

Using an IoT Platform to Optimize Enterprise Operations for Renewable Energy Power Plants and Agriculture



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CEOCFO: Mr. Barat, what is the idea behind Infiswift, Inc?

Mr. Barat: At Infiswift we are focused on really bringing the innovations of IoT and modern data technologies to verticals that are starved for IT driven solutions. Companies are looking to optimize the use of their assets and understand the value of doing real-time sensing and real-time analytics to optimize the performance of their operations. However, achieving this optimized performance using IoT isn’t easy. Some challenges include a lack of good, easy-to-use platforms and tool sets, and a lack of adequate internal investment to derive the full benefit of IoT. What most companies bring is strong domain expertise and an understanding of what they want to accomplish. We help them connect the dots.

CEOCFO: Are there certain industries that are more starved than others? Are there industries of specific focus for you?

Mr. Barat: Yes, absolutely! We are particularly focused on several verticals, clean energy being one of them. It is something that we have a tremendous amount of in-house domain expertise in with over 85 years of industry experience. We understand the deficiencies that currently exist in the industry in terms of being able to use their assets optimally. A typical renewable energy power plant, be it solar or wind, is designed to operate for fifteen to twenty years, which obviously requires a lot of situational analysis, tracking of assets, performance optimization, targeted operations and management; and that is where we come in. This is one industry that we are very focused on. Another one, which again is seeing a whole new wave of innovation that we are at the forefront of is agriculture. Commercial agriculture is ripe for IoT driven sensors and technologies that allow them to do more precision agriculture, improve some commercial farming processes, and make better use of very narrow harvest windows. That is where we come in; working with the customer to provide industry-specific asset management and process optimization.

CEOCFO: *Infiswift recently launched your latest version of your latest IoT optimized platform. What has changed? What is better today?*

Mr. Barat: The core of our offering is our platform on which IoT solutions are built. What we have done in our newest release is written, from the ground up, a new message broker, which is really the core of any IoT platform. It is the part that ingests an enormous number of messages from different sensors and different devices out in the field, processes them, does some inline analytics and then targets those messages to consumers. The key benefits of this rebuilt architecture are performance, scale and edge capability.

Performance: The infiswift platform gets data where it needs to be fast. Our optimized IoT platform is able to distribute messages in 300 microseconds, which is over 600x faster than the average human response time to visual stimulus, so it's really fast! The platform is ready to power the most demanding, enterprise-grade IoT implementations.

Scale: The platform was architected to perform even at extreme scale. We have several patents pending that allow us to maintain peak performance even at hundreds of thousands and millions of devices. In the benchmarking test, there was virtually no dropoff in performance from 1 to 50,000 devices.

Edge capability: Many customers also look for some balance between cloud and edge architectures, and another really great benefit of our platform software is that we can run a light version of the software on very low-power edge devices or gateways. This fully capable implementation allows users to broker messages, run inline analytics, and even build rules to take action on the data. The really efficient operation of our platform software makes this possible on power-constrained edge devices and gives full flexibility to each project.

CEOCFO: *Would you give us an example of where that comes into play?*

Mr. Barat: Imagine a scenario where you are doing, let us say, a lot of remote sensing on a large commercial farm and you have a huge number of sensors that are deployed in the field collecting environmental data such as soil moisture, temperature, humidity, etc. This data would typically impact how you operate the farm. That data needs to be transmitted either to the cloud or a local site that can use it to make decisions such as: *Should we fertilize the farm, Is the crop ready for harvest, Do we need another truck ready to ship more of the crop.* Those decisions yield better results with real time data rather than walking around once a week to manually collect the data as is often done now. The amount of data points needed to properly make these decisions also means there's a lot more data to collect to reach a better-informed decision. Therefore, the core software platform that gets data where it needs to be and enables application development on top, is critical. We believe we have the industry's fastest platform; one that is capable of processing and transmitting data in real-time at significant scale.

CEOCFO: *How are you reaching out to prospective clients? If someone is looking, how would they find Infiswift? How can you jump off the page in a general search when someone is interested?*

Mr. Barat: I think what sets infiswift apart from many other IoT platform providers is that we are not generalists in the market. We do not have a generic platform for anyone and everyone to use. We target our go to market by providing IoT-based solutions that are specific to the needs of specific industries like energy, agriculture and manufacturing. We generally work with customers in these verticals very closely to develop custom solutions that they would be unable to get from the rest of the

industry. We often leverage our in-house industry experts to engage with customers at a very early stage in co-developing IP. The types of customers we have engaged with include original equipment manufacturers, solution providers and other industry players.

CEOCFO: *Do you work directly with the end customer at all or is it through others?*

Mr. Barat: Our path to market is to add the value of IoT to supplement existing solutions. Typically, our customers are providing value added solutions within the industry and looking to improve their offering with IoT. Through these engagements we do interact a fair deal with end users of our customer's industry-specific solutions.

CEOCFO: *How have you made it easy so that a company will want to include your solution?*

Mr. Barat: There are a couple of things. One is, depending on the industry, we are not simply an IoT platform provider. We provide the entire IoT stack that is necessary to complete a solution. That means we support customers all the way from providing hardware and firmware to the communications layer that goes between the sensors to the brokering technologies, data aggregation, analytics and visualization. We provide soup-to-nuts IoT. The typical experience today is to assemble a lot of off the shelves software components based on one IoT platform or another, but it still requires a significant amount of integration for end users. We remove that challenge by providing a complete end to end solution that is developed for the customers, not a general use case. What allows us to do this is that we are fundamentally solving the problem of efficient asset management using IoT and this can be applied to each of our target industries.

CEOCFO: *How is business these days?*

Mr. Barat: Business has been great. We are a year and a half old. We formed in 2015, and in that year and a half we have established ourselves as one of the technology leaders in this space, especially with our new platform release. We have been able to develop some very important partnerships in geographies that are of great interest to us. We are already in a stage where our product is being used out in the field and by commercial customers. So really, things are looking very positive for Infiswift. We are quickly transitioning from the stage of having an idea to commercial execution to now positioning ourselves for very rapid growth for the remainder of the year.

CEOCFO: *What surprised you throughout the process?*

Mr. Barat: That is a good question! Deep down inside we are technologists who recognize that there is an innovation gap that we can very effectively overcome with some of the IP that we've developed. Because of this, we were focused very heavily on the technology side of the business when we started, but we quickly realized that even more than the technology, it was specific solution gaps within these industries that got to the crux of most customers problems. Most of our engagements so far have been very, very driven by the specific needs of the verticals and a specific challenge they needed to overcome. This is key to make any kind of platform technology truly meaningful and is something that really impacted the way we grew this past year.

CEOCFO: *Why choose Infiswift, Inc?*

Mr. Barat: Infiswift is really focused on bringing IoT innovation in a meaningful fashion to verticals that will benefit from it. We are focused on solving problems that are vertical specific and doing it in a fashion that is

very repeatable, scalable and that addresses the specific challenges these industries face. What we are realizing is that the approach to industry specific solutions has to-date come from really three different sources:

- One is domain experts in the industry who are looking to use technology to overcome industry challenges. The problem they typically face is that they are not technology experts and generally do not have the capacity to continue to make investments in technology to keep up with the constant change.
- The next group is pure play IoT solution providers who typically lack the domain expertise to understand the specific problems in an industry that need to be addressed.
- The third group is infrastructure providers such as AWS and Microsoft Azure, who, while bringing tremendous amount of scale and supporting technology, do not have the ability to provide custom solutions to particular verticals. There is still a significant amount of integration and customization work that needs to be done in order to leverage their tools.

Therefore, we feel that we are ideally placed right in the middle of these players. We are trying to blend domain and IoT expertise to provide custom-built, scalable, yet economical solutions for our target industries.

