



Investment Process Highlights

Our investment approach is based on thematic idea generation, a systematic framework for analyzing companies and proactive risk management. Utilizing this approach, we seek to construct a focused portfolio designed to maximize alpha while limiting downside risk over the long term.

Thematic Idea Generation

We believe a key element in alpha generation is finding areas where our views on industry fundamentals differ from consensus estimates. In this pursuit, we seek to identify inflections in multi-year trends which may be caused by changes in supply/demand dynamics, societal behavior, market conditions, technology, laws/regulations and business models, among other variables. We believe these inflections are often misunderstood by market participants, and can lead to powerful re-ratings of industries and companies. Identifying themes helps us develop a focused universe of companies to analyze more thoroughly.

Systematic Analytical Framework

We apply a systematic framework for analyzing companies across sectors and themes, creating a repeatable and methodical decision-making process. Our proprietary company models focus on multi-year earnings power differentiation, expected outcome scenario analysis, return on invested capital and discounted cash flow valuations. Visual outputs are then produced through our internally developed technology solutions, allowing us to consistently evaluate positions across the portfolio.

Proactive Risk Management

We incorporate risk management into all stages of our investment process. Metrics evaluated include crowding, correlation, volatility, stress tests, liquidity, factor analysis and macro drivers, all of which inform portfolio construction and position sizing. We also use various instruments, such as options, in an effort to magnify alpha and minimize downside.

Team Leadership

The investment team applies the same approach to thematic idea generation and fundamental company analysis that Portfolio Manager Chris Smith has honed throughout his career. Research analysts are sector specialists with deep knowledge of their coverage areas. Our process blends a collaborative team mentality with individual accountability.

Portfolio Management



Christopher Smith
Portfolio Manager

Investment Results (%)

As of 31 December 2018	Average Annual Total Returns						
	QTD	YTD	1 Yr	3 Yr	5 Yr	10 Yr	Inception ¹
Composite — Gross	-8.62	11.55	11.55	—	—	—	24.80
Composite — Net	-8.86	10.45	10.45	—	—	—	23.58
S&P 500® Index	-13.52	-4.38	-4.38	—	—	—	5.12

Annual Returns (%) 12 months ended 31 December

	2014	2015	2016	2017	2018
Composite — Gross	—	—	—	—	11.55

Source: Artisan Partners/S&P. Returns for periods less than one year are not annualized. ¹Composite inception: 1 May 2017.

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. The Strategy's investments in initial public offerings (IPOs) made a material contribution to performance. IPO investments may contribute significantly to a small portfolio's return, an effect that will generally decrease as assets grow. IPO investments may be unavailable in the future.

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.



Performance Discussion

Though down in absolute terms, the portfolio held up relatively well amid Q4's increased volatility, outpacing the S&P 500® Index. For the year, the portfolio's absolute returns were solidly positive while the index was down. Our market hedges and lower net exposure were helpful in Q4—both result from our proactive risk management approach and are differentiating features of our portfolio. For the year and since-inception periods, the primary driver of relative performance remains fundamental stock selection.

Top contributors in Q4 were mixed by theme. Among them was Lamb Weston, a holding in our cash flow inflection theme. Lamb Weston was also a top contributor YTD and since inception. We purchased Lamb Weston at the portfolio's inception believing it was an underfollowed and misunderstood company. Its leading position in a global oligopoly gave it tremendous pricing power, while its location in the Pacific Northwest offered ideal climate conditions for potato farming and easy access to Pacific ports. At the same time, growing popularity of quick-service restaurants—particularly across emerging markets—has supported heightened global demand. As our thesis played out, its multiple expanded to a premium relative to other branded staples companies. We sold the name in November to rotate capital to names where we believe we now have more upside potential.

Top Q4 contributors also included CME Group and Intercontinental Exchange (ICE), both data-monetization theme holdings. CME is one of the largest financial exchanges in the world, with an effective monopoly on most futures, currencies, equities and Treasuries, giving it significant pricing power. ICE is in a similar position as an exchange for global commodities. Both companies have significant proprietary data sets they can monetize—a newer source of cash flow generation that we believe should accelerate in the coming years. They are also lower-beta holdings and less correlated to the rest of the portfolio, which was a benefit in Q4. Further, market volatility is a positive for these companies, as volumes tend to rise.

Bottom Q4 contributors included Equinix, a retail data center and a holding in our communications infrastructure theme—a new theme in Q3. There are two sides to our communications infrastructure theme—towers and data centers—Equinix being among the latter.

Based on what we see as durable growth in cloud storage demand, revenues for interconnection (connecting companies' networks within a data center) are growing faster than revenues for colocation (facilities-based outsourcing of data center services) and at higher incremental margins. Further, contracts are long and sticky with annual price escalators, while customer fragmentation lowers churn risk and improves pricing power. Taken together, this can create strong moats and high incremental margins.

Equinix operates globally, and we believe there is a long runway for growth outside of the US, where interconnection has significant headroom to expand relative to US levels. We anticipate well-positioned companies, such as Equinix, can benefit from scale

advantages while growing profitability. Meanwhile, more focus on core operations can lead to an acceleration in ROIC over the next five years.

Equinix's weakness in Q4 was due in part to general market weakness and elevated worry around hyperscale demand. However, bookings globally remain strong—notably so in its cloud business.

Also among Q4's bottom contributors were IHS Markit, a provider of critical data and analytics, and Automatic Data Processing (ADP), a provider of cloud-based human capital management solutions (holdings in our data monetization and cash flow inflection themes, respectively). Similar to Equinix, these two remain fundamentally sound—recent earnings reports were solid. Rather, they seemed caught in Q4's downdraft. ADP traded down in sympathy with technology stocks, and IHS Markit was pressured by falling oil prices, as the energy industry is an important end client.

YTD top individual contributors by name included the aforementioned Lamb Weston and CME Group. Our top contributing theme YTD was software. Data monetization, defense and video games were also top contributing themes in 2018. The defense and video games themes had been in the portfolio since inception, and we exited both in Q4 in favor of themes we believe have more upside potential.

YTD bottom individual contributors included Equinix and NetEase (NTES)—a video game holding we exited in Q2. NTES builds apps and video games for users predominantly in China. It regularly launches new video games that have uncertain success rates. If a game is a massive success, it may have a significant impact on potential upside, but if a game underwhelms, or the decay curve from a game accelerates, the estimates come down considerably. The success of these games has a material impact on the stock's price, but accurately predicting the success of these games is challenging and requires a significant time investment from our team.

Early in 2018, volatile fluctuations in NTES revenue estimates made it challenging to assign a target price we could be confident in. While it may be possible to uncover alpha in NTES, we found that we did not have sufficient insight to justify the time spent modeling the company. As a result, we exited and eventually ceased coverage of NTES so we could focus our time on stocks that we believe can offer a better return on time invested.

From a theme standpoint, our life sciences theme was among our bottom contributors, including PerkinElmer and Agilent. Similar to communications infrastructure, this is a newer theme we wrote about in our Q3 letter. We continue to believe that strong and accelerating secular tailwinds in biopharmaceuticals and precision medicine, innovation related to diagnostics speed, and proliferation of sequencing should drive organic growth above expectations for well-positioned companies. And the rapid pace of innovation here creates opportunities for fundamental stock selection. As such, it remains our second-largest theme as of quarter end.

Portfolio Positioning¹

As of 31 Dec 2018, the portfolio consisted of six themes. The largest three themes by weight were data monetization (31.4%), life sciences (19.6%) and software (13.6%). As mentioned, we exited the video games and defense themes and added industrial gases as a new theme in Q4. At quarter end, we held 28 companies, with the largest 5 holdings comprising 31.4% of the portfolio's net assets. Non-US companies comprised 11% of net assets, and the weighted average market cap of the portfolio was \$78.0 billion².

Portfolio Exposure by Current Theme¹

Themes	% of net assets
Data Monetization	31.4
Life Sciences	19.6
Software	13.6
Industrial Gases	13.4
Communications Infrastructure	9.4
Cash Flow Inflection	9.2
TOTAL	96.6%

Source: Artisan Partners. Theme categorizations are at the sole discretion of the team and exclude market hedges and idiosyncratic positions, which are issuers held outside of a theme. ¹% of net assets represents the portfolio's exposures based on the economic value of investments and options are delta-adjusted. Cash and cash equivalents represented -4.6% of net assets. Statistics shown exclude ETFs and ETF options, which represented 0.0% and 0.0% of net assets, respectively. ²Weighted average market cap excludes cash and equivalents, ETFs and ETF options.

For more information: Visit www.artisanpartners.com

Investment Risks: A non-diversified portfolio may invest a larger portion of assets in securities of a smaller number of issuers and performance of a single issuer may affect overall portfolio performance greater than in a diversified portfolio. The portfolio's use of derivative instruments may create additional leverage and involve risks different from, or greater than, the risks associated with investing in more traditional investments. High portfolio turnover may adversely affect returns due to increased transaction costs and creation of additional tax consequences. Securities of small- and medium-sized companies tend to have a shorter history of operations, be more volatile and less liquid and may have underperformed securities of large companies during some periods. International investments involve special risks, including currency fluctuation, lower liquidity, different accounting methods and economic and political systems, and higher transaction costs. These risks typically are greater in emerging markets. 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 in Artisan Partners Form ADV, which is available upon request.

Unless otherwise indicated, the Artisan Strategy characteristics relate to that of an investment composite or a representative account managed within a composite. It is intended to provide a general illustration of the investment strategy and considerations used by Artisan Partners in managing that strategy. Individual accounts may differ, at times significantly, from the reference data shown due to varying account restrictions, fees and expenses, and since-inception time periods, among others. Where applicable, this information is supplemental to, and not to be construed with, a current or prospective client's investment account information.

This commentary represents the views of the manager as of 31 Dec 2018 and do not necessarily represent those of Artisan Partners. The views and opinions expressed are based on current market conditions, which will fluctuate and those views are subject to change without notice. While the information contained herein is believed to be reliable, there is no guarantee to the accuracy or completeness of any statement in the discussion. Any forecasts contained herein are for illustrative purposes only and are not to be relied upon as advice or interpreted as a recommendation.

The discussion of portfolio holdings does not constitute a recommendation of any individual security. For a list of the top and bottom contributors to return for the strategy, refer to the Contributors to Return chart. Attribution is used to evaluate the investment management decisions which affected the portfolio's performance when compared to a benchmark index. Attribution and Contribution are not exact, but should be considered an approximation of the relative contribution of each of the factors considered.

Theme classifications are at the sole discretion of the team. Themes and constituents are as of the date indicated and are subject to change. Certain holdings have been reclassified subsequent to initial investment, which has impacted theme performance during the period. Portfolio sector classifications are defined by the investment team based on GICS.

Portfolio statistics are intended to provide a general view of the entire portfolio, or Index, at a certain point in time. Statistics are calculated using information obtained from various data sources. Artisan Partners excludes outliers when calculating portfolio characteristics. If information is unavailable for a particular security Artisan Partners may use data from a related security to calculate portfolio statistics. All options positions are displayed on a delta-adjusted basis. Delta adjustment is necessary to properly account for the sensitivity of options to changes in price of the underlying security, as well as for making exposure comparisons to the underlying security (options exposure measured as premium will understate economic exposure and risk, while exposure measured as notional value will overstate the economic exposure). Delta-adjusted exposure estimates the approximate exposure to the equity market created by the options and is subject to change over time as a function of the size and composition of the options positions.

Securities of the same issuer are aggregated to determine a holding's weight in the portfolio. Securities referenced may not represent all of the securities in the portfolio. If certain information is unavailable for a particular security Artisan Partners may use data from a related security to calculate portfolio characteristics. All information in this report is as of the date shown in the upper right hand corner unless otherwise indicated and is subject to change without notice. Totals may not sum due to rounding.

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.

S&P 500[®] Index measures the performance of 500 US companies focused on the large-cap sector of the market. The index(es) are unmanaged; include net reinvested dividends; do not reflect fees or expenses; and are not available for direct investment.

The S&P 500[®] ("Index") is a product of S&P Dow Jones Indices LLC ("S&P DJI") and/or its affiliates and has been licensed for use. Copyright © 2019 S&P Dow Jones Indices LLC, a division of S&P Global, Inc. All rights reserved. Redistribution or reproduction in whole or in part is prohibited without written permission of S&P Dow Jones Indices LLC. S&P[®] is a registered trademark of S&P Global and Dow Jones[®] is a registered trademark of Dow Jones Trademark Holdings LLC ("Dow Jones"). None of S&P DJI, Dow Jones, their affiliates or third party licensors makes any representation or warranty, express or implied, as to the ability of any index to accurately represent the asset class or market sector that it purports to represent and none shall have any liability for any errors, omissions, or interruptions of any index or the data included therein.

The Global Industry Classification Standard (GICS[®]) is the exclusive intellectual property of MSCI Inc. (MSCI) and Standard & Poor's Financial Services, LLC (S&P). Neither MSCI, S&P, their affiliates, nor any of their third party providers ("GICS Parties") makes any representations or warranties, express or implied, with respect to GICS or the results to be obtained by the use thereof, and expressly disclaim all warranties, including warranties of accuracy, completeness, merchantability and fitness for a particular purpose. The GICS Parties shall not have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of such damages.

Market Cap is the aggregate value of all of a company's outstanding equity securities. **Return on Invested Capital (ROIC)** is a measure of how well a company generates cash flow relative to capital invested in the business. **Weighted Average** is the average of values weighted to the data set's composition. **Alpha** is a quantitative measure of the volatility of the portfolio relative to a designated index. A positive alpha of 1.0 means the fund has outperformed its designated index by 1%. Correspondingly, a similar negative alpha would indicate an underperformance of 1%.

This material is provided for informational purposes without regard to your particular investment needs. This material shall not be construed as investment or tax advice on which you may rely for your investment decisions. Investors should consult their financial and tax adviser before making investments in order to determine the appropriateness of any investment product discussed herein. In no event shall Artisan Partners have any liability for direct, indirect, special, incidental, punitive, consequential (including, without limitation, lost profits) losses or any other damages resulting from the use of this material.

Artisan Partners Limited Partnership (APLP) is an investment adviser registered with the U.S. Securities and Exchange Commission (SEC). Artisan Partners UK LLP (APUK) is authorised and regulated by the Financial Conduct Authority and is a registered investment adviser with the SEC. APLP and APUK are collectively, with their parent company and affiliates, referred to as Artisan Partners herein. Artisan Partners is not registered, authorised or eligible for an exemption from registration in all jurisdictions. Therefore, services described herein may not be available in certain jurisdictions. This material does not constitute an offer or solicitation where such actions are not authorised or lawful. Further limitations on the availability of products or services described herein may be imposed.

This material is only intended for investors which meet qualifications as institutional investors as defined in the applicable jurisdiction where this material is received, which includes only *Professional Clients* or *Eligible Counterparties* as defined by the UK Financial Conduct Authority where this material is issued by APUK. This material is not for use by retail investors and may not be reproduced or distributed without Artisan Partners' permission.

In the United Kingdom, issued by APUK, 25 St. James's St., Floor 3, London SW1A 1HA, registered in England and Wales (LLP#: OC351201). Registered office: Reading Bridge House, Floor 4, George St., Reading, Berkshire RG1 8LS.

Australia: This material is directed at wholesale clients only and is not intended for, or to be relied upon by, private individuals or retail investors. Artisan Partners Australia Pty Ltd is a representative of APLP (ARBN 153 777 292) and APUK (ARBN 603 522 649). APLP and APUK are respectively regulated under US and UK laws which differ from Australian laws and are exempt from the requirement to hold an Australian financial services license under the Australian Corporations Act 2001 in respect to financial services provided in Australia.

Bailiwick of Guernsey: The financial services referred to in this material and this document are not being made available in the Bailiwick of Guernsey (Guernsey) to more than 50 persons in Guernsey and the financial services may not be accepted by more than 50 persons in Guernsey.

Canada: This material is distributed in Canada by APLP and/or Artisan Partners Distributors LLC, which conduct activities in Canada under exemptions from the dealer, portfolio manager and investment fund manager registration requirements of applicable Canadian securities laws. This material does not constitute an offer of services in circumstances where such exemptions are not available. APLP advisory services are available only to investors that qualify as "permitted clients" under applicable Canadian securities laws.

© 2019 Artisan Partners. All rights reserved.

For Institutional Investors Only — Not for Onward Distribution



Artisan Thematic Strategy

Contributors to Return (%)

As of 31 December 2018

Top Contributors	Average Weight	Contribution to Return	Ending Weight
SPDR S&P 500 ETF Trust	-1.26	0.60	0.00
Lamb Weston Holdings Inc	1.31	0.59	0.00
CME Group Inc	3.21	0.38	1.48
Tableau Software Inc	1.25	0.29	1.50
Intercontinental Exchange Inc	3.41	0.22	4.74

Bottom Contributors	Average Weight	Contribution to Return	Ending Weight
Equinix Inc	4.20	-0.94	3.70
Airbus SE	1.35	-0.75	0.00
IHS Markit Ltd	5.44	-0.73	6.00
Canadian Pacific Railway Ltd	1.59	-0.71	2.97
Automatic Data Processing Inc	5.01	-0.67	6.00

Source: Artisan Partners/FactSet. Portfolio weights based on the economic value of investments and options are delta-adjusted. 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.