



BRISTOL: MANAGING MULTI- AGENCY, INDUSTRY PARTNERSHIPS TO GET SMART

Until recently, Paul Wilson was Managing Director, Bristol is Open – a real pioneer in partnerships, taking a far-thinking and unique approach to being smart, and helping others become smart too. He talked to TM Forum's Head of the Smart City Forum, Carl Piva.

Carl: Tell us about your city.

Paul: Bristol a city in the southwest of England with just under a million people. It is the second wealthiest city in the UK after London. It has a bit of a radical edge – a strong university with lots of young people. It loves tech, it loves music, it loves food.

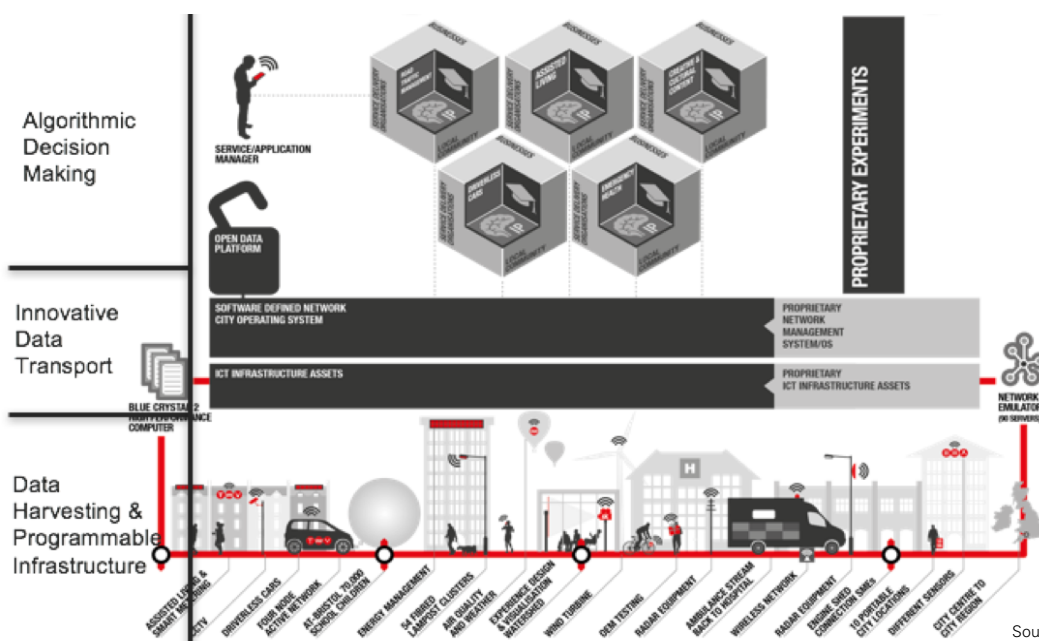
We got excited about the whole smart city thing and did something unusual – we decided to create our own R&D testbed that could be used by the whole world, in Bristol. We upgraded the fiber in the streets. We built a wireless mile of 5G technology. We put a mesh network across

the city and enabled lampposts and other fixtures for free Internet connectivity.

Then we worked with a whole bunch of agencies in the city, including those for the [@Bristol Science Centre](#) where we upgraded the planetarium to be a 4K Ultra High Definition, 360 degree-view dome, which is spectacular. We began to show 4K content across the whole city using some BBC technology and experimenting with the BBC.

Our whole approach was experimentation as a service (see Figure 1).

FIGURE 1: BRISTOL IS OPEN – EXPERIMENTATION AS A SERVICE



Source: Bristol is Open

As shown in Figure 1, we have a top layer of decision-making using algorithms. Then we have a software-defined network (SDN), then virtualization optimizing the network, then all the things in the city we enable through this infrastructure. This was not just for the city council's benefit. It was for everyone involved – the hospital, the small startup, you and me. The SDN allowed us to slice and dice the entire digital infrastructure.

Carl: What does experimentation as a service mean, especially in the context of industrial partners?

Paul: We formed a long-term relationship with NEC, Nokia, Zeetta Networks and InterDigital, and they've been proving out our technology offerings at city scale in our testbed. Another aspect is that this represents a lot of legal work – more than 20 different legal contracts, which in itself required setting up a company as a vehicle to do it.

Carl: Looking back, what were your big learning points?

Paul: The most challenging thing of all was agreeing what we were trying to do, because we couldn't copy anyone else on anything, because no one else had done it. So getting a united vision was hard.

We were also working with five different stakeholders, the Council, the University and three others. Getting a consensus among the ecosystem was a challenge. Getting money to do it was a challenge. And we had to convince all our stakeholders that we knew what we were doing; sometimes we did know and sometimes we made it up.

Carl: Last year, you joined our leadership team on smart cities...

Paul: Yes, I came here last year and was astounded. About five cities joined the Forum's leadership team and as part of that, suggested the Smart City Maturity Model to us. I was amazed because of all the links back to best practices

from people like International Standards Organisation, the British Standards Institute, United Nations and in fact every organization I'd come across in the context of smart city best practices.

Over the summer, you and I began developing it into an app, which will be easy to use, built on interesting visualizations. As you work through the different aspects – security, privacy, digital inclusion, how many resources you're using – you can assign responsibilities within a team and build consensus locally about what's going on.

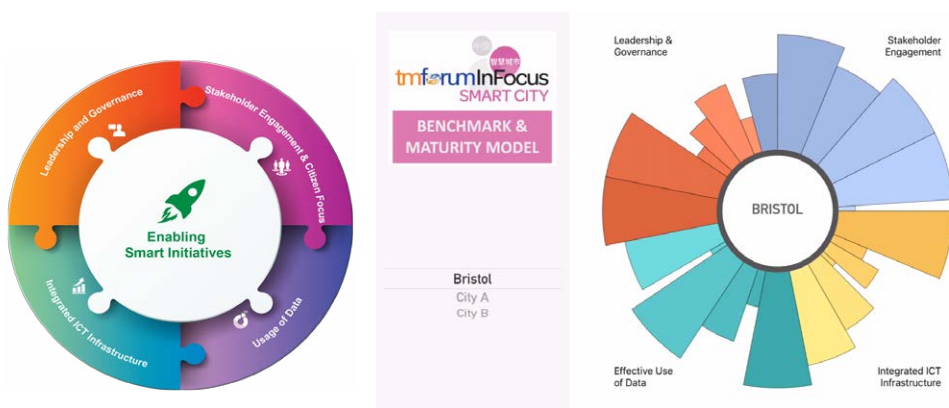
In Figure 2, you can see the different areas: Maybe you have 20 people in your team and you can see where you have got agreement and disagreement or gaps. The challenge of working across organizations, when they are not in your hierarchy, you're just influencing and building a coherent strategy is critical to success.

This model is a great way to make it a team, vision-building and monitoring exercise. Over time it will become a great resource for a city to learn from others. Now I've left Bristol is Open, I'm looking forward to working with more cities around the world as we work to build more standards and consensus.

The model is supported not only by TM Forum, but by the Smart Cities Council, the Open & Agile Cities initiative, local governments, the City Protocol Society and many others. We want to promote the model so it becomes a successful recipe for cities to get to a good place quickly. Then you can always add your own uniqueness on top ([see page 27](#) for how the city of Atlanta has used it to prioritize investment).

We really understand that every situation is a little bit different, so there is flexibility in how you use it – it's a lot more useful than filling in a form.

FIGURE 2: TM FORUM MATURITY & BENCHMARKING MODEL



Source: TM Forum, 2016