MH EP03 Script. Cogiscan: Maintaining market dominance as an SME

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Thierry Harris: When we think of winner take all markets in the tech industry, we often think of behemoths such as Facebook, Google, and Amazon. Each dominate their respective markets, but what about when a company dominating a market is a small and medium-sized enterprise? How does a company of this size maintain its market dominance?

François Monette: In the technology world, things are changing so fast and you never know where the threat will come from. We're a little mouse dancing with elephants.

Thierry: On this episode of Market Hunt, we explore what it takes to maintain a competitive edge in high tech markets, and how small organizations are able to render themselves invaluable when swimming in waters with behemoths surrounding them at every turn.

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Nick Quain: Entrepreneurship's hard. You need to have support there.

François: We're a bit like the Switzerland of [chuckles] this industry.

Marie-Eve Ducharme: Actually, we were wrong. That's an incredible market.

François: We're not even at industry 2.0 today, and yet we're talking about industry 4.0.

Thierry: We're coming up with some pretty interesting ideas.

Andrew Casey: We solved it. Solved everything.

Thierry: We've solved it all. I'm Thierry Harris and welcome to Market Hunt. In this episode, we explore the story of Cogiscan, a company that produces software used by high-end electronics manufacturers. Cogiscan’s software tracks, traces, and controls components assembled in a manufacturing plant. In this environment where components from around the world are assembled into complex microelectronic systems, it is vital for the manufacturers to be able to identify each component's origin, and the various stages of transformation they need to undergo before being assembled into the final product.

Cogiscan Software allows you to identify flaws in the manufacturing process to prevent faulty components from being produced. In case there is an issue, Cogiscan Software allows the manufacturer to be able to go back and identify exactly where in the

manufacturing workflow, the issue took place. They call the system track, trace, and control. François Monette, co-founder of the company explains further.

François: We're collecting data from the different machines from everything that's happening on the shop floor if you'd like. We're tracking all that, collecting data, and making this data available for different purposes. For example, to provide the full traceability of how the product was built, using which components and so on. Or for purposes of measuring productivity, how efficiently the assembly lines are running. Also, just to feed that real-time manufacturing data to enterprise systems that need that data to perform their functions.

That could range from anything to ERP enterprise resource planning software to an MES, which is Manufacturing Execution System to big data analytics, AI deep learning type of advanced software, that all these different pieces of software rely on accurate real-time data coming from the shop floor. That's the piece that we provide.

What we're trying to do is connect all the different pieces of the puzzle together. It takes time to do that, especially in our industry, as opposed to some other industries where there's not much standardization. There's no strongly used and accepted industry standard for communication between the different systems, the different machines.

In other words, each machine vendor has his own brand, his own different models of machines speak a different language. We've been in business for 20 years now. Over the years, a big part of our business was to develop a larger and larger library of interfaces to all these different pieces so we can speak eventually, a common language. We can gather data from all these different pieces together and centralize and standardize that data into our database. It's essentially, it's one machine at a time, one customer project at a time is how it's done. It takes time, but the fact that it's long and difficult is the reason also why we don't have so much competition in this field.

Thierry: Cogiscan's software acts as the glue that binds all the different components as they move along the manufacturing shop floor. In order for it to be able to function effectively, it has to be able to interface with software from different manufacturers, including the machines themselves, and a software which controls them. Cogiscan's software has to communicate with a few hundred different types of machines. François, explains the challenges around developing an enterprise platform such as this.

François: Because we're the company that tries to connect everything together, there's no room for two companies doing exactly that. However, depending on the type of product or the type of customer project that we're working for, sometimes there will be competition. As an example, if a factory says, "I need a traceability solution." Then they will be able to look at several vendors, we're one of them, that will be able to say, "Yes, we can provide traceability. This is how much it's going to cost. This is how it's going to work and this is why you should buy from us."

We have to be able to differentiate ourselves, and win our fair share of the business for specific types of projects and depending on the scope of where the customer is looking at. What's the core for us is not necessarily the traceability again, it's the data collection and the connectivity layer. That is something that we don't want anybody else to take our position here. It took us 20 years to develop that position. We're going to defend that no matter what. We're going to always try to increase that leadership position for the connectivity piece in our market. That's really the focus of the essence of who we are and what we need to build.

This can be threatened by different things, for example, it's not directly a competition, but there are new industry standards that are coming out. If one of these industry standards is adopted by everybody, and it becomes a de-facto standard, then maybe people will see less value from our connectivity solutions. Maybe, maybe not, but we have to worry about things like that. In the technology world, things are changing so fast and you never know where the threat will come from. It could be a new technology, it could be, like I said in this case, a new standard, a new way of doing business.

All of these things potentially can have an impact on our business and our position. We always have to be on the lookout and try to figure out how to play our cards best, where should we move and what should we do to maintain that leadership position and expand it if possible.

Thierry: Don't compete, be different. By tackling a very challenging problem that manufacturing companies had to solve, Cogiscan was able to create a niche for itself and shelter itself from the competition. I asked François about the specific opportunity that Cogiscan was pursuing.

François: We recently redefined our company's purpose. It's the reason why we're there and what we're trying to do. We defined it as a-- It's essentially a belief that collaboration is something that enables companies, systems, and even individuals to be at their best selves. We strongly believe in collaboration, and we strongly believe that if again, companies and machines and people can collaborate better, then they all able to provide more value at the end for whatever the purpose of the company or the system is. In the world of industry 4.0, there's a lot of different machine companies and software companies, they all do their own thing.

Somehow if they can exchange more information, more freely, every system will benefit from that. That's essentially what we try to do. We try to be, as you said, the glue that binds everything together. That's how we started the company 20 years ago. We were finding that all the different machines had their own software, they're not connected to the enterprise-level systems. They were not connected to each other. We envisioned industry 4.0 and the factory of the future is what we called it at the time, is essentially what some people today would call industry 4.0, or just the smart factory or the IoT, the Internet of Things applied to the Industrial world.

That was our vision 20 years ago. Quite frankly, we were a bit ahead of our time back then, but I think just because of those major programs, now the industry really understands the value of that. It's now, it's just a matter of explaining what role we can play in that. We don't believe that one system can do everything. It's really everybody has their own core expertise, our expertise, our role is to connect the different pieces together.

Thierry: Manufacturing of high-tech products has become global, with components being made in different places, and then integrated into larger systems to finally arrive at the end product. This end product could be a control board in a plane, train or automobile, or a microchip in a phone. I asked François what challenges and opportunities do global manufacturing processes present for Cogiscan, and how they are helping customers solve their manufacturing problems.

François: We're not very, very involved in a supply chain from the perspective like I said that most of our customers run our system within their factory. We only deal with one layer of let's say, the electronic supply chain.

If you decompose the electronic supply chain, the big bucket is essentially the semiconductor wafer fab, where the semiconductor chip is made. Then you have a component packaging and test level, which is sometimes called semiconductor back end. That's another industry altogether. Then you have the printed circuit board assembly, where we are typically involved, which is I would say that would be the third layer of manufacturing of electronics products.

Then you have the final box build of that, whatever it is, if it's a phone or a computer, no matter what, you put the circuit board and connectors and plastics and metal together to assemble the finished product. Then eventually, ship it to the customers. Of course, each of these different levels of assembly has their own supply chain of suppliers of materials and components and so forth. If you look at the whole thing, we're having discussions with different companies because, for example, in the semiconductor space, we have a different set of vendors for machines and software than the ones that we have in the semiconductor back end or first-level component assembly. Which is also different from the set of suppliers and vendors working in our industry, the circuit board assembly.

Somehow, it's like different worlds. These guys in the wafer world, they do their thing. They do their own traceability and everything else and supply chain management, then they ship a finished wafer to the next level up. They receive this, maybe that wafer is serialized so they know where it's coming from, from which supplier. They have a serial number. They can relay to the supplier if they have quality issues. They start from there and then they collect the information. That wafer serial number will eventually turn into a component, a lot of components that will have maybe a lot number.

Not everything is always serialized, sometimes it's treated as a batch. Then they will ship these lots of components to the circuit board factory and they will receive as an input, a lot of components. They will want to track which lot of components was used to put on which circuit board. Again, circuit boards can be serialized. There's different levels of traceability but today, they're all like little islands of tracking and traceability at each level. The dream would be to eventually connect all that virtually so that you could start from the finished product and drill down as far as you want, all the way back to the original metals that were used to produce every single piece, but that's not the reality today.

Today, if the end-user has a problem with his iPhone, he's going to call a warranty with a serial number of the phone, and the guy who build the phone will go back to the guy who will build the circuit board and say "This serial number of circuit board was defective." That guy will say "This component is bad, I'm going to go back to the supplier that made this component with a lot number" and so on so forth. It trickles down but it's really a manual process if you want. Ultimately, all this could be, all this data could be integrated and shared.

Thierry: The potential is there but as is often the case industry has not arrived at a state yet, where it can justify the cost to track and control components that far back into the production process. Cogiscan's client profiles fall into two categories, the end-users, the factories that are building the circuit boards, and the machine vendors that will be assembling the circuit boards into the manufacturing factory. Each step comes with its challenges and opportunities.

François: These machines vendors, they're very good at making machines. They're not so good at making software around the machines. In many cases, we become an extension of their own R&D, and we provide some of our software technology that they will embed in their machines and they will sell that maybe as an option to their customers who are the same end-users we're talking about. Those are two different segments. With the machine vendors, it's more typically a long-term repeat business. Because once we define together a product, they put that on their portfolio and they're going to sell and support that product as their own for years to come.

It's a great business model because we don't have to worry about doing all the sales and marketing and promotion, and even the installation and support is done by the machine vendor. We just essentially develop the product, let them do the commercialization. Then as opposed to when we sell to an end-user, this is really a project business. We have to find each individual end-user, we have to convince them to buy our product, we have to install it, we have to support it.

The two are very complimentary. Many times, let's say, a manufacturer will buy a machine from somebody else that comes with a piece of our software.

They like our software, they contact us and they want to expand it to the rest of their factory. That's a very common situation. It works both ways. I would say that because we're relatively small and because we're by definition international, we have customers and partners around the world. Over time, what we realized is to be successful, to be able to have profitable growth as well, we have to be really, really focused on the segments that are more repeatable and more profitable, which tends to be the equipment and software partners. I explained that the equipment partners being the machine, the guys that make the machines but there's also other people that provide, let's say, Brother Software Solutions, then us, and complete manufacturing execution systems, for example.

They may be very good at doing their high-level software but they're not so good at connecting to the individual machines, for example. In this case, we create a partnership where we bring the data, we bring the library of machine interfaces, and they tap on that to offer more features into their own software. We have such software partnerships in place as well.

Thierry: Cogiscan is attempting to refine its focus by being more selective with the clients it chooses to work with. I asked François what criteria does this company have when exploring new markets?

François: Over the past 20 years, we learned and we keep learning that the more focused we are, the more successful we are. I think it's a natural progression for any new company. Initially, you're going to sell anything to anybody that wants to talk to you pretty much, you cannot be very picky. Every project is different from the previous one. It's difficult to grow a business that way. It's a good starting point and then you can feel what the market wants. Then sometimes you see a pattern. Well, it's two or three different customers who want to buy the same thing, maybe there's something here.

You learn from that but eventually, you get to a point where it's, now if we want to get to the next level and I just want to have to hire an army of software developers, and an army of salespeople, and an army of the implementation engineers, I will need to try to find what is within that big market, which is the electronics assembly. Which are the customers that are ideal for me, where I can provide the best value with the least amount of effort? Or conversely, if I look at the machine vendors, what kind of machine gets the more value from the software that we have? Which one is easier for us to work with and develop long term relationships?

We get more and more specific and precise into what kind of customers and partners are we trying to reach? Then our marketing and then everything else that we do is more aligned towards those ideal partners and customers so we become more and more selective, I would say, over time. Again, that's because we can afford to do that now because we have a big enough install base, and enough products, and so on that this

makes sense. This is how we're able to achieve economies of scale is by having some kind of repetition for similar products to different customers or to different partners.

Thierry: As Cogiscan set about to refine its markets, there are many learning opportunities along the way.

François: I would say that a lot of times we do too much trial and errors and we tried to figure out everything by ourselves. Whereas if you look at it, there's a lot of patterns, it doesn't matter what industry you're in, what kind of products you sell, there's some general rules of business. We're not business people, we're engineers by trading. We never get that awareness of different marketing ground rules that what I just described, for example, that you have to be very clear on. What's your ideal customer profile? Who are the personas within those customers that you want to reach? Then really focus all your efforts on something that's going pay out.

Because if you spread yourself too thin, which is what I think we've done for a long time, you don't get the same level of success. I would say, what I learned along the way, and that's just the last five years, for the last 20 years is go get the expertise outside every step of the way to really balance what are you trying to do. Other people have tried and failed to do similar things or succeeded and you can learn a lot by talking to experts and people that have been through that before. You can save a lot of time. Today, we use more consultants than we ever did even though we're more mature, but now I think we learned that we don't know everything. They're a lot of smart people out there that will help us if we paid them to do it.

Thierry: Cogiscan has identified data collection and connectivity as a growth area in their field. However, if these processes become commodified through implementation of industry standards, it could pose a threat to the company's unique value proposition.

François: It is exactly the kind of threat that we have, but also behind every threat there is also an opportunity. We have to understand, again, what is the unique value that we can bring in this changing world, and keep asking ourselves that question all along. Knowing who we are, what we're good at, and what we can provide. Our long-term strategy is not necessarily to see what connectivity will always be, what we do. As a matter of fact, we see ourselves as a technology provider for bigger companies, and I mentioned before the machine vendors and some of the software providers that offer a broader range of solutions and products. They need our expertise and we can build and become a trusted partner for them.

Every time they need an additional piece of software or something like that, whether it's connectivity or traceability or something else that we're good at, then we're going to build on that. Really our long-term strategy is to work with these bigger companies and become a trusted partner for them, and we will be the technology developer, if you want. They will commercialize the technology and because they're so much bigger, they have a bigger reach, they can talk to--. Their competitive position is much stronger than

we could ever have as well. If we can manage to expand that network of partners and really have a major position with each one of them, then we become, how could you say that.

Thierry: Invaluable.

François: Exactly. For example, in some projects today, let's say a new factory wants to do industry, we just say we want industry 4.0 technology. They're going to turn around to their main machine vendors and say, "What do you guys do for industry 4.0? How can we achieve this?" There's a good chance that one or two or more of these machine vendors that they use will say, "We work with Cogiscan for this, let us bring Cogiscan and they'll explain what they can do for you." Then similarly, if they talk to some of the big NES software vendors, and we're talking about some giant companies here, they will say, "I can do this and this and that, but I also need my partner Cogiscan to do this a little later that's very specialized in your industry."

That's really what we want to create, is to be so integrated into our partner's solutions that we come together with a much bigger package. It's not a question of the end-users may or may not know that they're buying Cogiscan but it comes in with the solution.

Thierry: In high tech industries, speed and flexibility can become key differentiators towards helping companies carve out niche markets. I asked François how Cogiscan maintains their competitive edge.

François: Naturally, in our DNA we have this culture of collaboration. We are people that are easy to work with, I think. We're very trustworthy because if a machine vendor or a software vendor will create a long-term partnership with a small company like us, they have to believe that we're going to be there for the long-term and we will never betray them. Also, because we work with them and we work with their main competitor, they also have to trust that we're not going to share their secrets with each other. We're a little bit like the Switzerland of this industry, where everybody works with Cogiscan, and they all trust that Cogiscan will not share their secrets or do anything that will harm their business.

That takes a lot of many years to build that reputation and that trust with the partners. Eventually, everybody comes to say, for this kind of thing you have to work with Cogiscan, and they recognize that. One example is, let's say that you have two major machine vendors somehow, they are in and the customer at the same time and their machines have to share data, but they don't want to talk to each other because they're main competitors. They don't want to tell the other vendor which data they have and which format and all that. They need like a little neutral partner that both they can trust that will come in between, and we're going to get the data from that one machine and we'll give it to that machine and vice versa and make it all work.

They trust that we can do that without breaching any confidential information and so on. They know that we will deliver a solution that will work so their customer will be happy. Everybody will be happy. We're a little mouse dancing with elephants, so we have to be good at this. Again, we provide a very specific expertise, a very specific value that they cannot easily do by themselves. The bigger the company is the more of a generalist they are, the smaller the company, the more specialist you are, and you need both really in a complete ecosystem.

Thierry: As the need for connectivity increases, the need for connectivity on a manufacturing floor becomes more and more important. I asked François how Cogiscan justifies its existence in this evolving environment.

François: That's a good question. Surprisingly, for an industry that makes so many smart products, the manufacturing system is not always that smart. There's still a lot of pen and paper type of log sheets and things of that nature. It's so surprising sometimes. I would say we're not even at industry 2.0 today, and yet we're talking about industry 4.0. There's still a long way to go. There's a lot of talk but in terms of where the factories are, so much to do still. When we started the company 20 years ago, we already had a pretty clear view I think, of where the future should take us. It's still a long way from today.

We haven't made that much progress in 20 years, unfortunately, but it's okay. It's job security, it's going to take a longer time to get there and for all kinds of reasons. The manufacturing industry is very conservative. You cannot stop these lines. You cannot just bring technology for the fun. The ROI has to be extremely clear. It has to be proven. It's got to be very robust, it cannot impede operations, and so on and so forth. As a result, the adoption of new technology is fairly slow as opposed to, let's say the consumer world, where they're going to switch phones every six months with no problems.

There's that reality and also the fact is that what's important for manufacturers and manufacturing itself has been commoditized, which means that their real pressure is cost. You have to produce your smartphone for as little money as possible. Of course, it has to work well, but if it doesn't work well, we'll just replace it. We just send it back to us, we'll give you another one. Most and foremost is the cost issue. Whatever we do, we have to show that we can save some costs. That's really what's driving everything. The industry 4.0 trend or buzz or whatever you want to call that, what it changed is that now people in the past were just trying to invest as little money as possible to get their lines running, to keep their lines running.

As an example, if Varitron gets a contract for an automotive company and says, "I will let you produce my circuit boards, but I need a certain level of traceability." That's a prerequisite to do the job. Maybe this company they have no choice. They'll buy traceability software because they need it to satisfy their customer specification. They would buy point solutions like that to satisfy short-term requirements. Now that industry

4.0 is such a big buzz, they're going to say, "I can buy traceability now, but how does that fit into the bigger picture, because I want to be able to have my machines talking to each other with closed loop."

They're talking about AI, stuff of the future really, but they would like to understand how we can do that as well in the coming years. I think looking at the bigger picture is what the main change has been in our industry, as opposed to in the past, they were just looking at, okay, this is what I need today. I'm just going to buy that for now and not worry about the future. This is also why we've moved along the lines of trying to partner with the bigger vendors that can offer a broader solution, because this is somehow what the manufacturers are more concerned with right now to make sure that they're putting their money, or their technology with companies that will be able to take them to that next level with machine, with the software, with everything else. Of course, we will not be credible trying to say we can do that on our own. The partnership again is key to our success for that reason.

Thierry: In the next 12 to 14 months, Cogiscan will be working on validating their dominant position and connectivity in their industry. In order to measure if they are achieving this goal, they have set some specific targets in place.

François: We've come up with what we call a wildly important goal, and it's not financial. Of course, we want to grow our revenues and our bottom line, but this is actually a fixed measurement. We want to connect 2,000 machines per year by year 2023. This is where we're going and then the rest is just the work. Just the one piece of advice from the 20 years' experience for people that are starting a new business, the key is really passion, but also perseverance. Nothing happens easily, at least in our case. You see other companies that grow faster and everything, but I think it's just a matter of being convinced that you're going in the right direction. That you have your vision and then the rest is just, like I said, hard work and never give up because there's going to be ups and downs along the way. However, if you've worked hard enough and you're smart enough eventually you'll succeed.

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