



Drone Operations and Programme Management Course: SORA, Mission Planning and Inspection

21 – 25 February 2027

Riyadh - KAFD district five-star



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Introduction:

Drone operations and programme management, covering SORA risk assessment, mission planning and inspection use, is the subject of this 5-day course for managers who set up and run drone fleets in utilities, construction, oil and gas and municipal services, ending with a Drone Programme Plan with Concept of Operations and SORA Package. Organisations often buy aircraft before defining operating rules, risk cases, data workflows and pilot governance, so flights stay ad hoc and inspection value is lost. Nominees already supervise inspection, survey or field operations, and teaching is by case study on real mission files and asset data. CoreConcept Training Center delivers this drone operations course.

Course Objectives:

- Classify planned unmanned aircraft operations into open, specific and certified risk categories and identify the authorisations each requires
- Prepare a SORA assessment that sets ground and air risk classes, the SAIL and the operational safety objectives for a planned mission
- Plan a VLOS or BVLOS inspection mission with flight geometry, airspace checks, contingency volumes and emergency procedures
- Select RGB, radiometric thermal, LiDAR and gas detection payloads to match asset inspection and survey questions
- Specify photogrammetry and data processing workflows that turn flight imagery into orthomosaics, point clouds and defect records
- Design drone programme governance covering fleet, pilot competence, maintenance records, KPIs and the business case

Target Audience:

- Managers responsible for establishing or expanding an in-house drone capability for asset inspection and survey
 - Inspection and asset integrity leads who commission aerial data on towers, pipelines, tanks, flare stacks and solar fields
 - Survey and GIS managers accountable for mapping, volumetric and progress monitoring outputs on construction sites
 - HSE managers who approve flight risk cases, emergency arrangements and work near people and live plant
 - Municipal and utility operations managers who use aerial data for network, road and facility condition monitoring
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Course Outline:

Day 1: Unmanned Aircraft Systems, Use Cases and Capability Baseline

- UAS Components From Airframe to Ground Control Station and Datalink
- Multirotor, Fixed-Wing and Hybrid VTOL Platform Trade-Offs
- Enterprise Drone Use Case Inventory Across Four Asset Sectors
- Open, Specific and Certified Category Operating Rules Overview
- Current Drone Capability Maturity Assessment for the Organisation

Day 2: SORA Operational Risk Assessment and Concept of Operations

- Concept of Operations Document Structure and Operating Volume Definition
- SORA Intrinsic Ground Risk Class and Mitigation Credits
- SORA Air Risk Class, Airspace Encounter Rates and Tactical Mitigations
- SAIL Determination and Operational Safety Objectives Evidence Mapping
- Containment Requirements for Adjacent Areas and Assemblies of People

Day 3: Mission Planning, Payloads and Field Data Capture

- Flight Planning Software Grid, Corridor and Orbit Mission Patterns
- Ground Sampling Distance, Overlap and Flight Altitude Calculation
- Radiometric Thermal Payload Settings for Electrical and Process Inspections
- LiDAR and Optical Gas Imaging Payload Selection for Survey and Leaks
- GNSS RTK, PPK and Ground Control Point Accuracy Planning

Day 4: Data Processing, BVLOS Hazards and Programme Governance

- Photogrammetry Processing to Orthomosaic, DSM and Point Cloud Products
- Defect Annotation, Asset Register Linkage and Inspection Report Workflow
- BVLOS Detect and Avoid, Command Link Loss and Flyaway Contingencies
- Drone Fleet Maintenance Logs, Battery Lifecycle and Occurrence Reporting
- Pilot Competence Matrix, Flight Authorisation Workflow and Programme KPIs

Day 5: Case Study on a Drone Programme Plan for a Case Organisation

- Case Utility and Plant Asset Portfolio Inspection Needs Review
 - Case Concept of Operations and SORA Mitigation Selection Exercise
 - Case Mission Pack With Payload, Accuracy and Contingency Settings
 - In-House Versus Contracted Service Business Case Comparison
 - Drone Programme Plan With Concept of Operations and SORA Package Completion
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Skills You Will Gain:

- Operational Risk Categorisation
- Ground and Air Risk Classification
- Inspection Mission Design
- Payload and Sensor Selection
- Photogrammetric Data Processing
- Flight Contingency Planning
- Drone Fleet Governance
- Aerial Inspection Business Case Analysis

Why Attend This Course:

- Deliver a Drone Programme Plan with Concept of Operations and SORA Package to the asset owner, HSE function and operations director
- Decide whether a mission can fly within the open category or needs a specific category authorisation and which mitigations to fund
- Avoid flights without valid risk cases, lost data from wrong overlap or accuracy settings and idle aircraft bought without a use case
- Coach field crews and inspection colleagues on mission packs, payload settings and data handover standards

Conclusion:

Back at work, the participant presents the Drone Programme Plan with Concept of Operations and SORA Package to the operations director, the HSE function and asset owners, who use it to approve the first authorised missions, the fleet purchase or the service contract. Inspection teams use the mission packs and data standards to receive usable aerial records. After the first quarter of flights, the unit should review mission completion, data rework, occurrences and cost per inspected asset, then update the risk case and KPIs.

Frequently Asked Questions FAQ:

What should participants know before a drone operations and programme management course?

Participants should already supervise inspection, survey, asset or HSE work and understand their organisation's assets. Piloting experience helps but is not needed. Bringing an anonymised inspection scope or site map helps during the case study.

How does a drone operations and programme management course differ from a remote pilot training course?

It teaches how to set up and govern an organisational drone capability: risk cases, mission planning, payloads, data and KPIs. Remote pilot training builds hands-on flying skills and knowledge for a pilot licence rather than programme decisions.

Why is SORA used in drone operations planning for inspection missions?

SORA gives a structured way to show that a specific category mission is safe enough. It sets ground and air risk classes, derives a SAIL and lists the operational safety objectives and evidence the operator must provide before flying.

What do participants take back from the drone operations and programme management course?

Participants take back a Drone Programme Plan with Concept of Operations and SORA Package, plus a mission pack template, payload selection matrix, pilot competence matrix and a programme KPI set adaptable to their own assets.
