

APRIL 26, 2025

ACTIVITIES



ACTIVITY STRUCTURE

Parameter	Meaning	Significance
Function Name	A short, action-oriented title that identifies what technical action is being performed.	Helps quickly reference or index system capabilities during mission planning, engineering, and troubleshooting.
Function Description	A detailed description of what the function actually does operationally and technically.	Provides clarity and understanding to non-technical and technical users about the purpose and execution of the function.
System Triggered	The specific platform, system, software service, or hardware device that executes the function.	Enables traceability between operational needs and technical infrastructure; critical for system architecture, integration, and cybersecurity.
Input	The required data, conditions, or resources that must be present to begin the function.	Defines operational and technical dependencies; ensures processes are initiated under the correct conditions without missing requirements.
Output	The result or product generated by successfully executing the function.	Shows what each function produces for use by the next function, system, user, or phase; essential for building seamless workflows and chaining activities.

DOD KILL CHAIN: F2T2EA - ACTIVITIES

Find

Activity 1: Task Spacecraft for Wide-Area Surveillance					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F001	Receive Tasking Orders	Accept mission tasking input from C2 authorities (PIRs, AOIs).	C4ISR Tasking Portal	PIRs, AOI Coordinates	Validated tasking orders
F002	Validate Asset Availability	Confirm spacecraft sensor availability and orbital viability.	Ground Mission Scheduler	Tasking orders	Asset availability report
F003	Generate Tasking Command Package	Create a mission-specific command package for spacecraft sensors.	Mission Planning Software	Tasking + Availability	Command package
F004	Encrypt Tasking Commands	Apply COMSEC protocols to secure spacecraft commands.	Encryption Management System	Command package	Encrypted tasking packet
F005	Transmit Tasking Commands	Send the encrypted tasking to spacecraft via uplink.	Ground Uplink Station	Encrypted tasking packet	Uplink transmission complete

Activity 2: Configure Payloads for Optimal Imaging Modes					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F006	Retrieve Sensor Configuration Profiles	Load imaging mode settings appropriate to mission need.	Payload Configuration Software	Tasking Order	Configuration profiles
F007	Adjust Imaging Parameters	Fine-tune resolution, frequency band, polarization, and swath width.	Payload Control Interface	Configuration profiles	Updated imaging settings
F008	Upload Payload Settings	Transmit imaging configuration to spacecraft payload systems.	Ground Station Uplink	Updated settings	Settings uploaded confirmation
F009	Verify Payload Readiness	Confirm payload sensors are configured and ready for collection.	Spacecraft Telemetry Monitor	Payload settings acknowledgment	Ready-for-collection status

Activity 3: Secure Communications for Collection Commanding					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F010	Authenticate Uplink Channels	Validate secure ground-to-space communication links.	COMSEC Authentication System	Encryption keys	Channel authentication status
F011	Monitor Encryption Integrity	Continuously monitor command encryption validity during transmission.	Encryption Integrity Checker	Encrypted command stream	Encryption health report
F012	Detect and Respond to Spoofing Attempts	Identify spoofing or interference signals and initiate countermeasures.	Cyber Threat Monitoring System	Transmission traffic	Spoofing alert / mitigation response

Activity 4: Apply AI/ML Algorithms for Autonomous Target Recognition					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F013	Deploy AI/ML Detection Models	Load and activate anomaly detection models on spacecraft processors.	Onboard AI Processing Node	Pre-trained AI models	Active onboard detection capability
F014	Analyze Incoming SAR Data	Process wide-area SAR imagery autonomously for anomalies.	AI Anomaly Detection Engine	SAR imaging data	Anomaly detection events
F015	Prioritize Targets for Downlink	Assign confidence scores and prioritize potential targets for ground transmission.	Target Scoring Module	Detected anomalies	Prioritized target report

Activity 5: Prioritize Collection for Urgent Intelligence Requirements					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F016	Monitor Incoming PIR Updates	Continuously scan for new or modified Priority Intelligence Requirements.	PIR Management System	Updated PIRs	PIR alert
F017	Update Collection Priority Queue	Reorganize active tasking based on urgency and commander intent.	Collection Prioritization Engine	PIR alerts	Updated tasking queue
F018	Issue Re-Tasking Orders	Generate re-tasking messages for spacecraft or collection platforms.	C4ISR Tasking Gateway	Updated queue	Re-tasking order transmission

Fix

Activity 1: Orient Satellite for High-Precision Targeting					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F019	Calculate Required Satellite Attitude	Determine the optimal spacecraft orientation for precise sensor targeting.	Attitude Determination System	Target coordinates	Attitude adjustment plan
F020	Execute Satellite Orientation Maneuver	Adjust spacecraft orientation to align sensors with target.	Attitude Control Subsystem	Attitude adjustment plan	Orientation achieved signal
F021	Confirm Sensor Alignment	Verify spacecraft is correctly pointed for high-precision collection.	Onboard Telemetry System	Orientation status	Ready-for-fix collection confirmation

Activity 2: Shift to Narrow-Beam High-Resolution Collection Mode					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F022	Activate High-Resolution Sensor Modes	Switch payload sensors from wide-area scan to narrow-beam, high-res mode.	Payload Control Software	Mission tasking order	High-res collection mode activated
F023	Calibrate Sensor Focus	Fine-tune sensor focus and aperture settings for target fidelity.	Sensor Calibration Module	Sensor parameters	Calibrated imaging profile
F024	Initiate High-Resolution Data Capture	Begin narrow-field data acquisition for target fix.	Payload Data Acquisition System	Calibrated profile	High-res sensor data packets

Activity 3: Fuse Multi-Sensor Data to Validate Target Coordinates					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F025	Ingest Multisource Data Streams	Aggregate SAR, EO, SIGINT, and LiDAR datasets from sensors.	Multisensor Data Fusion System	Sensor outputs	Unified sensor dataset
F026	Perform Geospatial Correlation	Align data streams temporally and geographically for fusion.	Geospatial Processing Engine	Unified dataset	Correlated multisensor product

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F027	Generate Target Fix Solution	Extract precise target coordinates from fused datasets.	Target Fix Generation Software	Correlated product	Verified target fix report
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Activity 4: Manage Low-Latency Relay and Fix Confirmation

Function ID	Function Name	Function Description	System Triggered	Input	Output
F028	Establish Low-Latency Comms Path	Open prioritized, low-delay communication route for fix transmission.	Tactical Communications Router	Tasking urgency flags	Latency-minimized link
F029	Transmit Target Fix to Ground	Send precise fix data to ground C2 systems.	Secure Downlink Transmitter	Target fix report	Received fix confirmation
F030	Confirm Fix Receipt and Integrity	Validate ground receipt, data integrity, and classification of fix.	Ground Integrity Monitor	Downlinked fix data	Fix validation report

Activity 5: Verify Target Fix with Local ISR or HUMINT Assets

Function ID	Function Name	Function Description	System Triggered	Input	Output
F031	Task Local ISR/HUMINT for Target Validation	Request corroborating observations from theater ISR or HUMINT teams.	ISR Tasking Gateway	Target coordinates	Validation task order
F032	Collect Ground-Based Validation Reports	Receive feedback from ISR platforms or human sources.	Tactical Data Reception Center	Field reports	Validation confirmation
F033	Fuse Space and Ground Validation Data	Merge orbital fix with ground intelligence confirmation.	Intelligence Fusion Hub	Fix + field validation	Final confirmed target fix

Track

Activity 1: Develop Predictive Target Movement Models					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F034	Analyze Historical Movement Data	Review past target movement patterns from ISR sources.	Intelligence Analysis Workstation	Past movement datasets	Movement trend report
F035	Model Target Behavior Patterns	Create predictive movement models based on operational environment and enemy TTPs.	Predictive Modeling Software	Movement trends, environment data	Predictive movement model
F036	Validate Model Accuracy	Test and refine models against live movement feeds.	Simulation/Test Framework	Live movement data	Validated movement model

Activity 2: Update and Optimize Onboard Tracking Algorithms					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F037	Upload New Tracking Algorithms	Load updated AI/ML tracking models to spacecraft.	Spacecraft Software Uplink System	Updated tracking model	Active onboard tracking model
F038	Integrate Model into Tracking Operations	Deploy updated tracking algorithms in live targeting operations.	Onboard Flight Control System	Active tracking model	Enhanced autonomous reacquisition capability
F039	Monitor Algorithm Performance	Track onboard model performance in real-time; adjust if needed.	Spacecraft Diagnostics Monitor	Tracking telemetry	Performance health report

Activity 3: Optimize Real-Time Data Flow Across Systems					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F040	Prioritize Real-Time Data Streams	Rank incoming ISR data for processing and dissemination priority.	Data Flow Manager	Live ISR data streams	Prioritized data queue
F041	Route High-Priority Tracks to Operators	Send critical tracking data to C2 centers and tactical units.	ISR Distribution Gateway	Prioritized data	Real-time operational feeds

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F042	Maintain Low-Latency Track Updates	Continuously monitor and optimize network paths for ISR updates.	Network Optimization Engine	Operational traffic	Latency report / routing adjustments
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Activity 4: Supplement Tracking Data with Ground ISR Reconnaissance

Function ID	Function Name	Function Description	System Triggered	Input	Output
F043	Task Ground ISR/UAS for Target Observation	Assign drones, recon teams to assist with tracking targets.	ISR Tasking Manager	Current track location	Ground collection order
F044	Fuse Ground and Space-Based Tracking	Integrate aerial, ground, and space ISR feeds into a single track picture.	Multisource Fusion Engine	ISR data feeds	Unified target custody product
F045	Update Target Movement Prediction	Adjust movement model based on new ground ISR updates.	Predictive Model Tuning Module	New ground ISR observations	Refined predictive model

Activity 5: Deliver Live or Near-Real-Time Tracking Overlays to C2 Systems

Function ID	Function Name	Function Description	System Triggered	Input	Output
F046	Generate Tracking Overlay Files	Produce geospatial visualization products for operational systems.	Target Track Visualization Engine	Track data feeds	Overlay files
F047	Push Overlays to C2 Systems	Distribute updated track overlays to tactical C2 nodes.	C2 Visualization Server	Overlay files	Operational track displays
F048	Alert Commanders to Significant Movement Changes	Issue alerts based on sudden changes in track behavior or deviation.	Movement Change Alert System	Track behavior analytics	Real-time alerts

Target

Activity 1: Validate Multi-Source Target Intelligence					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F049	Aggregate Multi-Source Intel	Collect IMINT, SIGINT, HUMINT, MASINT, and cyber data streams.	Intelligence Aggregation Engine	Source intelligence streams	Unified intel packet
F050	Aggregate Multi-Source Intel	Correlate and validate target identity across domains.	Intel Validation Platform	Unified intel packet	Validated multi-source intelligence
F051	Assign Confidence Scores	Rate the reliability and consistency of multi-source findings.	Confidence Scoring Module	Validated intelligence	Target confidence report

Activity 2: Develop Strike Solution and Weaponeeing Options					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F052	Generate Strike Options	Create potential kinetic and non-kinetic engagement solutions.	Strike Planning Workbench	Validated target data	Strike options matrix
F053	Conduct Weaponeeing Calculations	Calculate munitions types, delivery parameters, and engagement methods.	Weaponeeing Calculator	Strike options matrix	Detailed weaponeeing package
F054	Evaluate Collateral Damage Estimates (CDE)	Assess potential civilian harm and structural damage.	CDE Risk Analysis Tool	Strike options	Collateral damage report

Activity 3: Integrate Targeting Data into Weapons Platforms					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F055	Translate Targeting Data for Platform Compatibility	Convert target data to weapons system-specific formats.	Target Data Translator	Finalized target package	Platform-ready targeting files
F056	Upload Target Packages to Platforms	Push targeting data into aircraft, missiles, artillery systems.	Weapons Upload Interface	Platform-ready files	Upload confirmation

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F057	Upload Target Packages to Platforms	Perform platform pre-launch checks and mission readiness verification.	Mission Pre-Flight Checklist System	Uploaded target files	Weapons ready report
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Activity 4: Perform Final Risk, Policy, and ROE Reviews

Function ID	Function Name	Function Description	System Triggered	Input	Output
F058	Review Rules of Engagement (ROE) Compliance	Validate engagement plans meet operational legal frameworks.	ROE Validation Tool	Strike plans	ROE compliance certification
F059	Conduct Senior Policy Review (if required)	Submit high-risk or strategic strikes for senior authorization.	Policy Review Board Portal	Strike plans	Policy decision record
F060	Update Risk and Approval Status	Finalize risk assessments and mission approvals.	Targeting Coordination System	Risk reports, policy decisions	Final mission approval document

Activity 5: Disseminate Strike Packages to Execution Forces

Function ID	Function Name	Function Description	System Triggered	Input	Output
F061	Finalize Strike Package Documentation	Package target data, weaponeering, CDE reports, and ROE certs.	Strike Package Builder	Approved targeting package	Final strike package
F062	Push Packages to Execution Units	Deliver strike plans to units via secure C2 channels.	Secure Mission Distribution Network	Final strike package	Units receive mission packages
F063	Confirm Receipt and Mission Planning Initiation	Acknowledge receipt and begin local mission planning.	Mission Planning Systems	Received strike packages	Unit planning status update

Engage

Activity 1: Establish Real-Time Communications with Strike Assets					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F064	Authenticate Communications Links	Verify secure, low-latency communication paths to strike platforms.	COMSEC Authentication System	Communication keys, link protocols	Authenticated communication channel
F065	Monitor Communications Integrity	Continuously monitor connection health during strike operation.	Communications Health Monitoring System	Live comms traffic	Integrity status reports
F066	Route Targeting Updates in Real-Time	Push dynamic updates (e.g., last-minute changes) to strike assets.	C2 Data Relay Hub	Targeting adjustments	Update transmissions

Activity 2: Support Kinetic or Non-Kinetic Engagement Execution					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F067	Release Weapons Authorization	Send mission execution authority to strike platforms.	Mission Authorization Relay System	Final targeting validation	Engagement release order
F068	Initiate Kinetic Strike or Cyber Engagement	Begin kinetic (e.g., missile, CAS) or non-kinetic (e.g., jamming, cyber attack) action.	Strike Execution Interface	Engagement release order	Engagement initiated
F069	Monitor Engagement Status	Track strike progress and immediate outcomes in real time.	Strike Monitoring Console	Engagement telemetry	Engagement status feed

Activity 3: Maintain ISR and Battle Tracking During Strike Window					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F070	Continue ISR Collection Over Target Area	Task ISR assets to maintain surveillance during engagement.	ISR Persistence Manager	Engagement timeline, AOI coordinates	ISR surveillance feeds
F071	Relay ISR Imagery to Strike Forces	Provide real-time sensor updates to executing units.	ISR Real-Time Relay Gateway	Surveillance feeds	Updated ISR tracks

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F072	Alert Strike Units to Threat Changes	Issue threat warnings (e.g., new air defenses, relocations).	Threat Alert System	ISR analysis	Tactical threat alerts
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Activity 4: Coordinate Battle Damage Assessment (BDA) Report

Function ID	Function Name	Function Description	System Triggered	Input	Output
F073	Cue Immediate Post-Strike ISR Collection	Task sensors for rapid post-engagement imagery.	BDA ISR Tasking Module	Engagement complete signal	BDA collection tasking
F074	Receive and Pre-Process BDA Feeds	Capture first-pass ISR imagery for initial review.	BDA Collection Server	Post-strike ISR imagery	Initial BDA imagery package
F075	Forward BDA Imagery to Exploitation Centers	Send collected BDA data to exploitation teams.	BDA Transmission Gateway	Initial BDA imagery	Delivered imagery for analysis

Activity 5: Ensure Engagement Closure and Tactical Reporting

Function ID	Function Name	Function Description	System Triggered	Input	Output
F076	Confirm Engagement Outcome from Strike Assets	Receive mission completion and initial BDA assessments.	Strike Completion Monitor	Engagement telemetry	Strike outcome report
F077	Disseminate Initial Battle Results	Push first look at engagement results to operational C2 centers.	Battle Reporting Network	Outcome report	Initial battle report
F078	Prepare for Follow-On Action if Needed	Determine necessity for re-engagement or additional strikes.	Mission Reattack Planner	BDA preliminary analysis	Re-engagement decision packet

Assess

Activity 1: Conduct Immediate Post-Strike ISR Collection					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F079	Task Post-Strike ISR Assets	Direct ISR platforms to collect immediate post-engagement imagery.	ISR Tasking Gateway	Strike completion signal	Post-strike collection orders
F080	Capture Initial Post-Strike Imagery	Acquire thermal, SAR, EO, or multispectral images over target site.	ISR Collection Platforms	Collection orders	Raw post-strike imagery
F081	Transmit Imagery to Ground Stations	Relay collected data for processing and exploitation.	ISR Relay Transmission System	Raw imagery	Ground station imagery reception

Activity 2: Analyze and Compare Pre- and Post-Strike Imagery					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F082	Retrieve Baseline Pre-Strike Imagery	Access archived images of target prior to engagement.	ISR Data Archive	Target ID	Pre-strike imagery set
F083	Conduct Damage Assessment Analysis	Analyze post-strike imagery to assess physical effects.	Battle Damage Assessment (BDA) Workstation	Pre- and post-strike imagery	BDA analytical report
F084	Annotate Damage and Effects	Tag visible damage areas, secondary effects, and functional kills.	Geospatial Annotation Tool	Analytical report	Annotated imagery set

Activity 3: Assess Battle Damage and Update Target Status					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F085	Evaluate Functional Degradation	Determine if target's capabilities have been neutralized.	Functional Assessment Module	BDA analytical report	Degradation status report
F086	Determine Re-Engagement Requirements	Assess if additional strikes are necessary based on damage severity.	Target Status Evaluation Engine	Degradation report	Reattack recommendation

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F087	Update Target Lists and Mission Planning Systems	Reflect updated target status in operational databases.	Target Management System	Updated target status	Updated operational picture
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Activity 4: Coordinate BDA Reporting and Dissemination

Function ID	Function Name	Function Description	System Triggered	Input	Output
F088	Compile Initial BDA Reports	Generate preliminary strike assessment summaries.	BDA Reporting Tool	Analytical results	Initial BDA report
F089	Route Reports to Operational and Strategic Commands	Push BDA reports to appropriate C2 nodes and agencies.	Secure Intel Dissemination Network	BDA report	Distributed BDA report
F090	Flag Critical Results for Immediate Action	Highlight critical findings requiring urgent commander review.	Intel Alert System	BDA report content	Critical action alert

Activity 5: Initiate Follow-On Tasking or Reattack Planning (if required)

Function ID	Function Name	Function Description	System Triggered	Input	Output
F091	Generate Follow-Up Collection Requirements	Develop new PIRs based on BDA gaps.	Collection Management System	BDA report, critical findings	New collection tasking orders
F092	Develop Re-Engagement Strike Options	Create new strike plans for targets requiring reattack.	Mission Planning Cell	Reattack recommendations	Re-engagement strike packages
F093	Update Commanders' Intent and Targeting Priorities	Adjust operational priorities based on BDA findings.	Commander's Operational Planning System	Updated BDA insights	Revised mission directives

INTELLIGENCE CYCLE: TCPED - ACTIVITIES

Tasking

Activity 1: Define Collection Priorities Based on Commander's Intent					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F094	Gather Priority Intelligence Requirements (PIRs)	Collect intelligence needs from operational commanders.	PIR Management Portal	Commander's PIRs	Consolidated PIR list
F095	Rank PIRs by Mission Urgency	Prioritize intelligence needs based on operational criticality.	Prioritization Engine	PIR list	Ranked PIR matrix
F096	Validate Tasking Requirements	Review requests for feasibility, clarity, and relevance.	Tasking Validation System	Ranked PIRs	Approved tasking orders

Activity 2: Coordinate Available ISR Asset Scheduling					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F097	Query ISR Asset Availability	Retrieve spacecraft and airborne ISR platform status and schedules.	ISR Asset Manager System	Platform status database	Available asset roster
F098	Deconflict Collection Plans	Resolve potential collection conflicts across multiple assets and missions.	Mission Conflict Resolver	Tasking matrix + asset roster	Conflict-free tasking schedule
F099	Finalize Collection Assignments	Match best-fit ISR platforms to priority intelligence needs.	Collection Assignment Module	Deconflicted schedule	Platform-tasking assignments

Activity 3: Generate and Disseminate ISR Tasking Orders					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F100	Create ISR Tasking Message Packages	Format approved tasking into platform-specific command sets.	ISR Tasking Generator	Tasking orders	Structured ISR tasking messages

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F101	Apply Classification and Distribution Rules	Assign security classification and authorized distribution markings.	Data Classification Engine	Tasking messages	Classified tasking packages
F102	Transmit Tasking Orders Securely	Send finalized tasking to platforms using encrypted communications.	Secure Tasking Transmission Node	Classified packages	ISR tasking acknowledgments

Activity 4: Confirm ISR Asset Readiness for Collection					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F103	Monitor Tasking Acknowledgements	Track receipt confirmations from ISR platforms.	Tasking Acknowledgement Tracker	ISR tasking transmission logs	Receipt confirmation
F104	Verify Payload and Platform Readiness	Check sensor configurations and platform status for mission execution.	Platform Readiness Monitor	Telemetry data	Ready or not-ready platform status
F105	Resolve Pre-Collection Readiness Issues	Address any technical or configuration problems prior to collection.	Mission Troubleshooting System	Readiness status reports	Cleared collection authorization

Collection

Activity 1: Execute Collection Pass Over Areas of Interest (AOIs)					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F106	Position Platform for Optimal Collection	Adjust orbital or flight path to maximize AOI coverage.	Mission Planning Control System	Tasking orders, AOI coordinates	Platform positioned over AOI
F107	Activate Payload Sensors	Initialize collection sensors (SAR, EO, SIGINT, etc.) based on tasking.	Payload Activation Controller	Tasking orders	Sensor activation confirmation
F108	Collect Raw Intelligence Data	Capture assigned sensor data over AOIs during pass.	Onboard Collection Systems	Active sensors + AOI data	Raw collected datasets

Activity 2: Priority and Manage Sensor Modes During Collection					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F109	Select Sensor Collection Modes	Choose sensor operating modes (e.g., high-res, wide-area) per mission need.	Payload Configuration Manager	Tasking details	Sensor mode selection
F110	Dynamically Reconfigure Based on Triggers	Adjust sensor settings mid-pass if event triggers (e.g., movement detected).	Onboard AI/ML Decision Engine	Sensor telemetry	Sensor reconfiguration commands
F111	Prioritize High-Value Event Collection	Allocate collection bandwidth to detected critical events.	Real-Time Collection Manager	Triggered event alerts	High-priority collection files

Activity 3: Conduct Initial Data Integrity and Storage Management					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F112	Perform Integrity Checks on Collected Data	Validate data packet completion and sensor output quality.	Onboard Data Validator	Raw collected data	Data integrity report

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F113	Encrypt Collected Datasets for Transmission	Secure collected datasets using onboard encryption protocols.	Data Encryption Suite	Validated raw data	Encrypted data packets
F114	Queue Data for Downlink or Relay	Organize collected data into prioritized queues for ground downlink.	Onboard Data Queue Manager	Encrypted datasets	Downlink-ready transmission queue

Activity 4: Supplement Space-Based Collection with Local ISR					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F115	Task Local ISR/ UAS Teams for Ground Collection	Request supplementary ISR collection via ground teams or drones.	Tactical ISR Tasking Portal	Updated AOI intelligence	Ground ISR collection orders
F116	Integrate Ground ISR Data into Collection Queue	Merge incoming UAS/HUMINT data into space-derived datasets.	ISR Data Fusion Node	Ground ISR products	Combined ISR collection dataset
F117	Prioritize Combined ISR Data for Transmission	Organize space and ground data together based on mission priority.	Data Prioritization Manager	Combined datasets	Transmission order of ISR products

Processing

Activity 1: Conduct Onboard Edge-Processing of Raw Data					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F118	Apply Edge-Triage Algorithms	Use onboard AI to identify priority segments of collected data.	Onboard Edge Processor	Raw collected datasets	Triage-labeled data
F119	Generate Metadata and Confidence Scores	Attach labels, timestamps, and confidence scores to triaged data.	Metadata Generator	Triage-labeled data	Metadata-enhanced datasets
F120	Queue Priority Data for Immediate Downlink	Prioritize critical event datasets for expedited transmission.	Priority Data Manager	Metadata-enhanced data	High-priority downlink queue

Activity 2: Perform Ground-Based Description and Validation of Data Streams					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F121	Decrypt Incoming Data Streams	Apply encryption keys to unlock collected ISR datasets.	Secure Decryption Node	Encrypted downlink packets	Decrypted ISR data
F122	Validate Data Integrity and Completeness	Verify that downlinked data packets are complete and error-free.	Data Integrity Validation System	Decrypted ISR data	Validated ISR files
F123	Categorize Data by Intelligence Domain	Sort data into IMINT, SIGINT, MASINT, HUMINT, or multi-source folders.	Data Categorization Engine	Validated ISR files	Categorized data repository

Activity 3: Run Machine Learning Pipelines for Pre-Processing and Filtering					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F124	Deploy Pre-Trained ML Models	Apply AI models for object detection, RF pattern recognition, etc.	Intelligence Pre-Processing Node	Categorized ISR data	ML-labeled intelligence outputs

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F125	Prioritize High-Confidence Results	Sort results by model confidence to focus exploitation on strongest leads	Confidence Sorting Engine	ML-labeled outputs	High-confidence intel product list
F126	Flag Anomalies for Immediate Review	Identify outliers or urgent findings requiring analyst attention.	Anomaly Detection Algorithm	Processed ISR streams	Anomaly alerts and flagged datasets

Activity 4: Secure Processed Intelligence Data for Further Exploitation					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F127	Apply Classification and Handling Markings	Tag processed data with appropriate security levels and distribution controls.	Intelligence Classification Manager	Processed data outputs	Classified intelligence files
F128	Package Data for Exploitation Systems	Format files into standards (e.g., GEOINT, SIGINT formats) for analyst systems.	Exploitation Packaging Engine	Classified data	Ready-for-exploitation data packages
F129	Distribute to Exploitation Centers	Push processed packages to exploitation nodes or analysts.	Secure Intelligence Data Bus	Exploitation packages	Available datasets at analyst workstations

Exploitation

Activity 1: Conduct Initial Intelligence Review and Screening					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F130	Load Processed Intelligence Packages	Open processed and classified ISR datasets for analysis.	Analyst Workstation Interface	Processed data packages	Loaded data sets
F131	Perform Preliminary Screening	Identify high-interest targets, anomalies, and indicators.	Initial Screening Software	Loaded datasets	Preliminary findings list
F132	Flag Critical Intelligence Items	Tag items that require urgent exploitation or commander notification.	Intelligence Triage Dashboard	Preliminary findings	Priority alert list

Activity 2: Perform Deep Analysis Across Intelligence Domains					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F133	Conduct IMINT, SIGINT, MASINT, HUMINT Specialized Analysis	Perform domain-specific exploitation of datasets.	Intelligence Exploitation Toolkits	Preliminary findings	Detailed domain-specific reports
F134	Cross-Correlate Multi-INT Sources	Fuse signals, imagery, sensor, and human-sourced information.	Multi-INT Fusion Engine	Domain-specific reports	Fused intelligence findings
F135	Derive Operationally Relevant Insights	Translate fused data into mission-relevant observations.	Intelligence Synthesis System	Fused findings	Actionable intelligence summaries

Activity 3: Validate Intelligence Findings and Assess Confidence					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F136	Compare Exploited Data with Prior Intelligence	Cross-check findings against historical data and operational context.	Historical Intelligence Reference System	New findings	Validated intelligence assessments

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F137	Assign Confidence Ratings	Apply confidence metrics to findings based on data quality and consistency.	Confidence Assessment Module	Validated assessments	Confidence-rated intelligence products
F138	Generate Source Validation Audit Trail	Document exploitation methodology and source references.	Intelligence Audit Generator	Confidence-rated products	Traceable audit record

Activity 4: Create Fused Intelligence Products for Dissemination					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F139	Produce Visual Overlays and Geospatial Products	Create imagery overlays, threat maps, or annotated charts.	Geospatial Visualization Tool	Actionable intelligence summaries	Visual intelligence products
F140	Draft Intelligence Reports and Bulletins	Write narrative and graphical intelligence summaries for operational use.	Report Authoring Portal	Actionable summaries	Completed intelligence reports
F141	Package Final Intelligence Products	Bundle overlays, bulletins, raw findings into dissemination-ready formats.	Intelligence Packaging Manager	Reports + visuals	Final fused intel packages

Dissemination

Activity 1: Prepare Finalized Intelligence Packages for Distribution					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F142	Consolidate Exploited Intelligence Products	Gather reports, visuals, alerts into single packages.	Intelligence Product Compiler	Exploited intelligence outputs	Consolidated packages
F143	Apply Final Classification and Distribution Labels	Assign security markings and authorized dissemination controls.	Classification Management Tool	Consolidated packages	Securely labeled products
F144	Approve Packages for Release	Final review for content accuracy, classification compliance, and operational need.	Release Authority Review Portal	Labeled products	Release authorization

Activity 2: Push Intelligence Products to Relevant Command and Agency Recipients					
Function ID	Function Name	Function Description	System Triggered	Input	Output
F145	Determine Recipient Lists Based on Operational Roles	Match recipients (e.g., tactical units, joint command, IC) to intelligence content.	Dissemination Routing System	Release-authorized products	Targeted dissemination list
F146	Securely Transmit Products to C2 and IC Systems	Send authorized intelligence packages via secure networks.	Secure Transmission Gateway	Intelligence packages	Receipt confirmations at destinations
F147	Confirm Receipt and Access Acknowledgements	Validate that all intended recipients received and accessed the products.	Receipt Validation Module	Transmission logs	Access acknowledgements

Activity 3: Alert Tactical and Strategic Users to Critical Intelligence					
Function ID	Function Name	Function Description	System Triggered	Input	Output

ACTIVITIES

F148	Identify Critical Intelligence for Immediate Action	Filter intelligence products for time-sensitive alerts.	Critical Intelligence Filter	Disseminated products	Critical alert candidate list
F149	Issue Real-Time Intelligence Alerts	Send flash notifications to tactical operators and commanders.	Tactical Alerting Network	Critical alerts	Real-time flash notifications
F150	Log Alert Dissemination for Audit and Traceability	Document time, recipient, and content of each critical alert.	Alert Dissemination Log System	Flash notification metadata	Audit-ready dissemination logs

Activity 4: Manage Feedback Lops and Refinement Requests

Function ID	Function Name	Function Description	System Triggered	Input	Output
F151	Collect User Feedback on Intelligence Utility	Gather operational feedback from intelligence consumers.	Intelligence Feedback Portal	Disseminated products	User feedback reports
F152	Analyze Feedback for Refinement Opportunities	Identify gaps, inaccuracies, or additional requirements.	Feedback Analysis Engine	User feedback reports	Intelligence refinement requests
F153	Update Collection/Tasking Based on Feedback	Feed refinements back into the next TCPED cycle.	Collection Retasking System	Refinement requests	Updated tasking priorities