

# Monitoring, Verification and Enforcement of Standards and Labels for Consumer Electronics in India

## Lab Capacity Development

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***Christopher Stone***

***CLASP Director US Programs***

***Chief Technical Advisor Testing***

***cstone@clasponline.org***

# Key Stakeholders

- Government Energy Efficiency Regulators
- National Standards Development Organizations
- National Accreditation Agencies
- Laboratories
- Manufacturers
- Retailers
- Consumers



## Energy Efficiency Regulators

- Bureau of Energy Efficiency (BEE)
  - 4 Mandatory Products
  - 8 Voluntary Products
  - A number of additional Products in planning stage



## National Standards Development Organizations

- **Bureau of Indian Standards (BIS)**

The Indian Standards Institution (ISI) was set up in 1947 as a registered society under a Government of India resolution. In 1986 the government passed the Bureau of Indian Standards Act and on 1 April 1987, newly formed BIS took over staff assets, liabilities and functions of ISI.



BIS is responsible for developing Indian National Standards

- **International Electrotechnical Commission (IEC)**



The International Electrotechnical Commission (IEC) is the world's leading organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

## Accreditation Agencies



## National Accreditation Board for Testing and Calibration Laboratories (NABL)

- NABL provides laboratory accreditation services to laboratories that are performing tests / calibrations in accordance with ISO/IEC 17025:2005
- NABL has established its Accreditation System in accordance with ISO/IEC 17011:2004, which is followed internationally. In addition NABL has to also comply with the requirements of APLAC MR001, which requires the applicant and the accredited laboratories to take part in recognized Proficiency Testing Programmes in accordance with ISO/IEC Guide 43.

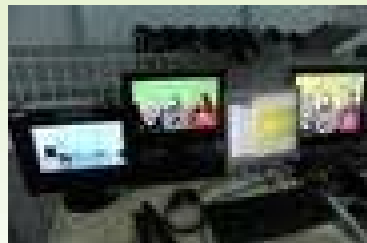
- **Laboratories may exist in many forms.**



Government



Private Third Party



Manufacturer

# **Keys to Developing Lab Capacity in India**



# Critical Points

Defining the Business Model

Test Standards and Test Methods

Training

Laboratory Accreditation

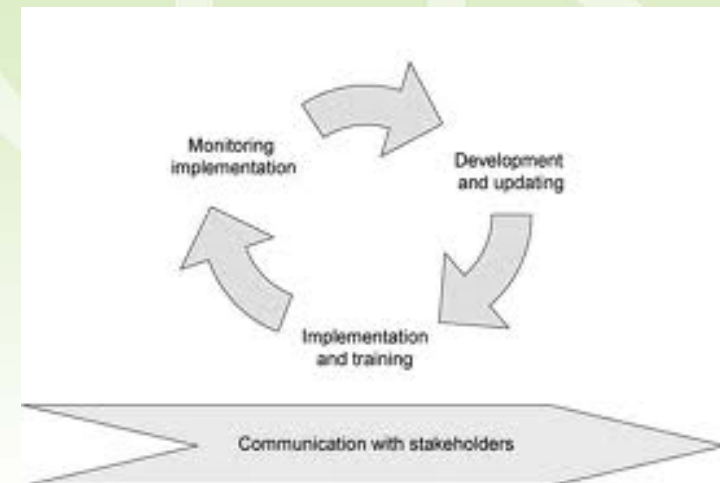


## Defining the Business Model

- Return on Investment (ROI)
- Laboratory Utilization
  - Limited amount of mandatory testing to support business model
  - How to leverage private R&D testing to support the business model
- Setting Test Fees
  - Financing Capital Investment
  - Competitive in the market
- Pros and Cons of Expanding Laboratory Access
  - Location convenient to manufacturing base
  - Sample Transportation Costs
  - Distributed Capacity vs. Overcapacity

## Test Standards and Test Methods

- Understanding Regulatory Requirements (Test Standards)
- Application of National Standards (Test Methods)
- Reference to and Deviations from International Standards
- Regulatory Guidance on Test Methods
- Inclusion of Safety Requirements
- Defining Capital Equipment Requirements
- Harmonization
  - International
  - Regional



## Key issues related to Test Procedures:

- Lack details required to perform tests in the same way across multiple laboratories
- Do not address innovation and emerging technologies
- Test Procedure development not synced well in advance of regulations
- Test Procedures “Slow to Change”
- Allow “Gaming” during the test process that influence results
- Correlation between laboratories
- Uncertainty and Repeatability of test results
- Difference in Field Data Results vs. Lab Data Results
- Cost of testing

## Thoughts related to Test Procedure Development:

Can the procedures be perfect ?

In most cases NO....

- Often efforts to make a perfect test procedure delay release and ultimately slow down the regulatory process.

## Training

- **Methods of Proficiency Testing**  
Internal vs. External requirements
- **Test Method Interpretation**  
Guidance from regulatory agencies
- **Reporting Requirements**  
Uniform reporting across multiple laboratories



## Laboratory Accreditation

- NABL Accreditation as a minimum requirement
- Methods to Verify Competency
  - Correlation Testing
  - Comparative testing
  - Round Robin Testing
  - Proficiency Testing
- Accredited Labs vs. Qualified Labs



Quality is Assured

- **Additional Considerations during the Lab Development Process**
  - Training and Informational Workshops
  - Correlation and/or Round Robin Testing

# Conclusion

**Start Early**  
**Develop Capacity along with Regulation**

**Thank You !**

