

by Eric Frank

How Cairn Oil & Gas taps its network of 2,000 startups to fuel innovation

Feature

04 Jul 2024 • 7 mins

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As the leading producer of crude oil in India, Cairn Oil & Gas is reinventing itself as a digitally enabled company, one that works in close partnership with a growing ecosystem of startups.



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Cairn Oil & Gas is on a mission to transform its value chain. Leading the charge is Sandeep Gupta, chief digital and information officer, who says the Indian oil and gas company is leveraging information technology and data as part of a massive transformation of its five core pillars: exploration for energy sources, surface, subsurface, asset optimization, and health, safety, and environment (HSE).

For HSE, for example, Cairn has rolled out a system for AI-based safety surveillance that ingests a feed from CCTV cameras.

“If somebody is not wearing a hard hat at our site, it will automatically detect that there is a violation and almost on a real-time basis send an SMS to the HSE manager for that area,” says Gupta by way of example.

The safety violations that the model can detect are complex, such as a truck reversing without a guide. Gupta says the model can detect more than 20 different safety violations, a number that will increase as the algorithm matures.

Even more notable about this system for AI-based system surveillance is its source. Cairn did not develop the technology in-house, nor procure it from an established B2B provider. Instead, the solution came from a startup.

While banks might be expected to work with fintechs or agribusinesses with agritechs, most people don't typically associate energy companies with startups. Cairn is bucking this trend: Gupta says that startups are a key part of the organization's strategy.

Whenever the company encounters a business problem or needs a new technology, Gupta says Cairn will distribute a one-page challenge to startups in their network that invites them to address it.



SANDEEP GUPTA, CHIEF DIGITAL AND INFORMATION OFFICER, CAIRN OIL & GAS
CREDIT: SANDEEP GUPTA / CAIRN OIL & GAS

“Do you guys have a solution? Do you want to do a POC [proof of concept] if you’re interested? Come over, show us that this is working in a short period of time. If we are convinced, we’ll give [a contract] to you and we will scale it up,” he says.

Gupta’s mention of “scale” is not lip service to startups hoping for growth through lucrative enterprise deals. When Cairn Oil & Gas first worked with the provider of the AI-based safety surveillance several years ago, it was still very much a startup. Cairn even engaged them for something different than their current offering, tapping them for a drone-based survey of the organization’s assets.

Now Gupta is not even sure the “startup” label would fit them. “I don’t know where you would classify them, but they’re almost a billion-dollar company now in five years,” he says, pointing out that “unicorn” might be more appropriate.

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Ask a question

ASK

Adopting an agile mindset

For large enterprises to work successfully with startups in piloting new technologies, Gupta says they need to rethink company processes. He gave the example of procurement.

“When we started with startups, we were evaluating them just like we did major organizations. Do you have five years of history? Do you have *this* million of revenues? No, startups will never have that,” he says.

Cairn shifted to a more agile procurement process, which could start with a proof of concept as low as US\$10,000 and scale up into a larger contract, one that could have a variable component tied to success criteria.

Cairn has over 2,000 startups in its network. Gupta says that the company has done 20 POCs with these startups, and around seven or eight have scaled up.

Although the responsibility for growing and maintaining this community falls at the group level, Gupta says he has soft targets for engaging startups in his capacity as chief digital and information officer.

For IT leaders looking to work with startups, Gupta says they must act differently than they may be accustomed to. With established vendors, CIOs can be hands-off, since the service is completely outsourced to them or the product is already provided out-of-the-box. In contrast, Gupta says that CIOs and their teams must be highly agile and collaborative with startups.

He gives the example of a founding team that may have technical expertise but lack domain knowledge about your sector.

“They are the champions and the masters in the technology. But then somebody from the business will have to sit and understand and say, ‘No, this is wrong; this is right.’ So that entire learning process of an AI algorithm has to have multiple rounds before these required accuracy comes in,” he says.

Other times the scope of the collaboration is centered on customization.

“There are some cases when they have a built-in solution and we can very well just use it. But most of the startups are evolving. They are developing their products or their solutions. So we have to work and give them the feedback to customize it as per our needs,” says Gupta.

Gupta gives the example of a startup that can detect anomalies from instruments through sensors. Cairn Oil & Gas worked closely with them to develop an IoT-based system to monitor their 175 steam traps, which previously required regular checks to maintain.

“Now the team sitting at the control center has to track all of these 175 sensors. They can track it and tell which one is working without the need to revisit these on a periodic basis. And they can almost on a real-time basis tell, ‘Okay, this one has gone bad, go and replace this,’” says Gupta.

A single-page playbook

Unfortunately, not every enterprise has a network of 2,000 startups like Cairn Oil & Gas to call on to help solve every unique business challenge. Gupta recommends that enterprises leverage existing networks, giving the example of the National Association of Software and Service Companies (NASSCOM) in India.

“Tap into that ecosystem where you can supplement the talent. So you don’t have to build it from scratch for yourself,” he says, noting that this strategy will help enterprises get quicker results.

And how should enterprises work with the startups it meets through these existing networks? There are, after all, endless ways that enterprises can work with startups, including everything from corporate accelerators and pitching competitions to thematic conferences and weekend hackathons.

Gupta advises enterprises to go with one of two approaches. The first is the simplest.

“One is you have a specific challenge. You already know there is a problem. You pass that problem to the startup,” he says.

The second approach is broader and best executed through an ideation workshop, where the business will present a range of challenges to a selection of relevant startups, such as ones focused on asset optimization.

Gupta says that the business will circulate a one-page template that notes their key challenges, available data, and success criteria.

“Whatever you know at this point of time, it’s very initial, but at least present, so that [startups] can then prioritize it, and see what are the top two or three which [they] want to select,” he says.

With these two approaches, Cairn Oil & Gas has found many partners, including a startup that provided an AI-based forecasting model and another that has provided 350,000 RFID tags to track and trace its inventory.

Some enterprises may fall into the trap of working with startups for the sake of saying they are working with startups. Because the organization’s startup partnerships are tied to specific problems or challenges, Gupta says that there is always clear value.

“It’s not a technology showcase. It’s a close collaboration with the business, and we are confident to say that business has actually benefited through all of these initiatives,” he says.

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