

CPS Technologies Corp. (Norton, MA)

CFO Search Article

(Condensed Version)

Introduction

We are a small public company conducting a search for a CFO to take us into the next phase of growth and profit. Public company experience is a plus but is not required. We will consider candidates at all stages of career. This article is organized in four main sections: CPS Today, CPS in Five Years; Impact of the CFO; and Experience and Skills.

If you are a candidate or know someone who is, please see “Next Steps” at the bottom of this article.

CPS Today

CPS Technologies Corporation supplies components made of technologically sophisticated metal-matrix composite materials to major manufacturers. Most products are customer-specific. CPS has two core competitive advantages: 1) a unique and proprietary process technology for combining metals and ceramics to form a composite, and 2) a highly responsive and highly collaborative culture that enables us to form close relationships with key customers and to work very effectively together internally.

Our products generally address thermal management challenges in power electronics (such as, for example, motor controllers) and in high-reliability signal processing applications (primarily in avionics and satellite applications). Each product is custom-designed to meet the specific requirements of the end customers’ applications. These are varied and interesting: there are CPS parts on the International Space Station; the Mars Rover; all current-generation GPS satellites; most Formula One race cars; hybrid vehicles made by Audi, Mercedes, and Renault; most high-speed railway systems in Europe and Asia; and subway cars around the world.

CPS spun off from MIT to develop commercial applications of advanced ceramic materials. After receiving venture capital funding in 1984 and showing great promise, CPS went public in 1987. CPS trades today on the NASDAQ under ticker CPHS.

Seven years ago, a search like this one attracted current CFO Ralph Norwood. After a long and successful career at Polaroid, SatCon, and CPS, Ralph is now planning to retire and relocate to southern coastal Maine. He is 75. He plans to do some teaching and consulting. He feels his job at CPS is the best of his career and that CPS is even more attractive now than when he joined.

CPS announced Q3 2018 results on October 31. Revenue for the quarter was \$6.1M and the net loss was \$14K. This was a 45% revenue increase over the year-ago quarter. Year-to-date revenue (nine months) was \$15.5M, up 44% over prior year. In achieving this revenue growth, CPS has recovered from a previous severe revenue dip. Headcount and spending were reduced sharply during this dip. From 2011 to 2017, annual revenue was \$20M, \$14M, \$21M, \$23M, \$22M, \$15M, and \$15M, respectively. Annual net income (loss) was (\$46K), (\$2.8M), \$1.0M, \$1.0M, \$0.5M, (\$0.5M), and (\$1.7M). The profit recovery has not been as early or big as the revenue recovery, but the Q3 near-breakeven result is promising.

CPS has three revenue categories: components for thermal management (primarily baseplates for motor control modules), hermetic electronic packaging, and metal matrix composite armor. Customers design CPS components into their end products. Sales cycles are long. Once CPS is designed into an end product, the revenue stream is likely to continue as long

as the end product is in production, usually several years. In most applications, the desirable property of CPS's aluminum silicon carbide (AlSiC) components is that AlSiC's thermal expansion closely matches that of the semiconductor devices and circuit boards mounted on the CPS component.

Typically, three to four customers account for most of CPS's revenue in any given year. Important customers include Infineon (a German semiconductor firm with 36,000 employees that makes motor control modules for electric trains and hybrid and electric vehicles), ABB (a Swiss conglomerate often referred to as the General Electric of Europe), Continental Automotive (a German maker of electric power trains for automakers including Daimler Benz and Audi), and Delta Electronics (based in Taiwan, Delta is the world's largest maker of power supplies for portable electronics). Though small, CPS deals successfully with behemoths. For example, CPS was named vendor of the year by Infineon in 2016. Over 70% of our revenues come from outside the U.S.

Many of CPS's customers have a policy of maintaining two sources for each component. Often CPS and the Japanese firm Denka are the only two possible vendors. Denka has about \$3.5 billion of annual revenue and about 6,000 employees. In 2017, Denka alleged that CPS infringed one of their Japanese patents. Ultimately, CPS prevailed. During this time, we observed that Denka charged higher prices in its home market and lower prices elsewhere, particularly in Europe. Prices are now recovering. We expect that after the next round of contract negotiations, margin and profit recovery will follow.

Until now in CPS's history, we have pursued primarily a "technology push" sale. In contrast, in the past two years, we have embarked on the most concerted effort in our history to become market- and customer-driven, so that the customer's needs will drive the relationship as much as our technology does. Electing Tom Culligan as a board member and bringing Tom Breen into CPS as senior vice president of sales and marketing are key parts of this effort.

The CPS board of directors comprises Frank Hughes (chairman), Tom Culligan, Dan Snow, and Grant Bennett (CEO of CPS). The board meets six times a year. It is an active and committed board, including between board meetings. Frank is president of American Research and Development (ARD), the original venture capital funder of CPS. He has bachelor's and master's degrees from MIT and an MBA from Harvard. Prior to joining ARD in 1982, he was with The Boston Consulting Group. He has served as chairman, CEO, and CFO of public and private non-financial companies. Tom Culligan joined the board in 2014. He served as the chairman and CEO of Raytheon International and concurrently as the senior vice president of business development and strategy for all of Raytheon, until his retirement in December 2013. Prior to joining Raytheon in 2001, Tom held senior positions with Honeywell, Allied Signal, and McDonnell Douglas. Dan Snow joined the board in 2008. In 2018 he was named associate professor in operations management at Oxford's Saïd Business School in the UK. Previously, he was associate professor at the Marriott School of Management at Brigham Young University. From 2004 to 2009, he served on the faculty of the Harvard Business School. His research focuses on technological innovation, including the complex interplay between old and new technologies. He has an MBA from Brigham Young University's Marriott School of Management and a Ph.D. from the University of California, Berkeley.

The CPS management team has been led by Grant Bennett, CEO, since 1992. He has a bachelor's degree from the University of Utah and a master's degree from MIT. He is 63 years old. It is possible that he will retire in the next few years. Grant was CPS's vice president of

business development from 1985 to 1992. Before joining CPS, he was a consultant with Bain & Company. Grant considers himself an operations oriented-CEO. Before Ralph Norwood was hired as CFO in 2011, Grant was, in effect, CFO as well as CEO. The board's planning horizon includes naming a successor CEO at whatever point Grant Bennett leaves.

Tom Breen joined CPS in November 2016 as senior vice president of sales and marketing. Cheryl Oliveira, vice president of sales, reports to Tom. Mark Occhionero, vice president of marketing and technical sales, reports to Tom.

Ralph Norwood joined in 2011 as CFO. Prior to joining CPS he was president and founder of Navigator Advisors. In previous roles he was CFO of SatCon Technology and worldwide manufacturing controller at Polaroid, where he worked for over 20 years. He got CPS relisted on NASDAQ and was influential in getting trading volume up to about 200,000 shares a month. He attends board meetings. His presentations and reporting to the board set a new standard. He conducts quarterly calls with investors and handles nearly all investor relations. He established standard costs and improved understanding of product profitability. He published the price, cost, and margin of the top 26 parts we run; every manager has this on a laminated card. We look for further improvement in cost accounting and decision support.

Ralph improved internal reporting, analysis, and planning. The management team comments that Ralph has been an amazing mentor. He can distill several viewpoints and get to the core issues in few words. He manages the bank relationship, the audit, and the relationship with contract staffing companies. Susan April, controller of CPS, reports to Ralph. She does nearly all the work to prepare financial statements and SEC filings and is secretary of the corporation. She also manages the human resources function. The company uses Microsoft Dynamics GP for accounting, but shop floor travelers, shipping labels, packing slips, and time cards are not yet integrated. Santander is the bank. Wolf & Co. is the audit firm.

Charles DaRosa is vice president of operations.

More information on board members and management team members is available at <https://www.reuters.com/finance/stocks/company-officers/CPSH.C>.

CPS has a culture of work-life balance, collegiality, and low conflict—combined with intensity, innovation, and ambition. The company largely succeeds in applying effort to *real* challenges like winning customers, being more efficient, and shipping on time, rather than stressing over appearances, ego, or turf. There is a current feeling among the management team and board that the CPS culture should move toward greater urgency and ambition. The annual plan is built from the bottom up with a lot of participation and is calibrated so it's likely we'll hit it. It's not a super stretch and it's not sandbagged. Employee base pay is generally pegged at the low end of the market for southeastern Massachusetts, with bonus and equity upside.

CPS in Five Years

Some companies grow into dominating a small niche and then bump along, up and down, without growing further. CPS could be seen in this way. However, there are good reasons to see CPS quite differently, to see the past few years as preparation for a breakout in the next few years. Marketers refer to the chasm separating early adopters (who are risk takers) from mainstream customers (who are risk averse). Many technology companies are successful with early adopters but struggle to cross the chasm. CPS *has* crossed the chasm in our current markets and is now selling to mainstream customers.

Power electronics is at the beginning of a powerful decades-long expansion driven by electrification in many areas. This expansion includes power generation (such as wind power) and efficient use of clean energy (including electric trains and cars). Other markets we serve currently are also growing. We have just begun to penetrate the defense electronics market.

To date our products are primarily AlSiC, a combination of aluminum and silicon carbide (a ceramic). In addition, we are now using our proprietary process technology to combine aluminum with varied reinforcements to develop products in new markets. One example is lightweight ship and vehicle armor we make by enveloping sintered ceramic tiles in aluminum, to produce panels with improved ballistic protection and half the weight of steel. Our lightweight armor is now in U.S. Navy sea trials in an application that could generate tens of millions of dollars of annual revenue. Among other new products under development is one that combines aluminum with a different ceramic to produce neutron-absorbing materials used in the storage of nuclear fuel.

We look at Ceradyne as a relevant comparable company. It perked along sedately for over 15 years, developing technology in engineered ceramics. Then Ceradyne was able to match its technology with a critical need: hot-pressed boron carbide ceramic inserts in bullet-proof vests for the military. Revenue went from \$40M to \$900M. In 2012, 3M acquired Ceradyne. We are well-positioned to search for and cultivate such matches, by taking our existing technology into new applications and customers, as well as by bringing new technologies to solve problems our long-time customers will look to us to tackle.

Our five-year plan organizes our efforts. Tom Breen, senior vice president of sales and marketing, led in its creation, beginning with understanding the total addressable market. This plan draft outlines the path to doubling revenue in five years. It was reviewed in the August 2018 board meeting.

We know that connecting with these new and expanded revenue streams is most likely if we change how we think. In the past we've been a technology-push company. We are now on our way to letting customers' needs and unsolved problems guide us toward creating solutions and deploying technology. Our existing strong relationships and legacy of collaboration with customers give us standing to inquire into their unmet needs, and then to adapt our current products and develop new products to meet their needs. This is a big shift at CPS that has begun and will continue. This shift could include acquiring businesses and technologies that will give us more ways to solve the problems our customers bring to us. We can become indifferent to particular technologies and focus on being world experts in solving important problems of heat transfer, thermal expansion, and lightweight strong materials.

In this search for unmet needs, getting designed into new applications will continue to be the key. Each prototype we build is a seed. Some will germinate. Sales cycles are long, technical demands are daunting, and customer relationships are deep.

Impact of the CFO

Each large customer is very important to CPS. This is likely to continue as CPS's revenue doubles. In turn, CPS is very important to its customers and we have in most cases no more than one direct competitor. In this environment, prices are largely negotiated and contractual rather than being set by a competitive market. Price negotiation is a careful dance between us and our customers. To be a profitable and growing company, CPS must have growing and healthy relationships with large customers *and* have profitable pricing more consistently. This in turn rests on what the CFO provides. This includes:

- 1) Good cost data and understanding of how cost responds dynamically to changes in volume, setup time, capex, quality standards, and design.
- 2) A strong expectation of profit and a firmness of mind in pursuing profit.
- 3) Ways to resist price erosion, including insight into the customers' decision processes, needs, and value received, and knowing when to call a bluff.
- 4) Mastery of ways to manage the fact that customers can smell fear.
- 5) Persuasion.
- 6) Willingness occasionally to lose a deal over price.
- 7) Willingness to price low when well-understood reasons make this the best course.
- 8) A focus on our timeliness and responsiveness to opportunities, including measuring our turnaround time for proposals and shortening it.

We want the CFO to contribute all this, in concert with the CEO and the vice president of sales. Doing this well, the CFO will have a very important impact on CPS's future.

The other departments, especially manufacturing, are key internal "customers" of the CFO. We must make ROI-based investments in capital equipment, and must make other decisions affecting capacity, quality, turnaround time, and cost. For example, CFO data and insight are needed in weighing the tradeoffs between hiring new employees and using overtime, making vs. buying, choosing fixed costs (more efficient when volume is as expected) vs. variable cost (more flexible when volume is higher or lower than expected), and making faster vs. more accurate quotations to prospects. Sometimes, the CFO has to be the one who says, "We can't spend that much." The CFO makes sure there are "fair fights" over use of resources, leading to good, crisp decisions based on evidence and agreed objectives, not personalities. The CFO brings the management team together around the annual budgeting process and uses this process to decide priorities, build accountability, and communicate direction.

We want the CFO to lead CPS toward a somewhat more aggressive, performance-oriented culture, but not to the extreme that Netflix, for instance, is known for. We want the CFO to coach the management team toward profitable long-term growth, doubling revenue over the next five years on the way to achieving revenue of \$100M thereafter.

The CEO needs the CFO to be a thought partner. These two are the only ones in the management team with a mandate to see across all parts of the business in the short and in the long term. This thought partnership extends to the board, as well. In this partnership, it is always helpful to present data that speaks for itself, but occasionally the CFO must also be a strong advocate. The CFO leads the management team in effective board meeting preparation and follow-up and collaborates with the CEO in creating the board meeting agenda.

The CFO is the face of the company to investors and analysts. CPS never has and never will seek to deceive. We seek to make investors aware of the balanced picture. We want to make management decisions and then communicate them, in ways that will increase the value of the company and the stock price. The CFO is responsive to investor concerns and questions.

The CFO oversees accounting, reporting, 401(k), NASDAQ, real estate, employment agencies, government relations, compliance, insurance, and tax.

The CFO is alert to the potential for acquiring companies with related technologies, so that we can be more diverse and capable in solving the problems we currently solve with only one technology.

Experience and Skills We Seek

We care about the CFO making the contribution we need. We think the following experience makes this most likely, roughly in order of importance. Candidates who can show they have had success in the listed areas are of most interest to us, whatever stage of career they be in and whether or not they are a conventionally obvious fit.

- 1) Conducting or supporting price and terms negotiations for sale of manufactured specialty products to concentrated customers, using a balance of creativity, analysis, backbone, and caution.
- 2) Making manufacturing cost accounting a tool for decision support and continuous improvement.
- 3) Being a voice in a management team for profit, growth, and rigor, especially as a thought partner with the CEO.
- 4) Representing a business as a whole to outside audiences such as a board, customers, private equity or venture capital investors, public shareholders, or the Securities and Exchange Commission. Public company experience, *per se*, is not a requirement.
- 5) Planning with a management team and quarterbacking tradeoffs among competing priorities and projects so that evidence wins.
- 6) Integrating and streamlining information technology, including accounting and manufacturing.
- 7) Acquiring or being acquired.

We seek a candidate who is likely to stay in the role six or more years and for whom the job profile and the company's location, size, culture, and potential are a good fit, not a quick stop on the way to something else. The elements of this position likely to make it attractive to some candidates include: opportunity to be a thought partner to the CEO and board; 70% international revenue; leading-edge technology; coming growth into the Chinese market; being public; being on a growth trajectory; being in manufacturing, and having a healthy culture.

Why is public company experience not required? Susan April, controller, does nearly all the SEC preparation work. Grant Bennett, CEO, has long experience with being the CEO of CPS during 26 years of being a public company. Prior to 2011, he was, in effect, the CFO. Finally, Ralph Norwood can be available a day or two a week for several months for a transition, and can provide assistance to the new CFO in this area and other areas. If you lack public company experience and wish to add it to your toolkit, the CPS job is an ideal way to do this.

Next Steps

The target base pay for this CFO position is \$150K. The target bonus is 25% of base pay, based partly on personal performance and mostly on company performance compared to plan. There will also be significant equity-based compensation. Officer pay is publicly available: the current base pay is \$178K for the CEO, \$154K for the CFO, and \$170K for the sales vice president.

This search is managed by James Cannon Johnston of Johnston Company, Lexington, Massachusetts. Jim is the primary author and editor of this document. If you think this job is a match for you, please write to Jim at JimJ@JohnstonCompany.com. Use “CPS CFO Search” as the start of your subject line, please. No phone calls, please. If you read this article and think of candidates for the job, please forward this article to them—the more the better. The timeline we aim for is:

- Dec 29: Jim receives all initial responses from candidates.
- Jan 3: Jim invites candidates to interview by phone.
- Jan 12: Jim completes the phone interviews.
- Jan 25: Jim and CEO Grant Bennett interview candidates in person, at CPS.
- Jan 31, Feb 1: Finalist candidates interview with selected CPS management team and board members, after which Jim talks with candidate references.
- Feb 12: CPS makes an offer.