New Jersey Innovation Institute
Smart City

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Data Analytics
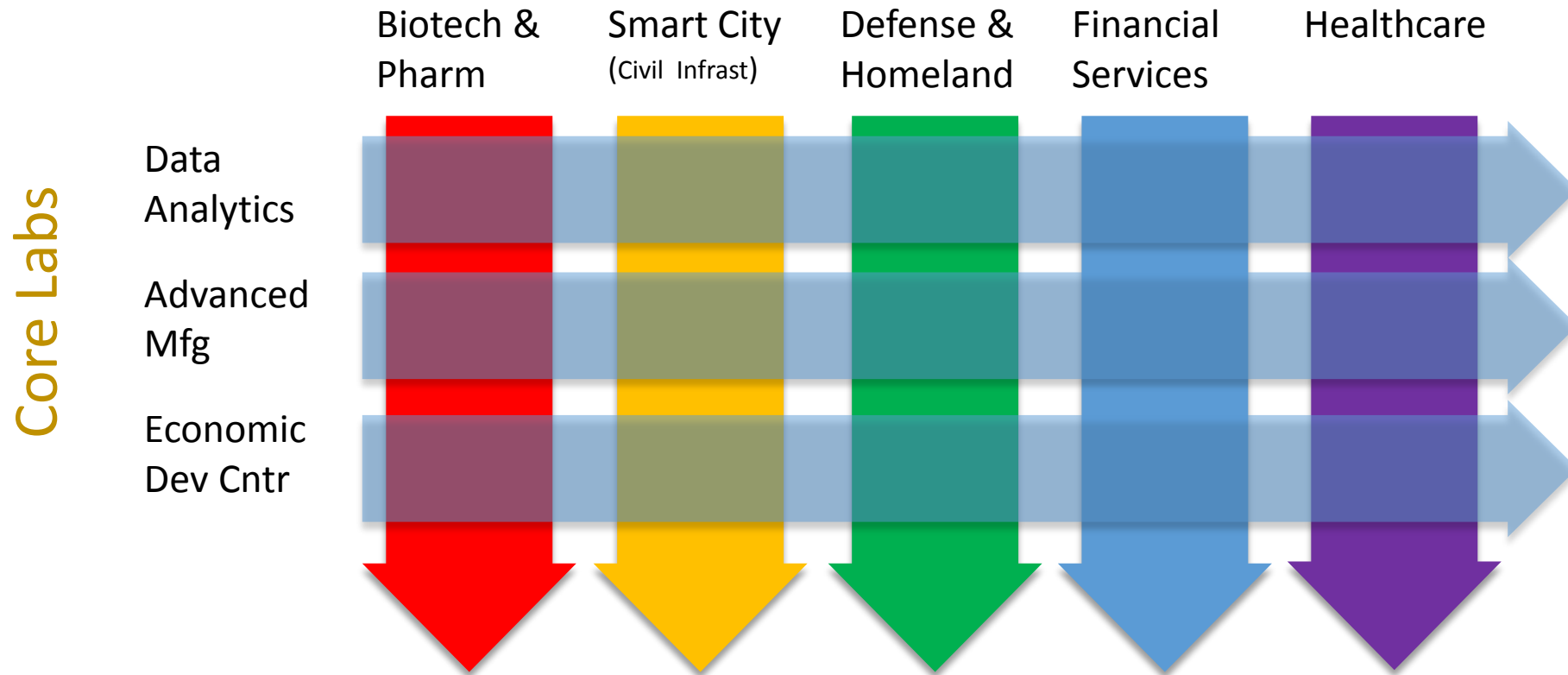Munir.cochinwala@njii.com
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New Jersey Innovation Institute

- Founded in 2014 as a non-profit 503-C

- NJIT owned subsidiary with collaborations across New Jersey Universities (Rutgers, Rowan, Princeton, etc)

- Missioned to drive innovation that supports economic development

- Connects and allies public & private sectors

- Five areas of focus: Civil Infrastructure (Smart City), Healthcare, Biopharmaceutical, Financial, Homeland Security
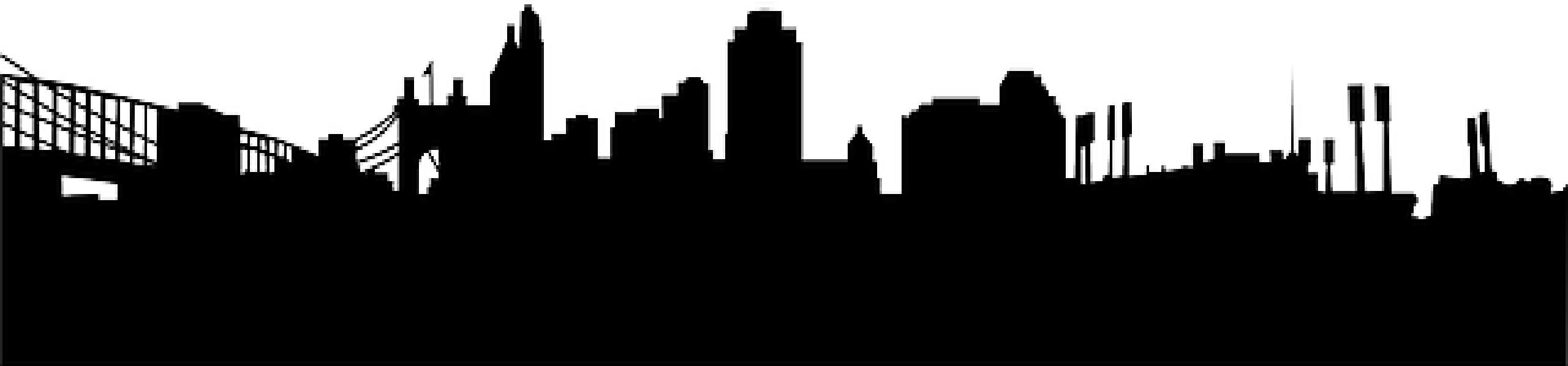
- Membership based

What is a "Smart" City?

A smart city is described as one that utilizes digital technologies to enhance the quality and performance of urban services, to reduce costs and resource consumption and to engage more effectively and actively with its citizens.

The NJII Smart City Project

❑ NJ Innovation Institute working with NJ Universities and member business community to introduce new smart city technologies into Newark

❑ An open partnership program by the New Jersey Innovation Institute and the city of Newark

❑ For businesses looking to deploy and test smart infrastructure products & solutions in a real city environment

❑ Integration & collaboration with other innovators & higher education

❑ Ultimate goal is to improve our cities – but value to participate:
   o Test bed for new solutions & technologies & new city services
   o Marketing & brand exposure
   o A visible sign of modernization, investment & progress
   o A foundation for more smart infrastructure & improvement

Objectives

- Update, improve & revitalize Newark

- Attract an ecosystem & inspire economic development

- Apply resources from business & higher-education in the application of smart technology & innovation

- Provide an environment for innovators to:
  - Test & validate their solutions
  - Work with other thought-leaders
  - Gain first-mover advantage & sales reference
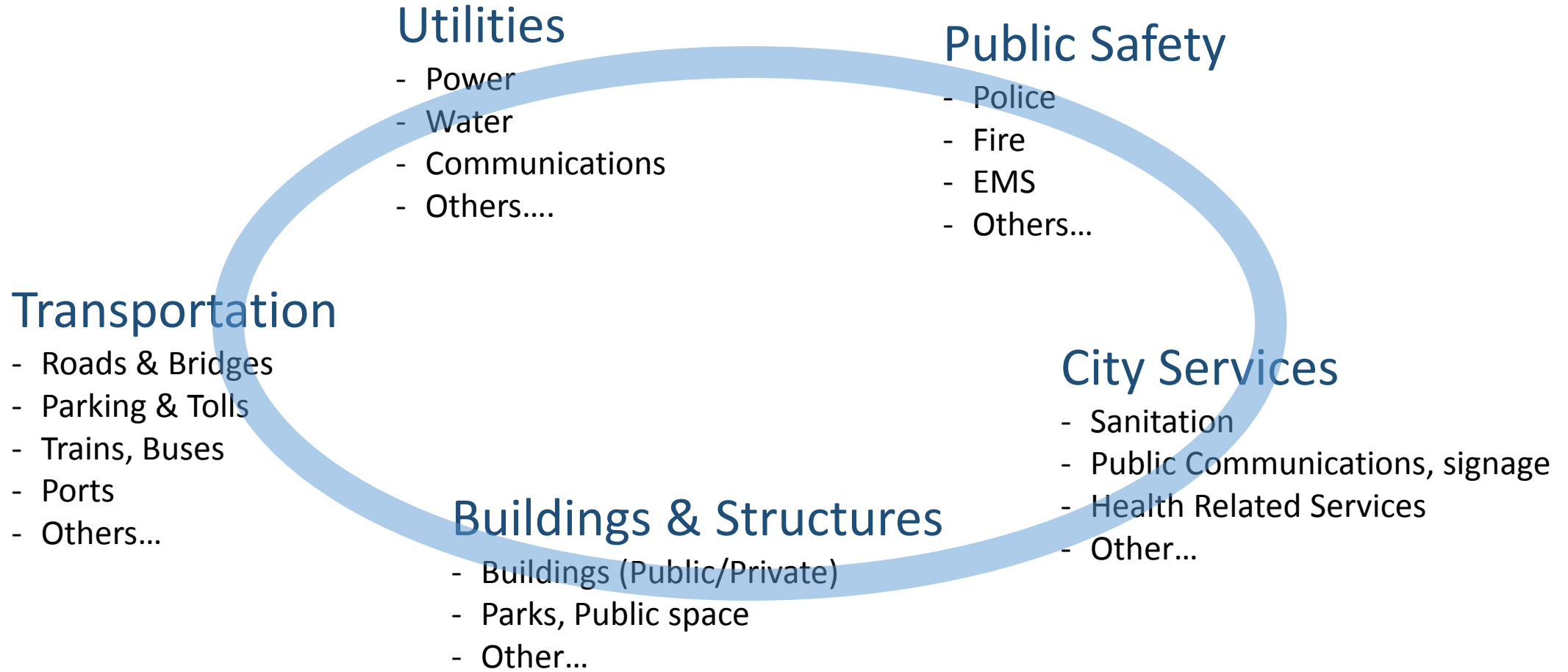
The City of Newark

CITY OF NEWARK
NEW JERSEY

- Settled in 1666
- Legacy of invention
- Population of 280,000
- 26 square miles

Ideal Test Bed / Market Trial Environment

- Diverse population @ center of NY/NJ Metro area
- Manageable size & scope
- Key infrastructure in place
- Forward thinking city & industry leadership

Smart City Infrastructure Components

Utilities
- Power
- Water
- Communications
- Others….

Public Safety
- Police
- Fire
- EMS
- Others…

Transportation
- Roads & Bridges
- Parking & Tolls
- Trains, Buses
- Ports
- Others…

City Services
- Sanitation
- Public Communications, signage
- Health Related Services
- Other…

Buildings & Structures
- Buildings (Public/Private)
- Parks, Public space
- Other…

Data Analytics: Safety

- Data Sources:
    - Information from sensors (noise, body cam)
    - Occurrence of crimes from city

- Analysis:
    - Correlation of data across diverse sources
    - Determination of features that discriminate and influence
    - Prediction of crimes
    - Features that influence crime reduction, movement

Data Analytics: Traffic

- Data Sources:
  - Traffic models
  - Transportation assets database (roads, pavements,…)
  - Sensor Data Collection

- Analysis:
  - Correlation of data and determination of area of interest
  - Analyze and validate traffic models based on data collection
  - Prediction of growth, congestion,…
  - Refinement of traffic models and data collection

Thank You!