TEDCO
LEADING INNOVATION TO MARKET

TEDCO STRATEGY BRIEF

T³IME for Maryland

*The Time, Talent, and Treasure
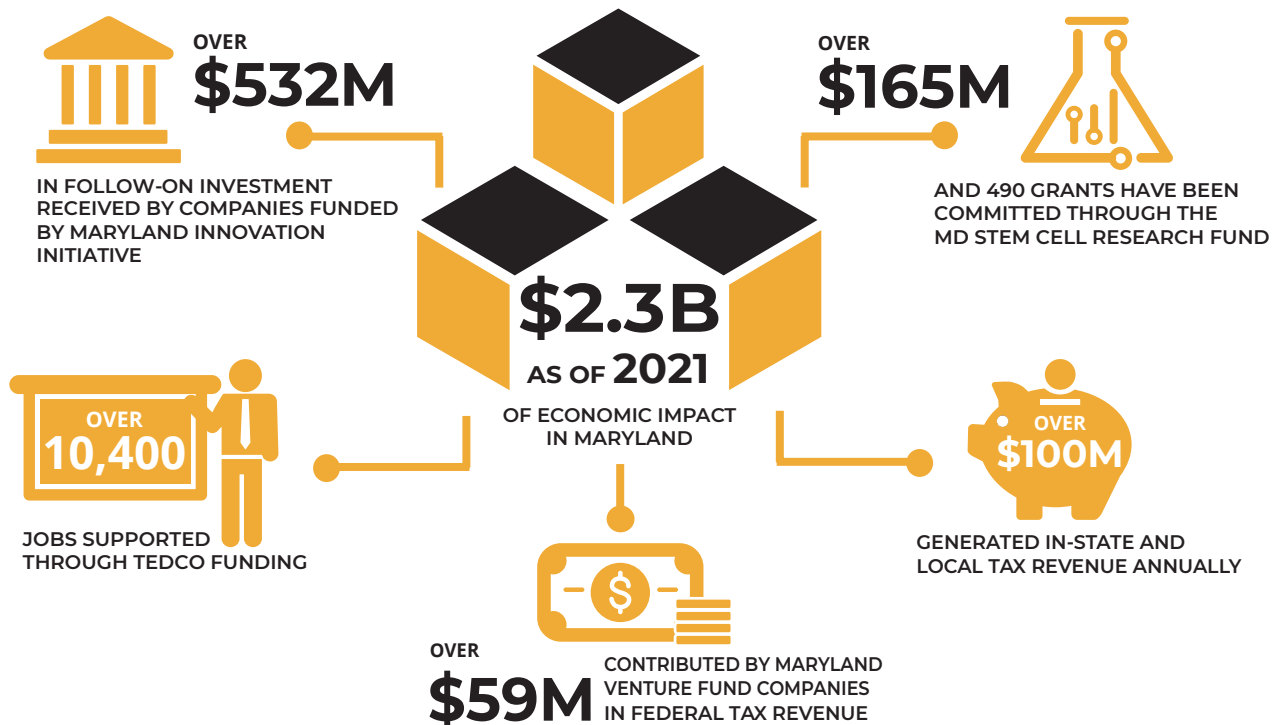Imperative for Maryland's Ecosystem*

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TEDCO's IMPACT TODAY

TEDCO, Maryland's **economic empowerment organization**, was created in 1998 to grow the State's technology-based economy through the creation of jobs, new products and services, and other economic opportunities. TEDCO primarily acts through advancing technology, entrepreneurial support, and investment programs. For the past 23 years TEDCO has led innovation to market in the state of Maryland. In November 2021, an independent study prepared by the University of Baltimore, Jacob France Institute found that TEDCO has generated significant economic and fiscal returns to the state.

Maryland has received significant and growing economic benefits from its investment in TEDCO. When multiplier effects are included, the companies created or supported by the six core TEDCO programs generated a total of $2.3 billion in Maryland economic activity as of 2021, supporting a total of 10,433 jobs earning $884.7 million in labor income and generating estimated state and local government revenues of $100.1 million.[1]

OVER
$532M

IN FOLLOW-ON INVESTMENT RECEIVED BY COMPANIES FUNDED BY MARYLAND INNOVATION INITIATIVE

OVER
$165M

AND 490 GRANTS HAVE BEEN COMMITTED THROUGH THE MD STEM CELL RESEARCH FUND

$2.3B
AS OF **2021**

OF ECONOMIC IMPACT IN MARYLAND

OVER
10,400

JOBS SUPPORTED THROUGH TEDCO FUNDING

OVER
$100M

GENERATED IN-STATE AND LOCAL TAX REVENUE ANNUALLY

OVER
$59M

CONTRIBUTED BY MARYLAND VENTURE FUND COMPANIES IN FEDERAL TAX REVENUE

INTRODUCTION TO
THE STRATEGIC PLAN

T³IME for Maryland

TEDCO's strategic plan, the Time, Talent, and Treasure Imperative for Maryland's Ecosystem (T³IME), seizes this moment to build upon past successes and move forward leveraging our past while recognizing future needs. Specifically, we must scale with velocity (speed with direction) to ensure our diverse talent pool, offerings, and resources over the next ten years (FY23-FY33) are aligned to make Maryland competitive. We will achieve this not only with market-based fiscal returns but also by curating, investing, and growing to scale enterprises that drive societal change for our citizens, communities, and the world.

TEDCO serves as Maryland's engine for early-stage technology-enabled firms; therefore, our role in accelerating investments in the state while maintaining and improving our innovation standing cannot be understated.

TEDCO expects a **combination of financial returns** (IRR), **economic returns** (jobs, new products, increased tax base) and **social innovation returns** (inclusion of excluded populations and support of technologies that impact underserved communities) from its investments. This expectation **varies by program** depending on the **source of funding** (evergreen vs. annual allocation), **stage of investment** (pre-seed, seed, venture), and **purpose of the program** (social impact, etc.).

In the last 18 months, our society has awakened to the reality that some communities have not had access to the same opportunities as others and that we have an obligation to better use the planet's resources. In response, TEDCO is placing strategic focus on funding technologies to help those who have been overlooked in the past and to improve our ability to take care of the earth's resources. TEDCO will seek out and invest in ideas that leverage technology to drive greater diversity, bring more equity, and ensure more inclusion.

Strategic Planning Process

The strategic planning process was developed based on inputs collected and synthesized during 2021. Inputs to TEDCO's strategic plan include:

- Staff Committee led by TEDCO's CEO
- TEDCO Thought Leaders
- Stakeholder Interviews
- TEDCO Board Review Sessions
- Secondary Research
- Goal Setting Sessions with TEDCO's Executive Leadership Team

TEDCO's MISSION

TEDCO's mission is to enhance technology-based economic empowerment by fostering an inclusive and entrepreneurial innovation ecosystem by identifying, investing in, and helping to grow technology companies in Maryland.

TEDCO leads innovation to market and has evolved to provide the **foundation** and the **funding** that Maryland entrepreneurs need to be successful in a global innovation ecosystem. Accordingly, TEDCO manages funding vehicles that provide the foundation for both research and early-stage investment opportunities and entrepreneurial support programs that create, scale, and sustain technology-based start-ups in the state. As Maryland's entrepreneurial hub, TEDCO accepts responsibility for ensuring that Maryland's ecosystem is ready and available to support leading-edge businesses across the state.

THE EVOLUTION OF OUR PURPOSE

TEDCO is Maryland's Technology-Enabled Economic Empowerment Organization Fueled by Economic and Social Impact.

We believe we can "do well and do good," by having a triple bottom-line focus:

1. Be great fiscal stewards of our resources by investing in the right market opportunities;

2. Support efforts that create a stronger economy in Maryland through a growing tax base to retain and attract talent; and

3. Ensure technologies that address social imperatives or that come from underrepresented communities are created and receive proper investment.
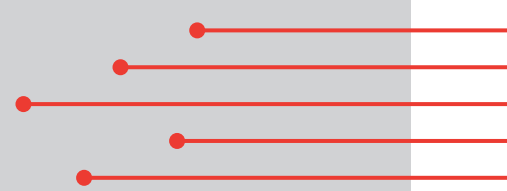
Our purpose has remained steadfast and has evolved over the years. We intentionally focus on three types of economic and social impact through enterprises, innovation, and communities/founders.

Economic and Social Impact

Enterprises
Scaling and sustaining businesses into products and services that benefit society.

Communities and Founders
Engaging and investing in economically underserved founders and communities.

Innovation
Advancing innovation to meet societal needs.

TEDCO's VISION

By FY 2033, Maryland will be recognized as a globally preeminent innovation ecosystem. TEDCO will elevate the global preeminence of Maryland's innovation culture by providing scaled, integrated, and comprehensive resources and by empowering a diverse set of Marylanders to explore and fulfill entrepreneurial, technology-focused pursuits that positively impact society.

THE CONTEXT FOR CHANGE

The Current Landscape

The current economic development landscape includes challenges not seen before in history including:

- Changing market conditions in a post-COVID-19 world.

- Increased need to attract and retain talent.

- Diversity, equity, inclusion, and accessibility (DEIA) imperatives.

- Need for quality government, corporate, and academic partnerships.

- Global competitive realities for sustained funding in tech research.

- Accelerated investments by other states.

Emerging from the economic damage done by COVID-19 will require fiscal stimulus and an increased focus on innovation and entrepreneurship. Not only has COVID-19 opened the door for racial and social justice issues, but new norms in remote work have also revealed that talent does not have to be located near the firm developing that innovation.

The Current Landscape (cont'd.)

Maryland's innovation ecosystem is strong, as evidenced by our recent #4 ranking by Wallet Hub[2] but that was BC— "before COVID-19." Even before the pandemic, several other regions and states had begun accelerating investments to create place-based or sector-based technology ecosystems:

- The COVID-19 pandemic is predicted to boost South Florida's standing as a national hub of technology-related businesses with an increasing number of companies looking to move to Florida to avoid high taxes and strict pandemic restrictions. South Florida is leading the nation for the largest number of emerging startups. South Florida startup funding surpassed $1 billion in the first half of 2021.[3]

- According to the Milken Institute's *State Technology and Science Index 2020*[4], Minnesota had the largest gains for risk capital and entrepreneurial infrastructure, improving in several measures, including VC investment (+4), VC deals (+7), and VC investment in nanotechnology (+7).

- In the past 10 years, 600 unique Pittsburgh companies attracted a total of over $7.2 billion in investments and invested $10 billion in university research.[5] Firms are attracted to Pittsburgh's talent and strengths in artificial intelligence, robotics and life sciences, and autonomous vehicles and robotics.

- California voters approved a $3 billion stem cell fund via approval of Proposition 71 in 2004, which created the California Institute for Regenerative Medicine.[6]

Similar accelerated investments are not limited to the U.S. In fact, numerous countries see the benefits of and economic gains from having a robust technology-focused ecosystem. U.S. government funding of research and development (R&D), which peaked at 2.2% in 1964, slid to 0.7% of GDP in 2020. In contrast, China's R&D was 2.4% of its GDP in 2020.[7] U.S. federal government leaders are now focused on increasing innovation funding to keep up with global leaders such as China.

The Future of Innovation

TEDCO is intentionally technology agnostic, supporting technologies prioritized by the state of Maryland; however, we keep current on the future of innovation and emerging trends.

As we emerged from the 9/11 tragedy with innovations in facility and travel security, we will also emerge from COVID-19 with new entrepreneurial opportunities that help keep us safe, allow more efficient and effective global teams, and deliver even more value from e-commerce.

For Maryland, innovation will continue to be in historic areas like cybersecurity, robotics, and life sciences, but also in areas such as clean/blue technology, agriculture/aquatech, unmanned aerial vehicles/systems (UAV/UAS), and quantum technology.

CLEAN/BLUE TECHNOLOGY

Clean technologies aim to improve environmental sustainability. Blue tech is defined as aquaculture, offshore wind, sustainable maritime, stormwater and flooding management, bay and ocean restoration, urban waterfront, and more.[8]

- The Clean Energy Jobs Act requires **50% of electricity from renewables by 2030** and is expected to create solar and offshore wind jobs while reducing emissions.
- The Clean and Renewable Energy Standard (CARES) sets a goal of **100% clean electric power by 2040**.
- 2019 investment in green energy rose to $282.2 billion.[9]

AGRICULTURE/AQUACULTURE TECHNOLOGY

Agriculture/aquaculture technology is the use of technology in farming on land or in water with the aim of improving yield, efficiency, and profitability for farm managers and growers.

- The agricultural biotech market (largely composed of genetically modified crops) in 2017 represented $20 billion in sales.
- A rapidly growing sector of agriculture, aquaculture is expected to provide almost two-thirds of the fish intended for global consumption by 2030.[10]
- A $20 billion revenue opportunity exists in agricultural data and analytics.[11]

UNMANNED AERIAL VEHICLES/SYSTEMS (UAC/UAS)

UAC/UAS is a growing aeronautical sector focused on technology found in drones and unmanned aerial systems.

- The UAV market size was valued at $10.72 billion in 2019.[12]

- The UAV market is expected to reach $58.4 billion by 2026, at a CAGR of 16.4% during the forecast period.[13]

QUANTUM TECHNOLOGY

Maryland is in a prime position to emerge as a national leader in quantum: an emerging field of physics and engineering which leverages the principles of quantum physics and is poised to revolutionize computing on a global scale. "I call it Qubit Alley," Julie Lenzer, University of Maryland's chief innovation officer, said of the region.[14]

Interest in quantum technology is increasing among government, corporate, and academic partnerships.[15] Many startups and thinktanks are investing heavily in quantum, and the market is expected to continue to grow over the next 3-9 years.[16] The next wave of innovation will include technological integration and the creation of quantum IoT (Internet of Things).

As an example, Valuenex data shows that China has more than 3,000 quantum patents—more than double the U.S. total. China has committed to increase its current $10 billion spend in quantum by 7% a year, over the next 5 years. In comparison, the College Park based IonQ, the first quantum, pure-play, publicly traded firm, recently announced a SPAC merger with dMY Technology Group at an enterprise value of $1.4 billion. With this context in mind, it is imperative for Maryland to demonstrate leadership in quantum technology research and its commercialization to compete globally and at scale.

BARRIERS TO GROWTH

In discussions with stakeholders, review of previous state-wide studies, and our observations, this strategic plan is designed to address the specific barriers that are unique to Maryland including:

- A fragmented ecosystem across the state.

- A gap in pre-seed investments.

- No compelling and cohesive innovation story for Maryland.

- A need for significantly increased scale across all investment stages.

- Uneven distribution of resources across state institutions.

GROWTH STRATEGIES

The status quo is not a viable growth strategy for Maryland. With the right growth strategies, Maryland has the potential to cultivate an innovation ecosystem that will be recognized globally for social innovation and impact. Now is the time to establish the preeminence of our state's innovators with three (3) targeted strategies: SCALING, STITCHING, and STORYTELLING.

Scaling
Accelerated funding and investments in a better infrastructure

Stitching
An integrated approach to leveraging the unique combination of Maryland's strengths

Storytelling
A compelling and cohesive story about Maryland's innovation ecosystem

3 Key Growth Strategies

SCALING

To accelerate the future economy, Maryland's emergence from COVID-19 will require a constant investment in talent and training at a fundamentally different level of funding than has been seen in the past. Historically, the state's proximity to Washington, DC, the center of the federal government, has been a strategic and economic asset, but in the post-COVID-19 world, location will no longer have the same value. What will it take to prevent companies and talent from leaving Maryland? While Maryland consistently ranks favorably on most innovation indexes, what actions can we take to surpass other states that consistently outrank us?

STITCHING

By integrating and leveraging our core strengths more effectively, we can build momentum, respond to changing market conditions, and position Maryland as a global leader in technological-driven social innovation. States that rank higher for innovation are integrating various platforms and support tools designed to attract and retain both the talent and the firms that they believe will create a competitive future.[17]

STORYTELLING

We will use storytelling to strategically tell a cohesive narrative about Maryland's innovation ecosystem, while celebrating success stories of entrepreneurs in the region. TEDCO's value proposition will be widely understood and backed up by impact stories that convey how TEDCO leads innovation to market. Storytelling is only as effective as the data that informs it. Data will inform our stories and every decision we make.

KEY SHIFTS TO THE ASPIRATIONAL STATE

T³IME incorporates key shifts, moving us from the current state to the aspirational state:

Current State	Aspirational State
Fragmented state innovation ecosystem	Integrated, coordinated, and comprehensive state ecosystem, with minimum duplication and maximum availability
Incremental investments/status quo	Focused, scaled, and sustained investments
Measure job growth	Measure talent attraction
Top technical talent in the country	Retain and attract a more diverse set of top technical and business talent
Top technical talent in the country	Measure value of external capital committed to MD firms
Maryland focus	Regional perspective across the DMV with Maryland at the epicenter
No clear innovation story for state of MD	Pre-eminence of the Maryland innovation story
Wealth creation for a few	Wealth expansion and inclusion of those communities and demographics that have been historically "excluded"
Budgeting	Predictive forecasting and modeling

STRATEGIC BUILDING BLOCKS

What Guides Us: TEDCO Values

Our core values unite us and guide our efforts and interactions with people inside and outside of TEDCO. They are critical for TEDCO's commitment to excellence in carrying out its mission and serving its stakeholders. TEDCO's CEO, Troy A. LeMaile-Stovall, described them as our "unwavering guide" and put them into context below.[18]

Accountability
We will do the right thing and have internal and external measures demonstrating that commitment.

Collaboration
We are a collection of talented individuals that meet our own and Maryland's goals by doing it together internally and externally.

Integrity
We will lean to the truth even when it is uncomfortable or unflattering.

Respect
We see and value others and their roles before our own.

Stewardship
We will use our valuable resources to the highest and best use aligned to TEDCO's and Maryland's goals.

Our Value Proposition: Time, Talent and Treasure

Entrepreneurs lack access to <u>time</u>, <u>talent</u> and <u>treasure</u> (the "3Ts"). TEDCO fuels entrepreneurial success in Maryland by saving entrepreneurs time; developing and supporting entrepreneurial talent, its accessibility, and its diversity; and providing pathways to treasure (fiscal and non-fiscal resources). TEDCO provides value by addressing the 3Ts outlined below.

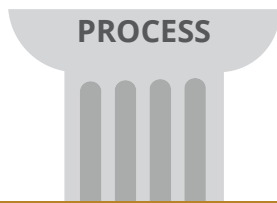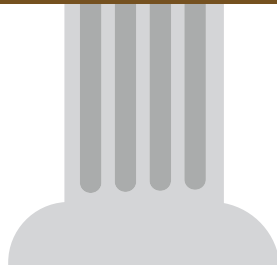|	Current Services	Future Services	Benefits
TIME	• Maryland Entrepreneur Hub • Assessment tools • Market databases and tools • SBIR Proposal Lab • I-Corps courses • Investor readiness workshops • Access to federal laboratories	• Expand tools that predict transitions/trends. • Integrate tools that are geographic, sector, and stage specific. • Integrate ecosystem resources that are non-duplicative.	• Give "a minute" back to our innovators. • Provide leading-edge tools (before they are needed).
TALENT	• Network Advisors • Prelude pitches • RBII/UBII • Entrepreneur Expo • Talent Portal • Incubator/accelerator access	• Expand Network Advisors and Loaned Executives Program (an exclusive, paid set of advisors). • Develop a network to raise non-state funding for a geographic or sector-specific fund. • Offer "concierge services" that assist firms in capital stack formation. • Launch and manage a translational research and innovation center. • Create a cutting-edge incubator program. • Facilitate a MD-focused LinkedIn site.	• Provide access to expertise and new and diverse talent pools. • Provide tools to identify, recruit, and retain talent. • Provide pathways to identify and review overlooked talent sources.
TREASURE	• MSCRF • MII • RBII Pre-Seed • Pre-Seed Builder • Seed • MVF • N-STEP	• Expand funding and foundation tools that are 3-5 times current levels. • Grow funding pools that fully span tech commercialization through Series A/B financing. • Offer foundational services that fully complement funding across the ecosystem. • Focus on funding and services to support social impact and innovation.	• Provide a map with pathways to fiscal and non-fiscal resources to fuel entrepreneurial success in MD.

Strategic Focus Areas: Four Pillars

TEDCO'S FOUR PILLARS AND OUR ASPIRATIONS FOR EACH INCLUDE:
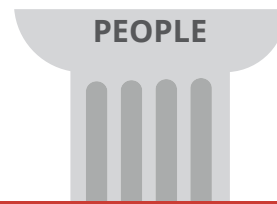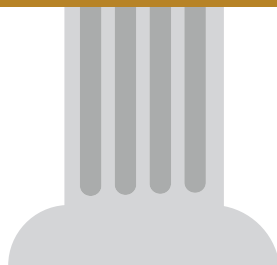
PERFORMANCE

Data-informed Decisions

TEDCO uses key performance indicators and data from multiple sources to track the state's progress on the factors that leadto innovation. Data informs decisions and reporting internally and externally.

PEOPLE

Thriving Culture

TEDCO staff have a passion for helping entrepreneurs to be successful and commercializing technology. We are committed to creating a "great place to work" where employees are proactively engaged in a collaborative and entrepreneurial culture (which mirrors the stakeholders we serve).

PROCESS

Operational Excellence

Efficient, effective, and innovative processes and services support entrepreneurial success. Internal functions at TEDCO are transparent, collaborative, frictionless, and incorporate program input.
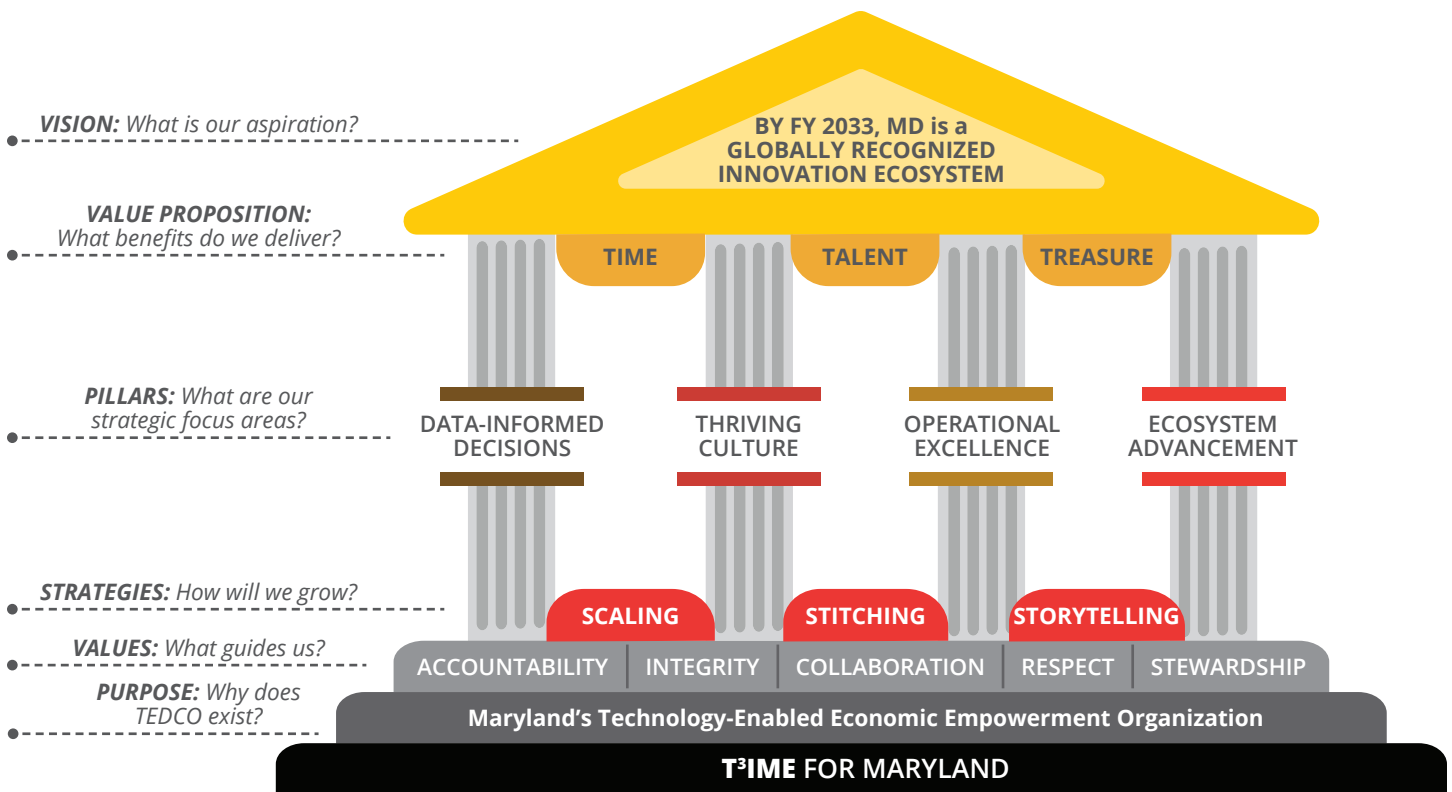
STAKEHOLDERS

Ecosystem Advancement

TEDCO focuses on understanding the needs of diverse stakeholders, providing access, and building relationships across the ecosystem. Stakeholder management is orchestrated by relationship managers to provide services and thought leadership across the ecosystem.

THE STRATEGIC FRAMEWORK

VISION: *What is our aspiration?*

VALUE PROPOSITION: *What benefits do we deliver?*

PILLARS: *What are our strategic focus areas?*

STRATEGIES: *How will we grow?*

VALUES: *What guides us?*

PURPOSE: *Why does TEDCO exist?*

BY FY 2033, MD is a GLOBALLY RECOGNIZED INNOVATION ECOSYSTEM

TIME　　TALENT　　TREASURE

DATA-INFORMED DECISIONS　　THRIVING CULTURE　　OPERATIONAL EXCELLENCE　　ECOSYSTEM ADVANCEMENT

SCALING　　STITCHING　　STORYTELLING

ACCOUNTABILITY | INTEGRITY | COLLABORATION | RESPECT | STEWARDSHIP

Maryland's Technology-Enabled Economic Empowerment Organization

T³IME FOR MARYLAND

This strategic plan will be implemented using a modified balanced scorecard approach with four pillars. This approach was developed by Dr. Robert Kaplan and Dr. David Norton and featured in Harvard Business Review as a framework for measuring organizational performance.

The benefits of a balanced scorecard include a holistic view of the organization from four perspectives, alignment across functional areas, direct linkages to the vision, and a system to manage and monitor performance against the strategic objectives. Across all these areas is the need to tell the Maryland and TEDCO story to a range of stakeholders in a data-informed manner.

TRACKING PROGRESS

Progress against goals and key performance indicators (KPIs) will be tracked and monitored for all staff in TEDCO's annual performance plan. Goals map to objectives which are specific, measurable, actionable, realistic, and time-based. Each objective is assigned a lead/owner who is responsible for coordinating the related activities and initiatives. The KPIs are the success measures and metrics that cascade from the leadership team to the staff.

The strategic plan is managed internally using the dimensions shown below.

GOALS ▶ OBJECTIVES ▶ STRATEGIES ▶ ACTIVITIES ▶ KEY PERFORMANCE INDICATORS

Goals have been developed for each pillar as described below.

GOALS

Data-informed Decisions: Performance Perspective

1. Select key performance indicators to measure progress toward becoming the #1 innovation ecosystem.
2. Integrate data intelligence across the organization and ecosystem.

GOALS

Thriving Culture: People Perspective

3. Position TEDCO as talent developer.
4. Become recognized as the regional leader for underserved tech entrepreneurs.
5. Leverage TEDCO ambassadors for brand advocacy.
6. Increase opportunities for cross-functional success.
7. Increase employee engagement.

GOALS

Operational Excellence: Process Perspective

8. Modernize TEDCO's information systems infrastructure.
9. Scale and integrate business processes.
10. Increase program capacity.

GOALS

Ecosystem Advancement: Stakeholder Perspective

11. Master the role of ecosystem architect.
12. Find and support underserved entrepreneurs.
13. Streamline customer experience.
14. Shape and promote MD innovation story.
15. Expand and add new services in response to key drivers of change.

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T³IME for Maryland

MARCH 2022

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