

## About the UNCG Technology and Data Institute (TDI)

Technology plays an essential role in our lives and is critical for, among other things, the delivery of healthcare, education and financial services. It is inextricably tied to the achievement of higher education's core mission – education, research and service.

The TDI operates as a public service institute that leverages UNCG's collaborative partnerships and cyberinfrastructure to build, manage, maintain, drive and collectively grow shared regional technology and data architecture that connects educational institutions, municipalities, community organizations, industry partners and people in our twelve county Piedmont Triad region.

### CHALLENGE

Technology development has evolved to the point where it is no longer cost effective for entities to invest in sole-use technology infrastructure. This necessitates bold and cooperative thinking about how to provide access to technology at an economy of scale. Moreover, the era of working as individuals within a global, "smart and connected" society necessitates access to data and data management technology for everyone. Coupled with expertise and services to promote broad utilization by the community and adoption of the technology into research, educational and industry applications, the return on the investment in such technology can be enormous.

### MISSION

Transform the Piedmont Triad into a "smart and connected" region where communities and innovation thrive through shared technology and data.

### VISION

Make a state of the art technology infrastructure backbone accessible to the region's K-12 and higher education institutions, municipalities, community organizations and industry partners and create regional centers of excellence for cyberinfrastructure, data and smart cities that catalyze collaborative research, innovation and workforce development.

### OBJECTIVES

Establish stakeholder advisory boards and sustainable management frameworks for centers of excellence:

- Cyberinfrastructure
- Piedmont Regional Data Collaborative and
- Smart Cities (IoT)

Secure funding:

- Vendor-partners' commitments
- Grant, contract and donor funding
- Establish mechanisms, aligned with the business plan, to sustain and grow the technology infrastructure assets and services

Establish regional technology, data and service cores:

- Design and implementation of a shared cloud computing architecture that is scalable to the educational, municipal, and business entities in the 12-county Piedmont region
  - pilot the architecture by migrating the UNCG, City of Greensboro, and Guilford County Schools data centers to the shared cloud compute infrastructure
  - migrate additional Guilford County partners to the proven architecture model
  - extend the model to other Piedmont communities.
- Pool fiber assets and drive vendor supported “last mile” new fiber construction to create high speed internet connectivity paths to all Guilford County K-12 schools, Greensboro Housing Authority neighborhoods, community centers, libraries and community anchor institutions
  - ensure that low-income underserved areas within our community have equal access to Internet connectivity,
  - extend the shared fiber resource model to other Piedmont communities and
  - identify risks and opportunities to the regional fiber infrastructure.
- Build a regional open data collaborative that provides the secure data lake infrastructure, administration and governance required to store and provide access to regional open data
  - establish the Piedmont Regional Data Collaborative (PRDC) as a center under the TDI that serves as the local data intermediary for the Piedmont region,
  - work in partnership with the Forward Guilford Community Indicators Steering Committee to identify and ingest all relevant data sets across Guilford County into the PRDC data lake and
  - facilitate business intelligence analytics research initiatives that leverage the regional data lake to solve community problems, enable more transparent government, and improve quality of life