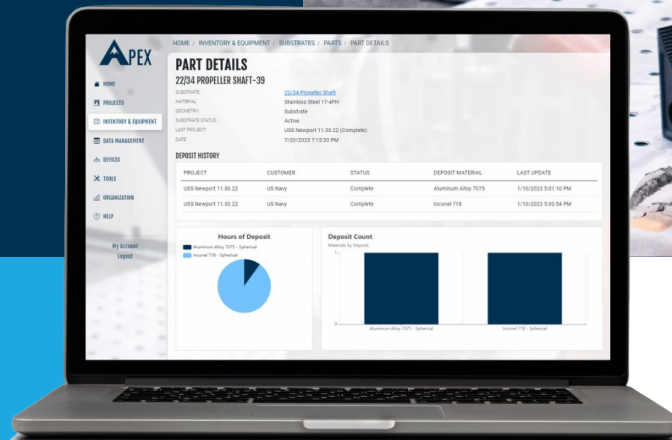




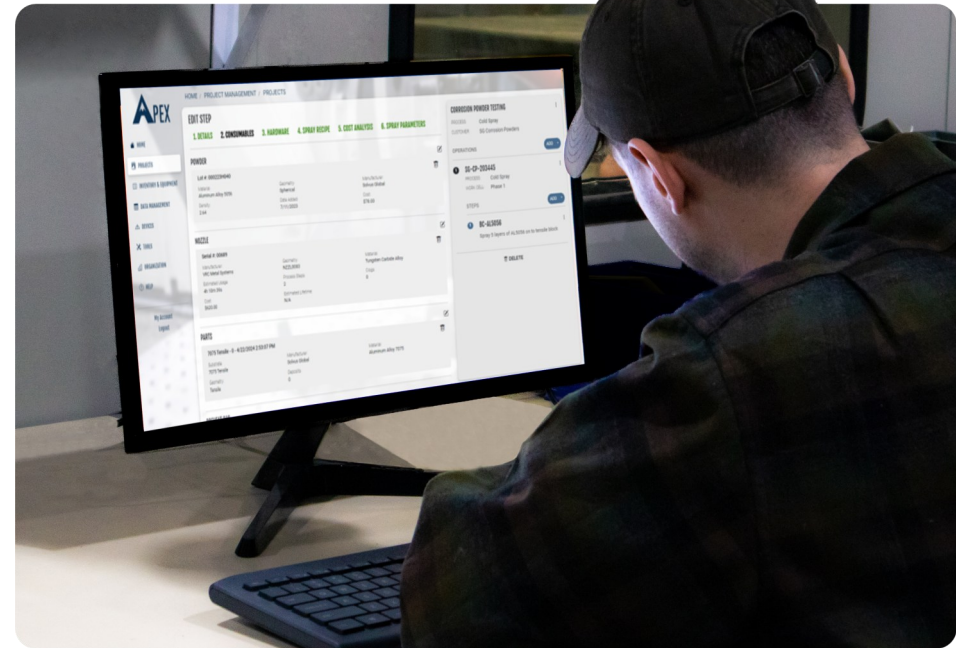
UNLOCK CONSISTENT RESULTS



Improve the **reliability** and **repeatability** of AM processes

Additive manufacturing (AM) often struggles with inconsistent results and unpredictable part quality due to fragmented data and manual processes. Apex directly addresses this by streamlining your entire AM process, unlocking unparalleled reliability and repeatability.

Providing a comprehensive workflow and data management system that improves the reliability and repeatability of additive manufacturing processes. It streamlines operations through customizable workflows, optimized inventory, real-time monitoring, and complete traceability, ensuring consistent, high-quality results.



Increase Productivity & Maximize Profits

By streamlining operations and enhancing efficiency throughout your organization. This includes preventing costly errors through robust, standardized, and repeatable workflows, and identifying cost-saving opportunities by analyzing detailed material cost breakdowns.

Achieve Consistent High-Quality Results

Utilize the repeatability of successful operations to deliver reliable outcomes and minimize deviations between operations using repeatable workflows. Additionally, track equipment performance and longevity relative to execution parameters.

Increase operational efficiency with customizable workflows

Standardize your additive manufacturing processes with customizable workflows. Define every step of your operation to ensure clarity and control while adapting to diverse project needs and equipment configurations. By implementing repeatable workflows that are clearly defined, you can significantly reduce operator errors, minimize deviations from, and ensure consistent quality for every execution.

The screenshot displays the APEX software interface for project management. The left sidebar contains navigation links: HOME, PROJECTS, INVENTORY & EQUIPMENT, DATA MANAGEMENT, DEVICES, TOOLS, ORGANIZATION, and HELP. The main content area is titled 'EDIT STEP' and shows a workflow for '3 PART GROOVES'. The workflow is divided into sections: POWDER, NOZZLE, PARTS, and PREHEAT GAS. Each section contains specific details for the materials and processes used. The right sidebar shows the 'CS-CS3-23-2611 GOLDEN SPRAY' project details, including the process (Cold Spray), customer (Henry - System Cal), and a list of steps (3 PART GROOVES, GROOVE REFILLS, GROOVE REFILLS TOPCOAT).

HOME / PROJECT MANAGEMENT / PROJECTS

EDIT STEP

1. DETAILS 2. CONSUMABLES 3. HARDWARE 4. SPRAY RECIPE 5. SPRAY PARAMETERS 6. COST ANALYSIS

POWDER

Lot #: 000224H062

Material: SAAM-AL7075 Geometry: Spherical Manufacturer: Solvus Global

Density: 0.00 Date Added: 7/31/2024 Cost: \$100.00

NOZZLE

Serial #: 2826

Manufacturer: VRC Metal Systems Geometry: NZZL0071 Material: Polybenzimidazole (PBI)

Estimated Usage: 2h 54m 58s Process Steps: 12 Crops: 0

Cost: \$1,400.00 Estimated Lifetime: 6

PARTS

new part

Substrate: 7075 Refill Groove Manufacturer: Solvus Global Material: SAAM-AL7075

Geometry: Refill Groove Deposits: 0

PREHEAT GAS

Messer - Nitrogen

Manufacturer: Messer Source: Tag Number: No Tag Number

Cost:

CS-CS3-23-2611 GOLDEN SPRAY

PROCESS: Cold Spray

CUSTOMER: Henry - System Cal

OPERATIONS

ADD

3 PART GROOVES

PROCESS: Cold Spray

WORK CELL: Phase 2 Cell

STEPS

ADD

1 GROOVE REFILLS

Three parts at once

2 GROOVE REFILLS TOPCOAT

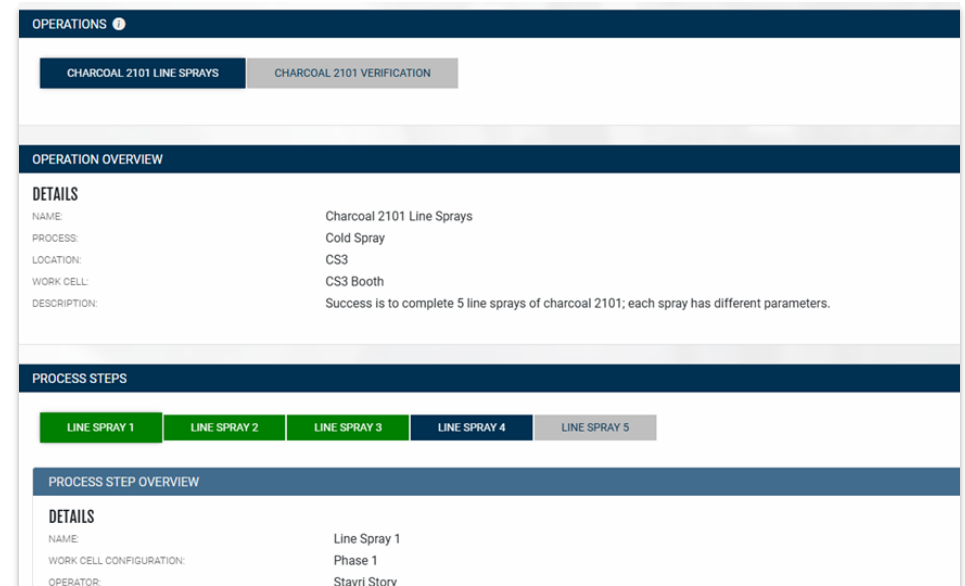
topcoat

DELETE

Apex enables you to templatize the projects and repetitive tasks, streamlining operations and dramatically reducing the time spent on setup and planning for future projects. Consistent processes limit unwanted setbacks, ensuring a faster, more predictable path from project initiation to completion and allowing for quicker turnaround times.

Tools for operators to reduce errors and prevent costly defects

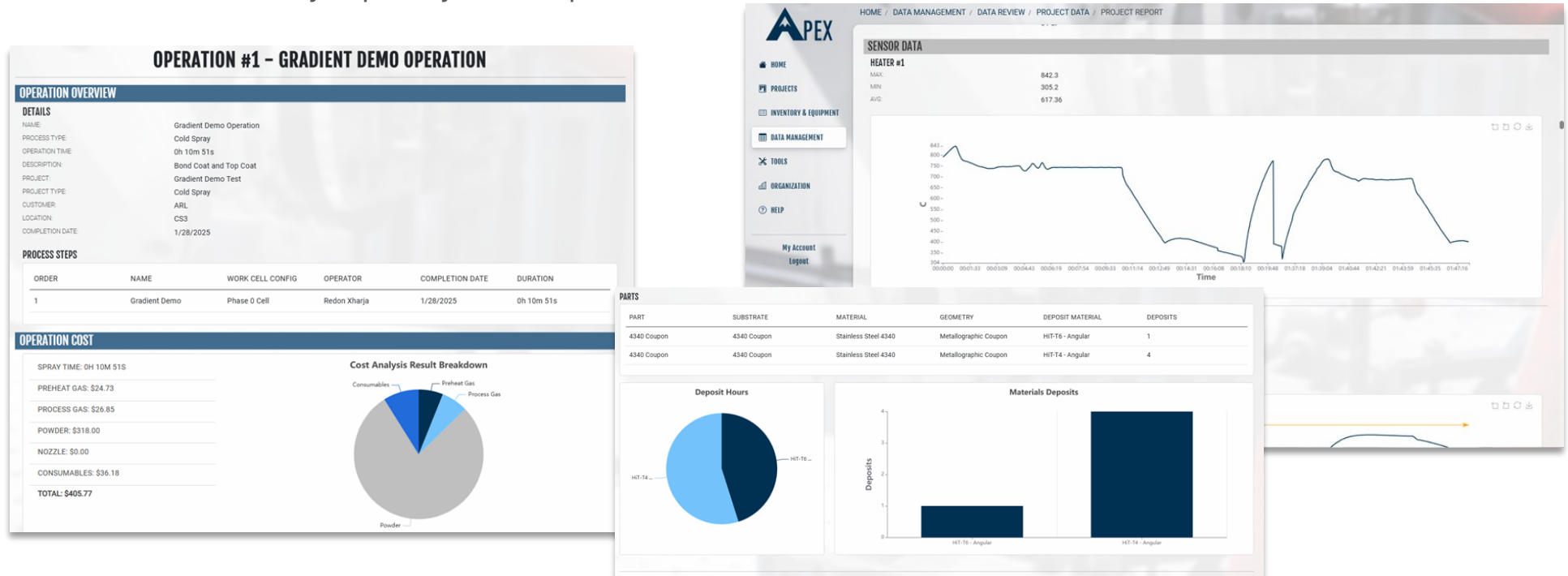
This Project Dashboard functions as a central command center that enables operators to execute tasks with precision by leveraging standardized and repeatable workflows, directly reducing errors and deviations. With streamlined execution operators can maintain consistent quality across even the most repetitive tasks.



With real-time process monitoring, operators can continuously monitor critical parameters like temperature, pressure, and feed rate via live data visualizations. Proactive identification of potential defects with in-process alerts if values deviate from set parameters, reduces critical failures and ensures every operation adheres to the highest quality standards.

Gain actionable insights with detailed reporting and analysis

Access granular sensor data for each operation step brought to life with interactive data visualizations. Easily identify patterns and predict future outcomes with comprehensive reports that ensuring you have the critical information needed to continuously improve your AM operations.



Cost breakdowns are seamlessly integrated into every process, operation, and project, enables accurate projection and the identification of key savings opportunities.

Analyze material usage and machine utilization to optimize production efficiency and control expenditures effectively.

Integrated **inventory** and **equipment** management to optimize **traceability**

Streamline production and enhance traceability by automatically capturing equipment and material usage data for every project. Use this historical data to predict future trends, like material consumption or maintenance needs.

POWDER DETAILS

MATERIAL:

GEOMETRY:

CS

SAAM-AL7075

Spherical

EDIT

+ ADD A LOT

POWDER LOTS

LOT NUMBER	MANUFACTURER	PURCHASE DATE
000224H062 In Stock	Solvus Global	7/31/2024 1:59:54 PM

USAGE HISTORY

STEP	PROJECT	LOT NUMBER	PSI	TEMP	FEED RATE	RPM	RUN DATE
Groove refills	CS-CS3-23-2611	000224H062	290	225	75	5	
	Golden Spray						
Groove refills topcoat	CS-CS3-23-2611	000224H062	500	475	75	6	
	Golden Spray						
Groove refills topcoat	Boeing Refill	000224H062	700	475	90	7.3	7/31/2024
	Grooves II						8:42:59 PM
Groove refills Bond Coat	Boeing Refill	000224H062	290	200	60	5	7/31/2024
	Grooves II						7:35:08 PM

NOZZLE TYPE DETAILS

VRC METAL SYSTEMS - NZZL0083

MANUFACTURER:

VRC Metal Systems

MATERIAL:

Tungsten Carbide Alloy

ESTIMATED LIFETIME (HOURS):

N/A

GEOMETRY

NZZL0083

Outer Diameter:

12

Entrance Diameter:

9

Throat Size:

1.75

Exit Diameter:

5

Converging Length:

30

Diverging Length:

170

Total Length:

200

NOZZLES

NAME OR SERIAL NUMBER

REGISTRATION DATE

PROCESS STEPS

SPRAY TIME

CLOGS

ERODED

STATUS

0689

6/16/2020
12:00:00 AM

0

0h 0m 0s

0

False

Active

155

4/6/2022
11:51:59 AM

2

2h 6m 24s

0

False

Active

USAGE HISTORY

PROCESS STEP

OPERATION

PROJECT

CLOGGED

ERODED

DATE

Spray Cycle

Spray 1

Triple Lug Shear
9/20/23 #2

False

False

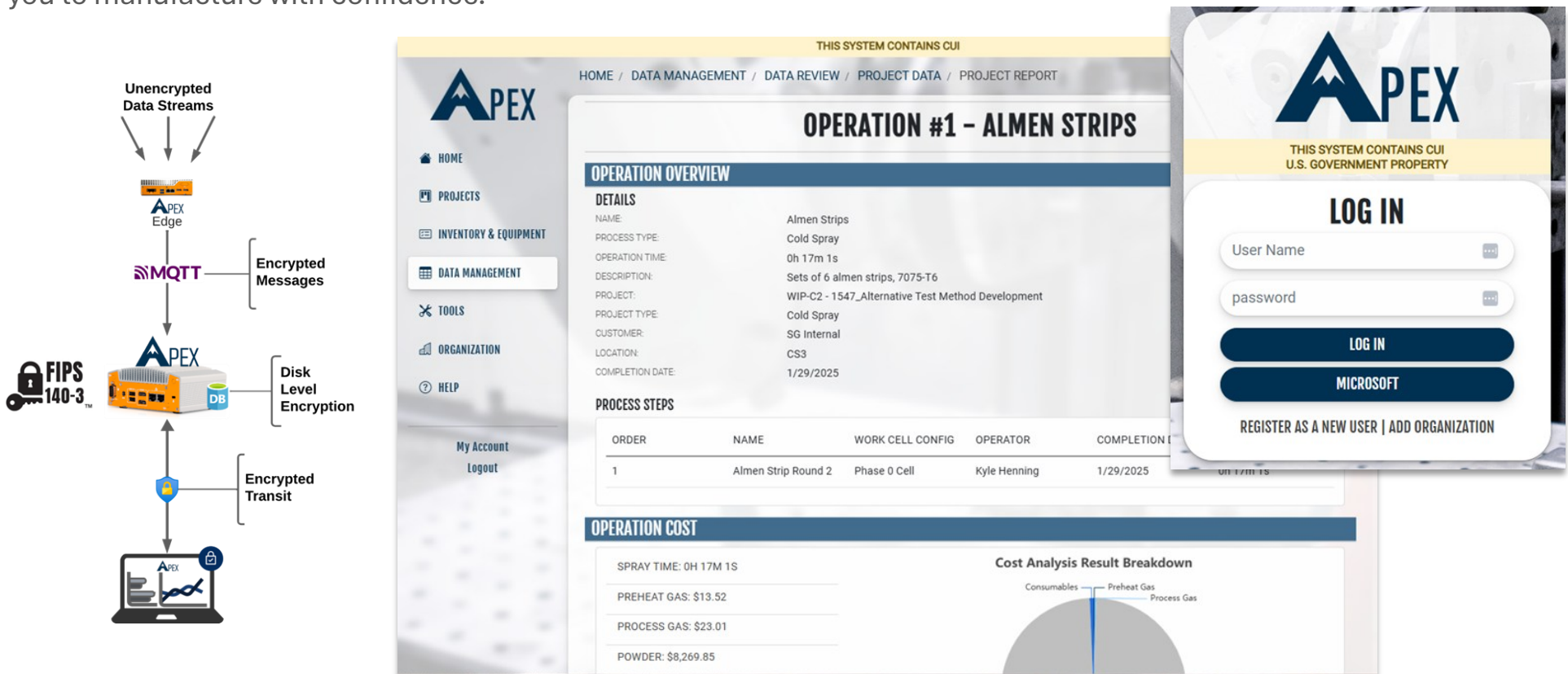
9/20/2023

Analyze hardware performance and lifespan based on usage data and operational parameters. Tracking usage patterns allows for better forecasting of production capacity and resource requirements. Detailed hardware usage data can help identify patterns related to part quality issues, leading to process improvements.

Centralize and secure all your data streams to the highest standards

Apex provides a secure data warehouse with end-to-end encryption, protecting your valuable information both in transit and at rest. Designed for sensitive environments, it is capable of supporting CUI with appropriate markings and seamlessly integrates with existing infrastructure to enable Single Sign-On.

By adhering to standards like FIPS 140-3, Apex ensures your operations meet evolving security requirements, allowing you to manufacture with confidence.





Would you like to request a personalized demo and discuss how Apex can help you achieve your operational goals in AM?

Contact us today:

Inquiries@ApexDataManager.com

