**Functional Design Document (FDD)**

**Sales Call Journey Planning Solution**  
*Based on "Revised Requirement 7.txt"*

**1. Introduction**

This Functional Design Document (FDD) describes the end-to-end business and system requirements for the Sales Call Journey Planning Solution, designed to automate, optimize, and manage sales call scheduling and journey planning for Account Sales Managers (ASMs). The solution will use Dynamics 365 Customer Engagement (CE) and integrated Microsoft technologies to deliver a seamless, mobile-enabled, and data-driven experience for sales teams and their managers.

**2. Scope**

**2.1 In Scope**

* Automated scheduling of sales calls based on customer tiering.
* Manual creation and amendment of sales calls and journey plans.
* Journey planning with business rules for minimum/maximum calls per day.
* Consideration of holidays, ASM working hours, and customer opening hours.
* Management of multiple home locations for ASMs (start/end journey points).
* Inclusion of both prospect and existing customer calls in plans.
* Route optimization for circular journeys and reduced travel.
* Support for multiple transport types: walking, public, private.
* Visual mapping and review of journey routes (day/week).
* Rolling 4-week journey plan creation and weekly visibility.
* Real-time and daily refresh of journey plans.
* Communication for confirmed and walk-in appointments (Email only).
* Call duration management with exceptions by call type.
* Integration with mobile navigation apps (Google Maps, Waze, Bing Maps).
* Management reporting: actual/planned calls, reschedule reasons, journey efficiency.
* Integration with Dynamics CRM, Outlook, and mobile navigation applications.
* Mobile and offline access to journey plans.

**2.2 Out of Scope**

* Custom mobile app development outside Dynamics 365 native mobile.
* Integration with unsupported or legacy CRM/ERP systems.
* Voice assistant and real-time GPS tracking.
* AI-based dynamic route optimization beyond OOB capabilities.
* Direct integration with third-party navigation apps lacking API.
* Data migration from non-specified legacy systems (unless called out in integrations).
* Development of non-standard reporting tools outside Power BI/D365.

**3. Actors/Roles**

* **Account Sales Manager (ASM):** Creates, reviews, executes, and updates journey plans; manages appointments; accesses solution via desktop/mobile/offline.
* **Line Manager (RSM, RSD, SD):** Reviews and monitors team plans; manages exceptions; accesses management reports.
* **CRM System:** Automates scheduling, enforces business rules, integrates with Outlook and navigation apps, maintains audit trail.
* **Prospect / Customer:** Receives calls/appointments; interacts for scheduling/rescheduling.
* **System Administrator:** Manages configuration, integrations, and security.
* **IT Support:** Troubleshoots issues, manages data sync and mobile access.
* **Outlook Calendar:** Used for ASM and customer availability, call scheduling, and reminders.
* **Navigation Apps:** Provides route planning for ASMs on the move.

**4. Assumptions and Inferred Requirements**

| **No.** | **Assumption/Inferred Requirement** | **Source/Justification** |
| --- | --- | --- |
| A1 | All ASMs access Dynamics 365 and Outlook on mobile devices. | Mobile/offline journey planning. |
| A2 | Customer "Tier" is current in CRM and updated as sales data changes. | Drives automated scheduling. |
| A3 | Opening hours, holidays, and user locations are available and updateable in CRM or via integration. | Required for valid scheduling. |
| A4 | Addresses for customers/prospects are geocoded for mapping. | Enables journey optimization and mapping. |
| A5 | Data privacy and retention are handled per org policy. | Reporting and audit. |
| A6 | Managers can override business rules where necessary. | Exception handling. |
| A7 | Email is the sole communication method for appointment changes. | Explicit requirement. |
| A8 | Offline mode supports plan review and basic edits; advanced features may be limited. | Mobile efficiency. |
| A9 | One primary home location per ASM, with option for multiple locations. | Journey routing. |
| A10 | Navigation app integration is device-dependent. | Industry standard. |
| A11 | All call activities are auditable. | Reporting, compliance. |
| A12 | Prospects are managed as Contact or Lead entities. | Dynamics 365 best practice. |
| A13 | OOB entities will be extended only when necessary; no unnecessary custom entities. | System maintainability. |

**5. Functional Requirements**

| **FR No.** | **Requirement** | **Business & User Context** | **Preconditions/Triggers** | **User Steps** | **System Behavior** | **Edge Cases/Validation** |
| --- | --- | --- | --- | --- | --- | --- |
| FR001 | System-Created Sales Call | Auto-schedule calls for "Existing" customers per their Tier, based on sales, volume, margin, potential. | Tier set/updated; customer active. | None (system-driven); ASM reviews/edits plan. | Calls scheduled as per frequency, assigned to ASM. | Missing data flagged for admin. |
| FR002 | Manual Sales Call Creation/Amendment | ASM manually adds sales calls (esp. for Prospects), or amends scheduled calls. | ASM initiates in UI. | Add/edit/delete call, select customer/prospect, set time. | Calls created/updated if valid; enforce limits. | Prevent double-booking, enforce daily limits. |
| FR003 | Daily Call Cap | Enforce 7-9 calls/day for each ASM for optimal workload. | During scheduling/plan creation. | ASM reviews and submits plan. | System blocks save if <7 or >9 calls. | Warning if limits not met. |
| FR004 | Holiday & Availability Consideration | Plans consider ASM holidays, bank holidays, customer opening hours, meeting hours. | Plan generation, rescheduling. | ASM reviews/adjusts plan; system checks for conflicts. | Rejects calls on holidays/closed hours. | Manager override for exceptions. |
| FR005 | Home Location Definition | ASM may define multiple home locations, set one as primary for journey start/end. | ASM profile setup/update. | Add/edit/delete locations, set primary. | Routing uses primary; changes reflected in next plan. | Prompt if no primary set; restrict changes during active plan. |
| FR006 | Contact Type Inclusion | Include at least 2 prospect calls per day in journey plan. | Plan generation. | ASM reviews, system validates. | Alerts ASM if not met. | Alert if insufficient prospects. |
| FR007 | Optimized/Circular Journeys | Route planning starts/ends at home location, minimizes travel, optimizes stops. | Plan generation. | ASM reviews map, can suggest change. | Route is circular/optimal; system suggests order. | System advises if circular not possible. |
| FR008 | Multi-Modal Transport Support | Journey plan supports walking, public, and private transport, regionally configurable. | Plan generation. | ASM selects transport preference. | Adjusts time/distance per mode; respects region limits. | Suggests next best mode if unavailable. |
| FR009 | Visual Map View | ASM views journey plan on interactive map (day/week). | Plan exists. | Select day/week; view map. | Map displays all stops/routes. | Warn if address not geocoded. |
| FR010 | 4-Week JP Creation | Create rolling 4-week journey plan for every ASM monthly. | Start of month/on demand. | ASM/manager reviews plan. | Plans visible, editable up to 1 month. | System alerts if plan not generated. |
| FR011 | Daily Plan Refresh | Plan refreshes daily based on changes (cancellations, reschedules, new data). | Start of day, changes. | ASM notified of changes. | Plan is current; highlights changes. | Warn if offline/unsynced. |
| FR012 | Confirmed & Walk-In Appointments | Confirmed appointments managed, walk-ins suggested for cancellations, all changes via Email. | Scheduling/rescheduling. | ASM confirms/cancels/reschedules. | Emails sent, confirmations tracked. | Retry or alert if email fails. |
| FR013 | Call Duration Management | Default call: 60-90min, varies by call type (Live, Prospecting, Wine Tasting); exceptions logged. | Scheduling/editing. | ASM sets/adjusts duration. | Validates duration; logs exceptions. | Warnings for out-of-range unless justified. |
| FR014 | Detailed Route Directions | ASM can view step-by-step directions for journey. | Map view available. | Click to view directions per stop. | Opens in-app or external navigation. | Fallback to manual if unavailable. |
| FR015 | Mobile App Integration for Navigation | Integrate with navigation apps (Google Maps, Waze, etc.). | Device/app installed. | ASM opens journey in app. | Route opens with pre-loaded stops. | Prompt to install if not available. |
| FR016 | Weekly & Monthly Plan Visibility | ASM/manager can view weekly and 4-week rolling plans. | Plan generated. | Select week/month, filter by ASM. | Displays calls, status, objectives. | Show error if data missing. |
| FR017 | Sync with Outlook | Plans sync with Outlook Calendar within 3-5min. | Appointment create/update. | ASM reviews in both systems. | Changes reflect in both; alerts on sync failure. | Notify if sync delayed. |
| FR018 | Plan Visibility for Managers | Managers can view/filter plans by ASM. | Plan generated, manager access. | Filter/search by ASM, export. | Only authorized users see team data. | Enforce access control. |
| FR019 | Prospect Calls in Plan | Prospect calls blended into daily plan. | Plan generation. | ASM reviews, system validates. | Prospect/customer balance enforced. | Alert if insufficient prospects. |
| FR020 | Automated Route Planning | System optimizes route for minimal travel, max call time. | Plan creation/update. | ASM reviews, can override. | Shows optimal order; logs overrides. | User override requires justification. |
| FR021 | Call Objectives Display | ASM can view objectives for each call. | Call scheduled. | ASM views/edits objective. | Objectives visible, editable if allowed. | Prompt if missing. |
| FR022 | Call Rescheduling | ASM can reschedule calls; system enforces business rules. | ASM initiates reschedule. | Select new date/time, provide reason. | Rescheduled, reason logged. | Prevents double-booking, logs changes. |
| FR023 | Reschedule Reason Codes | Reason code required when rescheduling. | Reschedule initiated. | Select/enter reason. | Reason mandatory, tracked for reporting. | Block save if missing. |
| FR024 | Walk-in Suggestions | System suggests nearby walk-ins for cancellations. | Appointment cancelled, location known. | ASM reviews/accepts suggestions. | Shows available walk-ins. | Warn if none available. |
| FR025 | System-Generated Next Call | System auto-creates next call date per tiering rules. | Call completed, tier set. | None (system-driven). | Next call scheduled; editable if needed. | Warn if tier info missing. |
| FR026 | Manual Next Call Creation | ASM can manually add/adjust next call date. | ASM initiates in UI. | Add/edit next call date/time. | Plan updated, conflicts validated. | Warn if outside expected interval. |
| FR027 | Call Activity Tracking | System tracks actual, planned, rescheduled calls, and reasons. | Calls scheduled/completed. | ASM/manager reviews reports. | Data available for analytics. | Privacy enforced. |
| FR028 | Dynamics CRM Integration | Integrate with Dynamics CRM for all entities/data. | System setup. | Ongoing. | Data sync/integrity maintained. | Log/alert on sync failure. |
| FR029 | Integration with Navigation Apps | Integrate with Google Maps/Waze/Bing for journey routes. | Device/app available. | ASM opens journey in app. | Route with stops pre-loaded. | Fallback/manual if unsupported. |
| FR030 | Mobile Access | ASM can access all features on mobile. | Mobile device/app installed. | ASM logs in, views/edits plans. | Full access, mobile-optimized. | Limited in offline mode. |
| FR031 | Offline Access | Core plan features available offline; syncs when online. | No/poor internet. | ASM views/edits offline, syncs later. | Data consistent; conflicts resolved. | Warn if unsynced changes. |

**6. User Stories**

| **User Story ID** | **Summary** | **Primary Actor** | **Goal** | **Acceptance Criteria** |
| --- | --- | --- | --- | --- |
| US-01 | Automated sales call plan by tier | ASM | Receive automated plan per customer tier rules | Plan created, visible, editable |
| US-02 | Manually add/amend calls | ASM | Add/update calls as needed | Calls saved, validated, daily limits enforced |
| US-03 | Plan considers holidays/availability | ASM | Avoid calls on holidays/closures | Calls not scheduled on holidays/closed hours |
| US-04 | Set/update home locations | ASM | Define journey start/end | Home location used for route planning |
| US-05 | Include prospect calls | ASM | Ensure daily prospect outreach | Min. 2 prospect calls per day |
| US-06 | View optimized journey map | ASM | Visualize route | Map displays all stops, circular if possible |
| US-07 | Reschedule calls with reason | ASM | Change appointments as needed | Reason required, email sent, plan updated |
| US-08 | Suggest walk-ins after cancellation | ASM | Fill gaps from cancellations | Suggestions shown, can accept/reject |
| US-09 | Sync with Outlook | ASM | Calls appear in Outlook calendar | Sync within 5 min, no data loss |
| US-10 | Mobile/offline access | ASM | Work remotely | Core features available offline |

**7. Integration / Data migration / Import**

* **Dynamics CRM Integration:**
  + Real-time, bidirectional sync of customers, prospects, calls, and plans.
* **Outlook Calendar Integration:**
  + 3-5 min sync for all scheduled/rescheduled/cancelled calls.
* **Mobile Navigation App Integration:**
  + Deep-linking via journey plan UI to navigation app with route.
* **Mobile App Integration:**
  + Native D365 mobile app with offline sync logic.
* **Data Migration:**
  + Import legacy data using Data Import/Power Query as needed.
* **External Data Imports:**
  + Opening hours, holidays, user locations via integration from HR/ERP.

**8. Reporting**

* **Call Activity Reports:** Actual vs planned, by ASM/team, per period (last week/month).
* **Reschedule Reason Reports:** By day, ASM, reason code, over time.
* **Journey Efficiency Reports:** Avg. travel/call time, optimization rate.
* **Prospect Conversion Reports:** Prospect calls by period/outcome.
* **Management Dashboards:** Visual summary, filters by ASM/territory/period.

**9. Design Inventory**

| **User Story** | **Component Type** | **Name of Entity** | **Description** |
| --- | --- | --- | --- |
| US-01 | Entity | Account | Add tier, last meeting date, opening hours fields. |
| US-01 | Power Automate | Auto-Scheduling Flow | Triggers on Account tier update to schedule calls as per rules. |
| US-02 | Entity | Appointment | Manual create/edit; validation by business rules. |
| US-03 | Business Rules | Appointment | Check against holidays/calendar before save. |
| US-03 | Entity | Calendar (custom) | Store holidays/ASM holidays for validation. |
| US-04 | Entity | User Location | Custom entity for home locations; primary flag, linked to User. |
| US-05 | Power Automate | Daily Plan Validation | Ensures 2 prospect calls/day, alerts if not. |
| US-06 | PCF/Power BI | Journey Map | Custom map for route visualization. |
| US-07 | Plugin | Appointment Rescheduling | Enforce reason code, trigger email. |
| US-08 | Power Automate | Walk-in Suggestion | Suggests nearby prospects for cancellations. |
| US-09 | Integration | Outlook Sync | OOB D365-Outlook calendar sync. |
| US-10 | Power Automate | Mobile Sync | Ensures data sync, handles conflicts. |
| US-10 | Entity | Offline Queue | Store unsynced changes for later processing. |
| ... | ... | ... | ... |

**10. OOB Fitment/Customization/Gaps Analysis**

| **User Story ID** | **User Story Title** | **Best Fit Module** | **% Fit** | **Gaps/Notes** | **Query for Stakeholders** |
| --- | --- | --- | --- | --- | --- |
| US-01 | Automated plan by tier | D365 Sales | 90% | Auto-tiered scheduling needs Power Automate/plugin | Confirm tier rules/data source |
| US-02 | Manual call management | D365 Sales | 100% | OOB supports manual activities | None |
| US-03 | Holiday/availability logic | Sales/Field Service | 80% | Custom calendar entity needed | How are holidays maintained? |
| US-04 | Home location management | Sales | 80% | Custom user location entity | How often do locations change? |
| US-05 | Daily prospect calls | Sales/Marketing | 85% | OOB supports leads/prospects; validation flow needed | Volume of prospects per ASM? |
| US-06 | Journey map | Field Service | 70% | OOB mapping for work orders; PCF/Power BI for sales | Preferred map provider? |
| US-07 | Reschedule with reason | Sales | 95% | Reason code customization needed | List of reason codes? |
| US-08 | Walk-in suggestions | Sales/Field Service | 75% | Proximity-based suggestion logic needed | Proximity rules? |
| US-09 | Outlook sync | Sales | 100% | Fully supported OOB | None |
| US-10 | Mobile/offline access | Sales | 95% | Limited offline feature support | What offline features are critical? |
|  |  |  |  |  | **All Queries:** – Confirm tiering and scheduling logic? – Data structure and update frequency for holidays/opening hours? – How are home locations managed/updated? – What are acceptable call duration exception reasons? – What are preferred map/navigation providers? – What data privacy/audit requirements must be enforced? – Minimum/maximum number of prospects available per ASM? |

**11. Non-Functional Requirements**

| **NFR No.** | **Description** | **Assumptions** |
| --- | --- | --- |
| NFR001 | Performance: All user actions < 5 sec, background jobs < 5 min. | Standard network, user volumes. |
| NFR002 | Availability: 99.9% business hours uptime. | Cloud-hosted infra. |
| NFR003 | Security: Role-based access for all data/views. | D365 security model. |
| NFR004 | Data Integrity: All changes fully auditable. | Audit logs enabled. |
| NFR005 | Scalability: Support up to 500 concurrent ASMs. | Growth forecasts. |
| NFR006 | Usability: Mobile/desktop UIs meet accessibility standards. | Supported devices. |
| NFR007 | Offline: Core journey plan features offline, sync on reconnect. | Device storage. |
| NFR008 | Localization: Regional settings for time, transport, holidays. | Complete region data. |
| NFR009 | Privacy: Data retention and privacy per org policy. | Policy provided. |
| NFR010 | Auditability: All journey/call changes logged, reportable. | Audit enabled for core entities. |

**12. Glossary**

| **Term** | **Definition** |
| --- | --- |
| ASM | Account Sales Manager; field sales employee managing journey plans. |
| Tier | Customer classification driving call frequency (1-4). |
| Prospect | Potential customer (Lead/Contact entity). |
| Journey Plan | Set of scheduled sales calls/visits for a period. |
| RSM/RSD/SD | Manager roles (Regional Sales Manager, etc.). |
| OOB | Out-of-the-Box, native D365 functionality. |
| Appointment | D365 Activity entity for scheduled call/visit. |
| Home Location | Journey start/end point for ASM. |
| Walk-in | Unscheduled/ad-hoc sales call to fill plan gaps. |
| Power Automate | Microsoft cloud workflow automation. |
| Plugin | Custom D365 logic triggered by events. |
| PCF | PowerApps Component Framework (for custom UI). |
| Outlook Sync | D365-Outlook calendar integration. |

**End of Document**