

Investment Office Roadmap and Target Operating Model Update

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Investment Committee

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INVO 2020 Vision

2020 Focus:

- ✓ Reduce cost, complexity, and risk
- ✓ Fewer, but more strategic partnerships with external managers.



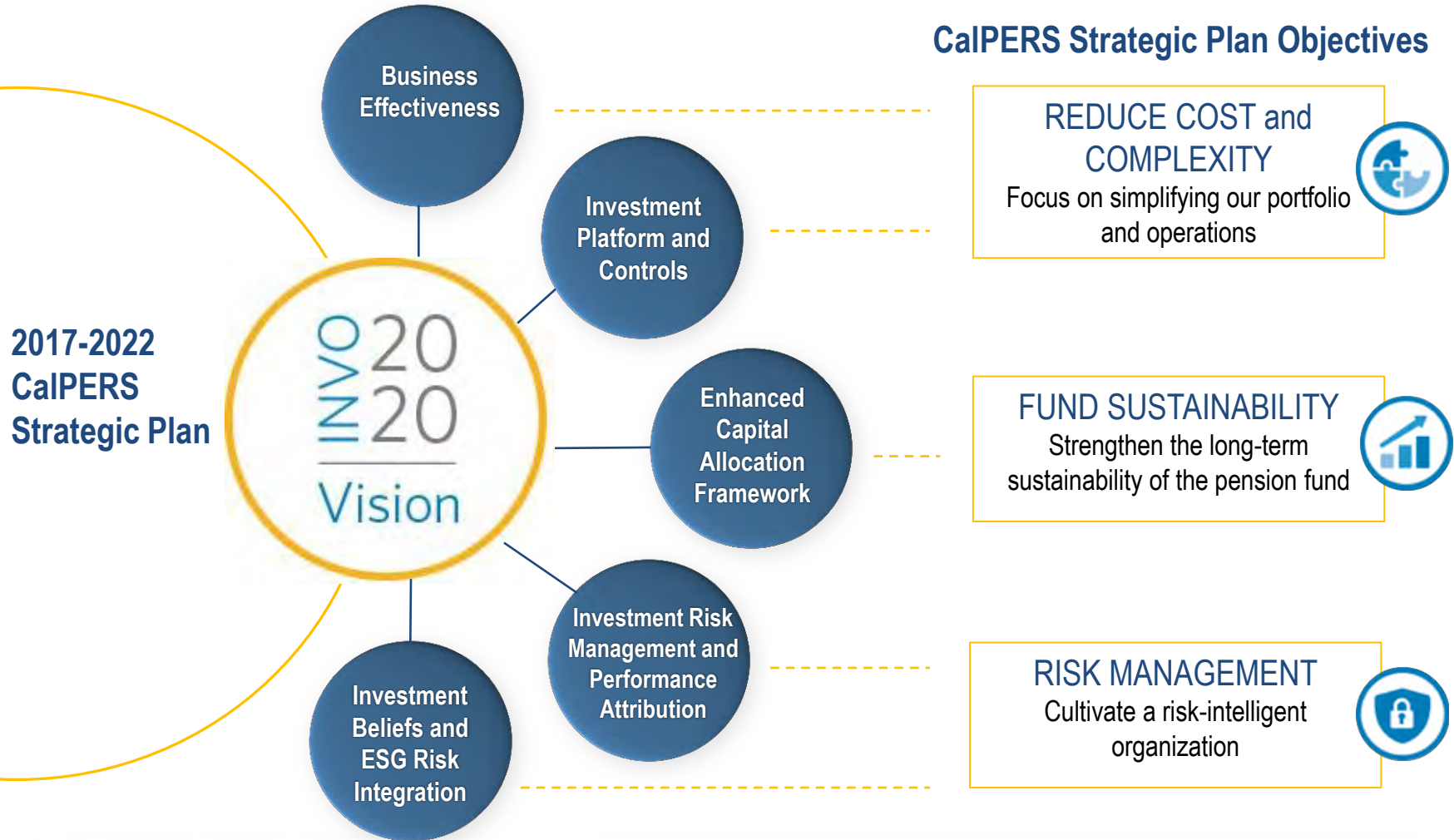
Mission

Manage the CalPERS investment portfolio in a **cost-effective, transparent** and **risk-aware** manner in order to generate returns to pay benefits.

Vision

- The Investment Beliefs and CalPERS Core Values are the guiding principles underlying our investment decisions.
- We operate with a focus on **repeatable, predictable, and scalable** portfolios and practices.
- We seek **alignment of interests** with our primary stakeholders, our business partners, and ourselves.
- We use clearly articulated **performance, risk, and cost metrics** to evaluate our value-add to the funds.
- Our investment and business activities are supported by a **solid platform of effective risk management and controls**.

INVO 2020 Vision | Enterprise Alignment





INVO 2020 Vision | Current State Assessment

2020 Vision → Mid-Cycle Review

Reduced Complexity

- Elimination of the Absolute Return Strategies (ARS) program
- Reduced total # of Managers from 315 → 147
- Elimination of Unused Composites and Incentive Compensation Benchmarks

Work in Progress

- Implementation of Systems: PEARS; Artemis
**Potential to simplify*
- Benchmark Changes in Private Assets
- Execution Services and Strategy Integration
- ESG Strategic Plan Development
- Establishment of Investment Manager Engagement Program (IMEP)

New Strategies

- Overlay
- Tail-Risk Hedge
- Volatility Targeting
- Opportunistic
- Segments
- Currency Position Evaluation
- Short-Term Investment Fund (STIF)
- Modifications to the Multi-Asset Class Program



INVO 2020 Vision | Mid-Cycle Refinements

Refined Strategic Objectives 2015-16	Enhanced Governance and Organizational Structure 2016-17	Enhanced Trust-level Decision Making 2017-18	Scalable, Repeatable, and Reliable Processes 2018-19	Factor-based Portfolio and Investment Process 2019-20
<ul style="list-style-type: none"> ✓ Better aligned with goals of the broader organization ✓ Created new Mission and Vision statements ✓ Applied more active Liquidity management 	<ul style="list-style-type: none"> ✓ Formalized <u>Trust Level Investment Decision Making</u> ✓ Applied a disciplined Risk and Attribution Review ✓ Evaluated Benchmarks, key unintended risks, asset class roles ✓ Won CalPERS Softball Championship 	<ul style="list-style-type: none"> Refine Trust-level Capital Allocation Legacy Portfolio Management Continue Organizational Realignments (NEW) Implement Opportunistic Strategies (NEW) Review private markets business models (NEW) 	<ul style="list-style-type: none"> More flexible portfolio structure Implement new private markets business models, if appropriate Legacy Portfolio Management Refine Inflation and currency impacts (NEW) 	<ul style="list-style-type: none"> <u>Reduced risk</u> and improved sustainability Asset Allocation aligned with liabilities (Risk Factor work) (MOVED FROM 2018) Active Leverage Management Fewer, but more strategic, partners Complete Organizational Realignment (NEW) <p style="text-align: right;">✓ = Complete</p>



INVO 2020 Vision | Organizational Realignment - Phase II



Created Global Governments and Economics group

Objective: Increase focus on and elevate key macro-economic drivers of risk and return for improved total fund decision making



Centralized Private Asset Analytics program

* To include Cash Flow/ Waterfall Analysis

Objective: Improve transparency and independence of cost, performance, risk and attribution information for improved total fund decision making



Re-aligned Sustainable Investments program

* To include elements of Diversity and Inclusion and Labor Engagement

Objective: Improve integration of evidenced-based ESG considerations into the investment decision making process



2017-18 Roadmap | Overview



2017-18 Roadmap

30 Initiatives

20 Program Projects

Examples of initiatives focused on reducing risk, complexity, costs:

- TOM Refresh
- Investment Data Strategy
- Broker Selection and Evaluation Review
- Private Markets Business Model Design
- Risk Function Business Design
- Diversity and Inclusion (Board Diversity)
- Sustainable Investment Research



2017-18 Roadmap | Target Operating Model (TOM)

TOM Refresh

Goals

**Reduced
Complexity**

**Integrated
Operating
Model**

**Strengthened
Alignment**

Outcomes

- ✓ Simplified structure and framework
- ✓ Refined and consolidated functions
 - From 6 functions to 5
 - From 46 sub-functions to 24
- ✓ Aligned operating model with the industry reference model, as applicable
- ✓ Better integrated private assets investment activities
- ✓ Addressed engagement activities unique to CalPERS
- ✓ Incorporated 2020 Vision and Enterprise goals



2017-18 Roadmap | Refined TOM Dashboard

		5 Functions		24 Sub Functions				
Industry Aligned	Trust Level Management	Investment Beliefs, Policy, & Governance	Strategic & Dynamic Asset Allocations	Liquidity & Leverage	Risk Management	Fund Structure & Business Model	Compliance	
	Portfolio Construction, Management & Trading	Portfolio Construction - Public Markets	Securities Trading - Public Markets	Private Asset Strategy & Transactions	Manager/ Partner Selection & Oversight			
	Investment Operations & Data	Trade Operations	Private Market Analysis & Operations	Valuation / Pricing	Investment Accounting & Custody	Performance, Attribution & Risk Reporting	Data Management	
	Investment Technology & Support Services	Technology Management	Vendor Utilization & Management	Business Continuity / Disaster Recovery	Resource Management	Financial Management		
CaIPERS	Engagement	Manager & Industry Peer Engagement	ESG Advocacy & Integration	Stakeholder Engagement				

74% of the 2017-18 Roadmap initiatives and program projects are targeted toward Medium to High Risk Functions



2017-18 Roadmap | Next Steps



Continue TOM risk-level assessments



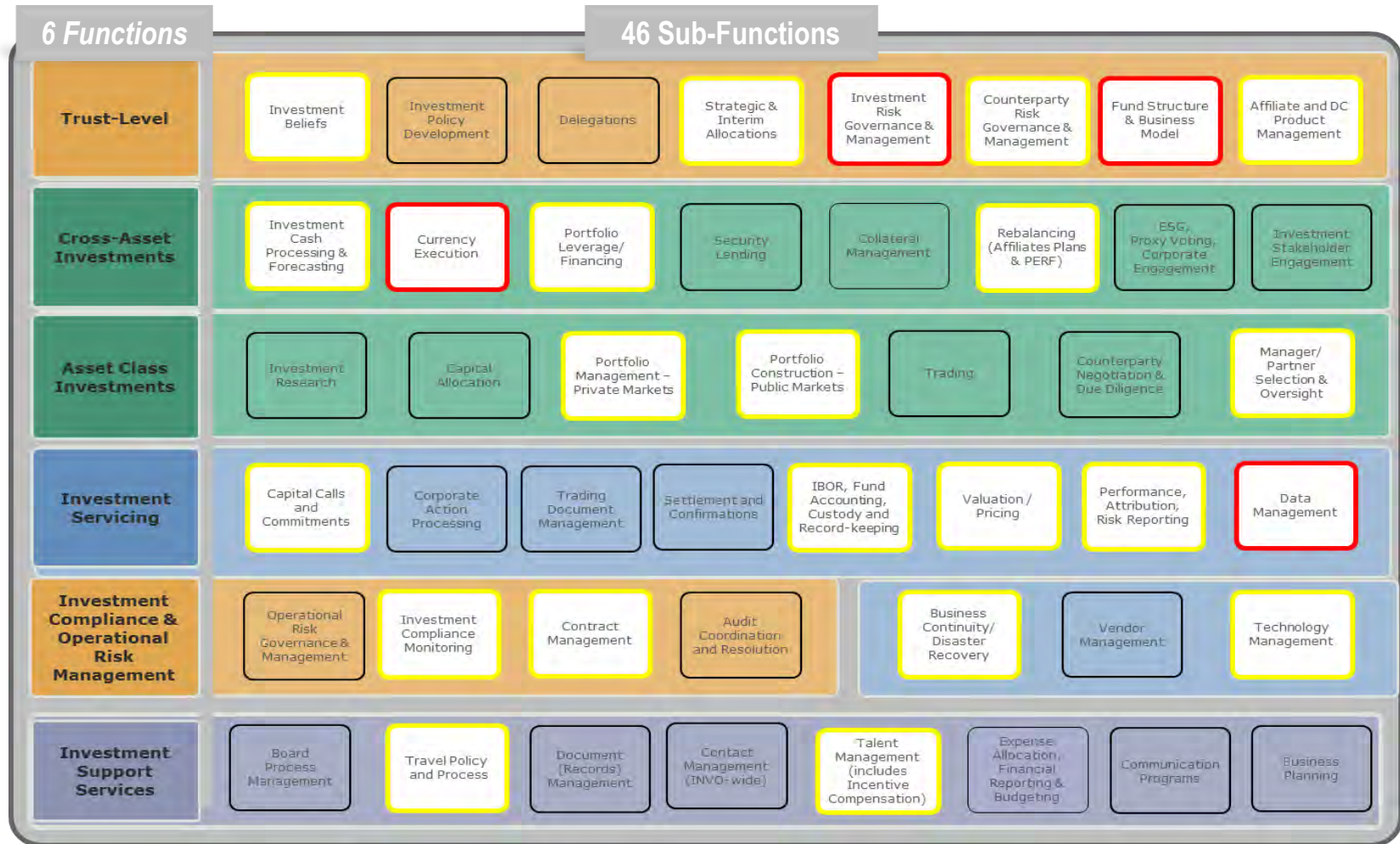
Complete 2017-18 Roadmap initiatives and program projects



Monitor and report progress through the quarterly enterprise reporting process

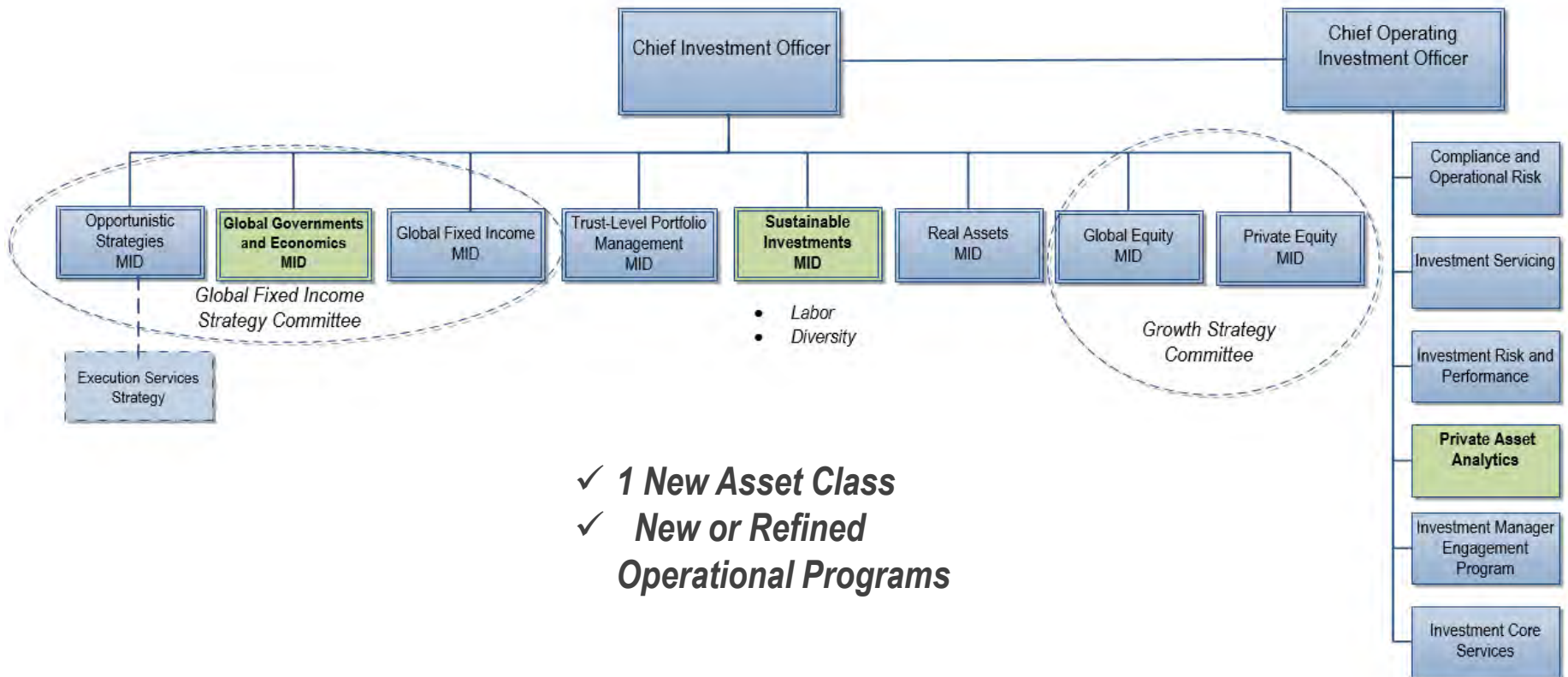
Appendix

2017-18 Roadmap | Target Operating Model (TOM)





INVO 2020 Vision | Organizational Realignment - Phase II



- ✓ **1 New Asset Class**
- ✓ **New or Refined Operational Programs**