



# Automated ATM Fault-time Calculation for a Multinational Financial Company

Digital  
Services

Success Story

## Status Quo

The client is a multinational financial and retail technology company that specializes in the sale, manufacture, installation and service of self-service transaction systems (such as ATMs and currency processing systems), point-of-sale terminals, physical security products, and software and related services for global financial, retail, and commercial markets. They also offer services in exploring financial reports, news, document governance, and stakeholder information.

The ATM business was encountering challenges with its manual operations, which were not able to address the requirements promptly. To overcome these hurdles, the client wanted to automate the process with a high-accuracy software solution which could help make timely decisions.

## Project Overview

Leveraging Python programming, the complex manual calculations of ATM fault-time and downtime were automated. Various backend calculations were processed based on the numerous input and output variables obtained from the legacy Excel sheets. Additionally, various forms were generated to show the overall downtime for each specific ATM.

## Business Requirement

- To automate the manual fault-time and downtime calculation with a high level of accuracy
- Generate forms for the downtime of each ATM machine
- Minimize the time taken for each calculation

## Solution

- Analysis of the legacy system involving entries in an Excel sheet, having the fault-time and downtime calculated manually, to arrive at the best solution to automate the process
- Python script were used to automation of the fault-time/ downtime calculation for each ATM computed
- Various backend calculations were employed to provide an accurate downtime calculation, with the aim of minimizing it
- The python scripts were also utilized to generate forms for different bank's ATMs and their downtime

- On occasions were overlapping occurred while calculating the downtime for ATMs of the same bank, the issue was solved by localizing each cell

## Business Impact

- **Reaction Time** - Using Python script, the manual downtime calculations of the various ATMs were automated, facilitating an efficient and timely reaction by the maintenance teams to the malfunctioning ATMs; this improved the reaction time by nearly 75%.
- **Calculation Time** - The time taken for each calculation reduced by 90% owing to the automation, and the forms were also generated within a minimal timeframe.
- **Accuracy Level** - The process successfully achieved a 100% accuracy level in the computation.

### Business

Data Analytics

### Domain

Financial Services

### Tools

Python, Excel

### Key Highlights

- Usage of Python scripts to automate the ATM downtime calculations improved the reaction time of maintenance teams by nearly 75%
- 90% reduction in time taken for calculations and form generation
- Successfully achieved a 100% accuracy level

