



### 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 (% USD)

As of 31 December 2019	Average Annual Total Returns						
	QTD	YTD	1 Yr	3 Yr	5 Yr	10 Yr	Inception <sup>1</sup>
<b>Composite — Gross</b>	<b>7.81</b>	<b>34.10</b>	<b>34.10</b>	—	—	—	<b>28.20</b>
<b>Composite — Net</b>	<b>7.54</b>	<b>32.80</b>	<b>32.80</b>	—	—	—	<b>26.96</b>
S&P 500® Index	9.07	31.49	31.49	—	—	—	14.31

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

	2015	2016	2017	2018	2019
<b>Composite — Gross</b>	—	—	—	<b>11.55</b>	<b>34.10</b>

Source: Artisan Partners/S&P. Returns for periods less than one year are not annualized. <sup>1</sup>Composite 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 near the back of this document, which should be read in conjunction with this material.



### Performance Discussion

In Q4, our portfolio modestly trailed the S&P 500® Index but finished solidly ahead for the year and since inception. While security selection weighed on relative returns in Q4, strong stock selection continues to be the main driver of outperformance for the year and since inception. From a theme standpoint, our data monetization theme was our largest contributor to return in Q4 and for the year, followed by meaningful contributions from our network modernization and payments transformation themes. Overall, all six of our current themes contributed positively during the period.

As we've detailed in previous commentaries, our data monetization theme—also our top-contributing theme since inception—is focused on the growth and availability of data driving increasingly critical data analytics tools and systems, like machine learning, artificial intelligence and the cloud. In turn, more companies are attempting to monetize their significant data sets through new products and applications for customers. These companies tend to have license-based, recurring revenue business models, which contribute to higher incremental margins and stickier client relationships—a combination that should lead to structurally higher ROICs and expanding multiples over time.

Among our individual top contributors in Q4 was network modernization theme holding Nvidia. The company is the leading designer of graphics processing units (GPU) for computing platforms with exposure to several end-markets experiencing long-term structural growth—including gaming, data centers and more nascent markets like artificial intelligence and self-driving vehicles. Nvidia's gaming division, which accounts for roughly half of its revenues, has been the dominant contributor to its growth story, but going forward, we expect its data center segment to be a key driver of its success. Nvidia's data center total addressable market is expected to rise to \$50 billion from \$37 billion over the next five years, driven by the accelerating processing needs of data science and the growing artificial intelligence phenomenon. As a result, we expect its data center business to compound at 30% over the next five years, complementing an already strong gaming growth story.

Charter Communications, a network modernization theme holding, also landed among our top Q4 contributors. As the second-largest US cable company, Charter's networks provide a comprehensive platform to easily meet growing bandwidth demands. To be sure, the headwinds from the well-documented cord-cutting trend remain, but Charter has been able to successfully replace cable subscriptions with higher-margin broadband subscribers. Shares rose to all-time highs in Q4 after reporting better-than-expected Internet subscriber growth. Importantly, Charter subscription adds came with higher than average price increases, improving its overall margin profile. The combined picture shows Charter leveraging the benefits of its multi-year investments, setting the company up for outsized operating earnings and inflecting free cash flow margins.

Other top contributors included our digitization of commerce theme holding Global Payments—a top performer for the second straight quarter. As we've discussed in previous commentaries, the commoditization of core offerings in payments processing places an emphasis on scale, leaving acquisitions as a natural strategic maneuver to position for growth and new customers. Global Payments' Q2 merger with Total System Services (TSYS) creates a leader in integrated payment solutions. Given each company's focus on different parts of the payments value chain, the new Global Payments combines a differentiated acquiring business with TSYS's leading credit issuer processing business. In Q4, shares rallied after management reported strong progress with the execution of its TSYS integration and the expectation for additional cost and revenue synergies—guidance that appears conservative relative to other comparable payments deals.

Among detractors in Q4 was our network modernization theme holding Equinix. The company has been a portfolio holding since late 2018 due to favorable tailwinds for highly dense, retail colocation assets and the requirement for more edge computing infrastructure. As the largest provider of collocated data centers in the world, we believe Equinix is well positioned to benefit from the growing demand for data and connectivity. Its accelerating presence abroad, particularly in Europe and Asia Pacific, remains a significant growth driver as those regions are a few years behind the US in cloud adoption. The company's underperformance in Q4 was largely driven by exogenous pressures rather than a change in fundamentals. Despite its Q4 relative underperformance, it remained one of the portfolio's top 2019 contributors.

Other Q4 detractors included IQVIA, a life sciences theme holding. The company is a leader in clinical research and health care data, providing end-to-end solutions for outsourced clinical trial oversight for biotechnology and pharmaceutical companies. The company is disrupting the contract research organization (CRO) space by utilizing data to reduce overall costs and shortening clinical trials completion times. As the largest CRO, it is best positioned given its scale, breadth of data and ability to differentiate itself through increasingly complex clinical trials. Nonetheless, shares underperformed in Q4 after reporting results in line with Street expectations, though with modestly higher associated costs. We exited our investment in IQVIA based on valuations in the context of growth and earnings.

### Portfolio Positioning<sup>1</sup>

As of 31 December 2019, the portfolio consisted of six themes. The largest three themes by weight were digitization of commerce (24.9%), network modernization (23.7%) and automation of the industrial complex (15.2%). At quarter end, we held 36 companies, with the largest 5 holdings comprising 26.1% of the portfolio's net assets. Non-US companies comprised 10.7% of net assets, and the weighted average market cap of the portfolio was \$203.0 billion<sup>2</sup>.

### Portfolio Exposure by Current Theme<sup>1</sup>

Themes	% of net assets
Digitization of Commerce	24.9
Network Modernization	23.7
Automation of the Industrial Complex	15.2
Data Monetization	14.5
Life Sciences	7.0
Industrial Gases	5.3
<b>TOTAL</b>	<b>90.7%</b>

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. <sup>1</sup>% 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 14.1% of net assets. Statistics shown exclude ETFs and ETF options, which represented 0.0% and 0.0% of net assets, respectively. <sup>2</sup>Weighted average market cap excludes cash and equivalents, ETFs and ETF options.

For more information: Visit [www.artisanpartners.com](http://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 2019 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 obtained from various data sources and intended to provide a general view of the portfolio, or Index, at a point in time. Artisan Partners excludes outliers when calculating portfolio characteristics and may use data from a related security to calculate statistics if information is unavailable for a particular security. 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<sup>®</sup> 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<sup>®</sup> ("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 © 2020 S&P Dow Jones Indices LLC, a division of S&P Global, Inc. All rights reserved. Redistribution or reproduction in whole or in part are prohibited without written permission of S&P Dow Jones Indices LLC. S&P<sup>®</sup> is a registered trademark of S&P Global and Dow Jones<sup>®</sup> 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<sup>®</sup>) 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.

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 authorized and regulated by the Financial Conduct Authority and is a registered investment adviser with the SEC. APEL Financial Distribution Services Limited (AP Europe) is authorized and regulated by the Central Bank of Ireland. APLP, APUK and AP Europe are collectively, with their parent company and affiliates, referred to as Artisan Partners herein. Artisan Partners is not registered, authorized 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 authorized or lawful, and in some cases may only be provided at the initiative of the prospect. 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 Markets in Financial Instruments Directive (MiFID) where this material is issued by APUK or AP Europe. 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 No. 0C351201). Registered office: Reading Bridge House, Floor 4, George St., Reading, Berkshire RG1 8LS. In Ireland, issued by AP Europe, Fitzwilliam Hall, Fitzwilliam Pl, Ste. 202, Dublin 2, D02 T292. Registered office: 70 Sir John Rogerson's Quay, Dublin 2, D02 R296 (Company No. 637966).

**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.

© 2020 Artisan Partners. All rights reserved.

For Institutional Investors Only — Not for Onward Distribution



# Artisan Thematic Strategy

Contributors to Return (% USD)

As of 31 December 2019

Top Contributors	Average Weight	Contribution to Return	Ending Weight
NVIDIA Corp	3.14	0.99	4.01
Microsoft Corp	4.19	0.56	4.53
Global Payments Inc	3.08	0.51	2.97
Charter Communications Inc	2.35	0.49	1.90
Alibaba Group Holding Ltd	1.96	0.49	3.57

Bottom Contributors	Average Weight	Contribution to Return	Ending Weight
Altice USA Inc	1.00	-0.27	0.00
Comcast Corp	3.00	-0.19	0.00
Equinix Inc	1.60	-0.14	1.01
IQVIA Holdings Inc	1.66	-0.13	0.00
WEX Inc	0.21	-0.08	0.00

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 2019. 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.