# Artisan U.S. Mid-Cap Growth Strategy

QUARTERLY
Commentary

As of 31 December 2018

## Investment Process

We seek to invest in companies that possess franchise characteristics, are benefiting from an accelerating profit cycle and are trading at a discount to our estimate of private market value. Our investment process focuses on two distinct elements—security selection and capital allocation. We overlay our investment process with broad knowledge of the global economy.

### Security Selection

We seek to identify companies that have franchise characteristics (e.g. low cost production capability, possession of a proprietary asset, dominant market share or a defensible brand name), are benefiting from an accelerating profit cycle and are trading at a discount to our estimate of private market value. We look for companies that are well positioned for long-term growth, which is driven by demand for their products and services, at an early enough stage in their profit cycle to benefit from the increased cash flows produced by the emerging profit cycle.

### Capital Allocation

Based on our fundamental analysis of a company's profit cycle, we divide the portfolio into three parts. Garden℠ investments are small positions in the early part of their profit cycle that may warrant more sizeable allocations as their profit cycle accelerates. Crop℠ investments are positions that are being increased to a full weight because they are moving through the strongest part of their profit cycles. Harvest℠ investments are positions that are being reduced as they near our estimates of full valuation or their profit cycles begin to decelerate.

### Broad Knowledge

We overlay the security selection and capital allocation elements of our investment process with a desire to invest opportunistically across the entire global economy. We seek broad knowledge of the global economy in order to find growth wherever it occurs.

## Team Overview

We believe deep industry expertise, broad investment knowledge, a highly collaborative decision-making process and individual accountability are a powerful combination. Since the inception of the team, we have been committed to building a team of growth investors that retains these attributes and is solely dedicated to our process and approach.

### Portfolio Management

Matthew H. Kamm, CFA
Portfolio Manager (Lead)

James D. Hamel, CFA
Portfolio Manager

Craigh A. Cepukenas, CFA
Portfolio Manager

Jason L. White, CFA
Portfolio Manager

## Investment Results (%)

| As of 31 December 2018 | QTD | YTD | 1 Yr | 3 Yr | 5 Yr | 10 Yr | Inception[1] |
|---|---|---|---|---|---|---|---|
| | | | Average Annual Total Returns | | | | |
| **Composite — Gross** | **-18.14** | **-2.74** | **-2.74** | **5.95** | **5.64** | **16.06** | **14.18** |
| **Composite — Net** | **-18.34** | **-3.64** | **-3.64** | **4.97** | **4.67** | **15.00** | **13.12** |
| Russell Midcap® Growth Index | -15.99 | -4.75 | -4.75 | 8.59 | 7.41 | 15.11 | 8.59 |
| Russell Midcap® Index | -15.37 | -9.06 | -9.06 | 7.04 | 6.26 | 14.02 | 9.55 |

## Annual Returns (%) 12 months ended 31 December

| | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| **Composite — Gross** | **6.95** | **3.44** | **0.28** | **21.96** | **-2.74** |

Source: Artisan Partners/Russell. Returns for periods less than one year are not annualized. [1]Composite inception: 1 April 1997.

**Past performance does not guarantee and is not a reliable indicator of future results. Current performance may be lower or higher than the performance shown. Composite performance has been presented in both gross and net of investment management fees.**

**Investment Risks:** Investments will rise and fall with market fluctuations and investor capital is at risk. Investors investing in strategies denominated in non-local currency should be aware of the risk of currency exchange fluctuations that may cause a loss of principal. These risks, among others, are further described on the second to last page, which should be read in conjunction with this material.

## Investing Environment

Consistent investor concerns—namely, ratcheting trade tensions, particularly between the US and China; major developed-world central banks' apparent shift to a moderately tighter policy stance; and the potential for slower growth, especially in China and Europe—contributed to persistent heightened volatility throughout 2018. Most major indices closed in negative territory for Q4 and the year. After a rockier start, emerging markets held up better than their developed-world counterparts in Q4 but still trailed for 2018 overall. The US was among the bottom-performing indices in Q4 but led most major indices for the year—despite being the S&P 500's worst since the global financial crisis's conclusion.

On the monetary policy front, the Fed lifted rates 25bps as expected in December. Investors divined a more dovish tone from the board's 2019 projections, but markets remained volatile through the end of the year. Globally, most developed-world central banks have begun moving toward modestly tighter stances—including the ECB, which formally announced the end of its bond-buying program in December, concluding a roughly €2.6tn program. Across the channel, the BOE has raised rates twice since the country's Brexit referendum in June 2016 but has recently indicated it was prepared to pivot as necessary once the formal exit takes place in early 2019. The Bank of Japan has long been in its own monetary policy lane, remaining by far the most accommodative of the major global central banks.

Emerging markets central banks have meanwhile faced their own travails—primarily centered around the security of central bank independence, particularly in Turkey and India. For now, the question in both countries seems to be largely settled in favor of independence—a positive for markets—but as is often the case in EM, that doesn't preclude the issue's resurfacing down the road.

At the sector level, energy and technology were the notable laggards in Q4, though materials, financials and industrials led the way down in 2018. Only utilities and health care concluded the year in the black as investors shunned more cyclically oriented names—especially in Q4. Value stocks also generally declined less than growth in Q4—though they trailed for the year. From a size perspective, larger companies tended to hold up better in Q4 and 2018 overall as volatility likely swayed investors' preference toward larger stocks.

## Performance Discussion

Against the backdrop of a sharp, three-month sell-off, our portfolio trailed the Russell Midcap® and Russell Midcap® Growth Indices in Q4 but outperformed for the year. In deep bear markets, our approach has historically offered relative downside protection given our focus on high-quality franchises with positive profit cycles and reasonable valuations. But in sharp and fast corrections, our experience is typically more varied. In Q4, we witnessed some "sell the winner" dynamics that punished a number of our holdings whose fundamentals were among the strongest for the year.

At the sector level, our more cyclically exposed holdings were the biggest contributors to our underperformance. It's worth noting that we don't own stocks in the consumer discretionary, energy, materials and industrials sectors solely for their attractive positioning relative to cyclical trends. Rather, we own businesses in those sectors which we believe have secular or internal growth drivers above and beyond GDP tailwinds. Nevertheless, as investors generally rotated away from cyclical industries as the odds of a recession arguably rose, these holdings underperformed—notably, in the consumer discretionary sector, where a mix of our selective holdings of growth retailers (Canada Goose, Tiffany, Lululemon), next-generation e-commerce franchises (Wayfair and Roku) and automotive technology providers (Aptiv and Delphi Technologies) were particularly punished.

We were also negatively impacted in Q4 by our lack of exposure to the traditionally defensive sectors (real estate, staples, utilities), where we've typically identified few positive profit cycles which we believe would warrant long-term investment campaigns.

Conversely, strong stock selection in health care and financials resulted in positive contributions on a relative basis, though our holdings were in the red on an absolute basis. Within our technology exposure, which was neutral to relative performance, our software holdings generally held up better than index peers, offsetting more cyclically and trade war-exposed semiconductor and digital payments holdings.

Stepping back to the year overall, 2018 was disappointing from an absolute return standpoint—though that's not particularly surprising after a long bull market. However, even factoring in Q4's underperformance, we did outperform modestly for the year. Performance was led by our technology holdings. Our collection of leading cloud-based software franchises delivered another year of strong, profitable growth and is far removed from the negative technology-related headlines impacting the larger-cap FANG stocks.

We were particularly pleased with the performance of our health care holdings in 2018, notably our largest investments in the sector such as Veeva Systems, Boston Scientific and Edwards Lifesciences. We've written over the past several quarters about our frustration with disappointing health care selection in 2016-2017 following many years of particular strength in this area. However, in the wake of renewed focus on our process and efforts to get back on track, we were rewarded by our health care performance in 2018 and are happy with our positioning in the sector as we enter 2019.

Our consumer discretionary holdings were the major detractors for the year, tied partly to the aforementioned challenging Q4. Business services company LKQ was the primary culprit for the year, as it struggled with operational issues earlier in the year, and which we ultimately harvested. Several of our consumer holdings that sold off late in the year—such as Lululemon and Canada Goose—continue delivering strong fundamental results; as such, we are optimistic that these stocks enter 2019 with attractive prospects.

Returning to the quarter, among our bottom contributors in Q4 were Concho Resources, SVB Financial and Neurocrine Biosciences. We

have owned Concho Resources for its strong position in the Permian Basin and management's commitment to increasing returns over time. However, while its acreage provides Concho with a low-cost advantage versus most industry peers, it cannot escape the reality of crude prices, which fell sharply in Q4. We have reduced our position to take advantage of opportunities in less cyclically exposed franchises.

SVB Financial (SIVB) shares were pressured in sympathy with bank stocks as investors weigh the likelihood of a recession and the resulting possibility that future rate-hikes are less likely. We believe SIVB is well-positioned to grow over time with the "innovation economy" based on its strong presence and relationships in the tech and life sciences communities. However, we recognize it is not immune to the pressures facing less-differentiated banks. We consequently harvested a portion of our investment to reflect the decelerating macro drivers behind the financials industry as we enter 2019.

Neurocrine Biosciences (NBIX) is a biotechnology company focused on central nervous system and endocrine system disorders. Against a risk-off backdrop, particularly among biotechnology stocks, NBIX sold off in sympathy with peers. Also weighing on the stock, the company's trial of its drug Ingrezza™ (which was approved for tardive dyskinesia in 2017) in Tourette syndrome failed. We believe NBIX has multiple drivers of future profitable growth in motion—including Ingrezza's™ ongoing ramp in tardive dyskinesia, the launch (in conjunction with AbbVie) of Orilissa™ for endometriosis and additional pipeline products—and have held our position.

Our top Q4 contributors included Tableau, Cree and Genmab. Tableau is benefiting from strong demand for data-analytics tools—a secular trend we believe remains firmly in motion. Under the leadership of its new CEO, the company is effectively transitioning toward a cloud- and subscription-based business model. Meanwhile, the pace of product enhancements is picking up, making Tableau's analytical tools easier to use for employees across organizations, which should contribute to higher adoption rates.

Cree's silicon-carbide (SiC) business—which we think is well-positioned for a future with electric vehicles—has expanded its manufacturing capacity and customer contracts. The company's LED and lighting fixtures businesses have faced recent macro pressures, including trade-related headwinds, though their slow-down last quarter was insufficient to entirely offset the growth in Cree's SiC business. We are mindful these legacy businesses could be a source of volatility in coming quarters—however, we anticipate growth in Cree's SiC business should ultimately outpace a slowdown elsewhere.

Genmab's Darzalex™ continues to be embraced as an effective therapy for multiple myeloma. The stock underperformed for much of 2018 as the drug's growth moderated after a strong initial launch. However, strong clinical trial results in first-line multiple myeloma were reported in Q4 and should drive a reacceleration in 2019. In addition, Genmab is advancing its oncology drug pipeline beyond Darzalex™. We took advantage of the stock's attractive valuation to increase our position in Q4.

## Portfolio Activity

The year's relative volatility allowed us to be more active in the portfolio than in prior years. Consistent with our process, we were diligent in upgrading our capital where it made sense in Q4—paring our exposure to or exiting altogether campaigns which have become relatively less attractive, in favor of introducing new or adding to high-quality franchises trading at what we find to be compelling valuations. One example was our decision to exit Proofpoint in favor of increasing our exposure to HubSpot. Proofpoint's growth has slowed over the course of 2018 tied to a combination of factors, including its higher-than-anticipated investments in its European sales force and lower-than-expected productivity from its US sales force. Recent turnover in some of its key management positions further cloud the near-term outlook. We consequently chose to upgrade our capital into a larger position in HubSpot.

HubSpot offers a flexible, cloud-based software platform to assist customers with digital marketing efforts. It is expanding its footprint with added applications—most recently into sales and customer service tools. Further, it is increasingly attracting larger clients, who tend to be longer-term and stickier. As marketing and sales efforts continue shifting to online outlets, we believe the growth runway ahead of HubSpot remains sizeable.

We also maintained our vigilance with respect to valuations, paring our exposure to Edwards Lifesciences and Atlassian in Q4. Edwards Lifesciences is the leader in transcatheter aortic valve replacements (TAVR)—one of the fastest-growing, large medical device markets globally. Though we trimmed our position as its valuation has risen, it remains a Crop℠ position based on our conviction in the company's competitive position in the TAVR market, as well as its compelling new product pipeline in transcatheter mitral valves.

Atlassian was our top contributor to performance in 2018, and it held up relatively well in Q4. We remain confident in the fundamental outlook as companies of all sizes continue adopting Atlassian's team-collaboration software tools and as Atlassian continues expanding its product offerings into increasingly enterprise-wide solutions. For example, the company's largest product, Jira, is one of the core apps used by software developers to collaborate. Building on Jira's success, Atlassian recently launched Jira Ops, which can be used to manage the operation of software developed using Jira in the cloud. Though we believe the runway ahead remains sizeable, we modestly trimmed the position below 5% in accordance with our valuation discipline.

In addition to Proofpoint, we concluded our campaigns in Delphi Technologies and BWX Technologies in Q4. We have owned Delphi Technologies for its exposure to the ongoing shift toward electronic vehicles (EVs). However, our timing has proven early—auto sales are slowing, particularly in China, while the benefits of EVs will take more

time than we anticipated to show up in Delphi's earnings. We chose to exit Delphi to focus instead on Aptiv, where we have more conviction in the short- and long-term prospects.

BWX Technologies is the dominant provider of nuclear reactors to the US Navy and a leading supplier of components and services to the commercial nuclear power industry. The company has recently reported several meaningful setbacks—foremost, the company has faced production challenges with missile tubes for the US Navy which are proving costlier than originally anticipated. Further, the company has also pushed back its planned entry into the medical isotope business. With our thesis likely delayed, we harvested our position in favor of better opportunities elsewhere.

We introduced several new holdings to the portfolio in Q4, in addition to adding to some of our higher-conviction profit cycles. Among our new purchases were Agilent Technologies, Broadridge Financial Solutions and WellCare Health Plans. Agilent Technologies is a life sciences instrumentation franchise exposed to multiple secular trends, including biopharmaceutical research, cancer diagnostics and gene sequencing. In addition, the company is making solid progress enhancing its services and consumables businesses, which provide healthy margins and enhanced revenue visibility. The stock sold off in Q4 tied to macro concerns about the company's China exposure, but we believe its Chinese business is tied to long-term trends that aren't highly dependent on high GDP growth. We capitalized on the pullback to initiate a Garden℠ position at an attractive valuation.

Broadridge Financial Solutions is a provider of investor communication solutions, securities processing and business process-outsourcing services to banks, broker dealers, mutual funds and corporate issuers. The crown jewel of its business model is its proxy business, via which Broadridge is seen as a trusted partner in the financial industry with proven capabilities in data security and analytics, information processing and distribution at scale. We believe Broadridge is well-positioned to benefit from multiple secular trends, including those toward digitization and data analytics. Shares were pressured in Q4 after reaching what we viewed as unsustainable multiples earlier in the year. Meanwhile, we were impressed that the company secured UBS as a development partner for its new wealth-management software product, which could be a nice driver of long-term growth.

WellCare Health Plans is a leading, well-managed provider of health insurance for lower-income populations in government-funded programs such as Medicaid and Medicare. The company has a solid track record of saving government customers money while delivering high-quality care for plan members. We believe there are multiple potential sources of revenue and profit growth in the years ahead. We are aware of the possibility the 2020 presidential election refocuses attention on health insurance and will monitor those developments—though WellCare's pure-play focus on lower-cost government programs could actually position it as one of the industry's few beneficiaries of any expansion of government-funded insurance.

In addition to HubSpot and the aforementioned Genmab, we added to our positions in Lonza and Harris during the quarter. Lonza is a leading supplier to the biotechnology, pharmaceutical and specialty ingredients markets. We believe the company is well-positioned to capitalize on an expanding pipeline of biological drugs and a growing interest in applying pharmaceutical technologies to the manufacturing of consumer products with health claims. As drug discovery and development is increasingly done by smaller biotechs, Lonza's geographic reach, scientific know-how and flexibility to manufacture drugs—from the tiniest amounts needed in the early stages of trials all the way to the largest amounts needed in the commercial stage—provide it with a clear competitive advantage to drive attractive growth. The stock sold off in Q4 on what we believe to be a combination of cyclical concerns, profit-taking and possibly some concerns about the future of biotech funding. However, we believe the company remains well-positioned to grow alongside the biologics business, in addition to capitalizing on a transformation away from slower-growing, cyclical businesses and toward higher-margin businesses.

Harris provides technology-based solutions for tactical communications, geospatial systems and services, air-traffic management and other applications. Defense stocks typically hold up better during macro scares. However, concerns about federal deficit pressures and Washington gridlock weighed on the group in Q4. We recognize these concerns but believe Harris's near- to medium-term backlog provides solid growth visibility, and its pending acquisition of L3 Technologies introduces substantial self-help opportunities for cost and revenue synergies. Harris executed well on its last acquisition (Exelis in 2015), and we expect similar strong results once the L3 merger closes in mid-2019. With the valuation quite attractive, we capitalized on the general defense sell-off to increase our exposure to a high-quality franchise.

## Portfolio Statistics

As of December 31, the portfolio had a median market cap of $11 billion and a 3-5 year forecasted weighted average earnings growth rate of 23%. Our holdings were selling at a weighted harmonic average P/E (excluding negative earnings) of 23X FY1 earnings and 21X FY2 earnings. As of quarter end, we held 66 positions. Our top 20 holdings accounted for roughly 54% of portfolio assets as of quarter end. Our top 30 holdings represented about 68% of portfolio assets.

## Perspective

After nearly 10 years of a solid, if grinding, bull market, the combination of a number of macro influences has tested demand for growth equities. The simultaneous impact of heightened global trade tensions, rising interest rates and political instability has created something of a toxic mix. The ongoing US government shutdown (as of this writing) only exacerbates the negative sentiment that's characterized year end.

Taken individually, none of these factors seems particularly catastrophic. Global interest rates aren't especially high by historical standards. Trade tensions are undoubtedly a concern, but they seem contained and remain largely on the margin for now. And the US government has shut down over 20 times since 1976 with negligible long-term impacts on either the economy or markets. However, the combination has introduced fears of a near-term recession—an event which we acknowledge has a non-zero probability. That said, there are other possible outcomes as well, including a continuation of low, slow global growth for a longer period. We profess no unique insight into which of these outcomes (or a myriad of others) is likeliest. Rather, our focus is on concentrating our capital in companies we believe will be able to grow in various economic environments.

What's more, valuations—which had been a concern earlier in the year—are now certainly much more favorable as we enter 2019. If anything, the premium of secular growth companies to more cyclically oriented businesses has expanded during this downturn. But given our confidence in these companies' ability to compound profits in a reasonably wide range of economic scenarios, we have been capitalizing on the recent sell-off to upgrade into our highest conviction holdings—including the aforementioned Genmab, HubSpot, Lonza and Harris.

Stated otherwise, we believe there remain ample compelling investing opportunities globally, despite rising uncertainty and volatility. Today these stocks are trading at valuations we find particularly attractive given the sizeable opportunities ahead of them. Regardless of markets' future course, we will maintain our disciplined approach, which has historically served us well against a wide variety of investing backdrops.

For more information: Visit www.artisanpartners.com

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Net-of-fees composite returns were calculated using the highest model investment advisory fees applicable to portfolios within the composite. Fees may be higher for certain pooled vehicles and the composite may include accounts with performance-based fees. All performance results are net of commissions and transaction costs, and have been presented gross and net of investment advisory fees. Dividend income is recorded net of foreign withholding taxes on ex-dividend date or as soon after the ex-dividend date as the information becomes available to Artisan Partners. Interest income is recorded on the accrual basis. Performance results for the Index include reinvested dividends and are presented net of foreign withholding taxes but, unlike the portfolio's returns, do not reflect the payment of sales commissions or other expenses incurred in the purchase or sale of the securities included in the indices.

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Our capital allocation process is designed to build position size according to our conviction. Portfolio holdings develop through three stages: Garden℠, Crop℠ and Harvest℠. Garden℠ investments are situations where we believe we are right, but there is not clear evidence that the profit cycle has taken hold, so positions are small. Crop℠ investments are holdings where we have gained conviction in the company's profit cycle, so positions are larger. Harvest℠ investments are holdings that have exceeded our estimate of intrinsic value or holdings where there is a deceleration in the company's profit cycle. Harvest℠ investments are generally being reduced or sold from the portfolios.

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A R T I S A N  P A R T N E R S

1/16/2019 A18847L_vXUS

# Artisan U.S. Mid-Cap Growth Strategy

## Quarterly Contribution to Return (%)

As of 31 December 2018

| Top Contributors | Average Weight | Contribution to Return | Ending Weight |
|---|---|---|---|
| Tableau Software Inc | 3.25 | 0.25 | 3.46 |
| Cree Inc | 1.49 | 0.17 | 1.71 |
| Genmab A/S | 1.45 | 0.11 | 1.95 |
| MarketAxess Holdings Inc | 0.50 | 0.06 | 0.55 |
| Agilent Technologies Inc | 0.77 | 0.04 | 1.34 |
| ABIOMED Inc | 0.02 | 0.03 | 0.26 |
| Cash Holdings | 3.10 | 0.02 | 4.25 |
| Ollie's Bargain Outlet Holdings Inc | 0.01 | 0.01 | 0.30 |
| Zynga Inc | 1.23 | 0.01 | 1.59 |
| WellCare Health Plans Inc | 0.15 | 0.00 | 0.98 |
| Twitter Inc | 0.64 | -0.01 | 0.62 |
| ServiceMaster Global Holdings Inc | 0.07 | -0.01 | 0.49 |
| The Trade Desk Inc | 0.26 | -0.02 | 0.53 |
| Chipotle Mexican Grill Inc | 0.52 | -0.02 | 0.53 |
| Broadridge Financial Solutions Inc | 0.18 | -0.03 | 0.84 |
| Kellogg Co | 0.22 | -0.05 | 0.00 |
| The New York Times Co | 0.95 | -0.05 | 0.95 |
| Sage Therapeutics Inc | 0.13 | -0.06 | 0.21 |
| Microchip Technology Inc | 0.05 | -0.06 | 0.00 |
| Under Armour Inc | 0.55 | -0.08 | 0.51 |
| Hasbro Inc | 0.28 | -0.08 | 0.46 |
| TD Ameritrade Holding Corp | 1.60 | -0.09 | 1.62 |
| Vulcan Materials Co | 0.18 | -0.11 | 0.00 |
| Maxim Integrated Products Inc | 1.25 | -0.11 | 1.03 |
| Coherent Inc | 0.12 | -0.12 | 0.00 |
| Insulet Corp | 0.56 | -0.13 | 0.72 |
| Lam Research Corp | 1.29 | -0.14 | 1.03 |
| Atlassian Corp PLC | 4.46 | -0.14 | 4.81 |
| LKQ Corp | 0.62 | -0.14 | 0.00 |
| Trimble Inc | 0.56 | -0.14 | 0.58 |
| HubSpot Inc | 1.16 | -0.15 | 1.30 |
| Fortive Corp | 0.79 | -0.15 | 0.85 |
| Cintas Corp | 1.27 | -0.17 | 1.28 |
| First Republic Bank | 2.00 | -0.17 | 2.04 |
| Cognex Corp | 0.51 | -0.17 | 0.53 |
| Treasury Wine Estates Ltd | 0.95 | -0.17 | 0.98 |
| Proofpoint Inc | 0.28 | -0.19 | 0.00 |
| Delphi Technologies PLC | 0.14 | -0.19 | 0.00 |

| Bottom Contributors | Average Weight | Contribution to Return | Ending Weight |
|---|---|---|---|
| Global Payments Inc | 4.77 | -0.88 | 4.79 |
| Concho Resources Inc | 1.96 | -0.68 | 0.68 |
| The Progressive Corp | 3.89 | -0.66 | 3.49 |
| Worldpay Inc | 2.48 | -0.64 | 2.38 |
| SVB Financial Group | 1.30 | -0.61 | 0.71 |
| Neurocrine Biosciences Inc | 1.19 | -0.58 | 0.95 |
| Advanced Micro Devices Inc | 1.07 | -0.55 | 0.98 |
| Align Technology Inc | 0.94 | -0.54 | 1.01 |
| Wayfair Inc | 1.12 | -0.54 | 1.03 |
| Gardner Denver Holdings Inc | 1.84 | -0.52 | 1.67 |
| Veeva Systems Inc | 3.13 | -0.51 | 3.35 |
| Alexion Pharmaceuticals Inc | 1.51 | -0.51 | 1.40 |
| Canada Goose Holdings Inc | 1.47 | -0.47 | 1.34 |
| Harris Corp | 2.09 | -0.47 | 2.20 |
| Guidewire Software Inc | 2.24 | -0.47 | 2.22 |
| FLIR Systems Inc | 1.39 | -0.46 | 1.28 |
| IHS Markit Ltd | 3.91 | -0.44 | 3.93 |
| Aptiv PLC | 1.52 | -0.43 | 1.31 |
| TransUnion | 1.81 | -0.43 | 1.73 |
| Take-Two Interactive Software Inc | 1.71 | -0.40 | 1.81 |
| lululemon athletica inc | 1.59 | -0.39 | 1.63 |
| Pagseguro Digital Ltd | 1.04 | -0.38 | 0.50 |
| Wabtec Corp | 0.95 | -0.35 | 0.82 |
| Lonza Group AG | 1.22 | -0.34 | 1.36 |
| BWX Technologies Inc | 0.63 | -0.34 | 0.00 |
| Stanley Black & Decker Inc | 1.85 | -0.32 | 1.90 |
| Temenos AG | 1.04 | -0.29 | 1.03 |
| Albemarle Corp | 1.22 | -0.28 | 1.07 |
| Boston Scientific Corp | 3.38 | -0.27 | 3.53 |
| Box Inc | 0.80 | -0.27 | 0.44 |
| Exact Sciences Corp | 1.30 | -0.26 | 1.28 |
| Motorola Solutions Inc | 2.16 | -0.26 | 2.15 |
| West Pharmaceutical Services Inc | 1.14 | -0.25 | 1.14 |
| Tiffany & Co | 0.53 | -0.23 | 0.00 |
| Expedia Group Inc | 1.86 | -0.23 | 1.95 |
| Roper Technologies Inc | 2.26 | -0.22 | 2.45 |
| Edwards Lifesciences Corp | 1.84 | -0.21 | 1.81 |
| Roku Inc | 0.30 | -0.20 | 0.39 |

Source: Artisan Partners/FactSet. **Performance is historical and is not a reliable indicator of future results.** As of 31 Dec 2018. These investments made the greatest contribution to, or detracted most from, performance during the period based on a representative account within the strategy Composite. Upon request, Artisan will provide: (i) the calculation methodology and/or (ii) a list showing the contribution of each holding to overall performance during the measurement period. Securities of the same issuer are aggregated to determine the weight in the portfolio. % Contribution to Return is calculated by FactSet by multiplying a security's weight in the portfolio by its in portfolio return for the period referenced and does not take into account expenses of the portfolio. Purchases/sales are accounted for by using end of the day prices, which may or may not reflect the actual purchase/sale price realized by the portfolio.