

The Pitt Manufacturing Assistance Center (MAC): from *Titusville* to *Tuver* with a stop in *Lagos*.

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Motivation

- Following the successful model of the Manufacturing Assistance Center in Harmarville, and Homewood (Pittsburgh), and now Titusville, we seek to understand how to adapt that model (using a focus on **frugal innovation/engineering**) to an urban environment in Nigeria and a rural environment in India. Doing so further connects the University's commitment to enhancing local/global connections and furthering Pitt's commitment to internationalization.

Project Description

- Work with partners in Titusville, Tuver-India, and Nigeria to utilize the MAC model as a template for similar global projects
- Conduct comparative multidisciplinary research into frugal engineering/innovation
- Studying 'social' workforce development in diverse international settings.

Context

- Frugal engineering/innovation is a nascent field and additional research on how best to expand and adapt skills training to resource-limited environments is imperative.
- A multidisciplinary approach using Engineering, Social Work, Education, Economics, and Business, within a UCIS framework creates a holistic structure for this work.



The Pitt MAC: Transforming communities by advanced skills development in under- resourced communities by utilizing the Pitt MAC model in urban Nigeria, rural India, and Western Pennsylvania



Project Deliverables

- Assist centers in Nigeria and India to establish MACs
 - Conduct skills assessments
 - Identify low risk disciplines for training
 - Establish training programs and a manufacturing "incubator"
- Build research data collection models.
- Publish comparative disciplinary and multidisciplinary research
- Apply learning to the Pitt MAC model.
- Apply learning to coursework in frugal engineering/innovation (Swanson, Katz)
- Leverage current work to secure extramural funding from foundations and federal sources for further scaling of the project.
- Success will be demonstrated through team expansion to include local partners in India, Nigeria, and Titusville, publishing of research in relevant fora, and securing of significant extramural funding.

Potential Impact

- Increase the rigor and sophistication of scholarly work examining frugal engineering/innovation and skills training.
- Improve the programs themselves which will lead to economic development and higher wages
- Become a global model for skills training and social mobility.

References and/or Acknowledgements

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