MACHFU is revolutionizing the Industrial Internet of Things with a Standardized Platform for Industrial Customers based on the Android Operating System

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CEOCFO: *Mr. Chakravarthi, what is the concept behind Machfu and the company name?*
Mr. Chakravarthi: The concept behind Machfu is this. If you think about the communications and applications revolutions that have occurred in the last thirty years, it started with the desktop world where Microsoft Windows democratized that space by creating a platform in which applications could be very easily written to. They kind of took the plumbing out of it, where the application developer does not have to worry about the internals of the computer. That unleashed a big revolution in both the consumer world and the enterprise world in terms of various innovations that came about.

A similar revolution happened in the smartphone world with Android and IOS. However, we are in the world of the Industrial Internet of Things (IIoT), where it is largely tribal even today, with a number of different platforms and systems that do not interoperate very easily. For Machfu, our founding goal was that we create a very standardized platform at the edge where innovation just comes from multiple applications that can be very easily and quickly developed for industrial customers for improving process or for innovating new business models and other innovations. That is our goal and we are on track. In terms of the name itself – Machfu; Mach is speed and Fu comes from words like Kung-Fu, which means skill. Therefore, it is a combination of speed and skill.

CEOCFO: *How do you simplify? What goes into making an easier system?*
Mr. Chakravarthi: We looked around and we said that if you take the Android, it is being used by more than two billion users' worldwide and it has got more than one hundred billion downloads. It is a fully vetted operating system that has been banged on over and over again for various applications. So we took the Android and curated that for the industrial market. It is a very powerful paradigm and a game changer. That is because the Android is already a good embedded operating system. It provides many services in the user space and has a sandboxed application platform. We took the Android and curated that for industrial markets by stripping away all of the consumer facing features like contacts, calendar, email and so on, and introduced machine facing libraries with protocol drivers that speak to all the industrial devices on one side and cloud protocol drivers that can talk to modern and legacy backend systems on the other side.

Now you have a framework where people can really interface any device to any backend system and the application can now be very easily delivered using the Android Studio, which is already familiar to millions of developers worldwide. The holy grail of IT/OT integration is realized. The development environment, which was developed for the consumer market, is now being brought to bear on the industrial market, which is drastically cutting the application development times from, I would say, six months to six weeks.

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CEOCFO: *Is the business community looking for a better way? Do they recognize there could be? Where does Machfu fit into where potential customers are today?*
Mr. Chakravarthi: Absolutely; we are focused on the industrial market, as I said. The industrial market implies markets like utilities, oil and gas, transportation, buildings and so on. We are not focused on the consumer businesses. Examples of our end devices would be things like transformers, capacitor banks, oil pump controllers and oil and gas flow meters. Therefore, it is strictly the world of machines.

They are looking for this because of the benefits of modern web services that people now enjoy without thinking. For example, you be in Tokyo and you can set the temperature of your home in the United States. That is what modern web services brings to people, in the sense that you get all kinds of efficiencies because of the IoT (Internet of Things). That, unfortunately today, is not available to the world of machines in terms of remote monitoring, remote diagnostics, and remote configuration and so on. That is the efficiency that the industries are looking for and that is what we bring to them.

CEOCFO: *How are you reaching out? What are you providing? Is it physical equipment as well as service?*
Mr. Chakravarthi: What we are providing to the customer is basically an appliance that houses a software platform where the appliance is like a gateway device. We call it a Gateway that interfaces to machines. Humans interface to a phone through the touch interface. Machines cannot do that. They interface to an appliance through an USB or an Ethernet connection, so that appliance has all those connectors to connect to different types of equipment. That appliance then speaks to machines in their own languages. Some machines speak protocols like Modbus, while others speak protocols like DNP, and others. Then we run edge applications on the platform just like a smartphone.

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The Gateway lets customers communicate and deliver applications. The smartphone does it to humans; Our Gateway does that to machines. It interprets the protocol of the machine speaking to it and because it has a semantic understanding it can translate it into other protocols for back end systems, like operation systems, systems that run a factory or systems that process improvements or AI systems. In some cases, we also sell the services, where the customer is looking for application management, device management, platform management and so on.

CEOCFO: *What is your geographic reach today?*
Mr. Chakravarthi: We are a small company, and so we are mostly focused in the domestic market in the United States. We have a couple of big customers who are trialing our solutions in Brazil, Jamaica and Australia. We use our channel partners, who are much larger companies, to take us outside of the US, when our focus is only in the US.

CEOCFO: *We came upon Machfu from the Red Herring Top 100 Awards. We also see that you were named a 2019 Connected World IoT Innovation company. Would you tell us about the recognition and how that has helped you?*
Mr. Chakravarthi: We are delighted to have the recognition and we have a terrific team that understands the space very well. We understand the industrial customers pain points, the barriers to scaling that have historically been there. If you look at it historically, this market was always about to take-off, but never did. I think there were reasons for that. We have been playing in this space for twenty years and we know how to crack the problem. Plus, of course, the circumstances are right for an inflection point now. This is our expertise and so I am glad that other people are recognizing it as well. In terms of how it has helped us; it is just a few weeks back that these awards came out. We are getting a few more inbound calls and people are saying, "Can we take a look at your product," and "Would you like to work with us," and so on. It is a fairly recent thing.

CEOCFO: *What was the biggest challenge? What changed in your approach as you were developing the system?*
Mr. Chakravarthi: The biggest challenge, Lynn, is always capital. In the industrial markets the sales cycles are long and you need to have the stamina to go all the way. It does not scale as fast as the consumer markets can scale from a revenue standpoint. How you get a lot done with a little is always a challenge when you try to provide solutions in the industrial space as a start-up.

From the standpoint of how we changed as we went along, I would say that when we started our path was that this market had matured enough that there was a nice ecosystem where we could play a role and form partnerships with other players to form the end-to-end solution. However, as we went along, we realized the ecosystem was just forming and not in place, so our customers are looking for us to provide more of the pieces in the chain than our vision was when we originally started.

CEOCFO: *When you are talking with a potential customer do they understand? Is there a lightbulb moment when the recognize you have something different?*
Mr. Chakravarthi: Yes. We do. It happens when they realize that even though they have legacy equipment, adding a Gateway to it makes it modern equipment where they can take advantage of all the modern services available, which the older machines typically cannot take advantage of. That is the aha moment.

CEOCFO: *You mention that people are looking for more and more services or more and more pieces from you. How is that part of the business growing? Do you see that as a major factor for you or more an accommodation?*
Mr. Chakravarthi: I think that it is good in the long run, because services really mean more revenue with more margins. In the short run, of course, we require more capital because we have to develop that piece of the chain as well.

CEOCFO: *Are you actively seeking funding?*
Mr. Chakravarthi: Yes, we are actively seeking funding at this point.

CEOCFO: *When you are talking with potential investors, do they understand what you have here?*
Mr. Chakravarthi: I think they do. It's hard to say. I think those familiar with the industrial markets do. Many of the folks in the venture capital community are not particularly cognizant of the industrial systems and the specific nature of the systems, although the marketplace is very large. There are more than ten trillion dollars in assets deployed in the field. It is a very large market. Secondly, I think that with respect to the investors, they have a fund and they have an exit cycle of three to five years. The industrial markets are typically longer sales cycles and longer exit markets. Therefore, it is always a challenge presenting an industrial startup to a VC.

CEOCFO: *What should we expect a year from now to be different for you at Machfu? What are your plans for the upcoming year?*
Mr. Chakravarthi: Our plans for the upcoming year is to grow from four big customers now to a dozen large customers, close to being break even and having the first big venture round completed!

MACHFU
Simplifying IoT from edge to enterprise