LIMS in the Cloud: Key to Achieve Quality Assurance & Operational Efficiency in Cannabis Testing Laboratories

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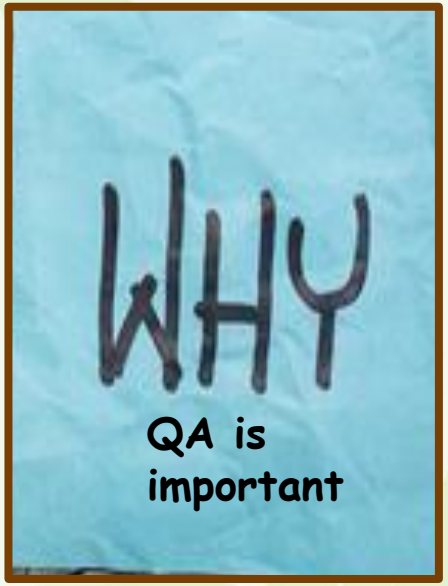
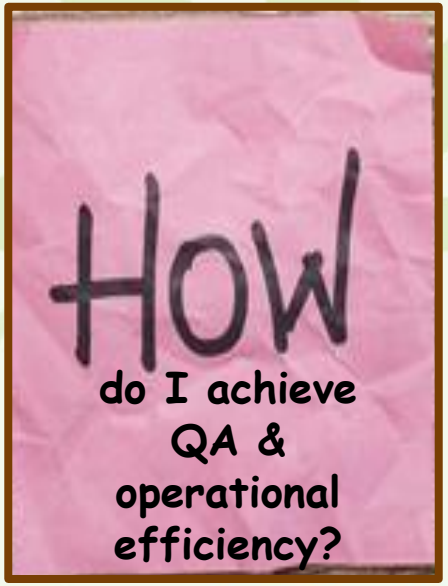
AGENDA

Quality assurance is pivotal for the sustenance of the continuously evolving cannabis industry





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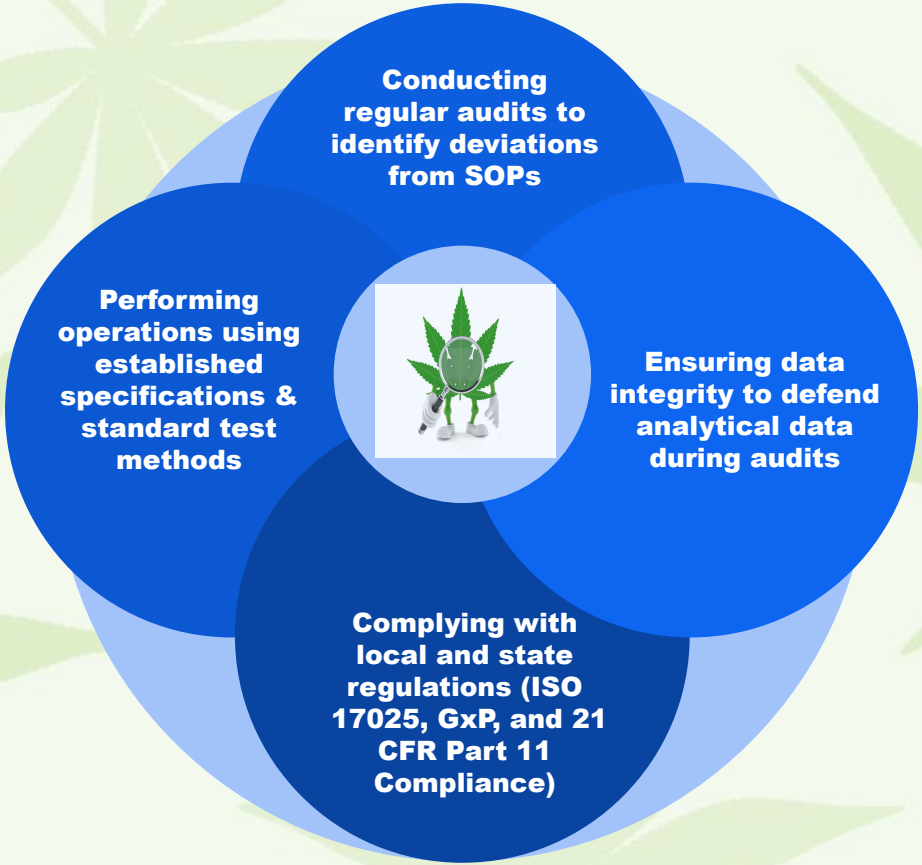
What is Quality Assurance (QA) in Cannabis Testing?



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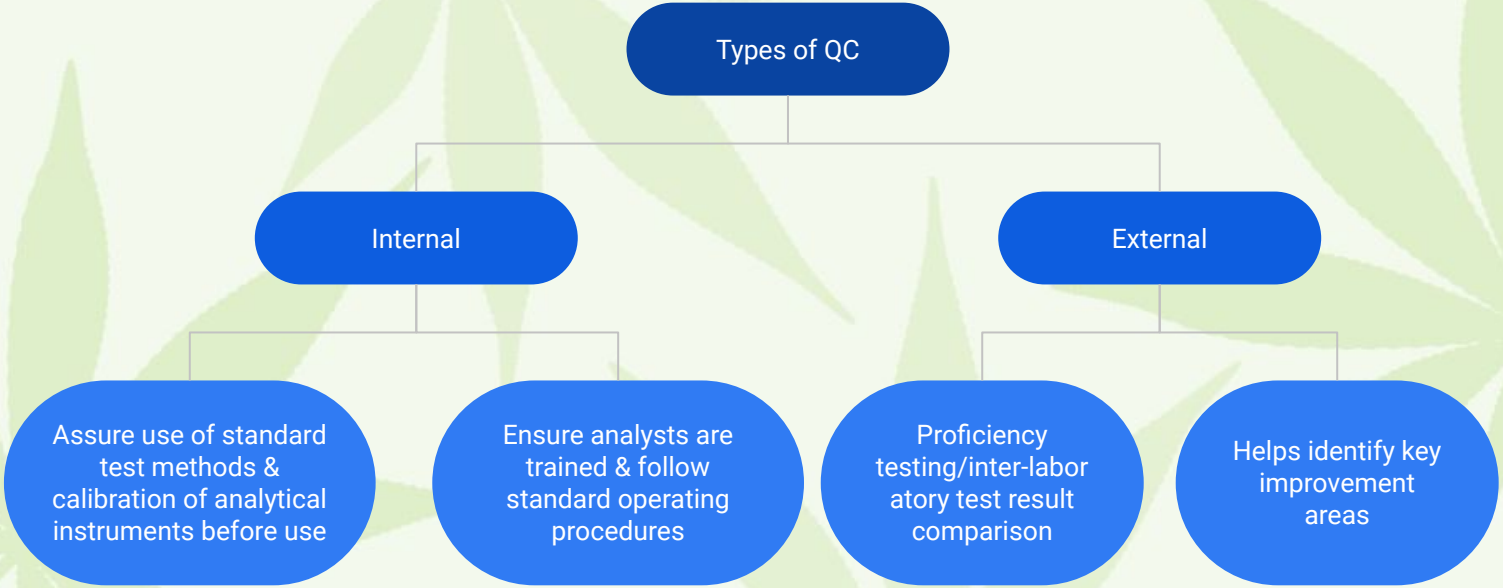
Types of Quality Control (QC): Internal & External

Both internal and external QC are crucial for quality assurance and for assuring the reliability & accuracy of analytical results



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Quality Assurance is Important to Assure Consumer Safety

Heavy Metals
Cannabis plants can absorb heavy metals such as nickel and lead from the soil which are toxic to humans

Microorganisms
Salmonella, E.coli cause serious illness

Mycotoxins
Aflatoxins contribute to bone cancer

Residual Solvents
They can cause damage to the nervous system, allergic reactions, and even death

Foreign Materials
Mold, organic materials, dust or anything that could adversely affect humans

Pesticides
Keeps cannabis free from insects but can cause serious illness in humans

Potency
Assure cannabinoid and terpenoid concentration

Moisture Content
Can be detrimental to the quality & shelf-life of cannabis products

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QA & QC: General Requirements

Manage QC Samples & Their Results

Document Control

Conduct Staff Training

Maintain a Chain of Custody

Instrument Calibration & Maintenance

Validate Test Results

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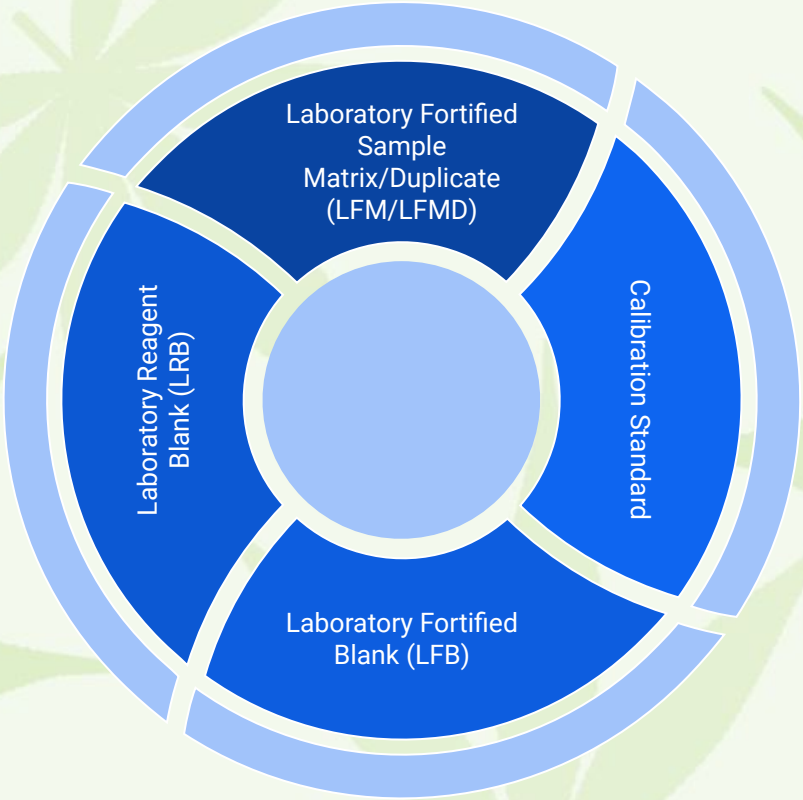
Common QC Samples Used in Cannabis Testing Labs



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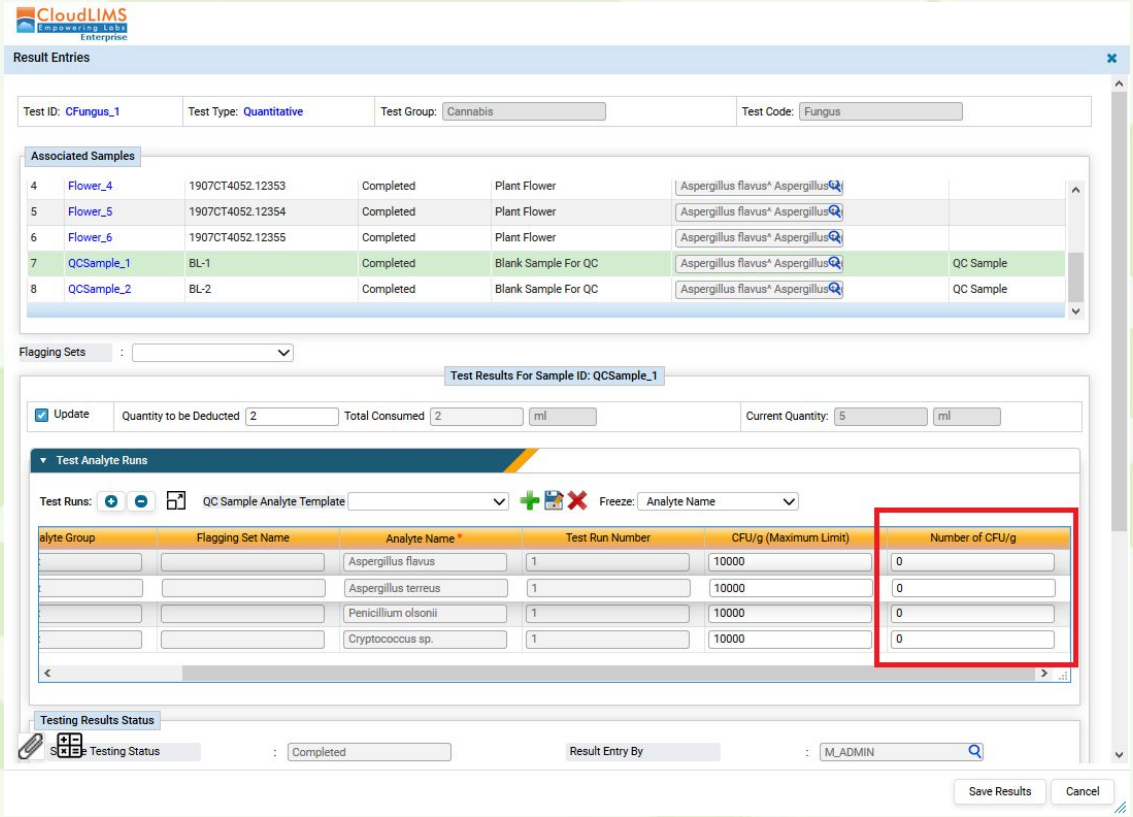
Manage QC Test Results

Manage Quality Control Samples and Their Test Results With Ease



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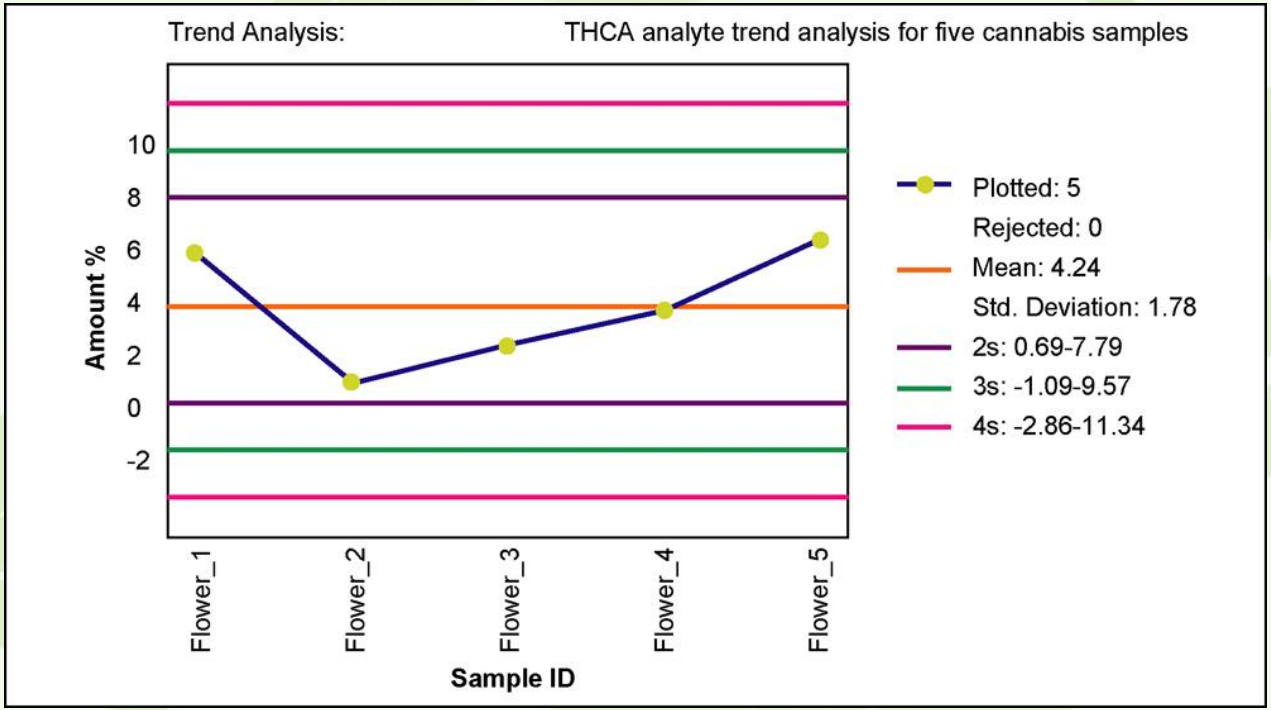
Trend Analysis

Analyze trends across a set of test results, monitor variation in test results & take corrective actions



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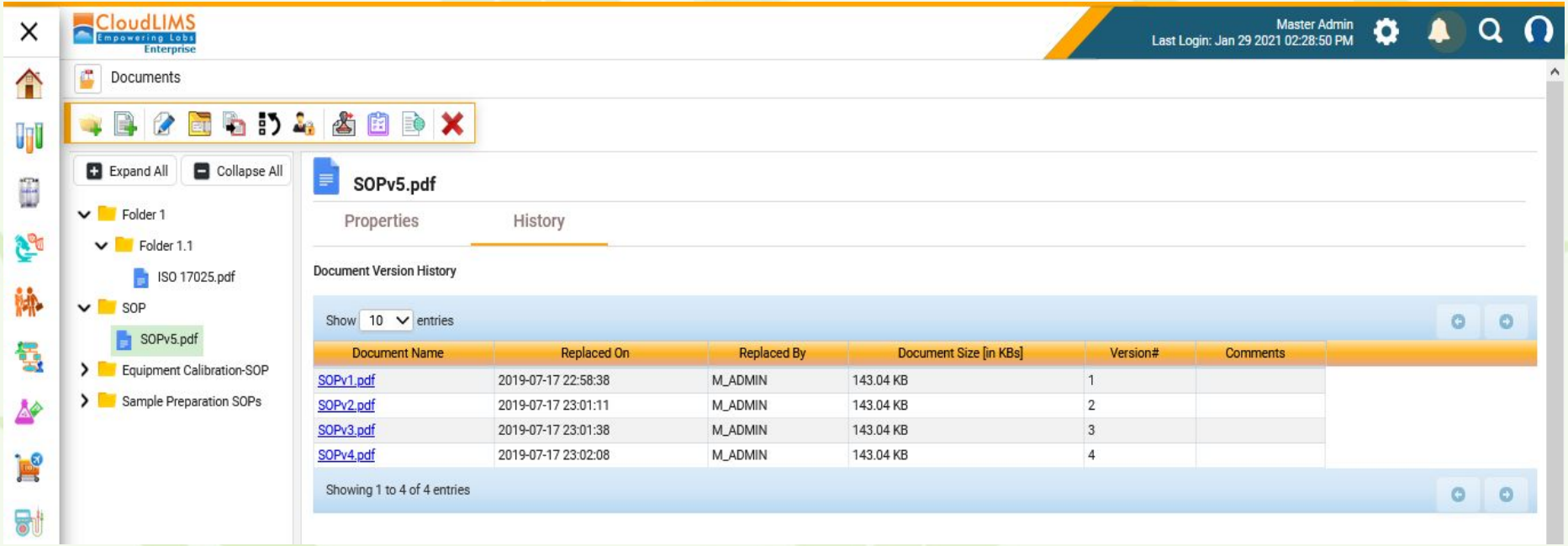
Document Control

Manage documents, track their revision history & assign access privileges to staff based on their roles



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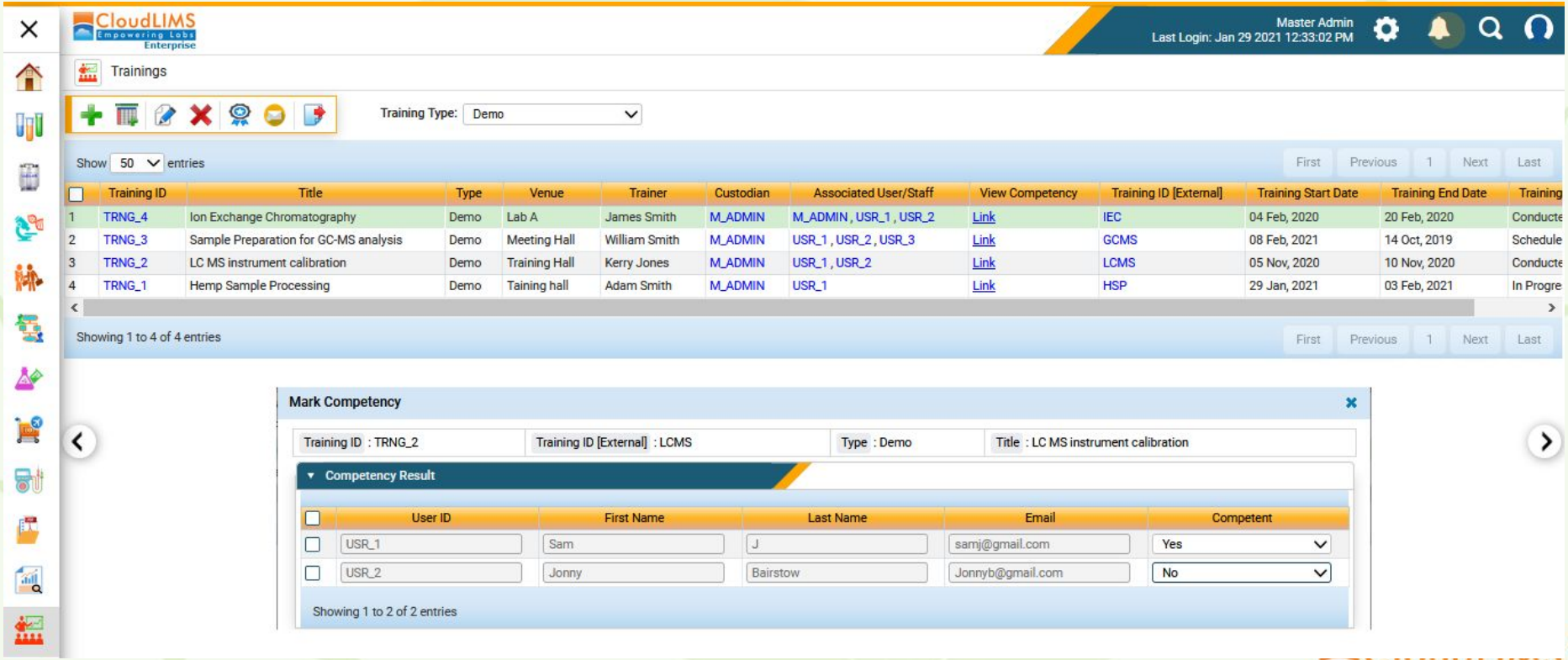
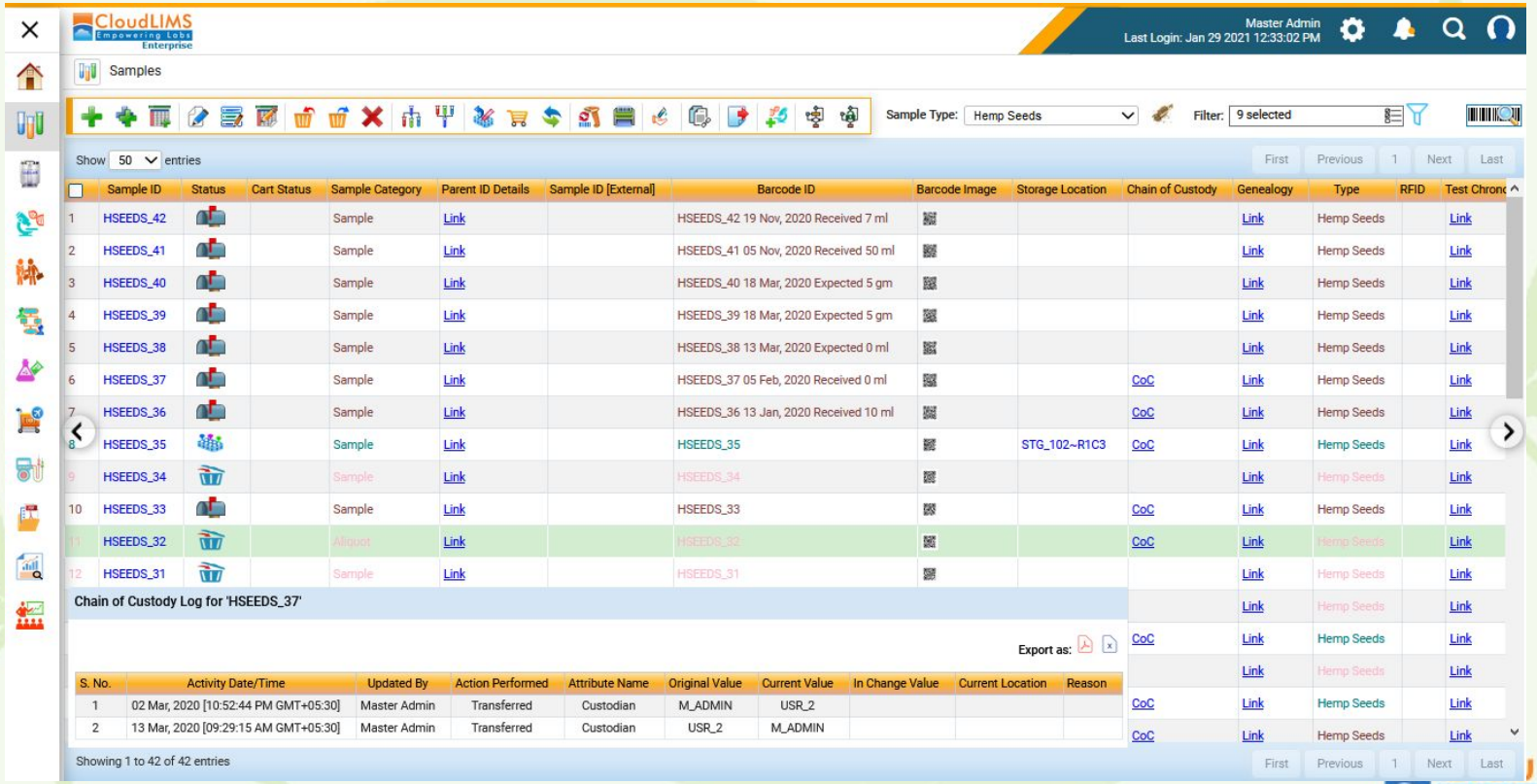
Manage Staff Training & Competency

Manage your staff, their training records and mark their competency



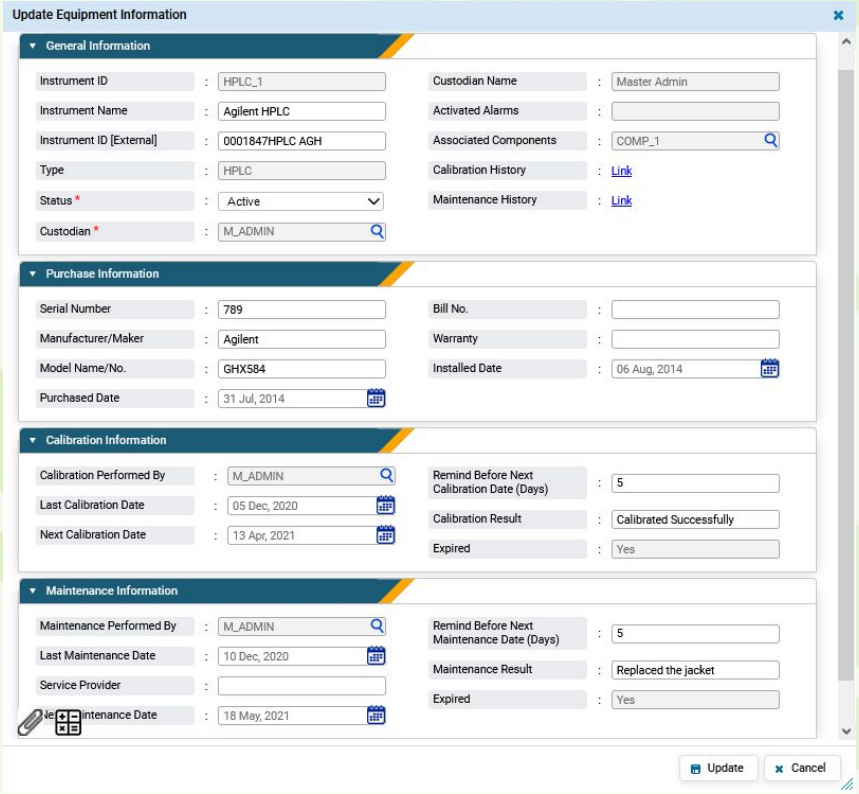
Maintain a Chain of Custody

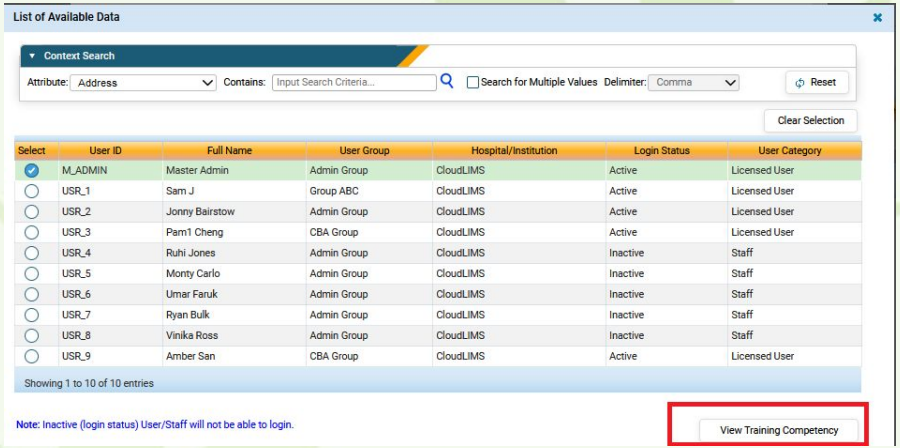
Track samples from accessioning to disposal



Instrument Calibration and Maintenance

Schedule instrument calibration, manage maintenance data & assign instruments to competent staff





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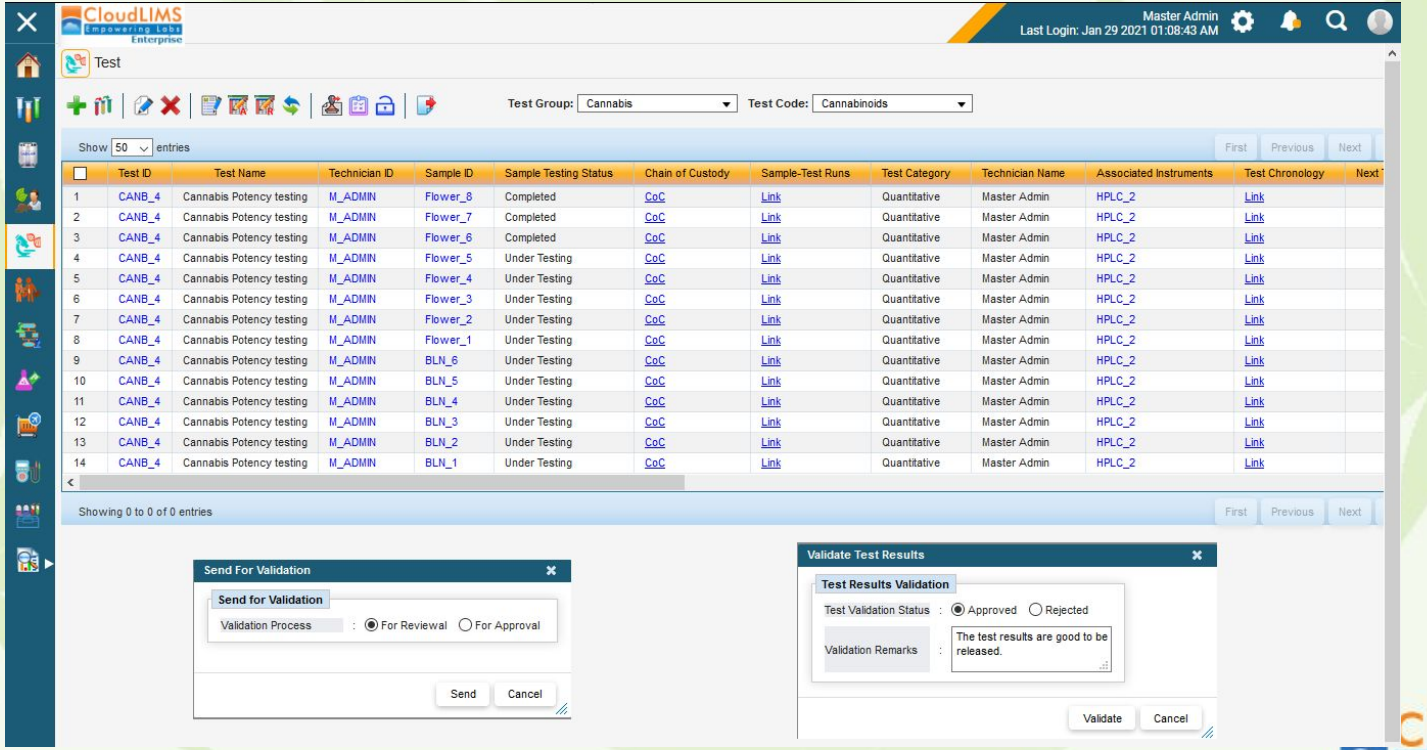
Validate Test Results

Send out multiple test results for validation and approval before releasing the Certificates of Analysis (CoAs) to your customers



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Generate State Compliant CoAs

CTL Certificate of Analysis

My Cannabis Lab, Plot No. 145, Sesame Street
Bridge-Highway Road, United States

Client Information

Client ID:	GROWER_1	**First Name:**	Mark	**Last Name:**	Jones	**Facility Name:**	Cannabis Growers Co.
Type:	Growers	**Entry Date:**	01 Apr, 2019			**License Number:**	C12-11984783-MY
Address:	83, Park Avenue, CA	**Country:**	United States	**Email:**	mark@jones.com		

Sample Information

Sample ID:	HSEEDS_1	**Sample ID [External]:**	AB-110101-##CZ	**Type:**	Hemp Seeds	**Current Quantity:**	5
Batch ID:	AB-1101	**Current Quantity-Unit:**	gm	**Custodian:**	M_ADMIN	**Collection Date:**	27 Mar, 2019
Entry Date:	01 Apr, 2019	**Associated Client:**	GROWER_1	**Entry Time:**	05:27:24 PM		

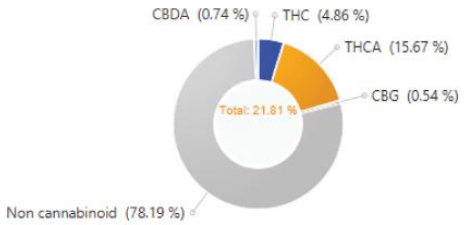
Test Information: Cannabis Testing/ Cannabinoids

Test ID	Completion Date	Type	Group	Code
CANN_1	2019-04-01	Cannabis Testing_Cannabinoids	Cannabis Testing	Cannabinoids

Analytes and Results: Cannabis Testing/ Cannabinoids

Analyte Name	LOD ppm	LOQ ppm	Amount (%)	Amount (mg/g)
Cannabidiol (CBD)	0.01	0.04	ND	ND
Cannabidiolic Acid (CBDA)	0.29	0.67	0.7	7.1
Tetrahydrocannabinol (THC)	0.04	0.15	4.61	46.1
Tetrahydrocannabinolic Acid (THCA)	0.7	0.9	15.6	156
Cannabinol (CBN)	0.03	0.06	ND	ND
Cannabigerol (CBG)	0.04	0.12	0.54	5.4

Cannabinoid Profile



Analytes and Results: Cannabis Testing/ Terpenes

Analyte Name	Amount (mg/g)	Amount (%)	Status
valencene	0	0	ND
terpinolene	0	0	ND
nerol	0	0	ND
menthol	0	0	ND
isoborneol	0	0	ND
camphor	0	0	ND
camphene	0	0	ND
beta_caryophyllene	0	0	ND
alpha_pinene	0	0	ND

Analytes and Results: Cannabis Testing/ Pesticides PASS

Analyte Name	LOD (ug/g)	Amount (ug/g)	Status
spirotetramat	0.04	ND	Pass
spinosad	0.04	ND	Pass
pyrethrum	0.38	ND	Pass
paclobutrazol	0.043	ND	Pass
imidacloprid	0.04	ND	Pass
daminozide	0.04	ND	Pass
bifenazate	0.04	ND	Pass
acequinocyl	0.04	ND	Pass

Disclaimer
All Tests are conducted by Cannabis Testing Laboratory and validated under proper administrative regulations. Please report any discrepancy in the report to: info.mylabe@address.com

Dr. John Smith
Lab Director

01 Apr, 2019

Dr. Joanna Black
Chief Technician
CTL
01 Apr, 2019

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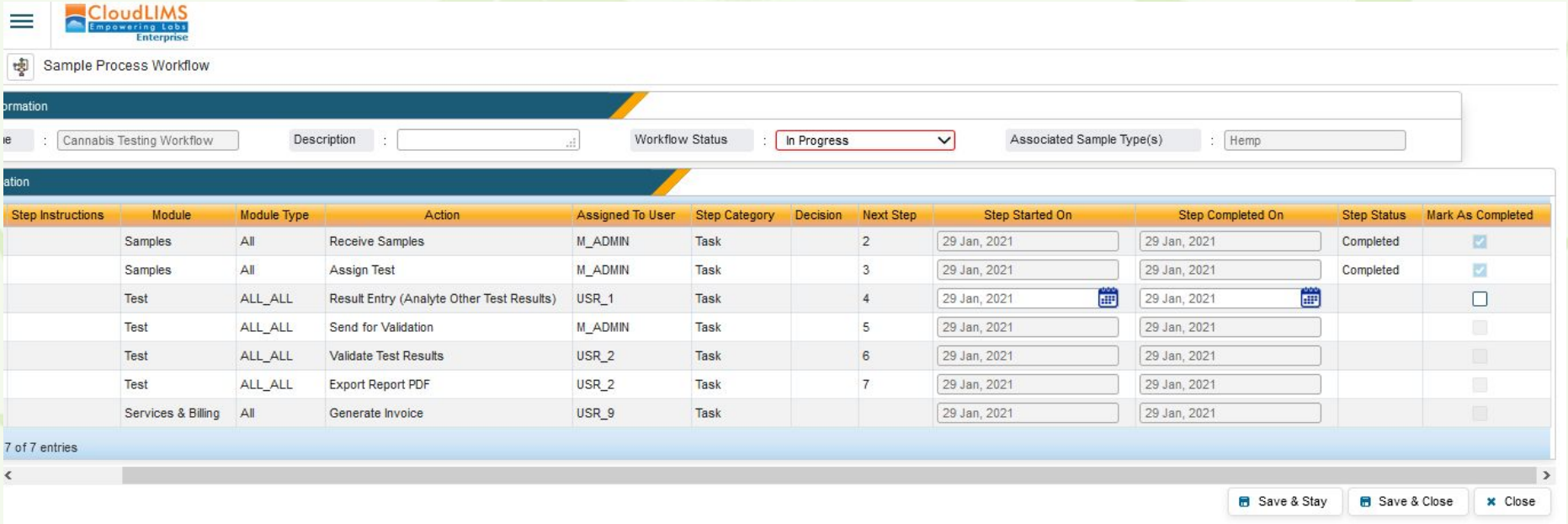
Workflow Management

Monitor the sample processing status, enforce standard operating procedures (SOPs), and track deviations from the specified SOPs



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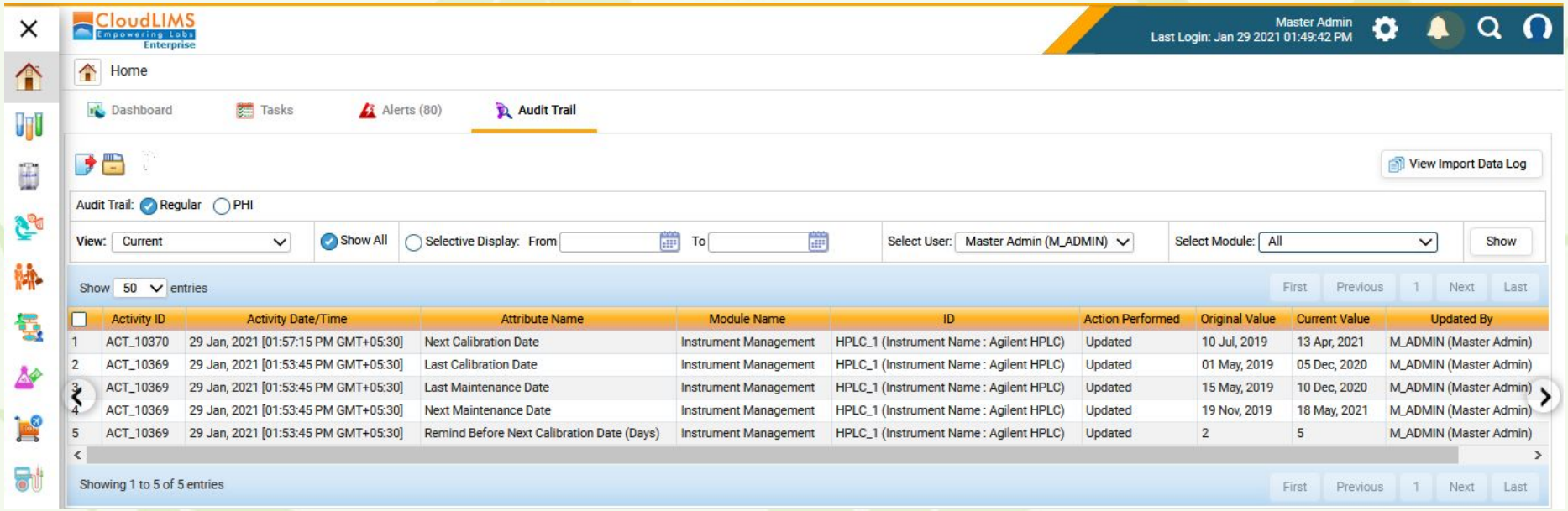
Read-only Audit Trail

Maintain an audit trail of each activity along with a date & time stamp



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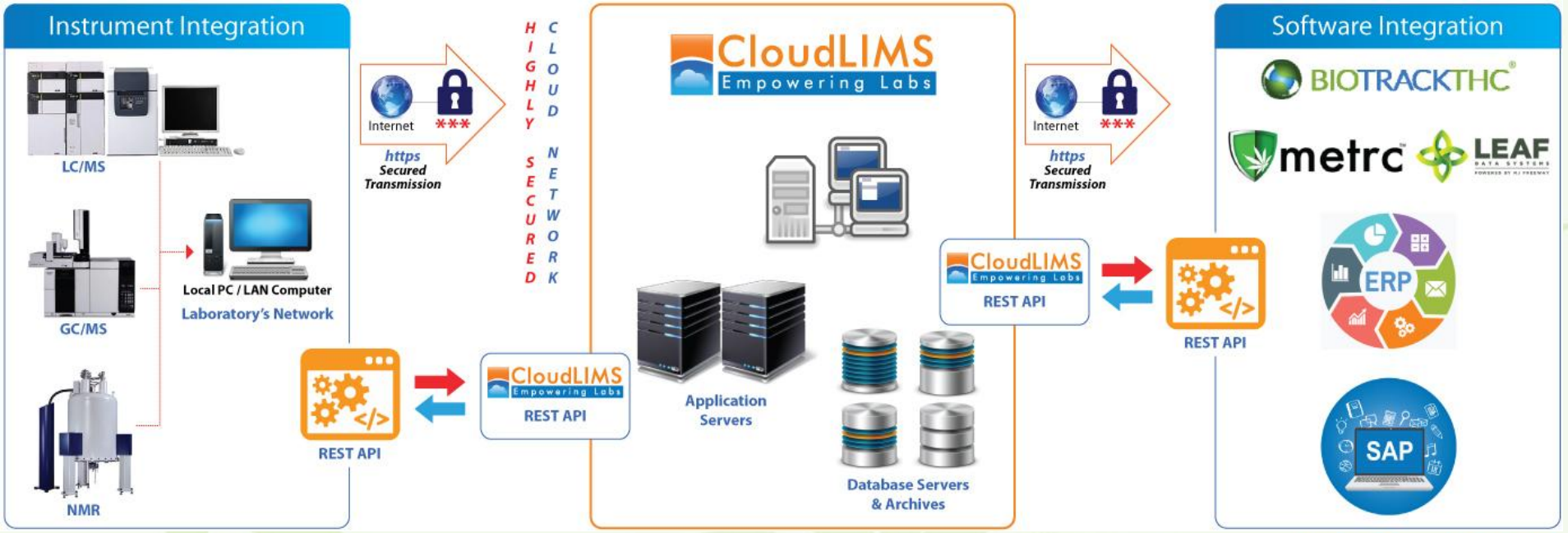
Instrument & Software Integration

Instrument and software integration assures data integrity, minimizes turnaround time, helps post results directly to seed-to-sale software, and enhances laboratory efficiency.



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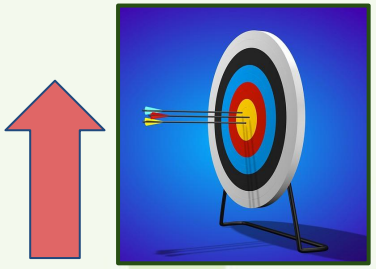
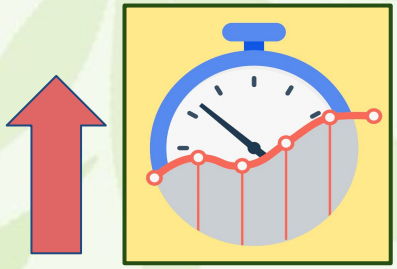
Benefits of Deploying a Cannabis LIMS



TEST RESULT ACCURACY



PRODUCTIVITY

QUALITY

LOWER COSTS

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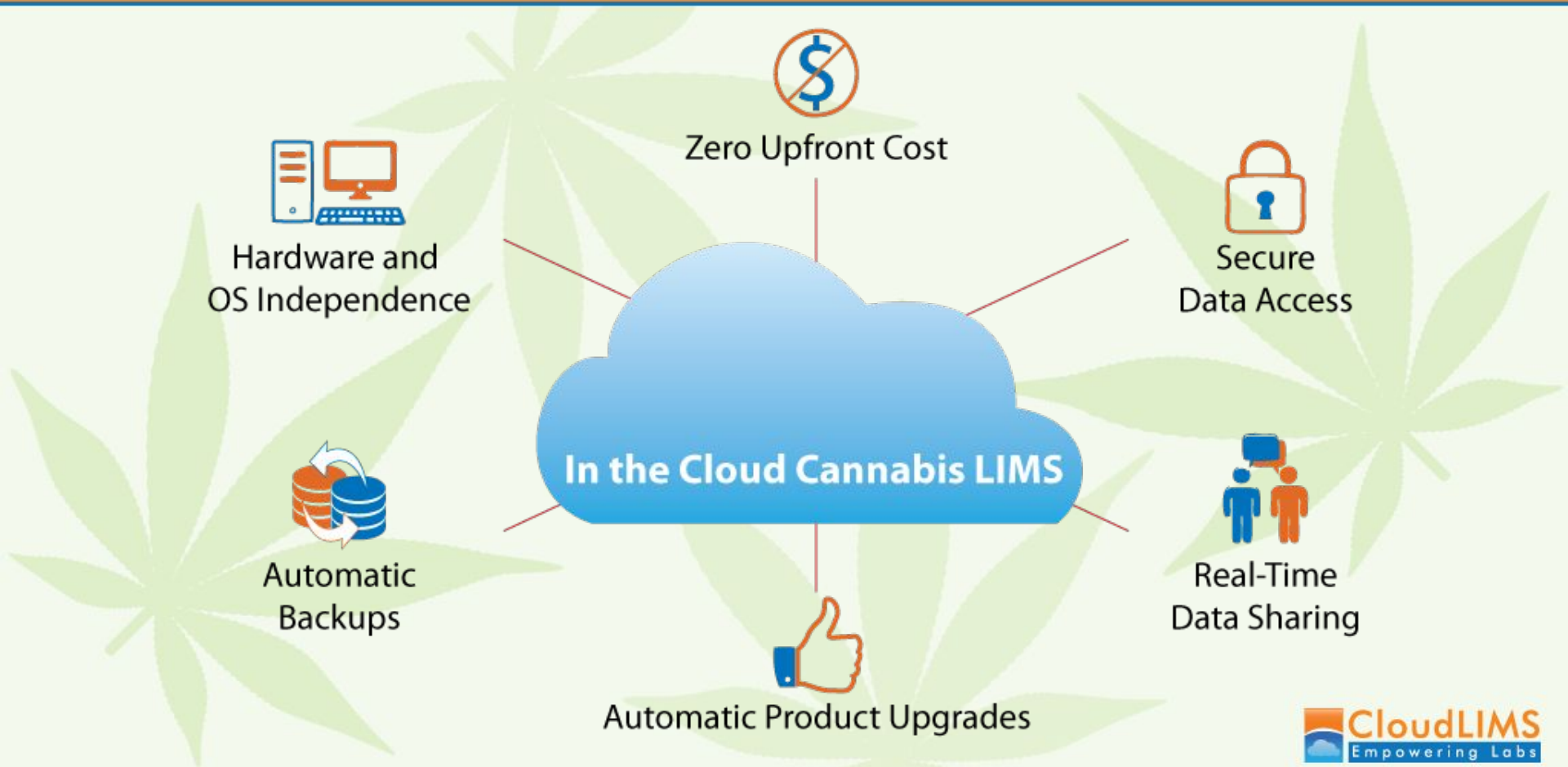
LIMS in the Cloud: Benefits



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Thank You!

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