Mapping the Money: Helping Government Contractors Partner and Prosper

Julie Knight, Ph.D., Regional Economic Studies Institute
Phil Reese, Center for GIS



Overview of the Project

In 2015, the Maryland Department of Commerce received grant from the US Department of Defense (DOD), Office of Economic Adjustment (OEA) to conduct research on the impact of future funding fluctuations on the defense industry in Maryland.



The Regional Economic Studies Institute (RESI) at Towson University was the sole subcontract to the MD Department of Commerce for this research.



Maryland is one of 43 states and regions in the US to receive this funding.



Why Did Maryland Receive Funding?

Large military presence

+

Large defense industry

+

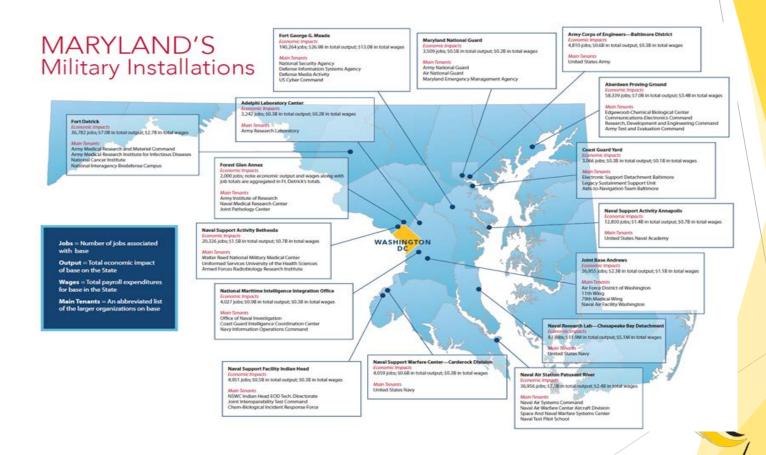
Top 5 state to receive DOD funding

=

Highly dependent on DOD funding



Military Presence in Maryland



UNIVERSITY

Defense Industry Presence in Maryland

- 9400 defense and aerospace businesses.
- Major defense contractor located here: Lockheed Martin, Northrup Grumman, and Booz Allen Hamilton.
- Federal facilities supporting the industry include the National Institute of Health, the Walter Reed National Military Medical Center, and the National Institute of Standards and Technology.
- Emerging sectors in the state include cybersecurity and unmanned autonomous systems.

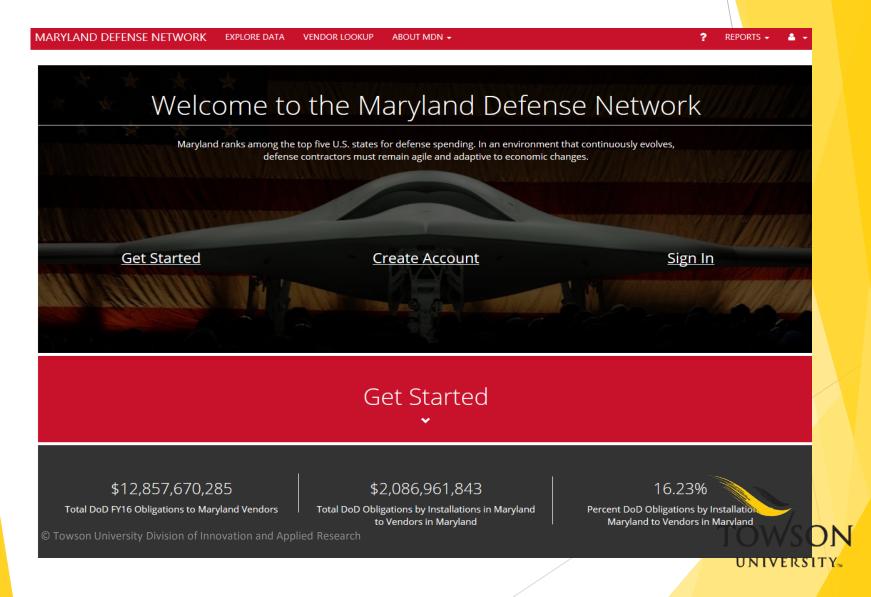


What is the Maryland Defense Network?

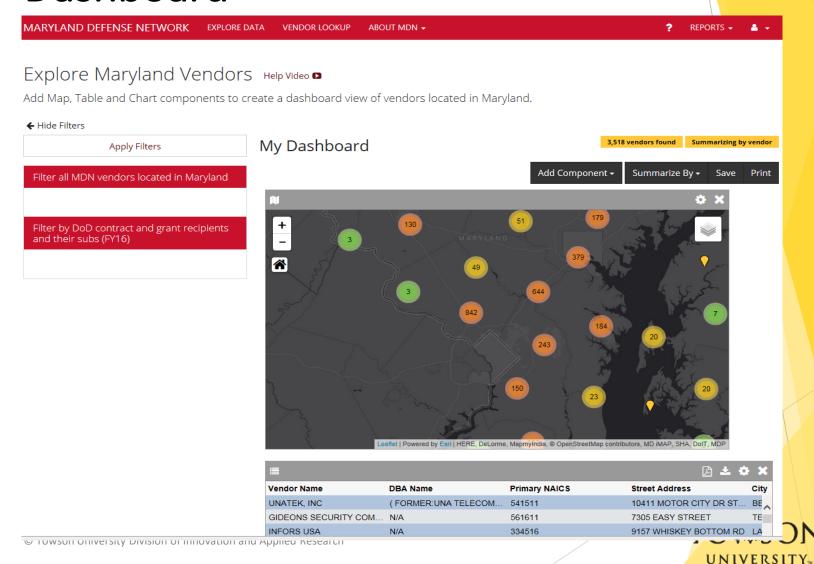
- Place to find:
 - Upcoming grant/contract opportunities
 - Place to find what the DoD is purchasing
 - Place to find subcontractors/contractors
- Includes the following components:
 - Secure Portal
 - Dashboard with map, tables, charts
 - Supply chain mapping
 - Database of companies



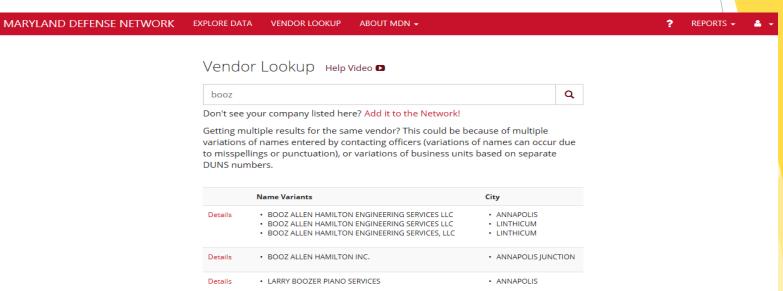
Secure Portal



Dashboard



Database of DoD funded Companies in Maryland

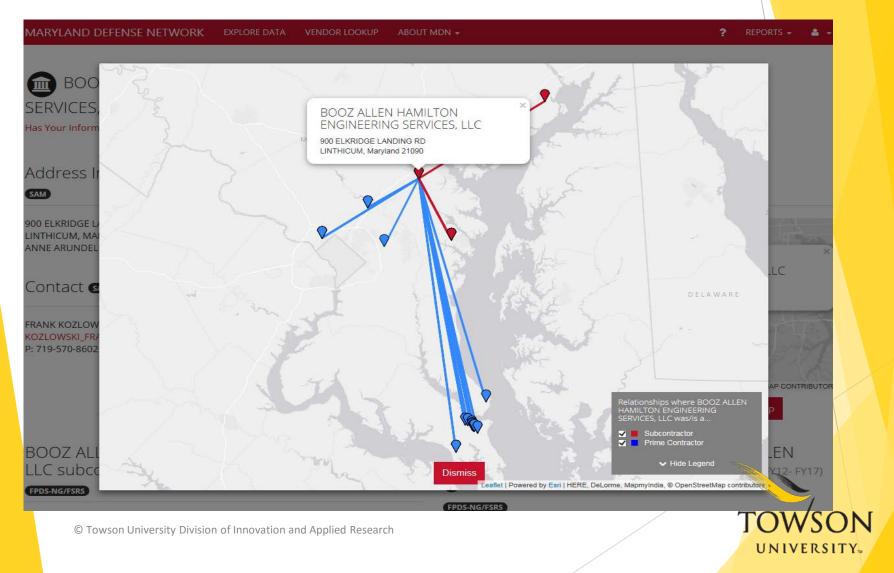








Supply Chain Mapping



Technology Overview

- Modern front-end technologies
 - Backbone, D3, Leaflet (and Esri Leaflet)
- Node.js application hosted on state infrastructure
 - A first for both us and state IT department
- Microsoft SQL Server database
- MD iMap ArcGIS Services for certain data layers



Demo

https://marylanddefensenetwork.org/



Novelty of the MDN

- Bringing publicly available data sources together in a user friendly environment
 - Makes data accessible for new and advanced users
 - Synthesis of vendor data and contract data
- Data Sources
 - Contracts, subcontracts, grants, subgrants, and transactions How to cut through inherent messiness of data? How to automate process for sustainability year over year?
 - Vendors how to identify most accurate and most current vendor attributes?



Parsing the Contract, Grant, and Spending Data

- All spending data is from USA Spending entirely transactionbased
- Our need: contract and grant information
- Solution: aggregate various attributes from transactions to perform the following:
 - Identify contract and grants using transactions with common identifiers
 - Calculate total dollars awarded to particular vendor
 - Determine the "place of performance" to identify where the work is being done – with a focus on Maryland

Vendors

- Our need: most up-to-date and accurate vendor information
- Solution: Required synthesis of several data sources
 - SAM, DSBS, proprietary survey data, USA Spending transaction data, supplemental information from InfoUSA, and self-reported data from users of application
 - "Cascaded" down through above data sources to find the most authoritative source for each vendor attribute
 - Most authoritative source: self-reported data by users/vendors
 - Captured either by vendor adding themselves to the Network if they were not already included or, if already included, updating any outof-date or erroneous information
 - If attribute not found, move to next authoritative source until attribute is found

Planned Enhancements

- Overlay the advanced manufacturing companies in Maryland into the MDN.
- Create a more collaborative interface which allows users to engage with other users through the MDN.
- Create a "guide to diversification" for users to access for case studies on successful diversification out of the defense industry in MD.



Thank you for your time.

knight@towson
preese@towson.edu

