



# Mindtree

*Welcome to possible*

## Support for business expansion through automated testing for a leading metering solutions provider.

Around the world, governments and utility companies are showing increasing interest in smart electricity meters, which are capable of recording usage in real-time and enabling two-way communication between household and supplier. Benefits of smart metering include smart tariffs to match demand and supply, detailed site-specific consumption information and swift diagnosis of power quality problems.

Here is how Mindtree helped a global provider of smart metering solution set up automated testing of smart meter technology. By doing so, we enabled business growth, cost effectiveness and shorter time to market.

### The challenge

The customer was struggling to manage their testing process for smart meters, especially as they had growth ambitions that necessitated testing at scale. The existing process was effort intensive and relied on spreadsheet-based test sequences for manual validation.

Consequently, they wanted a testing expert to provide an automated solution that could configure test set ups automatically and simulate field conditions. This included controlling meter power and testing different combinations of voltage, current and other parameters.

### Our solution

Mindtree collaborated with the customer to develop an automation test bench and test suite consisting of six separate tools. Solution highlights include:

#### **Test Automation Software**


The team developed software with an intuitive user interface that could take automation test scripts developed in Microsoft Excel as input for validation. This application has helped in automating smart meter validation. A related tool, the Test Script Generator helped select a test matrix and convert it into a standard test script format.

#### **Communication Protocol Validation Software**

This application was created to validate meter protocols. It helped the user

### Business impact

- Business growth in markets such as Australia, Western Europe, Asia and Africa
- Enhanced product compatibility with common Home Area Network (HAN) technologies
- 70% lower verification and validation time through automation
- 30% faster project completion compared to project schedule



communicate with multiple meters simultaneously by defining ports of communication.

#### **Calibration Automation Software**

We developed an application for the calibration of meters with reference to devices such as MTE (Meter Test Equipment). The application automates calibration procedures using reference meters; and performs updates. It received an innovation award from the customer and also helped reduce the time taken to calibrate meters in a production environment.

#### **Data Manager Test Application**

This application tests mapping and read/write permissions by changing values in the underlying database. As similar tests are run during meter certification by external agencies, it helped the customer locate and eliminate errors beforehand for smooth certification.

#### **Power Cycle Test Application**

To simulate field conditions of power supply and load, we developed an application to control the meter power up sequence. Multiple meters were connected and subjected to stringent power cycle tests over long hours of operation.

### **About Mindtree**

Mindtree is a global information technology solutions company with revenues of over USD 400 million. Our team of 11,500+ experts engineer meaningful technology solutions to help businesses and societies flourish. We enable our customers achieve competitive advantage through flexible and global delivery models, agile methodologies and expert frameworks.