

Podcast Transcription: Thales - Driving Digital Security, Identity Innovations in a Connected World

[00:00:10] **Ankit:** Hello, everyone. Thank you for tuning in, into the Counterpoint podcast. I'm your host, Ankit Malhotra, and today we are talking to the leaders in the eSIM industry. Joining us today on the podcast is Pascal Di Girolamo from Thales, who is one of the leaders of the Counterpoint's eSIM Global Ecosystem Report, which we release annually. Thales has been the leader in the eSIM provisioning landscape for the last three years. So please join me in welcoming Pascal. He's a Marketing Director for Mobile Connectivity Services at Thales. Hello, Pascal. Welcome to the show. How are you doing today?

[00:00:41] **Pascal:** Hello, Ankit. I'm good. How about you?

[00:00:45] **Ankit:** Great to know. And yeah, I'm also doing good. So, Pascal, before we get into the discussion, would you like to tell us more about the reaction that you've had after seeing Thales has emerged as a leader in the eSIM provisioning landscape?

[00:00:58] **Pascal:** First, thank you for ranking Thales as leader. Indeed, this reflects well the the reality of the market with more than 300 now remote SIM provisioning platform that we've delivered to MNO and OEM as well. So we have delivered for most tier one and tier two MNOs, but not only actually, Thales also supports tier three MVNOs and CSP globally. And very important, we serve nine of the top 10 Carmakers representing over 20 brands with dedicated automotive eSIM products.

[00:01:35] **Ankit:** That is absolutely wonderful. Now people who have been following the eSIM industry definitely know about Thales. But for people who might not have been following the industry, they might not know much about Thales. I know Thales has been part of the eSIM landscape for a long time, but how did you get into this space? What has been the journey so far in becoming the leaders in this space?

[00:01:56] **Pascal:** Thank you for this question. We have a long history actually in telecom space. So Thales is strong of more than 30 years actually of experience and expertise in the telecom industry. And we have been contributors, actually, to different organizations. The first one is about the Trusted Connectivity Alliance, previously called the SIM Alliance. Actually, we've been a founding member, and we have worked

on different specifications, focusing on the interoperability of eSIM, SIM and now iSIM. And also very important. So concerning our solution today, we have been contributor also to the creation of the specification on the GSMA that defined actually the RSP, the Sim Subscription Management Platform for both consumer and M2M segment. And we've been involved not only at the specification level, but as well part and contributor of a working group to ensure, you know, interoperability as well. And doing some tests between eSIM remote management platform, eUICC, MNOs, I mean, all the different stakeholders to ensure that all our solution can cross to each other and be interoperable to each other. So this is about this three. Now very important about I would say strategy and what is Thales is focusing on to accompany actually our customer in their digital transformation and to ensure the best services. Thales has a clear strategy actually focused on first operation excellence and security and second innovation.

And I would like to share with you actually these two axes. The first about excellence in operation and security. In 2020, actually, we've deployed the first world's first GSMA certified eSIM activation solution on Google Cloud. You know, this is a public cloud, so we are relying on a public cloud hybrid architecture.

I will explain to you why hybrid with GCP. So GCP for Google Cloud Platform. We deployed our solution with multiple, multiple sites in Europe and in the, USA to permit to cover actually all our customers worldwide. This was a clear strategy that we apply. And so why public cloud? Actually, it's very important because it provides high availability, reliability, scalability to absorb, you know, high peak of transaction with a high level of operation and continuity of services. This is key for this market that is growing. That has started to be massive, but is going in the future to be completely, massively deployed with high volume of transaction. So this was key to consider this type of infrastructure. And why hybrid architecture as well? It's because, you know, Thales digital security is part of the Thales DNA.

And it's very important as well to, to ensure that all the security and encryption related part remain hosted in Thales private cloud data center. To remain purely under the control of Thales. So this is very key. So two platforms, one using the benefit of the public cloud with this flexibility, as I explained, and the other, which is Thales focusing on the application for

remote SIM provisioning and as well security. So this was the first axis of strategy and about innovation to share with you. This is also very important topic for Thales. We have a complete portfolio of eSIM services around platform, and we focus. If we focus on consumer market, we offer, first of all, a large range of activation method to digitize the end user journey on all MNO channels. So it's very important to offer all this flexibility in STORE, online, with QR code, carrier application, or with SMDS for subscription management, a discovery service. But to focus on what is innovative actually. First, it is the end-user experience. We are the first to have developed and operated this SMDS of the GSMA called eSIM Discovery Service, which is also a very important method of enrolment, and the innovation was to propose it from day one with the GSMA, as defined in the specification as well. Also, we are able to offer a full digital end-user journey through the Carrier application, including eKYC for identity verification. This is so very important to offer frictionless digital end-user journey. We improve the end-user experience. This is a very important topic to ensure the best level of services, but as well, capability to ensure with real time adaptation of the profile, the subscription profile before download to make sure that it will match the target handset. We adapt with real-time mechanism the subscription profile to maximize the success of activation on the target device. And this is very important innovative feature. Also, we think that it's very important to benefit from the entire advantages of the eSIM. And for that, we offer customer digital and efficient method to optimize its supply chain.

eSIM supply chain is also very important topic at operator level. Thanks to Thales Advanced Analytics, we allow actually to optimize profile stock management with predictive function, this is very innovative, to permit the customer to anticipate and avoid inventory shortage. This is already starting, customers already have to face peak of transaction and make sure you have all, you know, the element in place to ensure.

And finally, the best end user experience, but for that, they need all the profile available for this volume, potential volume of transaction. And in addition, we have statistic dashboard to permit the end user, the customer, to better understand the usage of their eSIM subscription. So this is a combined innovative solution.

Beyond this, we have TIC, Thales Instant Connect, which is very also innovative feature. It provides cellular connectivity during the first.

Switch on of the device and give a out of the box experience finally. Then the device can download the final mobile subscription from a mobile network operator once it has been deployed. It is very, very important. And I will finish with two last points about this innovative feature from Thales. The first is about IoT Market and SGP.32 solution. So we have deployed TAC which is Thales Adaptive Connect to answer the SGP.32 for IoT. So SGP.32 is a new name of the, of the GSMA specification to address IoT market beyond M2M.

And we have developed this stack, Thales Adaptive Connect, in addition to our extension, IoT extension of our SMDP+ to ensure that our customer can benefit from Thales SMDP+ to address also IoT. And in addition to provide this in the provisioning solution, I will finish as well with the fact that. Thales is a major player on embedded technology on EUICC.

And we've been the first player with iSIM certification called ESA, in collaboration with a chipset maker Qualcomm. So this is a global overview of what we think very innovative feature we have deployed.

[00:09:14] **Ankit:** Yes. Thank you, Pascal, for telling our listeners about Thales and what Thales has been doing in the eSIM space so far. But being in the industry and in the SIM card industry for more than 30 years, you must have seen a lot of changes. So for anyone who's looking at eSIM now, at least for the last two years, everyone knows how fast things are changing in the eSIM industry. But let me ask you, what major trends have you seen in the past few years?

[00:09:38] **Pascal:** The trend actually is, is very positive. Yeah, about the consumer market evolution you know, we, we have an increased number of eSIM smartphones available for purchase on the market. Maybe not enough, but finally we have more than, more than 110 references, 35 model launched in 2023. It's a good trend.

As well, we got the introduction of of eSIM only device. The first one last year, we, we'll talk more into details about this iPhone 14 and, and this year, the 15 in the U. S. with eSIM only device. So this is very interesting and this has created a change in the market. And what we have seen also is the eSIM commercial services launched in more than 116 countries by our customer, by our mobile network operator.

So this is an increasing number of operators offering eSIM commercial services, and what is interesting is that we had more than +340 beginning of 2023, around 400 in June 2023, so this means that more than 56 operators in six months has launched the service. This is very interesting and positive fact.

As well, we have eSIM compatible device becoming more accessible with eSIM is entering in mid range device. And this is new, we had the Samsung A53. This is also for professionals, but this is still a good trend. We at the beginning of a change, and this is very positive as well, what has improved but not enough is finally the eSIM awareness for the end user.

It has improved a bit. We got some information from the GSMA. It's around 36%, beginning of 2023. This means more than 20% improvement compared to 2020. The last statistic we had, so. Everything is doing more and more and better on the consumer trends for M2M and IOT trends. There's still a need, I would say, for M2M and IOT service provider to manage their current eUICC compared to M2M.

I'm talking about this because you know that the M2M specification SGP.02 is now have to coexist with a new standard, which is the SGP.32 for IOT device. Nevertheless M2M specification is there, we've deployed solution and the trend is that customer will have to continue managing their M2M platform because they've got already eUICC on the field and they might need to do, for example, a fleet management campaign to do a subscription profile swap.

And this was the definition, I would say, of this specification be capable to update the profile on the field. So M2M is still there, as said. There is the IoT SGP.32 that is now arriving on the market the customer will have different coexisting platforms to manage, but finally to manage M2M legacy when already deployed or start from scratch with an SGP.32.

[00:12:44] **Ankit:** Correct. And I think we have seen a lot of positive news around the eSIM as well. We have seen eSIM devices in the premium segment. Now we are seeing them in the mid range as well. And at least in the next few years, we're hoping to see them in lower ranges as well. We also talked about consumer awareness, and I was actually looking at Google Trends data to see how many people are actually

searching for eSIM, and it was actually increasing very linearly until 2021.

But in 2022, when the eSIM only iPhone launched in the us, we saw a very big peak. The good news is, even today we can see consumer searching for eim and Google search has not come down for eSIM, which shows an interest from consumers is coming in. And if there are more devices, just like the eSIM only iPhone in the U.S., we will see more uptake. So, let me ask you, do you think 2022 was an inflection point for eSIM?

[00:13:51] **Pascal:** Yes, absolutely, Ankit. Yeah, I, I agree with this. We see a transformation. eSIM only was very disruptive. It is a disruption. The iPhone 14 in the U. S. with eSIM only show clear transformation in terms of reaction awareness and volume of transaction. We see it clearly with our customer in the U. S. And finally, not only in the U. S., because people also use this iPhone eSIM also in Latin America, for example, but globally this was disruption. What we saw as well, because iPhone 14 was Not launched in other countries than the U. S., that other customer, other mobile network operator has another strategy as well with the eSIM first strategy, you know, it was another way in Europe, for example, also in other region to promote the same for new customer instead of providing them with SIM card, personal sim card. When the new subscribers wanted to subscribe to MNO, actually, instead of providing them with a SIM card as the choice was to propose any sim personalize with the subscription onboard, so it was.

What we call the eSIM first strategy, and this has happened in different countries and still continuing. So this is also doing well and creating transaction and also awareness for end user by using eSIM by default on their mobile phone. And so the result is that consumer eSIM profile download has increased, as I said, and the result is more than 130 percent in 2022.

These are input from the TCA, it's public information. So this confirms exactly what you just said.

[00:15:14] **Ankit:** Correct. But the real benchmark to evaluate whether eSIM industry is doing well is to look at transactions. Because that shows us real user time data, which has grown in 2022 exponentially and we are expecting even better increase in 2023. Yes, so 2022 was definitely a

landmark moment with eSIM launch in the US and same with iPhone 15 launch in this year. But everyone was expecting it to be true in other regions as well, which did not happen. What do you think would be the reasons behind it? And do you think the reason is that operators were not ready? And if they were not ready, what do operators need to do to make themselves ready?

[00:15:51] **Pascal:** So I will answer in as soon as Thales as a RSP supplier. So our role is really to, to ensure that our customer, our MNOs, are ready when a eSIM only device happens. So it was the case in the US and in 2022, as we just see, and we, our customer, were ready with the right platform.

The right scalability, flexibility, all explain before what I said just before to make sure that the customer will have all the elements to absorb peak volume of transaction and so on. But then Thales provide also I mean, mobile, mobile operator, operator, all the elements to be ready out of the USA to be ready to address eSIM only with high availability and scalability platform, but as well with a digital journey and also the notion of device change capability.

This is part of I would say, all the element required to ensure with success deployment of a eSIM only device. So platform with scalability, high operation, excellence in operation, as Thales explained before, it's a requirement to make sure that you ensure very good services for the customer to feel confident to launch a eSIM only device.

And coming back to device change, this is a challenge actually because, you know, you have to manage monobrand, interbrand, meaning, for example, Apple to Android device and vice versa, with different options that are proposed today. Actually, they are under specification and there is different option from entitlement server, TS43, that is. different options, but also carrier applications. So there is a set of options today, and we have to make sure that the customer will be ready to ensure at the end the best user experience. This is very important.

[00:17:42] **Ankit:** Certainly. Customer experience is very, very important as we have seen in the U.S., where the eSIM uptake is very high. At least it has grown very swiftly. Even before the eSIM only iPhone launch and

after the eSIM iPhone only launch as well. Now talking more about the IoT side, the M2M side. We have already discussed that iPhone 14 was a landmark moment in consumer eSIM. There have been very big developments on the IoT side as well.

And we have had the new SGP.32 standards this year. Do you think that SGP.32 standards can be the landmark moment for the IoT side of the industry?

[00:18:18] **Pascal:** We cannot really compare the launch of a worldwide product with the introduction of a new standard. Very important, and still we believe it, it has the potential to return the tide in favor of eSIM.

And the reason is indeed that the operating model that is more focused on enterprise with a need for simplicity and agility. With SGP.32, it was not the case with SGP.02 for M2M. So SGP.32, the technology is adapted to broader number of use cases based on very constraint device and access technology, such as local IoT or IoT.

So we know. That SGP.32 will replace at the end M2M specification. This is a fact. But today, many car makers and few service providers, such as smart meters, they have deployed commercially M2M platform. So we know that. For the time being, everything is okay, but they should move to IoT as SGP32. This is a trend of the market.

But when only the standard will be finalized and products are available. So therefore, there is a need of a convergent management solution upon customer strategy, so to be capable to manage different types of UICC or eSIM and to ensure coexistence as said before and transition from M2M to IoT. So, so to conclude at this point, for all new IoT service providers, SGP.32 leave barrier of SGP.02 and M2M current specification for sure.

[00:19:43] **Ankit:** Correct. And that is very, very interesting. Even with so many developments on the consumer side, on the IoT side, we are seeing new standards coming up, more adoption, more consumer awareness, but still it feels like things are moving a little slow. It still feels like the industry is in a nascent stage. And going back three or four years, everyone expected this growth to be faster, at least I did, and to had more devices than what we have today. So I would like to touch upon some of the problems and challenges being faced by the industry. What do you think the challenges are for the industry at the moment?

[00:20:17] **Pascal:** Yes, still few challenges to raise and we are contributing to raise them. But It's global. So I would say that first of all, it suffers from a lack of awareness, as I said as I mentioned before, and also the availability of the same device, such as an true range, volume of device is not there yet, but, but indeed, although the first smartphone with the eSIM were released in 2017 now, so a few years ago, it's true that it looks at several years of the technology to gain awareness with consumers.

And indeed, initially, eSIM adoption was relatively slow. But as we saw, the transaction volume as it increased, we are very Positive, actually, that has been changing since September 2022. As we discussed with the Apple, decided to remove this physical SIM slot from its iPhone 14 model in the U. S. Moreover, availability of a eSIM device entry range more massively will happen.

More accessible in price, and this, for sure, will democratize the usage of a eSIM. This is very important. But I would like also to insist on another challenge that we see, that the end user wants, actually, at least similar usage of SIM. Today, they've got SIM card. They want that eSIM brings the same simplicity of usage, for example, when changing device. I'm talking about device changes, this is key. They want the same thing, but as well get additional digital service on top, thanks to eSIM. We're talking about awareness. Now the end user wants at least the same as SIM, but additional digital services on top, such as instant digital onboarding and so on. So everything has to improve and be better. Also what is important about MNO is that, as we said before, they must be equipped with a complete set of elements to manage a eSIM. So we presented the notion of device change. This is a challenge. I would highlight this one. And they have to be equipped with the right approach. If they have the right approach, everything will be fine. They have to equip with the right platform and right option to ensure this device change. I just explained another challenge for certain MNO in regards with a digital transformation is impact on the supply chain and backend. We explained just before we are providing some element, but globally, a mobile network operator need to consider the supply chains and some legacy to manage.

This is not an easy task. In conclusion for this question, I can say that the acceleration has started with iPhone 14 easy money device on consumer market. And with. Very soon out of the U.S. we wish for SGP.32 as well,

this bring great future for IoT segment and with all spec ready and to be implemented by UAM so very, very soon.

[00:23:05] **Ankit:** Yes, there have been so many problems and our players have actually said. For long, that customer experience is sometimes not at par with physical SIM. But I think things are getting better, especially with new OEMs bringing different solutions for eSIM transfer between devices and different methods of onboarding in which we have seen a lot of developments.

Most of the operators now at least provide QR code. Until two years back, there were some operators who wanted you to go to a physical store to download an eSIM. But I think now everyone has moved to QR codes. And we are seeing group QR codes, batch QR codes. We, I have seen eSIM QR codes on airplane tickets and in flight magazines.

There have been many, many improvements in that regard. I would like to go back to one more point that you raised earlier about iSIM. Now many people regard as a type of eSIM. Do you agree with this statement?

[00:24:00] **Pascal:** So, so iSIM, is not going to replace eSIM. First, just, just to remind what is an iSIM. To remind 1st what is iSIM: Instead of having a dedicated chip to host the eSIM OS, it resides in a secure enclave inside a larger chip that implements cellular communication.

So still, still, we have remote SIM provisioning capabilities with RSP, same as the eSIM the eSIM. So this will be supported by all the RSP standard on the market. And very important is the certification. You need to be certified as per the GSMA security guidelines, like the eSIM. This is a very important topic.

I will explain you why. So it's key to provide a level of security, flexibility, and interoperability. IoT stakeholders are looking for they need this level of security with iSIM. So at Thales, actually, we prefer to talk about the transition to a new form factor the iSIM. Being a an integrated eSIM, actually, you see, iSIM being an integrated eSIM, so it's it'll be another form factor for us.

So iSIM brings big benefits with a much smaller size. Lower power consumption and simpler integration, and it comes as an integral part of the cellular chipset of the device. So, we would like to insist also on the

fact that some vendors propose iSIM today, but they are actually like a SIM implemented in a proprietary manner.

Not flexible and running in cellular chip that is not secure enough to pass the GSMA certification. So this is very key on security and certification. So to finish, the real iSIM will be available when the cellular chips become certified with a proper level. And at Thales, we are working with several partners, as I explained before, with Qualcomm, to make it happen in 2024.

[00:26:05] **Ankit:** So as you mentioned, security certification. Thales has actually unveiled a solution which has been certified by GSMA and I believe that is the first consumer solution to be certified by GSMA for iSIM. So the question naturally is, when can we expect the first iSIM device to be in the market? Do you think next year?

[00:26:24] **Pascal:** Oh, so we hope so. So the recent trends show that eSIM will become mainstream. We don't know at which speed, for sure it will happen. What is sure is that the new eSIM only device and mid-range smartphone will arrive on the market soon, and we will help increasing eSIM adoption. As we explained, we are accompanying our customer for this to happen.

So we see also. Positive about massive IoT deployment with diversity of device that would require performance and adaptive system for efficient management. So this is also a good trend for next year. We have to be ready and our customer has to be ready with this new environment, new piece of technology that will be actually to be deployed in the market in complementary of what exists or from scratch, depending on the customer.

So in this context, Thales will do its best to continue accompanying our customer in their digital transformation and complete lifecycle management of the eSIM profile. I think that I will conclude with this here.

[00:27:26] **Ankit:** So if we can talk about 2024, what themes do you see? Coming up in the next year. We saw eSIM only iPhone in 2022.

We saw the new SGP.32 standards coming in 2023. What major things do you think we expect in 2024? And even if we do not see any landmark, what are your expectations?

[00:27:46] **Pascal:** As I said just before, a trend is that to, we have to, to accompany our customer to make sure that they will be equipped with the right solution for the server part and for the UICC part.

So we hope that we have eSIM only device in Europe next year in Asia and certain country permit our customer to deploy new services and offer the end user this. New digital journey as well. We hope that our customer will also continue in their digital transformation, being equipped with a new innovative feature.

As one, for example presented proposed by Thales to ensure the, the best actually deployment of solution and services for the end user, but as well to make sure the customer also can benefit from eSIM technology and digital profile subscription management with a new I would say supply chain optimization to permit, to, you know, to benefit really from all these advantages also in the way to manage their stock and manage finally the end user subscription.

So this is very positive for the industry for next year and, and the coming years.

[00:29:03] **Ankit:** Great. And I think that concludes our show. And thank you, Pascal. That was really absolutely wonderful and informative. Thanks for joining the show and sharing all your insights with us.

[00:29:13] **Pascal:** Yeah, thank you and Ankit for the invitation.

[00:29:16] **Ankit:** And for our listeners, thanks for tuning in. If you have any questions or if you want more information, do reach us via email on contact at counterpointresearch.com. You can also listen to previous podcasts on platforms like Apple Podcasts, Spotify, Google Podcasts, and so on. For now, it's Ankit signing off.

Have a good day and see you in the next one. Thank you!