



COMMONWEALTH OF PENNSYLVANIA
PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM

Public Investment Memorandum

K4 Private Investors, L.P.

Private Equity Commitment

Darren C. Foreman, CAIA
Sr. Portfolio Manager

Michael J. Tyler
Portfolio Manager

February 12, 2018



Recommendation:

Staff, together with Hamilton Lane Advisors, L.L.C. ("Hamilton Lane"), recommends the Board commit up to \$100 million to K4 Private Investors, L.P. ("K4" or the "Fund").

Firm Overview:

K1 Investment Management, LLC (K1) was founded in 2010 as a values-driven firm, with a focus on passion, persistence, humility and excellence and an investment strategy focused on sector, sourcing and operations. The K1 investment strategy is focused on taking primarily controlling equity stakes in enterprise software companies in the lower middle market, typically headquartered in North America.

K1's senior management team consists of Hasan Askari, Taylor Beaupain, Ronald E. Cano II, Dan Ghammachi and R. Neil Malik. They have extensive industry experience and, on average, have been working together for over a decade.

K4 Private Investors, L.P. will be the fourth fund raised by K1. In addition to the funds, K1 has invited LP's to participate in a significant number of co-investments on a no fee-no carry basis.

Fund Size:

K4 Private Investors, L.P. is seeking equity commitments of \$1.5 Billion.

Investment Strategy:

K1 focuses on obtaining controlling equity stakes in directly sourced investments in the software and related technology sector. The investments seek to primarily target companies with annualized revenue of less than \$100 million. K1 anticipates that this fund will invest in 10 to 15 platform companies.

K1's investment strategy is differentiated through its specialized **Sector**, **Sourcing** and **Operations** approach.

1. Sector;

Focus on enterprise software companies providing mission critical applications or a system of record.

Confirmation of revenue visibility through client retention and diversification, recurring revenue or substantial backlog.

K1 seeks to maintain a disciplined focus on software investments with well-defined investment criteria:

Mission Critical Applications: K1 focuses on enterprise applications that are essential for an end customer's ability to perform necessary business functions.

Systems of Record: One of the macro-level trends that K1's strategy seeks to exploit is the move by enterprises to automate manual processes.

Recurring Revenue: K1 focus is on identifying companies that derive a majority of revenue from recurring subscription or maintenance fees.

High Customer Retention: The majority of K1's portfolio companies maintained approximately 90% customer retention on an annual basis.

Diversified Customer Base: K1 generally seeks to target investments in companies with diversified customer bases. K1 believes that such companies offer greater predictability in revenue, customer base scalability and opportunities for white space expansion.



2. Sourcing:

Cultivation of deal flow with a proprietary database populated through direct solicitation.

Focus on developing long-standing and deep relationships with entrepreneurs and shareholders.

Sourcing Team: K1 considers its sourcing process to be core to the organization. K1 has built a dedicated 16 member sourcing team focused on identifying leading enterprise software companies through a direct solicitation model.

Infrastructure: K1 has a highly customized sourcing database, which stores private company information.

Process and Monitoring: Each member of the Sourcing Team maintains close daily contact with each other including more formal weekly pipeline conversations.

Cumulative Deal Flow: The Sourcing Team typically avoids intermediated processes and looks to contact companies that are not specifically seeking a transaction or engaged in a process.

3. Operations:

Ability to drive programmatic operational improvement through implementation of the Intelligent Operations (IOps), a framework to optimize company performance.

Market share consolidation, geographic expansion and product enhancements through strategic add-on acquisitions

K1, via K1 Operations, has developed the IOps program, a library of best practices to implement at each of the portfolio companies across six functional areas:

- (i) human capital management;
- (ii) sales and marketing;
- (iii) software development and product management;
- (iv) finance and accounting;
- (v) implementation and customer success;
- (vi) mergers and acquisitions.

The team seeks to upgrade the company's capabilities within each of these categories by focusing on enhancing its three core tenants of people, processes and systems. These best practices allow implementation of a repeatable IOps program consistently across its portfolio.

Team:

The K1 investment team is comprised of 60 members. 17 of them are members of the independent K1 operational consulting affiliate, K1 Operations. All are located in Los Angeles, CA. The six Principals are:

Name	Title and Responsibilities	Age	Prior Experience, Degree
R. Neil Malik	CEO; firm strategy, governance and investment activities	46	Kayne Andersen, Brentwood Associates, Olympus Partners, J.P. Morgan. Harvard M.B.A.
Hasan Askari	Managing Partner; leads sourcing team	33	Kayne Anderson, Pathway Capital, Morgan Stanley. USC B.S.
Taylor Beaupain, (continued)	Managing Partner; leads execution team	40	Kayne Anderson, Merrill Lynch. UCLA M.B.A.
Ronald El Cano	Partner; leads diligence team	35	Vista Equity, Clearlake Capital, Bear Stearns. Stanford M.B.A.



Dan Ghammachci	Managing Partner; leads reporting team	47	CEO of Media Solutions Holdings, Int'l Commerce Exchange Systems. Rutgers M.B.A.
Sujit Banerjee	Managing Director of K1 IOps	45	Consulting. U. Penn M.B.A.

Industries and Sectors Sought for Investing:

Since inception, K1 has focused on enterprise software companies in the lower middle market. The market opportunity in enterprise software is driven by compelling trends related to advances in computing power, enterprise adoption of Software as a Service (SaaS) applications and the resulting productivity gains derived from the automation of manual processes. In each fund, K1 typically seeks to build a portfolio of approximately 10 to 15 companies focused on a diverse set of industries in the software and related technology sector.

Market Opportunity:

SaaS is defined as an application or service that is provided through a browser over the web. Smaller companies often lack access to the sophisticated tools, network and strategic guidance that a sector-focused investment firm like K1 can bring to a portfolio company. An increasingly attractive opportunity exists to invest in “mission critical” or “system of record” enterprise software companies that generate significant recurring revenue through subscriptions or maintenance contracts. Deep integration of this software results in high switching costs. Typically, SaaS is delivered through a subscription-based business model, where customers pay a fee for a service to be consumed over a set time or duration. K1 can take advantage of the growth in SaaS and subsequent revenue growth of those providers

Investment Highlights:

Sector
Since inception, K1 has focused on enterprise software companies. There appears to be significant headroom for growth of this market as companies seek competitive advantages and productivity improvement leveraged on specialty software.
Focus on Lower Middle Market Software Companies
Investing in software companies in the lower middle market offers the potential for greater returns relative to investing in larger companies where more competition may exist. Smaller companies present the largest number of investment opportunities, are particularly underserved and can face acute capital constraints.
Operations Group
K1's focus on enterprise software companies has enabled it to establish a dedicated, specialized operational consulting affiliate, K1 Operations, LLC (“K1 Operations”), which focuses on identifying common opportunities and solutions within its portfolio companies, building a suite of best practices, which is rolled out across the Funds.



Sourcing

K1 has been, since its founding, built as a direct sourcing firm. The Principals and the Firm's dedicated sourcing team execute K1's direct-sourcing model, which has generated nearly ten thousand management conversations and almost two thousand management meetings since 2011. K1 has implemented a highly customized sourcing database, which currently stores private company information not generally available to the public for a large pipeline of unique software and technology companies.

Strong Performance

K1 has had strong performance in its prior funds. Their composite Net IRR is 27.8% as of 9/30/2017. All of their funds have outperformed their top quartile benchmarks. Additionally, all of their funds have beaten the Public Market Equivalent (PME), which is the MSCI U.S. Small Cap Index as of 9/30/18.

Investment / Risk Considerations:

Key Man Risk

Mr. Malik represents a key man risk given his leadership of the firm and its processes. The management team is wholly-owned by Mr. Malik and he has historically been allocated a majority of the carried interest. Mitigating this risk, the team continues to grow internally and senior professionals have been allocated increasing amounts of carried interest. This compensation structure helps to mitigate key man risk over the longer term evolution of the fund as the team is incentivized to work cohesively. Also the junior and mid-level professionals will continue to develop and grow with the firm; emphasizing accountability and collaboration across teams, the firm is strengthened and this helps to offset potential impact of firm continuity in the event of loss of Mr. Malik.

GP will be able to realize investments in the expected time and valuation range

K1 has plans to exit approximately 14 investments across Fund I, Fund II, and Fund III over the next 3 years; three in 2018. Although the GP has demonstrated ability to generate value through numerous partial exits to financial buyers, and indicates significant in-bound interest in multiple portfolio companies, there is no guaranty that sales will be executed in the time frame planned, or that external economic contingencies will negatively impact the exit timing.

GP will be able to deploy the increased fund size in attractive deal flow

Fund IV represents a significant step-up from the fund size of Fund III. As K1 continues to build out its team in order to support the increased deal flow, mid-level professionals will continue to have to evolve into more senior roles. Mitigating this is that the GP has successfully navigated larger fund sizes in each of the prior funds, and raised the Special Opportunities Fund to take up excess availability of investment flow above what Fund I and Fund II were investing. Also, the GP has raised funds every 2-3 years, and the larger fund size is mitigated by the planned 5 year investment period, putting K4 on about the same investment pace as the prior fund.



Portfolio Fit:

A commitment to K4 will be allocated to the Private Equity portfolio. A commitment to K4 takes advantage of one of the fastest growing segments of the market. Accelerated software development and implementation by companies will be significant drivers of productivity improvement and are highly sought after as competitive advantages. This commitment will enhance lower mid-market exposure in the overall portfolio.

The table below summarizes PSERS' Private Equity exposure as of September 30, 2017; \$ millions.

Investment Type	Active Commitments ¹	%	Market Value	%	Unfunded ¹	%	Total Exposure ^{1,2}	%
Private Equity	15,468.5	66.5%	5,269.8	67.1%	3,986.4	70.4%	9,256.2	68.5%
Special Situations	4,446.5	19.1%	1,071.0	13.6%	965.0	17.0%	2,036.0	15.1%
Venture Capital	2,897.0	12.5%	1,007.5	12.8%	656.8	11.6%	1,664.3	12.3%
PE Internal	455.2	2.0%	502.9	6.4%	58.1	1.0%	561.0	4.2%
Total	\$ 23,267.2	100.0%	\$ 7,851.2	100.0%	\$ 5,666.2	100.0%	\$ 13,517.5	100.0%

(1) As of September 30, 2017. Includes post Q3'2017 pending/closed commitments.

(2) Total Exposure is Market Value + Unfunded

Investment Committee Disclosure:

Relationship with Hamilton Lane:	Existing Limited Partner in prior Fund.
Placement Agent:	Evercore; K1 acknowledges PSERS will not bear directly or indirectly any placement agent fee or expense, finder's fee or any similar fee or expense regardless of whether a placement agent was used in connection with PSERS or any other investors commitment. In the event any such fees are passed on to PSERS, there will be a dollar-for-dollar offset against management fees or other form of reimbursement until the full amount of fees are offset.
PA Political Contributions:	None Disclosed
PA Impact:	None
Conflicts:	None Disclosed
First Time Fund With PSERS:	Yes
PSERS AIC Approval:	February 12, 2018

Oversight Responsibility:

Investment Office:	Charles J. Spiller Darren C. Foreman Michael J. Tyler	Deputy CIO, Non-Traditional Investments Senior Portfolio Manager Portfolio Manager
External Consultant:	Hamilton Lane	



Hamilton Lane

February 7, 2018

Board of Trustees
Commonwealth of Pennsylvania
Public School Employees' Retirement System
5 North 5th Street
Harrisburg, PA 17101

Re: K4 Private Investors, L.P.

Dear Trustees:

K1 Investment Management, LLC ("K1") was founded in 2010 by Neil Malik to focus on an investment strategy focused on integrating one sector, enterprise technologies, with best in class sourcing resources and hands-on operational abilities. K1 is split into five teams focused on a respective aspect of the investment process: sourcing, execution, diligence, reporting and operations; each team is led by a senior professional who is supported by dedicated junior and mid-level professionals. Mr. Malik is responsible for overseeing all firm management activity and functions in a strategic oversight role, while the other Partners are responsible for running their designated functional teams. Every investment opportunity is assigned a Partner deal lead as the due diligence progresses; this cross-functional staffing paired with K1's specialized investment teams creates multiple touch points across the firm during diligence and throughout the hold period. The Investment Committee is made up of Neil Malik, Dan Ghammachi, Taylor Beaupin, Hasan Askari and Ronald Cano, with all new investments requiring unanimous approval. K1 is targeting \$1.5 billion in commitments from limited partners for its fourth buyout fund, K4 Private Investors, L.P. (the "Fund"). K1 expects to hold a first close in March 2018 and a final close in April 2018. The General Partner will commit at least 2.0% of commitments to invest in the Fund.

The Fund will target investments in United States based business-to-business software companies in the lower-middle market with revenue below \$100 million and near break-even profitability. The General Partner remains focused on a specific company profile to best utilize its repeatable investment process and capitalize on its unique deal flow. K1's stringent sector focus has led to a well-developed domain expertise and helps to position the General Partner as a preferred partner. The General Partner primarily sources deal flow through cold-calling businesses by the dedicated sourcing team; the majority of K1's target companies are not actively seeking institutional capital, and the General Partner is typically the first source of institutional capital. This direct sourcing approach has historically led to attractive entry revenue multiples. The operating team drives value creation through hands-on strategic initiatives in the form of best-practices and add-on acquisitions. The General Partner is differentiated from similar, technology focused peers based on hands-on direct sourcing and operations teams; as a result, K1 typically competes with smaller, regional general partners or family offices. The Fund will primarily target equity investments in the range of \$25 million to \$400 million, targeting companies with enterprise values between \$25 million and \$200 million. K1 estimates that the Fund will make 10 to 15 investments. The General Partner has generated top-quartile performance on a net IRR basis across all prior funds.

K4 Private Investors' investment thesis can be summarized as follows:

- K1 uses a unique and repeatable investment process investing in lower middle-market enterprise software businesses
- The General Partner maintains a growing platform, with cohesive Partners supported by developing junior and mid-level talent



Hamilton Lane

- Differentiated deal flow and value creation initiatives drive company level performance
- Attractive performance with additional upside expected in the near term

Hamilton Lane's recommendation is based upon the following analytical factors and is made within the context of Commonwealth of Pennsylvania, Public School Employees' Retirement System's ("PSERS") investment guidelines.

- Detailed due diligence, including interviews with industry peers and private equity professionals. The initial review was completed August 24, 2017; the on-site due diligence was conducted January 16, 2018; the fund was approved by Hamilton Lane's Investment Committee on February 5, 2018 and the recommendation to PSERS was issued February 7, 2018.
- Evaluation of the composition of the investment team, how they work together, compensation structure and other factors that help determine whether a group is likely to be able to replicate past successes as currently configured.
- Detailed Operational Due Diligence, including interviews with K1's back office team to review the controls and processes surrounding the firm's finance, fund administration, tax, legal, compliance, IT, HR, and accounting functions.
- Evaluation of the Fund's proposed investment strategy within the context of the current investment environment.
- The strategy proposed for the Fund is appropriate for the Private Equity Partnership component of the portfolio.

The individuals at Hamilton Lane who were involved in the due diligence process for the Fund are:

Christian Kallen – Managing Director, Bala Cynwyd Office

Alyssa Fried – Analyst, Bala Cynwyd Office

Jacob Fertell – Analyst, Bala Cynwyd Office

Based on the above, Hamilton Lane recommends that PSERS commit up to \$100 million in K4 Private Investors, L.P. Hamilton Lane makes this recommendation considering the General Partner's qualifications and PSERS' overall investment guidelines.

This recommendation is given solely for the benefit of PSERS and cannot be relied upon by other investors, considering an investment in the Fund, since their needs, objectives and circumstances may not be identical to those of PSERS. The scope of this recommendation is limited to the investment merits of the Fund. Hamilton Lane does not provide legal or other non-investment-related advice.

Sincerely,

Michael Koenig,
Managing Director

Corina English,
Principal