



Cornel Bărbuț, Vice President AFOR,
President ASOR, Romanian Fibre Optic Museum

By Melissa Cogavin, Managing Editor, SCTE

Cornel Bărbuț is a man of many talents. With a background in telecoms engineering, Cornel has 30 years of experience in telecommunications, especially in fibre optic networks. After working for SIEMENS for over five years including two years in Nigeria, then seven years with private telecoms operator RCS&RDS and Neticity Telecom, Cornel set up Vegacomp Consulting, focusing on fibre optic networks, with a particular interest in IoT solutions and smart cities.

He opened a fibre training centre in Vinkovci, Croatia in 2022 and has moderated workshops for the FTTH Council Europe Conferences over the last few years. Cornel has also acted as Vice-President of AFOR – Romanian Fiber Optic Association since 2012, as well as member of the Technical Committee no. 138 – Fiber Optics in ASRO (Romanian Standardization Association) and he represents Romania at CENELEC meetings. He recently opened the world's first Fibre Optic Museum in Bucharest and is a regular host and organiser of the annual Romanian Fibre Optic Conference.

To what exactly do you attribute the impressive roll out of fibre in Romania? You're way ahead of many other countries.

CB: The UK and Germany are sticking to their existing copper network, whereas in Romania we decided to lay a fibre optic network as a backbone in 1998 and began work on that in 1999. In Romania the cables were aerial and there was a lack of legislation so a lot of small ISPs installed fibre optic cables on poles around the country. 20 years ago in Bucharest alone there were 200 ISPs; now there are only around 20.

200! Presumably they consolidated?

CB: A lot went out of business. They got out because of a project with the metropolitan fibre optic underground network Neticity in Bucharest. Before Neticity, ISPs were laying aerial cables without paying anything for pole rental, but then they had to pay rent for using microducts for their fibre optic

cables. A lot of them suffered as a result; they went bankrupt and some of them left the country.

So prior to 1998, if there was no copper cable, what was there?

CB: We had Romtelecom, like BT in the UK, and they had a lot of copper cable, but they removed them around 5-10 years ago. RCS&RDS (DIGI) were able to push ahead from 2000 towards a full fibre optic network in competition with the incumbent operator and Romania was able to advance directly into higher speeds with the newest technologies.

The revolution enabled a 'ground zero' telecoms landscape, so Romania was able to leapfrog a number of painful stages the rest of us had to go through and are still living with?

CB: Exactly right.

At your event I was fascinated to hear Adrian Răcășan from Nectcity Telecom describe the long shadow of Soviet rule - as far as the exterior of Romanian buildings is concerned - as a way of explaining the issues the country faces with unsightly cabling, which is prevalent all over Bucharest. What do you think is going to help change this attitude?

For background: It was explained to us by Adrian that historically, the only spaces that Romanians could call their own were the interiors of their own homes, and even after the fall of Communism and Romania welcomed capitalist society, it is still seen even now that the maintenance of the exterior of one's home is someone else's job – the government – and this has been a hard habit to break. Consequently cabling is a mess, as is the more general building maintenance in privately owned homes. – Ed.

CB: It's a big issue in Romania because more than 90% of Romanians own houses here. In places like Switzerland, 90% rent their homes, but in Romania it's a big problem.

That's quite a mountain to climb.

CB: It also extends into the fibre roll out. We had the biggest

private public partnership in Romania; historically that only affected public areas, but this involved going inside people's homes for the first time. Homes are private, so you need a special permit and an owner permit.

Was there resistance to that?

CB: I'm afraid so; people were worried letting engineers into their homes would cause damage, so all that happened was migration of cables from poles to people's fences instead. In other countries all the cables lead directly inside the houses/buildings and not at the box on people's fences.

In the streets of Bucharest 1700km of cables have been laid out of a total of 5000km. They've got another agreement with a French investor to grow up in the next 3 years to reach up to 3300 km of fibre optic network in Bucharest.

In Bucharest, like any city, cables should really be underground, so we have that to contend with anyway, but getting into people's houses is the biggest issue. In my house I put a handhole in which the cable comes from outside, from the city, so the infrastructure comes to my home.

The ODB connection box is at the back side of the house where it's not visible; so you don't see anything on the front. I had issues with my neighbours because of this; I advised them to install the connection box on the wall of their houses inside their premises, instead of installing on the fence. One said yes, the other said no, he didn't want any help. You can see there is a lack of consensus and education. At some point in the future they will see that cables are not nice, but this lack of consensus and general selfishness is a problem. It's preventing progress.

Your museum is in its infancy, but your enthusiasm is infectious. What does success look like for you, and how far into the future are you looking?

CB: I built it because it's a question of legacy I think; this is what I lives on after I am gone. The museum should be like a treasure, it's a future heritage for future people. For education, for communications.

My plan for the museum is to stay here at this site at the Technical Museum for a year or two as we generate more interest. And within the next five years we plan for this museum will have his own site; by then I want it to be well known, at least in Europe.



The history of fibre optic technology is not that substantial, but I see this museum having two parts; one is a fixed museum, which will still be in Bucharest, and the other one will be a portable, touring exhibition, which will circulate around the best technical museums in Europe. I would like this to be a museum of the future. It is not only of the past, of the history of the last 50 years.

Who will be working with you on this?

CB: I'd like to have a board of directors, made up of advisors from other science and technology museums such as the PK Porthcurno Museum of Global Communications in the UK, or the Science Museum in Valencia. Ideally the board would have meetings every quarter and create a future strategy and a series of actions proposals. So far I've visited eight museums in the last year as part of my research. It's ongoing.



How did you get started? You seem to have your fingers in lots of pies.

CB: My first job after I finishing university was working in a company whose CEO went to the US for fibre optic training, and he gave me a book when he returned. Look, this book called "Fiber Optic" is in English, he told me. Your first job is to translate it into Romanian. It was a good experience to get the basics on fibre optics, and to find the right words in Romanian. It was a very technical piece of work.

I moved to Siemens in Bucharest from '95-98, then I was at Siemens in Nigeria from 99-01. I then worked as a fibre optic engineer and Infrastructure Manager for RCS&RDS, a Romanian telecoms operator.

I spent some time at Nectcity and then I set up my consultancy, and I started fibre training as a business, but found at that



time that companies didn't want to invest in training people. In Romania, they were afraid that if they train engineers up, they would lose the people – they become qualified and head off to better opportunities overseas, either in the UK, Germany or France for example, for bigger salaries because by then they were fully qualified engineers.

I was among the founders of AFOR (the Fibre Optic Association of Romania) and more recently, as president of Technical Committee 138 – Fiber Optics of ASRO, the Romanian Standards Association. I also represent Romania at CENELEC for standardisations meetings.

How did you get the conference off the ground?

CB: The conference was a group effort. I set the association up because I realised after contacting former colleagues that they were reluctant to engage while I was working for NetCity. It was difficult to gain any traction. When I asked what was going on, I was told that company policy prevented them from getting involved, that my Neticity credentials were causing problems.

You weren't impartial?

CB: Exactly. My association with NetCity, a commercial entity, caused a conflict of interest. So it was around then that I decided to that we need an association to create an agnostic, technical community.

The industry has been very good to me over the years. The conference and the museum emerged out of all that experience; I wanted to bring together the expertise and knowledge across the entire industry, take stock, look collectively at where we are and work out where we are going next. I think we achieved that and the fibre optic museum is a way to look at this growing industry.

