

# Participatory Development of an Open Source Broadband Measurement Platform for Public Libraries

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## Introduction

- Public libraries across the U.S. face growing demand for broadband access, devices, and services in their buildings.
- In order to support their communities' digital demands, public libraries need access to automated, reliable, and longitudinal data about their broadband speed and quality of service.
- There is currently no coordinated effort to develop a nationwide broadband measurement platform using open source principles for public libraries.

## Methods

- Our project team is currently co-designing a broadband measurement platform and training manual with U.S. public libraries using research techniques and tests from the open source Internet measurement community and utilizing participatory design principles.

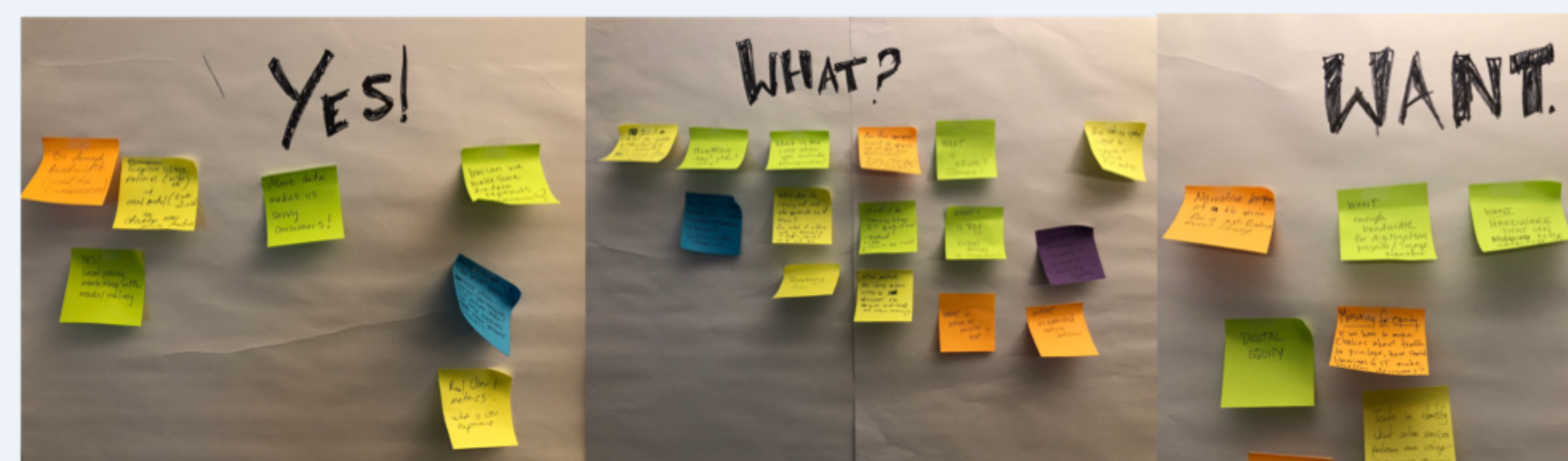


Photo above from October 2018 workshop in Chicago, Illinois

- Our team will design, implement, and evaluate the broadband measurement, analysis, and visualization system with a research panel of 10 to 15 libraries across the U.S. in a diverse group of communities.
- Quantitative data will be gathered through the broadband measurement devices in each of the partnering public libraries (see image right).
- Qualitative data will be collected through interviews with librarians and IT staff, as well as through focus groups with library patrons who use the libraries public access computers and internet connections.

## Expected Results

- Findings from the research will be used to develop the broadband measurement platform and training manual, which will be used to scale the project to the 50 to 60 libraries across the U.S.
- The research will help public libraries and their communities better understand the relationship between their broadband infrastructure and services, as well as to inform key policy issues, such as E-Rate.

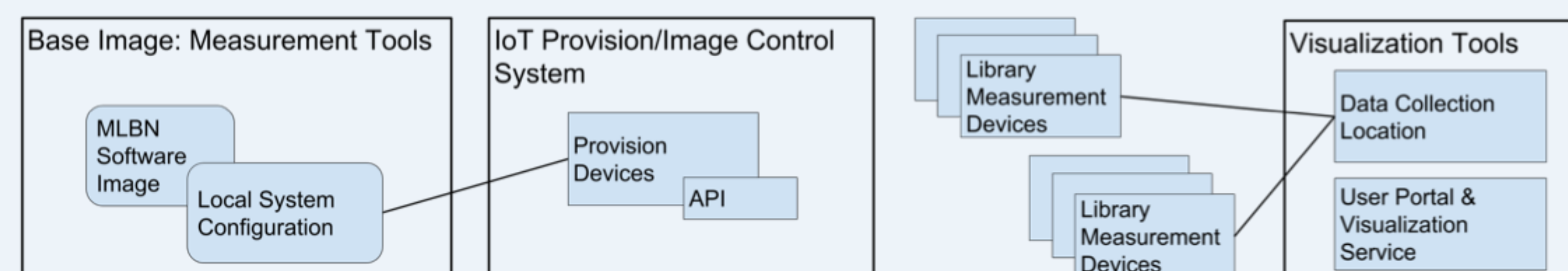


Photo left of Odroid XU4 broadband measurement device installed at the Pryor Public Library in Oklahoma

## Research Question

- How can public libraries utilize broadband measurement tools and training materials to develop a better understanding of the relationship between library network infrastructure and digital services?

## Measurement System



## Funding

- Measuring Library Broadband Networks for the National Digital Platform IMLS award #LG-71-18-0110-18 (<https://www.ims.gov/grants/awarded/lg-71-18-0110-18>)