

BCFSleuth Documentation

Complete BCF Analytics Platform for AECO Professionals

Overview

BCFSleuth is a comprehensive web-based platform for analyzing Building Collaboration Format (BCF) files. Built specifically for AECO professionals, it provides universal BCF format support, advanced analytics, professional reporting, and complete image management - all running securely in your browser.

 **Live Application:** <https://thebimsider.github.io/bcfsleuth/V02/>

 **Source Code:** <https://github.com/TheBIMsider/bcfsleuth>

Quick Start

1. **Upload BCF Files:** Drag and drop your BCF files (supports v2.0, 2.1, and 3.0)
2. **Explore Data:** Use the tabbed interface to navigate different views
3. **Analyze:** Generate interactive charts and custom analytics
4. **Export:** Create professional reports in multiple formats
5. **Manage Images:** View, download, and include images in reports

No installation required - runs entirely in your browser with complete data privacy.

Key Features

Analytics Dashboard

- **Interactive Charts:** 5 chart types analyzing status, priority, timeline, authors, and comments
- **Full-Screen Viewing:** Click any chart for lightbox mode with zoom and navigation
- **Custom Analytics:** Build specialized reports with field selection
- **Export Charts:** Download as PNG or include in comprehensive reports

Advanced Data Explorer

- **Sortable Tables:** Click column headers to sort by any field
- **Multi-Criteria Filtering:** Search, status, priority, assignee, and date filters
- **Comment Expansion:** View full comment threads with expandable interface
- **Real-Time Search:** Instant filtering across all BCF data

Image Management

- **Professional Viewer:** Full-screen lightbox with zoom controls
- **Bulk Operations:** Download individual images or create ZIP archives

- **Smart Naming:** Automatic filename generation with project/topic context
- **Report Integration:** Embed images in PDF and Word documents

Professional Reporting

- **Multiple Formats:** CSV, Excel, PDF, and Word document generation
- **Three Layout Options:** Grid, detailed, and executive summary formats
- **Embedded Content:** Include images and charts in reports
- **Template System:** Save and reuse export configurations

Universal BCF Support

- **All Versions:** Complete support for BCF 2.0, 2.1, and 3.0
 - **Smart Detection:** Automatic version identification and field adaptation
 - **Mixed Processing:** Handle multiple BCF versions in single session
 - **Extension Support:** Custom fields and project-specific taxonomies
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How to Use BCFSleuth

Getting Started

Step 1: Access the Application

Navigate to <https://thebimsider.github.io/bcfsleuth/V02/> in your web browser. No installation or registration required.

Step 2: Upload Your BCF Files

1. **Drag and Drop:** Simply drag your BCF file(s) from your file explorer onto the upload area
2. **Click to Browse:** Click the upload area to open a file browser and select your BCF files
3. **Multiple Files:** You can upload multiple BCF files simultaneously for batch processing

Supported formats: BCF 2.0, BCF 2.1, BCF 3.0

Step 3: File Processing

Once uploaded, BCFSleuth automatically:

- Detects the BCF version
- Extracts all topics, comments, and images
- Analyzes the data structure
- Prepares interactive visualizations

Processing typically takes less than 2 seconds per file.

Working with Your Data

Basic Data Review (Simple Preview Tab)

1. **Project Overview:** View basic project information and statistics
2. **Topic Summary:** See total topics, comments, and images
3. **Quick Export:** Use the export button for immediate CSV or Excel download
4. **File Information:** Check BCF version and processing details

Detailed Analysis (Advanced Preview Tab)

1. **Browse All Data:** View complete topic information in a sortable table
2. **Sort Columns:** Click any column header to sort (click again to reverse)
3. **Search Everything:** Use the search box to find topics across all fields
4. **Apply Filters:** Use dropdown filters for Status, Priority, Assigned To, and Due Date
5. **Expand Comments:** Click blue ► arrows to read full comment threads
6. **Adjust View:** Change table pagination (25/50/100 rows per page)

Visual Analytics (Analytics Dashboard Tab)

1. **View Charts:** Five interactive charts automatically generate from your data:
 - **Status Distribution:** See how issues are distributed across statuses
 - **Priority Analysis:** Understand priority breakdown with percentages
 - **Timeline Creation:** View when issues were created over time
 - **Author Activity:** See who's contributing and how much
 - **Comments Volume:** Track comment engagement patterns
2. **Full-Screen Charts:** Click any chart to open in lightbox mode
 - Use mouse wheel to zoom in/out
 - Press arrow keys to navigate between charts
 - Press ESC to close lightbox
 - Click the download icon to save chart as PNG
3. **Custom Analytics:** Use the analytics builder to:
 - Select specific fields to analyze
 - Generate custom cross-field reports
 - Export custom analysis in multiple formats

Image Management (Image Viewer Tab)

1. **Browse Images:** View all extracted images in a grid layout
2. **Full-Screen Viewing:** Click any image to open in lightbox
 - Use arrow keys or click arrows to navigate
 - Mouse wheel or +/- keys to zoom
 - ESC to close

3. **Download Images:**

- **Single:** Click download icon on any image
- **Multiple:** Select images and use "Download Selected"
- **All:** Use "Download All as ZIP" for complete collection

4. **Generate Reports:** Create professional documents with embedded images

Creating Reports and Exports

Data Export Options

1. **Choose Export Format:**

- **CSV:** Universal format for data analysis
- **Excel:** Professional formatted spreadsheets

2. **Select Fields:** Use the Configuration tab to:

- Choose which BCF fields to include
- Save field selections as templates
- Apply saved templates for consistent exports

3. **Export Process:**

- Click "Export" button in any tab
- Choose your saved template or use default
- Select file format
- Download automatically starts

Professional Reports

1. **PDF Reports:** Three layout options available

- **Grid Layout:** Multiple images per page, compact format
- **Detailed Report:** One image per page with full topic information
- **Executive Summary:** Cover page with statistics plus optimized layout

2. **Word Documents:** Fully editable reports in three matching layouts

- Perfect for stakeholder collaboration
- Embedded images maintain quality
- Professional formatting with headers and styles

3. **Custom Analytics Reports:** Include charts and analysis in your reports

- Text format for quick review
- PDF format for formal presentation
- Word format for collaborative editing

Advanced Features

Template Management (Configuration Tab)

1. Create Templates:

- Select desired export fields
- Click "Save as Template"
- Name your template for easy identification

2. Manage Templates:

- Apply existing templates to any project
- Edit template field selections
- Delete unused templates
- Export templates as JSON files for team sharing

3. Import Team Templates:

- Receive JSON template files from colleagues
- Import via Configuration tab
- Apply standardized field selections across projects

Processing History

1. **Track Activity:** View all processed files and export operations
2. **Review Metrics:** See processing times, file sizes, and export counts
3. **Export History:** Download your processing history as CSV
4. **Manage Sessions:** Clear history or manage storage as needed

Tips for Best Results

Performance Optimization

- **Large Files:** Process files individually if experiencing slowdowns
- **Browser Memory:** Close unnecessary tabs when working with large datasets
- **Image Collections:** Use ZIP download for large image collections rather than individual downloads

Data Quality

- **Field Selection:** Review available fields in Configuration tab before exporting
- **Custom Fields:** BCFSleuth automatically detects project-specific fields
- **Version Differences:** BCF 3.0 fields only appear when relevant content is detected

Report Preparation

- **Template Strategy:** Create templates for different report types (internal review, client presentation, compliance)
- **Image Planning:** Review images before generating reports to ensure relevant content
- **Format Selection:** Use PDF for final distribution, Word for collaborative editing

Team Workflows

- **Standardization:** Share export templates to ensure consistent reporting across team
 - **Processing History:** Use history tracking for project documentation
 - **Multi-Format Output:** Provide different report formats for different stakeholders
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User Interface Guide

Main Interface Tabs

Simple Preview

- Basic BCF information and topic overview
- Quick export functionality
- Project statistics and summary

Advanced Preview

- Sortable data table with all BCF fields
- Multi-criteria filtering and search
- Comment expansion and detailed view
- Export preview integration

Image Viewer

- Gallery view of all extracted images
- Professional lightbox with navigation
- Bulk download and ZIP creation
- Report generation with embedded images

Analytics Dashboard

- Interactive chart suite with 5 visualization types
- Chart lightbox for full-screen analysis
- Custom analytics builder
- Chart export and report integration

Configuration

- Export template management
- User preferences and defaults
- Processing history and tracking

- Team collaboration features
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Export Options

Data Export Formats

CSV Export

- Hierarchical structure with all BCF fields
- Customizable field selection
- Template-based configuration
- Universal compatibility

Excel Reports

- Professional formatting with headers and styling
- Multi-sheet organization for complex projects
- RFI-style layouts for stakeholder review
- Embedded formulas and calculations

PDF Documents

- Three professional layouts: Grid, Detailed, Executive
- Embedded images with proper scaling
- Comprehensive project statistics
- Standardized cover pages

Word Documents

- Fully editable reports for collaboration
- Professional formatting with styles and headers
- Embedded images and charts
- Template compatibility for organization standards

Chart and Image Export

Individual Charts

- High-resolution PNG format
- Suitable for presentations and reports
- Direct download from analytics dashboard
- Lightbox export capability

Bulk Image Operations

- Sequential downloads with progress tracking
- ZIP archives with organized structure

- Smart filename generation
 - Cancellation support for large collections
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Data Privacy & Security

BCFSleuth operates with complete client-side processing:

- **Local Processing:** All data remains in your browser
 - **Zero Transmission:** No data sent to external servers
 - **No Registration:** No accounts or logins required
 - **Complete Privacy:** Charts, analytics, and reports generated locally
 - **Secure Storage:** Templates and preferences stored locally only
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Technical Specifications

Browser Compatibility

- **Chrome 90+** (Recommended)
- **Firefox 85+**
- **Safari 14+**
- **Edge 90+**

Performance Metrics

- **BCF Processing:** < 2 seconds for all formats
- **Chart Generation:** < 1 second for normal datasets
- **Image Operations:** Handles 300+ images efficiently
- **Export Generation:** < 10 seconds for comprehensive reports

Dependencies

- Chart.js 4.4.0 (Analytics)
 - JSZip 3.10.1 (File processing)
 - SheetJS 0.18.5 (Excel generation)
 - jsPDF 3.0.1 (PDF creation)
 - docx 7.8.2 (Word documents)
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Advanced Features

Template Management

- **Create Templates:** Save field selection configurations
- **Team Sharing:** Export/import templates via JSON
- **Version Control:** Track template changes and usage

- **Smart Defaults:** Automatic template application

Custom Analytics

- **Field Selection:** Choose any combination of BCF fields
- **Cross-Field Analysis:** Discover data relationships
- **Dynamic Updates:** Real-time analysis as you modify selection
- **Multi-Format Export:** Text, PDF, and Word output options

Processing History

- **Comprehensive Tracking:** All file processing recorded
 - **Detailed Metrics:** File sizes, processing times, export counts
 - **Export Capability:** History available as CSV
 - **Session Persistence:** Maintains history between browser sessions
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Common Use Cases

Project Managers

- Generate executive summaries with status distribution charts
- Create comprehensive reports for stakeholder meetings
- Track issue resolution progress over time
- Export data for project management tools

BIM Coordinators

- Analyze issue patterns and identify problem areas
- Create detailed reports with embedded images
- Manage large BCF collections efficiently
- Coordinate team responses with exported data

Quality Assurance

- Review comment trends and engagement metrics
- Generate compliance reports with embedded evidence
- Track author activity and workload distribution
- Create audit trails with comprehensive documentation

Consultants

- Process client BCF files without data privacy concerns
 - Generate professional reports in client-preferred formats
 - Analyze project data patterns for recommendations
 - Create standardized reporting templates
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Troubleshooting

Common Issues

File Upload Problems

- Ensure BCF files are valid ZIP archives
- Check file size limits (browser dependent)
- Verify BCF version compatibility (2.0, 2.1, 3.0)

Performance Issues

- Large datasets may require pagination adjustment
- Close unused browser tabs for better performance
- Consider processing files individually for very large collections

Export Problems

- Ensure popup blockers allow downloads
- Check available disk space for large exports
- Verify browser supports required file formats

Browser-Specific Notes

Chrome: Best performance and feature support

Firefox: Excellent compatibility, may be slower for large datasets

Safari: Full functionality, some export dialogs differ

Edge: Complete compatibility with Chrome-like performance

Development & Contribution

BCFSleuth is developed using AI-assisted methodologies, combining domain expertise with advanced implementation capabilities.

Architecture

- Pure HTML/CSS/JavaScript (no framework dependencies)
- Modular design with clear separation of concerns
- Comprehensive error handling and user feedback
- Mobile-first responsive design

Contributing

- Report issues via GitHub
- Suggest features through discussions
- Submit pull requests for improvements
- Improve documentation and examples

About BCF

The Building Collaboration Format (BCF) is an open file format that supports workflow communication in BIM processes. It enables issue tracking, coordination, and quality management across different software platforms.

Learn More: [buildingSMART International](#)

Support

- **GitHub Issues:** Bug reports and feature requests
 - **Documentation:** This guide and inline help
 - **Community:** AECO professional forums and discussions
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Acknowledgments

BCFSleuth is inspired by the original Sloth application by Simon Moreau (BIM42). We're grateful for his pioneering work in BCF processing and contributions to the AECO open-source community.

Version 2.0 | Complete BCF Analytics Platform

Built for AECO professionals by The BIMsider

AI-Assisted Development with Claude (Anthropic)