4-State Machine with Data Tracking and Extraction(DDE)

Softwares: RSLogix 500, RSLinx Classic, RSEmulate 500, LibreOffice
Key Instructions Used: Timers, ASCII String Handling, DDE Integration

Project Overview

This project implements a 4-state sequencing machine using a PLC, where each state represents a mode/function pair:

- **Mode-1 / F1**
- **Mode-1 / F2**
- **Mode-2 / F1**
- **Mode-2 / F2**

Each state runs for **10 seconds**, cycling continuously through all four. The PLC tracks the **current mode and function** using string registers and counts each completed state transition individually.

In addition to control logic, the project integrates with **LibreOffice via DDE**, allowing:

- **Live data monitoring**: LibreOffice displays real-time updates of the current state and cycle counts.
- **On-demand logging**: Pressing the export trigger in LibreOffice captures and logs the current data snapshot into LibreOffice for recordkeeping or analysis.

This project showcases both core PLC sequencing skills and practical data integration for tracking and reporting — ideal for lab testing, QA environments, or machine diagnostics.