


Project Title: WhatsApp-Based eSIM Support Automation (Phase 1 - With Dual Human Approval)



 **Objective:** Design and implement an n8n automation workflow that streamlines the eSIM support process via WhatsApp, ensuring all customer issues are tracked, verified, approved, and responded to. The system logs every interaction and supports future AI-based enhancements.

Workflow Components

1. Trigger - WhatsApp Group Monitoring - Monitor a dedicated WhatsApp support group using WhatsApp Business API. - Detect new incoming messages indicating customer eSIM issues.

2. Validation of Required Fields (NSCE + MSISDN) - Parse each incoming message. - Extract NSCE and MSISDN using regex. - If missing, respond with:




"Hi, to raise this issue with the network, could you please provide your NSCE and MSISDN?" - Wait up to 12 hours for a follow-up. Re-validate when a follow-up message is received.

3. Human Approval - Before Sending Email to Orange - Once NSCE and MSISDN are present: - Share a summary via WhatsApp DM/internal group: > "New Orange ticket draft: > NSCE: [NSCE] > MSISDN: [MSISDN] > Issue: [Message Text] > Reply  Approve to send or  Reject" - Wait for internal approval. - If approved, proceed. If rejected or timeout, log as "Pending".

4. Send Email to Orange Network - Use n8n Email node with SMTP or Gmail. - Compose email: - Subject: "eSIM Ticket NSCE [NSCE] / MSISDN [MSISDN]" - Body: Issue description, optional chat log. - Send to: ops.support@orange.com - Save outbound Message-ID for tracking.


5. Listen for Email Reply - Monitor inbox via IMAP or Gmail. - Detect replies with Message-ID match (In-Reply-To header). - Attach Orange's reply to the existing ticket.

6. Second Human Approval - Before Replying to Customer - Share Orange's reply draft to internal approver:

"Orange reply received: [Orange Reply] Reply  Approve to reply or  Hold/Revise" - Wait for approval. - If approved: - Send to group: > " Reply from Orange for [MSISDN]: [Reply Text]" - If held or revised, allow for edits.

7. Log All Data to Google Sheets Log every ticket with the following: - Timestamp - NSCE - MSISDN - Issue Description - Email Status (Sent/Pending) - Orange Reply - Approval 1 (Send to Orange) - Approval 2 (Send to Customer) - Final Message Sent

8. Future Scope: AI-Driven Self-Learning Module - Use historical data to classify issue types (signal issue, activation error, etc.). - Recommend auto-responses based on past successful cases. - Tag training data for future model training. - Gradually reduce human approvals using confidence-based logic.

 **Phase 1 Testing & Feedback** - Keep both approvals manual. - Track accuracy of field extraction. - Measure time between steps. - Evaluate clarity of responses. - Prepare for Phase 2 once success threshold is reached (>95% accurate tickets, low rejection rate).

Compliance & Reliability Tips - Use environment variables for credentials. - Use queue mode in n8n for concurrent tickets. - Backup Google Sheets regularly. - Log failed tickets and timeouts. - Optional: Alert via Telegram/Slack if approval is delayed.

End of Phase 1 Documentation