

Draft - General Recommendation, Accelerate the IoT technology adoption for small business and startup organizations.

Recommendation XX: The federal government should accelerate IoT technology adoption for small businesses and startup organizations. This can be done via policies, procedures, and funding methods that specifically target them.

Description:

The federal government should accelerate IoT technology adoption for small business and startup organizations. This can be done via policies, procedures, and funding methods that specifically target them.

Small businesses and startup organizations who are looking to adopt IoT technologies may find it challenging to know where to start or have the resources and knowledge to do so. Federal funding mechanisms and procurements targeted to them can aid these companies by giving them a resource to help speed and incentivize their adoption.

Justification:

Greater adoption of IoT technologies by small businesses and startups could help in the following examples:

- Incorporation of technologies enabled by IoT:
 - In smart, connected transportation IoT technologies that are used by small businesses and startup organizations include sensors, cameras, and edge computing devices that can improve traffic safety in areas such as traffic intersections, school, and work zones.
 - In electrified transportation these technologies include in car systems or mobile apps that can help users locate charging stations so they can better plan their travel. In addition, sensors that manage charging stations can gather data about usage and performance to anticipate maintenance needs and troubleshoot problems. Adopters can use this information to work with manufacturers to develop operations and maintenance programs.

- Greater adoption across IoT markets: Making it easier for small businesses and startups to adopt this technology can spur greater IoT adoption across the market. As more and more small business and startups adopt this technology they can also serve as good implementation examples for those other same size organizations who might also be considering this technology.

Implementation considerations:

- The Federal Government could set aside easily and readily tappable funding pools year-round for innovation and next-generation technologies that these small companies and startups can utilize. Grants could be set aside specifically for these types of companies.

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- The Federal Government should set aside fast-track programs for startups and small companies to adopt this technology in pilots.
- A network of startups and small businesses can be formed to encourage and facilitate adoption. Similar startups and small businesses can be identified and work together or leading startups and small businesses can be referred to others for best practice and learning.
- The Federal Government should set up a system to make it easier for startups and small companies to find relevant funding sources to adopt this technology like grants and SBIR awards.
- The Federal Government can modify guidelines for grant programs and funding mechanisms already in existence for small businesses to allow for greater incorporation of IoT technologies. Examples include the following:
 - The U.S. Department of Commerce, Minority Business Development Agency (MBDA) (<https://www.mbda.gov/who-we-are/overview>)
 - DOE Office of Small and Disadvantaged Business (<https://www.energy.gov/osdbu/office-small-and-disadvantaged-business-utilization>)
 - National Science Foundation Program for Small Business (<https://www.nsf.gov/funding/smallbusiness.jsp>)

Potential implementation barriers:

- Time and Cost: The time and cost for this transformation could be considerable and small companies or startups who wish to adopt these technologies may lose interest or not have enough funding.
- Education: There is an overarching need to educate these types of companies on these new types of technologies which could be hard and time consuming, especially relevant for small businesses and startups who may not have available personnel to attend educational training sessions.

Possible participating agencies

- DOE/DOT Joint Office, DOT, DOE, NIST, DHS, GSA, Department of Commerce, among others.