# Bluehill® Central

## Simplify Your Testing Management

INSTRON®

# Bluehill® Central

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For over 75 YEARS the Instron® brand has been widely recognized for producing some of the most advanced mechanical testing systems in the world. Our systems are designed by industry experts, vetted by active members of major standards organizations, and supported by a global network of skilled and experienced service technicians. This comprehensive approach allows us to back each Instron system with an unmatched level of industry and application expertise designed to support it throughout its lifetime.

**1500+ employees**
A highly-educated, experienced, and diverse workforce

Representing **160 countries**, speaking **40+ languages**

**50,000+ systems**
installed worldwide

**75+ years** of engineering and manufacturing testing systems

**Diverse product range**
for nearly all global markets and industries

# BLUEHILL® CENTRAL

## Simplify Your Testing Management

Bluehill Central is a laboratory management tool that enables centralized, remote management of Bluehill Universal software applications associated with multiple Instron test systems.

Bluehill Central allows lab managers to remotely manage all Bluehill Universal users, test templates, results, file revision approvals, and audit trail data from multiple Instron systems.

**TRACEABILITY**
Perform remote electronic signatures and view the audit trail data.

**TRENDTRACKER**
Track trends in results over time to make more informed decisions.

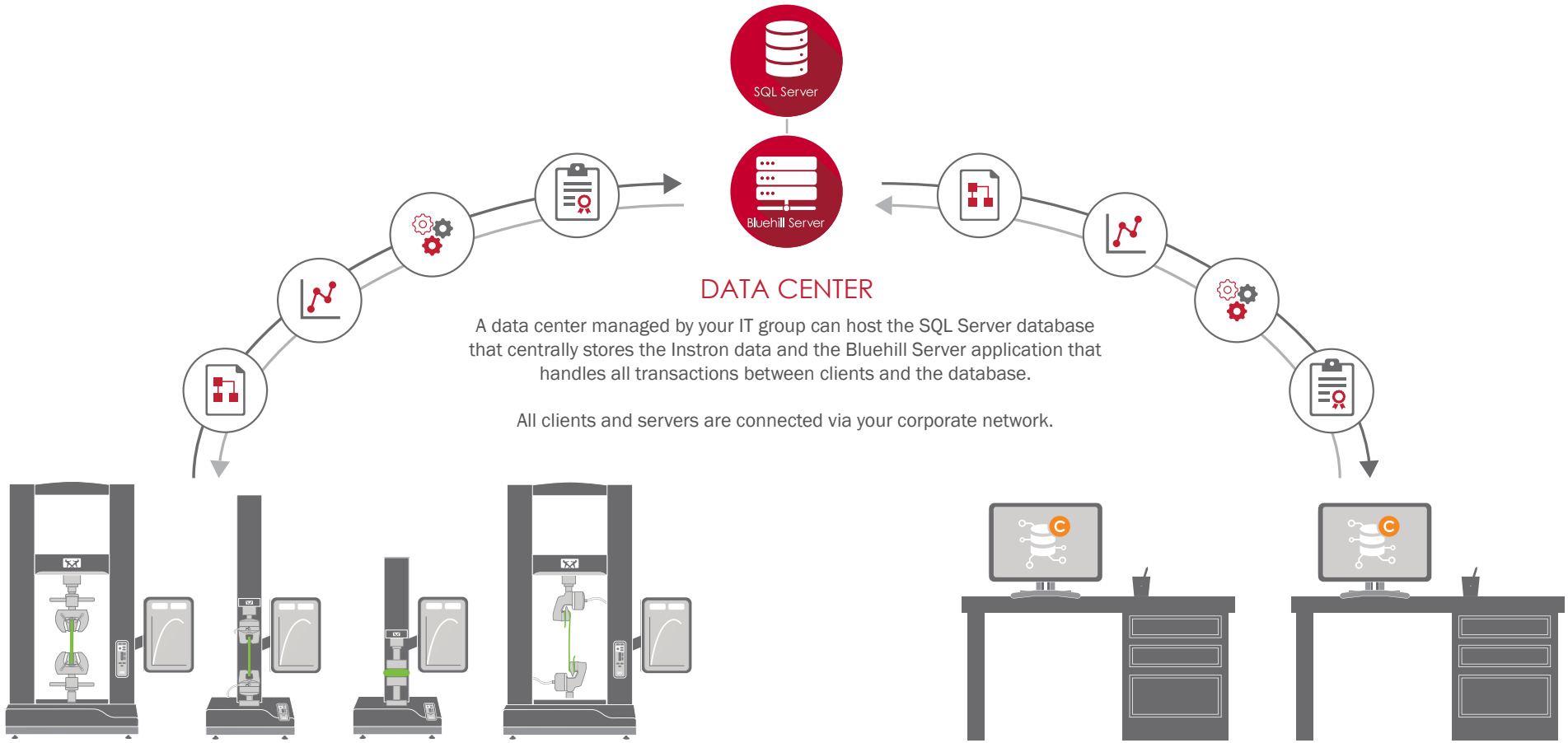
**LAB MANAGEMENT**
Manage all of your Bluehill® files in a centralized location.

**SETTINGS**
Configure user management and other Instron system settings.

# HOW IT WORKS

## Bluehill® Central Architecture

Bluehill Central uses a client / server network to store all shared data, files, and settings on a Microsoft® SQL Server database. When Bluehill Universal is connected to your lab's Bluehill Central server, each testing system sends and receives data from the centralized database, eliminating the risk of variation and the burden of locally managing each system.




### DATA CENTER

A data center managed by your IT group can host the SQL Server database that centrally stores the Instron data and the Bluehill Server application that handles all transactions between clients and the database.

All clients and servers are connected via your corporate network.

### LABORATORY

PCs running Bluehill Universal have Central plug-ins to access to the Bluehill Central database. The PCs are connected to the corporate network.

### OFFICE

You can remotely access files and settings from Bluehill Central's viewer. Offline Bluehill Universal licenses can be used to edit methods and view samples.

# TEAMS
## Bluehill® Central

Bluehill Central allows groups of users to be organized into teams who share common files and settings. An operator's permissions and access to files are defined by their team. This gives your lab the flexibility to support different workflows and settings depending on the group using the system.

**MEMBERS**
Individual users with personalized permissions.

**TESTING SYSTEMS**
Instron frames in your lab connected to Bluehill Central.

**FILES**
Bluehill methods, report templates, PDF reports, or other Instron related files.

**AUDIT TRAIL**
Record of actions performed by team members.

**SETTINGS**
Security type, file approvals, and other team-level settings.

## BLUEHILL CENTRAL TEAMS

Key Takeaways

### PROCESS FLEXIBILTY
Each team can be configured with their own team members, permissions, file systems, and signature requirements to allow multiple processes to be effortlessly supported.

### EASE OF COMPLIANCE
Teams can specify the number of signatures required and which review groups are responsible for performing a review for each type of Bluehill file. The audit trail displays entries from the active team (i.e. the team of the current user) to present relevant data only.

### REDUCE COST
Integrated support of multiple workflows makes managing Instron systems easier, quicker, and reduces risk of error – all ways to lower the overall cost of your lab.

# LAB MANAGEMENT

## Bluehill® Central

The Lab Management module contains Bluehill Central's file repository, which is stored on the database server. Connected Instron frames can access the database to run controlled test methods or export results.

### Centralized File Storage

Manage all files being saved to the database. File and folder structure can be configured to fit your needs.

### View Revision History

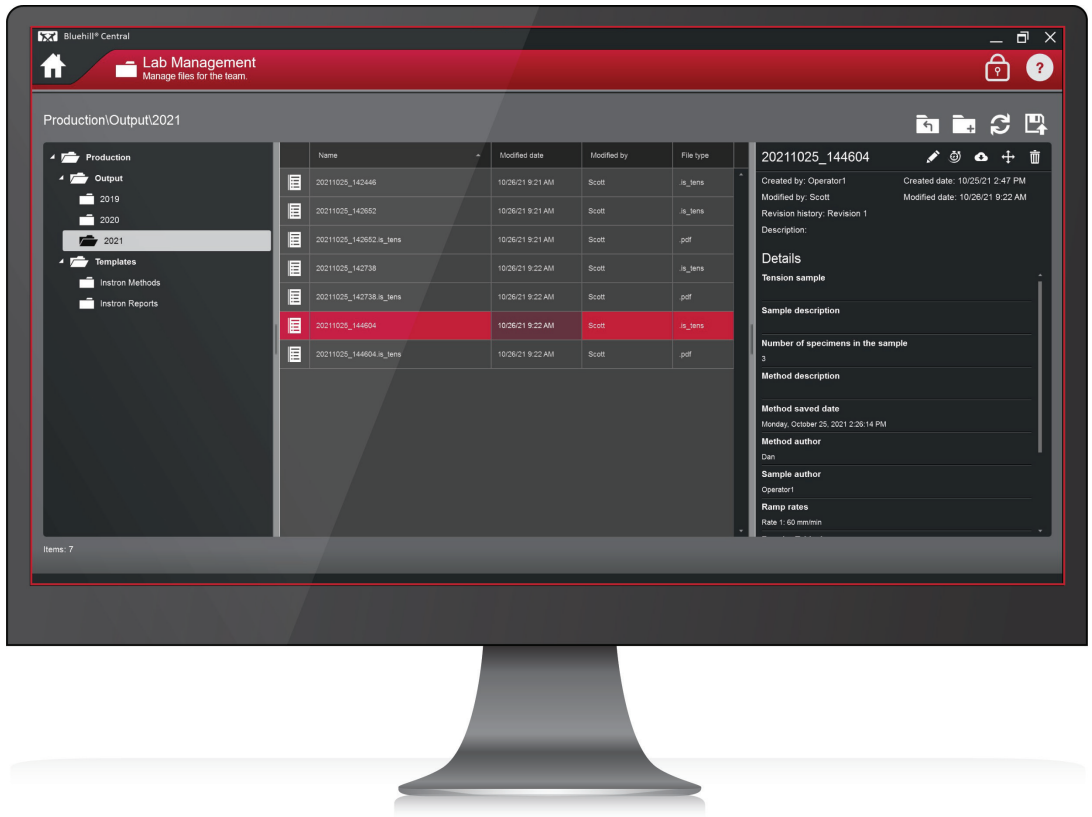
Each Bluehill file contains its history, detailing all changes associated with each revision of the file.

### Download Files

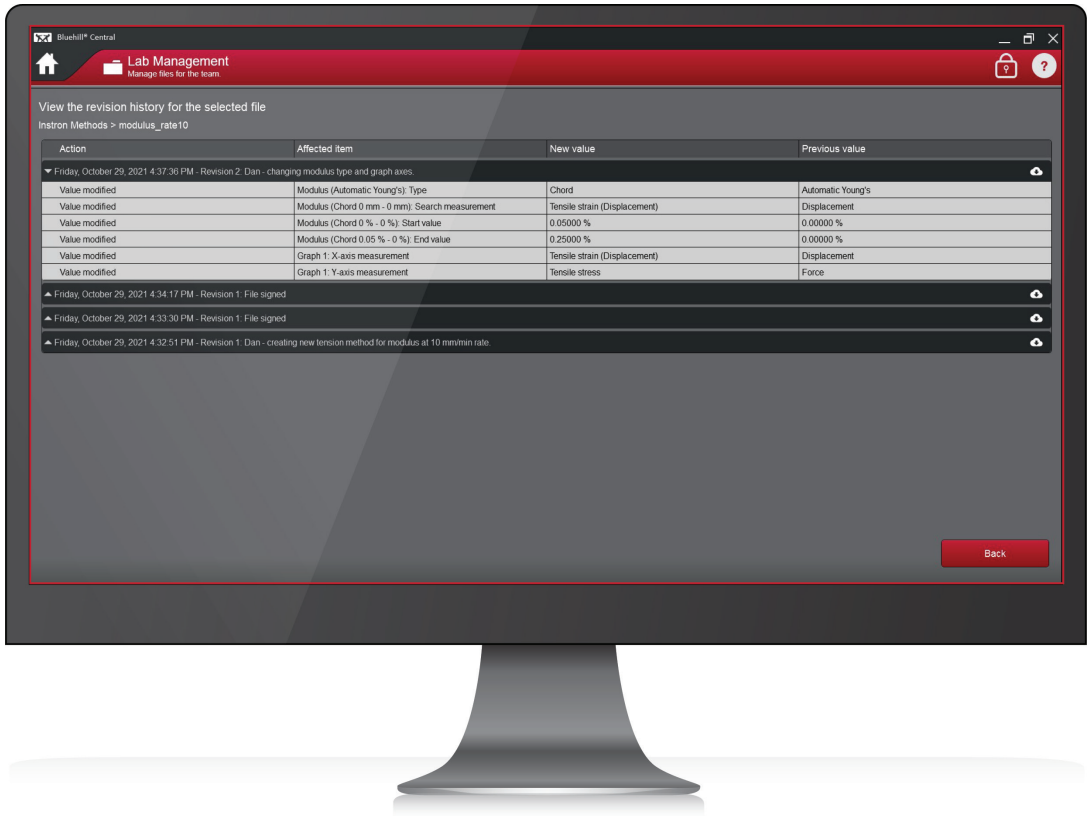
You can download the latest and prior revisions of files saved to the database.

### Upload Files

You can upload test templates or other files to enable shared access to all connected systems.




Lab Management, is independent to each team. When logging in to Bluehill Universal on a frame, the team you choose dictates the file system that is available to you. While teams are provided default folders Templates and Output, you are free to configure a folder structure that best suits your lab.




In addition to managing your Instron files, Lab Management allows you to quickly view the revision history of Bluehill® files - methods, samples, and report templates. And if need be, you can easily download files from the database - including all prior revisions.

## LAB MANAGEMENT MODULE

Key Takeaways

### VALIDATED WORKFLOWS

All test systems have access to the same Lab Management file database, ensuring that approved methods are being used and results are being sent to the same location.

### DATA INTEGRITY

Centralized and secure methods and revision history give your lab the confidence that all data can be trusted. When investigations are required, you can easily search for unintended changes.

**Note: The Lab Management module stores data from Instron systems with the Traceability + Lab Management (Central plug-in), an add-on to Bluehill Universal.**

# TRACEABILITY

## Bluehill® Central

The Traceability module in Bluehill Central allows you to remotely review and electronically sign off on test method modifications, sample data, and other changes to Bluehill files that occur on Instron® systems. Email notifications accelerate the review process by alerting the appropriate people when a file is submitted for review and when a user has approved or rejected it.

### Review File Changes Remotely

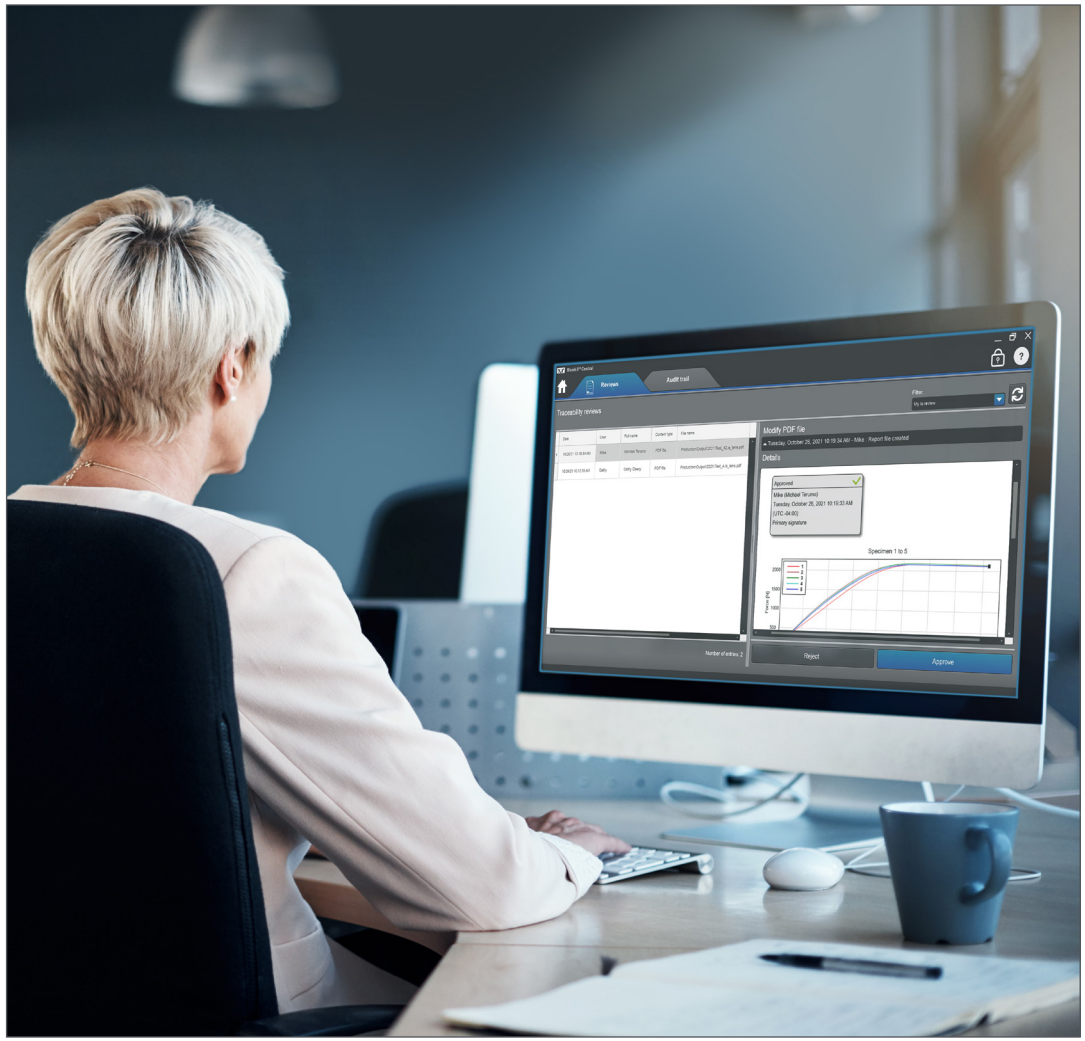
Perform file reviews from all connected test systems from the comfort of your desk.

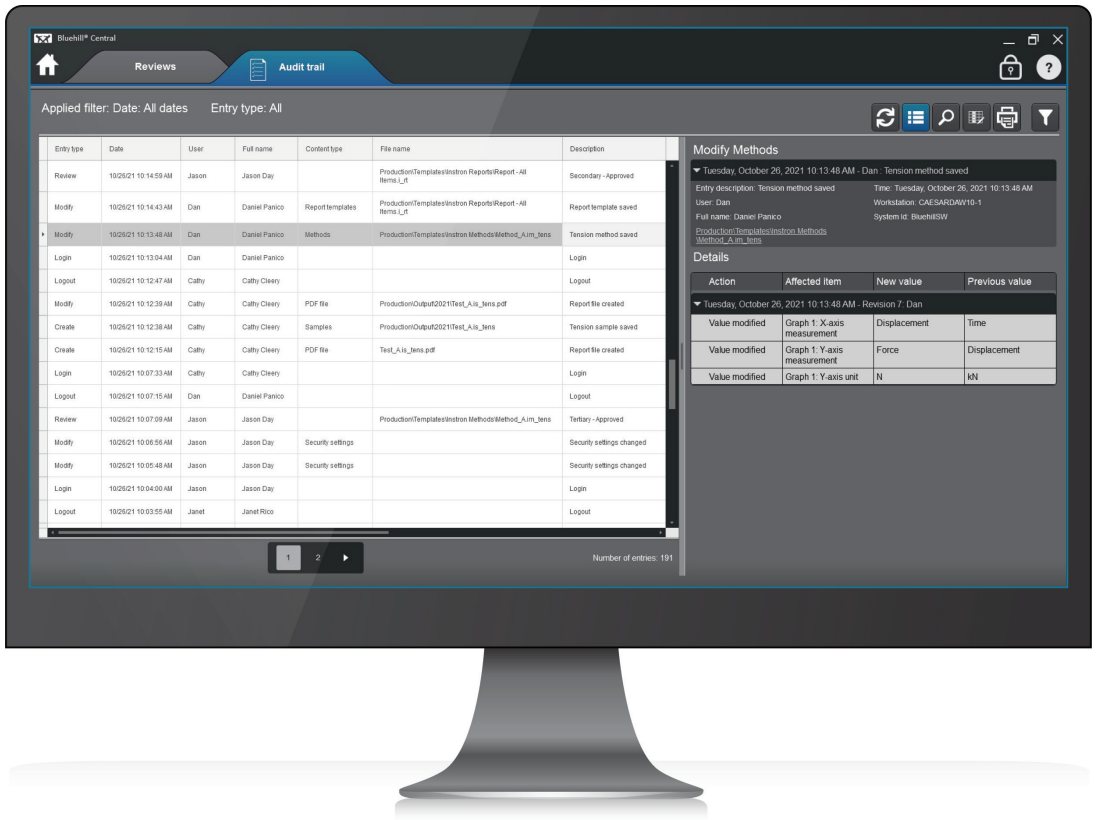
### Filter and Print Audit Trail

Query, filter, and print the audit trail of all connected test systems.

### View Details of Audit Trail Items

The detail pane provides further information associated with the selected audit trail entry.






The audit trail is a secure and searchable repository of system interactions, allowing you to know who did what, when, and why on your Instron systems. Each audit trail entry captures the username, date, time, affected item, new value, previous value, and associated comment. When viewing the audit trail, entries displayed are associated to the active team.

## TRACEABILITY MODULE

Key Takeaways

### EASE OF COMPLIANCE

Centralized audit trails, electronic signatures, revision history, and user management make regulatory compliance simple for your quality team.

### VALIDATED WORKFLOWS

All test systems share access to approved methods to ensure that test data cannot be questioned. Results are saved in the secure database and, if required, can be approved.

### REDUCE COST

An integrated compliance solution lowers the risk of unintended changes causing re-tests or even product recalls.

**Note: The Traceability module displays data from Instron systems with the Traceability + Lab Management (Central plug-in), an add-on to Bluehill® Universal.**

# TRENDTRACKER

## Bluehill® Central

The TrendTracker module in Bluehill Central accelerates the data analysis workflow of your lab. An intuitive interface allows you to quickly search, display, and analyze results over time and across multiple samples and test systems. Say goodbye to tedious file searching and copy-pasting of data.

### Multi-Sample Data Analysis

Perform data analysis on results from multiple samples produced by multiple test systems.

### Customizable Queries

Create queries defined by test parameters or results that provide insights to trends and outliers.

### Visually Plotting

Plot a variety of chart types to visualize data sets.

### Export Data

Export the data to a CSV file and open it in an application, like Minitab®, for further analysis.

Create graphs, bar charts, and control charts to see how the product quality measures up against your specification limits. Use the batch export utility to add existing sample files to the database, enabling you to take advantage of the archiving analysis capabilities from day one.

Within the tabular view you can group the data by any column by simply dragging the column header to the grouping area. You can also apply descriptive statistics, like mean and standard deviation, to subgroups, as well as to the entire dataset.

## TRENDTRACKER MODULE

Key Takeaways

### POWERFUL INSIGHTS

Export results from all systems and analyze remotely to track trends in data over time to make more informed decisions.

### REDUCE COST

Analyzing results from multiple systems in third-party software can be inefficient and a challenge to maintain with lab turnover. TrendTracker streamlines the analysis process, enabling quicker business decisions and increasing overall productivity.

**Note: The TrendTracker module queries data from Instron systems with the TrendTracker (Central plug-in), an add-on to Bluehill® Universal.**

# SETTINGS

## Bluehill® Central

Settings in Bluehill Central allows you to remotely configure team settings for all connected systems, eliminating the burden of locally managing each test system. Common items to configure include team members and their permissions, Traceability signatures, TrendTracker databases, and email notifications.

### Team Management

Add users to an existing team or create a new team.

### User Permissions

Grant or restrict access to users as necessary.

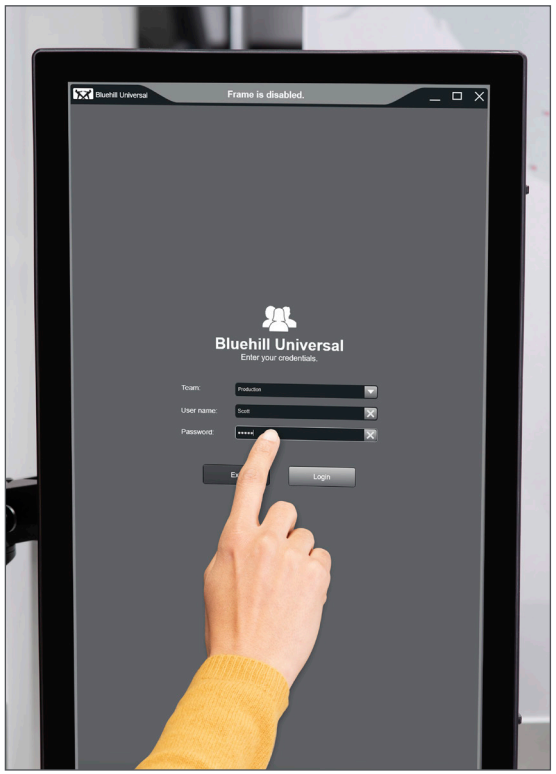
### Configure Traceability

Configure the number of electronic signatures and the reviewer group for each file type.

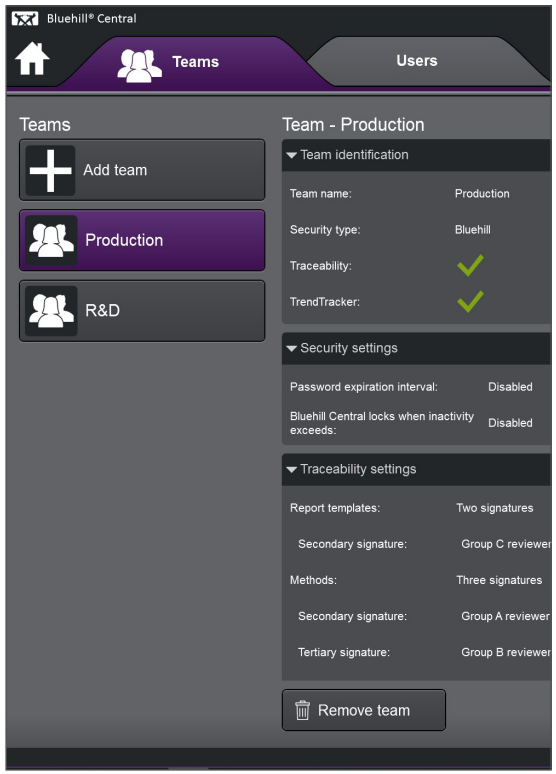
### Configure TrendTracker

Set up the database for TrendTracker data.

Bluehill® Central offers two security types: Windows® Active Directory and Bluehill Security. Active Directory links authentication to users on your domain, allowing you to use your Windows login in Bluehill Universal and Bluehill Central. Alternatively, Bluehill Security allows labs to create users and assign permissions specific to Bluehill.




Users choose a team when logging in to Bluehill Universal and Bluehill Central.




Bluehill Central admin users can view all active teams and create a new team.

## SETINGS MODULE

### Key Takeaways

### EASE OF COMPLIANCE

Remote access to user management and signature settings allows you to maintain the proper security policies without leaving your office.

### DATA INTEGRITY

Limiting access of untrained users and requiring file review of changes before a method is used for testing increases test reliability.

### PROCESS FLEXIBILITY

Settings controlling the usage of the system and sign-off requirements are specific to each team - make them as secure or unrestricted as necessary.

**Note: Settings is a standard module in Bluehill Central.**

# THE WORLD STANDARD

**We stake our reputation on the integrity of data. From the measurement of primary test data to result generation, we design and manufacture the full data integrity chain (e.g. load cells, sensor conditioning, and software). Additionally, we calibrate more than 90,000 of these sensors annually with the lowest accumulated uncertainty.**

## 30,000+

We service and calibrate more than 30,000 Instron systems in active use worldwide every year.

## 96%

96% of the Fortune 100 list of the world's largest manufacturing companies use Instron test systems.

## 18,000+

Instron systems have been cited in more than 18,000 patents since 1975.

**www.instron.com**

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