

2013-15 Investment Office Roadmap Update

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October 14, 2013

Agenda

Purpose

- Communicate INVO's alignment with CalPERS Strategic Plan
- Provide update on INVO Roadmap accomplishments and upcoming efforts

Order of Discussion

- Integrated Strategic Plans: CalPERS and INVO
- INVO Roadmap
 - Core Priorities and Actions Needed
 - Accomplishments and Upcoming Efforts
- Cost Implications
- Recap

Integrated Strategic Plans

CalPERS and INVO Roadmap Alignment

Integrated Strategic Plans During 2013



CalPERS Enterprise Mission

Provide responsible and efficient stewardship of the System to deliver promised retirement and health benefits, while promoting wellness and retirement security for members and beneficiaries.

Investment Office (INVO) Mission

To be the leading public investment organization in the world by engaging the talents of our people and partners in executing innovative and sustainable investment strategies and products that generate superior risk adjusted returns to enhance the financial security for all who participate in our System.

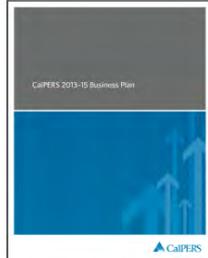
CalPERS Business Plan and Initiatives

Each CalPERS Strategic Goal rolls down to Strategic Objectives, Strategic Initiatives and Business Plan Initiatives.



Strategic Goals and Objectives	Strategic Initiative	Business Plan Initiatives (INVO related)	Executive Owners
Goal A: Improve long-term pension and health benefit sustainability			
Fund the System through an integrated view of pension assets and liabilities	Manage funding risk through asset liability management framework	1. Investment Risk Management	Joe Dear Alan Milligan
Deliver target risk-adjusted investment returns	Implement programs and initiatives that improve investment performance	1. Investment Performance 2. Cost Effectiveness 3. Organization, Systems, & Controls 4. Emerging Investment Manager Strategy 5. ESG Investment Strategy	Joe Dear

CalPERS Business Plan & INVO Related Initiatives



Each CalPERS Strategic Goal rolls down to Strategic Objectives, Strategic Initiatives and Business Plan Initiatives.

Strategic Goals and Objectives	Strategic Initiative	Business Plan Initiatives (INVO Related)	Executive Owner
Goal B: Cultivate a high-performing, risk-intelligent, and innovative organization			
Recruit, retain, develop and empower a broad range of talents against organizational priorities	<i>INVO is a key stakeholder, dependent upon Talent Management to achieve the INVO Roadmap objectives.</i>		n/a
Actively manage business risks with an enterprise-wide view	<i>CalPERS business risks that are being managed by INVO are included in the INVO Roadmap objectives.</i>		n/a
Goal C: Engage in State and national policy development to enhance the long-term sustainability and effectiveness of our programs			
Clarify and communicate CalPERS perspective on pension, health and financial markets	Establish principles and beliefs on public policy	1. Investment Beliefs	Joe Dear

INVO Roadmap

Core Priorities, Issues, Objectives and Actions Needed

INVO Roadmap: Strategic Priorities



INVO Roadmap is aligned around three strategic priorities:

- ➔ **Performance**: Achieve our target rate of return without exposing the fund to undue risks
- ➔ **Plumbing**: Develop and implement the systems, controls, and processes necessary to assure the integrity of operations
- ➔ **People**: Ensure that we have the right number of people with the right skills to enable investment performance improvement and control of operations

The INVO Roadmap is a set of objectives, initiatives and milestones to achieve these priorities, aligned with CalPERS Strategic Plan.

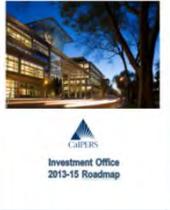
Why is the Roadmap needed?



	Core Issue	Actions Needed
Performance	A challenging performance target, and a need to resolve the ranking of returns relative to peers	<ul style="list-style-type: none"> ✓ Restructure legacy investments to improve risks, returns and cost effectiveness ✓ Continue to identify and use cost/fee savings to self-fund increases in Plumbing and People
Plumbing	Functional gaps in systems and controls create operational risks	<ul style="list-style-type: none"> ✓ Implement the systems and controls (plumbing) needed to support the desired investment processes and strategies
People	Complex portfolio management issues without the right mix of investment expertise	<ul style="list-style-type: none"> ✓ Attract and retain talent capable of implementing sustainable risk-aware investment processes ✓ Create an environment that continuously replenishes the right investment skills for the future

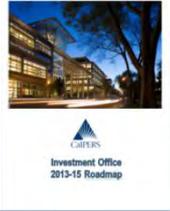
Establish the “table stakes” needed for an innovative investment culture that seeks to improve the long-term investment performance and sustainability of employee benefit programs

INVO Roadmap: Revised Strategic Priorities & Objectives



Performance	New	Investment Beliefs	<ul style="list-style-type: none"> Establish beliefs about capital markets and investor behavior to inform investment strategies and improve governance.
		Investment Performance	<ul style="list-style-type: none"> Deliver consistent risk-adjusted investment returns.
		Investment Risk Management	<ul style="list-style-type: none"> Establish a comprehensive portfolio risk management system and practices to measure, manage and communicate investment risks.
		Capital Allocation	<ul style="list-style-type: none"> Implement a risk-based, dynamic asset allocation approach.
		Cost Effectiveness	<ul style="list-style-type: none"> Enhance cost effectiveness of the investment program to improve net returns on assets.
	New	Emerging Investment Manager Strategy	<ul style="list-style-type: none"> Implement 5-year plan for emerging and diverse managers in our investment program.
	New	ESG Investment Strategy	<ul style="list-style-type: none"> Integrate relevant environmental, social and governance risk considerations into investment decision making across the Total Fund.
Plumbing		Organization, Systems, and Controls	<ul style="list-style-type: none"> Design, develop, & implement a robust operating model that minimizes complexity, improves transparency, & strengthens processes, systems, & controls. Reduce operational risk by developing a risk aware culture with clear metrics & operational risk management processes/governance.
People		Talent Management	<ul style="list-style-type: none"> Enhance the ability of the Investment Office to recruit, develop and retain a high skilled, diverse & motivated team to ensure success.

INVO Roadmap: Evolution



2008 – 2010
“Triage”

- Managed impact of the financial crisis
- Ensured liquidity and mitigated immediate risks
- Managed placement agent, special review and FPPC investigation issues

2010 – 2012
“Establish
Foundation”

- Developed INVO Vision and Roadmap
- Identified issues and developed strategic plans to remedy
- Built a core leadership team and restructured the organization
- Developed new asset allocation framework
- Achieved significant wins and improvements

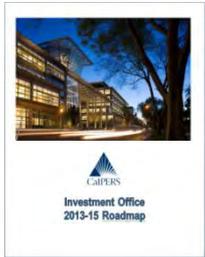
2012– 2015
“Heavy Lifting”

- Substantially implement Roadmap initiatives
- Establish a sustainable organization – build repeatable processes and develop a deep bench of people

2015 – 2016
“Continuous
Improvement”

- Continually innovate to adapt to changing market conditions
- Enhance processes and systems on an ongoing basis
- Manage ongoing people development process

Evolution: Status Summary (Checkpoint)



- **Established a “Foundation” between 2008 and 2012:** Reasonable levels of progress during this period considering the staffing levels
 - **Performance:** Portfolio restructuring began across asset classes
 - **Plumbing:** Target Operating Model (TOM) initiatives started and are well under way
 - **People:** Talent Management is more effective and is ramping up to desired staffing levels

- **Started the “Heavy Lifting” phase:** Significant work remains to achieve the INVO Roadmap objectives before a “Continuous Improvement” status is achieved
 - **Performance - Investment Beliefs, ALM and Investment Risk:** Implementing Investment Beliefs, Asset Liability Management (ALM) and a robust Investment Risk framework. These will provide a long-term foundation for managing investment programs.
 - **Performance - Restructuring Investments:** Restructuring investments and implementing investment strategies in asset classes will further strengthen the investment program.
 - **Plumbing – Organization, Systems, and Controls:** Completing TOM initiatives will reduce key operational risks.
 - **People - Speed of Delivery and Sustainability:** Need to maintain focus on expanding organizational bandwidth by increasing the pool of investment talent available in CalPERS.

Factors Impacting Speed of Delivery and Quality



Investment Office
2013-15 Roadmap

Dependencies	Sequencing initiatives so they build and support each other – within INVO and across the Enterprise
Talent Management	Recruiting, hiring and retaining experienced investment professionals
Deep Investment Skills	Engaging experienced investment specialists to address complex investment management, operational, legal/contractual and accounting issues
Organizational Bandwidth	Adjusting expectations on the pace of change to recognize the limits on the amount of change INVO can absorb

INVO Roadmap – Performance

Objectives, Accomplishments and Upcoming Efforts

Performance: Objectives



	Investment Beliefs	<ul style="list-style-type: none"> Establish beliefs about capital markets and investor behavior to inform investment strategies and improve governance.
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Plumbing	Organization, Systems, and Controls	<ul style="list-style-type: none"> Design, develop, & implement a robust operating model that minimizes complexity, improves transparency, & strengthens processes, systems, & controls. Reduce operational risk by developing a risk aware culture with clear metrics & operational risk management processes/governance.
People	Talent Management	<ul style="list-style-type: none"> Enhance the ability of the Investment Office to recruit, develop and retain a high skilled, diverse & motivated team to ensure success.

Performance: Key Accomplishments

Investment Beliefs

- ✓ Adopted Investment Beliefs that will guide investment decisions and processes

Investment Performance

- ✓ Achieved a total fund net return for the fiscal year ending June 30, 2013 of 12.54%, outperforming the benchmark by 1.5 percentage points
- ✓ Continued restructuring investments in Real Estate, Private Equity, Global Equity, Fixed Income and Absolute Return Strategies

Investment Risk Management

- ✓ Appointed Senior Investment Officer to head the Asset Allocation and Investment Risk functions
- ✓ Established Derivatives Committee required to oversee derivatives trading and monitor counterparty risks
- ✓ Defined a comprehensive framework (plan) for clarifying the scope of and improving the effectiveness of the risk management function

Capital Allocation

- ✓ Completed workshops that used a risk-based Asset Liability Decision-making Framework to determine CalPERS actuarial assumptions and asset allocation targets

Performance: Key Accomplishments (cont.)

Cost Effectiveness

- ✓ Achieved cost reductions for consultants, external managers/partners and trading commissions to self-fund cost of INVO Roadmap initiatives
- ✓ Partnered with Fiscal Services Division to develop expense management and reporting capabilities

Emerging Investment Manager Strategy

- ✓ Released 5-year plan for emerging and diverse managers in our investment program including kick off for first forum at the Sacramento Convention Center
- ✓ New investments have been made in the Emerging Manager Program for Private Equity and Real Estate with significant commitments made to women or minority owned firms

Environmental, Social and Governance (ESG) Investment Strategy

- ✓ Launched CalPERS first ever public sustainability report (Toward Sustainable Investment: Taking Responsibility)
- ✓ Monetized and engaged companies through the Focus List
- ✓ Led Sustainable Investment Research Initiative in partnership with UC Davis and Columbia University to commission research and conduct a global academic Sustainability and Finance Symposium

Performance: Upcoming Efforts

Investment Beliefs

- ✓ Incorporate Investment Beliefs into investment programs

Investment Performance

- ✓ Achieve our target rate of return without exposing the fund to undue risks
- ✓ Continue restructuring investments strategies and processes in Real Estate, Private Equity, Global Equity, Fixed Income and Absolute Return Strategies that contribute to Total Fund returns

Investment Risk Management

- ✓ Recruit experienced portfolio managers to establish a more defined, comprehensive risk management function
- ✓ Continue to establish capabilities defined in the plans to implement a more comprehensive Risk Management framework

Capital Allocation

- ✓ Implement the revised asset allocation targets approved by the Board resulting from the ALM workshop
- ✓ Evaluate the liquidity and cash management framework needed to manage fund level performance and investment risks

Performance: Upcoming Efforts (cont.)

Cost Effectiveness

- ✓ Continue to achieve fee reductions for consultants, external managers/partners and vendor services
- ✓ Continue to improve expense management and reporting capabilities

Emerging Investment Manager Strategy

- ✓ Improve communications with managers about the status of their investment proposals, and process for tracking the effectiveness of managing investment proposals
- ✓ Benchmark and compare CalPERS emerging and diverse manager exposures and programs with our U.S. public pension peers

Environmental, Social and Governance (ESG) Investment Strategy

- ✓ Develop a strategic plan for aligning CalPERS Investment Beliefs with asset class principles and initiatives related to the integration of three forms of capital – financial, human, and physical
- ✓ Advance CalPERS financial market reform priorities with the U.S. Securities and Exchange Commission to address investor rights, board quality and diversity, incentives, corporate reporting, and smart regulation

INVO Roadmap – Plumbing

Objectives, Initiative Status, Accomplishments
and Functional Risk Levels

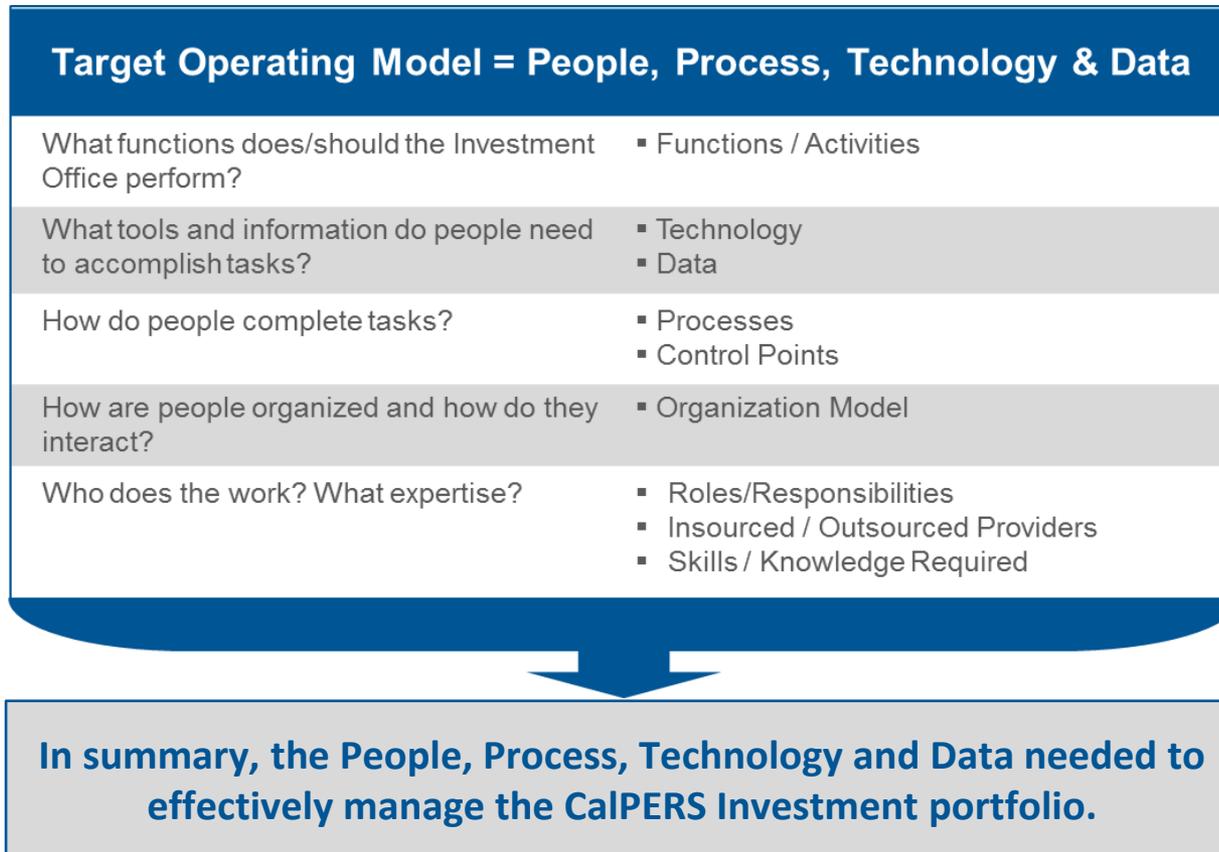
Plumbing: Objectives



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People	Plumbing → Organization, Systems, and Controls	<ul style="list-style-type: none"> Design, develop, & implement a robust operating model that minimizes complexity, improves transparency, & strengthens processes, systems, & controls. Reduce operational risk by developing a risk aware culture with clear metrics & operational risk management processes/governance. 	← Target Operating Model
	Talent Management	<ul style="list-style-type: none"> Enhance the ability of the Investment Office to recruit, develop and retain a high skilled, diverse & motivated team to ensure success. 	

Plumbing: What is a Target Operating Model (TOM)?

INVO Roadmap Priority: Organization Systems and Controls



Plumbing: TOM Roadmap – Sequence and Status of Initiatives

Business Initiative	Status	2013			2014				2015		
		2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q +
Top Priorities, Carry Over											
1	PM2: "Public Markets Portfolio Management"	G									
2	Private Equity Portfolio Management, Accounting & Data Services	Y									
3	INVO Expense Management & CAFR Support	G									
4	Derivatives Central Clearing & Processing	Completed									
Needs Turbo Charging, Carryover											
5	Contract Management	G									
10	Trust (Fund) Structure Validation & Redesign	Y									
11	Performance Measurement & Attribution	Y									
21	Incentive Compensation Reengineering (INVO)	G									
12	Pricing / Valuation (INVO)	G									
25	Affiliate Investment Program – Roles & Responsibilities	G									
24	Affiliate Investment Program – Process & Technology	G									
6	Investment Compliance Monitoring	G									
23	Investment Proposal Administration Enhancements	G									
In-Progress and Within Reach											
7	Travel Policies & Procedures	Completed									
9	Operational Risk Governance & Management	G									
8	Manager Selection & Monitoring – Standards and Compliance	G									
26	Operational Delegation of Authority (Non-investment related)	Completed									
15	Vendor Management	Completed									
14	Technology Management	Y									
Focus Primarily on Scope and Design in 2013											
20	ARS Legal Structure & Technology	G									
13	Cash Management – Processing & Controls (INVO)	Y									
19	Investment Policy Revisions	G									
22	Disaster Recovery / Business Continuity	G									
18	Contact & Relationship Data Mgt – Current Business Partners Only	n/a									
17	Data Management - Core Capabilities	n/a									
16	Records Retention, Document Management	n/a									

Status
G = On Target
Y = Monitor
R = At Risk
Level of Effort
Significant
Moderate

Plumbing: Key Accomplishments

Derivatives Central Clearing & Processing

- ✓ Established capabilities to support and manage derivatives including central clearing (Dodd Frank)
- ✓ Established a Derivatives Committee to oversee the use of derivatives by internal and external portfolio managers, and processes needed to better manage derivatives on an on-going basis

Travel Policies and Procedures

- ✓ Revised travel policies and procedures to significantly improve the process and controls
- ✓ Established responsibilities needed to better manage Travel Policies and Procedures on an on-going basis

Operational Delegation of Authority

- ✓ Created and implemented an Operational Delegation of Authority policy
- ✓ Established processes for monitoring and assuring compliance on an on-going basis

Vendor Management

- ✓ Established an industry standard framework for managing and monitoring vendor services on an on-going basis
- ✓ Completed pilot of Vendor Management processes for Custody, PM2/Global Equity IBOR and Charles River
- ✓ Embedded vendor management practices in all new initiatives (e.g., Private Equity) and established plans for further implementation around existing vendor services

Plumbing: Key Accomplishments (cont.)

Investment Compliance Monitoring

- ✓ Developed an investment policy compliance testing framework and launched a training program aimed at improving pension fund management and financial skills for staff throughout the Investment Office
- ✓ Improved the level of maturity in managing operating events by adopting an operational risk framework and strengthening oversight by the Operating Committee

Disaster Recovery / Business Continuity

- ✓ Completed disaster recovery and business continuity plan testing at the Emergency Operations Center

PM2: “Public Markets Portfolio Management”

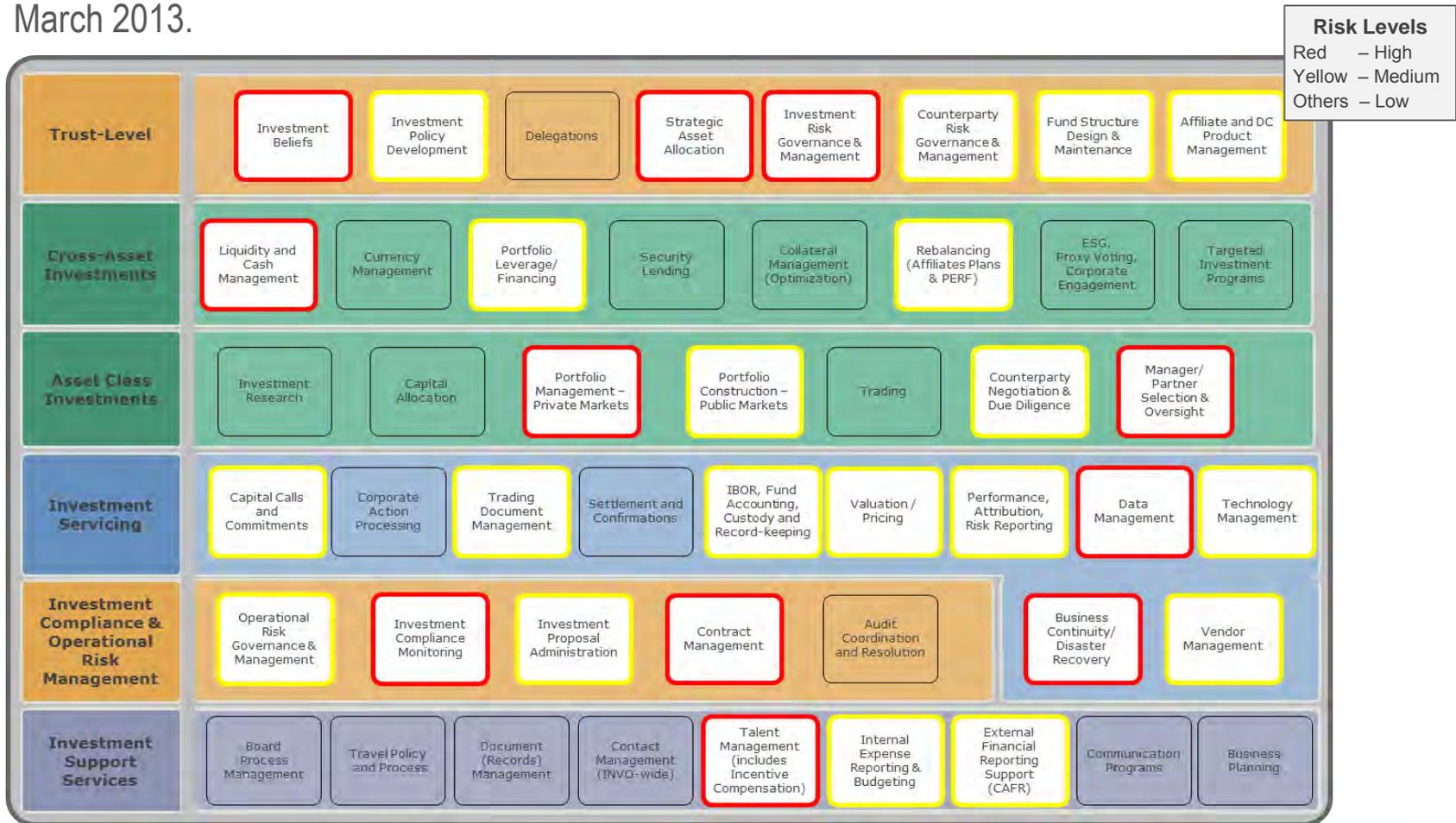
- ✓ Implemented a new automated recordkeeping system to serve as the Investment Book of Record for all internally managed Global Equity portfolios

Private Equity Portfolio Management, Accounting & Data Services

- ✓ Completed contract negotiations with two service providers
- ✓ Engaged the implementation teams from service providers and began clarifying and making refinements to work plans and INVO requirements

Plumbing: TOM Hot Spots – Functional Risk Assessment

The following risk levels were assigned to the refreshed Target Operating Model (TOM) in March 2013.



TOM Hotspots – Changes in Functional Risk Levels

Risk Levels changed for the following functions:

- **Red to Yellow** (High to Medium Risk Level)
 - **Investment Beliefs** – reflects the Investment Beliefs approved by the Investment Committee
 - **Investment Compliance Monitoring** – reflects maturity of staffing level and establishing several core regulatory and internal compliance functions
 - **Contract Management** – reflects progress made in establishing a workflow system and clarifying terms and conditions
 - **Business Continuity/Disaster Recovery** – reflects maturity of staffing level, results of BC/DR exercises and robustness of upcoming plans and the migration of trading platforms to a hosted solution with mature BC/DR capabilities
 - **Talent Management** – reflects the completed recruitment of some key positions, and the Board approval of the INVO class study and biannual salary survey

- **Yellow to Green** (Medium to Low Risk Level)
 - **Operational Risk Governance** – reflects staffing levels, maturity of both the operating event process and the INVO Operating Committee
 - **Vendor Management** – reflects adoption of the vendor management framework and embedding of vendor management practices as a core business and project responsibility

TOM Hotspots – Anticipated Functional Risk Changes

Recent progress has been made on the following functional risks with the potential to lower the risk level of several functions in the next 6 to 12 months:

Red (High Risk Level)

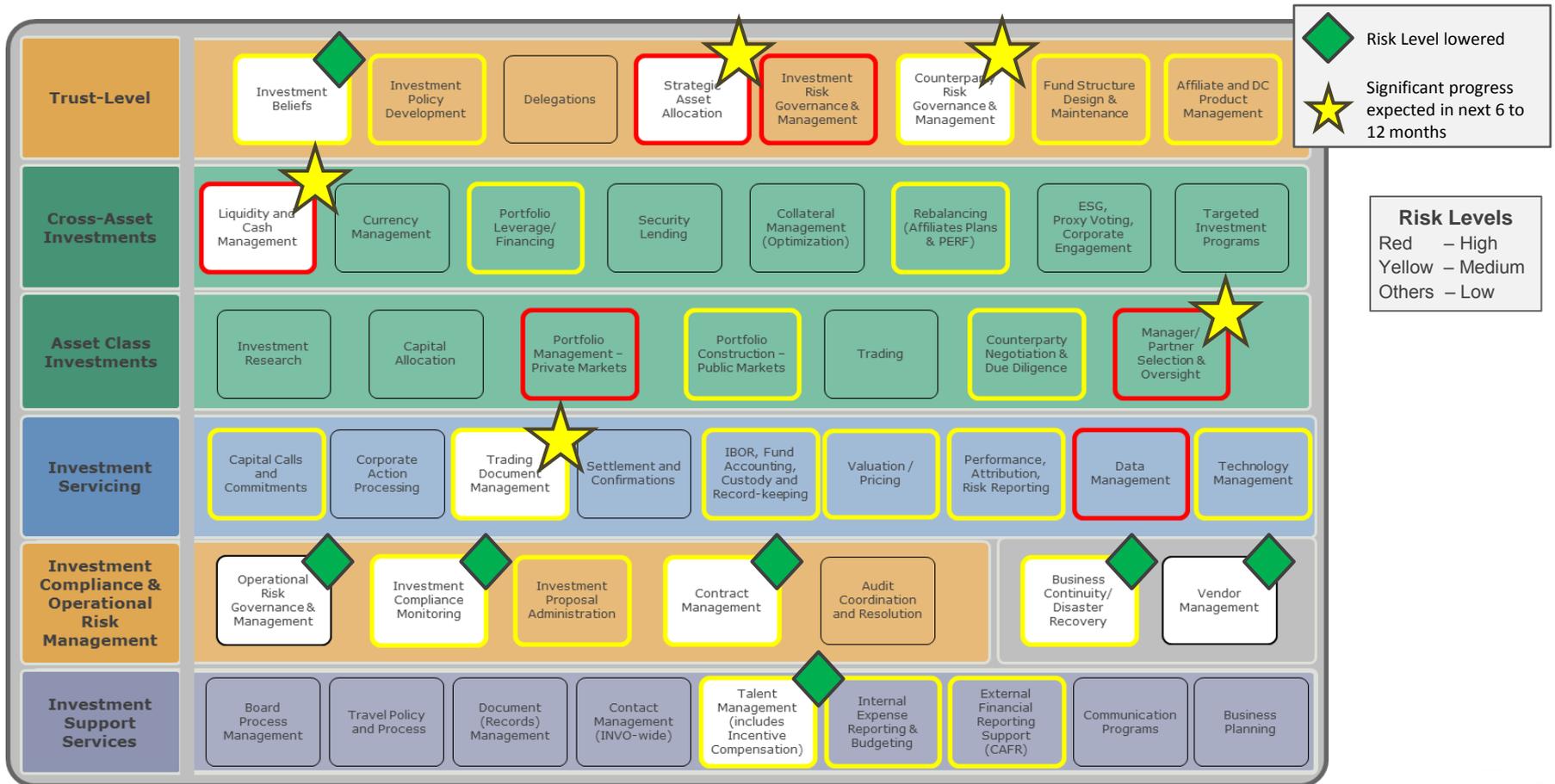
- **Strategic Asset Allocation** – The Asset Liability Management (ALM) workshops are in process. The risk level will be reduced as investment processes (decision making, monitoring) are implemented with the Board and within INVO.
- **Liquidity and Cash Management** – The scope of improvements needed for this complex function is being defined on two initiatives: 1) Investment-related functions are being addressed by the Asset Allocation group, and 2) Cash processing and control improvements are being addressed by the Investment Servicing Division. Both efforts involve working with CalPERS enterprise groups.
- **Manager/Partner Selection and Oversight** – Improvements are in-progress. The risk level will be reduced upon completion of the TOM initiative that assures that baseline standards and compliance functions exist.

Yellow (Medium Risk Level)

- **Counterparty Risk Governance and Management** – The scope and key responsibilities (e.g., Derivatives Committee) for Counterparty Risk Management have been formalized. The risk level will be reduced when this function is fully defined and implemented.
- **Trading Document Management** – Substantial work has been completed during the Derivatives Central Clearing and Processing initiative. The risk level will be reduced when the remaining gaps in this function are fully defined and implemented.

TOM Hotspots – Key Improvements since March 2013

Functions highlighted below either have lower risk levels or notable progress was recently made.



Risk Level lowered
 Significant progress expected in next 6 to 12 months

Risk Levels
 Red – High
 Yellow – Medium
 Others – Low

TOM Hotspots – Remaining High Risk Functions

The remaining Red (high risk) functions are being addressed, although the risk level will not change during the next 12 months.

- **Investment Risk Governance and Management** – The new Senior Investment Officer established a framework for a more comprehensive Investment Risk function. Progress is being made by the current staff. The rate of progress will improve after recruiting is completed to fully staff the function.
- **Portfolio Management – Private Markets** – Work on the TOM initiative, Private Equity Portfolio Management, Accounting & Data Services, addresses this risk. Service providers were chosen, and kick-off meetings are in-progress for this multi-year project.
- **Data Management** – Work on this TOM initiative, Data Management - Core Capabilities, is scheduled to begin in 2014. This work is intended to improve INVO-wide governance and architecture models and is dependent upon completing many of the TOM initiatives.

Plumbing: Enterprise Risk Dashboard Status

- TOM Hotspots identify the concerns related to the “Investment Controls and Systems” risk category shown on the Enterprise Risk Dashboard
- “Investment Controls and Systems” risks remain Red (High Risk) on the Enterprise Risk Dashboard due to:
 - The outcomes of the functional risk assessment completed during the TOM Refresh (TOM Hotspots)
 - The current level of overall progress on the TOM initiatives
 - The amount of essential work remaining on the TOM Roadmap
- The “Heavy Lifting” phase is underway on many of the 26 initiatives on the Target Operating Model Roadmap with completion targeted for 2015
- INVO continues to make progress since 2008, with no initiatives currently assigned a Red (“At Risk”) status on the TOM Roadmap.
 - Increased staffing levels achieved in 2012 expanded the organizational bandwidth for taking on initiatives and should result in a faster pace of change starting in 2014
 - Keeping initiatives in a healthier status (Green) is expected to allow senior leadership to spend less time taking corrective actions (Red risk level) and closely monitoring (Yellow risk level) initiatives

Plumbing: Upcoming Efforts

How do Investment Controls and Systems migrate from Red to Yellow on the Enterprise Risk Dashboard?

- Complete PM2 Project for Internal Global Equity
- Implement the Private Equity Portfolio Management, Accounting & Data Services solution
- Fully implement enhancements to INVO expense tracking and reporting
- Complete implementation of the investment compliance monitoring program
- Develop more robust investment performance analysis and attribution capabilities
- Improve contract management processes/controls and better align contract terms and conditions with services

Estimated completion date for these TOM Initiatives: 2013-15

How do Investment Controls and Systems migrate to Green?

- Materially complete all initiatives related to the refreshed Target Operating Model

Optimistic completion date: 2015-16

INVO Roadmap – People

Objectives, Accomplishments and Upcoming Efforts

People: Objectives



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People	Talent Management	<ul style="list-style-type: none"> Enhance the ability of the Investment Office to recruit, develop and retain a high skilled, diverse & motivated team to ensure success.

People: Achieving INVO's Talent Management Strategy

Workforce Planning

Identify the mix of skills, knowledge, and abilities needed to ensure success, and manage workforce composition on an ongoing basis

Recruitment

Recruit a high performance workforce utilizing technology, targeted outreach, and a compelling value proposition

Talent Development

Grow a highly-skilled, diverse and motivated team through continued training, coaching, mentoring, and developmental opportunities

Compensation

Develop compensation programs that reflect market dynamics and align individual incentives with INVO objectives

Culture, Communication, and Recognition

Create a high performance culture of open communication, feedback, and recognition

People: Key Accomplishments

Workforce Planning

- ✓ Completed INVO Classification Study including job family, compensation structure and a new junior-level Associate Investment Manager position
- ✓ Presented class package to Board and transmitted to CalHR for approval

Recruitment

- ✓ Partnered with the Human Resources Services Division to improve recruitment process; developed tools and guidelines to enhance our capabilities

Talent Development

- ✓ Implemented several training programs to enhance financial literacy and onboard new employees. Programs include INVO Smart program, CFA-Claritas and INVO onboarding

Compensation

- ✓ Partnered with Human Resources Services Division and the Board's Compensation Consultant to understand compensation levels/structure in relation to investment industry peers

Culture, Communication and Recognition

- ✓ Developed and leveraged a range of communication and recognition tools to reinforce alignment of priorities

People: Upcoming Efforts

Workforce Planning

- ✓ Continue to implement the INVO Resource Strategy by addressing skill gaps and resource needs for each program area
- ✓ Continue to advance INVO Classification Study work by implementing the investment manager project and initiating the Investment Officer project

Recruitment

- ✓ Continue to partner with Human Resources Services Division to execute and fine tune recruiting efforts

Talent Development

- ✓ Build career development and workforce development plans that address skill gaps and leverage strengths of existing staff including knowledge sharing, training and development assignments, job rotation opportunities, formal internships, exposure to key projects/initiatives and senior leadership

Compensation

- ✓ Continue Board discussions around compensation structure, design and methodologies to align with industry best practices

Culture, Communication and Recognition

- ✓ Continue to leverage and enhance communication and recognition tools

Cost Implications

Cost Implications

Staffing Levels and Targets

- INVO's staffing mix (front office vs. governance/support) was not aligned with industry benchmarks: low staffing levels in investment risk, operational risk, compliance and strategic asset allocation
- INVO requires increasing the number of experienced investment leaders and experts to implement change defined in the INVO Roadmap
- Significant progress has been made in the last three years to achieve more appropriate staffing levels and mix of investment skills that address significant gaps in the Target Operating Model
- A significant ramp-up to a target staffing level will occur in 2013-2016: approximately 450 INVO PYs

Staffing Increases - Benefits Realized Since the Triage Phase Ended in 2010

- Established critical investment control functions that did not exist in Investment Risk Management, Investment Compliance and Operational Risk, and improved segregation of duties in other investment functions
- Internalized core, high value functions that were previously outsourced
- Transitioned assets to internal management
- Created bandwidth to reduce investment fees and generate cost savings

Cost Implications (cont.)

INVO continues to focus on improving the total cost effectiveness of managing the portfolio

- Reinvest some external fee savings to promote self-funding of significant initiatives on the INVO Roadmap, including the People and Plumbing needed to manage the investment program
- Improve financial and administrative controls to improve staff's ability to monitor the costs of managing the portfolio
- Continue to explore opportunities to effectively deploy resources in order to deliver more value

Ongoing efforts have resulted in cost reductions that “self fund” INVO Roadmap priorities:

- External investment management (partnership) fees
- Consultants
- Brokerage and other trading costs

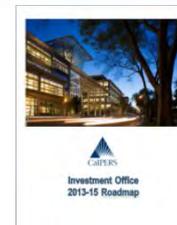
INVO continues to align priorities and collaborate with CalPERS partners such as Legal, Fiscal, HR, etc.

INVO's Roadmap calls for a significant increase in staffing and increased spending in Portfolio Management services; INVO's goal is to self-fund these by reducing consulting and external management fees.

Recap

Recap

- Aligned INVO Roadmap with CalPERS Strategic Plan during 2013
- Migrated to a “Heavy Lifting” phase in 2012 after staffing levels increased
- Made significant accomplishments; significant “Heavy Lifting” will continue through 2015
- Why is the Roadmap Needed?



	Core Issue	Actions Needed
Performance	A challenging performance target, and a need to resolve the ranking of returns relative to peers	<ul style="list-style-type: none"> ✓ Restructure legacy investments to improve risks, returns and cost effectiveness ✓ Continue to identify and use cost/fee savings to self-fund increases in Plumbing and People
Plumbing	Functional gaps in systems and controls create operational risks	<ul style="list-style-type: none"> ✓ Implement the systems and controls (plumbing) needed to support the desired investment processes and strategies
People	Complex portfolio management issues without the right mix of investment expertise	<ul style="list-style-type: none"> ✓ Attract and retain talent capable of implementing sustainable risk-aware investment processes ✓ Create an environment that continuously replenishes the right investment skills for the future

Establish the “table stakes” needed for an innovative investment culture that seeks to improve the long-term investment performance and sustainability of employee benefit programs

Appendix

- Cost Effectiveness: Cost Savings and Self-funding
- Talent Management: Target Staffing Levels

INVO Cost Effectiveness: Cost Savings Accomplishments

INVO's Roadmap calls for a significant increase in staffing and increased spending in Portfolio Management Services; INVO's goal is to self-fund these by reducing consulting and external management fees.

Cost Effectiveness

Recurring Annual Savings Identified (Thru Sept'13)	\$109.8 million
2010-2014 Increased Headcount ¹ (141 PYs)	(\$18.4 million)
Est. Increased Investment Office Expenses	(\$13.1 million)
Net Annual INVO Cost Savings	\$78.3 million
Additional aggregate one time savings efforts negotiated	\$410 million

- ✓ **Cost Savings Efforts:** recurring annual savings comprised of consultant reductions (\$12.9 million,) external manager fee reductions (\$96.6 million) and demonstrated reduction in trading commissions and portfolio management services (\$.3 million)
- ✓ **Headcount Additions:** incremental headcount has allowed INVO to:
 1. Internalize core, high-value functions that were previously outsourced
 2. Establish critical control functions that previously did not exist (e.g. Investment Risk Management and Investment Compliance)
 3. Transition assets to internal management and reduce fees
 - Achieving benchmark staffing of 450 would potentially require an incremental 53 employees to be requested (est. cost of \$9.0 million)
- ✓ **Increased Investment Office Expenses:** estimated incremental annual costs of new Global Equity and Private Equity technology and data platforms and estimated increase in administrative expenses associated with the increased headcount (e.g. travel, training and other general expenses)

Talent Management

Where We are Today - Target Staffing

INVO developed a long term resource strategy targeting 450 staff

Current Authorized Positions	341
Temporary On-going Blanket Positions <small>(seasonal clerks and limited-term IOs)</small>	34
Blanket Positions – To Be Converted in FY 2014-15 FBR Process	22
INVESTMENT OFFICE TOTAL POSITIONS 9/1/2013	397
FY 2013-14 Mid-Year Resources	TBD
FY 2014-15 FBRs per INVO Exec Resource Strategy Meeting	TBD
FY 2015-16 FBRs & Beyond	TBD
TOTAL INVO TARGET STAFFING	450