



FEATURE

Why finding blockchain talent is hard, and what to do about it

There's a blockchain skills shortage, but companies can fill the gap if they know how.

By Dan Swinhoe

IDG Connect |

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Blockchain is one of the hottest tech trends in the world today. But finding the right talent with the prerequisite skills needed for mastering new tools and blockchain technology is a difficult task.

So what kind of skills should companies be looking for and how they can find the right talent?

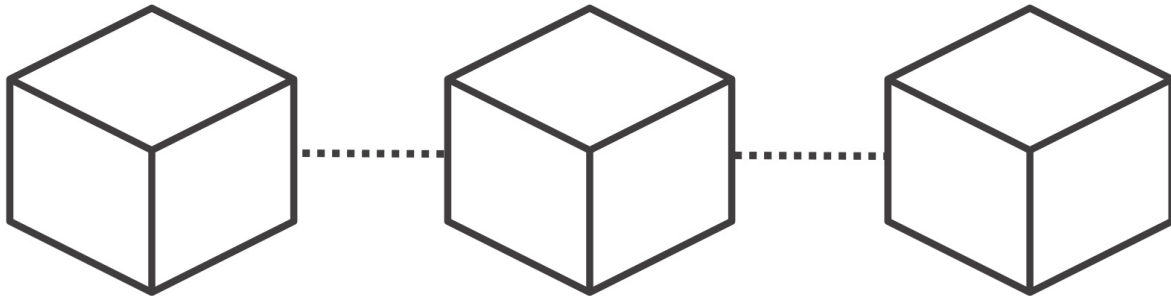
[Further reading: Why a Walmart VP had a 'religious conversion' to blockchain]

Demand for blockchain talent is high

There's no shortage of activity around blockchains and distributed ledger technology. In an IDG Connect survey of 516 European IT professionals across multiple industries including finance, health, and retail, 38% said blockchain would have an "extremely big effect" on them as a professional. Other studies suggest areas such as supply chain management and energy expect blockchain-like technologies to have a major impact on their operations.



WHAT IS BLOCKCHAIN?



IT INSIGHTS

What is blockchain technology?

Major companies including IBM, Microsoft and Baidu offer blockchain-as-a-service, while organizations such as Maersk, Samsung, British Airways, and FedEx are trialing ways to utilize blockchain technologies in their business processes.

In addition to the large firms looking to offer blockchain services, there are now at least 115 blockchain-related startups employing more than 2,000 people in the industry, according to EY, mainly based in the US (47%) and Europe (28%). The report estimated that once you include the large organizations also building large teams, the total number of workers is likely “in the range of several thousand.”

EY on the number of DLT startups over the last few years: <https://t.co/jJa9QEnKXr> #EY #Blockchain #DLT pic.twitter.com/wELHiwRB8d

— Dan Swinhoe (@DanSwinhoe) April 19, 2018

Is several thousand enough to cater to market needs though? According to a study by Burning Glass Technologies, job postings for blockchain-related jobs increased more than 100% between 2016 and 2017. As of now, there are well over 1,000 listings on UK job sites and more than 2,000 in the U.S. looking for blockchain skills. A study by Joblift found the UK has the highest demand in Europe, almost entirely centered in and around London.

In the U.S., How To Token reports that New York has the highest demand for legacy firms looking to utilize the technology (driven largely by its concentration of financial firms) while San Francisco is the home for blockchain startups looking for the right talent. Given the nascent nature of the field, experience is hard to come by.

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Challenges of finding blockchain talent

The market is trying to respond to this new need. Upworks' [skills index](#) – which rates the fastest-growing skills freelancers are adding to their repertoire – blockchain and Bitcoin were the second- and third-fastest growing skills last year. Given that this is a whole new market and required skillset, supply will have a hard time keeping up with demand.



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Ethereum is the 800-pound gorilla of blockchain platforms right now, according to Galen Moore, director of market research at blockchain advisory company New Alchemy.

"A lot of people are focused on hiring developers who can write Ethereum smart contracts, and those kind of developers are very hard to come by," Moore said. "There is a lot of learning to be done, and a lot of the problems that you see in the market are a result of people maybe not understanding as well as they should."

With new technologies often come new development tools, and blockchain is no exception. Developing decentralized apps (known as dapps) for Ethereum, for example, requires the use of Solidity (a new language loosely based on Java) plus its own development environment, compiler, scripting and testing tools, and frameworks. Solidity and other blockchain-friendly languages such as Serpent, Ivy, Simplicity, or LLL do not appear on the Tiobe, Stack Overflow, GitHub, HackerRank, or Spectrum IEEE lists of the most popular languages to use or learn.

As well as a dearth of certification schemes – and even fewer from industry-standard sources – there's a documentation issue. Where traditional open-source communities are usually keen to ensure a project or technology is well documented to aid and ensure outside participation, this is often not the case with blockchain-related ones.

"There's a huge learning curve now for blockchain developers and a real lack of documentation in this space," said Chris Trew, CEO of blockchain platform provider and consultancy Stratis.

"It's one of the challenges that we have to overcome most definitely, and it's going to help with onboarding developers."

In short, doing anything on the blockchain requires knowledge of a whole new suite of tools, all of them less than a few years old.

The cost of blockchain talent

If a company is lucky enough to find a developer with the right knowledge, however, it's likely going to have to pay handsomely for their services. Paying more than \$100 an hour for freelancers with the right skills is common, while the median income for blockchain developers in the U.S. is around blockchain developers in the U.S. is around \$130,000, higher than the average software developer salary. Many of the most experienced developers are simply unaffordable.

"I don't know any good Ethereum developer that isn't a millionaire," Aragon co-founder Luis Cuende said last year. Despite its recent tumble in value, early Bitcoin adopters have made healthy profits, and last year's ICO craze saw a number of Ethereum-based startups make millions – if not billions – of dollars in a short amount of time.

"If someone has been crypto-savvy for a couple of years, they're likely very rich, so they can work on whatever they want," said Moore. "The fact that people can really write their own ticket, not just in terms of salary but in terms of their own financial independence, is certainly a factor in the market today."

How to find blockchain talent and skills

When looking for someone to lead a blockchain-based project, what skills should you look for?



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"They require the basic knowledge of the blockchain," said Trew. "They have to understand the blockchain; what is a block, what's contained in a block, what is a transaction, what information does a transaction contain, how do I send a transaction? Once they understand those lower level components of the blockchain, they will then be able to go away and develop a dapp or application that utilizes a blockchain."

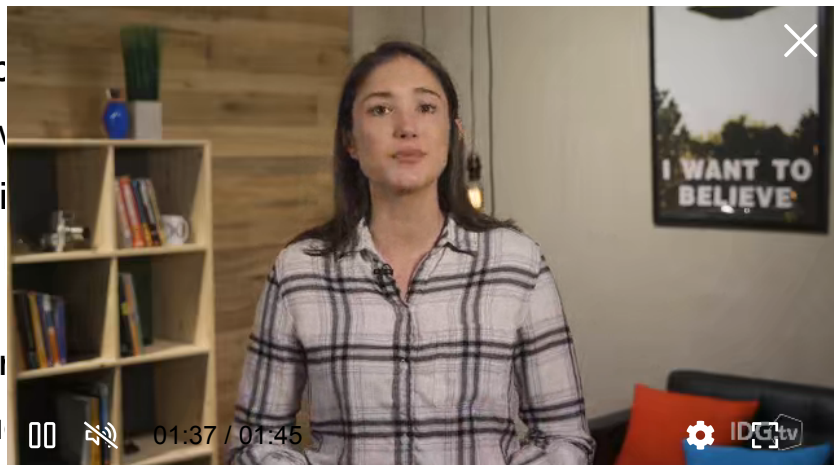
"You need to have been in the space," said Mance Harmon, CEO of blockchain startup Hedera Hashgraph. "You need someone who understands the value proposition of DLT and when it is appropriate. You don't need many, just need one that can lead and direct."

Both Harmon and Trew admit that it's difficult to find the right level of talent due. In the meantime, the options are either pay for what talent you can find or upskill what you already have.

At Stratis, Trew looks to hire C# developers and then train them in-house. Though it initially took an average of six months for them to get up to speed, that process has been streamlined down to three.

A number of smaller blockchain-b have popped up in recent years, w have all started offering blockchain talent, companies should instead

"If you're building for the long term industry, your market, your product can be learned," said Moore. "You don't hire for specific programming languages, hire for skills and talent and thinking ability."



Prior to New Alchemy, Moore was running a startup that built a financial research application focused on cryptocurrencies. Instead of focusing on people with knowledge of crypto, the company's focus was on who knew how to structure a traditional database and analyze information.

"That can be applied to any industry; if you're in supply chain you ought to be hiring people who understand supply chain and thinking about that probably more than you think about hiring people who understand blockchain.

"If you don't have that view into the market and your own industry, blockchain isn't pixie dust."

How blockchains are becoming more accessible

One way the market is moving to cover the shortage of skills in the blockchain space is not only to educate more developers, but to make the development tools easier to use.

Hedera Hashgraph's private blockchain offerings are written in Java, which the company said makes developing atop it easier. The Linux Foundation's Hyperledger project – the basis for many blockchain-as-a-service offerings from major companies – is written in Go and Java. And Stratis' platform is designed in C# and enables the creation of smart contracts and dapps in C# for both the Ethereum and Stratis blockchains.

"One of the problems with Ethereum is that because there's not a huge number of Solidity developers out there, sometimes there's not enough coding that's going on the smart contracts," says Stratis' Trew.

He said that this lack of experience and scrutiny with regards to things like auditing is why there have been so many hacks of smart contracts and dapps in recent years.

"Whereas with C# we've got all of these veteran guys that have been working with the language for a very long time that can do code audits, so we're hoping that it's going to make the system more secure," Trew said. "The other benefit is obviously the main development tool for C# is Visual Studio, it's the most mature IDE and development toolset out there.

"Everything on our platform development all happens inside Visual Studio. So you open up Visual Studio, you install a plug-in, and straight away you can develop smart contracts. So they're using familiar tools, whereas with Ethereum you're having to take tools from all over the place and there's no one view of everything."

In time, blockchain development will become easier while the number of people with experience in the field will reduce the crunch. For now, however, a company's best bet may well be to look for relevant experience internally and go from there.

This story, "Why finding blockchain talent is hard, and what to do about it" was originally published by IDG Connect.

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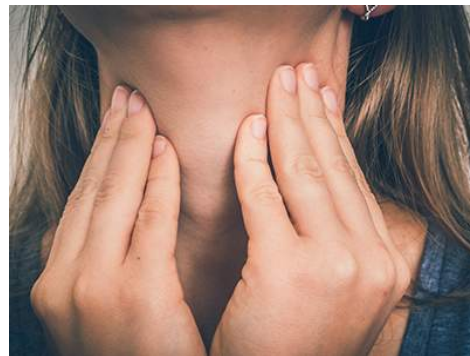
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