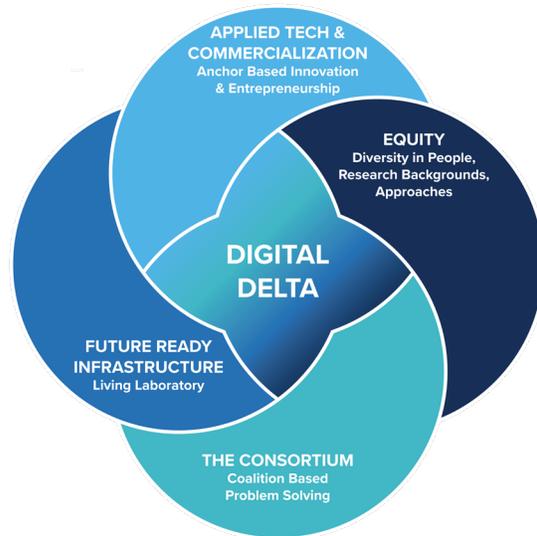
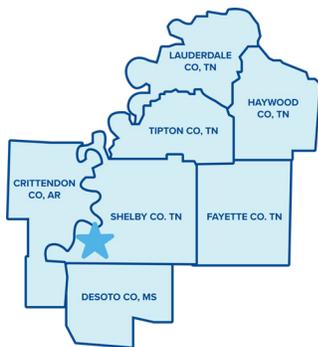


The Digital Delta: An Applied Technology Cluster Advancing Opportunity for the Memphis Region

The **Digital Delta** will leverage existing industry strengths of the Memphis region, strategically improve workforce in key areas, and enable the transformation of our regional economic landscape by building the most-connected urban-rural innovation district in the United States. Recommendations from a Brookings 2014 commissioned report (Appendix) as well as the region's continued work with the Brookings Inclusive Economic Indicators Lab and a 2020 analysis by Mass Economics (Appendix) help to frame the **Vision for this proposal: to position the Memphis Region as an Applied Technology Cluster to create an economy of innovation driven by applied technologies that will accelerate the growth and development of targeted industry clusters of agri-business and food, medical device and healthcare technology, supply chain and logistics, and electric vehicles (EV) and sustainable mobility.**



Our execution strategy develops an infrastructure foundation that enables an innovation economy, cultivates the talent needed to advance and sustain it, disrupts persistent inequities and lack of economic mobility, and creates a model that can be scaled and replicated. The Digital Delta helps our region to address the impacts of COVID-19, the closure of the TVA Fossil Fuel Plant, and slow recovery from the 2008 recession.



The Digital Delta footprint is designed to take advantage of existing regional partnerships and momentum to address our region's digital divide and catalyze economic transformation. It includes **seven counties in three states: TN=Shelby, Fayette, Tipton, Lauderdale, Haywood; AR=Crittenden; MS=DeSoto.** Six of these counties also form the Memphis Metropolitan Economic Development District (EDD), managed by the Memphis Area Association of Governments (MAAG), which is the developer of the local Comprehensive Economic Development Strategy (CEDS) plan. Haywood County is the site of the recently announced Ford and SK Innovation \$5.6b electric vehicle manufacturing site and is in the Southwest Tennessee Development District CEDS. The Digital Delta Cluster brings together a coalition of over

50 partners including local government, higher education, private sector and nonprofits (regional assets and industry partners appendices), united in a common cause to create economic development that is sustainable and builds a future of decades of growth. The proposed project is closely aligned with the MAAG CEDS that recognizes transportation, manufacturing, bioscience, agriscience, and electronics as key or target industries crucial to the Memphis-area economy. Both CEDS plans also identify labor force challenges as the primary issue that is restricting economic growth, with a significant underproduction of qualified talent for local opportunities.

By 2030, we anticipate the Digital Delta strategy and its supporting component projects will accomplish the following goals: 1) 75,000 new jobs, including 50,000 quality jobs that raise the median income to the national average and 20,000 in STEM-related fields; 2) \$10 billion in new capital expenditures; 3) 40 new or relocated headquarters; 4) 750 new companies launched and seeded from entrepreneurial and research efforts; 5) establishment of the Digital Delta test bed, and a 100-acre future-

ready infrastructure development in the heart of Memphis with extension services and engagement throughout the Memphis region; 6) creation of sustainable training and workforce solutions for the Memphis MSA to the national average; and 7) a research and development community that secures \$250m in external grant and contract funding to support the goals of the Digital Delta cluster within 10 years.

Building Back Better: The Digital Delta will transform the region, create a sustainable future, and address systemic inequity in our region. The goals include: Improve to 45% from 35% the 20,000 STEM graduates who are BIPOC graduates; Improve to 35% from 20% the number of Bachelor Degree attainment for BIPOC students; Improve to 50% from 31% number of quality jobs are held by BIPOC employees; Improve to 20% from 6.9% the number of Associate's Degrees that are a credential attainment for BIPOC students; Improve to 64% from 44% the number of advanced technology jobs are held by BIPOC professionals; Improve to 50% from 27% the number of IT jobs that are held by BIPOC professionals; Improve to 75% from 22% the number of BIPOC households that have broadband access and a computer; Improve overall connected households from 52% (lowest for any urban area) to 72% or 20,000 newly connected households.

Digital Delta Coalition: The Digital Delta Coalition includes representation from core entities who play a lead role in driving economic growth, innovation, and workforce development in our region. The **University of Memphis** (UofM) will serve as the lead institution and *has appointed and fully funded a Regional Economic Competitiveness Officer* whose duties will include serving as coordinator for DDC, convening stakeholders in bottom-up competitiveness, and establishing a coordinated line of communication between the growth cluster and EDA. The UofM will harness the extensive expertise of its faculty and its commitment to innovative research, community partnerships, and technology transfer to drive research and development efforts within multiple component projects. As a regional EDO, the Greater Memphis Chamber of Commerce will utilize their extensive networks and infrastructure to bring the entire Memphis business community onboard, help ensure workforce and industry recruitment needs are being executed through this project, and that the long-term cluster strategy for the Digital Delta is upheld. Epicenter Memphis, a nonprofit, will leverage their expertise in guiding entrepreneurial activity to help cultivate and attract a robust community of innovators and recruit corporations to the region. Start Co. will spearhead the development of infrastructure and resources for citizens and corporations that is critical to ensuring the long-term sustainability of the Digital Delta. MAAG and Haywood County representation on advisory boards will assure representation of the wider region being served.

Transformational Projects: The Digital Delta cluster emphasizes growth in the core industries defining the regional economy by developing physical infrastructure and human capital to support technology applications that accelerate innovation. The component projects described in the following sections are designed to harness coalition expertise to create a sustainable and resilient innovation ecosystem through an Applied Technology cluster approach.

1) Human Capital Development: The Greater Memphis Chamber will serve as the coordinator for workforce engagement. Workforce development will be woven throughout, encompass the entire pipeline, and empower citizens to access training, education, and career opportunities within our transformed economy. The principal tasks of this project will be the evaluation and guidance of the workforce strategy for other projects in alignment with the goals and outcomes of the key stakeholders for ensuring a diverse, equitable, and engaged workforce growth strategy. The Greater Memphis Chamber will serve as the coordinator for workforce engagement. Workforce development will be woven throughout, encompass the entire pipeline, and empower citizens to access training, education, and career opportunities within our transformed economy. The principal tasks will be the guidance and oversight of the workforce strategy, ensuring diverse, equitable, and engaged workforce growth for the Digital Delta Cluster. Across all projects, a total of 50,000 high tech jobs are identified. The Human capital development project

will be responsible for the additional 25,000 support and related positions that the Digital Delta will produce.

Phase 1 Project Tasks: 1) Key informant interviews with industry leaders currently in and planning to relocate to Memphis along with data collection, analysis and dashboard creation to forecast current and future demand of job skills necessary to sustain an innovation economy in advanced industry trades. 2) Identification of gold-standard public-private-government partnership (P3) workforce development strategies (credential to degrees) from across the country that are state of the art, remove barriers of distance and access to training and collaboration and will be suitable for replication and adaptation to meet the needs of the future-ready workforce projections. 3) Identification and planning of postsecondary education programs (credential, certificate, CEU, and degrees) necessary to grow, recruit and retain talent and encourage entrepreneurship. 4) Development of a workforce ecosystem model that can adapt quickly to keep pace with innovation to ensure a robust and diverse talent pipeline.

2) Future Ready Infrastructure: This project will establish sophisticated, shared digital infrastructure including networks of devices enabled by high-speed communications networks (i.e. Fiber, Wifi, and 5G) to ethically collect, secure, manage, and store shared data to provide insights and opportunities for both grown and recruited businesses, government, quasi-government and other public and private entities to solve economic, social, and business challenges. This first-of-its-kind digital infrastructure creates the environment for sharing, testing, and scaling change including an urban laboratory, innovation hub, and extended economic development district (EDD) experimental innovation zone. Starting with the Downtown Memphis core in the Digital Delta Innovation District, through the EDD and beyond, this infrastructure will create enabling infrastructure and shared data for real-time decision making that will attract public, private, and academic investment and talent.

Phase 1 Tasks: 1) Establish a consortium approach for building and experimentation with a multi-stakeholder participation advisory group. 2) Leverage pilot phase investments by City of Memphis, Downtown Memphis Commission, and others to connect the disconnected and build out infrastructure, Wifi, and other networks. 3) Begin smart mapping to build a virtual version of the region starting with Digital Delta Innovation District. 4) Design of broader infrastructure, data collection, and sharing system. 5) Coordinate design and development with electric and sustainable mobility project including data sharing.

Performance Metrics: Performance will be measured by connecting our community to broadband networks, workforce growth to support digital infrastructure, business recruitment, business creation, and capital investment. It is anticipated that phase 2 milestone and metrics of the Digital Delta Future Ready Infrastructure will be 1) full infrastructure build out in the innovation district including state of the art "smart city" systems with advanced networking and data sharing for business attraction, research and development. 2) \$250 billion in new capital expenditures over 10 years for the Digital Delta infrastructure and support, 3) jobs driven by creating and supporting the infrastructure will account for 1000 new quality jobs, 4) and will attract \$1billion of additional capital expenditures that will leverage this unique assets.

3) Electric & Sustainable Mobility Development: The University of Memphis will focus on realizing regional, integrated shared services and connected infrastructure that establishes an urban-rural testbed for EV and sustainable mobility infrastructure.. The connected framework will bring siloed initiatives together and capitalize on recently established and future OEM's located in the Digital Delta region. The project will address final mile logistics and business fleet electrification, micro mobility options such as e-bikes, scooters, and delivery drones as well as shared and public transportation that serves businesses, commuters, visitors and citizens alike. The testbed will also establish a regional point of view for the community by creating a plan for implementation of charging infrastructure, addressing barriers to creating economies of scale, and other practical considerations such as curb and intersection congestion. The project and testbed will address the energy infrastructure needs and environmental sustainability of increased electrification in the community.

Phase 1 Tasks: 1) Establish a consortium approach for building and experimentation with a multi-stakeholder participation advisory group; 2) Develop regional view of key data elements required for sustainable mobility optimization, coordinated with Future Ready Infrastructure workstream; 3) Document current mobility baseline, considering existing and planned public and private initiatives; 4) Leverage World Business Council for Sustainable Development (WBCSD) Corporate Mobility Pact model to determine immediate achievable regional mobility and decarbonization goals.

Performance Metrics: 1) Memphis will have the highest concentration of electric vehicle infrastructure support sights (charging stations, electric micro-mobility stations, etc) in the country within 10 years; 2) Jobs driven by alternative energy and sustainable mobility plans will account for 10,000 new positions; 3) Electric and Sustainable Mobility will attract 100 new companies and startups to the Memphis region; 4) Sustainable infrastructure will attract capital investments of at least \$100m.

4) Applied Research and Commercialization: In order for the growth of the Digital Delta to be sustainable, it is essential to have a research and commercialization plan that can also contribute to workforce pipeline development. The Digital Delta Institute at the University of Memphis will engage faculty and companies in research collaborations that contribute to the goals of each project outlined while creating a talent pool to help scale innovation successfully. The commercialization component will ensure a robust tech transfer environment that encourages companies to choose Memphis and the Digital Delta.

Phase 1 Project Tasks: The project is spearheaded by the establishment of the Digital Delta Institute. Phase 1 tasks include: 1) Establish the Digital Delta Institute and its advisory board to engage academic, industry, and public sector leaders to plan the services and role of the Institute with an emphasis on applied technologies in six key areas: mobility, urban-rural equity and opportunity; workforce development, climate and environmental impact; smart building and urban design; and public health innovations; 2) initiate seed funding through UofM partnerships to launch a collaborative industry-oriented research agenda; 3) Leverage research results to inform Phase 2 scaling efforts.

Performance Metrics: Performance will be measured by tracking numbers of students, faculty, and industry engaged; courses and training programs developed, companies launched, and funds invested (public, private, or grant). Metrics for success include: 1) 10,000 students engaged in research or new courses/training programs; 2) 20,000 new jobs, including 10,000 quality jobs that raise the median income to the national average and 10,000 in STEM related fields, at least 60% of which are traditionally underrepresented groups in STEM (women and minorities); 3) \$1 billion in new capital expenditures; 4) 250 new companies launched.

5) Applied Technology Industry Development: In the next ten years each of the major Memphis-area industry clusters will adopt new applied technologies that significantly change their employment and operating strategies. Increasing the concentration of the firms that supply these technologies in the six-county Memphis region will ensure the growth of our region's next-generation economy. Under the advice of major anchor corporations, Epicenter will recruit applied technology supplier firms and introduce regional founders to opportunities for applied technology ventures. These activities will be tightly integrated with Memphis-region workforce development initiatives to reduce unemployment and to ensure that tasks displaced by applied technologies create better jobs. By attracting firms to locate in the Memphis region, the economic benefit of corporate capital expenditures will be retained to the regional economy, strengthening the balance of trade with other regions nationwide, and between the United States and other technology-supplying nations.

Phase 1 Tasks: 1) Establish an advisory board; 2) Working with Memphis-region anchor corporations, identify supplier firm recruitment prospects; 3) Create and market a tailored Memphis relocation value proposition; 4) Evaluate and validate current business support capabilities in the Memphis

region; 5) Communicate workforce opportunities to regional workforce development initiatives.

Performance Metrics: 1) Recruit major operations of 40 or more applied technology firms to the 6-county Memphis region. 2) Support the startup of at least 40 new Memphis-region applied technology firms. 2) Facilitate investment of at least \$100m in these recruited firms and startups by Memphis-related investors. 4) Transition 10,000 existing traditional jobs to new applied technology jobs.

Sustainability & Equity: Equity is vital to the success of the Digital Delta and overcoming systemic racism, socio-economic divides rooted in education disparity, and fair distribution of opportunity to all community members. Equity will be achieved by 1) creating inclusive communities of practice at every stage of development, create and support place-based access to workforce training, high-quality jobs, and innovation hubs in opportunity zones; 2) following the Digital Delta coalition partners' commitment; 3) Intentionally building and creating place-based access to workforce pipelines that create high skill jobs for underrepresented and minority students and populations. Establishing an equity and sustainability advisory board will oversee the activities of the project to ensure that achievements are realized as laid out in the equity appendix.

Accessibility of Matching Funds: For phase 1, matching funds from the University of Memphis have been provided in the amount of \$200,000 to provide seed funding for applied research and commercialization growth. The Digital Delta Coalition members have secured matching funds to be used in support of the phase 2 application. Letters included from industry leaders and coalition members provide documentation of these funds, but primary sources include the following: 1)\$50m in direct capital investment applied to projects listed 2)\$4m in in-kind contribution.

Barriers to implementation: Building human-centered and equitable future-ready communities will always bring challenges. The most significant mitigant for the Digital Delta, however, is the realization of what collaboration has produced: in our region, the economic uplift of the Ford Motor/SK Innovation construction and production that will transform the region, increasing growth from local,national and international opportunities, which will increase sustainability and resiliency. The Digital Delta provides a model of committed roles and deliverables for partner entities that reflect the necessity and benefits of blending rural and urban assets and infrastructure. Both CEDS plans, Brookings and Mass Economics research confirmed the challenges of workforce development. We now have a path to increasing jobs with living wages and salaries that will ensure small/related business development and investment, as well as community development.

Phase 1 Timeline For Implementation:

	Q1 - 2022	Q2 - 2022	Q3 - 2022	Q4 - 2022	Q1 - 2023
Future Ready Infrastructure	Task 1: Consortium Dev	Task 3: Smart Mapping			
	Task 2: Pilot Investments		Task 4: Infrastructure		
Electric & Sustainable Mobility	Task 1: Consortium Dev		Task 2: Regional View		
			Task 3: Mobility Baseline	Task 4: Decarbonization Goals	
Applied Research & Commercialization	Task 1: Consortium Dev	Task 2: Research Seed Funding			Task 3: Applied Research
Applied Technology Industry Development	Task 1: Recruitment		Task 3: Evaluate Business Support Capabilities		
	Task 2: Relocation Planning			Task 4: Job transitions	
Human Capital Development	Task 1: Key Informant Interviews		Task 4: Workforce Ecosystem Model		
			Task 2: P3 Workforce Development Strategies		
	Task 3: Post-Secondary Program Planning				

