

Blockchain, IoT and Smart Cities: Collaboration is the key to realising a huge opportunity

A panel discussion on blockchain and the Internet of Things (IoT) emphasises the need for firms of all shapes, sizes and sectors to collaborate when it comes to creating Smart Cities.



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David Palmer -
Vodafone

Answering the big questions on blockchain and Smart Cities

As a society we’re more than used to having technology as a driving force in our lives. From the smartphones we carry around with us to the apps we use to stream entertainment or bank online, we’re no strangers to the digital world. But how will our lives change when Smart Cities built on digital tech become a reality?

Smart Cities are urban areas that use electronic IoT-enabled sensors to collect data – using the insights gained from this information to manage resources and services efficiently. We might see some of this technology in various places already, but the difference with Smart Cities is that they’ll connect all the services we use. This encompasses traffic and transportation systems, power plants, utilities, water supply networks, waste management, crime detection, information systems, schools, libraries, hospitals, and other community services.

It’s set to be a huge shift in how we interact with urban areas, which is why it raises so many big questions. What will be the technology that sits behind Smart Cities? How do we build them? Who will build them? What do they mean for businesses? And what impact will they have on citizens?

That’s why, on 5th March 2020, Invenica hosted a live broadcast from Blockchain Connect at Dogpatch labs in the heart of Dublin’s tech innovation district. Entitled Smart Cities: The facts of IoT & Blockchain, the webinar explored the fact and fiction behind the IoT and blockchain technologies, what Smart Cities mean for people and the environments we live in, and what products and services are in development to create true Smart Cities.

It was a fascinating exchange of expertise, with our panel featuring David Palmer, Blockchain Lead for Enterprise IoT at Vodafone; Thomas Spencer, Business Development Director and Telco Lead at R3; Gareth Mee, CEO of Invenica; and Mike Wilson, CEO & Founder of ditto.



“Data is digital gold.”

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Building Smart Cities on connectivity and trust

As an opening to the discussion, David Palmer explained that the key to Smart Cities is data. “Data is digital gold, yet 75% of the data in organisations isn’t utilised,” he said. “It’s a huge loss for any business in terms of realising business automation, improving services and using resources more effectively.”



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R3

This approach will have to change as Smart Cities develop because their entire existence will revolve around the data that’s created, collated and analysed by every connected object in them. For David, connectivity will be the driving force behind this data flow, which is why Vodafone is heavily involved in their development.

“Connectivity allows sensors on things in Smart Cities to provide the information that can drive business models,” he says. “When we look at Smart Cities, it can be a range of examples such as smart streetlights, smart parking, smart supply chains and digital buildings. All are powered by connectivity.”

It’s one of the reasons he’s excited to see the implementation of 5G networks. “In the future, we can expect to see 5G, providing us with faster connectivity, lower bandwidth and lower latency for mobile communications,” he says. “Behind a lot of these solutions will be a digital identity, married with the data that’s coming from the various sensors. That’s why, going forward, our strategy is ready to drive the adoption of this through the SIM card.”

Connectivity is just one technical element involved in building Smart Cities. Creating trust between entities is another – and one that Thomas Spencer sees as a job for blockchain technology. “One of the key benefits of blockchain is that it gives us the ability to enable trust between inherently non-trusting parties,” he says. “When you have that technical platform and apply the logic to the world of IoT, it’s about extending that capability to the edge and building device-to-device trust where there would otherwise be none.”

This highlights the need for collaboration between firms, sectors and industries to drive the transformation. “We’re seeing a real convergence of industries driving innovation forward,” explains Spencer. “It’s not always happening in silos. For example, it narrows down to insurance companies who are driving a lot of the innovation due to the combination of IoT, blockchain and connectivity. They’re then able to support a range of industries providing new services.”

Creating products and services with a focus on citizens

One of the major focus areas for any organisation involved in creating Smart Cities is the development of products and services that work efficiently and in a way that provides value for citizens. According to Gareth Mee, it’s why ID is such a key part of the Smart Cities puzzle.



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Mike Wilson -
ditto

“Blockchain lends itself well to facilitating this,” he says. “And we’re working with commercial and government organisations to explore and implement blockchain for identity solutions. In Estonia, it allows people to do things like vote, poll and get civil partnerships online.”

Again, though, he stresses that it comes back to the needs of citizens. “It’s not just blockchain,” he explains. “We’re talking about convergence between blockchain and the IoT – along with AI and machine learning. How does that enable the citizen to access services that are more efficient, economical, sustainable and secure?”

Mike Wilson agrees that there needs to be more of a focus on citizens and the value they get from living in a Smart City. “I think this idea of continuous intelligence and control are the areas that are being invested in – a stream of content that enables predictive analytics and control,” he says. “But this is from a Smart City perspective. From the point of view of a Smart Citizen, I think we deserve more than bikes, bins and benches. I’d like to see citizens empowered by this with this trust and seamlessness.”

He also highlights the darker side of this continuous data flow between city and citizen. “Look at the example of Jeff Bezos’s phone being hacked,” he explains. “There’s a huge trust issue with data, and we’re looking at giving up more data in a pervasive way across each city and citizen. I think that trust needs to be earned further.”

It’s an important topic to touch upon as the further digitisation of services creates more and more data about each one of us.

Why private sector involvement is vital

Another key point that our panellists discussed was the commercialisation and monetisation of Smart Cities. As Gareth Mee asked: “Who pays for and invests in the Smart Cities?” For him, it’s about creating an ecosystem that includes government and business in a way that works across borders.



“We have to make sure Smart Cities work in unison.”

Gareth Mee -
Invenica

“It’s great to see governments and councils investing in this, but we need to accelerate that,” he says. “To make it work, it’s about how we get private firms involved. To create an ecosystem that delivers a service to the smart citizen, you have to involve government and business – that’s how the model’s going to succeed.

Creating clear and open standards is also a vital element in these ecosystems learning from and sharing with others. “We have to make sure cities work in unison,” Mee continues. “How do we create an open standard that allows people to share apps not just within the city, but from city to city? We’re effectively talking about a marketplace that needs to be created.”



“What keeps us up at night is thinking about the value chain.”

David Palmer -
Vodafone

Monetisation of Smart Cities will play an important role in bringing private investors to the table, but the path to this is unclear. “I’m unsure from an investor’s perspective that we’ve found the sweet spot between 5G, IoT and blockchain,” says Mike Wilson. “I’m unsure how companies like Vodafone can make money there. It’s difficult and they’re leading the way on this, but it requires a change of business model – they can no longer make money out of minutes and data bundles.”

Addressing this, David Palmer pointed to a greater shift in how Telcos approach business. “Vodafone and other Telcos are investing heavily in the transformation from telecommunications to tech,” he says. “What keeps us up at night is thinking about the value chain. We understand that connectivity is an important part of that, but also vital is app enablement, app services and value-added services on top of that. Traditionally, that has been monopolised by the internet companies and part of the challenge is how we start to provide services and applications on top of 5G.”

It shows that, while the concept of Smart Cities offers a new world of opportunity, there are plenty of challenges for established firms to overcome if they are to thrive as a central part of our new ecosystems.

Defining a framework for Smart City deployment

It’s all well and good discussing the technical ins and outs of Smart Cities, but – as mentioned earlier – the truly essential components that will decide how everything works are the citizens themselves. Products and services will be designed around how people use the technology involved – with the aim of providing value to citizens (most often in the form of convenience).

But how do we combat the side of Smart Cities that’s seen as negative? How will people react to their picture being taken everywhere? And how do you manage their expectations in this area? Thomas Spencer believes regulation will be a decisive factor in the implementation of smart technologies across cities.

“It’s difficult to see the roadmap of how this tech is going to be deployed at an individual retail level without the frameworks initially set by regulators,” he says. “At the citizen level, it might need to be done hand in hand with regulators – they play a major role in defining that framework.”

It’s also why he predicts a focus on B2B implementation in the shorter term. “My expectation over the next 3-5 years, is that you’re going to see most of the activity



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R3

at the enterprise level,” he explains. “That’s where it’s much more viable for these technologies to be implemented and to start generating business value. You can see that happening in fleet management, automating supply chains, improving energy management and consumption.”

It’ll be fascinating to see what frameworks emerge as Smart Cities develop – and how these shape interactions with Smart Citizens.

Driving collaboration for a digital future

Creating a whole new way of life through Smart Cities won’t be quick, and it won’t be easy. But, as our panellists have pointed out – there’s a huge opportunity at enterprise and community levels. Everyone’s grappling with the problem of not only how to create the technology needed but also how to connect it in a way that’s transparent and establishes trust.

Regardless of organisation type (whether start-up, established or regulatory), firms have to be prepared to collaborate a huge amount. It’s all about building digital trust between firms, and you can’t get to the stage of implementing the technology until the collaboration is there in the first place. It really needs to be baked into your thinking from the very start.

This is why concepts like Invenica’s iLabs framework is so important in driving the digital transformation needed to deliver true Smart Cities. Bringing small and large organisations alike together to ideate, innovate and incubate new products and services, it’s yielding results. There are already projects and practical use cases in this area that will form the foundation of tomorrow’s Smart Cities.



Find out more: Listen to the full panel discussion with Invenica [here](#) and discover how Invenica can help you collaborate on projects and products that will be essential to the running of Smart Cities.

Discover how Invenica can help you collaborate on projects and products that will be essential to the running of Smart Cities.

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