Life Safety Ops

Life Safety Operations & Compliance Management Platform

Complete Operations Guide & How-To Manual

Professional UK-Compliant Life Safety Testing & Business Management

Web & Mobile Application (iOS/Android) with Offline Support

- Smoke Control Damper Velocity Testing
- Stairwell Differential Pressure Testing
- Building Safety Act Compliance & Golden Thread
- Professional PDF Report Generation with QR Verification
- Full CRM: Clients, Contracts, Jobs, Invoicing
- Asset & Equipment Management with Calibration Tracking
- Field Companion Mobile App with Offline Sync
- Multi-Tenant Organisation & Team Management
- Trend Analysis & Predictive Maintenance

Version 1.0 | December 2024
Generated: 17/12/2025

Version 1.0 | December 2024

Table of Contents

Executive Overview

Life Safety Ops is a comprehensive life safety operations and compliance management platform designed specifically for UK fire safety professionals. The platform provides a complete solution for managing smoke control system testing, compliance documentation, and business operations.

Who Is This For?

• Fire Safety Contractors: Companies providing smoke control maintenance and testing services

• Commissioning Engineers: Professionals commissioning new smoke control installations

• Building Services Consultants: Consultancies advising on fire safety compliance

• Smoke Ventilation Specialists: Technicians maintaining smoke exhaust and pressurisation systems

• Property Management Companies: Organisations responsible for building safety compliance

Key Features

Feature	Description
Dual-Mode Interface	Seamlessly switch between Office mode for administrative tasks and Engineer mode for field work
Regulatory Compliance	Full support for BS EN 12101-8, BSRIA BG 49/2024, and Building Safety Act requirements
Automatic Calculations	Grid size determination (5×5, 6×6, or 7×7) based on damper dimensions
Professional Reporting	Generate QR-verified PDF certificates with full compliance documentation
Offline Capability	Complete field testing functionality without internet connectivity
Business Management	Integrated CRM, invoicing, scheduling, and asset tracking
Multi-Tenant Support	Organisations can manage multiple team members with role-based access
Golden Thread	Building Safety Act compliant document management and audit trails

Platform Architecture

The platform consists of two primary modes:

1. Office Mode

Full CRM functionality with sidebar navigation for managing:

• Clients and contacts
• Contracts and service agreements
• Job scheduling and tracking
• Quotes, invoices, and expenses
• Asset and equipment registers
• Team members and certifications
• Reports and analytics
• Golden Thread documentation

2. Engineer Mode (Field Companion)

Mobile-first interface optimised for on-site work:

• Touch-friendly controls for field use
• Offline testing capability
• Job execution and status updates
• Photo documentation and annotation
• Signature capture
• Defect logging
• Time tracking

Getting Started

System Requirements

Web Application
• Modern web browser (Chrome, Firefox, Safari, Edge)
• Internet connection for initial login
• Desktop or tablet screen recommended for Office mode

Mobile Application (Field Companion)
• iOS 14+ or Android 10+
• Internet connection for synchronisation
• Works offline for field testing

Logging In

1. Navigate to the Life Safety Ops website
2. Click Log In or Get Started
3. Authenticate using your Replit account credentials
4. Upon first login, you will be prompted to create or join an organisation

Screenshot: Login Screen
The login screen displays the Life Safety Ops branding with options to sign in or create an account.

Creating an Organisation

If you are the first user from your company:

1. Navigate to Settings from the sidebar footer (click the cog icon)
2. Select the Organisation tab
3. Enter your company name (e.g., "SafeVent Solutions Ltd")
4. Click Create Organisation
5. You will automatically be assigned the Owner role

Screenshot: Organisation Creation
The Settings page showing the Organisation tab with fields for company name and create button.

Inviting Team Members

Owners and Administrators can invite team members:

1. Go to Settings !’ Team tab
2. Click Invite Member
3. Enter the email address of the person you wish to invite
4. Select their role from the dropdown:
   - Admin: Full management access
   - Office Staff: CRM access, scheduling, invoicing
   - Engineer: Field work, test data, job updates
   - Viewer: Read-only access
5. Click Send Invitation
6. Share the invitation link with your colleague
7. The invitation expires after 7 days

Screenshot: Team Invitations

The Team tab showing current members, pending invitations, and the invitation dialog.

Accepting an Invitation

1. Click the invitation link received via email or from your colleague
2. Log in or create a Replit account if needed
3. You will be automatically added to the organisation with the assigned role
4. Access the platform immediately

Switching Between Modes

Use the toggle switch in the header to switch between:
• Office Mode: Full desktop interface with sidebar navigation
• Engineer Mode: Mobile-optimised Field Companion interface

The mode preference is saved and persists across sessions. Engineers default to Field Companion mode, while office staff default to Office mode.

Screenshot: Mode Toggle
Header bar showing the toggle switch between Office and Engineer modes.

Dashboard & Navigation

Office Dashboard

The dashboard provides an at-a-glance overview of your operations:

Key Metrics Cards
• Active Jobs: Number of jobs currently in progress
• Pending Jobs: Jobs awaiting scheduling or assignment
• Due This Week: Upcoming scheduled work
• Overdue Items: Jobs or invoices requiring attention

Quick Actions Panel
• Create New Job
• Create New Quote
• Add New Client
• Schedule Visit

Recent Activity Feed
• Latest job updates
• New client additions
• Invoice payments received
• Test completions

Upcoming Schedule
• Today's appointments

• This week's jobs

• Calendar integration

Screenshot: Dashboard Overview
The main dashboard showing all key metrics, quick actions, recent activity, and upcoming schedule in a clean grid layout.

Navigation Structure

The sidebar organises features into logical groups. Click on a section header to expand it and reveal sub-pages.

Testing & Field Work

Page	Description
Dashboard	Overview and quick actions
Field Testing	Damper and stairwell testing interface
Check Sheet Readings	Form-based data capture

CRM & Clients

Page	Description
Clients	Client company records
Sites	Physical locations and buildings
Contracts	Service agreements and SLAs
Jobs	Work orders and appointments
Schedule	Calendar view of all work

Finance

Page	Description
Finance Overview	Summary of quotes, invoices, expenses
Quotes	Estimates and proposals
Invoices	Billing and payments
Expenses	Cost tracking and reimbursements
Timesheets	Time recording and payroll data

Operations

Page	Description
Vehicles	Fleet management
Subcontractors	Third-party supplier management
Holidays	Staff leave management
Mileage Claims	Travel expense recording
Work Notes	General operational notes
Callbacks	Follow-up task tracking

Asset Management

Page	Description
Site Assets	Assets at customer sites (dampers, AOVs)
Equipment	Company-owned tools and instruments
Inventory	Stock and consumables
Suppliers	Vendor contacts and details
Purchase Orders	Procurement management

HR & Training

Page | Description

Staff Directory | Team member profiles

Training Records | CPD and course tracking

Certifications | Qualification management

Time Off Requests | Leave approval workflow

Sales & Pipeline

Page | Description

Leads | Prospective clients

Tenders | Bid management

Competitors | Market intelligence

Compliance & Safety

Page | Description

Golden Thread | Building Safety Act documentation

Incidents | Safety incident reporting

Risk Assessments | Site risk documentation

Defect Register | Outstanding defects tracking

Documents & Reports

Page | Description

Document Register | Centralised document library

Document Templates | Reusable templates

Reports | Analytical reports

Service Analytics | Performance dashboards

Engineer Performance | Staff productivity metrics

Site Health | Asset condition overview

Downloads | PDF exports and guides

Notifications | System alerts and messages

Screenshot: Sidebar Navigation

The collapsed and expanded sidebar showing all navigation sections with icons.

Office Application

Client Management

Creating a New Client

1. Navigate to CRM & Clients !’ Clients

2. Click the Add Client button (top right)

3. Complete the client details form:

Basic Information

• Company Name: Full legal name (e.g., "Tower Properties Ltd")

• Trading Name: If different from legal name

• Account Reference: Your internal reference code

• Client Type: Commercial / Residential / Mixed-Use

Contact Information

• Primary Email: Main contact email

• Phone Number: Office telephone

• Website: Company website URL

Address

• Address Line 1: Street address

• Address Line 2: Building/Suite (optional)

• City: Town or city

• Postcode: UK postcode

• Country: Default UK

Account Settings

• Payment Terms: 14 days / 30 days / 60 days

• VAT Number: If VAT registered

• Priority Level: Standard / Preferred / VIP

• Account Manager: Assigned staff member

4. Click Save to create the client record

Screenshot: New Client Form

The client creation form showing all fields organised in logical sections.

Managing Client Contacts

Each client can have multiple contacts with different roles:

1. Open the client record by clicking on their name
2. Scroll to the Contacts section
3. Click Add Contact
4. Enter contact details:
   - Full Name: First and last name
   - Job Title: Their role (e.g., "Building Manager")
   - Email: Individual email address
   - Phone: Direct dial or mobile
   - Mobile: Mobile number
   - Is Primary: Toggle if main contact
   - Notes: Any relevant notes
5. Click Save

Example Contact List:

Name	Role	Email	Primary
Sarah Thompson	Building Manager	sarah@towerprop.com	Yes
Michael Chen	Facilities Coordinator	m.chen@towerprop.com	No
Accounts Team	Accounts Payable	accounts@towerprop.com	No

Screenshot: Client Contacts

The contacts section within a client record showing the list and add contact dialog.

Client Addresses

Clients may have multiple site addresses:

1. Within the client record, find Addresses
2. Click Add Address
3. Enter address details:
   - Address Type: Registered / Billing / Site
   - Address Name: Friendly name (e.g., "Head Office")
   - Full Address: Complete postal address
   - Postcode: UK postcode
   - Access Notes: Parking, entry codes, etc.
4. Click Save

Screenshot: Client Addresses
The addresses section showing multiple locations on a map with details panel.

Site Management

Sites are physical locations where testing and services are performed. Sites link to clients and contain assets.

Creating a Site

1. Navigate to CRM & Clients !' Sites
2. Click Add Site
3. Complete the site form:

Site Information
- Site Name: Descriptive name (e.g., "Tower Court - Block A")
- Client: Select from existing clients (dropdown)
- Site Reference: Your reference number

Address Details
- Address: Full postal address
- Postcode: UK postcode
- What3Words: Location reference (optional)

Building Information
- Building Type: Residential / Commercial / Industrial / Mixed-Use
- Number of Floors: Total floors including basement
- Year Built: Original construction year
- Responsible Person: Building manager name

Access Requirements
- Access Instructions: How to enter the building
- Key Safe Location: If applicable
- Parking Information: Where to park
- Security Contact: Phone number

Emergency Procedures
- Assembly Point: Evacuation meeting point
- Emergency Contact: 24/7 contact number
- Special Hazards: Any known hazards

4. Click Save

Screenshot: New Site Form
The site creation form with all sections expanded showing field details.

Site Assets

Each site contains assets that require testing and maintenance:

1. Open the site record
2. Navigate to the Assets tab
3. Click Add Asset
4. Enter asset details:

Asset Identification
• Asset Type: Smoke Damper / AOV / Pressure System / Fire Curtain
• Asset Reference: Your ID code (e.g., "SD-A-01")
• Manufacturer: Equipment manufacturer
• Model Number: Manufacturer model
• Serial Number: Equipment serial

Location
• Floor/Level: Building floor
• Zone: Fire zone designation
• Location Description: Specific location (e.g., "Corridor L1, above Room 103")

Technical Details
• Size: Dimensions (e.g., "600mm x 400mm")
• System Type: Push / Pull / Push-Pull / Pressure Differential
• Design Velocity: Target airflow (m/s)
• Design Pressure: Target pressure (Pa) for pressure systems

Maintenance Schedule
• Testing Frequency: Weekly / Monthly / Quarterly / Annual
• Last Test Date: Most recent test
• Next Due Date: Calculated automatically
• Warranty Expiry: End of warranty period

5. Click Save

Screenshot: Site Asset Register
The asset tab showing a table of all assets at a site with status indicators.

Contract Management

Contracts define the scope of services provided to clients.

Creating a Contract

1. Navigate to CRM & Clients !’ Contracts
2. Click Add Contract
3. Enter contract details:

Contract Details

• Contract Title: Descriptive name (e.g., "Annual Smoke Control Maintenance")

• Contract Number: Reference number

• Client: Select from clients

• Contract Type: Maintenance / Reactive / Commissioning / Project

Dates and Value

• Start Date: Contract commencement

• End Date: Contract expiry

• Auto-Renew: Toggle for automatic renewal

• Notice Period: Days notice to cancel (e.g., 90 days)

• Contract Value: Annual or total value

• Billing Frequency: Monthly / Quarterly / Annually

Service Level Agreement

• Response Time: Hours to respond (e.g., 4 hours)

• Resolution Time: Hours to resolve (e.g., 24 hours)

• Priority Level: Standard / Enhanced / Premium

Scope of Work

• Sites Covered: Select included sites

• Services Included: Testing, maintenance, repairs

• Exclusions: What is not covered

• Additional Terms: Special conditions

4. Click Save

Screenshot: Contract Form

The contract creation form showing all fields with sample data.

Contract Types

Type	Description	Typical Duration
Annual Maintenance	Scheduled preventive maintenance visits	1-3 years
Reactive	On-demand callout services	Rolling
Commissioning	New system installation testing	Project-based
Project	One-off testing or remediation	Fixed term

Screenshot: Contracts Dashboard

The contracts overview showing active contracts, upcoming renewals, and key metrics.

Job Management

Jobs represent individual pieces of work to be completed.

Creating a Job

Method 1: From Jobs Page

1. Navigate to CRM & Clients !' Jobs

2. Click Add Job

Method 2: From Contract

1. Open a contract

2. Click Create Job from Contract
3. Job is pre-populated with contract details

Method 3: From Quote (Conversion)
1. Open an approved quote
2. Click Convert to Job
3. Job is created with quote line items

Job Form Fields:

Basic Information
- Job Title: Brief description (e.g., "Annual Damper Testing")
- Job Number: Auto-generated or manual
- Client: Select client
- Site: Select from client's sites
- Contract: Link to contract (if applicable)

Job Details
- Job Type: Testing / Maintenance / Repair / Commissioning / Inspection
- Priority: Low / Normal / High / Urgent
- Estimated Duration: Hours expected
- Description: Detailed scope of work

Scheduling
- Planned Date: Target completion date
- Scheduled Date: Confirmed appointment
- Time Slot: Morning / Afternoon / All Day / Specific time
- Assigned Engineer(s): Select from staff

Site Access
- Access Instructions: How to enter
- Contact on Site: Person to meet
- Contact Phone: Their number
- Special Requirements: Equipment, PPE, etc.

4. Click Save

Screenshot: New Job Form
The job creation form with all fields and smart defaults.

Job Statuses

Jobs progress through defined statuses:

Status	Meaning	Actions Available
Pending	Created but not scheduled	Schedule, assign, edit
Scheduled	Date and engineer assigned	Start, reschedule
In Progress	Work underway	Update, complete, pause
On Hold	Temporarily paused	Resume, cancel
Completed	Work finished	Generate report, invoice
Invoiced	Invoice generated	Mark paid
Cancelled	Job cancelled	View only

Screenshot: Job Board
The job board showing jobs organised by status in columns with drag-and-drop functionality.

Job Templates

Create templates for recurring job types:

1. Navigate to Operations !’ Job Templates (or create from any job)
2. Click Add Template
3. Define standard job parameters:
   - Template name
   - Default job type
   - Standard description
   - Estimated duration
   - Checklist items
   - Required equipment
4. When creating a new job, select "Use Template"

Screenshot: Job Templates
The template library showing available templates with quick-use buttons.

Finance & Invoicing

Creating Quotes

1. Navigate to Finance !’ Finance Overview
2. Click Add Quote or go to Finance !’ Quotes
3. Complete the quote form:

Quote Details
• Client: Select client
• Quote Number: Auto-generated
• Quote Date: Date of quote
• Valid Until: Expiry date (e.g., 30 days)
• Reference: Your reference

Line Items
Add one or more line items:
• Description: Service or product description
• Quantity: Number of units
• Unit Price: Price per unit (exc. VAT)
• VAT Rate: 20% / 5% / 0% / Exempt
• Total: Calculated automatically

Example Line Items:

Description	Qty	Unit Price	VAT	Total
Annual smoke damper testing (12 dampers)	1	£1,800.00	20%	£2,160.00
Travel and access charges	1	£85.00	20%	£102.00
Report production	1	£150.00	20%	£180.00

Totals
• Subtotal: £2,035.00

• VAT: £407.00

• Total: £2,442.00

Terms & Conditions
• Standard terms (from settings)

• Custom terms for this quote

4. Click Save as Draft or Send to Client

Screenshot: Quote Builder
The quote creation interface with line item entry, calculations, and preview.

Converting Quotes to Jobs

1. Open an approved/accepted quote
2. Click Convert to Job
3. Review job details (pre-populated from quote)
4. Adjust schedule, assignment as needed
5. Click Create Job

The job is linked to the quote for traceability.

Screenshot: Quote to Job Conversion
The conversion dialog showing the quote summary and job creation options.

Creating Invoices

Method 1: From Completed Job
1. Open a completed job
2. Click Generate Invoice
3. Invoice is created with job details

Method 2: From Quote
1. Open an accepted quote
2. Click Convert to Invoice
3. Invoice is created with quote line items

Method 3: Manual Creation
1. Navigate to Finance !' Invoices
2. Click Add Invoice
3. Complete the invoice form (similar to quotes)

Invoice Fields:
• Invoice Number: Sequential or custom

• Invoice Date: Issue date

• Due Date: Payment due date

• Payment Terms: Reference to terms

• Line Items: Services/products billed

• Notes: Additional information

• Payment Instructions: Bank details, etc.

4. Click Save or Send to Client

Screenshot: Invoice Generation

The invoice interface showing completed invoice with PDF preview.

Expense Tracking

Record business expenses for cost tracking and reimbursement:

1. Navigate to Finance !’ Expenses
2. Click Add Expense
3. Enter expense details:

Expense Information
• Date: When expense occurred
• Category: Materials / Travel / Subsistence / Equipment / Training / Other
• Description: What was purchased
• Amount: Total cost
• VAT: VAT amount (if claimable)
• Receipt: Upload photo or PDF

Allocation
• Job: Link to job (if job-related)
• Cost Centre: Department or project
• Paid By: Staff member
• Reimbursement Status: Pending / Approved / Paid

4. Click Save

Screenshot: Expense Entry
The expense form showing fields and receipt upload.

Timesheets

Record time worked for billing and payroll:

1. Navigate to Finance !’ Timesheets
2. Click Add Entry
3. Record time:

Time Entry Fields
• Date: Work date
• Job/Activity: Select job or general activity
• Start Time: When work began
• End Time: When work finished
• Break Duration: Unpaid break time
• Notes: What was done

Entry Types
• Job Work
• Travel
• Training
• Admin
• Meeting

4. Click Save

Screenshot: Timesheet Entry
The timesheet interface showing weekly view with entries.

Asset & Equipment Management

Equipment Register

Track company-owned equipment and tools:

1. Navigate to Asset Management !' Equipment
2. Click Add Equipment
3. Enter details:

Equipment Information
• Name: Equipment name (e.g., "TSI VelociCalc Anemometer")
• Category: Anemometer / Manometer / Smoke Generator / Hand Tools / PPE
• Make/Model: Manufacturer and model
• Serial Number: Unique identifier
• Asset Tag: Your internal tag

Acquisition
• Purchase Date: When bought
• Purchase Cost: Original price
• Supplier: Where purchased
• Warranty End: Warranty expiry

Calibration (for test equipment)
• Calibration Required: Yes / No
• Last Calibration: Date last calibrated
• Calibration Due: Next due date
• Calibration Interval: Months between calibrations
• Certificate Number: Latest certificate reference

Assignment
• Current Custodian: Who has it
• Location: Where stored
• Status: Available / In Use / Under Repair / Retired

4. Click Save

Screenshot: Equipment Register
The equipment list showing all items with calibration status indicators.

Calibration Tracking

The system alerts you before calibration expires:

• Green: Calibration current, more than 30 days until due
• Amber: Calibration due within 30 days
• Red: Calibration overdue

Screenshot: Calibration Dashboard
A dashboard showing equipment calibration status with countdown timers.

Inventory Management

Track consumables and stock:

1. Navigate to Asset Management !’ Inventory
2. View current stock levels
3. Record stock movements:
   - Stock In: Items received
   - Stock Out: Items used
   - Adjustment: Corrections
4. Set reorder thresholds for alerts
5. Generate stock reports

Screenshot: Inventory Management
The inventory list with stock levels and reorder indicators.

Supplier Management

Maintain supplier contacts:

1. Navigate to Asset Management !’ Suppliers
2. Click Add Supplier
3. Enter supplier information:
   - Company name and contact
   - Address and phone
   - Products/services supplied
   - Account number
   - Payment terms
4. Link to purchase orders

Screenshot: Supplier Directory
The supplier list with contact details and order history summary.

Team & Certification Management

Staff Directory

View and manage all team members:

1. Navigate to HR & Training !’ Staff Directory
2. View staff list with:
   - Name and photo
   - Role and department
   - Contact details
   - Employment status
   - Assigned jobs
3. Click on a team member to view their full profile:
   - Personal details
   - Emergency contact
   - Qualifications and certifications
   - Training history
   - Performance metrics
   - Assigned equipment

Screenshot: Staff Directory
The staff grid showing team member cards with key information.

Certification Tracking

Track engineer certifications and expiry dates:

1. Navigate to HR & Training !' Certifications
2. Click Add Certification
3. Enter certification details:

Certification Information
• Staff Member: Select person
• Certificate Type: CSCS / NVQ / Manufacturer / Industry Body
• Certificate Name: Full title (e.g., "BSRIA CP/47 Smoke Control Commissioning")
• Issuing Body: Organisation that issued it
• Certificate Number: Reference number

Dates
• Issue Date: When obtained
• Expiry Date: When it expires
• Renewal Period: Months/years

Documentation
• Upload Certificate: PDF or image of certificate

4. Click Save

Expiry Alerts:
• 90 days before: Notification to staff member
• 60 days before: Notification to manager
• 30 days before: Urgent alert
• Expired: Cannot be assigned to jobs requiring this certification

Screenshot: Certification Tracking
The certification matrix showing all staff with their qualifications and expiry dates.

Training Records

Log training completed:

1. Navigate to HR & Training !' Training Records
2. Click Add Training
3. Enter details:
  - Training title
  - Provider/trainer
  - Date completed
  - Duration (hours)
  - CPD points earned
  - Certificate uploaded
4. Track CPD requirements

Screenshot: Training Records
The training log for an individual showing completed courses.

Reporting & Analytics

Service Analytics

Navigate to Documents & Reports !' Service Analytics to view:

Key Performance Indicators
• Jobs completed this month/quarter/year
• Revenue by service type
• Average job value
• First-time fix rate
• Response times vs SLA

Trend Charts
• Monthly job volumes
• Revenue trends
• Seasonal patterns
• Year-on-year comparison

Breakdown Reports
• Revenue by client
• Jobs by engineer
• Services by type
• Geographic distribution

Screenshot: Service Analytics Dashboard
Interactive charts and KPI cards showing operational performance.

Engineer Performance

Navigate to Documents & Reports !' Engineer Performance to view:

Per-Engineer Metrics
• Jobs completed
• Average completion time
• Customer feedback scores
• Utilisation rate
• Distance travelled
• Revenue generated

Leaderboards
• Top performers by month
• Improvement trends
• Certification compliance

Screenshot: Engineer Performance
Performance comparison charts for the engineering team.

Site Health

Navigate to Documents & Reports !' Site Health to view:

Asset Status Overview
• Assets due for testing

• Overdue tests
• Pass/fail rates by site
• Outstanding defects

Compliance Scores
• Sites with 100% compliance
• Sites requiring attention
• Risk-ranked site list

Historical Trends
• Test results over time
• Velocity decline trends
• Pressure maintenance trends

Screenshot: Site Health Dashboard
Traffic light dashboard showing compliance status for all sites.

Field Companion Application

Mobile Interface Overview

The Field Companion provides a streamlined, touch-optimised interface for engineers working on site.

Accessing Field Companion

On Mobile Device:
1. Open the Life Safety Ops app
2. Log in with your credentials
3. The app automatically opens in Engineer mode

On Desktop/Tablet:
1. Click the Engineer Mode toggle in the header
2. The interface switches to the mobile-optimised view

Screenshot: Field Companion Home
The mobile home screen showing assigned jobs and quick actions.

Key Features

Feature	Description
Touch-Optimised Controls	Large buttons and input areas for easy use with gloves
Offline Capability	Full functionality without internet connection
Quick Job Access	View and update assigned jobs
Test Data Entry	Record damper and stairwell readings
Photo Documentation	Capture and annotate images
Signature Capture	Obtain client sign-off on site
Time Tracking	Record arrival, departure, and work time
Defect Logging	Report issues found during testing

Engineer Home Screen

The home screen displays:
• Today's Jobs: Jobs scheduled for today
• Assigned Jobs: All jobs assigned to you
• Recent Activity: Your latest actions
• Quick Actions: Start new test, log defect, etc.
• Sync Status: Online/offline indicator

Screenshot: Engineer Dashboard
The mobile dashboard showing job list and status indicators.

Smoke Control Damper Testing

Understanding Grid Sizes

The platform automatically calculates the appropriate test grid based on damper dimensions per BSRIA BG 49/2024:

Damper Face Area	Grid Size	Measurement Points
Less than 0.25m²	5×5	25 readings
0.25m² to 0.50m²	6×6	36 readings
Greater than 0.50m²	7×7	49 readings

Calculation Example:
• Damper dimensions: 750mm × 400mm
• Face area: 0.75 × 0.4 = 0.30m²
• Grid size: 6×6 (36 readings required)

Screenshot: Grid Size Calculator
The damper dimension entry screen showing automatic grid calculation.

Conducting a Damper Test

Step 1: Select or Create Test
1. Open the assigned job in Field Companion
2. Navigate to the damper to be tested
3. Tap Start Test or Add New Damper

Step 2: Enter Damper Details
1. Enter damper reference (e.g., "SD-A-01")
2. Enter dimensions:
   - Width (mm): e.g., 750
   - Height (mm): e.g., 400
3. Grid size calculates automatically
4. Enter design velocity (m/s): e.g., 8.0
5. Select system type: Push / Pull / Push-Pull

Screenshot: Damper Details Entry
The damper setup screen with dimension fields and calculated grid preview.

Step 3: Take Readings
1. The test grid appears on screen

2. Position yourself at the damper face
3. Start at top-left corner (Cell A1)
4. Take velocity reading with anemometer
5. Tap cell and enter reading
6. Move to next cell (Tab or tap)
7. Continue until all cells complete

Navigation Options:
• Tap next cell directly
• Use on-screen arrows
• Swipe to navigate
• Use external keyboard Tab key

Screenshot: Test Grid Entry
The interactive grid showing partially completed readings with colour coding.

Step 4: Review Results
As you enter readings, the system displays:
• Average Velocity: Mean of all readings (m/s)
• Minimum Reading: Lowest value recorded
• Maximum Reading: Highest value recorded
• Standard Deviation: Measure of consistency
• Pass/Fail Status: Compared to design velocity
• Volumetric Flow Rate: Calculated in m^3/s

Colour Coding:
• Green: Reading within acceptable range
• Amber: Reading borderline (within 10% of limit)
• Red: Reading outside acceptable range

Screenshot: Test Results Summary
The completed grid with statistics and pass/fail indication.

Step 5: Add Documentation
1. Tap Add Photo to capture damper image
2. Annotate photo if needed (mark areas of concern)
3. Add notes about conditions
4. Record any observations

Screenshot: Photo Annotation
The photo capture and annotation interface.

Step 6: Complete and Save
1. Review all entered data
2. Tap Complete Test
3. Data saves locally (syncs when online)
4. Proceed to next damper or job

Interpreting Results

Pass Criteria (typical):
• Average velocity within ±10% of design

• No individual reading more than 20% below average

• Airflow direction correct

Result Status:

Status	Meaning	Action
Pass	Meets all criteria	Document and move on
Marginal Pass	Borderline acceptable	Note and monitor
Fail	Does not meet criteria	Log defect, arrange remedial

Screenshot: Pass/Fail Determination
The results screen showing clear pass or fail indication with criteria.

Anomaly Detection

The system uses statistical analysis to flag unusual readings:

How It Works:
• Uses Median Absolute Deviation (MAD) algorithm

• Compares each reading to the damper average

• Flags readings more than 2 standard deviations from median

Anomaly Indicators:
• Orange highlight: Moderate anomaly

• Red highlight: Significant anomaly

• Alert icon with explanation

Example Alert:
"Cell C4 (3.2 m/s) is 58% below the damper average (7.6 m/s). This may indicate:
• Obstruction in this quadrant

• Damper blade damage

• Measurement error"

Screenshot: Anomaly Detection
A grid showing highlighted anomalous readings with explanation panel.

Trend Analysis

For previously tested dampers, view historical performance:

1. Open damper record

2. Navigate to History tab

3. View trend chart showing:
   - All previous test results
   - Date of each test
   - Average velocity over time
   - Trend line (increasing/stable/declining)
   - Design velocity reference line

Predictive Features:
• Velocity decline rate calculation

• Predicted time to minimum acceptable velocity

• Recommended maintenance date

Screenshot: Trend Analysis Chart
Line chart showing historical test results with trend projection.

Stairwell Pressure Testing

Overview

For stairwell pressure differential testing per BS EN 12101-6:

Test Scenarios:
1. All Doors Closed: Baseline pressure measurement
2. Single Door Open: Pressure maintenance test
3. Multiple Doors Open: Evacuation simulation
4. Door Force Test: Opening force measurement

Screenshot: Stairwell Test Selection
The test type selection screen for pressure testing.

Setting Up a Stairwell Test

1. Select Stairwell Test from the job
2. Enter stairwell details:
   - Building name
   - Stairwell identifier (e.g., "Stair A")
   - Number of floors
   - Building standard: BS EN 12101-6:2022 / BS EN 12101-6:2005 / BS 5588-4:1998
   - Pressure class: A / B / C / D / E / F
3. Add floor levels (e.g., B1, G, 1, 2, 3... Roof)
4. System generates the test form

Pressure Class Requirements:

Class	Minimum Pressure (Doors Closed)
A	50 Pa ±10%
B	45 Pa ±10%
C	40 Pa ±10%
D	35 Pa ±10%
E	30 Pa ±10%
F	25 Pa ±10%

Screenshot: Stairwell Setup
The stairwell configuration screen with floor list.

Recording Pressure Readings

Doors Closed Test:
1. Ensure all stairwell doors are closed
2. At each floor, measure differential pressure across door
3. Enter reading (Pa) in corresponding field
4. System indicates pass/fail against class requirement

Single Door Open Test:
1. Open door at Ground floor
2. Measure pressure at all other floors
3. Enter readings
4. Repeat for each floor (open one door at a time)

Door Force Test:
1. At each floor, measure force to open door (Newton gauge)
2. Enter reading in corresponding field
3. Maximum typically 100N (140N for fire doors)

Screenshot: Pressure Reading Entry
The pressure test form showing floor-by-floor readings.

Compliance Criteria

Doors Closed:
• Minimum pressure: Per selected class
• Maximum pressure: Limited by door opening force

Single Door Open:
• Maintain minimum pressure at all other levels
• Airflow from stairwell into building (positive pressure)

Door Opening Force:
• Maximum 100N (general)
• Maximum 140N (fire doors in certain conditions)

Screenshot: Pressure Test Results
The summary showing overall pass/fail with floor-by-floor breakdown.

Offline Synchronisation

How Offline Mode Works

The Field Companion maintains full functionality without internet:

Offline Capabilities:
• View assigned jobs and site details
• Conduct damper and stairwell tests
• Enter all readings and notes
• Capture and annotate photos
• Log defects
• Update job status
• Record time entries

Data Storage:
• All data stored securely on device
• Changes queued in sync queue
• Queue persists even if app closed

Screenshot: Offline Indicator
The status bar showing offline mode with pending sync count.

Syncing Data

Automatic Sync:
1. Reconnect to WiFi or mobile data
2. System automatically detects connection
3. Queued changes upload in background

4. New data downloads to device
5. Sync status indicator shows progress

Manual Sync:
1. Tap the sync icon in header
2. View pending changes
3. Tap Sync Now to force sync

Conflict Resolution:
If the same record was modified online and offline:
1. System notifies you of conflict
2. Shows both versions
3. Choose which version to keep
4. Or merge changes manually

Screenshot: Sync Status
The sync panel showing queue, progress, and last sync time.

Job Execution & Updates

Starting a Job

1. Open the job from your assigned list
2. Review job details, site access notes
3. Tap Start Job or I've Arrived
4. Time tracking begins automatically
5. Job status updates to In Progress

Screenshot: Job Start
The job detail screen with start button and site access information.

Updating Job Progress

Progress Updates:
• Add notes as you work
• Upload photos of work completed
• Log materials used
• Record any issues encountered

Status Updates:
• On Hold: Tap to pause (with reason)
• Resume: Continue after pause
• Request Parts: Flag need for materials
• Request Assistance: Flag need for help

Screenshot: Job Progress Update
The progress panel showing notes, photos, and status options.

Completing a Job

1. Finish all testing and work
2. Tap Complete Job
3. Enter completion details:

- Summary of work done
- Any follow-up required
- Client representative name
4. Capture client signature (touch to sign)
5. Confirm completion
6. Job status updates to Completed

Screenshot: Job Completion
The completion dialog with signature capture.

Defect Logging & Risk Assessments

Logging a Defect

If issues are found during testing or inspection:

1. From the job or asset, tap Log Defect
2. Enter defect details:

Defect Information
• Title: Brief description (e.g., "Damper blade bent")
• Description: Detailed observation
• Asset: Select affected asset
• Location: Specific location

Classification
• Severity: Critical / Major / Minor
• Category: Mechanical / Electrical / Controls / Structural

Evidence
• Photo: Capture image of defect
• Annotation: Mark up photo to highlight issue

Recommendation
• Recommended Action: What should be done
• Urgency: Immediate / Within 7 days / Within 30 days / At next service

3. Click Save

Defect is logged and:
• Appears in Defect Register
• Links to asset and job
• Triggers notification to office
• Flagged for follow-up

Screenshot: Defect Logging
The defect entry form with photo annotation.

Risk Assessments

Before starting work, complete risk assessment:

1. From job, tap Risk Assessment
2. Review standard hazards checklist

3. Add site-specific hazards
4. Record control measures
5. Sign to confirm assessment complete
6. Risk assessment attached to job record

Screenshot: Risk Assessment
The risk assessment checklist with signature.

Compliance & Regulations

BS EN 12101 Standards

The platform supports compliance with the full BS EN 12101 series:

Standard	Title	Application
BS EN 12101-1	Smoke barriers	Smoke curtain specifications
BS EN 12101-2	Natural smoke and heat exhaust ventilators	AOV testing
BS EN 12101-3	Powered smoke and heat control ventilators	Fan system testing
BS EN 12101-4	Smoke and heat exhaust ventilation systems	System design
BS EN 12101-5	Guidelines on functional recommendations	Design guidance
BS EN 12101-6	Pressure differential systems	Stairwell testing
BS EN 12101-7	Smoke duct sections	Ductwork specifications
BS EN 12101-8	Smoke control dampers	Damper testing
BS EN 12101-10	Power supplies	Electrical requirements
BS EN 12101-13	Pressure differential systems kits	Kit specifications
BS ISO 21927-9	Control panels	Panel specifications

Additional Standards Referenced:
• BS 7346-8: Smoke control systems
• BS 9999: Fire safety in buildings
• BS 9991: Fire safety in residential buildings
• RRFSO 2005: Regulatory Reform (Fire Safety) Order
• BSRIA BG 49/2024: Commissioning air systems

Screenshot: Standards Reference
The built-in standards reference library.

Building Safety Act Compliance

The platform supports Building Safety Act requirements through:

Key BSA Features:
• Golden Thread Documentation: Complete audit trail of all safety information
• Traceability: Every test, change, and decision is recorded
• Access Control: Role-based permissions ensure data integrity
• Historical Records: Full history maintained for accountability

• Version Control: Track document changes over time

• Resident Engagement: Share safety information appropriately

Screenshot: BSA Compliance Dashboard
The compliance overview showing Building Safety Act readiness.

Golden Thread Documentation

N a v i g a t e t o C o m p l i a n c e & S a f e t y !' G o l d e n T h r e a d t o a c c e s s :

Document Vault

The Golden Thread vault stores all safety-critical building information:

Document Categories:

• Design Documents

• As-Built Drawings

• Test Certificates

• Risk Assessments

• Maintenance Records

• Incident Reports

• O&M Manuals

• Specifications

Screenshot: Golden Thread Vault
The document library showing categorised documents.

Uploading Documents

1. Navigate to Golden Thread
2. Click Upload Document
3. Select document type from list
4. Add metadata:
   - Title: Document name
   - Version: Version number
   - Author: Who created it
   - Date: Document date
   - Related Asset/Site: Link to asset or site
   - Tags: Searchable keywords
5. Upload the file (PDF, Word, Excel, images)
6. Click Save

Screenshot: Document Upload
The upload dialog with metadata fields.

Version Control

When updating a document:

1. Open existing document
2. Click Upload New Version
3. Add version notes (what changed)
4. Upload new file
5. Previous versions remain accessible

Audit Trail:
• Who uploaded/modified
• When changes made
• What changed
• Full version history

Screenshot: Version History
The version history panel showing all document versions.

Professional PDF Reports

Report Types Available

Report Type	Purpose	When Used
Commissioning Certificate	New installation verification	Project handover
Annual Inspection Report	Regular compliance check	Maintenance contract
Remedial Works Report	After repairs/modifications	Post-remediation
Summary Report	Quick overview	Client updates
Test Certificate	Individual test record	Per-damper/system

Screenshot: Report Type Selection
The report generation menu showing available types.

Generating a Report

1. Complete all required testing
2. Navigate to job or tests
3. Click Generate Report
4. Select report type
5. Review and complete:
   - Company branding (from settings)
   - Engineer details
   - Witness details (if applicable)
   - Summary notes
   - Recommendations
6. Capture digital signatures
7. Click Generate PDF
8. Report creates in seconds

Report Contents:
• Cover page with branding
• Executive summary
• Site and system details
• All test data with grids
• Visual representations
• Compliance statements
• Standard references
• Digital signatures
• Unique report reference

• QR code for verification

Screenshot: PDF Report Preview
A sample generated PDF showing professional layout.

QR Code Verification

Each report includes a unique QR code that:
• Links to online verification page
• Confirms report authenticity
• Shows issue date and engineer
• Cannot be forged or altered

Screenshot: QR Verification
The QR code on a report and the verification page.

Organisation Management

Role-Based Access Control

The platform uses role-based permissions to control access:

Role	Description	Permissions
Owner	Organisation creator/owner	Full access including billing, deletion, all features
Admin	Full administrator	Manage team, full data access, cannot delete org
Office Staff	Office-based users	CRM, scheduling, invoicing, reports
Engineer	Field technicians	Jobs, testing, defects, time tracking
Viewer	Read-only access	View data only, no modifications

Permission Matrix:

Feature	Owner	Admin	Office	Engineer	Viewer
View Dashboard	Yes	Yes	Yes	Yes	Yes
Create Clients	Yes	Yes	Yes	No	No
Create Jobs	Yes	Yes	Yes	No	No
Assign Jobs	Yes	Yes	Yes	No	No
Complete Jobs	Yes	Yes	Yes	Yes	No
Enter Test Data	Yes	Yes	Yes	Yes	No
Generate Reports	Yes	Yes	Yes	Yes	No
Create Invoices	Yes	Yes	Yes	No	No
Manage Team	Yes	Yes	No	No	No
Organisation Settings	Yes	Yes	No	No	No
Delete Organisation	Yes	No	No	No	No

Screenshot: Permissions Matrix
The settings page showing role permissions.

Managing Team Members

1. Navigate to Settings !’ Team
2. View all current team members with:
   - Name and email
   - Role badge
   - Status (active/invited)
   - Last active date

Available Actions:
• Change Role: Update member's role (Admin/Owner only)
• Remove Member: Remove from organisation
• Resend Invitation: For pending invitations
• Cancel Invitation: Remove pending invitation

Screenshot: Team Management
The team tab showing members and management options.

Organisation Settings

1. Navigate to Settings !’ Organisation
2. Update organisation details:
   - Organisation Name: Company name
   - Email: Primary contact email
   - Phone: Office phone number
   - Address: Business address
   - Website: Company website
3. Click Save Changes

Settings sync to all users in the organisation.

Screenshot: Organisation Settings
The organisation settings form with branding options.

Appendices

Keyboard Shortcuts

Shortcut	Action
Ctrl + N	New item (context-sensitive)
Ctrl + S	Save current record
Ctrl + F	Open search
Escape	Close dialog/cancel
Tab	Move to next field
Shift + Tab	Move to previous field
Arrow Keys	Navigate grid cells
Enter	Confirm/submit

Troubleshooting

Problem: Data not syncing
• Check internet connection status
• Refresh the page (Ctrl + R)
• Check sync status indicator for errors
• Try manual sync from settings

Problem: Cannot log in
• Clear browser cache and cookies
• Try a different browser
• Check for service announcements
• Contact support

Problem: Missing menu items
• Check your role permissions
• Contact your administrator
• Verify organisation membership

Problem: Report generation fails
• Ensure all required data is entered
• Check for validation errors
• Try generating in a different browser

Problem: Photos not uploading
• Check available storage on device
• Reduce image size if very large
• Check internet connection

Support

For technical support:
• In-App Help: Click help icon in header
• Documentation: Downloads section in app
• Email: support@lifesafetyops.com

Glossary

Term	Definition
AOV	Automatic Opening Vent - a vent that opens automatically on fire signal
BSA	Building Safety Act 2022
CPD	Continuing Professional Development
m/s	Metres per second (velocity unit)
N	Newton (force unit)
O&M	Operation and Maintenance
Pa	Pascal (pressure unit)
PDC	Pressure Differential System
SHEVS	Smoke and Heat Exhaust Ventilation System

SLA | Service Level Agreement

VAT | Value Added Tax

System Requirements

Web Application:

- Chrome 90+, Firefox 88+, Safari 14+, Edge 90+
- JavaScript enabled
- 1280×720 minimum resolution recommended

Mobile Application:

- iOS 14.0 or later
- Android 10.0 or later
- 100MB storage space
- Camera access (for photos)

Document Version: 1.0
Last Updated: December 2024
Platform: Life Safety Ops - Life Safety Operations & Compliance Management Platform