

## Constellation Software Inc. TO OUR SHAREHOLDERS

Last year I used our study of high-performance conglomerates (“HPC’s”) as a framework for this letter. One of the findings from studying the HPC’s was that they followed a multi-decade pattern, with extraordinary returns in asset-light businesses in their early days, followed by a period of attractively priced acquisitions to which they applied their increasingly refined operating practices. Eventually, they drifted towards paying higher multiples for larger acquisitions as the HPC’s became very large. The high acquisition prices led to declining pre-tax, pre-interest returns on Total Capital. While the average return on Total Capital for the HPC’s still exceeds that of the S&P 500, it is much closer to that benchmark now than it was fifteen years ago.

In the last couple of years, a number of journalists and analysts have hinted that the Constellation Software Inc. (“CSI”) historical performance is too good to be true. They frequently conclude, in the best case, that our performance will revert to the mean. Reversion towards the mean is consistent with what we found for all the HPC’s, so I don’t disagree with their observation. Our goal, however, is to have our return on Total Capital revert to the mean as slowly as possible, while still deploying most of the Free Cash Flow (“FCF”) that we generate.

Table 1

	Adjusted Net Income (a)	Average Invested Capital	ROIC	Organic Net Revenue Growth (YoY)	ROIC + Organic Net Revenue Growth
2007	33	154	22%	1%	23%
2008	54	195	28%	5%	33%
2009	62	256	24%	-3%	21%
2010	84	325	26%	-2%	24%
2011	140	394	36%	7%	43%
2012	172	491	35%	2%	37%
2013	207	585	35%	4%	39%
2014	274	739	37%	3%	40%
2015	371	965	38%	-3%	35%
2016	395	1261	31%	1%	32%

(a) Historical figures restated to comply with revised definition.

In our non-GAAP results for 2016 (Table 1), you can see evidence of reversion to the mean. Adjusted Net Income grew only 6% in 2016, as compared to our ten-year compound average growth rate (“CAGR”) of 31%. Our Average Invested Capital grew 31% as compared to our ten year CAGR of 26%. On the face of it, the increasingly rapid accumulation of Invested Capital is attractive, but only if we can invest that capital at high rates of return. ROIC was 31% in 2016, in line with our 10-year average, but lower than we’ve achieved in each of the last five years. ROIC was depressed because we were unable to invest all of our FCF during 2016 and so were carrying excess cash by year-end, and because we made a number of larger acquisitions with lower returns over the last couple of years. Organic Net Revenue Growth for the year was 1%, an improvement vs. 2015, but below our 10-year average.

We have just completed the Maintenance Revenue analysis (Table 2) for 2016. The same cautions apply to this year's analysis as to those in prior years, i.e. while the totals are materially the same as our Maintenance Revenue for financial reporting purposes, the individual components reflected in the table

are generated by examining and categorising tens of thousands of records, and the estimated FX adjustment was calculated by translating the Maintenance amounts in major foreign currencies into U.S. dollars at the average FX rates for each year. We believe that the data presented is a fair illustration of the trends in our Maintenance base.

Total organic growth in Maintenance Revenue declined to 5% for 2016. In my letter last year, I explained that we sometimes buy shrinking businesses, and despite the shrinkage, we still expect to generate good returns on those investments. Growing businesses are more attractive to us, but we can't always acquire enough growing businesses at reasonable prices to invest all of our FCF. Our "next best" use of capital is acquiring shrinking VMS businesses which still meet or exceed our hurdle rate. Mixing growing and contracting businesses in one company creates a number of interesting cultural and management challenges. This might be a lively discussion topic for shareholders to raise with our management team during the Annual General Meeting (AGM). During the last few years we purchased several healthcare software businesses and a real estate software business that were all contracting, but generating strong current results. Those acquisitions improved our short-term profitability but depressed our organic growth rate in Maintenance Revenue by over 1% in 2016.

Table 2

(US\$MM)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>Maintenance Revenue</b>	142	193	252	337	417	510	725	1015	1170	1400
<b>Growth from:</b>										
Acquisitions	11%	25%	27%	25%	15%	15%	34%	32%	15%	16%
Organic Sources										
a) New Maintenance	9%	9%	8%	8%	8%	8%	10%	10%	8%	9%
b) Price Increases & Other	9%	9%	4%	6%	5%	5%	6%	7%	5%	5%
c) Attrition- lost modules	-2%	-3%	-3%	-3%	-2%	-2%	-2%	-4%	-2%	-4%
d)Attrition- lost customers	-4%	-4%	-4%	-4%	-3%	-4%	-5%	-5%	-5%	-5%
<b>Total organic growth*</b>	12%	10%	4%	7%	7%	8%	8%	8%	7%	5%
Estimated effect of FX	0%	0%	-1%	1%	2%	-1%	-1%	-1%	-6%	-2%
Total maintenance growth*	23%	35%	31%	34%	24%	22%	42%	40%	15%	20%

\* Certain totals may not reconcile due to rounding

Our overall organic growth in revenue has averaged 2% during the last 10 years. The organic growth in Maintenance Revenue has averaged close to 8%. The discrepancy between the two figures has been possible because Maintenance Revenue as a portion of total revenue has increased. While some of the change in revenue mix is due to the elimination of low-margin, non-Maintenance activities, a portion is because we have knowingly traded off one-time licenses for increased recurring revenues. To some extent, particularly where we've adopted a SaaS model, we may have also traded off professional service revenues for increased recurring revenue. These trade-offs create revenue streams that are more stable and make managing our businesses easier. As Maintenance Revenue becomes a larger portion of total revenues, the discrepancy between the organic growth in total revenue and Maintenance Revenue is likely to be smaller.

This will be the last year that we present the Maintenance analysis in this format. Our business units ("BU's") monitor customer health in many ways and tend to do so on a much shorter cycle than annually. When we ask them to produce the information in Table 2, there is a large, unautomated process of classifying data and making it consistent between BU's. The benefit of providing this information for shareholders feels like it is outweighed by the effort of compiling it, if we can do it another way. For reporting purposes, Jamal began (last quarter) an alternative process of measuring organic growth by revenue stream, including maintenance, on a quarterly basis. This is a top-down analysis, and can be done quickly without a lot of ad hoc effort. Jamal will describe the calculation in managements' discussion of the Q1 results, but a significant difference is that instead of using only the prior year's Maintenance Revenue as the denominator for the growth calculations, he adds a run-rate assumption for acquired Maintenance Revenue to the denominator for such calculations. We will be reporting that data quarterly, and will provide quarterly historical comparisons going back to Q1 2016. While the information presented will not be as detailed as in Table 2, the increased frequency of reporting should be valuable for our shareholders.

Because some of our shareholders prefer IFRS-sanctioned data, we regularly present a couple of IFRS metrics that we find informative (Table 3). Total revenue per share increased 16% in 2016, up from 10% the prior year but down from the 26% CAGR that we achieved during the last decade. I consider 16% growth in Revenue per Share to be superb performance. The S&P 500's Revenue per Share grew less than 3% in 2016 and its growth has averaged 2% for the last decade.

Our Cash Flow from Operating Activities per Share grew 24% in 2016, down from the 33% CAGR that we achieved during the last decade. The S&P 500 seems to have grown its Cash Flow from Operating Activities per share in the mid to high single digit percentage range during the last decade, depending upon which source you believe, and whether financial companies are included in the calculation or not. CSI has done an outstanding job of growing cash flow per share, but that surfeit of cash contributes to our reinvestment challenges.

Table 3

	Total Revenue per Share	YoY $\Delta$	Cash Flow from Operating Activities per Share	YoY $\Delta$
2007	11.47	15%	1.62	19%
2008	15.60	36%	2.96	83%
2009	20.67	32%	3.85	30%
2010	29.92	45%	5.06	32%
2011	36.49	22%	6.49	28%
2012	42.05	15%	6.83	5%
2013	57.13	36%	10.40	52%
2014	78.77	38%	16.11	55%
2015	86.75	10%	18.68	16%
2016	100.28	16%	23.16	24%
CAGR		26%		33%

CSI is still an exceptional company by most standards, but we are clearly not performing as well as we have in the past. Part of that slippage is due to external factors. Part of it is due to internal execution issues.

Externally, competition to buy vertical market software ("VMS") businesses is intense. Vista Equity Partners and Thoma Bravo are two of the most prominent private equity ("PE") firms that concentrate on

software acquisitions. Roper Industries is a large publicly traded industrial conglomerate that we included in our HPC study and that also actively competes for VMS acquisitions. Vista currently manages approximately \$28 billion of capital and Thoma Bravo is managing approximately \$16 billion. Both have raised multi-billion dollar funds in the last couple of years. CSI is currently managing only \$1.4 billion of capital. In the last 9 years, Roper Industries has invested five times as much capital in the VMS sector as CSI has since its inception, 22 years ago.

In addition to these three daunting competitors, there are a dozen or so PE firms who each manage in excess of a billion dollars and who have well-established software track records. At the lowest end of the market, every quarter we seem to profile for our Operating Group Managers at least one new competitor that proposes to create a CSI look-alike. A number of these new competitors are trolling our employee base for talent. This much capital targeting the VMS sector has driven and will continue to drive up purchase price multiples.

The internal execution issues upon which we currently focus are: Maintaining investment discipline, avoiding overhead creep, and increasing our investment in growth, both organic and acquired. Even if we execute superbly on the first two, it is difficult to foresee consistent multiyear growth in intrinsic value per share (assuming that dividends are reinvested) that exceeds 10% to 12%.

#### Maintaining Investment Discipline:

I recently worked on a large transaction. With every day that passed, I could feel my commitment to the process growing... not because the news was getting better, just because I was spending more time on the prospect. The investment didn't quite meet our hurdle rate. We were not able to negotiate a structure that got us an extra couple of points of IRR, and the big one got away. The difference between investing and not, was tiny.

Currently, we have 26 Operating Group and Portfolio Managers who spend >50% of their time on M&A, and another 60 full-time M&A professionals spread across CSI. We are trying to ramp up our M&A capacity from the 40 acquisitions that we did last year, to 100 per annum. It was useful for me to once again experience the temptations that these people face every day. It also reaffirmed for me that when we pursue a very large acquisition, the diligence, structuring, negotiating and integration needs to be led by a single person who is one of our highly-experienced acquirers, and who will shoulder responsibility for the process and the outcome.

Bernie tries to be the last line of defense when our Operating Groups and BU's propose borderline investments. Some of our Operating Groups have developed or are developing senior M&A people to help Bernie filter out over-optimistic acquisition proposals, but Bernie is still the primary provider of this acquisition control function for some of the Operating Groups.

If a small investment with a borderline hurdle rate is proposed, we sometimes allow it to proceed. Our rationale is that if the investment goes sideways, then it becomes a "lesson" for the Operating Group or BU personnel that proposed it. If the investment goes well, it becomes a "lesson" for Bernie and me.

An investment only become a lesson if we diligently track its post-acquisition performance and take the time to analyse the outcome while the investment is still fresh in everyone's mind. We have a process for this that we call a post-acquisition review, or "PAR". We try to schedule the PAR's about a year after the initial investment. The PAR's originated as a head office led process approximately four years ago. Just over a year ago, we started delegating them down to the Operating Groups.

One of the useful things that head office can do, is pilot new processes and champion new ideas. If the ideas add enough value to the BU's and Operating Groups, and they choose to maintain them, then I'm delighted. Nevertheless, I think all processes should be periodically re-examined for their cost and benefit. An ad-hoc analysis done to understand a problem or opportunity is more likely to translate into action than a quarterly report that gets generated because "we've always done it that way". The former requires curiosity and intelligence, the latter bureaucracy and compliance. If the Operating Groups can learn from their acquisitions by some less burdensome method than PAR's, I'm all for it.

As we teach more people at CSI how to deploy capital, we lean on the accumulated data from our historical acquisitions to help maintain investment discipline. We have base rates for a variety of key operating metrics. Whether it is a neophyte investment champion arguing that a particular acquisition is "special", or a senior executive being tempted by a large acquisition, we have enough data to make the discussion rational, not emotional. We all know whether the key assumptions are being pushed to the 55<sup>th</sup> or 95<sup>th</sup> percentiles of our historical distributions.

My only significant concern regarding investment discipline, is that we'll be tempted to drop our hurdle rates as our cash balances climb.

#### Avoiding Overhead Creep:

Overhead creep is a short-term concern of mine and the BU Managers.

It is human nature to build empires. The slippery slope looks something like this:

I add value to the CSI Operating Groups and BU's, and CSI is doing well, hence the expenditures that I make at head office are justified.

Our Operating Group Managers add value to their BU's, and their Operating Groups are doing well, hence their expenditures are justified (although they find the expenditures at head office questionable).

The Portfolio Managers who work for the Operating Group Managers add value to their BU's hence their expenditures are justified, etc., etc.

There's no real feedback in the process, until the costs of head office, the Operating Groups, the Portfolio Managers and their staff, and the Player/Coaches who work for the Portfolio Managers, all get allocated down to the BU's. We do this allocation, but the BU Managers often don't feel that they can control allocated overheads.

The only way we've been able to consistently stifle overhead growth at head office is to arbitrarily limit headcount additions. That has allowed us to reduce the head office burden from 3.0% of Net Revenue in 2004, to 0.5% last year. We hope it will be lower in 2017.

I have struggled to find a less arbitrary means of appropriately sizing overheads. A couple of years ago, our head office tax folks seemed to have an insatiable appetite for increased headcount. I couldn't argue with their justification, but I asked them to start billing the Operating Groups for the incremental services, separate from our normal overhead allocation. There were two short-term results... our head office tax people hated billing the Operating Groups and justifying their bills, and one of the Operating Groups went off and hired their own tax person. The long-term result also pleased me: the head office tax people have stopped asking about hiring additional staff. Now, if I could just figure out how to stop them spending all that money with outside tax consultants...

Each of the Operating Groups is the equivalent of what CSI was ten years ago (plus or minus three years). If every Operating Group manages to develop six or seven Portfolio Managers to whom they can download the monitoring, coaching and acquisition control functions, and seeks to operate their

remaining overheads with cost parameters similar to those that CSI's head office exhibited at the comparable time/size of portfolio, then overhead creep should be controllable.

#### Increasing Investment in Growth, both Organic and Acquired

This is a big topic. The Operating Group Managers and I are concerned that our BU's are not investing enough in the pursuit of profitable Organic growth. Equally important, we would like to see the company investing all of its FCF (and perhaps more) in acquisitions.

I believe that optimising organic growth investment is the single toughest management task in software. It requires a long-term orientation and an intimate understanding of customers and capabilities from our BU Managers. Historically, organic growth has not been a struggle for our best BU Managers. When most of our current Operating Group Managers ran single BU's, they had strong organic growth businesses. As those managers gave up their original BU management position to oversee a larger Group of BU's (i.e. became Portfolio Managers), the organic growth of their original BU's decreased and the profitability of those BU's increased. Perhaps those trade-offs were rational and inevitable, and it was just a function of maturing verticals and higher market share. Nevertheless, once you've experienced higher organic growth with all of its ancillary benefits for employees and for the depth and radius of your business moat, the move towards higher profit and lower growth is much less satisfying. Across the board, our Operating Group Managers have organic growth as the primary objective for their BU Managers.

When we study organic growth, there are no easy answers from CSI's data. We are just as likely to have good organic growth in our small BU's as in our large ones. We are just as likely to have good profitability in our small BU's as in our large ones. If you believe that small implies agile and responsive, then the former observation is counter-intuitive. If you believe that economies of scale are the primary drivers of profitability in the software business, then the latter observation is counter-intuitive.

One of my research acquaintances says that most people keep torturing the data until it confesses. In this instance, we can do that... we can make a case for "small is beautiful". Our businesses with fewer than 100 employees are a tiny bit more profitable and have a bit more organic growth. Unfortunately, we can flip that finding by excluding only a couple of outlier data points. Despite the lack of compelling data, I believe that small BU's are more manageable and do a better job of serving clients in the VMS industry. Sometimes belief and gut feel are all you have, and you must act upon them until there's more evidence to influence your thinking.

CSI's BU demographics (as of December 2016) appear below. There are some BU's that are independent but are run by the same BU manager, that get aggregated as single BU's into this tally, i.e. the total number of BU's is slightly higher and the average size is slightly lower than indicated in Table 4.

Table 4

# of BU's	BU Size (Employees)
6	>200
29	100-200
158	<100

CSI's strategy is to be a good owner of hundreds (and perhaps someday thousands) of growing autonomous small businesses that generate high returns on capital. Our strategy is unusual. Most CEO's of public companies would rather run a single big business - perhaps two or three big businesses, but rarely 200 businesses. They expect (or hope) to get above average returns on capital by pursuing

economies of scale and by crushing or acquiring their smaller competition. "We are #1 in this large and growing market" is their normal aspirational paradigm. It's also a formula with which shareholders, analysts and boards are comfortable. We recognise that economies of scale, centralised management and world class talent competing in large and growing markets can be a great business-building formula. But, it isn't what we do.

We seek out vertical market software businesses where motivated small teams composed of good people, can produce superior results in tiny markets. These markets are usually characterised by a gradually consolidating customer base, so partnering with the right clients, and helping them survive and prosper is an important part of our job. What we offer our BU Managers is autonomy, an environment that supports them in mastering vertical market software management skills, and the chance to build an enduring and competent team in a "human-scale" business.

While we have developed some techniques and best practices for fostering organic growth, I think our most powerful tool is using human-scale BU's. When a VMS business is small, its manager usually has five or six functional managers to work with: Marketing & Sales, Research & Development ("R&D"), Professional Services, Maintenance & Support and General & Administration. Each of those functional managers starts off heading a single working group. If the business leader is smart, energetic and has integrity, these tend to be halcyon days. All the employees know each other, and if a team member isn't trusted and pulling his weight, he tends to get weeded-out. If employees are talented, they can be quirky, as long as they are working for the greater good of the business. Priorities are clear, systems haven't had time to metastasise, rules are few, trust and communication are high, and the focus tends to be on how to increase the size of the pie, not how it gets divided. That's how I remember my favourite venture investments when I was a venture capitalist, and it's how I remember many of the early CSI acquisitions.

That structure usually suffices until there are perhaps 30 to 40 people in the business. At that stage, some of the teams - perhaps R&D if the product is rapidly evolving or has high needs for interfaces or compliance changes - must grow beyond the five to nine optimal team size. If the head of R&D in this example is brilliant and is willing to work hours that are unsustainable for most of us, he may be able to parse out tasks for each of the team members despite the increased team size. He may be able to judge the capabilities and cater to the development needs of each of his direct reports. He may be able to recruit excellent new employees, and he may be able to manage the demands and trade-offs required to co-ordinate with the other functional managers. The more likely outcome, is that the R&D manager isn't a brilliant workaholic and cannot cope as the team size exceeds double digits. Instead, he'll break his team up into multiple teams. A new level of middle managers will be born, with all the potential for overhead creation, politics, and bureaucracy that comes with another tier of middle managers.

The larger a business gets, the more difficult it becomes to manage and the more policies, procedures, systems, rules and regulations are generated to handle the growing complexity. Talented people get frustrated, innovation suffers, and the focus shifts from customers and markets to internal communication, cost control, and rule enforcement. The quirky but talented rarely survive in this environment. A huge body of academic research confirms that complexity and co-ordination effort increase at a much faster rate than headcount in a growing organisation.

If the BU is small enough, and has a competent BU manager who has several years experience in the vertical, and good functional managers, then he/she will be able to cope with complexity for a while, making the right calls to optimise organic growth as the business grows. The challenge of running a BU of this size is human-scaled. As a BU becomes larger (by our standards, that's greater than 100 employees), I worry that even an extraordinarily brilliant and energetic manager, who has been in the vertical and the BU for a very long time, and is surrounded by a strong team that he/she has selected and

trained and winnowed over many years, is going to struggle to steer the business to above industry-average organic growth.

No one wants to admit that they've hit their limit. Some BU Managers lack the humility, some lack the courage, and most lack the time for reflection, to notice that their task is getting too large, and the sacrifices are getting too great. This is the point at which our Operating Group Managers or Portfolio Managers can provide coaching. If a large BU is not generating the organic growth that we think it should, the BU manager needs to be asked why employees and customers wouldn't be better served by splitting the BU into smaller units. Our favourite outcome in this sort of situation is that the original BU Manager runs a large piece of the original BU and spins off a new BU run by one of his/her proteges. Ideally, he/she has been grooming a promising functional manager who'll be enthusiastic about running and growing a tightly focused, customer-centric BU.

This dividing of larger BU's into smaller units is rare, but not unknown, in other large companies. One of the HPC's that we studied was Illinois Tool Works Inc. ("ITW"). It has hundreds of BU's. We began following the company from afar in 2005. The most relevant period in ITW's history for CSI was the tenure of John Nichols. Nichols began consulting to ITW in 1979, and appears to have been the primary author of its decentralisation strategy. He was CEO as the company went from \$369 million in revenues in 1981 to \$4.2 billion in 1995 (\$6.7 billion in today's dollars). Prior to Nichols's tenure, ITW had acquired only 3 businesses. During his tenure, ITW aggressively acquired and often split the larger acquisitions into smaller BU's. ITW had 365 separate operating units by 1996 when Nichols retired. I'm sorry I didn't reach out to some of the ITW employees and ex-employees until 2015. When I did talk with one of the senior managers, he said (I'm paraphrasing) "Something wonderful happens when you spin off a new business unit." ... "With a clean sheet of paper, the leader only takes those he needs. They set up in an open office with good communication and no overheads. They cover for each other. They leave all the bureaucracy and the crap behind". I did record a couple of verbatim quotes from that conversation: "Don't share sales, R&D, HR, etc. because the accountants never get the allocations right and the business units always treat the allocated costs as outside their control", and "When you get big you lose entrepreneurship".

I don't want to give you the impression that the "human-scale" BU idea is a universally accepted doctrine in our ranks. For that, I suspect we'd need more compelling data. However, we have been successfully experimenting with the concept for a long time. Volaris and TSS regularly divide their larger BU's into smaller BU's that focus on sub-segments of their markets. Volaris feels strongly that splitting larger BU's into smaller ones allows more targeted products and services that differentiate their offerings from their more horizontal competitors. Harris has very successfully acquired multiple BU's in the same industry and run them independently rather than combining them into one BU. Both tactics forego obvious and easily obtainable benefits from economies of scale. We think we get something valuable when we constrain BU headcount, but it isn't a panacea for all of our organic growth challenges.

The other way we grow is via acquisitions. The vast majority of our acquisitions fall into the sub-100 employee category and were owner-managed prior to our acquisition. In 2016 we made 40 acquisitions, of which 35 had fewer than 100 employees. 30 of those acquisitions were from owner-managers.

I believe that CSI can be a great home for an owner-managed business. If the business has more than a handful of employees, we nearly always run it as a stand-alone BU. We respect the vertical-specific knowledge of the employees and give them the chance to learn from employees running similar departments and functions in our other BU's. We don't sunset products and we believe that customers and BU Managers, not head office CTO's or product strategists, should choose which products get continued investment. If the owner-manager wants to transition out quickly, the probability is very high that the successor that he/she designates will end up running the business for CSI. If the owner-manager



wishes to stay for several years, perhaps spending less time on day to day management and more on acquisitions, then we are just as happy with that outcome. If you are an owner-manager of a VMS company and fall into either camp, we can arrange for you to meet with former owners like yourself who have sold to CSI.

We have best practices for acquisitions, just as we have best practices for fostering organic growth. When our BU managers encounter natural limits we coach them on how to get the most leverage from their skills and team. We apply a similar model when our Portfolio Managers encounter the limits to their monitoring, coaching, and acquisition related activities. I was CSI's first Portfolio Manager. Somewhere between mid-2005 and mid-2006, I ran out of capacity. CSI had \$200 million in revenue, seven Operating Groups and about thirty BU's at that time. I could do the short-term BU monitoring portion of the job, but I couldn't stay abreast of the important longer-term factors for the BU's: details about competitors, market share, major customers, product strategy, initiatives, management competencies, etc. Without those details, my ability to provide context-sensitive coaching for BU Managers and Portfolio Managers rapidly deteriorated. I had been involved in all the large acquisitions that CSI had done up until 2005 and I had chased down a second significant acquisition for several of those verticals. By 2006 I could no longer be the primary driver of our acquisition activities. I began to ask our Operating Group Managers to shoulder the entire responsibility for monitoring and coaching their BU's and to also assume responsibility for deploying the majority of our FCF.

I didn't have complete confidence in a couple of the Operating Group Managers so the delegation process dragged on for a while. We eventually terminated two managers. It cost us some severance pay and time but we were able to find capable and trusted replacements from within CSI. There was a bit of a hiccup in our growth in 2006 and 2007 but the current Operating Group Managers - Barry, Dexter, Jeff, John, Mark, and Robin - have driven most of our capital deployment since 2006. They've developed their teams, put their own unique stamp on their groups and done a magnificent job of growing CSI's revenue and FCF per share by more than tenfold. Each is now running a group of BU's that is similar in size to CSI when I ran out of capacity. All of the Operating Group Managers have started the process of delegating their monitoring, coaching, and acquisition activities down to their Portfolio Managers, so the cycle begins anew.

When I look at the current generation of Portfolio Managers, I see some that have the potential to be exceptional managers and capital deployers. While that bodes well for continued growth, there aren't enough of them to get us the ten-fold growth that we've had in the last eleven years. To generate that sort of growth, we need more Portfolio Managers and they need to be as competent as our current Operating Group Managers. That's a tall order. It will require an intense training and coaching effort with our existing Portfolio Managers, possibly some outside hires into Portfolio Manager roles, and the acceleration of some existing BU Managers into Player/Coach and Portfolio Manager roles. Until these Portfolio Management roles are filled with people that have the complete confidence of their Operating Group Managers, delegating the majority of capital allocation won't happen, and the sustainable 20% plus growth rates of the past are impossible.

In December, we asked our Operating Groups to identify new "Potential Portfolio Managers". The good news was that there were 45 BU Managers on the list and 84% of them had been internal promotions to BU manager, or had arrived as part of an acquisition. The bad news is that newly identified high-potential BU Managers must first demonstrate that they can run a BU well, build a team, and generate optimal organic growth. Then they need to learn some non-trivial M&A skills. They'll have lots of support in this process, but it doesn't happen overnight. If we manage to get even a dozen of these 45 BU managers to the point where they are running 500-1000 employee portfolios in ten years' time, that will be a huge achievement.

I have a bias towards developing our Portfolio Managers internally or having them join us via an acquisition. Our best managers have risen through the ranks and developed a following. When they make it to BU Manager, they act like they “own” their BU and they stick with it. They have career-spanning relationships with their employees and their clients. They feel responsibility heavily. If the industry they serve is suffering, they find a way to grow the business organically, or they roll up their vertical via acquisition. They progress to running one BU and coaching others. If they’re ambitious for themselves and their team, they evolve into deeply experienced Portfolio Managers with a tried and trusted cadre of employees that can help them do acquisitions and they continue to build out their Portfolio. It starts small. It’s incremental. It’s slow, but over the course of a long career their mastery, satisfaction, wealth and the number of their followers, all compound.

This sort of career path obviously worked for our current Operating Group Managers, who all either came up through the ranks or joined us via an acquisition. I believe that attracting, developing, and keeping that sort of talent, is the internal execution issue that poses the greatest threat to our continued success.

I don’t know if the analysts and journalists who predict reversion to average performance for CSI will be proved correct in the next few years. Our plan is to maintain investment discipline, keep overheads low and hire and coach a new generation of ambitious, hard-working BU Managers who can be taught how to be competent long-term “owners”. Hopefully we’ll still be having this reversion debate ten years from now.

Some businesses get their unique advantage from government-granted monopolies, some from natural resources, some from large patent portfolios, and some from enormous fixed assets. CSI doesn’t have these advantages. Our employees, and the customer relationships that those employees have built and fostered over many years, provide our competitive advantage. I hope all of our shareholders will join me in thanking our thirteen thousand employees for the company’s continued prosperity.

We will be hosting the AGM on Friday, April 28th. Many of our Directors and Officers and a number of our employee shareholders will be in attendance. We look forward to talking about our business and answering your questions. We hope to see you there.

Mark Leonard,

President

Constellation Software Inc.

April 25<sup>th</sup>, 2017

## Glossary

For 2009 and prior periods, the financial information for CSI was derived from the consolidated financial statements which were prepared in accordance with Canadian generally accepted accounting principles (“GAAP”). 2010 and subsequent year financial information for the Company was derived from the consolidated financial statements which were prepared in accordance with International Financial Reporting Standards (“IFRS”). Certain totals, subtotals and percentages may not reconcile due to rounding.

“Adjusted net income” effective Q1 2008, means adjusting GAAP or IFRS net income for non-cash expenses (income) such as amortization of intangible assets, deferred income taxes, the TSS membership liability revaluation charge, and certain other expenses (income), and excludes the portion of the adjusted net income of Total Specific Solutions (TSS) B.V. (“TSS”) attributable to the minority owners of TSS. Prior to Q1 2008, Adjusted net income was derived by adjusting GAAP net income for the non-cash amortization of intangibles and charges related to appreciation in common shares eligible for redemption. The calculation was changed to include future income taxes since the majority of future income taxes relate to the amortization of intangible assets, and thus are added back to more closely match the non-cash future tax recovery with the amortization of intangibles. All previously reported Adjusted net income figures have been restated in the table above to reflect the new calculation method. The Company believes that Adjusted net income is useful supplemental information as it provides an indication of the results generated by the Company’s main business activities prior to taking into consideration amortization of intangible assets, deferred income taxes, the TSS membership liability revaluation charge, and certain other non-cash expenses (income) incurred or recognized by the Company from time to time, and adjusts for the portion of TSS’ Adjusted net income not attributable to shareholders of CSI.

“Average Invested Capital” represents the average equity capital of the Company, and is based on the Company’s estimate of the amount of money that its common shareholders had invested in CSI. Subsequent to that estimate, each period the Company has kept a running tally, adding Adjusted net income, subtracting any dividends, adding any amounts related to share issuances and making some minor adjustments, including adjustments relating to our use of certain incentive programs and the amortization of impaired intangibles. The Company believes that Average Invested Capital is a useful measure as it approximates the retained earnings of the Company prior to taking into consideration amortization of intangible assets, deferred income taxes, and certain other non-cash expenses (income) incurred or recognized by the Company from time to time. ROIC” means Return on Invested Capital and represents a ratio of Adjusted net income to Average Invested Capital. The Company believes this is a useful profitability measure as it excludes non-cash expenses (income) from both the numerator and denominator.

“Net Revenue”. Net Revenue is gross revenue for GAAP or IFRS purposes less any third party and flow-through expenses. The Company believes Net Revenue is a useful measure since it captures 100% of the license, Maintenance and services revenues associated with CSI’s own products, and only the margin on the lower value-added revenues such as commodity hardware or third party software.

“Total Capital” is the sum of Net debt plus Invested Capital

“Net Debt” is debt less cash.

“Maintenance Revenue” primarily consists of fees charged for customer support on our software products post-delivery and also includes, to a lesser extent, recurring fees derived from software

as a service, subscriptions, combined software/support contracts, transaction-related revenues, and hosted products.

“Free Cash Flow” in this letter, unlike under IFRS is cash flow from operating activities less interest paid and property and equipment purchased. I figure if you have to pay interest and buy new computers, the cash used for those purposes is no longer available, and shouldn’t be included in FCF.

“EBITA” is earnings before interest, taxes and the amortisation of intangible assets.

“HPCs”: Ametek, Berkshire Hathaway, Danaher, Dover, Illinois Tool Works, Roper, Jack Henry & Associates, Transdigm, and United Technologies.

### Forward Looking Statements

Certain statements in this letter may contain “forward looking” statements that involve risks, uncertainties and other factors that may cause the actual results, performance or achievements of the Company or industry to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Words such as “may”, “will”, “expect”, “believe”, “plan”, “intend”, “should”, “anticipate” and other similar terminology are intended to identify forward looking statements. These statements reflect current assumptions and expectations regarding future events and operating performance as of the date of this letter. Forward looking statements involve significant risks and uncertainties, should not be read as guarantees of future performance or results, and will not necessarily be accurate indications of whether or not such results will be achieved. A number of factors could cause actual results to vary significantly from the results discussed in the forward looking statements. Although the forward looking statements contained in this letter are based upon what management of the Company believes are reasonable assumptions, the Company cannot assure investors that actual results will be consistent with these forward looking statements. These forward looking statements are made as of the date of this letter and the Company assumes no obligation, except as required by law, to update any forward looking statements to reflect new events or circumstances. This report should be viewed in conjunction with the Company’s other publicly available filings, copies of which can be obtained electronically on SEDAR at [www.sedar.com](http://www.sedar.com).

### Non-GAAP/IFRS Measures

Adjusted net income and Organic Net Revenue Growth are not recognized measures under GAAP or IFRS and, accordingly, shareholders are cautioned that Adjusted net income and Organic Net Revenue Growth should not be construed as alternatives to net income determined in accordance with GAAP or IFRS as an indicator of the financial performance of the Company or as a measure of the Company’s liquidity and cash flows. The Company’s method of calculating Adjusted net income and Organic Net Revenue Growth may differ from other issuers and, accordingly, may not be comparable to similar measures presented by other issuers. Please refer to CSI’s most recently filed Management’s Discussion and Analysis for reconciliation, where applicable, between the IFRS, GAAP and non-GAAP/IFRS measures referred to above.