

GENESIS



**GENESIS 2023:
HACKATHON HEROES
AND TRUE INNOVATORS**

**INDUSTRY IMPACT: HOW ROAMING TESTING
WAS REINVENTED FOR THE MODERN AGE**

OPINION 360

MAURO MELE: HOW PATIENCE AND PERSEVERANCE MAKES PERFECT

BRIAN BEACH: THE VOLTE REVOLUTION

MEDHI TRIKI: LONG AWAITED ROAMING EFFICIENCIES

**THE INNOVATION
ISSUE: BECOMING
TRANSFORMATIONAL**



OCT 2023, ISSUE 5

ROCCO U SUBSCRIPTION MODEL



ROCCO U



- Access the entire ROCCO U Training catalogue for 12 months.
- Train your team in Roaming, Interconnect and Digital Transformation.
- Open 24/7/365. Study at your own pace with the ROCCO U Online, on-demand training.

✉ roccofaculty@rocco.group

☎ +447730047777



www.roccoeducation.com

clickmobile®

Adding Value to SMS, Voice And Data



EVERY CLICK TELLS A STORY. WHAT'S YOURS?

Discover Click Mobile, the heartbeat of mobile innovation across Africa and the Middle East. Our range of services, from messaging to software development, is crafted to suit your every need. With a presence in 8 countries, our legacy is built on trust, excellence, and unparalleled service.

EVERY CONNECTION IS A STORY. CHOOSE CLICK MOBILE.

With our SMS expertise's, we have direct connectivity to Malawi, Zambia, Botswana, Kenya, Zimbabwe, Benin, Ghana, Lesotho, and Ivory Coast, and we are connected to 100+ carriers across the globe.



www.click-mobile.com



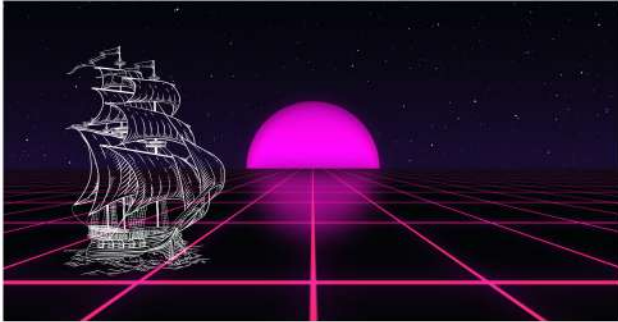
info@click-mobile.com



With branches in Benin, Botswana, Dubai, Ghana, Kenya, Malawi, Senegal, Zambia, Zimbabwe

THE ISSUE...

Genesis 2024 is in Seville Spain, a city known for exploration and first ever circumnavigation of the globe...



The first person to circumnavigate the globe was Ferdinand Magellan, a Portuguese explorer. He embarked on this historic journey in 1519, although he was killed in the Philippines and did not complete the entire voyage. His fleet continued on, and it was Juan Sebastián Elcano, a Spanish explorer, who completed the circumnavigation in 1522. It's a telling tale of having a mission and great plans but not having the circumstances to succeed.

This Autumn's Genesis Magazine is a celebration of success in our industry. The ones willing to explore and knowing they have the right crew, the right provisions and despite the challenges they may face, completing their missions!

Mauro Mele, Brian Beach and Mehdi Triki tell us how they navigated their successes in the Innovators 2023 and the Cellusys teams explain to us how they managed to come up with not one but two winning solutions in the Genesis Hackathons 2023.

We're preparing to take these successes further, working with these organisations to showcase their amazing work. Companies who just take a problem face on and find a way to circumnavigate all the challenges ahead of them and complete their journeys.

Ok so that's enough analogies for one introduction. Read all about their amazing stories here and get prepared to make yours happen at Genesis in Seville 2024.

JASON BRYAN /
JASON@ROCCO.GROUP

Editor-in-Chief

www.roccogenesis.com





ROCCO CALENDAR

| September 2023 | | | | | | |
|----------------|----|----|----|----|----|-------|
| M | T | W | T | F | S | S |
| | | | | | 01 | 02 03 |
| 04 | 05 | 06 | 07 | 08 | 09 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | |

18 ROCCO IOO:
Nominations start

22 The Innovators:
Registrations start

| October 2023 | | | | | | |
|--------------|----|----|----|----|----|----|
| M | T | W | T | F | S | S |
| | | | | | | 01 |
| 02 | 03 | 04 | 05 | 06 | 07 | 08 |
| 09 | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 30 | 31 | | | | | |

| November 2023 | | | | | | |
|---------------|----|----|----|----|----|-------------|
| M | T | W | T | F | S | S |
| | | | | | 01 | 02 03 04 05 |
| 06 | 07 | 08 | 09 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | | | |

06 ROCCO IOO:
Nominations end &
Voting starts

22 Genesis Hackathons:
Registrations start

| December 2023 | | | | | | |
|---------------|----|----|----|----|----|-------|
| M | T | W | T | F | S | S |
| | | | | | 01 | 02 03 |
| 04 | 05 | 06 | 07 | 08 | 09 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 |

22 The Innovators:
Registrations end

| January 2024 | | | | | | |
|--------------|----|----|----|----|----|----|
| M | T | W | T | F | S | S |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
| 08 | 09 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |

22 Genesis Hackathons
Challenge webinar &
Hackathon period
starts

| February 2024 | | | | | | |
|---------------|----|----|----|----|----|-------|
| M | T | W | T | F | S | S |
| | | | | 01 | 02 | 03 04 |
| 05 | 06 | 07 | 08 | 09 | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 26 | 27 | 28 | 29 | | | |

01 02 The Innovators Showcase
& voting starts

14 Hackathon period ends

14 ROCCO IOO voting ends

14 - 21 Hackathon judging
period

22 Hackathon Shortlist release

29 ROCCO IOO Judges' Day

| March 2024 | | | | | | |
|------------|----|----|----|----|----|-------|
| M | T | W | T | F | S | S |
| | | | | | 01 | 02 03 |
| 04 | 05 | 06 | 07 | 08 | 09 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 |

04 ROCCO IOO Report release

11 The Innovators voting ends

12 The Innovators shortlist release

| April 2024 | | | | | | |
|------------|----|----|----|----|----|----|
| M | T | W | T | F | S | S |
| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
| 08 | 09 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | | | | | |

| May 2024 | | | | | | |
|----------|----|----|----|----|----|-------------|
| M | T | W | T | F | S | S |
| | | | | | 01 | 02 03 04 05 |
| 06 | 07 | 08 | 09 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | 31 | | |

20 - 24 Genesis 2024 & IO
Plenary #06
co-located

21 Visionaries gala

CONTENTS



| | |
|-----------|--|
| 06 | All about Genesis 2024 |
| 08 | Mauro Mele about ePayments & The Innovators 2023 |
| 18 | Alexander Spyrotis on A2P SMS |
| 28 | Talent Show: Industry Colleagues on the Move! |
| 36 | Brian Beach on Evolved Mobility & The Innovators 2023 |
| 46 | ROCCO IOO 2024 |
| 48 | The Innovators 2024 |
| 50 | The Genesis Hackathon 2024 |
| 52 | Lion's Den 2024 |
| 54 | Mehdi Triki on STEEROP & The Innovators 2023 |
| 64 | Daniel McTague & Charles Bernard on RoamBot & The Genesis Hackathon 2023 |
| 74 | Dhiraj Wazir - A new opportunity for Roaming |
| 82 | Peter Morgan & Chris Lennartz on SMASH & The Genesis Hackathon 2023 |
| 93 | All about the ROCCO Group |





GENESIS

GENESIS

20th - 21th May 2023

Seville, Spain

ROCCO Genesis is an event designed to bring three perspectives on the challenges our industry is facing: innovative ideas, strategic insights, and training.

Genesis 2024 will be co-located with the IO Plenary #06.



IO Plenary #06

22th - 24th May 2024

Seville, Spain

www.innovativeoperators.io



ROCCO 100 is a selection of the 100 most influential people in Roaming, Interconnect, Fraud Prevention and Messaging based on industry opinion, nominations and voting.

[See page 46](#)



The Innovators is a research initiative conducted by ROCCO to identify and provide visibility to the most innovative solutions from Vendors and MNOs in our industry. This initiative creates a much-needed space for awareness of what's happening industry-wide.

[See page 48](#)

GENESIS *Hackathon*

The ROCCO Genesis Hackathon has created a new way to look at Innovation in our industry.

The hackathon focused on addressing two of the biggest challenges the industry is facing in the Roaming and Messaging areas. This Year Genesis hosts the final Shortlisted Solutions for the Genesis Roaming and Messaging Hackathons.

[See page 50](#)



The MNOs and Vendors taking part in The Innovators & the Genesis Hackathons will present to a panel of Lions who will give feedback to them live in front of the Genesis audience.

[See page 52](#)



The official Visionaries Gala from ROCCO will take place on May 21st and it will be a dinner where we will present more than 40 awards to The Innovators 2024, the winners of the Genesis Hackathon, the top 25 of ROCCO 100 2024 and Tier 1 Vendors from our Vendor Benchmarking Reports.

[See page 92](#)

JASON BRYAN
INTERVIEWS:

MAURO MELE

DIRECTOR CLEARING
SERVICES AT COMFONE

ePAYMENTS: AWARDED
AS THE #1 SOLUTION IN THE
INNOVATORS 2023



Find out more about The Innovators 2024
on page 48

**"THE CONTINUED EVOLUTION OF
THE ROAMING ENVIRONMENT HAS
ALSO BEEN AN INSPIRING SOURCE
OF BUSINESS REQUIREMENTS TO
EVOLVE OUR CLEARING
SERVICES."**



TALKING ABOUT ePAYMENTS

Jason Bryan

It's a great pleasure to be here with Mauro Mele from Comfone. Mauro, how are you doing today?

Mauro Mele

Fine, thank you, Jason. What about yourself?

Jason Bryan

Pretty good, pretty good. I'm enjoying the intense summer here in the south of Spain. I know you recognise that from your background as an Italian. The fantastic summers are upon us. And yeah, it's great to be here with you. Obviously, we know each other for a long time in the industry.

Mauro Mele

Absolutely.

Jason Bryan

It's always great to see the progress your colleagues make in the industry and how their work is going towards achieving something, right? So, it was a real pleasure to have you at the Genesis event this year and to see you being recognised for The Innovators. We're going to talk about that throughout this interview but first, let me ask you to introduce yourself.



**“PRESENTING LIVE
TO THE LIONS WAS
AN INTERESTING
EXPERIENCE. BEING
CONFRONTED WITH
INDUSTRY EXPERTS
OF THAT LEVEL IS
ALWAYS QUITE A
CHALLENGE, BUT
IT'S ALSO A GREAT
OPPORTUNITY TO
GET VALUABLE
FEEDBACKS.”**



ROCCO

Mauro Mele

I am the Director of Clearing Services here at Comfone.

For those who don't know, Comfone is a Swiss company acting in the roaming industry. Comfone recently celebrated its 25th birthday and offers a full portfolio of roaming services through the Keyzroam Platform, including Clearing, Hubbing, IPX and Data Management Services, and serving more than 500 customers worldwide between MNOs, MVNOs and other industry players.

So, what about myself? Well, I will try to keep it short.

In 1992, I joined TIM Italy (SIP in those days). Few years later I participated in launching the first private Italian Mobile Network Operator that later became Vodafone Italy.

Then in 1998 I moved to Switzerland and joined Comfone. Back then it was just being created as a joint venture between Swisscom and Vodafone. That is actually where the name Comfone comes from: Swiss**COM** + Voda**FONE**, = **COMFONE**.

My first project was the rollout of the first technical roaming hub, called the GCS (Global Cellular Service), which is still in operation after all these years! The next assignment was to develop the first Financial Clearing system. At that time, Financial Clearing Services were just taking the first steps in the industry. Since then, as you can imagine, I've worked on many projects in various positions, until I took responsibility for Clearing Services. I also had the opportunity to contribute to the definition of several GSMA standards and to chair some working groups at GSMA.

I designed in parallel the clearing architecture of the Comfone Keyzroam Hub, the largest hub on the planet in terms of connected operators and live roaming connections. And I even had the opportunity to invent some of the acronyms, which later became of common use in the industry, like Alias TADIG Codes, RTDRs, EID, RAEX OP Data.

My most recent challenges have come from the "rise of the machine" and the new BCE standards which has resulted in a new product called Phoenix. Phoenix went live in 2021 and generated the first commercial BCE NB-IoT invoice in April 2021, setting a new milestone in Comfone history ... and in my personal one.

The continued evolution of the roaming environment has also been an inspiring source of business requirements to evolve our Clearing Services, triggering the development of several Comfone applications like CDR tracing, Financial Tracker, and of course, ePayments, which is the reason we are here today, as this was the award-winning solution at Genesis 2023.

Jason Bryan

Oh, you're bringing back so many memories. I think it's a story of dedication to the industry. It's an exciting thought to be able to develop something globally and for it to be rolled out in every operator around the world. But it's also a huge challenge and even with the standard organisations behind us, it's that you have to really be patient.



You've been ranked number one in The Innovators, and it's an amazing achievement, I think a lot of other companies have been in The Innovators a few years hoping to get in the top three and you guys swooped in there, went straight into the first position. How did it feel to be shortlisted and presenting live at Genesis in front of those Lions?

Mauro Mele

Well, when ePayments passed the first selection process, for me this was already a great achievement. We knew that ePayments was already well received within the community of our FC customers. But actually, the voting process confirmed the validity of that solution outside of that community. Presenting live to the Lions was an interesting experience. Being confronted with industry experts of that level is always quite a challenge, but it's also a great opportunity to get valuable feedbacks. And besides all that, being on stage fully exposed to the whole audience definitely made me a bit nervous!

Jason Bryan

I think you did extremely well, there was no doubt in my mind.
Can we recap on the solution itself, and the problem that it was trying to solve?

Mauro Mele

Yes, with pleasure. ePayments was designed for our Financial Clearing customers to directly control the settlement and payment process of their credits and debts. As everybody knows, those credits and debts are generated periodically from the reconciliation of roaming traffic



invoices, which are exchanged between roaming partners. A long time ago, Financial Clearing Houses introduced a settlement and payment process based on the concept of payment cycles. Payment cycles were implicitly required as the customer PMN and the Financial Clearing Agent would first need to agree on the payables and receivables to be settled during a specific month. Once this agreement would have been reached, the FCA would then execute the resulting payments to the roaming partners on behalf of the customer. As you can imagine, this procedure required a lot of interactions between the parties. Furthermore, you're forced to work on a snapshot of the open positions. This also means that anything that wouldn't have been initially included in the current payment cycle would have to wait until the next payment cycle, a month later. And this obviously has an impact on cash flow.

ePayments resolves this issue by removing the need of the interaction between the customer PMN and Comfone FCA. ePayments provides a 24/7 eBanking-like application, allowing open positions to be settled and executing the resulting payments at any point in time. Basically, it disrupts the concept of the payment cycle. But of course, does much more than that.

For instance, it grants access to real time data which brings a lot more flexibility to the process.

It also provides the same security level as any eBanking application. It enforces that each payment can only be authorised by predefined users, adapting to the different use cases.

It also supports the automatic selection of the outstanding positions by using pre-selected criteria that the user can configure.

It provides access to bank account statements, as the application is interfaced to the bank, collecting all the details of each bank transaction and correlating them to the corresponding accounting data in the FC database.

And of course, it monitors the execution of each payment through the process flow, providing detailed log entries, which can be used for auditing purposes.

In a nutshell, the basic workflow of ePayments consists in four easy steps.

Step one is on the users' side. They select the open positions that they want to settle, either manually, or automatically by using a predefined set of criteria. The second step is the approval. The application automatically generates an ePayments order that will have to undergo the approval process, where the app allows up to three separated electronic signatures.

From that point on, the remaining two steps are fully automated, there's no action required from the customer.

In the third step, first the app breaks down the ePayments order into individual payments to each roaming partner, then it automatically submits them to the bank for execution.

**“ePAYMENTS
PROVIDES A 24/7
eBANKING-LIKE
APPLICATION,
ALLOWING OPEN
POSITIONS TO BE
SETTLED AND
EXECUTING THE
RESULTING
PAYMENTS AT ANY
POINT IN TIME”**



ROCCO

In the fourth and last step, thanks to the same interface with a bank, the status of each payment that has been submitted is automatically monitored and reported back transparently to the customer once the execution is completed.

And that is all. It is more complex to describe the process than to use it in practice.

ePayments clearly provides full control on settlement and payments without enforcing any payment cycle, unless the customer wants a certain schedule.

It is available 24/7 on Pulse, Comfone online business portal.

Today all Comfone's Financial Clearing Customers use ePayments, including Comfone's Keyzroam Hub, which is an internal customer.

This large adoption also testifies that ePayments is compatible with basically any customers banking set up. It is also referred in the SOC certification and audited on yearly basis by external auditors.

To summarise this long speech, I would say that ePayments can be considered the first "Software as a Service" in the Financial Clearing landscape.

And its motto is: "Pay what you want, when you want".

Jason Bryan

I can say this is pretty revolutionary what you guys have developed. What inspired you? Was it listening to customers? What was it that drove you to push in this direction?

Mauro Mele

If we really think about it, what the banks have done is to outsource the full control of the payments to the users.

Then I thought, if banks can do it, why can't the same principle be applied in Financial Clearing? And that was the beginning of a very nice journey, which eventually brought us to the development of ePayments.

Jason Bryan

It makes sense because you're also in Switzerland. And we are aware of the Swiss banking being exemplary and high quality. So it's makes sense that you should be inspired by that, I think. So what were your feelings when you received the award for the 1st place?

Mauro Mele

I was proud about the result. I thought we would have a good ranking, but there were many other valuable solutions which were presented that honestly the first place was not really expected. So let me say that it was really a very nice surprise.

Jason Bryan

Would you recommend taking part in The Innovators to companies then based on your experience?

Mauro Mele

Based on my experience I would recommend it for several reasons. First of all, it is a great opportunity to verify the effective value of an innovative solution or idea in an unbiased environment. Because you're exposed to quite a large audience, either indirectly, or directly if the solution is shortlisted to be presented. This also means that it's possible to promote it to the same broad audience.

On another note, it's also a great opportunity to hear about other



innovations as well as on market trends and expectations.

Jason Bryan

Yeah, the operators can steer us or steer the vendor community a little bit better as what they're looking for in a solution. And that's why it should be very transparent and clear in an audience setting where we can really find out what their requirements, the details, how they're thinking. The Lions did a lot of prep for this. So they looked through all the solutions in detail. With that in mind, what would you recommend to new or potential participants?

Mauro Mele

Well, having a valid innovative solution for a problem that really occurs in the industry is, in my opinion, the main recommendation. But it is also very important how the solution is presented to the voting audience. My recommendation would be to focus mainly on the values and the benefits that the solution brings, rather than on complex technical explanation that, due to the variety of the people in the audience, in some cases may be even confusing. In such scenarios, experience shows that "less is more".

Jason Bryan

Yeah, you are right on all different diversity of solutions that were presented. But I think it's served to make us learn more and more about the industry. We know everybody in the industry knows Comfone for many, many years, and has of course, the feeling of excellence about it: your events, the way that you encompass the industry ecosystem that we work with it, your success with the

hub. You are for me an innovative company. Would you say you have an innovation culture?

Mauro Mele

Well, I believe that Comfone is definitely perceived as one of the industry shapers in the roaming business. The well-known service portfolio and the number of state-of-the-art applications that we have developed throughout the years testifies that the innovative spirit is an integral part of Comfone DNA.

Jason Bryan

Do you think our industry is in general, thinking innovatively? Do you do you see that we're all in line working in the same mission and working on the same objective? All the vendors together?





**“ANOTHER
OBSTACLE IS THAT
INNOVATION
MEANS TO
CHALLENGE HOW
WE HAVE BEEN
DOING THINGS
OVER THE LAST 25
YEARS AND
POSSIBLY TO STEP
OUT OF THE
COMFORT ZONE
THAT EACH OF US
HAS CREATED
THROUGHOUT OUR
CAREERS.”**

Mauro Mele

Very difficult questions. If I think about what is happening in the industry, especially on the definition of the new GSMA standards to support the evolution of roaming, I have the feeling that the old spirit is a bit lost.

This could be explained by different reasons, maybe companies no longer have the resources to invest in such activities, or maybe they just prefer to follow what others define.

Another obstacle is that innovation means to challenge how we have been doing things over the last 25 years and possibly to step out of the comfort zone that each of us has created throughout our careers. And that is maybe the real challenge, as roaming is a very specific type of business with a limited number of participants. What could have happened is that many representatives of those companies may have lost a bit of the innovation spirit and would prefer to stay in their comfort zone.

This approach may jeopardise the evolution of the standards and consequently the roaming business itself. I'm convinced that one of the reasons why roaming was so successful as a business was that behind it, there was a very good standardisation of all processes. That helped the roll-out of roaming worldwide and pushed the business to the level we know today. It seems we are



now getting close to a turning point, due to the evolution of the technologies and the introduction of new roaming scenarios.

When looking at the problems that standardization groups are confronted with, some are related to the new technologies, others are derived from the need to enhance and automate existing complex processes. This would also facilitate the entrance of new players, who may not have all background of how we used to do things in the past and would like to build upon more innovative ideas. So, I do see this conflict a bit in the industry now, and I hope it will be resolved as soon as possible for the sake of the business itself.

Jason Bryan

You've identified it. Really it is a critical moment in our industry because we have 5G, we have the quality differentiation coming with network slicing, We have private networks. We have potentially GSM satellites. There are so many things diverging in the roaming space. So it's a huge opportunity actually to progress into another phase of roaming. And for sure, we need to have a focus on innovation, get the people motivated and pushed to this next step. And for me, you're somebody who's really dedicated to the industry. So it's always great to hear your thoughts about it. So what is next? There is in Comfone any more ideas for the future? Can we expect another solution to be presented?

Mauro Mele

Well, I'm currently busy with the evolution of the BCE standards, and, of course, as by-products, with new innovative service ideas, which for

obvious reasons I cannot disclose now. But maybe they will become potential candidates for The Innovators 2024 initiatives, who knows? Let's wait and see.

Jason Bryan

Indeed. Once again, congratulations on this achievement. And as I said, there's a number of other companies vying to be recognised in this way. So it is very interesting to see Comfone there. No question that you guys are doing innovative work. So it's great to see your solutions there. And Mauro, it's a pleasure to chat with you. We look forward to seeing what Comfone is up to next, and to hear more about your events and look forward to seeing you very soon.

Contact Mauro on LinkedIn if you are interested in talking about Clearing services.

LinkedIn:
www.linkedin.com/in/mauro-mele-37a272/



ROCCO

17

**"WE ARE DEDICATED TO STAY AT
THE FOREFRONT OF INNOVATION
AND WE WANT TO CONSISTENTLY
IMPROVE OUR SERVICES."**



JASON BRYAN
INTERVIEWS:

ALEXANDER SPYROTIS

CHIEF OPERATIONS
OFFICER AT MOBIWEB



ROCCO

19



“ARTIFICIAL
INFLATION IN SMS
MESSAGING WILL
DISCOURAGE
ENTERPRISES FROM
USING SMS AS A
COMMUNICATION
CHANNEL.”

A2P SMS

Jason Bryan

It's a pleasure to be here with Alex, Chief Operations Officer from MobiWeb. How are you doing Alex?

Alexander Spyrotis

I'm fine. Thank you. It is a pleasure for me. Thank you for the invitation. It is really great to be here to discuss with you important key topics regarding the ongoing process of the market.

Jason Bryan


So, how is business in MobiWeb these days?

Alexander Spyrotis

Actually business is excellent. So, we have experience of the decades of A2P success and we do not expect it to slow down at least for this decade. The A2P messaging market continues to expand, mainly due to its versatility, cost effectiveness and the ability to provide seamless communication between businesses and customers. More and more businesses realise and prioritise mobile communication and engagement strategies for their customers. So we are happy to be a front runner and a global provider in this continuously growing market, offering innovative solutions to our customers.



ROCCO



**“BUSINESSES ARE STARTING TO
EMBRACE AN OMNICHANNEL
STRATEGY REGARDING HOW THEY
WANT THE CUSTOMERS TO BE ABLE
TO INTERACT WITH THEM”**



ROCCO

**“I THINK THAT SMS MESSAGING AND
CPAAS ARE VERY RELEVANT FOR
SMALL AND MEDIUM ENTERPRISES,
AND THEY CAN SIGNIFICANTLY
BENEFIT FROM IT.”**



ROCCO

Jason Bryan

So Alex, you were actually voted as tier one in our A2P SMS research by enterprise customers, which is a fantastic achievement. How did the team react to this win?

Alexander Spyrotis

It's great! We are extremely proud and everyone across the board is enthusiastic about it. I mean, this recognition highlights our commitment to customer satisfaction. Our main goals are to understand our customer needs and deliver tailored solutions to them. So we are thankful for the feedback provided by our customers, and this feedback is invaluable towards this goal. We are dedicated to stay at the forefront of innovation and we want to consistently improve our services and meet the evolving needs of our global clientele and the market as a whole.

Jason Bryan

Thanks, thanks for your feedback, Alex. I think it's an exciting time for SMS as it continues to develop. But there's also challenges, right? and it's a difficult moment also for fraud in the industry. Do you think that the increasing impact to Artificial Inflation of Traffic will discourage enterprises from using SMS in the future?

Alexander Spyrotis

That's a very good question and an important topic. I mean, absolutely, definitely. Artificial Inflation in SMS messaging will discourage enterprises from using SMS as a communication channel. At least that's what we believe, it will come down.

Right now, enterprises are starting to become concerned about inflated SMS costs, which will lead them to losing trust in SMS as a communication tool. With alternatives already available, enterprises may begin seeking out alternative communication channels that offer similar benefits without the risk of fraud. So Artificial Inflation is very powerful for the A2P SMS market. In our view, mobile operators and telcos need to start collaborating and tackle this. We, as an industry, must address fraud and address this issue because the rest of the world is confident in our ability to deal with enormous amounts of illegal, deceptive traffic that continues to be conveyed worldwide through our users of services.

Jason ROCCO

So if enterprises are not engaging with SMS, then what kinds of channels do you see them using besides A2P SMS?

Alexander Spyrotis

In our experience, I will have to say WhatsApp, Facebook Messenger, and RCS, in that specific order. So we have experienced a growth in the demand of these channels. We believe this is mainly because businesses are starting to embrace an omnichannel strategy regarding how they want the customers to be able to interact with them. For them, SMS is not enough anymore. So businesses want to be open and easily accessible to their customers with multiple communication touch points. They want to allow their customers to interact with them through the customer's preferred channels.



So we really expect a continuation in the demand growth of these channels, but as the A2P market generally grows, we expect A2P SMS to continue to grow at least for the following years.

Jason Bryan

Yeah, it does seem certain that SMS still has a role to play in the omnichannel approach. Let's focus a little bit more on different customer types. How can SMS messaging and CPaaS in general assist small to medium enterprises specifically?

Alexander Spyrotis

I think that SMS messaging and CPaaS are very relevant for small and medium enterprises, and they can significantly benefit from it. SMS allows business to engage with their customers frankly promptly. The near recent delivery of messages ensures that time-sensitive information like order confirmations, transactions, appointment reminders or emergency alerts reach customers quickly. Additionally, targeted promotional offers for discounts can drive sales and boost customer acquisition. On the security side, SMEs that implement 2-Factor Authentication enhance the security of the customer information in online services and platforms. Customer information is very important nowadays. Most of the SMS messaging and CPaaS providers offer API's and integrations if the case. So SMEs can quickly implement SMS messaging leads into their workflow without significant technical expertise. And they can also automate communications, freeing up the resources for other critical tasks.



These tools in general are cost effective with pay-as-you go models, scalable, and have global rates, making them ideal to support small and medium businesses growth and their expansion beyond the local market. So by leveraging SMS messaging and other CPaaS solutions, businesses can compete effectively in their respective markets, enhance their customer experience and drive business growth.

Jason ROCCO

You guys have done very well in this years research, and there's a lot of enterprises who think you are doing an amazing job. What would you say is the key differentiator that MobiWeb brings to this market?

Alexander Spyrotis

I believe that MobiWeb is a very experienced company. Ideal for other businesses that demand high quality A2P messaging and mainly for the following reasons. First of all, we serve several blue chip customers. And we are actively meeting the most demanding enterprise requirements, whether it is delivery rate, speed of delivery, scalability, and service uptime. So that's really important because we have gone very smoothly through this process and we have the experience and the technical capability to service big enterprises from our experience with these blue chip companies.

Second, we bring 24 years of extensive expertise and experience in market know-how helping businesses navigate the complex and fragmented telecom regulatory landscape.

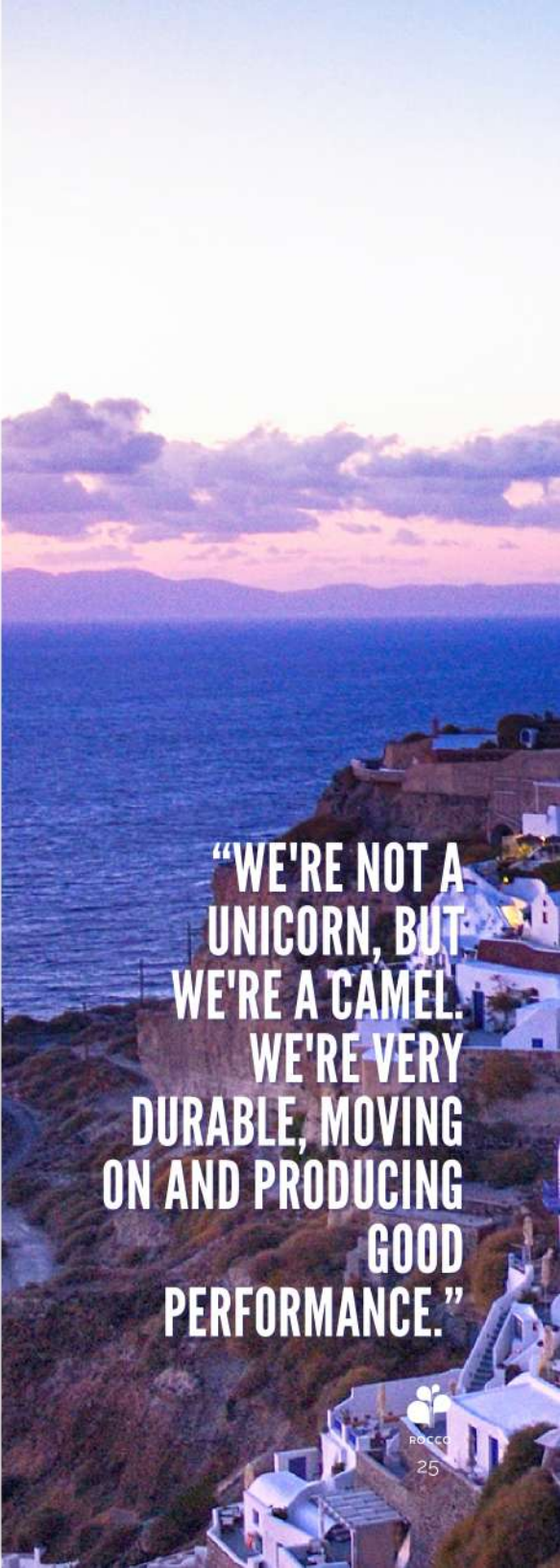
So this is really important because out of the box enterprises can enjoy seamless messaging services from MobiWeb, without worrying and with the guidance of our expert regulatory team. Another important factor is our customer support that is actually live and available 24/7, every day of the year providing help to enterprises, banks, big enterprises and other customers. And last but not least, for sure, is our focus on providing high quality messaging coupled with competitive pricing, because our market is very competitive, obviously. But we want to offer the best quality possible. So these are the main reasons we believe that we are valuable and that differentiate us from the market.

Jason Bryan

Alex, I want to ask a little bit about MobiWeb and its history, if you don't mind because I'm very interested in how you guys started. You've been working in the company for 14 years, and you said the company is much older than that. Did it start by serving customers in Greece and then expanded or how did it evolve?

Alexander Spyrotis

Actually this brings a lot of memories. So yeah, MobiWeb actually started in Greece with a very, very small team of 2-3 persons at the beginning. And we began offering SMS messaging



**“WE’RE NOT A
UNICORN, BUT
WE’RE A CAMEL.
WE’RE VERY
DURABLE, MOVING
ON AND PRODUCING
GOOD
PERFORMANCE.”**



RECCO

services and Value Added Services on the telecom spectrum to local businesses in Greece, authorities, government services, etc. At some point, we saw the potential so we said we needed to expand internationally because this is a relevant service globally. So we started establishing teams abroad, joining conferences, exhibitions, promoting our services. And you know, one thing brought the other, I mean, we started making advancements in technology with our own data servers, moving on with our own telecom platforms, and you know, we're here now.



Jason Bryan

It's an amazing story. And, you know, to watch companies who have been in the industry just as long as you guys have, is an incredible story, you know, to see it evolve and to see how the industry has grown.

Alexander Spyrotis

Yeah. We're not a unicorn, but we're a camel. How to say that? I mean, we're very durable, moving on and producing good performance.

Jason Bryan

So what is next in the MobiWeb journey? What are you working on in 2023?

Alexander Spyrotis

So, right now we are really focused on launching our new CPaaS solution which will enable enterprises to offer omnichannel customer service and modern customer support experience to the customer through various channels. It will allow their enterprises essentially to connect to any channel from a CB customer support system. The initial channels supported will be WhatsApp, RCS, SMS and Facebook Messenger. There are more to come but these are the key channels of interest, that's the feedback we're getting from the enterprises sector. It will use advanced features like artificial intelligence to route messages to the appropriate agents based on various metrics like skill, language, workload, using natural language processing and application intelligence. We expect it to be commercial in Q4 2023, if not early Q1 2024. So that's what we are really focused on right now. And that's where the market is going.

Jason Bryan

Alex, while I have you online, what do you think is the differentiator that you can bring to the CPaaS market as MobiWeb?

Alexander Spyrotis

I think it is our focus on the customer needs and providing solutions that can actually help businesses to be more productive and give more efficiencies in processes using our tools to actually increase their productivity. I think the most important thing for us apart from technical expertise in information technology and platforms is our focus on the customer needs, and what will be really helpful for enterprises at this point.

Jason Bryan

Well, Alex, it's been great to speak to you. Thank you for this interesting background to MobiWeb. It was very interesting to hear. I really genuinely look forward to seeing your CPaaS business evolve this year, and look forward to seeing you in future research reports.

Alexander Spyrotis

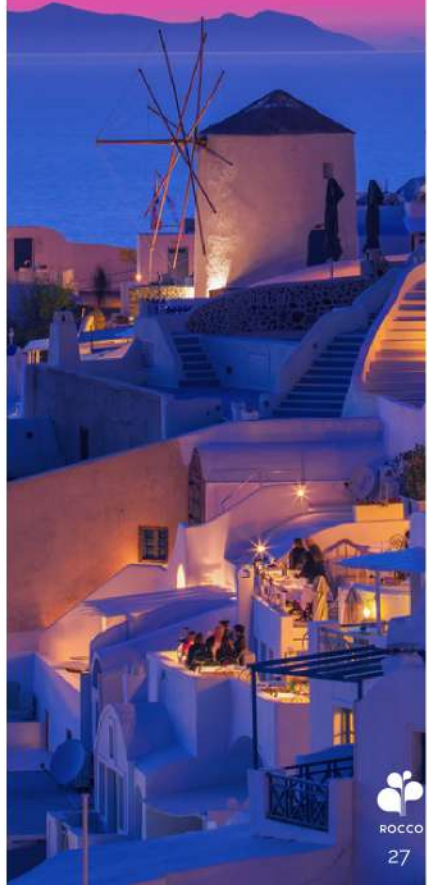
Jason, thank you very much for this opportunity to speak about MobiWeb and about the market as a whole. It's been a pleasure. Let me just reiterate that we're really proud about our tier 1 position and we really think that what you're doing the market, your research and knowledge of the ROCCO foundation is really important.

Jason Bryan

Thanks a lot Alex, it's been great to chat to you. Looking forward to speaking to you again.

Contact Alexander on LinkedIn if you are interested in talking about the A2P SMS landscape.

LinkedIn:
www.linkedin.com/in/alexanderspyrotis/



TA LE NT

Industry Colleagues on the Move!

INDUSTRY COLLEAGUES ON THE MOVE!

SH OW

Industry Colleagues on the Move!



ROCCO

28



Industry Colleagues on the Move!

Telecommunications is a constantly evolving industry, with new technologies and business models emerging all the time. As a result, it's no surprise that many professionals in the sector are always on the move, seeking out new challenges and opportunities to advance their careers. In this section, we'll be taking a closer look at some of the latest movements in the world of Roaming, Interconnect, Messaging and Fraud and Security, as industry colleagues take on new positions and responsibilities.

In this section, we'll be shining a spotlight on some of the most notable individuals who have recently made a move in the sector.

To all of them, congratulations!



ANASTASIA SUNTSOVA

**GLOBAL SOURCING MANAGER
KALEYRA**

This September, Anastasia has moved to Kaleyra as Global Sourcing Manager. Kaleyra is a global CPaaS company providing mobile communication services worldwide.

Congratulations on this achievement, Anastasia!



DANIELLA TORRES

**VP INTERNATIONAL CARRIER RELATIONS
CELLCOM**

This July, Daniella has moved to Cellcom as VP International Carrier Relations. Cellcom Israel is the largest Israeli cellular provider, providing a wide range of communications services. Previously, Daniella was the Director of Marketing at TOMIA.

Congratulations on this achievement, Daniella!



FEDERICO HOMBERG

**BOARD MEMBER AT AIRALO &
HEAD OF BUSINESS DEVELOPMENT &
INNOVATION AT DEUTSCHE TELEKOM**

This June, Federico started working as Board member at Airalo. Airalo is the world's first eSIM store for travellers to access over 200+ eSIMs.

Federico also works as Head of Business Development & Innovation at Deutsche Telekom.

Congratulations Federico!



ROCCO

MARIAM SHAER

CEO OF SAMA TELECOM



This September, Mariam was appointed as CEO at SAMA Telecom to spearhead both voice and SMS divisions. SAMA Telecom is a GSMA and ITU certified International Transit Carrier and SMS Hub Provider connected to Mobile Operators, OTTs, Voice Carriers, SMS Hubs, and Aggregators. SAMA Telecom provides robust voice and SMS solutions including protection services to telecom operators.

Previously, Mariam was Chief Business Officer at SAMA Telecom.

Congratulations, Mariam!

MARLENE CENTEIO

HEAD OF DEPARTMENT FOR OPERATOR RELATIONS AT CABO VERDE TELECOM



This July, Marlene moved to Cabo Verde Telecom as Head of Department for Operator Relations. CVTelecom is the Cape Verde's largest telecoms company. It is a cutting-edge company, customer service orientated, profitable, technically advanced and socially responsible.

Previously, Marlene was the International Roaming Wholesale Manager at CVMóvel.

Congratulations on this achievement, Marlene!





MARWA MAHMOUD SALAH EL DIN

HEAD OF INTERNATIONAL AND ROAMING ETISALAT EGYPT

This June, Marwa was promoted to Head of International and Roaming at Etisalat Egypt. Etisalat by e& - Egypt is the third mobile operator to enter the Egyptian market and the first integrated operator for telecom services in Egypt.

Previously, Marwa was the Commercial Roaming Senior Manager at Etisalat Egypt.

Congratulations on the promotion, Marwa!



OANA CRISTEA

BUSINESS DEVELOPMENT MANAGER SMS HIGHWAY

This September, Oana has moved to SMS Highway as Business Development Manager. SMS Highway uses mobile technology to connect enterprises to their clients by combining a world-class network directly with over 200 MNOs. SMS Highway is also providing an innovative and top-level solution for SMS monetization.

Previously, Oana was Roaming Wholesale Product and Business Development Manager at Telekom Romania Mobile.

Congratulations on this achievement, Oana!



SERGIO FLORES

VP AMERICAS REGION AT LYNK

This September, Sergio has moved to Lynk as VP Americas Region. Lynk builds, launches, and operates 'cell-tower-in-space' satellites that provide direct-to-standard-phone connectivity with continuous global coverage.

Previously, Sergio was Sales Manager Americas at TOMIA.

Congratulations on this achievement, Sergio!



ROCCO

ROY NOUN

SENIOR OPERATOR PARTNERSHIP MANAGER AT MONTY MOBILE



This June, Roy was promoted to Senior Operator Partnership Manager at Monty Mobile.

Monty Mobile is a GSMA certified Open Connectivity SMS Hub and Roaming Broker, working closely with worldwide MNOs to facilitate the international flow of data, voice and SMS across global markets.

Previously, Roy was Operator Partnership Manager at Monty Mobile.

Congratulations on the promotion, Roy!

STEPHEN ORNADEL

SENIOR VICE PRESIDENT - PRODUCT MANAGEMENT, ROAMING & SECURITY MOBILEUM



This June, Stephen was promoted to Senior Vice President - Product Management, Roaming & Security at Mobileum. Mobileum is a leading provider of Telecom analytics for roaming, security and risk management and end-to-end domestic and roaming testing solutions.

Previously, Stephen was Senior Vice President Security Solutions at Mobileum.

Congratulations on the promotion, Stephen!





SONIA SIFO

**VOICE & MOBILE EUROPE SALES
ACCOUNT MANAGER
VOICE & MOBILE
EUROPE SALES ACCOUNT MANAGER AT
SPARKLE**

This June, Sonia has been promoted to Voice & Mobile Europe Sales Account Manager at Sparkle. Sparkle is a leading global service provider offering a full range of infrastructure and global connectivity services.

Previously, Sonia was Enterprise Service & Project Manager at Sparkle.

Congratulations on the promotion, Sonia!



STEPHEN BREEN

**HEAD OF PARTNERSHIPS
CUBIC TELECOM**

This September, Stephen joined Cubic Telecom as the Head of Partnerships. Cubic Telecom provides global connected software solutions and analytics services. They are known for being a global pioneer in connected software for the Internet of Things (IoT) market since 2009.

Previously, Stephen was Director - International Roaming Marketing at Verizon.

Congratulations on this achievement, Stephen!



ROCCO U

ROAMING | INTERCONNECT | DIGITAL TRANSFORMATION TRAINING COURSES



ONLINE



ON CAMPUS



OFF CAMPUS



CERTIFIED



ONLINE
SUBSCRIPTION



Check out the course catalogue
on page 100

www.roccoeducation.com



JASON BRYAN
INTERVIEWS:

BRIAN BEACH

SENIOR PRODUCT DIRECTOR
AT SYNIVERSE

EVOLVED MOBILITY: AWARDED
AS THE #2 SOLUTION IN THE
INNOVATORS 2023



Find out more about The Innovators 2024
on page 48



**"EVOLVED MOBILITY
IS A SOLUTION TO
HELP FILL THE GAP
WHEN OPERATORS
SUNSET THEIR
LEGACY, RAN AND
NETWORK."**



TALKING ABOUT EVOLVED MOBILITY

Jason Bryan

It's a great pleasure to be here with Brian Beach from Syniverse. Brian, thank you so much for joining me. Would you be able to introduce yourself to our listeners, what your company is, of course, which most operators of course and vendors in the industry will know about, and what is your role?

Brian Beach

Sure, thanks, Jason. Pleasure to be here. So my name is Brian Beach and I'm Senior Product Director for Syniverse. As Product Director, I work in the product line of business. I've also worked in the R&D department at Syniverse and spent some time even as a developer when I first came in. For those who don't know Syniverse our tagline is the world's most connected company. We are the company that provides network, messaging, clearing and settlement, all the things that are sort of unseen to the subscriber, but the operators are very well aware of. And we also provide services to enterprises, and we've been around for quite a long time. Around 40 years I've been with the company for a little over 16, so it's been quite a ride. When I joined the company, there was no such thing as

a smartphone and to see it evolve to where we are today has been quite an experience.



ROCCO

38

“HAVING THIS FORUM TO BE ABLE TO GO BACK AND FORTH BETWEEN THE VENDORS AND THE OPERATORS, AND, IN REAL TIME EXCHANGE IDEAS, I THINK IS REALLY VALUABLE.”



Jason Bryan

Yeah, for sure, Syniverse has been there the whole journey, right? Right through all the different generations of service that we've had in the telecoms industry. So it's actually great that you're still doing well, you're very admired company, I would say by mobile operators, especially, and that's proven by your being ranked second in The Innovators 2023.

Congratulations! How did you feel after being shortlisted and presenting live at Genesis 2023 in front of those Lions?

Brian Beach

Absolutely elated. I mean, innovation is key to our company's success. And it was a great experience. I mean, first to be shortlisted, which was more of a kind of a Get Out the Vote campaign. But then from coming in to the Lions Den to present I think that was the real key. Because, you know, getting in front of these Lions or, you know, some of the pinnacle of the mobile industry's personnel. I mean, they really know their stuff. I know they do their homework. And to come into second place, I think is really a testament to how this solution fared against this very tough group of judges. And also you know, the audience. The audience was there to learn and I think they appreciated the innovation that we that we brought, so very, very happy to win this award. And really, I love the whole format.

Jason Bryan

Yeah, it was a great and dynamic event, I would say, to see the Lions responding live on stage to some very brave presenters, I think you could say, who were really ready to be critiqued, and you know, had some some amazing solutions.

But you guys came in second place. Can you recap on what your solution is and what problem the solution is trying to solve?

Brian Beach

Sure, so the product is called Evolved Mobility. And what it is, it is a solution to help fill the gap when operators sunset their legacy, RAN and network. So if you think about what's going on in the world today, operators are removing their 2G and 3G to make room mainly for 5G, that's the reason, right? 5G is the new thing, but 5G is very, very expensive, both in CapEx and OpEx. And that all important, you know, RAN frequency that's very expensive. So if you can reform that spectrum, and use it for 5G, they're going to do it. But that leaves a big gap. And the reason is that in order to be a full 4G, 5G only operator you rely on VoLTE or Voice Over LTE for your voice roaming. And the reality is that the rest of the world has very little VoLTE roaming going on. It's increasing, you'll see some of the big players in the industry, they've made, I would say, monumental steps in the last couple of years, mainly because of this sunseting. But the fact remains there are hundreds and hundreds of operators who aren't even a few years away, you know. They're half a decade away from having VoLTE. And so this is going to and has shown to be quite a disruption in the industry. So if you're an operator used to having 400-500 operators, and now you can only service voice to say 50 of those. Well, that leaves 400 operators out, that can no longer support voice when roaming on your network. Evolved mobility is that bridge, it allows those



operators to continue to roam without them having to do anything, which is really the key. From their perspective it looks like 3G never went away. They're still leveraging 3G like roaming using a voice enabled or a VoLTE enabled handset. And that's also kind of the key. What we learned is about 85% of those people, the demographics of those people, that get on aeroplanes and travelled to these destinations, primarily first-world destinations, who have sunsetted. They do have VoLTE enabled handsets. So that's not the issue. The issue is that the home operator doesn't have the network components and everything else to support VoLTE that's where we come in. And it's been a great success. We are supporting about 100 different home operators roaming into our platform. We've expanded now into not only North America, but Asia-Pacific and we're looking at the European countries as well. I like to say we follow the sunset, for sunsets. And as those operators what you're gonna see is in 2025, that's a big year, big year for sunsets and so, the product is expanding as the sunsets are occurring across the globe.

Jason Bryan

Yeah, it is a monumental time in the industry. I mean, in all the Gs, and I've seen several of them. We've never had quite this situation before. So it's incredible that you have over 100 operators using that solution and it makes a lot of sense since you know, there hasn't been really the focus in the industry to kind of drive that and push

that but it's only reactionary you know, it's a feeling that now the impact is here and we have to get

a solution to help us to get through that. So I think it's great what you guys are doing and clearly the lions also thought so as well. And what was your feeling to receive the award?

Brian Beach

Well, it was great. I feel like this was a little bit of an uphill battle for us. Where we stood, you know, there was a number of votes. So the online voting, I think we were close to the back of the pack as far as those that made the shortlist. And so to be able to get up on the stage in front of the Lions, and do what we did was a really a testament to their understanding of the innovation and them thinking of how innovative it was. Because I would say you can't really rely on what I would call a razzle dazzle or a flashy presentation with the Lions because they can see right through that. They rely on the innovation. They're prepared for very tough questions, very detailed questions. And they did. I've been in a lots of customer presentations, different conventions... But these people were prepared. They are very knowledgeable in their area. Some of the questions that they asked, were really, really deep questions, which I think is great because that's the kind of depth that you typically don't get to see in an audience type participation in standards groups. So I thought it was really, really monumental that we were able to do that and kind of coming from behind if you will, I don't know how behind we were but but certainly I think, you know, I did a little bit of math before I came in and I thought for us even place is going to be really an accomplishment so very, very happy that we came in second.



Jason Bryan

Yeah, for sure. For me the process demonstrates that the operator community has a role in voicing what requirements they see the vendor should be working on, and what should come out of the industry. And for many vendors who don't listen, who don't kind of follow, let's say, what are the challenges of operators, it's much harder to kind of make a convincing Value Added service or a new product into the market and I think that it's really important and for me reinforces the fact that the MNOs, we should give them a chance to speak to recognise what is important for them in terms of innovations.

Brian Beach

And I think that the feedback that they provided the constructive feedback is very valuable. A lot of times we think we're the innovators, we are going to present our solution and wow them and sometimes we do, but other times they've already thought of this and they said "well, yeah, but have you thought about...?how are you going to do this? Are you going to account for that?" and we didn't realise that. So having this forum to be able to go back and forth between the vendors and the operators, and really, in real time exchange ideas, I think is really valuable.

Jason Bryan

Yeah, sometimes the operators they wow you and a lot of these people in these roles, given the opportunity, I think they would like to also develop products and services, you know, so this is really an opportunity for them to kind of give their insights back, because a lot of them have been in the industry for quite some time. So I think you would recommend taking part in The Innovators to any company?

**“2025, THAT'S A
BIG YEAR, BIG
YEAR FOR
SUNSETS”**



Brian Beach

Oh, definitely. I thought it was a really good event. One of the things I noticed about it was the format really kept everybody engaged throughout the entire event. I mean, this is very different than you go to a lot of industry meetings or you know, conventions and basically you have keynote speakers, you have breakout sessions, right? Basically, it's a place for people to get together and then split apart. And they go in their respective silos, and they learn about the things that only they're interested in. I think this was a really great event because I mean, while I may not, you know, participate in enterprise for example, if I'm exposed to things within the mobile ecosystem, that is for enterprise. I might learn something from it. And in fact, it's called an ecosystem for a reason, right? We're in a mobile ecosystem, which means something way over here outside of what I normally work on, if there's a ripple, if there's something that's impactful to that industry, chances are it's going to impact my industry, my area of expertise. And so anyway, I think the fact that we were all in the same room for all the event really was a really nice change. I would also say, in the future, I think for, at least for, The Innovators part of the conference, I do think that putting maybe a little less weight on the Get Out the vote online, might be helpful. And the reason I say that is because innovation can occur anywhere. And obviously you have very large companies out there who have very well connected friends in the industry, versus you might have a much smaller company who might not have the same connections but could have something that's a real diamond. The good thing is

once we get there right, then the playing field is level and now I would say a David can compete with the Goliath if you will. So I do think that giving true innovation a chance, I think the Lion's Den provides a great venue for that. And I definitely encourage more of that in the future.

Jason Bryan

So you would recommend it to new or potential participants who have ideas for innovations as a good format for that?

Brian Beach

Absolutely. Absolutely. I think it's a way to be noticed and seem to, you know, just like a good writer or an artist may have a fantastic work of art, but if they can't be seen, nobody's gonna know about it. So, you know, finding a venue, finding an avenue for really great innovations to be able to make it to that stage. I think is a great thing.

Jason Bryan

Yeah. You're reminding me of an open mic session is kind of like open mic for innovation.

Brian Beach

Yeah, exactly. Because I'd say there's been too many times I've gone to other kind of competition type of things. And you know, we've been in the running and somebody wins, but you don't really know why that person wins or why did that solution wins. It was sort of it wasn't a sense of transparency. This was great, because, you know, the judges even flipped up their scorecards and you had the audience that raised their hands and everybody can see, you know, it's quite obvious. The transparency is there. So



you know where your stand with the audience, where you stand with the Lions, the judges. So that was a really nice change.

Jason Bryan

And we see actually some companies who presented in the first Innovators back in 2020 to come again, even though they didn't get maybe the response they were expecting, to come again to kind of try again and that is very encouraging because it proves to us that the format works. So Syniverse, clearly, a company that has evolved a lot over the years, a company that continues to grow and expand to enter into new directions. Would you say Syniverse has an innovation culture?

Brian Beach

Oh, definitely. I mean, that is core to our existence. And like you pointed out, we've been there for every key shift. We started in 1G, was there when 2G came around 3G, 4G, 5G, you know, every major generation shift. We've been there and we continue and will continue to provide innovative solutions that fill the gap. Because every time there is a major shift, there's some kind of gap. So the product I talked about, Evolved mobility, fills in the roaming gap that you're going to have when operators move to 5G and sunset their legacy. But we're gonna see there's other gaps, right? We're scratching the surface on what's going to happen with 5G, what new services will come about, what older services will still have to be maintained and you have to create a bridge, like Evolved Mobility, it's more or less a bridge between old and new. So it is definitely I mean, innovation is at the core. I mean, we're well connected with

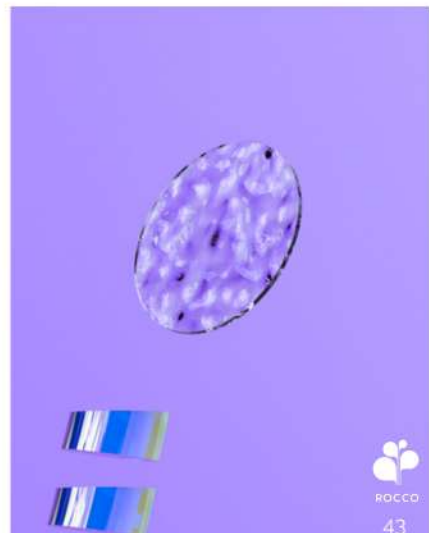
the operators and we're providing innovative solutions to be able to allow that mobile ecosystem to continue to grow with us minimising or reducing or eliminating disruptions in the industry.

Jason Bryan

It was a little bit of a trick question, Brian, because clearly Syniverse has always done innovative products and services. I've seen it over the years. And you know, the fact that you came up with this solution is testament to the fact that you're up for it. You will come up with new ideas you will explore research and develop and I think that's really a great direction to go.

Brian Beach

Thank you for saying that we're up for the challenge because it was. This solution, Evolved Mobility was a monumental challenge. I kind of joke tongue in cheek that it was akin to the, you know, the lunar mission. Obviously, the lunar mission was a lot more involved, and a lot more expansive than



“EVOLVED MOBILITY WAS A MONUMENTAL CHALLENGE. I KIND OF JOKE TONGUE IN CHEEK THAT IT WAS AKIN TO THE, YOU KNOW, THE LUNAR MISSION: IT TOOK THE COURAGE TO DECIDE TO DO IT.”

this. But it took the courage to decide to do it. In the face of a lot of headwinds of people in the industry, very powerful people in the industry saying that it couldn't be done or it was simply going to be too difficult to be effective. And we stuck with it because we believed in it. And I think that's kind of the power, and that's what I said, innovation in a way is not just coming up with something new. It's coming up with something new that is hard, right? You know, if you invent the first blue pencil, that's not necessarily innovative, it's new but you know, doing something that's completely new and that's hard. I think that's key. And that's one of the things that I'd like to point out that, Syniverse has a record of doing, is tackling challenges that are very difficult in the industry.

Jason Bryan

Yeah, it's much more than an incremental change to a product or service. It's really a breakthrough in terms of innovation for me. Final question, what's next? Any more ideas that you have for the future? What can we expect in 2023-2024?

Brian Beach

We have a lot of different innovations going on. But I think the big one we're going to start seeing is lots of different 5G related services. But what I'll talk about is what's next with the Evolved Mobility product line, as the name implies, it is evolving. I hinted at the Genesis conference that we're launching a solution that will allow operators to not just sunset the RAN but also their legacy equipment, which is more of a use case for their own



ROCCO

subscribers to be able to outbound roam into environments that do not support VoLTE roaming today. And I'm happy to say that product is being launched GA this month, and we already have two customers ready to go. So that's going to be a really exciting new wrinkle in this because up to that point, it's been about inbound roaming into operators who have sunsetted. Now we're talking about the same operators that have sunsetted, they're gonna go to the next phase which is get rid of all this expensive OpEx and equipment that's costing them millions and millions of dollars. We can do this, we can allow them to sunset that equipment without disrupting their own home subscribers and outbound roaming. We're also adding new features in SMS. SMS is already kind of a hybrid approach you've got those that have VoLTE enabled handsets, use something called SMS over IP. But not everybody adheres to this standard and even VoLTE enabled handsets they still rely on what's called SMS over NAS, which is your traditional SMS over SS7. However, the SS7 component is going away and a lot of operators are going to be relying on Diameter. So there's a new SMS called SMS over SGD which is the diameter interface. We're expanding our product to support that, because there are operators, think about a greenfield operator, they're not going to have SS7. So if you have devices coming into your network that don't have SMS over IP, how are you going to support them? Well SMS over SGD is one of them. We're also just expanding, like I said, we're following the sunsets. So we're expanding like crazy. We're putting different regional data centres in place, so Asia Pacific's one but we're also going to expand to EU. And

then finally, we're expanding our PSTN capabilities to handle the voice. Not every operator wants to use their existing PSTN infrastructure, they may say, we're getting rid of the old PSTN and we want you to bring it to the table since it looks like VoLTE roaming, it looks like the PSTN should be broken out in the home. So Syniverse bring that to the table, and that we started the product with that, but we're expanding and so we're doing more like a true voice carrier provides, so intelligent routing, not just least cost routing, but yes, cost is a factor, but is it a good quality route? You have an operator that's in Asia Pacific, you might want to use a Asia Pacific centric PSTN provider because they have better rates and they have better relationships versus using one that's mainly US centric or, or possibly European centric. So just a few things that we're doing. But in a nutshell, we're growing and expanding.

Jason Bryan

It's really interesting to hear what you're saying, especially about SMS and the future of that and whether it's evolving. A lot of people must be wondering, what's going to happen with that. I think you've really helped a lot of people understand where it's going and where the product is going as well. So, thank you so much for participating it's always a great pleasure to hear your very interesting insights.

Brian Beach

Thanks, Jason. The pleasure was mine.

Contact Brian on LinkedIn if you are interested in talking about Syniverse services.

LinkedIn:
www.linkedin.com/in/brian-beach-9831126/





ROCCO 100 IS A TIME TO PAY TRIBUTE



ROCCO 100 Nominations are now open!
Nominate now at
www.roccoresearch.com/rocco-100/



“

Roaming and Interconnect weren't built in a day. They have existed for over 30 years and for the first time, we would like to recognise the people who have made our industry what it is today, the 100 most influential people in Roaming and Interconnect.

”

What's really special about this community is the many outstanding people. The time has come to reward those colleagues who have made an extraordinary contribution to our industry between 2022 and 2023.



Anyone in the Industry can nominate anyone in the sector of Roaming and Interconnect for what they consider to be influential work within 2022-2023. The nomination phase ends on November 6th.



On November 6th, the list of nominees will be published and industry colleagues can vote for up to 3 nominees.



On February 14th the voting phase will end, and the analysing phase will start. On February 29th, we will have the Judges' Day, where the candidates will be anonymously evaluated by the ROCCO IOO judges. As a result of these analyses, on March 4th, the list of the 100 most influential people will be released in the ROCCO IOO Report (ranked in alphabetical order).



The top 25 most influential people will be awarded at the Visionaries Gala on May 21st as part of the **Genesis 2024 event**.

ROCCO IOO TIMELINE

18TH SEPT -
6TH NOV 2023



1. NOMINATIONS

6TH NOV 2023 -
14TH FEB 2024



2. VOTING

FEB 29TH 2024



3. ANALYSIS

MARCH 4TH 2024



4. RESULTS

MAY 21ST 2024



5. RECOGNITION



ROCCO IOO Nominations are now open!
Nominate now at
www.roccoresearch.com/rocco-100/





THE INNOVATORS

“

The Innovators is a research conducted by ROCCO to identify the most Innovative MNOs and Vendor Solutions in our industry.

”

After the industry support on previous editions, ROCCO will continue to offer the Genesis event and the Innovators Programs again in 2024 to identify the most innovative solutions from MNOs and Vendors.

Categories are as follows for either an MNO or Vendor solution: Roaming, Messaging, Fraud & Security and Interconnect.

THE INNOVATORS TIMELINE

22TH SEPT-22TH DEC
2023



1. REGISTRATION

FEB 1ST, 2ND
2024



2. SHOWCASE

FEB 2ND - 11TH
MAR 2024



3. VOTING

MAR 12TH
2024



4. SHORTLIST

20TH-21ST
MAY 2024



LIONS DEN

5. LIONS DEN

MAY 21ST
2024



6. RECOGNITION



ROCCO

48

www.roccoresearch.com/the-innovators/



OPPORTUNITIES TO SHARE & DISCUSS INNOVATION

REGISTRATION OPENS ON 22ND SEPTEMBER AND CLOSES ON 22ND DECEMBER 2023.

Providing several stages of visibility for their solutions and a forum dedicated to Innovation.



Vendors and MNOs will present their innovations at the Showcase sessions on the 1st and 2nd February 2024.



All the presentations will be made by the industry at this event and then available on on the ROCCO Research website to review.



The industry will vote on the solutions they like the best and shortlisted solutions will be featured at **Genesis 2024 from May 20th to 21st 2024.**



The final phase will take place in the Lions Den, where the shortlisted solutions will be analysed in detail.



After receiving the Lions' feedback and being voted on, the top 3 solutions will be awarded at the Visionaries Gala.

**MNOS &
VENDORS
CAN
REGISTER**



**To register for The Innovators 2024,
please contact us at hq@rocco.group**

www.roccoresearch.com/the-innovators/



GENESIS

Hackathon

**ROCCO is pleased to present
the revolutionary Genesis
Hackathon!**

“

We think we can all agree the Industry has some major challenges, some of which have been ongoing for many years. In our annual Genesis event, ROCCO brings together mobile operators, enterprises and vendors to unite to try to address some of these challenges.

”



ROCCO

50

REGISTRATION OPENS ON 22ND NOVEMBER 2023!

Providing several stages of visibility:



The stakeholders (MNO & Enterprise) will raise the Roaming & Messaging challenges during the Challenge webinar on January 22th, 2024. They will also answer potential questions from participants.

**MNOS,
VENDORS &
MIXED TEAMS
CAN
REGISTER**



The participants teams will receive a guide about each challenge. They will have until 14th February to develop their solution/idea and record a 15-minutes video explanatory.



The stakeholders raising the challenges will vote on the solutions they like the best and shortlisted solutions will be featured at **Genesis 2024 from May 20th to 21st 2024.**



The final phase will take place in Genesis, where the shortlisted solutions will be analysed in detail by a panel of judges.



After receiving the judges' feedback and being voted on, the top solution for each category (Roaming & Messaging) will be awarded at the Visionaries Gala.



To register for The Genesis Hackathons 2024, please contact us at hq@rocco.group.



www.roccogenesis.com/hackathons/

DARE YOU ENTER?



LION'S
DEN



ROCCO

52



LION'S DEN

A Vendor/MNO pitches an innovative idea/product/solution which could help the Roaming, Messaging and Interconnect industry to generate revenues or save costs, become more efficient or offer more quality solutions to end subscribers. They will present to a panel of Lions who give live feedback to them in- front of the Genesis audience.

THE LIONS (ADVISORS & PEOPLE FROM MNOS) WILL RATE "THE INNOVATORS" & THE "GENESIS HACKATHON" SOLUTIONS. THEN THE AUDIENCE AT GENESIS WILL ALSO HAVE A CHANCE TO RATE THE IDEA.

HOW THE LION'S DEN WORKS:



Companies/Individuals pitch their idea to the Lions, showing with a maximum of 10 slides the full solution, its name, cost, uses, time to market, etc



The Lions **will listen** with an **open mind** to each idea which is being pitched to them.



The Lions will ask direct questions, debate among themselves the pros and cons of the idea and whether they like the idea.



They will give honest **feedback/constructive criticism** stating why they approve or disapprove of the business idea/solution and provide a final opinion.



Lions are intimidating, not always nice, you don't know how they will react, but they will ultimately provide good advice.

The Lions in Lions Den 2023 were from CKH IOD, stc, Vodafone & NOS Portugal.

JASON BRYAN
INTERVIEWS:

MEHDI TRIKI

VP SALES AND MARKETING
& COFOUNDER OF
ROAMSMART

STEEROP: AWARDED
AS THE #3 SOLUTION IN
THE INNOVATORS 2023



Find out more about The Innovators 2024
on page 48

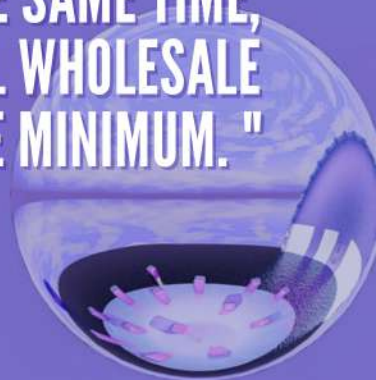


ROCCO

54

www.roccoresearch.com/the-innovators/

"STEEROP (STEERING OPTIMIZER) ALLOWS MNOS AT THE END OF THE DAY TO ENSURE THAT THEY WILL FULFIL ALL THEIR COMMITMENTS, BUT AT THE SAME TIME, THEY REDUCE THE OVERALL WHOLESALE COSTS TO THE MINIMUM."



TALKING ABOUT STEEROP

Jason Bryan

So it's a real pleasure to be here with Mehdi from RoamSmart. How are you doing today?

Mehdi Triki

I'm very well, very glad to be with you on this interview, Jason.

Jason Bryan

Mehdi, one of the first questions I have for you is around RoamSmart itself. Just to give some visibility to the company, can you tell us a little bit more about the background to RoamSmart?

Mehdi Triki

Yeah, sure. So my co-founder and myself started the company RoamSmart in 2012. So the background is that I was working for Roamware which is today Mobileum for 4 years, and there is where I discovered the Roaming business, the exciting roaming environment. Prior to that, I spent 16 years in the telecom business, but more on the fixed and mobile core side with the engineers from Nokia and Ericsson. But then when I joined Roamware, I discovered the roaming challenging environment performing. And my co-founder was actually heading the roaming department for an operator in Tunisia, so he was my customer at that time. So together we identified, let's say some niches, needs and challenges

The background of the right page is a vibrant purple and blue abstract composition. It features a large, semi-transparent globe in the upper right quadrant, with a grid of glowing data points or nodes. Below the globe, there are several vertical, cylindrical bars of varying heights, resembling a bar chart or data visualization. The overall aesthetic is modern and technological.

“WE ARE FOCUSED ON LISTENING TO THE CUSTOMERS TO FIND OUT WHAT ARE THEIR PAIN POINTS IN THIS SPECIFIC NICHE OF THE ROAMING OPERATIONS AND ROAMING DELIVERY PROCESS.”

in the daily management of the roaming operations. We discovered that these niches were not covered fully, were not getting enough attention from the big players in the roaming business, like the clearing providers, the signalling providers and others. And we thought that this was really an opportunity, and there was a market for it, so we're really focusing on the daily activity of the roaming teams when it comes to managing and setting up new roaming agreements, maintaining hundreds of roaming contracts, and the documents that they have. So this is where we decided to start the startup to manage that. So the objective is really to focus on this operational efficiency improvement, the automation and everything related to the roaming delivery and the roaming maintenance to manage the roaming requirements.

Jason Bryan

Yeah, for me, it's an area which hasn't had a lot of focus in the past but is hugely, hugely important. And you're right, it's an area which a lot of the bigger vendors in the industry don't seem to focus on, but is hugely important to the efficiency of the wholesale roaming teams. And you know, I've watched RoamSmart grow over the years. I've seen new module upon module you're getting into the details, you are getting into this niche area in a really good way I would say, to kind of try to identify how you can help, how we can get that efficiency just 5%, 10% better with each of the modules that you do. So, we've been watching, and I know that you guys have also featured in a lot of ROCCO Research reports over the years. You have been very good at innovation and customer service. So it's great to allow you and to find out what you're

doing. We also had a comment from a large operator group that they see you responding to the needs in the market very well. And I think that's a great endorsement.

So what's your exact role Mehdi in the company? and what is your background? You said you worked in Roamware which it became Mobileum. So what is your role now in RoamSmart?

Mehdi Triki

Yeah, so I'm focusing on all the customer interfacing activities which means pre-sales and sales. Both of this goes into the contractual part and also it sometimes also falls into the invoice. So I'm the customer interfacing with business entities for RoamSmart. Of course, I'm not alone, I have a team for the product department for the support and other activities. But I'm mainly in contact and trying to build close relationships with our customers. And also this goes in line with what you were saying. We are pretty much focused on listening to the market to the customers to find out what are their pain points in this specific niche of the roaming operations and roaming delivery process. And this helps us also to identify new services. We use to try to put attention to the challenges or the needs that were not covered previously by other solutions from other vendors and to build them into the Unified when it makes sense. Because the vision of course is to have one full platform that we started to do it. It's our Unified Roaming platform to build apps on top of it and at the end of the day, to have really one company that almost covers all these challenges and all these



activities and this way will bring of course some value to the operators.

Jason Bryan

Yeah, in ROCCO we also recognise that there's niche areas which are not covered by other suppliers where there is a need, and it requires, entrepreneurs like yourselves like ourselves to kind of jump in and try to fill that need. Now let's talk a little bit about that in context of innovation because you guys have, as long as I can remember, being associated with doing innovative things, and you were in ROCCO's The innovators 2022, and also this year you were ranked third in The Innovators 2023. Congratulations! How did it feel after being shortlisted and then presenting in Genesis in front of the Lions?

Mehdi Triki

Yeah, that was a really very exciting and a very challenging experience, throughout, the selection stage and the pitch sessions that we had to do. We're very happy to be shortlisted for the Genesis final event, because the shortlist was based on the MNOs votes themselves. So having the opportunity to present your solution in front of the Lions and in front of the audience in Lisbon was also a great experience. So this confirms to us the potential and the market interest in our solution and it motivates us to be even more to prepare for the Genesis round so to be there until the last question. So I really enjoyed this full journey. And of course, having the award and being third was a great moment. For me personally because as you said we were shortlisted



for the second year in a row. So last year it was with the RollOp solution, the roll out optimizer

we ranked in the fourth position. But this year we finally managed to get into the top three and get the award so it's a recognition from the industry and from the Lions. This means a lot to us, to our team is a reward for the hard work and dedication during the last two years.

Jason Bryan

Yeah, it was great to see you get that award. I know the Lions were very impressed by what you had presented, and just for people who don't know the Lions are a diverse group of senior people from mobile operators who critique each of the solutions in The Innovators which there were quite a few solutions to go through. And they take a lot of notes, they prepare a lot and I think they are a great team in terms of assessing innovation in the market. The point of The Innovators is for the operators to come back and say "this is what we want to see. This is what we want and we hope to see in the industry". Whatever products and services the vendors are doing, that's one thing, but actually what are the operators looking for?, what do they need? So this is the kind of way to guide the vendor community and clearly they really loved what you were doing. Can you tell us a little bit more about the particular solution that you presented this year?

Mehdi Triki

Yeah, the solution for this year is called SteerOp (Steering Optimizer). And the purpose is basically to help MNOs to reduce wholesale costs. So you know Jason, operators today are signing and renewing a big amount of discount contracts every year. Mature operators

can have several hundreds of contracts that they renegotiate and resign every year. These discount contracts can have, of course, different stack models like from-to rate commitment, general pay, commissions variance and sometimes combinations of few of them. In many of these contracts, also they include commitment on the outbound services. So they need to commit to certain specific amount of traffic or specific amount of operational costs. Also, it gets complicated when it comes to a group to group deal or an operator to group deal. So the challenge for the commercial roaming manager is really to find the optimal distribution of their outbound traffic on all these commitments. And this is really beyond the capability of Excel formulas or other ways to get to that. So SteerOp is basically analysing the deal structures, analysing the commitments that they have on the complexity of this overlapping commitments in several destinations and countries, and suggesting the optimal distribution or the optimal steering configuration based on an advanced mathematical modelling algorithms. Our service allows MNOs at the end of the day to ensure that they will fulfil all their commitments, but at the same time, they reduced the overall wholesale costs to the minimum costs. That's the main objective. That's the financial optimization part of the SteerOp solution, but it also includes the

“BECAUSE THE VISION OF COURSE IS TO HAVE ONE FULL PLATFORM: OUR UNIFIED ROAMING PLATFORM TO BUILD APPS ON TOP OF IT AND ...TO COVER ALL THESE CHALLENGES TO BRING VALUE TO THE OPERATORS.”



ROCCO

kind of workflow and process automation aspects in it. So it also automates the steering configuration request process through a dynamic workflow engine, which also helps the roaming directors to keep track and get full visibility on the historical steering settings for each of the parts. So that's more or less, it has more features, but the main purpose of SteerOp is really to address the steering dilemma, I would call it, so the way the roaming managers and roaming directors that can solve this dilemma so how they can and how they should distribute their outbound traffic based on all these that they have, all the commitments that they have, which can sometimes also start in different dates. Not all of them start on the first of January to the end of December, so you can have really some other situations. And having the information of this optimal distribution this can lead to save significant costs, which we estimate like minimum of 10% potential cost reduction here and you know, of course better than me, how important this cost reduction is for the roaming directors with the issue that they have with revenues, all of them they need to look at the cost savings.

Jason Bryan

I think the analytical part and the efficiency gains are super welcome and needed in the industry. I think you're very clear being also involved in IO (Innovative Operators). We know well that 5G is coming, we network slices, and this is going to create a whole new workload for operators. So it's really essential that they look at any automated solution that can bring efficiency gains. And, and I think also, you know, we're very aware of these days

of AI and the efficiency that it can potentially bring so I think that any analytical tools, which are heading in the direction of allowing us to optimise finances are super welcome. For me, any company that is doing automated solutions looking at how we can make the wholesale roaming process easier is going to help.

Mehdi Triki

Totally, yes, you are right, Jason. So as you said, 5G network slicing will increase the complexity, because you would have to manage several networks in the same network and we need to manage sub contracts in the same contract. So it would add a lot more complexity, and the need for automation would be even more important.

Jason Bryan

So going back to Genesis and the Visionaries Gala where you received the award for third position, would you recommend taking part in The Innovators?

Mehdi Triki

Oh, yeah, totally yes. There is no doubt that it is a big opportunity. It's a unique opportunity for vendors who have new solutions or new ideas, which might be already commercially available or even in the development stage. It's a unique opportunity to present new solutions to the roaming and messaging community and get their feedback and comments. As you said, the Lion are individuals with a lot of experience in the domain, whether it's roaming or messaging so they can really bring valuable questions or comments. So basically, presenting in front of them is a serious test for market

readiness, market validation for new solutions. So as a vendor, you can learn a lot from this competition and you can maybe also detect some gaps or some missing features that you need to add or implement in your solution to make it more market fit, to make it more valuable for it. So I think it's a very, very important opportunity for any vendor to get some direct feedback from the markets. This is very important.

Jason Bryan

And what would you recommend for potential participants in The Innovators because it's kind of a long process. It starts usually around November each year then we have the Showcase in February, then you have to wait until May for the Lions. What would you recommend to potential participants?

Mehdi Triki

One of the main challenges in The Innovators from ROCCO is that participants have limited time to present the solutions. So we have different steps, but in each step you will get like 10 or 12 minutes to do this kind of pitch about your solution. So my recommendation would be to be short and precise to explain the challenge or the pain point very clearly. And also, of course to explain in detail how your solution is solving this. Basically it's that. It's also important to share figures in terms of added value or saving for the MNOs who could use that solution. Most importantly, is really to make it as simple as possible, so that the full audience will remind the stage or the previous selection stages. The full audience can get the benefit of your solution and because you know, you might have people from different parts

of the business some of them are more experts in roaming or in messaging. Or some of them are maybe only experts in technical more signalling or more in finances. So it's important to explain the challenge in the solution in simple words so that everyone can understand it and they can really feel the benefits and the value added from it.

Jason Bryan

I think it's a really good advice. And I think you're right, I mean the background to The Innovators has always been pitching to a group of, let's say, fierce and diverse specialists in the industry, getting them to critique. So it's not possible to go into a lot of details on each of the solutions, but there's of course, background and details, videos, a lot of material that the judges and the public can see in each of the solutions.

Mehdi Triki

Yes, I think is what we learnt as well from our last year participation, so last year we said let's see where we go with the ROLLOUT Optimizer, later we received the feedback from the Lions we thought "yeah, so these are the questions" in terms I was not able to explain exactly what we are doing this. I think that what we tried to make better this year is really to explain in simple words, this solution SteerOp is not the steering itself that we can think about. Yeah, that's important.

Jason Bryan

Yeah, I think each year we will take some learnings and of course try to adapt The Innovators to improve it. Coming back to RoamSmart and thinking about your company and as I

“ROAMING MANAGEMENT IS REALLY BEING DONE IN THE SAME WAY SINCE THE START. IT'S NOT EVOLVING IN TERMS OF AUTOMATION OR DIGITAL TRANSFORMATION. AND THERE IS A BIG ROOM THERE TO DO THINGS QUICKER AND EASIER TO REDUCE ERRORS BUT ALSO TO OPTIMISE PROCESSES.”

alluded to before, you've appeared in our research several times as being an innovative company as listening to the market and I think that's hugely important and responding accordingly with solutions. As a company would you say you have an innovation culture?

Mehdi Triki

Yes, I can tell you that this was really one of our main objectives when we started the company 10 years back. And I think this is confirmed by the fact that we are shortlisted now two years in a row for The Innovators final stage. So we think that roaming management as such is really being done in the same way since the start of roaming basically. So we see that it's not evolving in terms of automation or digital transformation. And there is a big room there to do things quicker and easier to reduce errors but also to optimise processes. And that's why, as I said, since the beginning we are really focus on things which were not addressed previously by other vendors or other solutions. So innovation is really a piece of our DNA. One example or one confirmation of this is that today on our Unified Roaming platform, we have 11 applications. I can tell you that six out of the 11 applications have no competitive solution on the market or very limited competitive solutions. So we are doing things like TADIG automation, like Rollout optimization or Steering



optimization where nobody else is addressing. So we always aim really to look at things which are the untouched niche challenges and to address them with new models, with new solution within the the big data at Unified Roaming Platform.

Jason Bryan

Mehdi, thanks very much for explaining the background to RoamSmart. I think it's clear that you're doing a great job. But what's next? What's in the pipeline for the remainder of 2023, 2024? What can we expect?

Mehdi Triki

Well, we are constantly on the same in the same room. We are looking at different aspects of the business which are still in need of more automation. But we are also looking very seriously at the integration part. So we think that the future of roaming management will be focused on both keywords automation and integration. So there are, of course, a few topics that we are looking at. In the global level we think that each operator, each MNO has the roaming environment, as we call it. So they have different boxes and platforms, whether it's steering platform, or the data clearing and the financial clearing solutions, fraud management system, you might have business intelligence or discount simulation solutions. So these different boxes are, as of today, working as independent silos. They are all related to roaming but each one of them is addressing or is managing part of the roaming business. But we strongly believe that if we manage to combine or somehow integrate and synthesise these different flows, which can be of different

aspects, so you can have some information which has traffic, which has charges, which has tax information or discount agreements information. In some other sections you have signalling information, you can have fraud information. So there is a big potential here if we can combine, if we can integrate between the systems, that way we can extract some additional insight, some additional intelligence, which can be very valuable for the roaming directors to take right decision, to fill some gaps, and to improve the efficiency and profitability of the business. So we are looking very closely at this. Some use cases of integration and automation where we can really help to decision makers to manage their business more efficiently and to improve profitability. So there are a few interesting and exciting things in the pipe. So I would just say stay tuned for more innovations from RoamSmart in the coming months.

Jason Bryan

Yeah, I'm quite sure we're going to see you again next year in The Innovators 2024. Mehdi, it's been a great pleasure to speak to you.

Mehdi Triki

Thanks Jason, I enjoyed this discussion.

Contact Mehdi on LinkedIn if you are interested in talking about RoamSmart services.

LinkedIn:
www.linkedin.com/in/mehdi-triki-4803882/



JASON BRYAN
INTERVIEWS:

DANIEL MCTAGUE & CHARLES BERNARD

FROM CELLUSYS



Find out more about The Genesis Hackathon
2024 on page 50



ROCCO

64

www.roccogenesis.com/hackathons/

ROAMBOT: AWARDED
AS THE #1 SOLUTION IN THE
ROAMING GENESIS
HACKATHON 2023



TALKING ABOUT ROAMBOT

Jason Bryan

It's a pleasure to be here with Daniel and Charles from Cellusys. Hello, guys.

Daniel McTague and Charles Bernard

Hi, Jason.

Jason Bryan

So before we start anything because we have a very exciting list of questions for you today. And, you know, you guys have been doing, frankly amazing work in the innovation space and we're going to go through that in this podcast today. Before we get onto that, could you please introduce yourself?

Daniel McTague

Sure, I'll start. So my name is Daniel McTague. I'm CTO for Cellusys. I'm responsible for the creation of the company's products including Steering of Roaming, security and analytics which our products do repeatedly get highly rated and independent reports. So my main job day to day is to try and innovate and evolve the products to try and maintain our position in the market.

Charles Bernard

All right, my name is Charles Bernard. I am product manager at Cellusys. My main role is to follow the market evolution of the product and what our customer wants or needs. In the Genesis Hackathon my role wasn't



ROCCO

66

about what the customer wanted but imagine what we should bring to the market as

**“AS WE KNOW,
ROAMING TESTING
HAS BEEN DONE
SINCE THE
BEGINNING, THE
SAME WAY.
ESSENTIALLY WE
ARE AN
ENGINEERING
COMPANY. SO IF WE
DO THE SAME
PROCESS OVER AND
OVER, WE NEED TO
FIND A WAY TO
AUTOMATE IT.”**

an innovative solution to solve the problem that was proposed to us.

Jason Bryan

Thank you, guys. You did a very good job. It was for us as ROCCO the first time we were doing a hackathon. You're always hoping that there's companies out there who despite not having a product or service can take a leap of faith and come up with a solution which meets the requirements and get the whole industry buzzing about the possibilities. I think that you guys have had a long history of doing that. In fact, I remember the very first time we did The Innovators report in 2016, Cellusys were in the number 1 spot of all the vendors across the industry. I think there were at least 40 vendors appearing in that report. So that was a very good sign that you have an innovation culture in your company.

Of course, this year in this hackathon, you were ranked number one in the Roaming hackathon and also the Messaging hackathon, which really demonstrates a lot the key difference on the way that you guys think about things. Very impressive. What was the feeling and reaction to this?

Daniel McTague

To win both, we were very proud. I mean, anybody who has ever listened to us speak, we would always describe ourselves as an engineering company. But you know, we're selling products that are very long established. I think it's very easy to have a very polished pitch, a very convincing argument for a 10-year-old product. And I think it was a real challenge for us. We say we're engineering focused, we're solution focused. So this challenge was really great for us to try and demonstrate that. With a very short time window, we don't have an out-of-the-box product ready to go for this. So it was a really good challenge. And we were just very proud to win both. And even then, going to

Genesis and presenting, getting feedback from the audience, it really gave us great validation for the approach we take. We really delighted with the positive engagement and the sense of viability we got from the industry, Prakash who raised the challenge was also there as well. And again, winning both, especially in two diverse areas we were very proud of and probably for internal peace in the company that was important. And when we got shortlisted for both, we had two separate teams working both solutions. So there was a kind of internal rivalry building and Peter Morgan our head of pre-sales was in charge of the other team and he would have been very very hard to deal with on a daily basis had we been outperformed. So we were quite relieved to come out on top.

Jason Bryan

Yeah, clearly, you took it very seriously and very professionally. I have to say. This is exactly what we kind of wanted to do with this project is to stimulate companies to think out of the box and to look at, although it's very short notice, I mean, because this year's Hackathon was really organised in the beginning of the year. You guys were clearly impressive in responding to it. Could you explain to us about the solution which you proposed to this requirement?

Charles Bernard

Essentially, the solution was to overcome the problems we face when we do roaming testing. As we know, roaming testing has been done since the beginning, the same way. Essentially we are an engineering company. So if we do the same process over and over, we need to find a way to automate it. That's what RoamBot is about, is a solution to automate the whole process of roaming testing as much as we can do.



Essentially, it leverages the API's that are implemented into mobile networks and roaming testing probe remote testing probes, that will be used to perform the IREG tests. So essentially, the API's that are being used by RoamBot to do the data configuration of the network and the SIM cards to be tested with, instead of sending that to someone, it directly send it to the network and asks the network to do it. The same way also it will fetch TAP files once the tests have been performed or it will also assist for the common test. And the remote testing probe are there to perform an execute the IREG tests themselves on both sides, the VPMN and Home PMN. And essentially RoamBot will orchestrate those two technologies: the APIs and this remote testing probe to roll out the roaming test, end to end. So with that there is no more waiting for an IREG counterpart to perform or execute the test. There is no more waiting for the TADIG counterpart to provide the TAP files. The RoamBot can directly fetch the TAP file by the APIs and will, by its automation, perform the TADIGadisation on its own. So really, we took the broad approach of deconstructing the whole process of testing, everywhere we thought it was possible. Even doubt people will say, Oh, maybe it will be complex to do an API..., No, this is what we're going to propose. We're going to be broad and propose automation as much as we can.

Jason Bryan

And this is such a crucial thing for operators clearly. I grew up in the roaming industry knowing that testing for roaming solutions ,and that was at the very start, 2G, 2.5G was complex, it was time consuming, it was repetitive. And it was something which you had to often wait so long for the other roaming partner

to get there, to get their chance, their opportunity to do that testing as well because you had to

schedule it all. This for me is really a revolution in that space. But one question is, do you need that everybody is on board for the solution to be effective?

Charles Bernard

I mean, ideally, yes, in a sense that if both roaming partners are on boarded with RoamBot, it will be much faster because RoamBot will talk to RoamBot in the sense that it will send requests to the API of the Home PMN from the API of the VPMN, and vice versa and request both probes to do the test. But even if one operator is the member, it's already beneficial for that specific operator. That will reduce the dependencies on internal resources to perform the time consuming-task. So the data configuration on its network will be done automatically by RoamBot and the same for the inbound testing. And also we see that somehow as an opportunity for RoamBot because the other side will see: this operator is very fast. The implementation has been done very quickly, and the IREG testing has been done very quickly. So we also see it as a publicity for RoamBot and hopefully, expanding the community of operators adopting RoamBot.

Jason Bryan

Yeah, it's certainly something I can see the benefits clearly for both sides and I think the question is around whether a single operator could utilise it without their rowing partner having it. Because we all know that these mobile operator infrastructures move at different speeds, right. It's a feeling that you know, I can take an innovative approach, but I do need either need everybody on board or you know, I'm doing it in isolation, which doesn't necessarily help. So with this in mind, what is next for RoamBot? Where could it go from here? And how can we get people involved in looking at that?

Daniel McTague

Following on from Genesis, I mean, we got great feedback in Genesis to the solution. And after that, we engaged with a few operators to get their opinions, to see how they could progress it forward. And then we were invited to IO as well, where again, we got very good feedback and a lot more engagement. Where we are now, we want this to be open. We want it to be global. We don't want this to be something that's very much, you know, "buy this magic box of Cellusys, and everything works". We know that won't scale. We need it to be open and available to everybody. So we're taking a standard based approach. The API's that Charles mentioned, they have to be standardised. We have to know exactly what information is shared between two networks to enable IREG testing, TADIG testing and service launch. We need to map that information on to API calls. We need to understand the day to day flows or day to day work of IREG teams when they're setting up these tests. And again, everything that somebody does manually, we turn into an API call. We know every operator does more or less the same thing. So what we need is community inputs. We need the community to own this, we need them to define it. We need them to say this is exactly what's needed. And then we'll build it, you know, we'll build Roambot under their specifications. We will enable end to end testing, with their collaboration all the way to make sure it fits for purpose. And how we go from there. For us, automation is a must for operators. It's just not valuable to continue doing things the same way. And people are too valuable resource to be spending time doing repetitive tasks. I mean, look around the world today, beyond telecoms, Chat GPT, which everyone loves talking about. That does a lot of boilerplate work for us today. You know, it does work that I would not want my employees spending time doing, but still with IREG testing, we do the same thing over and over. I do think it's time that operators address the elephant in the

**“DEFINITELY
PRIDE BECAUSE
CELLUSYS WAS
AGAIN
RECOGNISED AS
AN INNOVATOR.”**



ROCCO

69

room, catch your pair and the benefit is there for them. I mean, it's going to be a huge cost saving going forward. It's going to greatly improve efficiency and speed. And we would just look for them to engage to get involved to give their opinion, to tell us how they would like it to work and to work with the community to make it real.

Jason Bryan

I think it sounds like an excellent approach. And I think that we can already see some major operators and operator groups getting very excited about this. And I think you're right, I mean, working closely with them, doing some project work with them to ascertain what is the requirement to make sure they in matches the requirement very carefully. I think that's definitely the right approach. And, you know, that we will do everything we can to support you in making that happen. So, yeah, I think it sounds like a very positive future for this. But I think that it will require that we keep on on top of it and bring it to fruition because it has certainly matched the requirements that was set out by Ooredoo in the hackathon at the beginning. I know they're very impressed with the solution. So what were your feelings when you received the awards? In terms of, you know, the recognition, let's say, from the industry of what you've done.

Charles Bernard

It was a mix of pride and nostalgia, and I'll explain a bit of what I mean. Definitely pride because Cellusys was again recognised as an innovator. And roaming testing was not our forte, but we took a broad approach as we like to do and we started to offer and present that solution. And it got recognised and so not only by the award, but as we said by the enthusiasm and the buzz around it during the Genesis. And a bit of on a personal level

some nostalgia, because in my experience I have led a testing team, we were a roaming testing team, we were doing roaming testing for mobile operators in an outsourcing way. And we have optimised everything we could, but we did not automate as much as RoamBot. But we had the idea. We knew that there was going to be the way, but we didn't have a platform such as the hackathon of ROCCO to present our ideas. So somehow, for me, it was also a bit of nostalgia in recognition for my past colleagues, with the ones I have had the idea. But definitely those who did the work and presented it were the Cellusys team and I'm proud of that.

Jason Bryan

Yeah, it's interesting, isn't it? How we often don't have let's say, time or focus to be spending on more creative ways of doing things. We're too busy firefighting our daily jobs, but it feels like this concept of a hackathon could be useful for other projects that we need to do. And would you recommend it to be part of such a hackathon to other potential participants?

Daniel McTague

Yeah, I would. And on that point, Jason, I think you are right. Doing these things, it's not always the easiest thing to do on a day to day basis, but in the long term, it's the right thing to do. It's going to be a huge saving in the long term. Automation is always a big saving and long term for anybody who invests. And I think the Hackathon was a great opportunity to just step out of the day to day and actually take on a big challenge with a time limit with a specific goal. And it's something that's quite hard to justify doing normally, but with an award at the end from ROCCO we have to try. I would definitely recommend people to get involved. I would say companies that want to get involved should consider



ROCCO

stepping a bit outside their own comfort zone and not just sticking to their exact products or trying to match an existing product to the problem. Try and solve the problem with your own experience with your own knowledge with your own intelligence. And I would say from first principles, I think people can get a bit you know, you can start thinking "oh, this won't work because X, Y or Z because I noticed some difficulty here. I think that's the wrong way to approach it. I think you need to be ambitious when approaching it. And just look at the problem, look at the optimal solution. Now in the end, you know, we went for an ambitious approach because there's no point in taking a conservative approach, factoring in all the difficulties you may face. We're better off aiming for an ideal, and if the practicalities in making it real mean there's some compromise in that. That's fine. But it's better off starting with the most ambitious approach we can. There is a quote that I did I kind of like. It sort of sums up that approach, which it was Mark Twain's, "They did not know it was impossible, so they did it." I think being an outsider is actually a helpful thing. This is not the day to day for us. So we can just look at it purely from an engineering point of view. We don't know that it's not possible, so we develop something that will work. You know, there's no major magic in the solution. It's API's. It's collaboration. There's no magical AI bucks or anything that people can't grasp. It's all very achievable. And I say the same for anybody just, you know, don't get stuck on any previous experience. Just start from first principles, be ambitious, and try to build the best possible solution.

Jason Bryan

I mean, it's very commendable because you talk about that there's no magic behind it. But I think what we've been lacking so much in our industry, I mean, I started in Roaming 27 years ago, and I

feel that we're using the same processes and the same systems we were using. Let's say the biggest transformation that happened in the operational side of roaming really came with email, because before then we were using fax to send documentation. It's like, for me, this is like magic because it's actually engaging with digital transformation, or let's say digitalization of our working practices and that's essential now. I think it's essential we do explore that. And for an engineering like yourself, I mean, it's not so amazing, but for the rest of the operators I mean, I think they can recognise that we should be doing a lot more of this. And that's a very great thing to hear.

Daniel McTague

Well, I agree Jason. And the thing is, you know, when I say it's not magic is, you know, the nature of a hackathon we've been completely open with how the solution works, how we propose it to work. So there's nothing in there that anyone could tell me cannot be done. You know, it's technically straightforward, right? There's a lot of cooperation needed. There's moving parts, but there's nothing there that can't be done, and nobody could point to a technical challenge that cannot be overcome. So really, it's just an industry willingness. If you're willing to engage, willing to work to make this real, then it will work. There's no technical barrier. It's not hard. It's just cooperation, industry cooperation. So a lot of it is people rather than technology. That needs to drive this.



**THERE IS A
PHRASE THAT
SUMS UP THAT
APPROACH, WHICH
IT WAS MARK
TWAIN'S, "THEY
DID NOT KNOW IT
WAS IMPOSSIBLE,
SO THEY DID IT."**

Jason Bryan

So one question is, in terms of innovation culture, right. I mean, as I said at the beginning, Cellusys we're one of the first companies who appeared in our innovation research. You were the top provider according to mobile operators. They said, you're innovative. That was back in 2016. And you continue to be there. It's evident that you have an innovation culture or you have a way of looking at things which is different and you also have a diverse team who can bring different strengths and skills to doing that. But it's like, you often hear companies talk about spending a certain amount of time doing research and development. Is that something that you guys do? How do you deal with innovation? Do you think, okay, I don't know, Fridays I'm going to explore a new direction or how does it work?

Daniel McTague

First, I think it's a bit more ingrained than let's say a prescribed, you know, we innovate on Friday, not really. It's more ingrained in the way we do business on a day to day basis. And you mentioned the diversity of our teams, that's a real strength when it comes to innovation, people have different experiences. And no more than what I described here was being somewhat outside the day to day on this hackathon. I think it's part of the reason we can come up with a very viable solution. We're not in any way scared by knowledge of, you know, things that failed in the past or things that failed us before. We just look at it from a clean point of view. And the same idea when you have a diverse team, we have people with experience in telecoms, we have people straight out of college. They all bring something different. And I think the point really is to really embrace all opinions and all perspectives, question



everything, just because something worked for the last 10 years doesn't mean it's still going to work. There are no sacred cows anything can go, no product is safe, no approach is safe. You have to question everything. And then even at the product level, you know, we've evolved our products in a way to make them, flexibility is a really big part of it. And we're trying to enable innovation for the user as well, you know, where they have a problem under Network and using our tools, they have the flexibility to solve it themselves in a creative way, in a way we couldn't even imagine. So, for us, you know, everything is about enabling innovation both from an organisational point of view and even from a product development point of view.

Jason Bryan

So, with all this in mind, the company structure, everything you said, what's next for Cellusys. We know RoamBot is going to get more visibility, we know you're gonna take it forward, but any more ideas for the future?

Daniel McTague

First, you know, RoamBot was an interesting thing to come up when it did, because while we weren't so much looking at the testing phase necessarily, automation is a huge focus for us on all of our products. We just know it's a trend, it's there, you know, as I said earlier, people are too valuable to waste time on repetitive tasks. So, for us, automation is a huge topic. So we're looking especially in the roaming space how do we kind of combine our analytics and roaming solutions so that we can automate work, you know, stop having an engineer figure out why someone's roaming services is bad and then taking action. We want to automatically figure out and recognise there's a problem in roaming, let's take an action automatically to solve the problem before the user complains, before I have an engineer investigated. So automation

is a huge focus for us. I mean, that's like, strategically what we want for all of our products is to be automation focused. And then obviously the other things, you know, like 5G is coming as well. We need to adapt to that there's going to be a lot of new opportunities. And we're well suited to take on the challenge, you probably know yourself, 5G roaming, you know, there's a lot of conversation still going on about how this will work in the end. And for us, we're well positioned because everything is about flexibility. So it doesn't matter in the end, what the industry decides. We're going to be ready to go and we're going to be ready to serve whatever need comes up. And so that focus on flexibility is something that kind of keeps us in the game. No matter what happens.

Jason Bryan

Exciting times in the industry, with 5G SA, network slicing, and the possibilities of quality of service differentiation. And I think you're right, companies need flexibility for digital transformation. We'll definitely be calling on you for the next hackathon.

Daniel McTague and Charles Bernard

Well, we'll surely be back. Thank you



Contact Daniel and Charles on LinkedIn if you are interested in talking about the RoamBot solution & Cellusys services.

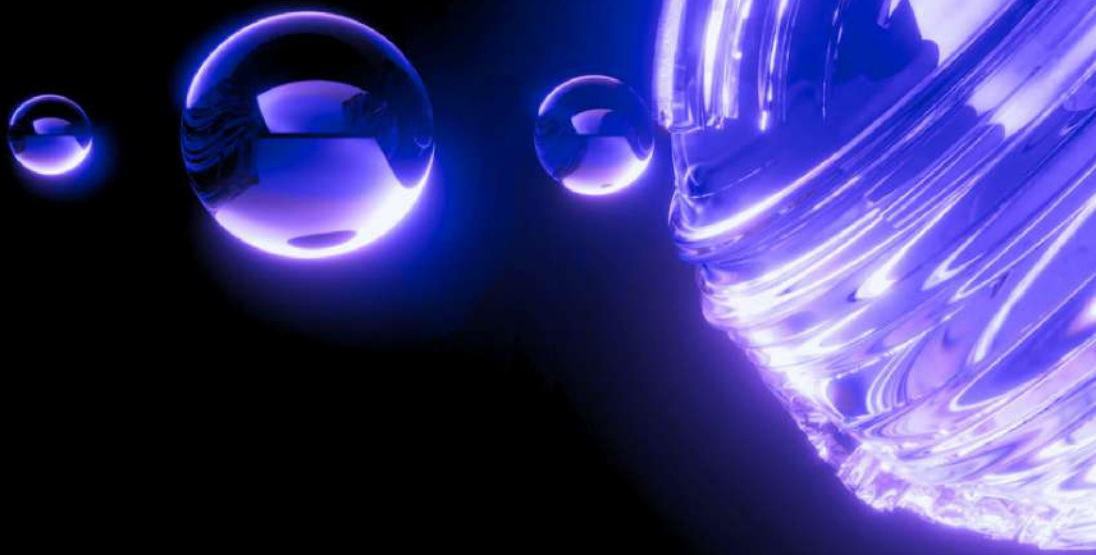
Daniel



Charles



A NEW OPPORTUNITY FOR ROAMING





**BY DHIRAJ WAZIR,
CEO ROCCO STRATEGY,
PROGRAMME DIRECTOR IO**



ROCCO

A NEW OPPORTUNITY FOR ROAMING

Over the last couple of decades, it's really been the Japanese and the Koreans who've been leading the telco space. Right from starting with WAP and even with 5G, it's the Asian markets which has acted as the pathfinder for the entire industry. But it looks like there's a new "old" kid on the block and the pendulum seems to be swinging back towards the US, and no I'm not talking about Mr. Musk and his Starlink fleet. I'm talking about the slow and steady rise of innovative use of how 4G and 5G technology is being used. Nope, still not got it? I refer you to the quiet evolution of Private Networks and Neutral Hosts. And I believe if nurtured appropriately with the help of Roaming teams within Mobile network Operators (MNOs) the "quiet evolution" could revolutionise the connectivity space and solve the age old problem of how to provide indoor cellular coverage in difficult to reach large buildings like offices, factories, malls, stadiums ... you name it, etc.

Before we get into how, or what the Roaming team has to do with it, let's understand this new beast that keeps

knocking on your digital door through white papers and LinkedIn posts.



ROCCO

76



Technically both Private Networks and Neutral Hosts are communication networks based on 3GPP standards, just like the ones a Mobile Network Operator (MNO) operates but are meant to cover a very small geographic area, for example a factory or a university campus. They generally are LTE or 5G based. Many enterprises are also looking to replace or compliment their internal WiFi networks with a Private Network. This gives the enterprise full control over its connectivity infrastructure and can also be much more secure.

One of the biggest advantages Private Networks offer is global connectivity through Roaming. Consider an automotive factory where a Private Network can be used to track manufactured cars whilst in the factory but then also later when the cars are

**“OVER THE LAST COUPLE OF
DECADES, IT’S REALLY BEEN THE
JAPANESE AND THE KOREANS WHO’VE
BEEN LEADING THE TELCO SPACE.”**



ROCCO

ONE OF THE BIGGEST ADVANTAGES PRIVATE NETWORKS OFFER IS GLOBAL CONNECTIVITY THROUGH ROAMING.

sold they can Roam onto a mobile networks globally, one can't say the same for WiFi for example.

Neutral Hosts although technically similar are deployed for a slightly different reason. In this instance imagine a large building like an office block, a casino or a mall, which is generally open to large parts of the public, who more often than not will find themselves in coverage blackspots. This can be detrimental to the venue's business or operations. Shoppers would naturally shun going to a shopping mall, if they don't have good coverage inside. Rather than provide WiFi and provide customers with passwords etc, it's much more feasible that the mall have it's own mobile network inside, and allow customers of other mobile operators to simply "Roam" onto this Neutral Host network they've created. As far as the end customer is concerned, it's just their domestic providers network that also extends inside and throughout the building. This makes it a win-win for both the mobile operator and the shopping mall. For the mobile operator they do not need to cough up the capex or compete with other networks



to provide their customers coverage. Recently Vodafone UK's Chief Network Officer

also expressed the need to provide connectivity Neutral Hosts, especially when it comes to setting up a robust network during temporary large volume events like music festivals. (To read this full story scan the QR code in the edge of this page).

Although in Europe Private Communication Networks (PCNs) and Neutral Host Networks (NHNs) are beginning to gain traction, it's in the USA where they have gathered much more steam. This is possibly due to the FCA having the vision to carve out part of the spectrum band called Citizens Broadband Radio Service (CBRS) for use of PCNs and NHNs. This means all that PCNs and NHNs don't have to depend on lengthy negotiations with MNOs to get them to lease some spectrum to be able to build their own networks.

Although ones initial response might be, "wait a minute ... is this not a threat to Mobile Operators", after all MNOs have paid billions of dollars in getting licences and spectrum to build and operate their Mobile networks. The big difference is that PCNs and NHNs can only be deployed and operated in private spaces by their owners. It's only mobile networks operators who have the license to "beam" their networks into both public and private spaces.

**“AND THIS IS WHERE THE ROAMING TEAM CAN
ADOPT A NEW AVATAR...THEY CAN BECOME
SAVIOURS BY USING THEIR ROAMING KNOWLEDGE
AND EXPERTISE TO TIE UP WITH NHNS, AND
SOLVING INDOOR COVERAGE ISSUES IN THE
DOMESTIC MARKET.”**



ROCCO



**“EVERY GREAT
JOURNEY AS
THEY SAY
STARTS WITH
A SMALL
STEP.”**

In fact in most instances when licenses and spectrum are awarded to MNOs, the license comes with an obligation for the operator to cover a certain percentage of population and geography by a set period of time. So rather than being competitors PCNs and NHNs provide two distinct opportunities to MNOs:

1. MNOs can offer setting up a PCN or leasing part of its spectrum for an enterprise and creating a new revenue stream for themselves.
2. This also creates more stickiness to have them as an enterprise customer.
3. Using NHNs to provide coverage in difficult to reach or temporary locations.

And this is where the Roaming team can adopt a new avatar and instead of being looked upon internally in their organisations as operating in a niche who only come in handy when customers travel, they can become saviours by using their Roaming knowledge and expertise to tie up with NHNs, and solving indoor coverage issues in the domestic market.

At the outset this requires a few basic things to fall into place:

1. A mindset change within Roaming teams to increase their scope of work to cover domestic coverage.
2. Additional resources within Roaming teams who in many



ROCCO

instances already feel under resourced.

3. A certain level of harmonisation and set practices of how MNOs and NHNs can work together to make this possible.

Every great journey as they say starts with a small step.

To put it in perspective, by Q1 this year GSA had already identified over a 1100 Private Networks. In comparison to under 900 MNOs which exist in over 30 years of GSM. Ports, office campuses, stadia, hospitals, factories etc are being covered at breakneck speeds. Sure this space is still evolving, but it's growing at a very fast rate, it's important that Roaming teams are able to pivot and recognise this opportunity.

Organisations like Innovative Operators working with the MNO members are already working to see how the plethora of the Private Networks can be helped to better integrate within the telecom sector. However the role Roaming teams can play cannot be overstated, this is truly a great opportunity for reinvention and rebirth of the Roaming department and what it can do for the business at large.

**Connect and follow
Dhiraj Wazir on
LinkedIn:**

<https://www.linkedin.com/in/dhiraj-wazir/>



**“THIS IS TRULY A
GREAT OPPORTUNITY
FOR REINVENTION
AND REBIRTH OF THE
ROAMING
DEPARTMENT AND
WHAT IT CAN DO FOR
THE BUSINESS AT
LARGE.”**

JASON BRYAN
INTERVIEWS:

PETER MORGAN & CHRIS LENNARTZ

FROM CELLUSYS



Find out more about The Genesis Hackathon
2024 on page 50



ROCCO

SMASH: AWARDED
AS THE #1 SOLUTION IN THE
MESSAGING GENESIS
HACKATHON 2023



TALKING ABOUT SMASH

Jason Bryan

Well, it's a real pleasure to be here again with the Cellusys team. And today we have Chris Lennartz and Peter Morgan. Guys, could you introduce yourselves, your accompany and your role?

Peter Morgan

Yeah, perfect, Jason. We're both very glad to be here as well. So my name is Peter Morgan. I'm Cellusys' Head of Technical Pre-Sales. I've been part of Cellusys for a number of years now and I had a few different roles ranging from Software Developer, Integration Engineer, to now heading up our Pre-Sales Department and Solution Engineering. Cellusys is a company that focuses on Signalling solutions. A couple of examples of those could be Signalling firewall, Steering or Roaming and Network Analytics. Chris, I'll pass it over to you.

Chris Lennartz

Yeah, thank you, Peter. And thank you, Jason, for giving us this opportunity. My name is Chris Lennartz. I'm VP of Product for Cellusys. I started recently, in April 1st. And peers might know me from my previous job, which was in the IPX space. So in that identity, I've done a lot with ROCCO. So glad to be here again.

Jason Bryan

Yeah, it's a great pleasure to speak to you guys again. Especially under the circumstances of our meeting, which is that you guys were ranked number one in our Hackathon for



ROCCO

84

“THAT WAS THE GOAL: WE'RE TRYING TO BRING BACK TRUST INTO THE SMS SPACE.”

Messaging this year. Congratulations! It was a little bit of an experiment from our side to see if we could run the first ever hackathon focused on our industry's challenges. And well, it was very impressive, because obviously, you guys took the top spot in both of the Hackathons, which is, in itself, a real testament to how you think about innovation. How did you guys feel about getting the first place in the Messaging Hackathon?

Peter Morgan

Obviously, we were delighted to be shortlisted in the first place for both Messaging and the Roaming Hackathons. As you mentioned there, our company drives itself and it's known for an innovative approach. So this is our first time also entering a hackathon. When the opportunity was presented to us, we were more than happy to dive in. So we decided to do it with two separate teams. And I know there was a separate podcast where our CTO, Daniel McTague was on. And he was kind of leading the Roaming Hackathon team. I was doing the SMS side with Chris as well. So there was a bit of internal rivalry, which was good to spur us along as we were trying to identify the solutions. Overall, we really enjoyed participating, and winning is obviously a great added bonus.

Jason Bryan

Fantastic. This is clearly an opportunity to address challenges within a short timeframe. Because there was just a few weeks that you guys had to address this hackathon challenge. You didn't know about it before and you clearly came up with the goods. It's a kind of new way to address things. I see, in other industries, this process of having a very focused timeline to looking at a problem can be very useful. And it certainly seems to have worked in this case. Could you explain to us a little bit more about your solution, and how it solved the challenge raised?

Peter Morgan

Yeah, of course. We're more than happy to have met a short timeline. We were quickly out with the whiteboard and kind of mocking up our different ideas for both the SMS on the Roaming solutions as soon as the challenges were presented. So in the SMS space, the challenge we were looking at addressing, which is quite a hot topic at the moment, was Artificial Traffic Inflation. The way we did that is we came up with a system called "SMASH". And the goal of SMASH was to be able to generate a comparative report of messages that have been sent by an enterprise, and those that have actually been received at the end by a Mobile Network Operator that they were being delivered into. So this way, an enterprise knows if its delivering or sending messages, they're actually arriving to the the end subscribers, as they were supposed to. So it works by both enterprises uploading their CDRs and a message they have submitted and MNOs then uploading the CDRs of messages that have actually arrived into the network. Based on this, we can provide overall delivery rates on a per-aggregator basis. And then aggregators would have the opportunity to publish these delivery percentages to show that the traffic has passing through them, that you know, the one is going to their platforms, is actually arriving in the MNOs. So what we're really trying to do here is improve the trust between the enterprises, the aggregators, and MNOs at the same time.

Jason Bryan

We heard of course, Twitter, Elon Musk talking about this major issue. And I think a lot of aggregators know that it's an issue that has been raised, the profile has been raised. What was your experience about it before you started this Hackathon? Did you even realise it was so much of a problem?



Peter Morgan

Yeah, it's interesting that you say that aggregators had noticed this problem. Because yeah, we work quite closely with a number of aggregators, who have been saying they can't compete with other aggregators, who are partaking in the practice of Artificially Inflating Traffic. And it's not just an aggregator problem, as well when we look at it. A lot of MNOs, we work with are very much supposed to the practice. So you may think of them then getting revenue from this, it would be a benefit to them if the the aggregator was paying it forward. But in reality, they see that this is very damaging to the the SMS A2P ecosystem. So we're trying to address that as much as we can with the SMASH solution. And with our partners who also played a part in the Hackathon. So we were joined by PCCW, or Console Connect, who have noticed this a lot. And who actually brought this to our attention: Mauro highlighted this, again, there is a couple of years back when it was supposed to have recently started.

Jason Bryan

Yeah, so can you explain in more detail what your actual solution is doing in terms of solving the issue? You gave a brief explanation there. But for people who don't necessarily understand the background. Because you guys did an amazing video, which I really liked during Genesis, which kind of showed in a very visual way, how these different players in the ecosystem are working. I don't know if you can explain a little bit more in context of that, just kind of what you're seeing.

Peter Morgan

Yeah, of course. So what we are really trying to address here is the issue with aggregators who were generating traffic.



Twitter was one of the examples you mentioned there. Some aggregators are generating traffic

from enterprises, that's not actually being delivered to subscribers. We call that as "SMS trashing". So the way they would do this is: they would go to the market, and they would publish the cheapest termination rates into a network. So once they get a network here in Ireland, they would say: "okay, we can deliver a message in for 3 cents". In reality, the termination rate that the network might be requesting of them could be a bit higher than that, like four or five cents. The effect of publishing the cheapest market rate is that people start to use them, and people start to route the traffic that needs to get into that network, or that has to arrive at that network of subscribers. They start to use the cheapest route possible if there's multiple routes into the network. And in order to compensate this, what the aggregator (who has published this cheap route) does here is Artificially Inflate Traffic. So they will allow traffic that they haven't generated to go to the end network as it was, and they will pay the official termination rate to the network. So it's a five cents in the example I'm giving here. And then they will generate their own traffic to MSISDNs or mobile numbers that might not exist, or that do exist and there are just going to stop arriving at the network anyway. So we call that "trashing" and what actually happens there is, the aggregator, the bad actor, in this case, is taking the message off the network dropping it, or sending back a fake delivery report, so that the sender thinks it's actually been submitted, it's arrived at the end customer that they're trying to deliver, either a One Time Password or an engagement message, a fake delivery report will be sent for that. And in fact, the message hasn't been delivered, the enterprise has been charged, and who's really profited here is the aggregator, the bad actor in the middle. So the goal of our solution, like I touched on earlier on, was to provide

enterprises with visibility of which aggregators are actually delivering messages into the end networks. So like I said, both the enterprises and the terminating MNOs (the Mobile Networks that the messages are supposed to arrive into), will submit their CDRs. We will compare the CDRs and produce reports giving an overall percentage of messages that have actually arrived into the network. So the idea here is that enterprises can look at this and say: okay, this particular aggregator has, overall, a very high score of messages being delivered into the networks that they're already serving. I can decide that I'll trust them with my traffic, I'll trust that they're not going to Artificially Inflate Traffic, they're not going to generate messages that they never intend to deliver. And I'm not going to get billed for messages that, at the end of the day, for an enterprise serve no value. Because if they're not arriving at a subscriber for One Time Password or engagement, they're not doing what they're supposed to, for the enterprise.

Jason Bryan

Thank you for the more detailed explanation. I think it's really useful for people who don't understand the background to this. Because it's quite an epic achievement, to try to deal with this major challenge that is really affecting how we think about SMS. And I know from ROCCO, from doing reports on A2P SMS for many years that there's a consideration by enterprises: "Should I be investing in SMS?" "Should I be looking at other messaging solutions?" which of course, there's many these days. And of course, we want to protect SMS, clear that channel and make it a very usable and reliable solution.

Peter Morgan

Yeah, of course. That was the goal: we're trying to bring back trust into the SMS space. SMS has been very good for aggregators' revenues the last couple

“ THERE ARE A LOT OF COMPANIES THAT ARE THINKING FROM EXISTING PRODUCTS AND TRYING TO FIT A NEW SQUARE, OR A CIRCLE. BUT I THINK IF THERE'S SOMETHING LIKE THIS, WHICH IS FUN, AND ALMOST HYPOTHETICAL WITH A BIT OF REALISM, I WOULD SAY: EMBRACE YOUR CREATIVITY FINALLY! ”



years. COVID, obviously, had a significant impact on roaming revenues. And A2P SMS, was there to sort of fill that gap in some ways. But if it's abused and mistreated, of course, the enterprises are going to start looking for alternative approaches. We need to consider here as well, the ubiquity of SMS. Everyone or nearly everyone has a mobile phone, nearly everyone can receive SMS messages. So while there are other channels, not many are as effective at actually reaching subscribers as the SMS is.

Jason Bryan

Yeah, absolutely. I mean, it's that essential app on your phone, which everybody has. So it's something really universal that we need to make sure it survives. So what were your feelings about receiving this recognition, this award for the Hackathon results?

Chris Lennartz

I would say many relief. I think that I've never been so nervous when presenting. I was thinking this has to be worth it somehow. So we kind of expected: our chances were good, because when we saw the feedback based on the system that you invented, from the audience, we thought: "wow, this is looking really great". But we started making our reasons why we couldn't win both right? Because that would be weird if we win them both. But then we did. So yeah, it was a mix of surprise, pride, excitement, relief... And I was a new guy, I was just working for Cellusys for a month or something. I felt pretty nervous coming on stage doing an acceptance speech. So yeah, it was a mix of emotions.

Jason Bryan

Yeah, I think it's really a testament, as I said before, to your approach to this challenge, which is pretty short notice, and you got in there and you tackled it. And I think that dynamic that

you described where you had two teams kind of trying to vie against each other could have been a winning concept really. Would you recommend doing a hackathon to other potential participants in the future?

Peter Morgan

Yeah, being 100% honest, we very much enjoyed this. And as you touched on it there, having the two teams—I wouldn't say competing against each other, but maybe competitive-collaboration is a better way of describing us—it did help us. So you know, we kind of vied against each other, while sharing ideas. We will definitely be participating if this is something that ROCCO was thinking of doing next year. So we got quite a bit of enjoyment out of it as well, because we use it to step outside of our wheelhouse. At first, we were kind of seeing how does this apply to what we do today? Can we reuse any of our existing technologies? And then, we took a further step back, and we're like "okay, what would be the ideal solution, if we could draw from scratch, do it right here?". So that's what we did, we took a kind of a high level view, came up with what we thought was gonna be the best solution, figured out if we could reuse any bits of the platforms we already had, and then started piecing things together in quite a short time period, as you mentioned earlier on. But yeah, we had a lot of enjoyment, we had a lot of fun making the video submission, as well. So we kind of liked the format you did for the Hackathon with the video submission first, followed by the in-person presentation.

Jason Bryan

Yeah, we definitely going to do it next year, because I think this way of working can really expedite the thinking on a challenge that we face in the industry. Something that, you know, all the great



rocco

work that GSMA does, but it can take a while for a solution to emerge. Because it's very ad hoc, that you have to rely upon volunteers, and a lot of times you are not necessarily getting a focus working with a deadline behind it. So it kind of changes the dynamic, I think it's very useful, so wherever we can try to look at this again.

Chris Lennartz

It also forces people like us to be creative, right? So what Peter said is that there were a lot of companies that, let's say, they are thinking from existing products and trying to fit a new square, or a circle should be. But I think if there's something like this, which is fun, and almost hypothetical with a bit of realism, I would say: embrace your creativity finally! Don't think about content limitations, just focus on a problem and the ideal way to solve it. But at the same time, you should always keep in mind that in business the value of solution is the return on investment, the realistics, how's the user experience, are there acceptance, obstacles that cannot be overcome? So that that tension between creativity and commercial acceptance is always interesting to think about.

Jason Bryan

Those are very important points, Chris, thanks for that. You're new to Cellusys, you haven't been there for that long. I think you said April. And of course, Peter, you're more familiar. What would you say: does the company have an innovation culture?

Chris Lennartz

Yes. As a new guy, I would say yes. I mean, the fact that we did it like this, just look at it freshly don't think about our existing products, and just come up with a product and then look at how we can productize it is the proof that we are creative and innovative, I would say.

Peter Morgan

Yeah, just to add on that. I think one of our favourite things to do is find a problem, or have one of our existing customers come to us with a problem. A few of us get together, get the whiteboard out, and start maxing out solutions and seeing how we can tackle this ahead on. So you know, since I've been here for quite a while, it's always been like that. We've always enjoyed embracing new challenges, and we've always got plenty of ideas. A lot of the best features of our platforms have come from ideas that have come from every level of the company, whether they be the top-down from guys like Daniel, our CTO, or from our integrations, or from our services team who were actually using our product on a daily basis and who see the pain points customers can face. If we see anything that looks like a challenge to the ecosystem as a whole, to our customers as a whole, we're always more than happy to embrace that and see how we can fix it and improve it on that.

Jason Bryan

So what's next guys? Any more ideas for the future that you have in mind?

Peter Morgan

I think ideas isn't our problem. I think time is more our issue. So obviously we're taking what we've done here in the Hackaton forward. As you know, the guys were presenting the solution from the roaming challenge at the IO events that you host as well. For SMASH we have had a bit of uptake from other aggregators. So like I said, we came into the the competition for the Hackathon with PCCW, but we are in talks with, with other enterprises now. We're looking at addressing other issues that are coming up in the SMS space or the Authentication space. An example I think everyone is also talking about,

**“THE FACT THAT
SMS HAS BECOME
UBIQUITOUS WAS
AN ACCIDENT,
NOBODY
INVENTED SMS AS
A SERVICE.”**

besides Artificial Traffic, is Flash Call Identification. Plenty of fun things are going. It's just sitting down and getting them done. And also, of course, getting ready for next year's Hackathon is going to take some time too.

Jason Bryan

Yeah, get that team preps and the T-shirts ready, etc. So what is the next big problem? You mentioned you are focus a little bit more on messaging. What is the big problem that you'd like to see solved in the messaging area from the industry perspective?

Chris Lennartz

I've been in messaging now for a very long time. I started at LogicaCMG long time ago. But what I see is that there's a lot of greed now in the A2P Messaging industry. And if there's a lot of greed, there's a lot of money. And if there's a lot of money, there's a lot of fraud and a lot of creativity to make even more money. So what I would like to see addressed is the wild growth of authentication solutions to circumvent A2P SMS. Because it's way too expensive now. And then, if they do that, then there is a lack of security or user experience or monetization. Peter already mentioned Flash Calls. So it's becoming a wild growth of alternative solutions, just because we think there's too much money in our A2P SMS space. So if we could regulate that, we could regulate all the problems that are going in there. And finally, we need to decide what to do with RCS. If you talk about messaging as a whole, we've been trying to figure this out since 2004, when I was at the birth of Conversational Messaging, when we call it them or Intuitive Messaging. And it's still not really there. There was a really interesting session on RCS in your Genesis conference, but it's now 20 years later, and we're still not where we want to be. Even though on paper, it's a beautiful solution. So I would like to see how that is going.



ROCCO

90

Jason Bryan

Well, that's a really good topic, Chris, thanks for raising that. I mean, what is the trigger? We have been looking at this for a number of years. RCS is already 16 or 17 years since it since it began. And what is the trigger to make it ubiquitous? Or is it always going to be like a niche service, would you say?

Chris Lennartz

I think it's going to be a niche. It might be a good niche, there's nothing wrong with being a niche. You don't have to be ubiquitous. I mean, the fact that SMS has become ubiquitous was an accident, nobody invented SMS as a service. It was there for technicians to communicate with each other. So that won't be repeated. And we have the illusion that it will be repeated, and that we can make it as such. That is what we thought with MMS, and that was what we thought with RCS. But it will be a great niche, next to SMS, next to MMS, next to all the Over-The-Top players that have beautiful CPaaS solutions. So if we play our cards right, it might be a very nice channel next to the other ones.

Jason Bryan

Yeah, indeed, it needs some focus, it needs some support, some push from the operator community, I think, as well. And to get some case studies going around, etc. on this. Thank you guys. It's always a pleasure to speak to you. You always have some great insights for us. So I really thank you for your time today. And I look forward to seeing you in the future. And yes, for sure. Look forward to seeing you in the Hackathon next year.

Chris Lennartz

You certainly will. Looking forward to it.

Peter Morgan

Yeah, as am I. Thanks a lot, Jason. As you say, it's always a pleasure to have a conversation with yourself as well.

Jason Bryan

Thank you, Peter. Thank you, Chris.



MAURO MI

THE VISIONARIES AWARDS



MESSAGING
BENCHMARKING REPORT
EDITION



ROCCO
VISIONARIES
Gala

GENESIS Hackathon

ROCCO 100



21ST MAY 2024
SEVILLE, SPAIN



ROCCO
92



THE ROCCO GROUP

Driven by **bringing innovation to telecoms**, our businesses each have unique industry roles, with distinct products and services but with the same core values behind them all. **We have built this capability to serve and make the telecoms sector prosper.**



ROCCO

93

RESEARCH



VENDOR
BENCHMARKING



MARKET
INTELLIGENCE



ROCCO 100



THE INNOVATORS

VISIT [ROCCORESEARCH.COM](https://roccoeducation.com/research)



STRATEGY



STRATEGIC
PLANNING



ROAMING BUILD



ROAMING
360 AUDIT



INSIGHT
COMMUNITY



BESPOKE
RESEARCH



CONTENT
CREATION

VISIT [ROCCOSTRATEGY.COM](https://roccoeducation.com/strategy)



TRAINING



ON-DEMAND
TRAINING



LIVE TRAINING



ON CAMPUS
COURSES



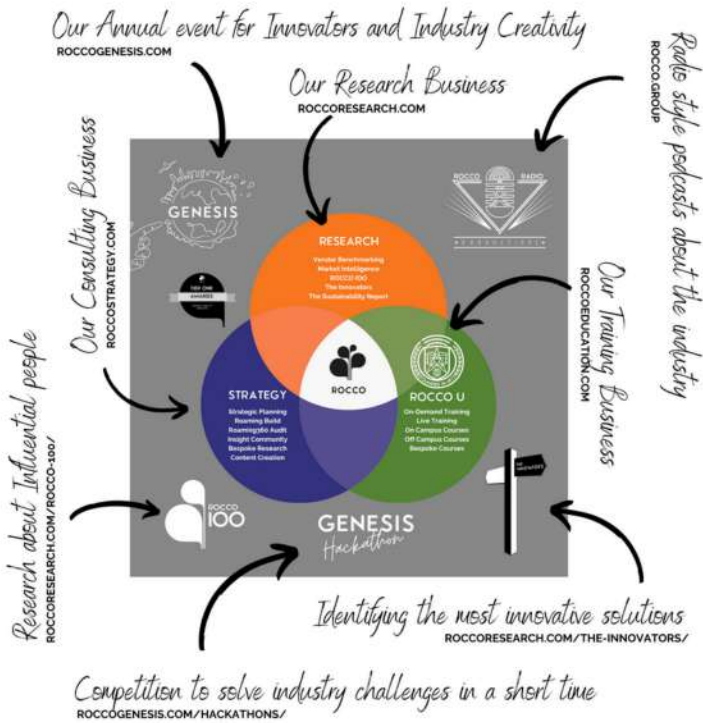
OFF CAMPUS
COURSES



BESPOKE
COURSES

VISIT [ROCCOEDUCATION.COM](https://roccoeducation.com/training)





Nothing is so consistent in the telecoms sector as change. Faster, better, cheaper.. Our zeal to consume more quality content, wherever we are in the world at a faster pace has turned us into an impatient crowd that stares at screens almost uninterruptedly and fidgets angrily at the smallest sign of a connection hiccup. But we all know that professionally and as businesses **we always need to start preparing ourselves for the next step** because there's always another generation and a new buzz to get excited about.

ROCCO has been around since 2012 and from our conception we wanted to be a catalyst for **innovation with Research, Strategy and Education** that wasn't biased, sponsored or boring. We now have **three companies**, and we're not afraid to start a fourth, if there's something new to deliver and a challenge to be met.

We create multiple types of reports on Roaming, Messaging and Fraud and Security and we deliver on-demand training and strategic consulting which together provide a rich foundation on which to wage strategic excellence. In telecoms, we face multiple unimaginable scenarios, but we face them with actionable insights, clarity of direction and purpose.





ROCCO STRATEGY

CONSULTING IN ROAMING, MESSAGING AND INTERCONNECT



BESPOKE INDEPENDENT
RESEARCH

STRATEGIC
PLANNING



BRAND PERCEPTION
TRACKING

RFI, RFQ, RFP
SERVICES



PRODUCT INSIGHT
COMMUNITY

ROAMING AND
INTERCONNECT
AUDITING



CONTENT CREATION

PRODUCT DESIGN
AND MARKETING



UNBIASED



EXPERTISE



TAILORED



INSIGHTFUL



Email us at HQ@rocco.group
www.roccostrategy.com

ROCCO RESEARCH APPROACH



In 2023 the ROCCO Research team updated the way the research is presented by including a module and add-ons scheme. The aim is to provide more flexibility to our customers in a way that they can choose the insights that are more suitable to their needs. ROCCO's vendor benchmarking reports are now known as Market Impact reports and contain the following:

MARKET IMPACT

This module contains an analysis of a specific service from both the vendor and operator perspectives. With this information, the reader gets a deep understanding of the latest developments in a service, what vendors are offering and what MNOs need.

VENDOR BENCHMARKING

Detailed analysis of vendor performance which contains all the KPIs, value indicators and ROCCO's admiration quads.

REGIONAL ANALYSIS

Analysis of vendor performance and MNO market insights from a regional perspective.

HISTORICAL ANALYSIS

Analysis of vendor performance and MNO market insights from a 5-Year perspective.

Please note that ROCCO continues doing strategy reports covering specific areas (e.g. 5G Roaming). For further information please email hq@rocco.group



REPORTS RELEASED IN 2023

As of September 2023, ROCCO has released the following reports that cover topics and services from Roaming & Interconnect, Fraud & Security and Messaging. You can request our catalogue by sending an email to hq@rocco.group



RESEARCH SURVEYS



Since its inception in 2012, ROCCO has been conducting surveys for mobile operators worldwide. Over the years, ROCCO has become a platform where mobile operators can openly and anonymously share their views. With a core focus on Roaming, ROCCO also conducts surveys on Messaging, Interconnect or Fraud & Security.

WHY TAKING OUR SURVEYS IS IMPORTANT?

- You can rate telecom providers in an unbiased way across more than 30 KPIs.
- You can give feedback to highlight which specific areas need improvement.
- You receive an executive summary report in exchange for your contribution.
- By identifying what is working and what needs improvement, you are helping to move our industry forward.

SCAN HERE
TO PARTICIPATE



www.roccoresearch.com

ROCCO U



FILM NEGATIVE

1.1. ROAMING PROGRAMME

TRAINING COURSE

ROAMING FOR BEGINNERS

VERSION 6.2

LECTURER
DHIRAJ WAZIR, JASON BRYAN, SIBEL GAZOZCU & SIBEL GAZOZCU

2.1. ROAMING PROGRAMME

TRAINING COURSE

IOT NEGOTIATIONS

VERSION 3

LECTURER
DHIRAJ WAZIR

ROAMFEST REHEARSALS

ROAMFEST REHEARSALS

IOT NEGOTIATIONS PRESENTATIVE PUBLIC REHEARSAL

www.roccoeducation.com

3.4. ROAMING PROGRAMME

TRAINING COURSE

VOLTE ROAMING

VERSION 1.1

LECTURERS
DHIRAJ WAZIR

3.3. ROAMING PROGRAMME

TRAINING COURSE

5G ROAMING

VERSION 2

LECTURERS
JASON BRYAN & DHIRAJ WAZIR

1.1. INTERCONNECT PROGRAMME

TRAINING COURSE

INTERCONNECT PRINCIPLES

VERSION 1.1

LECTURER
KUSHAL SAREEN



FILM NEGATIVE

1.1. DIGITAL ADVENTURES PROGRAMME

TRAINING COURSE

CYBER SECURITY

VERSION 1.1

LECTURER
DHIRAJ WAZIR

oda

1.2. DIGITAL ADVENTURES PROGRAMME

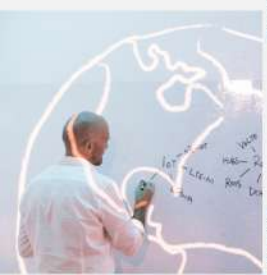
TRAINING COURSE

ED TECH

VERSION 1.1

LECTURER
DHIRAJ WAZIR

oda



FILM NEGATIVE

1.6. DIGITAL ADVENTURES PROGRAMME

TRAINING COURSE

MOBILE IDENTITY

VERSION 1.1

LECTURER
DHIRAJ WAZIR

oda

1.7. DIGITAL ADVENTURES PROGRAMME

TRAINING COURSE

EXTENDED & VIRTUAL REALITIES

VERSION 1.1

LECTURER
JASON BRYAN

oda



FILM NEGATIVE

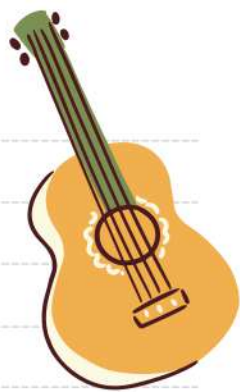
CATALOGUE



IDEAS...



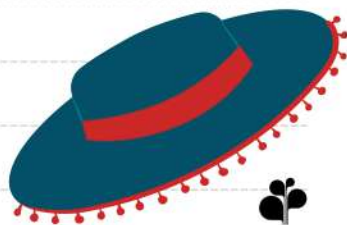
IDEAS...



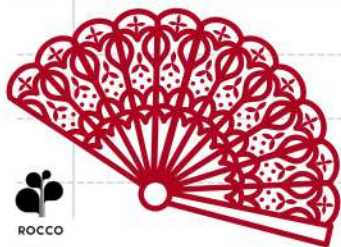
IDEAS...



FOLLOW UP WITH: X ABOUT Y

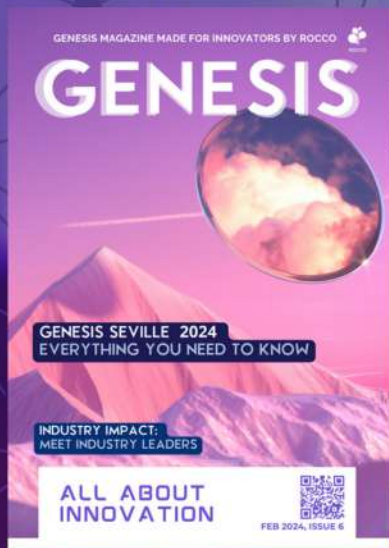


FOLLOW UP WITH: X ABOUT Y



THANKS FOR READING!

**GENESIS MAGAZINE IS
ALSO AVAILABLE
ONLINE AT
ROCCOGENESIS.COM**



**ISSUE 6
WILL BE PUBLISHED IN
FEBRUARY 2024**

**FOR ADVERTISING
OPPORTUNITIES OR TO
SPONSOR GENESIS
EVENTS PLEASE
CONTACT
HQ@ROCCO.GROUP**



SEE YOU AT GENESIS 2024

20TH AND 21ST MAY
2024 IN SEVILLE



© Copyright Rocco Group 2023
The information contained in this document
may be subject to change without prior notice.

© ROCCO Group 2023