the food and at the end of the meal, you're generally presented with a check and then you can pay with WeChat Pay, Alipay, China Union Pay, et cetera. Now the interesting question is what kind of payment was that? Was that an online payment? You did it with your phone or was it a point-of-sale transaction because it was done in a store? We like to talk about unified commerce because what's happening all around the world is that the distinction between channels are becoming gray. Just like the example that I just gave, it's not important actually where the consumer was physically located. The only distinction between those different channels is the device that was used to initiate the payment. Because we are one platform and from day 1, we had the benefit of having a team of engineers and experts who had done payments before, they knew that if Adyen was going to succeed, it needed to be channel agnostic, right. So from day 1, even before we had started integrating terminals and traditional point-of-sale in-store transactions, we already had a platform that can do that and could be flexible enough to handle that sort of thing. So whilst the majority of the industry uses the phrase omnichannel to describe having multiple channels within one company, we prefer the term unified commerce because unified commerce is going beyond simply offering in-store payments, online payments and in-app payments. And it's not connecting the dots between those. It is not uncommon that at a traditional retailer, there are 2 heads of payments that actually meet for the first time when we're bringing them together because it is a different head of payments for the in-store channel, a different head of payments for the web channel and sometimes even in-app. And that sort of segmentation of their thinking also extends into everything from what partners they manage to where their data is isolated.

Now when a merchant then embraces unified commerce, which is a complete combination of all of those channels into one solution, you can get one integration, one contract, one back-end and that has benefits from a business perspective, but most importantly, there's a holistic view of the shopper, right.

If you have one platform that's handling all of those payments, there really isn't a distinction between data in terms of seeing where shoppers are going between those channels. And I'll speak to some of those benefits in just a moment. So at the end of the day though, it is about these 3 different channels. So I'm going to talk about our in-store offering, our in-app offering and our web offering because I think it's extremely important to note that these all sits on top of one platform. You could go to a similar presentation in other payments company and whilst everything would fall under their name, underneath, those are all different platforms that come from different acquisitions over time because the traditional way of going about building a payments company is just buy companies over time who specialize in particular region or channel. We are not shackled by that sort of thing.

Now when we look at in-store, right, so let's look at your traditional sort of retailer, where maybe the vast majority of the transactions are in-store, this tends to be what they look like. They have a lot of different device types. Per region, they tend to have different PSPs. And then per country, they have different processors and acquirers. That means it's not unusual for a large global retailer to be managing 30 to 60 and sometimes 100-plus contracts and partners. One of the main things that we provide on top of our superior technology and payments experience is simplification of this. It is not unusual for a large international company to be eliminating potentially dozens of different partners and integrate one implementation across all of those regions with one set of contracts and one solution. So not only it's a superior product, but you can also look at it from a macro perspective across your business as a retailer and realize all those benefits of reducing complexity.

One thing that I think is really important to note is our Terminal API and why on a thematic level that really sets us apart.

Now most in-store transactions, where there is an interaction with the terminal, the interaction between the terminal and the merchant's system is done with very, very rigid implementations that are commonly called libraries. So basically there's a piece of software that sits in the cash register, it is designed to then interact with that terminal. And the problem you have with that is versioning, where everything needs to be in sync between the 2. If you're going to make a change in the terminal, you need to make a change in the library. You want to make a change in the point-of-sale library, you need to make a change in the terminal. Things break all the time. And because things break all the time, everything slows down. You want to implement Alipay and WeChat Pay for a merchant ahead of single state coming in 3 months, well, that's going to be difficult because you need to have both sides of the fence dealing with that implementation. Now the online world figured this out a long time ago and they figured it out with APIs. Entire point of an API is that the implementation layer, the way you communicate between devices and systems, that remains consistent. And behind that, you can swap things out, you can change systems all the time, but as long as the language you use to communicate between those remains consistent, you're good to go.

So what we've done in the industry is that we've taken a leap forward and we've embraced API interactions with terminals. And this is extremely rare, in particular, in the enterprise point-of-sale space. And it's positioning us very well because what this allows us to do is implement new features very quickly and there is an inevitable move over time towards cloud point-of-sale. Right now, the point-of-sale system, the brain of the store is generally a box covered in dust that sits in the back room and it communicates locally on that network. But over time, more and more of that is going to transition to the Internet. And in fact, some regions like China, cloud point-of-sale is much more common than localized point-of-sale.

There is no distinction between us interacting on a local network at an API level or interacting at a cloud level with that merchant's point-of-sale system.

The main theme there is forward thinking. As in-store evolves, because it will evolve, it's probably going to be the area that changes the most over the next 10 years. In-store transactions are going to look more and more like e-commerce like interactions. We're going to be very well positioned because of our embracing of APIs early on where small traditional players simply aren't going to be able to keep up.

Now one thing I will note, you will see a little kiosk over here in the left-hand side. During lunch, Dirk, who is a Product Manager who works in our point-of-sale team is going to be able to do an interactive demo with you of our Terminal API and he will be able to answer technical questions on that. So I highly encourage you to check it out.

So overall for the proposition, I won't go over all of these points, but I think at the end of the day, it's about quality. It's about having just simply superior technology because the traditional way of going about payments in the in-store realm is that there was many different partners at play. Someone else is writing the software in the terminal, someone else is dealing with the hardware, someone is dealing with the logistics, someone is doing the back end. We embrace that full stack all the way with the software and the terminal. So the example that I used before, which was implementing Alipay and WeChat Pay in the terminal with 3 months to go before Singles day, we did that. We had a high-end retail merchant, who needed it for Singles day and it won us the business because we were able to implement it. We were then able to implement it and that immediately goes to all of our customers in all the regions that we operate because we have one platform where as soon as we plug something in, it becomes immediately available globally for our entire customer base.

I'll speak briefly about in-app. I think there's a few themes that really come to mind. We are one of the more predominant players to work with for app-based companies if you're looking to do global payments. I think there is a few things that have really push trends in that area. The #1 probably being the Uberfication of payments, right, when you do an Uber, you don't really think about payments, you just get in the Uber, you get out of the Uber and payments for this thing going on in the background. We worked with a lot of merchants who want to embrace that sort of card-on-file tokenized payment method sort of approach. They also want local payment methods and they want flexibility, right. And that's where Adyen checkout comes into play. And I won't speak at length about this, but I want to talk a little bit about implementation, how you implement a payment offering. Generally speaking, there's 2 really sort of wide ends of the spectrum in the industry. API is in one end and there is varying qualities of them to have a payment solution, you interact with that API, you build the UI yourself as the merchant. That's what most enterprise merchants look to do.

You then have the other far end of the spectrum, which are SDKs, software development kits. And those are generally payment providers for smaller merchants. The whole idea is 2 lines of code and then you're done. You plot this in your website, in your app, we do everything for you. You're good to go. That's not really our segment, right. What we've really gone into the market with something special is an in-between offering. Now the majority of our customers interact at an API level. They don't want that 2 lines of code and then you're done sort of approach. We have that, but the majority go for the API side. But what is special about Adyen is that we offer something called components. Now if you are a merchant, you are thinking all these other things about your business, how to reach customers, you're generally not thinking how does a Dutch person want to interact with iDEAL? How does a Chinese person want to interact with QR code? How does a German consumer want to enter their IBAN? We think about that every day. We have experts around the world who think about that every day and we provide compartmentalized software libraries where the developers on the merchant side can just plug those in, but they have all the flexibility in the world to work with our APIs. But if they want to use these components, they're completely open source, on GitHub and everything. They can slice and dice them and make sense of them.

Now I'm going at length on this. So I'll move on. But what this really means is that we've embraced what our merchants are asking for, which is, I want the API, I want control. But at the end of the day, they are not experts in global payments and we are, and we help them build these experiences. And we help them build these experiences in-app and online.

When you look at web payments, there's a lot of functionality that you need to consider. We have a lot of different segments that we work with. We work very actively with airlines, which if you want to get into a geeky discussion for an hour of how airlines are special snowflakes in payments, we can do that. We work with a lot of airlines globally, traditional e-commerce merchants, sharing economy, digital goods, recurring. And at the end of the day, what they're looking for are multiple things. They simply want that advanced functionality. They want all the little nitty-gritty things to offer the exact experience that they want. They want to tokenization, they want high-power tokenization technology that we offered them so that they can keep those credentials on file and offer those one-click experiences that they want to give and we can help with lifecycle management of that card. So as you get a new card because your card has expired, we plug into technology on the scheme side that allows us to keep those up-to-date. We were the first acquired to go live globally with things like Real-Time Account Updater, which allows us to do that.

And then of course, as I spoke to at length, API and SD powered -- SDK-powered integrations, that give them that flexibility that they're looking for.

So how does this all come together? I'd like to show you a video that sort of brings a lot of these concepts together, and I would ask you to think back to my opening comment in the section about what it's like to order something at a restaurant in China with WeChat. We think of a scenario in which unified

(technical difficulty)

All those work streams, we've very advanced people in the UX design. Tim Hudson is actually somebody I know for a long time and with background as an artist, which I think is interesting that if you then make a step over to engineering, you get a combination of unique skills, which I think you can find back in our products. Rob wasn't really at very first team, but has been for a long time with us and has the background of building this whole platform.

So these are the work streams that I talk about. Currently 22, yes, we were -- we had less of them and they will -- we will get more of them over time. What are examples of work streams? A work stream could, for example, be authorization -- looking at authorization rate and doing everything with AI to improve that. So each time when we see the possibility to move to higher authorization rate and especially online, this is very relevant. It still happens if you buy something online that that sometimes just don't work. That can be for insufficient funds, but unfortunately, it also happens for other reasons. So there's a work stream to look at that. Of course, we have a work stream around data or we have a work stream around local payment method. And all those work streams together make sure that we can react in a very quick way to this constantly changing environment. Michiel?

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**Michiel Toneman** - *Adyen N.V. - SVP of System Architecture*

Thank you. I'm going to talk a little bit about the technology in the platform, which Brian has -- and Edgar have talked so much about the product side or what the platform can do. And I want to give a little bit background on what the platform looks like when you peel back the covers.

So I've been on the engineering team since day 1 as one of the first employees. So I've seen this code base grow and we have always strategically thought that the best way we could grow this company and the best way we could expand was by keeping a strategy of having a single code base. A single code base makes it possible to have a single platform, and we've all seen the importance of having a single platform. It means that all of our engineering efforts are concentrated on improving, fixing and expanding that one platform and that one code base.

If we talk about one of the products, a product which Brian has highlighted, for instance 3D Secure 2.0 or something about Real-Time Account Updater, most players in the market have this problem that yes, they can implement it, but which regions did they implement, which platforms did they implement it at? And a global merchant will typically be connected with one of our competitors into multiple of their platforms, they'll be connected into a platform for U.S., they'll be connected into a platform for Europe, maybe even 2 platforms from Europe, one to do the local payment methods, one to do the cards. They might be connected into a platform for Asia and maybe even different banks for Australia. Now that creates a problem because once you develop a new product, as a company if you have multiple platforms, you're going to do a business case evaluation of does it make sense to expend a lot of effort in a product, which might be a very relevant in one market, but only partially relevant in another market. And that means for the merchant side, a big disadvantage, because they will have the experience that something which will work in one continent or in one integration will not work in another integration. So they have to customize and basically deal with one company they're connecting into, but on multiple platforms and they won't get the same functionality and experience across the base.

So this is where having a single code base, which we can deploy all over the world means that every time we work on a piece of functionality or we improve our platform, that improvement or that new functionality becomes available instantly across the globe. And that means that for our engineering teams, the -- we get so much bang for the buck for developing a piece of software because of the scale and the reach we get from it that it makes a lot of sense. The business cases are easy to build because we only need to have a small upside because we can get so much leverage from our code improvements.

Another aspect is that from the get go, from the beginning, we saw that it was important to base all of our software on open source and there are a couple of reasons -- a couple of good reasons for this. One is independence. If you connect your -- if you build your software on databases, infrastructure, application servers, et cetera, which are not open source, you're tying into sort of technology path of your partners and you are basically going on a ride with that technology. That means that if one of your partners decides or one of your platforms you're using decides to take a certain direction, you either have to follow that direction or you have to change the underlying technology. With open source, you are much less dependent on that.

Typically open source projects, you can change the direction of them or you can extend them in such a way that they will always fit your business needs.

Another advantage of working with open source is that you're not paying any licensing costs. Not having to pay any licensing cost means one is that you can keep your cost level low, but the other one is you make your engineering decisions based on technical assumptions or technical reasons rather than licensing reasons. And a good example is that, for instance, when we have our payment processing front ends, which are essentially micro services, when they store the transaction, they do that in a database. And each payment front end has its own database. If you were to do that with a commercial database vendor, that would be prohibitively expensive. You would never do that. Well, it makes really good sense to say that if you're handling a payment transaction, you should store it in the best possible way of storing it, which would be in the database. So that's just one example where using open source gives you an independent path and keeps you in complete control of your decisions and the path you take.

Another aspect of the platform, I think Brian has mentioned that briefly, is that everything we do, every status change in a system, every transaction or every -- anything that happens during the transaction is put into a high performance double-entry bookkeeping system. That is accounting system is highly scalable as well and we use it as an event sourcing model. And I know this is unfamiliar for a lot of you that are not in technology, but it basically means that you can see every transaction and every -- the status of a transaction, what it looks like a certain point in time as being the culmination of a set of accounting events and because the accounting events and the transaction events are one and the same thing with us, we get a very high precision in our bookkeeping. It means that we can rely when we're building new products, but if we log all our event transitions in our bookkeeping system, that the outcome will be very precise, and we don't have to worry when we're developing new products that there is a data quality problem or that we need to get the financials completely right because the bookkeeping system guarantees that. And that translates into a high confidence our merchants have in our ability to process transactions and report on them accurately and pay them out accurately. So that's really important.

And furthermore, I think we've also talked about the rate of change. We are super agile. We have subscribed to the agile philosophy, and we rely heavily on automated testing, continuous integration and we have weekly release cycles. And simply being able to listen to our customers, find out what needs they have, being able to implement that change and get into production within the span of a week, that's always been historically a great advantage to us and will continue to be a great advantage in the future.

So how do we deploy this software everywhere across the world, while we have multiple data centers. And what we've done is we've split up our processing capabilities into regional groups. So we identify the U.S., Europe, Asia and Australia -- or Australia and New Zealand as the main regions where we're processing and we have data centers in those regions. And we set them up into an active-active configuration in each region. That means that for -- we don't have a primary site and a disaster recovery site. But rather than that, we just route transactions to all sites simultaneously. And that means that if we ever see a problem affecting one of our sites, whether that's a problem we have internally or it's a problem that's caused outside of our network, for instance, a power outage, a hurricane that might happen somewhere or some other event which threatens to compromise the stability of one of our data centers, we can remove that data center from processing without affecting the uptime of the entire platform. That provides a lot of resilience and that provides a lot of scalability in our ability to take transactions.

Why do we feel it's important to be in each region with our data centers? Well, it's a lot to do with merchants. We want to be close to our merchants when they're connecting into us. Geographically close means you get lower latency, which is an improvement in service level. Transactions go quicker, but you also have to travel less over the Internet. The longer a path is over the Internet, the more chances, the more hops it has to take and the more chances there are for service interruption. We don't want that. But we also operate in the kind of a micro services model, where transactions are entered -- the merchant enters a transaction to us, but then we route that to the place where that transaction gets acquired and where that transaction gets acquired is typically where the cardholder is holding his -- that could be on the same continent, but that's not always the case. The merchant infrastructure might be centralized, for instance in the U.S., but they might be doing business in Australia. So ultimately that transaction which gets entered by the merchant in the U.S. needs to actually travel to Australia. That means that we can also have our hardware in -- and our data centers near, for instance, in Australia to process that transaction locally and that transaction will flow from the U.S. where the merchant has a quick path to our infrastructure, we take on the message and pass it all the way down to Australia and it's all within our visibility and within our scope of control and then we push it into the network there. And that gives us I think a better -- allows us to achieve a better quality of service than really any of our competitors in that respect.

And because we have so many links between these data centers, dedicated lines running between these data centers and thus we can have an optimal path for every transaction. We monitor the health of all of our connections between the data centers and what the performances of all our acquiring network links. And if we see that there is any degradation either in the network or in a connection to, for instance, Visa or Mastercard from a certain endpoint, then we route around those endpoints. So we're always optimizing for giving the best experience to our merchants.

So what it kind of looks like, because I know this is a really abstract concept, is in the traditional routing configuration, you would see a merchant connect into, for instance, a U.S. merchant would connect into a payment provider maybe in Europe. And that transaction needs to travel through a number of hops. And then it goes to the data center in Europe and if it actually needs to end up in Australia, then again, there is a number of hops. If anything goes wrong around here, the merchant can't connect into us, we don't know about it. We only know about when the merchant calls us, and that will be a bad thing.

And similarly when we connect into an acquirer network, which we're not regionally close to and we get something like a timeout or some problem happens that we don't know if that's a problem in the infrastructure somewhere or it's a problem at the acquirer end. So in order to eliminate that, we will route the transaction. The merchant will connect into one of our data centers, which is geographically close and depending on the optimum path, we can route that transaction either directly or through another data center link to the place where it needs to go. That does improve service levels and also means that if something does go wrong somewhere in our network that we are able to route around it without having the merchant suffer the consequences.

So some key things around monitoring and risk management. If you look at our resilience, I think the rerouting is a good example of where we are resilient. So talking about that. But then if you look at resilience from another perspective, we've gone to great lengths to make sure that the online transaction part, the part where the consumer is waiting for a transaction to complete is actually completely decoupled from all of our back-end systems.

That means that if anything would slow down in our accounting systems, if one of our major databases needs some sort of maintenance, even if one of our data centers in Europe goes offline, where all this data is aggregated, where the reports are run, then it doesn't affect transaction processing. So in that respect, we have a high level of resilience. And in order to monitor that resilience, we employ cloud providers. So we have extremely good internal monitoring. The internal monitoring is actually so good that most merchants or merchants quite commonly these days know about problems they have in our infrastructure by us seeing drops in traffic. And our support team is actually reaching out to these merchants, telling them, "Hey, we see a sudden drop in traffic. Is something going on?" And quite often, the merchants, that will be the first the merchant even knows about problems in their own systems.

But it's no good us noticing that things are -- might go wrong in our system or that we can monitor our own platform, or even that our monitoring is saying everything is okay and everything is up and running when merchants might have other experiences. And this is something common to the Internet, is that we don't control every part of the Internet. And if merchants on their data center is trying to connect into our APIs and is having trouble doing that, that might be completely outside of our network. It might be on some hub, on some router, somewhere in -- somewhere on the route between the merchant infrastructure and our infrastructure.

And in order to get visibility of what that looks like we use cloud providers all over the world and we have monitoring endpoints in every geographic region. And we cross-monitor our own APIs. That means that we're seeing the same picture in our monitoring as merchants are -- have experience in connecting into us. So rather than saying, oh, nothing is wrong with our infrastructure because everything looks good from our side of the world or our side of the pond, we can actually go and look at what does our infrastructure look like in terms of availability from where our merchants are sitting. And then we can make decisions about that as well.

So a good example is there was a power outage in San Francisco last year and we have a data center in Sunnyvale, which is pretty close. Now the data center itself, obviously because data centers have backup power, et cetera, the data center itself wasn't affected at all. And in fact, all of our monitoring of that data center, even from Europe, didn't indicate there was any problem. But we started seeing that monitoring from an AWS location in the U.S. east, which is probably where a large part of our tech merchants are connecting in from, basically, if AWS U.S. east goes down, for most Americans, the Internet is down because Netflix doesn't work and Twitter doesn't work and a lot of stuff doesn't work.

And so once we started seeing that AWS U.S. east on the East Coast of the U.S. had trouble connecting into Sunnyvale, which was probably caused by something to do with the power outage, maybe an overload somewhere in a power station on some network router somewhere along the lines, connecting into an infrastructure, at that point, we take that data center offline and we don't route any new transactions to it and we rely on our data center in Miami. And this way, the merchants aren't affected by something which probably most other providers would say, well, this is outside of our scope of control, we can't do anything about it. So we can take control a lot further.

Security. There's just so much I could say about security, but I just want to highlight one interesting program we have. I'm not sure if you're all familiar with the concept of penetration testing. Penetration testing is essentially when you as an organization get a couple of security researchers in and they are specialized in trying to probe your network and trying to probe your infrastructure to see if they can get in.

Now a pen test is done regularly, of course, for the PCI certifications, security certifications we do. But there are also large merchants, very large merchants, who would like to see us like to do a penetration test to evaluate our infrastructure, and that's fine and we like doing that. But to a certain level, and with the large size, large group of merchants we have, if we were to accommodate all requests, we will basically be running 2 simultaneous penetration tests every week of the year. That would consume so much resources, we can't do it.

So what we come up with is a client pen testing opportunity program, which is a group of merchants who together would like to do the pen testing, and they, as a group, submit proposals for interesting pen tests they can do with us, interesting ideas for doing these penetration tests. And we select a number of these proposals and then execute them. But what's different than just running the penetration test for that merchant is we then share the results of those penetration tests among the whole group of merchants so that they also get the insights achieved there, and they can all get at least a -- the data from the penetration tests.

I think a question which comes up regularly is, yes, we have a very quickly growing business. So how do you accommodate that exponential growth in volume?

So I think it's funny to see that in the first approximately 10 years, it took about 10 years to get to 1 billion, the first billion transactions on the platform. Now the next billion of transactions took just about 1 year to do on the platform. So where you are used to seeing transactions come in and you reach the 1 billion mark, the next year, you've already achieved the 2 billion, and within 6 months, we were at the next billion. So this is a huge amount of growth you need to accommodate. And there's 2 aspects to scaling out this infrastructure to be able to make sure that you can actually handle all these peak volumes and all this growth.

And one is the part where you are connecting into -- or the parts which are involved with taking that online transaction. The moment you enter your credit card, you hit -- you punch the submit button, at that point, you want that transaction to be processed. Now as I said before, that essentially runs in a kind of a micro services architecture. Now the micro service architecture means that you have individual servers which are in charge of certain -- have a certain responsibility. And you can add more service to that to add capacity. One thing is important though, they need to be what's called stateless. So stateless means that there should be no dependencies between the servers. The moment you create dependencies between them, that is a -- it doesn't allow you to scale. So having a stateless architecture, where each server can operate individually without needing to consult its peers, not needing to communicate about the things it's doing, that allows you to add additional servers and actually increase your capacity. And we get a lot of that for free because we've been expanding our data centers, and expanding your data centers naturally just gives you more servers. Having more servers is more capacity. And because those data centers, as you go along, also include newer versions, newer generation hardware, that hardware is faster. So not only are you gaining more servers, but you're also getting faster servers. And that covers our -- that covers the additional capacity we need quite nicely to be able to process a peak volume of transactions.

The accounting system is quite a different matter. You can't really scale an accounting system on a single database beyond a certain point because at a certain point, you will just exceed the capacity of the database system. So what we've done there is we've clustered and sharded those databases. And that means that some -- you're dealing with multiple accounting databases, which is fine in terms of raw transaction volume, you can scale that out by just adding more accounting databases, but you suddenly lose the single point of truth because you are always able to say what's the balance of something or what does the financial picture look like on your accounting database. But now you have multiple accounting databases. So a lot of processes rely on the fact that there's a single source of truth database, and now you have multiple of these.

So what we've reengineered a few years ago, we've reengineered all of our core processes to work in a streaming manner, which means that they are getting these events which are hitting the database, not from clearing that 1 database, but actually getting these events in from all of the databases together and then acting upon that. And that's a model that scales out really well, and it's easy to parallel -- to make parallel so that you can scale up horizontally.

And that means together, so on the one hand, the distributed system we have, the micro services which we're expanding, the other hand, the scalable accounting system, that means we have no scalability concerns for the future.

And that's it for me. Thank you. Pieter?

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**Pieter Willem van der Does** - *Adyen N.V. - Co-Founder, CEO, President & Member of Management Board*

Okay. Back to sales and marketing. A little bit on the background. When we started Adyen, we were 7 people, 6 engineers and me, doing sales and marketing. So it's back to my root. So what do we do with our merchant? It's funny if you see the relationship which we built up with our merchants over time. It is a true partnership. So that means that through account management, we know what's going on, we know which problems they have. And through the discussions with them, we are able to expand our business to the new regions, but of course, we also use them -- or help them by getting input on what to develop next.

So these are quite intense relationships. And sometimes, we see merchants using our products in a way which we hadn't expected ourselves. Think about a merchant looking because we track the transactions, we can see the use of the -- because we can actually link everything together. Because we only have 1 platform, we can see online users, we can see store use, we can see what happens to the online volume. If you're in a certain region, start with a physical location. What does that mean? Does that mean more transactions? Does that mean attrition in your online sales? But what we can also see is if you then add another store, where does the volume of that store come from? So those are the things that we look at together with our merchants, things like how often is the shopper back in your store.

So I've been in meetings where the merchant, for the first time, got insights into what their consumers were doing, which they never had before because for the first time, they could see that in their physical stores, shoppers were coming back 3 times a week, whereas they expected maybe once a month. You can see how often it happens that the shopper runs out of -- cannot fulfill the transaction because they have insufficient funds. So we get all sorts of data, which is very useful for your marketing. So that's the type of relationship that we have with our merchants.

If you look at who we target. Of course, we target the large international merchant. And when is the merchant truly interesting in that segment, that is if you are in multiple countries and if you -- or if you are on multichannels, so if you sell both online, have a store, mobile and all that together. That's also where we started. We've started off building Adyen with online merchants in multi regions, and then later, we added point of sales to that.

What's also an interesting segment for us is mid-market. Why is that interesting? Because what we have seen is by rolling out our services, in some markets, we just happen to become an important domestic player. So how should you think about that? You start in Brazil. Which merchants do you get? In our case, often American companies moving -- starting to target Brazil and rolling out in Brazil, European companies rolling out in Brazil. So that's your first merchant group.

But as you continue, at a certain point, the local merchant sees that the quality which they get with us is higher than what they can get in the local market. So you become a domestic player, and after that, that would first be the largest domestic player, you see that the mid-market segment is also boarding on our platform. So what we have done is we make it into a segment and have a specific strategy for those mid-market merchants.

The third part is, of course, by working in all those different -- with all those different merchants, we develop additional products. So think about we have a large airline portfolio, a specific airline fraud. Or if you think about the large international merchants, their marketplace is in there through their specific marketplace products, products around boarding small sellers, payout products to fund those sellers. So all those -- so the different merchants that we have give us future new growth areas, potential products which we can sell there because we work so closely with them.

So how do we find merchants? For the large enterprises, for us, the most important thing is to get into a discussion. So that can often be conferences and not necessarily payment conferences, but we like to be at specific industry conferences. Think about airline conferences, retail conferences. Those are the type of conferences where we are present. And what -- the intention there is to build up the relationship. What we also do is knowledge sharing events that can be that we take speaking slots at general events, or that we invite our customers at our events. I find that second part actually quite amazing, to be able to do very little and hear our merchants speaking to other companies which aren't merchants yet, how it works through rollout with us. And because we have such an infused merchant base, I find it the most amazing way of finding new merchants and starting to build a relationship with them.

Mid-market is a little bit different because although direct marketing and directly signing up is an element, it's also important to be integrated with the platforms that they use, but also with building partnerships with the system integrators. So that's what we're doing in that segment.

The start of Adyen from day 1 has always been transparent pricing. Why transparent pricing? In different parts, where in the U.S., to have a, at the interchanges buildup out of the fees of Visa/Mastercard, a markup and then the markup that the merchant -- that the acquirer gives to the merchant. So those 3 components we always have from day 1 made transparent to the merchant. So our large merchants know their markup, so they know what they pay to us, then there is the assessment fees and then there is interchange.

Because we have taken that approach from day 1 means that, where in different parts of the world, blends were very common, we want to work with the merchant base where we say there's transparency, and also in our contracts, it gives a discount table. More volume means that, of course, the average price per transaction goes down. But it also means that the contracts automatically stay in balance with the volume that we get that you avoid, which has been very common in the payments industry, that you avoid, that you actually -- if you would take a bandwidth between where all the merchants sit, that you actually know that some merchants are overpaying and that their struggle had. We tend to look a lot further. We want to build a long-term relationship. So that's another situation which we find very admirable, where traditionally, companies actually thought overpaying merchants are fantastic.

Pricing structure, we never changed. We ask a fee per transaction, and then we have the transparent markup. And we've never -- it's the motto with which we started, and we've never felt the need to change it over time.

What do we sell? In our discussion with the merchants, it's always about which -- what is currently obstructing further growth in your business and how can we help with that. We don't do cost-based pricing. So what we sell is the value of our product. Cost-based pricing doesn't really work for us because all the cost that we have is running Adyen, the cost in what we do in developing the products, but the transaction in itself, of course, doesn't carry cost for us. So it's value-based pricing. We look at the value that we have with the merchant. If you see how a sales process runs, it's a lot of discussion. It's about what could we do for you and how much more business we should do if we indeed deliver on that, and that's how we close the deal.

What you see is that all others cannot follow. So -- and so sometimes, I hear back in the market that we push pricing down. Sometimes, competitors do not see much else to do than to really drop pricing and hope, in that way, to keep the merchant for a bit longer. Ultimately, if you really do the math on it, almost always, we can prove that we earn back more than the whole invoice, so it doesn't really matter. What is important is how can we help the merchant grow the business and how much additional sales do you do.

There are different functions which we have working together. And if you see how we structured sales is what we don't want is that our best salespeople are stuck with doing account management. That's what you sometimes see. The ones who brought in the deals are nurturing their deals. They probably get commission on that, so we don't see them in the market again. We have made a separation there, where we say sales does sales, then get handed over to account management, and account management grows the business. For us, a large part, above 80% of our growth, comes from merchants which we land. But if we land the merchant, it's always with the subset of business. So it's land and expand. So the account manager is actually the one who builds that out from the initial transactions in a certain region. Say, a merchant just goes live with us online in the U.S., but we know what will follow is online in Europe, stores in the U.S., stores in Europe, and the whole rollout process is done by the account manager.

Marketing. If we look at marketing, what has been specifically very effective for us is marketing around events. Think about takeovers of subway stations that we do. What we do in marketing around events can also be that we throw dinners, that we host, that we take over the coffee area, and there, we have then specialists there who start conversations.

The way how we have set us up is to be able to sell in a country does not mean that we need to have an office there, but it can be, of course, helpful. So if you see how we build the company, what we do to go to a country is, first, we do sales in that country out of another part of the world. And then when we see that we have a certain base, we consider if it's logical to have a domestic office. Our offices, our sales offices, account management offices, customer support offices and then dependent on the size, can have local marketing, it can have local compliance and it can have local engineering. The main engineering happens in Amsterdam, but dependent on the size, if you look at, say, San Francisco, which is about 100 people, then all of that will be represented in that office. I think, in total, these are 18, I guess?

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**Michiel Toneman** - *Adyen N.V. - SVP of System Architecture*

I'd say we're now at 20.

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**Pieter Willem van der Does** - *Adyen N.V. - Co-Founder, CEO, President & Member of Management Board*

20.

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**Michiel Toneman** - *Adyen N.V. - SVP of System Architecture*

I guess.

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**Pieter Willem van der Does** - *Adyen N.V. - Co-Founder, CEO, President & Member of Management Board*

This is, of course, something that is always -- we're always looking at new markets. Sometimes, we have a person on the ground there testing things and seeing if we move on. So if you are smart to go through LinkedIn and you think you figured something out, unfortunately, that might not give you so much data because we are constantly looking what's the next step.

So how do we reward our salespeople? Salespeople are on commission. And that is the structure in which we have there is a plan which has evolved over time, which has been running for a very long time and which is based on the actual margin that the company gets in and is over a long period of time to avoid opportunistic behavior there.

And what we do there is we ask people to work together in different regions. We do have, what we call open skies. Salespeople can sell in -- all over the world. We have one rule. If you are staying in the U.K. and you sell in the U.S., then you need to involve a U.S. office to avoid that you do some things which are not very cultural sensitive. We, of course, run the central CRM, where you can look, that you're not starting to get involved in a merchant which we already have discussions with.

In our sales process, we involve others. We want our engineers to be at least once a year with a merchant. We have account management involved, so when we go to a merchant, it's not the single salesperson -- so it is, of course, the high end of the market. It's not the single salesperson, but it's a whole group that help that merchant -- the merchant and that looks through how we can improve life for them.

The autonomy. We spoke about the autonomy is you can sell what you want, you can sell in the market that you want, but the product is very defined. What we sell is a product that we have, and if we feel there should be a change to the product, then we always look at if there's a change for a specific merchant or if there's a change with all merchants or at least a larger group of merchants would like. So specific implementation for a single merchant we don't do because we don't feel that's scalable and that will make -- and that would create our own legacy.

If you look at how that work in practice, in account management, I would think it's good to think about an example. Say you are a large merchant and you run into a specific fraud pattern, and what you now suddenly see is, hey, I'm in the fraud attack, what to do. When you call with Adyen, or maybe we see it even before you see it because that also happens as we monitor, then we are able to look at the pattern, design something for it and take it live within hours. Then we can monitor, did that indeed solve the problem or do we need to make another iteration, and that's the collaboration which we then see with account management, engineering, in a specific work stream, in this case it would be the work stream responsible for the fraud system. And that's why we have such a specific relationship with our merchants.

A little bit more about marketing. What is the -- what is our ultimate aim in marketing? In marketing, it's, of course, name recognition, but it's also we have thought leadership. We have thought leadership, obviously, in unified commerce. There is, for retailers, so much challenge if you look at how quickly the environment is changing, that they are looking for us to tell them what is now, what's possible, where are the -- who is pushing the borders of what can be done. So through white papers, through meetings, we tell them and we take them through what's currently possible and we lead them in the next phase and are actually really exciting meetings sometimes to hear about the challenges which they have, the challenges which you have in luxury retail, for example.

Where do we run our campaigns? Outdoor advertising has proven to be more successful for us than we thought. But of course, we do everything, well, you see here the list. What I like specifically are the Adyen events where we have specific themes where merchants talk to each other. Let's have lunch. Any questions so far?

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**Hemmo Bosscher** - *Adyen N.V. - Head of Communications*

(inaudible).

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**Pieter Willem van der Does** - *Adyen N.V. - Co-Founder, CEO, President & Member of Management Board*

You can...

**Hemmo Bosscher** - *Adyen N.V. - Head of Communications*

Yes. I'm sorry. So I'm Hemmo. For those of you I haven't met yet, hi. We've got lunch at the end of the hotel. So when you actually walked in, just go back down exactly the same way. We've got a nice Indonesian-style lunch, and we'll start back here at 1:00 p.m. And when Ingo and Pieter conclude with the next section of the presentation, we'll have about an hour reserved for Q&A. So we'll have plenty of time then. Thank you.

(Break)

**Hemmo Bosscher** - *Adyen N.V. - Head of Communications*

Hi, everyone. Hello. If everyone could take your seats, please, we can get started again. Thank you, guys. All right. Thanks, all. So we've got 3 more subjects. We've got team and culture coming up, financials and then our growth strategy, after which we'll have about an hour for Q&A. We'll have a mic in the room. People will go around, and you'll be -- you'll have every opportunity to ask the management team all the questions. So for now, here is Pieter van der Does with team and culture.

**Pieter Willem van der Does** - *Adyen N.V. - Co-Founder, CEO, President & Member of Management Board*

Thanks, Hemmo. Oh, there's a clicker, yes. Okay. What we did in Adyen is we -- or I do this wrong. We started talking about the Adyen formula. And what is the Adyen formula? The founders of this company, all 7 people of the original team, we had worked for a company before. And what we noticed is that when we started building this company, more and more we talked about stories in the past, stories about early Adyen, how we run our business. And it's nice to do repetitive tasks, but it might also be good to write down a few thought lines behind it and tell that directly to people. So whereas a lot of companies have something aspiring, we have the Adyen formula which is very practical.

And if you run through the formula, and this is something that always comes back, in every -- yesterday, we had all engineers together and for sure, there's going to be talking about the formula. Every meeting that we have in discussions, we talk about the formula. What's the thought line behind the formula? It is because 8 sentences are not really going to do it. It's how -- it's the answer, our answer to the question how do you run a global company and run it with speed. Actually, the Adyen formula is about speed. Let me give you an example.

We pick up the phone and don't hide behind e-mail. It's very easy to send an e-mail off to the U.S. asking for something, ending with please advice. The problem is that, that e-mail has a high chance of getting an aggressive e-mail back. And then somebody has to get involved, and you spend a lot of time on actually finding out what was the intention of the sender, what was the intention of the receiver. If you would have picked up the phone and have an adult discussion, then suddenly, you see that you get much quicker to a resolution.

So we find out that if you work with 20 officers around the world, you should discuss, discuss, we say here through e-mail, of course, we also invested in video conferencing stuff, have dedicated rooms. So it's really easy to walk into a room and to see your colleague who is at the other side of the world and have a normal discussion. So each time that an incident happens because of e-mail, we think it's unfortunate and that we should avoid doing that. I also do it in my daily life, by the way.

The balance between being -- the Dutch are known for being -- for talking straight to the point of almost being rude. So the challenge there is how do you do that in an international company. And we say to everyone, it's, of course, within your culture, but say how it is. It is something which our merchants appreciate. If something goes wrong, you will hear from us what happened. So where often those discussions are more about proving that it's not your mistake, we are much more neutral. We want to be transparent to our -- to internally, to our colleagues, to each other, transparent to our investors. So that's why we have this day. So I hope that you also feel that we give you all the data to make up your mind. But also we want to be transparent to our merchants. It has helped us a great deal.

Decision-making. If you make decisions only at the central level, at a centralized point in a company and you are working in a quickly changing environment, that is not the way to structure your business and be ready for a quickly changing environment. So you have to find something else.

So what do we say to people who are working, say, in a work stream, encounter a problem and feel that they should do something? We don't want individuals to take a choice, to make up their own mind because that's error-prone. But what we say according to the Adyen formula is discuss this with a few people, within your team, but also in other teams, to find out is my idea actually as good as it is. If you have discussed that and have collected the different views from different people and they're all positive about it, then please execute it. If you don't do that, please don't. So that is related to speed. That's the way how you structure the company and can capture that.

Winning is more important than ego. I think all of us are proud if we have a certain accomplishment. But it doesn't work really well with getting input from others and claiming things. We know that every salesperson stands up and says, look, the big contract I brought in that the engineers will think how difficult was it, I built something so brilliant, don't be so proud of yourself. So we are more focusing on celebrating releases, celebrating the progress of the company and not celebrating individuals. So it's a choice which we made together. And it's something which we consistently, as a board, need to push. Because before you know it, you have national organizations who suddenly start building their own P&L and who are saying maybe you have that customer, but actually, we landed it. And to be able to run this, we run under this one company as a global company. Each Adyen office, if you walk in there, it's very, very similar to another Adyen office in another country. So to run this in one culture, we do exchanges, that you move from office to office. That's the way how we do it, and that is winning is more important than ego. We pride ourselves in our wins. Everybody is very proud of this company rather than just proud of his or her own contribution.

Oh, it doesn't move. Oh, now it suddenly does. If you look at the management team, it's quite specific how you do this if you don't want to have many layers. So we have 6 people who are Board members, and around us, we have collected a group of people who are specialists in their area and who work very closely together with us to make sure that we have a wide team where you can go to for -- to sharpen your ideas. Some of them have been with us for a very long time. But what I think is very powerful is that you also see there are new joiners which very quickly run through the organization, have worked in different departments and are being added now to this slide.

I think that's Bert Wolters in the right here. He started with us after university, did a technical -- did an engineering degree, started working on data and then very quickly moved up to be responsible for a much larger part of our technology.

But we also have people that are almost there from the beginning. So it's a very good mix. In country, we have people who are very, if you're responsible for the U.S. region like Kamran on this, you are, of course, instrumental in our growth and then very close, and we are very closely together with those regional managers.

Kamran, for example, has been a payment manager for Netflix. He knows -- his knowledge about the merchant side of payments and in-depth knowledge about payments is extreme. So everybody within that group has in-depth knowledge.

Is this probably where I hand over? Well, there you go. Martine is head of our HR.

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**Martine Buis** - *Adyen N.V. - Director of HR*

Thank you. Hello, everyone. My name is Martine Buis. I joined Adyen early 2015 as Head of HR. And when I talked to Pieter and Ingo and Arnout by the end of 2014, I was very impressed by these guys; super smart, inspiring and so dedicated to build this successful tech company that I simply wanted to join this team. So that's what I will be talking about.

So how have we be able to build this team, and are we still able to attract and retain the best talent while we scale? So I go 1 slide back and talking about this management team. What makes this team unique, I think, is the real team. There is a lot of payment knowledge, and they really live the Adyen formula, which makes my job as an HR Director pretty easy. But what I think is also very important, and that's what I will be talking about, that we as a team are extremely capable of building a strong team around us. And that's what I will be talking about. So how do we grow the team?

By the end of 2015, we had about a little bit over 300 people. Last year, we had almost 900 people. And you see that extreme growth rate year-on-year. But this growth rate is far behind our revenue growth rate, and we deliberately take this approach of measured growth on our headcount and we do that for 2 reasons.

First of all, we just don't need so many people to scale our business. And secondly, because we want to keep that unique Adyen culture or Adyen formula alive, that's so critical to the success of our business. So we are very focused on who we hire and when we hire. And that's also highlighted by the fact that a lot of the people from the first days like Michiel, especially the developers, are still with Adyen. But also, it is highlighted by the fact that the number of regretted losses is very low. It's below 2%. And I think that's due to a very rigorous hiring process, but also because of a great working environment that we offer. So let's look at our talent pool.

I think it has been mentioned before, in essence, we are a tech company. And we have a focus on sales on the commercial side, and still, 80% of our people is in tech and sales or commercial roles. And I think the cool thing about this is when you compare these numbers to last year, the number of tech people and the number of commercial people, that percentage has gone up, while the percentage of other function is going down. This shows me that we're still very focused on continuing the growth of this business.

When you look at our talent pool, it's average age of 32, so pretty young, and that's even excluding our interns. And what is also very unique about Adyen is an extreme international organization. We have more than 70 nationalities working in our 20 offices in our 17 countries. And how cool that is, I realized yesterday, Arnout was organizing his fourth tech event in Amsterdam. We had about 400 people together, and I was talking to developers from Zimbabwe to Norway, from Colombia to Shanghai and they were all talking about the cool development stuff they were doing. And that, I think, is what make Adyen unique. And we embrace those different people with those different backgrounds because we believe the best ideas come from diverse teams, and that's also why we have the Adyen formula line stating we include different people to sharpen our ideas. You constantly check with each other, is this the best thing to do. And that's also what we do as a management team, we constantly check in with each other to make sure we do the best.

So how do we find people? I already stressed that we deliberately take an approach of measured growth. We don't want to grow that quickly in headcount because we don't need to, to scale this business, but also because we want to keep that culture alive.

So we are very selective. We can afford ourselves to only hire the best out there, and we want to keep the bar high at the door. We don't want to hire the 5 because then tomorrow, we cannot hire the 9 anymore. So how do we do that?

We have those 3 selection criteria we use. First and most important, it has to be a good formula fit. People have to fit in our culture. They need to be team players. They need to be humble. They need to talk straight. All these elements need to be there because if that's not the case, you won't be successful at Adyen. Secondly, we want to hire the smart people, the 8, the 9s and the 10s because we have that environment where the really smart people can flourish, and they will be successful. And thirdly, what we're looking for is people that can make an impact. We want people that build a business with us, people who enjoy building and not people that come here to do a job. We want people that get things done.

We want people that build the business with us, people who enjoy building and not people that come do job. We want people that get things done, people that hit the ground and run, that's what we're looking for. So if we hire all these people, where do we find them? There are a couple of sources, but there are 2 main sources that I want to highlight and that are very important for us. And they are the sources that really provide us the opportunity to really get to know the candidates. And one of the most important is our referral program. We introduced the program in 2015, and everybody can refer someone, and you get a nice referral bonus, but the only prerequisite is that you only refer someone that you for sure know is a good formula fit. And almost 40% of the people we currently hire is from that referral program, which is a really high number. The people enjoy referring because it's great working here, and they want their friends and the people they know working here as well. Another interesting source that we use is our intern program. We have set up a pretty unique intern program starting by the end of 2016. We provide bachelor and master's students the opportunity to work on a part-time basis at Adyen and mainly in support roles. So we have those smart kids working for us in support roles and what we ask them to do is to improve and automate our processes, to really keep them innovating from day 1. And 50% of those interns, we hire on a permanent contract later on.

And I in my team have a good example. One of the first interns that we hired was in the recruitment team. That was 2 years ago, a little bit, 2.5 years ago. And she is now leading our operation support team. So from 2 years from university, now leading operation support at Adyen and being responsible of 25 interns herself, which I think is a great example of how you can grow your career within Adyen. But also how we can really find good candidates we are -- who are successful later on within Adyen.

So what tools do we use to assess our candidates? Of course, we do all the normal things. We do the normal CV screening. We have a coding test for our developers. But we also do things a little bit different because we are Adyen. We do it the Adyen way. And one of the most important test is the airline test, and what does that mean? Well, that means that we ask everyone who is interviewing, always test, would you like to spend a flight with this person, with this candidate to one of our biggest hubs to San Francisco or Singapore? That means would you enjoy taking a flight from 10 to 12 hours with this -- sitting next to this person? And if you enjoy, probably your colleagues will as well. But if you don't enjoy sitting 12 hours next to this person, how would you ask your colleagues spend 40 hours a week with this person? So then it's a no go. So this test has to be passed by all interviewers, and it has to be positive. Another specific Adyen thing is that every single candidates in the final stage sees a board member, which I think is pretty unique. And the reason for that is because we want to make sure that it's the good formula fit, but also give the candidate the opportunity to meet with the board member. But also, to give the board member the opportunity to really get to know the person and later on have the relationship. So with these tests, we want to make sure we keep the bar high, and I think we're doing a pretty good job. We only hire 1 out of 171 people applying, so we are very selective. And to give you a little bit of a background, when I was running these numbers with the team and I was looking at the numbers before and after IPO, it was really cool to see what that did for our employee brands. Before IPO, we had about 18,000 people applying every year. After IPO, it's 50,000, so it more than doubled. So from employer branding perspective, we are no longer that unseen Dutch tech company. No, we are out there and people know to find us.

So I have been talking about our team, I have been talking about how we find talent and how do we keep talent. How do we retain people? I think that's evenly important. And if you were to ask people within Adyen, so why do you enjoy working here? I think it's these 3 things: it's the opportunity to create your own path. We don't have standard career paths. Instead, we provide a lot of freedom, and we provide a lot of autonomy. We have a lot of growth opportunities like the work streams that Pieter was mentioning. We have the Adyen Academy. You have incredible merchants to work with. You have -- we have an exchange program, international transfers, a lot is possible, but you have to go and get it yourself. It's your responsibility. Secondly, why we enjoy working for Adyen. It's just that feeling that we're in there and building the business together. It feels like a once-in-a-lifetime opportunity to change this industry together, which makes it just fun to work here.

And lastly, and I think we stress that quite a lot, it's our company culture. It's the Adyen formula. No matter if you enter the office in Shanghai or in Mexico or in New York or in Berlin, if you enter, it feels like Adyen. You feel the energy. You feel the speed. You feel the merchant focus. And it's just fun working together and make this happen, and that's what Adyen is about.

Thank you. That was my story about how we built Adyen and how we're still able to attract and retain talent [while refer to] skill. I now hand the mic to Ingo, who you're all waiting for.

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**Ingo Jeroen Uytdehaage** - *Adyen N.V. - CFO & Member of Management Board*

Thanks. Thanks, Martine. What I'd like to do is give an update on the financials, financials haven't changed. So it's going to be a bit boring story, but what I like to do today is give a bit more insight how we book revenues, how it exactly works our P&L, and I think moreover, explain that we still have a one P&L philosophy. So we build this company as one global company, and the only thing that really matters is how much margin we make per customer. We don't make P&Ls per region or per office. We think it's not relevant, and it's also what we really don't want to do.

I think this is the perfect summary of our business model. If you look at processed volume, you see a large increase because we focus on helping our existent merchants to grow with us. So most of our revenue growth comes from existing customers; customers that were already live on the platform. And of course, like Pieter explained about our sales strategy, it is finding that right balance between, at one end, building with our existing merchants. At the other hand, finding the right new customers on our platform that are your security for or your insurance for the next year's growth.

The increase in processed volumes then translated to net revenues. And net revenues is the key KPI that we focus on. How do we make sure that the absolute number of net revenues increases over time? How do we make sure that a customer brings additional volume? That the total amount of absolute margin grows? So this is not in relative margin business. This industry is often looked at take rates, the net revenues defined by process volume, and we're not managing on take rate for that reason because we only believe in absolute margin, and I will come back on that in a second.

And thirdly, EBITDA. I think it reflects the increase in EBITDA, how we build this company. So revenue and costs are unrelated. So revenue is the result of the growing volumes and cost is mostly cost of the team. And as volume grows quicker than our team, you get the economies of scale.

We are at EBITDA of EUR 182 million by end of 2018, and this is growing significantly. And if you look at how we book revenues, there is -- above the net revenues, there is a gross revenue line. And internally, we sort of ignore growth revenues. And the reason why we ignore gross revenues is because it includes the interchange and the scheme fees that we pay. So the interchange is the fee that we pay to the issuer and the scheme fee is just -- is the fee that we pay to the networks.

And the reason why we ignore that number is because interchange and scheme fee is passed on to the merchant, and it really differs per region. So the interchange in the U.S. is almost 10x higher than in Europe. Europe fee and commission has got fee interchange, and in the U.S., people -- already issuers like to give big rebates to credit cardholders. So that's why you see that the interchange is so much higher.

So if you look at our growth revenues, it includes processing fees, that's the fee to use our gateway. It's a settlement fee, which is basically the fee for using a payment method like Visa and that also includes the interchange and the scheme fee. And it's order services, and order service includes terminal service fee for using our terminals, but also the fixed income.

If we then deduct the interchange and the scheme fees, you get to net revenue. Then from net revenue, we go to operating income if we deduct mostly cost of the team. Cost of the team is still about 70% of our total cost. And then if we further -- if we add the depreciation and amortization, we're at the EBITDA level.

So if you look at a single payment, on the top, you see a shopper making a EUR 100 payment on our platform. What does that merchant in the end get? Well, in the end it gets, in this example, EUR 98.24. And the way how we get there is that we need to pay EUR 1 to the issuer, which is the interchange fee; EUR 0.50 to the networks, the scheme fee. So we receive from the schemes EUR 98.50. We deduct our fees, and as example, EUR 0.06 as a processing fee and EUR 0.20 as a settlement fee, so EUR 0.26 in total and you get to the EUR 98.24. The Adyen fees for the green box, that's what is net revenue. So that's also where we focus on, to increase that number. That's the key focus of our -- of how we manage our P&L.

Then a very important measure of our company, if the health of our customer base is the concentration, and concentration has gone down over time. And if you look at current numbers, so for process volume, the top 10 is about 36% of our base, which is slightly lower than the year before. The same for net revenues, the top 10 is about 31%, which is almost slightly lower than last year. We think that's a normal development. We're on-boarding more and more bigger customers on our platform, so our expectation for the future is that this concentration will further go down.

Then on processed volumes. The key thing of our account management group is to make sure that we work on a new project with our customers. We really want to focus on, if we work with our largest merchants, on their plans for next year and see what kind of projects we need to implement. So that's what the account manager does. The account managers works with the merchants, also trying to understand what it means for a development perspective. We need to develop certain functionality, and that's why we can have this growth. So that's also why most of the growth in process volume is coming from these existing merchants.

The net revenue growth, what we have seen for the past year, and although we do not manage on take rates, we see an increase in take rate because the full-stack volume on our platform is increasing. So the fact that we are in multiple regions now, both the gateway and the acquirer is helping us in our income. So the strategy of building that global platform, that also Edgar was talking about, is helping us because you see that the share of full-stack on our platform is increasing and because that share is increasing, we earn more per transaction. So that's a very positive development on our take rate. Take rate is up to 22 basis points. And of course, for the future, it really depends on how the base further develops because we think that if we brought big merchants on our platform, that it's a positive, if volume increases, that the fee per transaction declines. So that has a negative impact on take rates, and that's also exactly why we focus on the absolute margin. So we really want to make sure that if a merchant brings more volume to the platform, that the absolute invoice with that merchant is increasing.

So if we work with an account manager, their main assignment is to have an increase in the invoice over time. That's how we look at it, and that's also how we continue to look at it because we want to be in a position that if a merchant is very successful, that you can have a negotiation about the relative price per transaction.

From a volume perspective, because this graph reflects the volumes, you see the development in 4 half years. So 2 half years in 2017, 2 half years in 2018, how it increased over time. So the 70 and the 89 on the right-hand side, this is EUR 359 billion processed volume. And still, most of our volume comes from enterprise. That's how we started off the business, and the majority of volume is initiated, say in enterprise merchants. What we do see, though, is that if you look at the mid-market, which is a new initiative, we see an important increase. So it is now EUR 2.1 billion on our platform, coming from EUR 1.9 billion over the first half year, and it's getting to 2.5% on our platforms. So we see that the mid-market strategy, you see the first (inaudible) that it's taking off. At same time, yes, it's still very early stage.

More development we see, of course, in unified commerce. Unified commerce, we only started this initiative for about 3, 4 years ago. It's now 11% in the second half of this year of our volume. And I think that's pretty unique because we basically built it in 2, 3 years' time. A 11% volume on our platform, a completely new business because these are transactions that are initiated on the point-of-sale. So there's no e-commerce transactions, these are really the -- on the terminal initiated transactions.

This gives, I think a very good sense for how we can further grow these number because we're -- we have very high expectations of our point-of-sale proposition. I think the numbers reflect that you -- that this increase is there.

Then on the regional side, so if you look at net revenues, how is it distributed over the different geographical regions. Then we look at billing address. So let's take a big customer, Facebook. If we work for Facebook in Europe and U.S., we sent invoices to their European entity, which then recognizes European revenue. Or we sent an invoice to their U.S. entity, then it's recognized as U.S. revenue.

If we then look at the graphs, Europe is still most important. And that's, of course, how we started off this company. We started off this company here in Europe, also with a European acquiring license, and that's why we have a lot of -- why we have the main base there. We started to add, though, all the other regions. And specifically, if you look at the dark green boxes, that's the growth that we had in '18. And you see that North America and APAC are very important for that growth. So the highest relative growth is in those regions and we'll, of course, continue to invest in those regions. Here you see the benefit of having one platform because the international merchants have worked with us, that started off in Europe with us. It's for them, very easy to switch on U.S. or to try us out in the APAC region because there's no different technical integration needed. This is the same platform with the same procedures. And you see more and more merchants testing us in the other regions.

Then on operating expenses. The cost of the team is, of course, the most important cost driver. So the measured growth strategy is not related to the fact that we can't afford it financially, but it's more culturally determined that we want to take a response way -- responsible way of growing the company. But of course, it helps in the economies of scale.

The other concept that are important to our business, of course, the sales and marketing costs. We started to advertise the last 2 years, specifically around retail events because we see that retail events, where a lot of retailers come together, that it has a real way of impact if we have brand advertisements out there. And of course, platform costs are important. We host the close locations in third-party data centers. We don't have any type of cloud infrastructure with commercial clouds, except for the monitoring that Pieter was referring to. So the platform cost is relatively low, and very good, manageable because it's our own infrastructure, and we can build it and manage it ourselves.

Then, of course, the key question that we always get is like, okay, how far can we can bring the EBITDA margin? And of course, the second half of 2018, you saw enormous impact of EBITDA margin growth. But we think that it's better to look at the full year to get a good sense for where we are from an operating perspective or operating leverage perspective. The 52% EBITDA margin in 2018 is what we believe a good reflection of the economies of scale. And of course, if we further grow the volumes, we take a measured growth perspective to the teams, we can grow further towards the guidance that we have given. And -- but at the same time, we keep on investing. We see a lot of opportunities out there. And well, with the opening of new offices, of course, we continue to expand the sales team. But also, what you saw in '18, we had a lot of new engineers.

Below EBITDA, we have relatively limited cost. Of course, the main expenses is related to tax. We have a strategy that we always pay taxes locally. So we try to limit the tax optimization to have a very clear visibility in each country and have limited risk in there from that perspective. And that's why also net income has further increased in line with EBITDA. So EBITDA and net income, also from a growth perspective, are very much in line.

Then on the CapEx sides, we guided on 5% of net revenues. And the reason why we can be so efficient is because we have one platform. We strongly believe that within that 5% of net revenues, we can further upgrade our platform. We don't expect any peaks in investments, what you sometimes see with competitors because they need to replace a certain back-end. We believe that with these investment levels, we can scale the company to the next levels and I see no problems there at all.

Then the -- of course, the key question is, okay, what does it mean for free cash flow? We've defined free cash flow as the EBITDA minus the CapEx. Of course, you get then to a very high free cash flow conversion. The reason why we ignore working capital is because the most important part of our working capital is the receivables that we have on financial institutions, and on the other side, it's the payable to the merchant. So you can net that out for the impact of working capital is relatively limited.

So that's why we keep this simple definition of free cash flow, we got to these free cash flow conversion numbers. Yes, and this is very important for us. We have -- when we IPO-ed the business, we said let's take a medium to long-term view on this business. We, as a management team, are long-term committed to this company, and we want to grow the business like that. That's why we also haven't changed the guidance. Although, 2018 was a very successful year. We believe that fundamentally nothing has really changed in the company. We can continue the business in the next years in this pace, and we want to avoid a short-term focus. So of course, we got the question, why don't you guide on 2019? On payments, it's relatively easy to make your guidance for a certain year, but we really want to make sure, as a company, that we do the right things for the long term because that's how we like to build the company. We have a unique position in the market, but it takes time to get there. We have the time, that's also why we stick with our current guidance.

Then I hand over to Pieter to say some final words on our growth strategy in the different market segments.

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**Pieter Willem van der Does** - *Adyen N.V. - Co-Founder, CEO, President & Member of Management Board*

All right. Thanks, Ingo. Yes, I wanted to elaborate actually something that you said, which is it's easy for us to make our numbers. How we build Adyen, how we grow this company is with a long-term view. There are multiple ways to short term look better, and things are very obvious. Veer away from Adyen formula, we could develop something for that one merchant, and then board that volume, show it to you, everybody will say good idea. But we know that long term, we are getting things in our technology stack that we don't want to have in there, that we need to maintain, which might become security risk in the future. So we know we don't want to do that, but you could do it if you have a short-term focus. We could do a take on volume of merchants, which we think are more in the high-risk area like start doing acquiring of airlines and then of airlines which are little bit more risky. We have everyday opportunity to do something, which we find long term off-strategy; short term it could be a good idea. We don't run this company short term, hence we don't guide short term.

Let me quickly wrap up, I think we've covered almost everything. Why do we win? We have made -- we have -- we win on both sides. We have the better team because it's just more fun, what we do, because we have the single platform. So actually, if you develop something, it can be taken into production. You get to work with the nicest merchants. So it works from both ways. Because you can work with such a good team on such a simplified problem, you're actually getting traction, which is very, very difficult to compete with because we have made a few good strategic choices. One of them was, a few years ago, let's get into point-of-sale terminals. So let's make sure that we don't work just online, but with the vision as what's happening in the physical world, that's the point-of-sale, is actually a repetition of what we have seen a decade ago online, and that is the terminal is actually becoming an Internet device. The terminal should have the payment methods of the world, and it doesn't make sense anymore to have something which is locally solved. This is something, which as a company, you should solve at the full-scale. Long term, you can win with the terminal loops like what it does look like today, but we want to be in that business. We want to do everything. So a few good strategic choices with simplified problem with most talented people of the industry, that is why we win. Who do we win from? Of course, we win from the online companies, think about the world pays the payment tax or sometimes also have -- or they both have also parts of their business catering for the physical world, but not integrated. So those are large suppliers for us. Remember that we were late in the game. We started processing transactions in summer of 2007, so that means that all our merchants came from somewhere else. So all our merchants are actually dislodged from competitors, landed with us, liked the service, expanded with us.

Also, the ones we are missing are the banks because banks often in the point-of-sale environment, if you are a large retailer, say, for the U.S. market, you typically have terminals from 3 different banks. Suddenly, you're going from 1 global solution, and those 3 banks see that volume is gone and will not return. So local banks, often people think it's just about the online players. No, it's the more traditional bank that loses out because of us. The third one is what we call SME enablers. What are those companies? They build a nice layer over the existing rail. Easy to board, looks really good, doesn't really outperform, but it's nice. It's nice and easy. It's convenient if you're small. You're usually local, so in a single market. How effective it is, how do you measure if you do 3 transactions per week, well that's a 2% uplift. You cannot see that actually they are more focused on marketing or on the quick boarding, and they are less focused on the true quality that we build by owning full-stack. But what happens there? Some of those companies grow, and then they outgrow that supplier. And then suddenly those things, being more regional, so limited in payment methods, limited in authorization uplifts that we can do, limited in unifying the channels, looking for specific services which we cannot, well, suddenly that starts hurting with their growth, and then they become interesting for us. So hence, we also see that as third stream coming to Adyen.

If you look at the merchant wins, you see that we have each year landed merchants, which then expand with us. Nike was already 4 years ago, but if you look at what we announced last year, H&M Life with us in the U.S., with the online volume, with a few stores in Europe, they're at the beginning of a journey to give us more and more volume. The only thing that stands between that and having it is time, and of course, for you to judge execution risk. But if you look at this, this is a pattern, which we constantly see. We land the merchant, and over time, give us more volume. And if you look at the current pipeline, you see that this process can run for a long time.

Ingo already explained this, so I'll do it very quickly. The 3 areas where we see growth, it is the point-of-sale part, which we call unified commerce because all those merchants do it with the intention to do everything with us. Sometimes they start with terminals, sometimes they start with online, and then we don't want to calculate them into that group if they do a single terminal. So we calculate in that the terminal volume, the unified commerce. We have, of course, the traditional enterprises. Enterprises is everything. That's also for us, the marketplaces, we see them in that segment. And then mid-markets, we spoke a lot about that. It's the natural next segment. They were already boarding. We have very high net promoter scores, but the net promoter scores in this segment were even higher than in the mid-market. So what we do is specific approach, specific approach in marketing. The specific approach in making sure the on-boarding and everything works really smoothly. A specific approach in working together with the suppliers for that market segment, be it integrate, be it platform.

And I think it's good idea to do Q&A. And I want to invite you all onstage, at least from Adyen, the employees so we can...

## QUESTIONS AND ANSWERS

**Unidentified Company Representative**

So we've got 2 mics in the room. One I have, and other one's held by Annemarije in the back. Please wait until you have the mic to ask questions. Annemarije, if you could just reach first person. And we've also got our Chief Strategy and Risk Officer, Joop Wijn, here, who did not present today, but he'd be happy to answer any questions you may have. And then lastly, I'd like to introduce Ethan Tandowsky, who will be joining us in the investor-facing team. So Annemarije, Hemmo, Ethan, those are the names you will mostly interact with when you're not talking to Pieter, Ingo. This is us. It's good to put a face to a name, I think. So yes, first question for Annemarije and I'll hand this back to Pieter. Thank you.

**Unidentified Participant**

Great. Thank you. So I guess it's a question for Pieter. You describe yourself, obviously as more of a technology company than sort of payments business. So if you think of the sort of technologies that you have, obviously, the single platform, when you go to pitch to the customers, what's the sort of the distinct advantage in terms of cost and efficiency that you can get using the Adyen platform, perhaps and some numbers versus some of your competitors? And if we take that sort of forward, as they build on your platform, beyond just payment capabilities, what are the other -- and you alluded to some of the data and the analytics, what are the additional products you can build, which are not necessarily directly linked to payments, but in ancillary kind of software area?

**Pieter Willem van der Does** - *Adyen N.V. - Co-Founder, CEO, President & Member of Management Board*

Yes. So if you -- it is unfortunately for ourselves, not as easy as that you just go to merchant and say, look, you now have now an authorization rate where you have 85% of your online transactions approved, move to us, it will be 87% for you to calculate your additional profit, there you go. In reality, while this is going on, there are always different elements to that. Authorization rate can be something, specific patterns can be something. But what is more important is that merchants choose us for the -- to be future-proof. And what is nice is if you integrate it with us and you move to an additional region or if even to an additional channel, you never have to reintegrate. So this means that this is a choice, which is future-proof with the track record of constant innovation. So you can, for example, say I want to have Alipay and WeChat Pay on my terminal. But actually you also want to have on your terminal what will be released next year and the years after. So whereas authorization rates improvements are important in our sales process, the decrease that we can make in overhead in your financial department, taking frustration out of your shopper -- out of the shopper environment, which directly relates to customer supports, cost for the merchant. So making the process smoother, making it future-proof, giving what we call a subscription permanent innovation, that is what makes the merchant choose for us. The second part of your question, which is related around the -- how do you look at the additional things that you're -- that Adyen is developing. So we are productizing it. So that means that we're making it ready to charge for it. And at a certain point, we probably will. On the other hand, it's in our interest to make sure, if you're merchant on the Adyen platform, that you enjoy the full functionality of the platform. So we don't want to put too much obstacles in there, but we know that at a certain point, when we are further and when the products are further crystallized out, that we have set them up in such a way that you indeed price for that.

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**Unidentified Participant**

Right. And just one quick one on the unified commerce. It's around 11% of revenue today. Any incremental data in terms of the size of customers, where that is skewed to or in terms of customer penetration today of the customer list, how big that is today?

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**Ingo Jeroen Uytdehaage** - *Adyen N.V. - CFO & Member of Management Board*

Well, I think in general, if you look at the point-of-sale customers that come on our platform, they often start with a certain country and then roll it out. We have seen very successful migration paths. So and that's a good thing of point-of-sale volume. The moment that you have them with a store, they don't have an alternative next to it, which you sometimes have with e-commerce. So you get the full volume, and I think we are on a trajectory to see that more and more and more. And we prove, also with the distributed architecture, that we can get to a very high uptimes. So having a second provider is just not just necessary. And yes, we were -- we feel very confident that this is the right strategy. I think if you look at the type of customers, point-of-sale customers, that we bought, these are typically the (inaudible) point-of-sale customers that have a multichannel strategy. So they see the benefits of unified commerce or they are very international because the international of the problem is if you're international with point-of-sale, the old solution is that you need to integrate with local banks in each and every country, which from a functionality perspective is a nightmare, from a reporting perspective is a nightmare. I think Burberry is a case that we used in the past to prove that they brought down a number of acquirers in Europe significantly because they started to work with us. So if you think about the savings in total cost of ownership for running your payments stack, that is very, very important.

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**Sandeep Sudhir Deshpande** - *JP Morgan Chase & Co, Research Division - Research Analyst*

Sandeep Deshpande from JP Morgan. Quick question, Pieter. I mean when you've -- over the last few years, you introduced various innovations on your platform, such as MarketPay. And then you've got the banking license, which allows you flexibility on settlements. I mean clearly, you have a long-term road map from here as well that these are the new features you want to get into, and one of these is the mid-market that you're getting into. Are there other such things that -- new areas that you want to get into and that would be nice to get into the next 3 to 5 years for the platform? And then secondly, because for instance with the mid-market, does it change the cost structure of the company that all the way you have to address the customers given that historically, you've gone directly to the big enterprise customers, now you may have to go through some resellers, et cetera? So does it change the cost structure at all?

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**Pieter Willem van der Does** - *Adyen N.V. - Co-Founder, CEO, President & Member of Management Board*

Yes. So if you look at the first part of your question, so what else and what next? Obviously, we are looking at new regions. Nothing to announce there yet, but that is always on more regions, where in our ideal scenario, that means being able to process end-to-end because we know that, that's the most powerful way to help our merchants, has the highest quality, has the highest -- so it has -- it's not error-prone, has the highest conversion rates. So that's something we want to expand and also be present in countries to help merchants. So that's always something we work on. And of course, there are also ideas about new services or extension of services. Also, there are nothing I can announce today, but if you -- in the back of my mind, if we talk about cost, we want to be able to free up resources, and which is in our case, actually almost always HR, that have overhead. At a certain point, where at about half our engineers work in the point-of-sale. So we do make huge investments in time to develop new products, and we could -- and we see that there's enough room to continue to do that. So this is not that we're entering to a phase of small optimizations, we can still make wild new things.

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**Unidentified Participant**

And in your last presentation, you talked about your competition a little bit. Has there any competition developed, which does this full-stack? And thus, when you go to bed, you think that this could be a risk to us 3 years or 5 years from now, just as we took share from all these incumbents in the past?

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**Pieter Willem van der Does** - *Adyen N.V. - Co-Founder, CEO, President & Member of Management Board*

I think it's nice to have that we're the only one doing this. Eventually, how we look at it, that is that our safety is in our speed. There are so much going on that we are constantly increasing the delta between us and the rest of the market. If you would now tell me, by the way, this supplier now has full-stack in this region, that my thought line would be, okay, so then we started doing that in 2013 or no, in'11, I think. So then we are exactly 8 years ahead of you, and it's over to the Adyen team to make sure that, that 8 years feel like 16 years, and that is very difficult to catch up. So it's not a single trick that we do, it's the combination of what I said in my summary. Keeping things simple, which is very difficult. Every day, we get a demand for veering away from that path. There's every day an opportunity to make it more complex. And on the other hand because of that being able to attract most talented team to execute it, I think that, that's where the solution is. Also if you look at where we take from because it is quite spread out between companies, which run multiple, which run many, many platforms, some SME providers, banks which provide point-of-sale terminals, it's -- they cannot all respond in such a way that they are better in holding onto the merchants. So this is not a marketing where I say if another company would start looking like Adyen, then still the total addressable market would be EUR 21 trillion, and then still we only capture EUR 159 billion of that.

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**Sanjay Harkishin Sakhrani** - *Keefe, Bruyette, & Woods, Inc., Research Division - MD*

Sanjay Sakhrani from KBW. I had 2 questions. One was there's obviously been some consolidation in the U.S. acquiring market. I was just wondering how you think it affects Adyen. And then I had 2 for Ingo, actually. One is just do we need to consider anything as eBay volumes roll on in terms of take rates or operating margins, especially as we move into 2021? And then secondly, just excess cash usage. Sort of how we're thinking about utilizing that cash, whether it's capital management or M&A?

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**Pieter Willem van der Does** - *Adyen N.V. - Co-Founder, CEO, President & Member of Management Board*

How we look at the consolidation that's going in -- going on in the market, this -- it's not our strategy.

And so we never did an acquisition. We are not looking at companies. And the reason why is that we feel that it would make it very complex to make the payments market a functionality play? We make it a functionality play, that's how we win. By consolidating with many platforms, the dream is always that you then move all that volume on your new fantastic build. To do that in practice it turns out to be so difficult that you don't see examples of companies actually executing that. I have lived -- I've worked for few years for Worldpay. I've lived it. I know how difficult the management decision is to say, okay, we're going to switch off this platform and either as a merchant, we give you 1 year's notice, you're on our new platform; or we just tell you today, we're going to -- we -- you have to be migrated away. Because in practice, everybody goes for RFP, if you have to reintegrate. So you're going to see enormous income cuts and lost customers. So it's from a management point of view, enormously unattractive, especially if you run the company with a little bit of a shorter -- on the -- a little bit of a shorter horizon. We run things on the long horizon. We feel much better to spend our efforts to boarding merchants on our platform to make sure they're really happy, and they hang around with us for a long, long time. Then, Ingo, about eBay?

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**Ingo Jeroen Uytdehaage** - *Adyen N.V. - CFO & Member of Management Board*

Yes. So about eBay and margin, I think if you look about eBay, where we are, we're really happy so far with the progress that we have made of eBay integrating into our platform. If you look at their earnings call, they also announced that they were quite happy with the performance so far. Until 2020, this summer of 2020, they're stuck with their PayPal contract. So we -- yes, we will see more volume over time. I think individual margin, we never give any indication on individual customer contracts. Of course, if it's a big merchant with high volumes, you might expect a decline in take rate of that single customer. But I think more importantly is that it is profitable contracts. We don't have loss-making contracts on our platform. That's never been the strategy. We always make sure that, that contracts are and net addition to the profits of our company.

Then on the excess cash. I think the -- it is really helping us that we have this strong balance sheet. I think the combination of the eBay deal and the IPO last year, got us into a position that we're now negotiating even bigger deals. We're at a table of really big companies, talking about payment strategy. And then having this very strong balance sheet, just makes the conversation way and way easier. So for the foreseeable future, I don't see any change in our plan to -- in our dividends policy, which is basically everything adding to earnings or to equity. And of course, if that continues in the future, we will revisit that. But now, it really helps us to execute our strategy, and that's why we continue doing this.

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**James Eric Friedman** - *Susquehanna Financial Group, LLLP, Research Division - Senior Analyst*

It's Jamie from Susquehanna. Thanks for doing this Capital Markets Day. I know you like the long term. I was just wondering though, over time, do you think your prices go up or down? And at least if you could help us with the structure about how to think about that?

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**Ingo Jeroen Uytdehaage** - *Adyen N.V. - CFO & Member of Management Board*

Okay. I think there are a couple of effects on our platform. If you take -- if you just take take rates as a starting point, because that's in the end how most of you like to look at us. There are a couple of effects on take rate. Getting more full-stack volume on our platform is a positive because we make both margin on the processing fee and assessment fee. Getting enterprise merchants is a negative and the same for point of sale, and that's for the same reason because they typically are very large entities with tiered pricing structures and the more volume they bring, the lower the price per transaction is. So that also has a negative take rate effect.

The fourth effect is the mid-market, and mid-market comes with higher pricing per transaction because they are in lower volume tiers. So that has indeed a positive effect. The question is how is that whole mix panning out? And yes, it really depends on how fast we can grow certain areas. So that's also why we don't look too much on the -- or to the take rate because it doesn't really say anything. If we are competitive, absolutely. If the feedback we get from customers is if we go for RFP that were typically more expensive than the competition, and we can do this because we bring additional functionality. So we make it a functionality game, instead of a cost game. And if it's purely about cost, we would walk away. So we're not -- this is not a raise to the bottom for us, it's about adding functionality and getting paid for that.

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**Michael Browning Del Grosso** - *Jefferies LLC, Research Division - Equity Associate*

Mike Del Grosso with Jefferies. Two rather high-level questions. The first is, what percentage of your customer base are you currently processing on a global scale across your unified payments platform? I mean like just a high-level percentage of what wallet you currently have of your merchant base? And then I guess the second question is more on the technological capability. What's the typical authorization rate improvement that your technology has versus maybe one of your competitors? So when you onboard a merchant, what's that improvement typically?

**Ingo Jeroen Uytdehaage** - *Adyen N.V. - CFO & Member of Management Board*

I think, I'm afraid, it's very difficult to give generic answers to both questions. I think in general, if you just look at share of wallet, it really depends on how far we are with a customer in the implementation. So if it's early stage, it's probably a few percent. If we're working there with them for a couple of years, it's trending towards, yes, above 50%, I would say for -- and specifically for point of sale. And I think point of sale in a region, if for -- if you take Nike as example, we work for Nike in both U.S. and Europe. So we have their full volume. So that, I think, gives sort of an indication what our strategy is in this area. And the same for authorization rates. Of course, there's a Forrester report claiming that we do about 1.4% better than competition, but it also depends on the implementation. If you sell to Brazil out of your U.S. acquiring license or your U.S. acquirer connection, you probably get to authorization rates of around 30% or 40%. If we then switch to local acquiring with Adyen, you probably get to 85% -- 80% or 85%. So that's an enormous improvement. So it so much depends on the setup. I think the most important -- that I think the 2 metrics that really matter to me. The first one is our volume churn. Our volume churn is less than 1% over last year, and that's a very consistent number over time. And the second thing is that, if you look at customer feedback, so if we -- if you look at our account managers working with our customers, of course, our customers measure very precisely authorization rates. And as 80% of our volume -- more than 80% of our volume growth comes from existing customers, it gives an indication that they are happy with our service and give us more over time.

**Anneka Treon**

Anneka Treon from Kempen. I think following up from the previous question, what are your thoughts from your merchant's perspective with regards to process diversification? Because as you -- I mean you sort of laid out your competitive landscape earlier on in one of your slides, and I think we would all agree that especially if you fast-forward things, especially from a sort of unified commerce perspective, you could argue that the banks that are playing a part today will be increasingly less relevance, and also the SME providers especially for some of the larger more omnichannel merchants also less relevant. So if we think about the world in the next 5 to 10 years and perhaps, it starts looking a little bit more oligopolistic from more and single platform players. What do you think is a sensible pie split for your merchant base? I mean, you mentioned that for example Nike U.S., you guys are pretty much exclusive. Do you think that's a reasonable -- a sort of reasonable working assumption? Do you think merchants feel uncomfortable with an overreliance? How do you look at that?

**Ingo Jeroen Uytdehaage** - *Adyen N.V. - CFO & Member of Management Board*

I think it's really a matter of trust, building a trust relationship with your merchants. I think typically, if you provide sufficient added value, we see that merchants give us more and more volume, and you get a -- you have trust in the relationship. I think there are a lot of companies that fully trust on 1 ERP system. So why couldn't you trust on 1 payment system? It's more working together with your merchant like how you prove that you are sufficiently resilient and that you're not there to -- if they're dependent upon you, that you try to fool them or try to make profits out of that. I think that's, of course, traditionally a problem in this industry. It was a lot of in transparency about pricing, and that's exactly what we're trying to bring. We're trying to bring transparency to our customers and build that trust relationship over time. So I certainly think that the share of wallet could grow to 100%. That's not a problem at all. It's just -- it's not the standard traditionally in this industry. But philosophically, I see no problem to get there. You would agree or...

**Pieter Willem van der Does** - *Adyen N.V. - Co-Founder, CEO, President & Member of Management Board*

Yes, it creates additional cost for the merchant to not do it. And it is a -- you see a changing in the more traditional company you talk to, they sort of use arguments like, "That's the way to keep you," almost is to have you competing with others, whereas the more advanced company that you speak to, they are more rolling out per region, and you never hear that argument. So it's, I agree with Ingo, it's partly a mind shift because that's how we used to run it. Because traditionally, in payments, you just charged whatever you could get away with, a high ForEx rates, where traditional fees, reporting fees, all sorts of fees that you could throw to the merchant. And on the other hand, we need to do perfect execution to build that trust. Brian, anything to add? Or no, no, no?

**Adam Dennis Wood** - *Morgan Stanley, Research Division - European Technology Equity Analyst*

It's Adam Wood from Morgan Stanley. I've got a few as well actually. And maybe just as a follow-up to U.S. consolidation point. Your rating piece is the fact that's very likely to end up with a lot of technology complexity and problems integrating platforms. Is that a work stream from a sales point of view that you can go after specifically and try to target some of the bigger customers that are working with those companies that are going to go through quite complex technology changes over the next few years? And secondly, just on PSD2. When you speak to the big merchants, and I'm thinking particularly here the very kind of tech-driven big merchants. Is there any risk that they try to do their own payment system and create their own payments model that would actually have apart from the tech a 0 cost because they can use PSD2 to do bank accounts, and they would view it that we're a tech company, we can actually enable that and make a structural change to our tech -- to our payments cost. Is that discussion you have with any of the big merchants or see as a risk? And then finally, maybe just trying to understand the shift to full stacking given the impacts on take rates. We saw that 60% to 70% shift in volumes going to full stack. Is that just the areas that you don't want to acquire and not growing so the airlines and travel industry? Or are there other factors in there that would change that mix like getting new licenses in new markets? If you could just try and help us understand the gives and takes on that, that would be very helpful.

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**Pieter Willem van der Does** - *Adyen N.V. - Co-Founder, CEO, President & Member of Management Board*

All right. I think in general, changes in the industry usually work to our benefit and maybe it's nice Brian, if you say something about PSD2, how that works to our benefit?

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**Brian Dammeir** - *Adyen N.V. - Head of Product*

Yes. So I think there's 2 sides of PSD2. There's one which is open banking, which you allude too. The other is the requirement around strong customer authentication. You can see out in the market where we're covering ourselves in both of those areas. I spoke briefly to our 3D Secure 2 implementation, which is exactly an implementation our merchants are using to prepare for the strong customer authentication element of that. So we're already in that space. However, that wasn't really your question. Your question was more around the open banking APIs and sort of where we see that position. Well, first and foremost, we're already live in the U.K. with open banking API aggregation, and we offer that VR platform, right. So I think you need to really distinguish between what a company is capable of doing and what they have the business incentive to do. The farther something gets away from a company's core business, the less likely it is that they'll invest in technology to do that. So we see ourselves as a payment technology company who can fill that space. And I think as you also probably know, no space immediately 100% moves to anything, it becomes part of a greater mix, right. Like any payment method mix in any given region, we see open banking as one more thing in the mix. So we think this actually plays to our strength that the more competition and more complexity there is in a market, the more you need technology players like us to simplify that complexity and therefore the more attractive our offering is.

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**Ingo Jeroen Uytdehaage** - *Adyen N.V. - CFO & Member of Management Board*

And the question on full stack from 60% to 70%. That's mostly the fact, of course, of rolling out globally. So adding the additional acquiring licenses, and of course, we think that we further can build this. The 30% is mostly acquiring for already the volume for airline that we do not acquire or just a gateway because we don't want to acquire it. And of course over time, if the merchant base grows, the airline share will decline because if you look at total, the EUR 21 trillion market, airline is now 30% of that. So that will decline. And of course, it will be, I think -- the full-stack growth will be accelerated by the fact that we further roll out internationally.

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**Unidentified Participant**

Two questions. I think we all understood the benefits for merchants. But can you talk us through a little bit the process that a large enterprise would go through to switch? So the time line, the cost and how they think about it, right, and again, when you're convincing them, the benefits may be there, but what is the process and how intensive is it for them? And then second question, somewhat related, although different, but again the speculation that Uber is applying for the loan banking licenses, announced they're processing their own payments, how do you answer to that?

**Pieter Willem van der Does** - *Adyen N.V. - Co-Founder, CEO, President & Member of Management Board*

So the sales process, unfortunately, it is true that if a merchant has mentally already decided to choose for Adyen, you tend to be part of a rollout of something. Often something else also changes. They might change to a new cash register. They might change to a new system for the online sales and often you're part of that. So that is a timing when you get in and often even that combined with a new region. So when we go live with that platform in Australia, we will do it with Adyen. So that can mean that sometimes we speak to merchants for a long time before they go live. There are the cases where they commit full countries or regions where they say we're going to do this with U.S. and Europe with you, and you're looking at a full rollout, where you get a lot of volume over a few months. We didn't use the word lumpy yet today, but payments is lumpy. So that means that there are large deals that you're working on, which are very difficult to time and which could fall in a certain year, but could also fall a year later. We have seen cases where it took 10 years from where the merchant was already saying, yes, we're going to do that to actually doing it. So the payment -- the cycle can be very slow, and this often depends on other process, that the pure integrating effort is not so much work. You could do it in a week or 2 weeks, even if you have a very deep integration. The disruption to the business is material because think about simple processes like how do you do a refund if you changed provider? Because that new provider doesn't have the regional transaction in its system. So it does disrupt your business significantly to move from supplier to other suppliers. So that is good, once we have them on our platform and that can be a reason why it's difficult to board them because it's not a decision you take lightly. And then you had another question about the -- about Uber. So Uber is doing that for their payouts. There are all sorts of rules in Europe that if that as a marketplace, you're not allowed to touch the funds unless you adhere to rules and they solve that with their own banking license. So it's not intended to do acquiring, to do their own card acquiring which we do for them. So that does have impact.

**Nooshin Nejati** - *Deutsche Bank AG, Research Division - Research Analyst*

It's Nooshin from Deutsche Bank. So I have mainly 2 questions. First is on your cross-border transactions. If I understand correctly, you can make this to not appear as a international transaction, but as a local transaction. And I'm wondering how you can comply with, basically all the network rules and so on? So if you can just give a little bit on that for my understanding? And then again on the same on PSD2 and the licensing of your big customers. So if I understand correctly, most of this complexity of processing the payment comes from processing the data and basically to put aside the fraudulent transactions, and so on. And some of these big customers, they have no problem to process those datas and those -- this would not be a complexity for them. So what would you think about them more and more going for own license and processing their own payment or becoming their merchants of record and so on and so forth? So how do you see that as a risk to your business? And where the whole market is going basically here?

**Pieter Willem van der Does** - *Adyen N.V. - Co-Founder, CEO, President & Member of Management Board*

Let me answer the second half of your question and then I'll ask Edgar to do the first part of your question. Second part regarding where is the cutoff for merchants to do things themselves with scale? Originally, we thought that it's something that the largest merchants might do themselves. If you see how the payment market develops, it becomes less and less attractive to do that. Because the resources the merchants need to commit, the size that you need to have as a merchant to do that, then you could say yes, Amazon in the U.S. domestic, yes, probably, yes. But then even for a company like that to do it in other regions, probably not. And if you are a size below that, it doesn't make much sense if you see how much investments you need to do in payments to have that run properly, how much you pay for it to outsource it. So what actually the benefit to the company are to do with themselves, we don't see that as a threat. We don't see there are large merchants. Unattractive also to split out a payment method yourself because suddenly, your data is in multiple places and the overheads assigned to that is huge. We have seen examples of the other way though, that merchants were doing it themselves and were running that over time and, then finally say goodbye to that. So it is actually a strategy, which I think is now more and more proven to be not valid, whereas that our large merchants moving out to us and sort of saying, this is ridiculous. We have 150 people working in our payments department, this does not make sense.

**Nooshin Nejati** - *Deutsche Bank AG, Research Division - Research Analyst*

(inaudible)

**Pieter Willem van der Does** - *Adyen N.V. - Co-Founder, CEO, President & Member of Management Board*

Yes, it's -- I found out that each time that I mention a merchant name, I regretted later. So also, this time, I'll stick to that rule. Wanting to be helpful, but it somehow never works out. Edgar?

**Edgar Verschuur** - *Adyen N.V. - Head of Global Acquiring*

Yes. So to the other points regarding local acquiring, you're completely right. On the card scheme rules, we can only offer local acquiring when a merchant has a local entity. We just make that process very simple and offer them the same solution in the markets where they have entities. So we help them find the optimal payment processing setup within the lines of compliance and card scheme rules of course. It's not localizing where a merchant is not having a local entity. Maybe I hope that answers your question.

**Nooshin Nejati** - *Deutsche Bank AG, Research Division - Research Analyst*

(inaudible)

**Edgar Verschuur** - *Adyen N.V. - Head of Global Acquiring*

To qualify for the full benefit of local acquiring to register them as a merchant in, let's say, France or the U.K., they need to have an entity in that market, yes.

**Hannes Leitner** - *UBS Investment Bank, Research Division - Equity Research Analyst of Software*

Hannes Leitner from UBS. I've got also a couple of questions. You mentioned that in 2018, most of your growth came from existing merchants. Can you give kind of a guidance for 2019? And maybe also in terms of new merchants, can you break down a little bit the pipeline so we get a feeling about the ramp up, how far you are and how it compares to last year? And then maybe something on the industry. How often do you actually see merchants turning their merchant acquirers in on the post terminal and then in the e-commerce? And then in replacing your existing -- or when you win a contract, those replacements, can you say if you're usually replace banks or other payment companies, what do you see out there in terms of dynamic?

**Ingo Jeroen Uytdehaage** - *Adyen N.V. - CFO & Member of Management Board*

I think in general, if you look at evaluating our sales, if you also look at sales pipeline, we measure it internally and we see how that evolves also compared to both of the sales team. So that's a very important internal KPI that we will not publish outside of the company. But we, of course, find that very important to make sure that, that number is right because otherwise you might run into problems in later years. I think the fact that there is a matter of building a trust relationship with a merchant explains why most of the growth comes from existing merchants because you work with them. And for the new ones, you'll need to build that trust relationship. So I think, that's on the first part of your question. I think replacing point of sale is not that easy because to go into store operations is not what retailers typically like to do. So there has to be a good reason, but standardization is a very good reason, that's also why we see that certain rollouts can take place very, very quickly because they get standardized procedures throughout Europe, U.S. or other regions where we are active to replace it again, yes, why would you if it works really great. So that's, I think what we, yes, need to prove or what we continue to prove to our merchants that we are very good in delivering our performance and there's no reason to churn. And so far we -- in point of sale, yes, churn is not an issue. I think the overall churn in volume is less than 1%. So that includes, of course, point of sale.

**Unidentified Participant**

This is [Wade] from Whale Rock Capital. Two questions. I guess, the first one is in terms of all these other value-add products when they're like inside reports from like all the data you collect, are you still planning to keep that as part of the bundle for your current processing take rate? Or are you planning to monetize that in the medium-term or long-term future? And then the second question is with PSD2, the 2-factor authentication, if the 2 factor is getting rolled out, wouldn't that theoretically decrease conversion? Or do you have some ways to kind of offset that to improve shopper experience and increase conversion?

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**Ingo Jeroen Uytdehaage** - *Adyen N.V. - CFO & Member of Management Board*

So on your first question, I think for us it is most important to grow quickly with our current merchants. And I think the reason why we build trust is because we find a lot of value-added services. Of course, we will continue to ask ourselves whether we can find something, but we won't stay away from in transparency. So we want to keep transparent pricing. And if a product proves to be a real value add, of course, we will start pricing for it. We have done that in the past with a product like RevenueProtect, but also now with 3D Secure 2.0. These are things that we price to merchants. And if we see good opportunities in the future for other products, we will. At the same time we, of course, want to make sure that we keep our customers happy on our platform.

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**Brian Dammeir** - *Adyen N.V. - Head of Product*

So to your question of the, let's say, the authorization rate risks around strong customer authentication, absolutely, it is a risk for the merchants. So depending on the merchant's business model, anywhere from 20% to 80% of their transactions, perhaps even higher will require strong customer authentication in Europe. We actually see that. However, it's advantage for ourselves. Most payment processors are using a white labeled 3D secure authentication solution. So you now have a scenario in which 20% to 80% of your customers, your merchants' transactions are now leveraging someone else's technology, and it will be a crucial part of the authorization flow. So actually our ability to very quickly pivot into our own builds and certified authentication solution well ahead of that September time line, has turned into a real asset for us in the market and has turned a risk on the merchant side into an opportunity for us and less of a risk for merchants who work with us.

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**Unidentified Participant**

Yes, Philip (inaudible). My question is for Brian, I think, with regards to ShopperDNA. One of your competitors PayPal, Braintree, they very much emphasized their what they called 2-sided network, but also have 250 million consumers with the PayPal account. They said that helps them very much because that gives them a lot of insight in those consumers that helps them with authorization, marketing. I think similar things to what you were talking about in terms of ShopperDNA. My question is, do you think it's a pity you don't have your own digital wallet? Or do you actually think it's an advantage that gives you additional freedom, not having your own consumer base? And maybe related question, how do you think about privacy in terms of ShopperDNA?

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**Brian Dammeir** - *Adyen N.V. - Head of Product*

Great questions all around. I'll not go into speculating on the advantages of moving into consumer facing. All I will say is we work with merchants, and therefore, we do have visibility on data of their consumers, and we feel that, that's the place in which we're most comfortable. Our customers are our merchants. To the sort of more macro-level question of what then does that make in terms of the difference between capabilities between us, PayPal, Braintree? It's different data. And at the end of the day, one can have access to more data, but then they might not necessarily do things with that. For example, you see that they've had do acquire companies in the risk space in order to have a competitive product, of course. I'll sort of leave the speculation there. There was a final part of your question, I'm forgetting.

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**Unidentified Participant**

(inaudible)

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**Brian Dammeir** - *Adyen N.V. - Head of Product*

Oh, yes, indeed. So I think you should make a significant distinction between the sort of flows that we talk about in ShopperDNA and the other data-driven flows that we provide in unified commerce. ShopperDNA is part of our risk system and therefore generally falls under other aspects of GDPR and data protection. However, we never expose multiple merchant data to a single merchant. We have a strong delineation between showing a merchant to their data and their transactions. And then we do, do, let's say, PSP-wide aggregations, but those are always highly anonymized, tokenized and we never show specific information to the merchant. So it goes into the modeling and helps them with their assessment. But we never give them any information about a customer that's occurred on another merchant's transactions.

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**Pieter Willem van der Does** - *Adyen N.V. - Co-Founder, CEO, President & Member of Management Board*

I do think that it would be a tricky choice for Adyen to start a wallet and starting to work with consumers because our merchants choose for us because we chose their interest, and we don't seek a relationship with the consumer. So whilst ruling nothing out, it would be a major choice, if you say that from today we're going to interact with consumers. We have 1 customer that's our merchant, and we tried to help them to sell and we don't try to build a relationship with their shopper. And a large part of our merchant base wouldn't appreciate if we could start reaching out to their shoppers to sell one of our products.

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**Tammy Qiu** - *Joh. Berenberg, Gossler & Co. KG, Research Division - Analyst*

Tammy Qiu from Berenberg. So my first part of the question is about, a lot of your growth is coming from relying on high-growth enterprise and large enterprise. And you obviously have captured all the right ones for the time being. How do you make sure that you have all the right ones for the future or forever? That's the first one. And the second one is, I noticed that you guys actually do gambling business for acquiring gateway service. So can you disclose what is the percentage of your total volume coming from that side of the market? And how you view as a mix for the total volume going forward?

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**Pieter Willem van der Does** - *Adyen N.V. - Co-Founder, CEO, President & Member of Management Board*

If you look at the merchant which we have versus the merchants that we work on, you constantly see new -- what typically happens is that in geography and in industry, if you have a merchant that, that the merchant, which is close to that, be it in products or being it in geography is boarded onto the platform. So there is in the beginning of building out and there are certain biases. Over time, you see that moving away. So if you now look in the pipeline merchants that we have and we spoke about quick service restaurants, you see that we are developing whole new businesses and that we make sure that our product really works for them for the future that we don't end up being a very highly biased towards certain industries. On the other hand, the ones which we bought it are, of course, the merchants, which are most open for change. So I think it's just a matter of time. And I don't have the feeling that we are only interesting for those merchants. It's more a factor of how quickly can you board? And how important it is for you to make those changes? Or do you feel you can wait a little bit longer? And there was a second part to your question.

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**Tammy Qiu** - *Joh. Berenberg, Gossler & Co. KG, Research Division - Analyst*

About gambling business?

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**Pieter Willem van der Does** - *Adyen N.V. - Co-Founder, CEO, President & Member of Management Board*

Do you want to?

**Ingo Jeroen Uytdehaage** - *Adyen N.V. - CFO & Member of Management Board*

Yes. So we indeed have license gambling on our platform. It's single -- low-single digit sort of volume percentage, and we have very strict measures in place to make sure that it's fully compliant. So for instance, that U.S. shopper accounts use sites, et cetera. So we feel that we're not exposed there.

**Unidentified Participant**

(inaudible) Econopolis. I was wondering you being a technology company, there are some other secular trends alongside payments like Internet of Things. And I was wondering whether some of your merchants would want to go beyond just the terminals you have there into, yes, connected devices, smart devices in order to allow payments. And what the consequences might be of that? Because, I guess mostly it will be micro payments in that case.

**Brian Dammeir** - *Adyen N.V. - Head of Product*

I think, overall, you would see that as a positive trend for us. I'd speak back to the themes that we talked about of being channel agnostic and having sort of a universalized tokenization system, right. So if you look at initiating a payment from an Internet of Things device or a voice-driven device or something like that, to us, that's just implementing what we would call an online transaction. It's the same API interactions, the same tokenization system. So from that, we're better positioned than I think most in our industry to deal with integrations into those new types of channels. I even spoke to things like could you have a token attached to your vehicle, things like that. I do think that there are some trends that you could consider around that moving things towards micro transactions. That being said, that's a dynamic that already exists in the, let's say, the App Store ecosystem. And you tend to find that large players tend to bundle together transactions, aggregate them and send them in bulk. There is a lot of different things around that. I don't think that would have a substantial change to our fundamentals, however, and how we treat that.

**Unidentified Participant**

(inaudible) 10X Capital. A bit of a more general question. How do you see the -- I mean you mentioned that it is possible philosophical at least taking the 100% of wallet of a merchant. And in the long term, how do you see this current market situation where it is very -- is built with a lot of merchant -- a lot of providers of payment services in acquiring? And do you see that there is a scenario of a winner takes all in the long term? Or is it going to remain with the many players in the market? And secondly, you use the research of, I think Nielsen in your -- when evaluating your total market and at least total addressable market and the growth of that market going forward. Do you think -- I think it is based mostly on card payments. And when we think about it, should we also think about other payment types? And think hence -- would this add up to the total addressable markets? Or would you still remain at the same number of around EUR 21 trillion currently?

**Ingo Jeroen Uytdehaage** - *Adyen N.V. - CFO & Member of Management Board*

Yes, I think the question on market size is a question that we don't spend too much time on that because the market size is just so big that we see limited -- the more important limitation is how fast we can grow the company in a responsible way. So a market size is not limiting us. And then to your second question, winner takes all scenario. I think this market is so big, that's highly unlikely. I think there will be a difference and that's a key thing about, do you see payments as a functionality game? Or do you see payments as a commodity? I think, there is plenty of space for people that see payments as a commodity and they will fight each other to death about pricing. But if it's a functionality game, you can actually bring new revenues. I think there are only a few players that they can actually do that. I think that's why we win a lot of the deals with the more advanced players because they see the payments as a functionality. Again, they want to pay a premium for it. And I think in that particular part of the market, we're super well positioned.

**Mark Oud**

This is Mark Oud, Kempen Capital Management. I was wondering about the sales process in the mid-market SMB business. You mentioned that you will use system integrators, but also inbound. Can you tell a bit about those 2 parts and also, about the sales organization around those 2 sales methods?

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**Pieter Willem van der Does** - *Adyen N.V. - Co-Founder, CEO, President & Member of Management Board*

Yes. So in the mid-market, it's important to be integrated with the platforms that mid-market customers use and to build a good relationship with those platforms. If you look at how we do account management at the corporate side, that means that it's one-on-one relationship. So, although as an account manager, you could have multiple companies. As a company, you know who is your dedicated account manager. In the mid markets, it's more a team. So you do have a level above just customer support, so there is somebody who can look at your business and be helpful. But that's a pool of people. There is a lot to gain for us in working together with the platforms because for them having all the different -- having multiple payment partners, is also for them suboptimal. So there is a wish for them to reduce the set of companies they work with. So that's the objective for us if we work with those platforms.

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**Mark Oud**

The ones that (inaudible).

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**Pieter Willem van der Does** - *Adyen N.V. - Co-Founder, CEO, President & Member of Management Board*

We are integrated, yes, I'm not -- never so good at those lists

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**Brian Dammeir** - *Adyen N.V. - Head of Product*

Magento, Salesforce Commerce Cloud, you can imagine the smattering of different e-commerce platforms. And then I think for the mid-market there tends to be more of a regional variation. And I think we're -- part of the build-out that we have this year on the product side would be a smattering of the regional specific ones.

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**Ron Heijdenrijk** - *ABN AMRO Bank N.V., Research Division - Analyst*

Ron Heijdenrijk, ABN AMRO. A few questions. I don't -- I know that you don't drive on take rate, though I was just wondering for clarity sake. Your take rate on point-of-sale versus online, is the differences within a single merchant of that? And secondly, are there maybe geographical differences in your pricing schedules due to the competitive pressures being larger or less in certain geographies? And then, well, if you could give some insight in your wallet penetration, that would be great, but I think the question has been asked already multiple times.

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**Ingo Jeroen Uytdehaage** - *Adyen N.V. - CFO & Member of Management Board*

I think the question about online versus offline, it really depends on, I think how a retailer works. We prefer to give -- to work on 1 pricing deal because that makes it also easier from our perspective. We have a good discussion about what a merchant wants to accomplish and then it shouldn't be a matter how volume is brought in, whether that's online or off-line. But of course, sometimes if the retailers set up in a more traditional way with separate teams for point-of-sale and online, you could get to different pricing models for both channels. It has not our preference. And of course, there are regional differences also because if you look at certain markets, they're just way bigger than other markets. U.S. market is a big market where there's a lot of volume for some merchants. So if you look then at what kind of tiers we end up? It is a different tier. So with better pricing than for instance the average in Europe, which is a way smaller market. So that's the type of difference that you see geographically. I think in general, we see with merchants they like for straightforward financing proposals. So in the end, if they start to realize that they really have 1 platform, you also come to a 1 pricing discussion.

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**Ron Heijdenrijk** - *ABN AMRO Bank N.V., Research Division - Analyst*

So I do understand the differences in volume size in the U.S. and that you will be higher up in your tiering schedule than, for instance in Europe. But would that also then mean that the height of your tiering schedule will be difference, so that your -- let's say, your top tier would be 20% lower in the U.S. than in Europe for instance?

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**Ingo Jeroen Uytdehaage** - *Adyen N.V. - CFO & Member of Management Board*

I would say not necessarily. I think it really depends on the type of deal, and also the type of added value that we can bring. I think that's a key thing where also processes start with like what kind of value can we bring to a merchant and do -- how do we price it correctly. And that's mostly volume-related and indeed what kind of additional value we can bring as a company.

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**Martine Buis** - *Adyen N.V. - Director of HR*

Anyone else with questions?

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**Ingo Jeroen Uytdehaage** - *Adyen N.V. - CFO & Member of Management Board*

No? Okay. Well, thank you for being here today. It was a great pleasure to have you here in Amsterdam.

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**Pieter Willem van der Does** - *Adyen N.V. - Co-Founder, CEO, President & Member of Management Board*

Yes. Thank you.

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