



**Insights from  
Automotive & Aerospace:  
Covalent Networks**

April 27th



# Introduction



**Yogi Rana**

Director of Product,  
Covalent Networks

- Decade of experience building digital technology products and solutions for industrial training and operations, using technologies like AR/VR, Artificial Intelligence, Internet of Things, etc.
- Director of Product at Covalent Networks, a Workforce Operations platform for the industrial frontline.
- Originally from Kathmandu, Nepal. Currently based out of Jersey City, New Jersey.
- I enjoy hiking, working out and playing sports (tennis, soccer, basketball, etc.) in my free time.

# AGENDA

- Who is Covalent Networks, and what do we do?
- Customer Case Studies & Insights
- Recommendations for Moving Forward



A group of industrial workers, including men and women of various ethnicities, are shown in profile, looking towards the right. They are wearing hard hats (yellow and white) and high-visibility safety vests (yellow and orange). The background is a blurred industrial setting.

# **Covalent Networks:**

**A Workforce Operations Platform**



# Changing Frontline Dynamics



## Growing Labor Skill Gap

3.1 million jobs to go unfilled by 2030, as expert baby-boomers are coming of retiring age and not enough new workers to replace them.



## Next Generation Expectations

More difficult to attract and retain new generation workers that have grown up with personalized digital technologies & social networks.



## Rapidly Evolving Labor Needs

Volatile demand changes, increasing shop-floor automation, and product customizability trends are rapidly changing the requirements of the workforce.



# Yet industrial training is still dependent on spreadsheets

## Paper-based training & evaluation forms

[illegible]

## Homegrown skill matrices

[illegible]

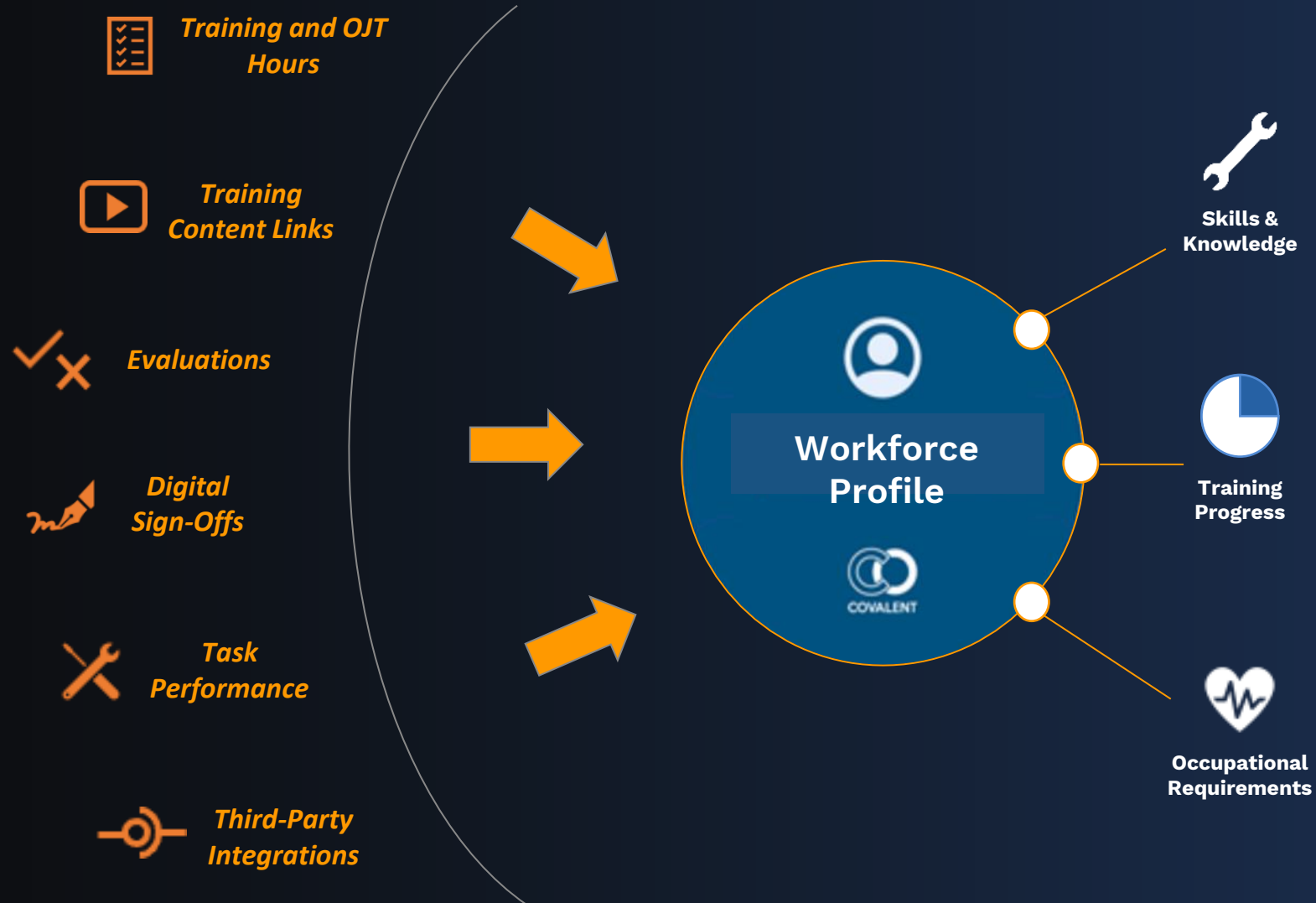
**Printed > handed off > collected > scanned > filed**

- *Limited visibility into action items*
- *Generic templates = more “pencil-whipping”*

**Updated > duplicated > printed > posted > repeat**

- *Hard for frontline leaders to access*
- *Low fidelity data = Low Trust*

# Capture **Workforce Data** as your training processes are executed



**Covalent** provides a set of **Digital Tools** to facilitate technical training programs, automatically capturing **Workforce Data**

# Harness **Workforce Data** to empower industrial operations

Covalent leverages Workforce Data captured throughout training processes to power **Functional Solutions** that augment workforce operations





# Digitize your Frontline Experience and Augment Operations

## Map & Build



## Assign & Execute



## Analyze



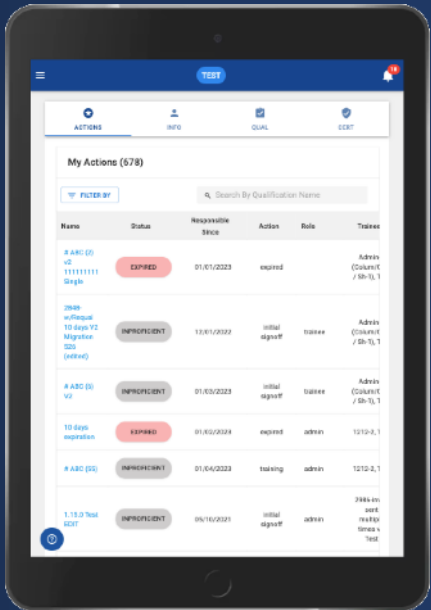
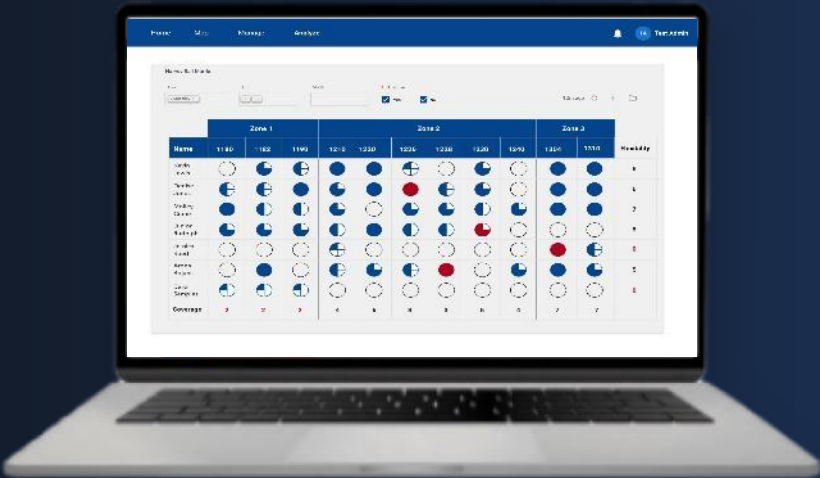
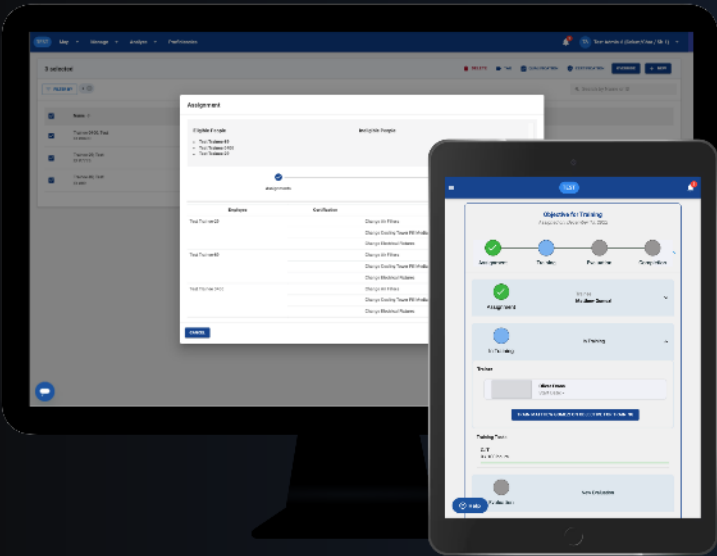
## Decide & Act

Configure & assign role-based & work-specific training processes

Log experience; distribute content; conduct evals; schedule renewals

Automatically scope, update and distribute skill matrices & audit trails

Manage coverage levels & escalate key-man risk; gate unqualified work



# We Serve Customers Across Multiple Industries

Aerospace & Defense



Automotive



Process



**2 Largest Jet Engine  
Manufacturers**

**POLARIS**

BRUNSWICK

**MasterCraft**

*Milliken*

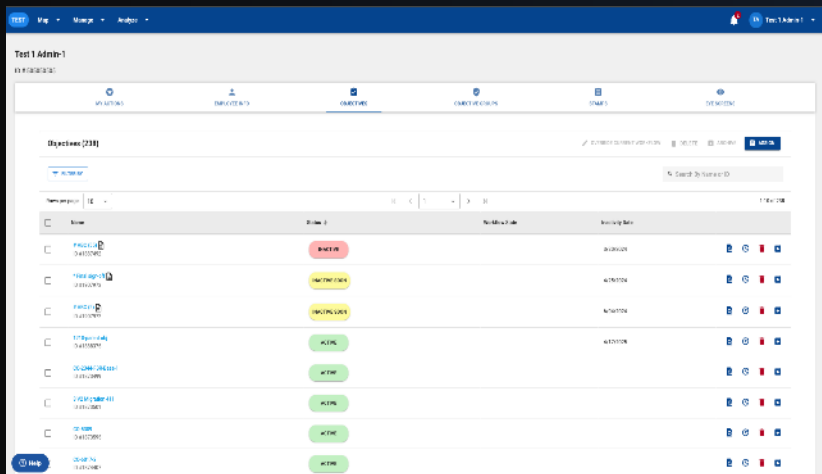
 **Kimberly-Clark**

# Examples of Workforce Operations in Practice

## Automated Workflows & Audit

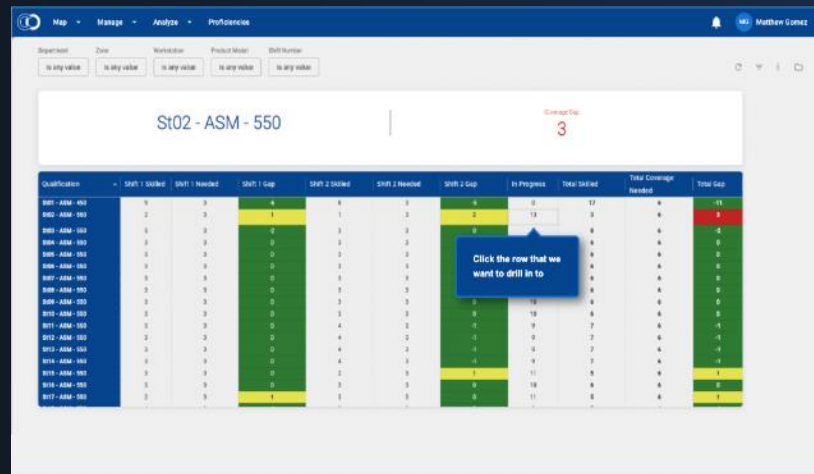
## Coverage & Performance Insights

## Data-Driven Decision Making



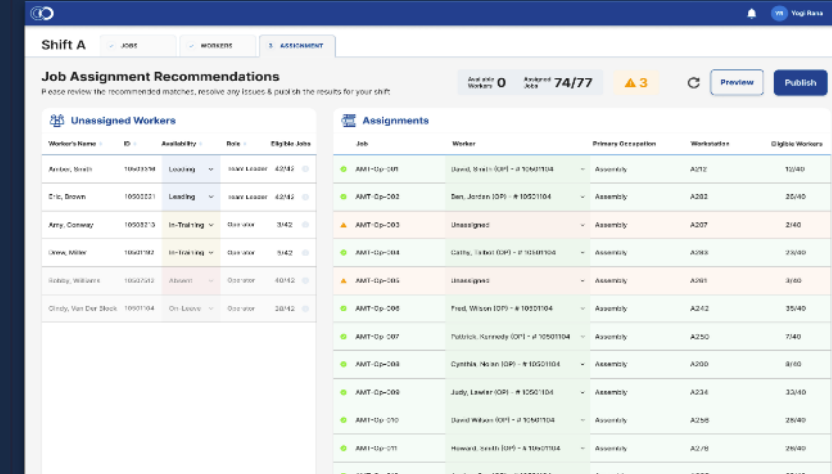
The screenshot shows the 'Test 1 Admin' interface. It features a top navigation bar with 'Map', 'Manage', and 'Analyze' tabs. Below the navigation bar, there's a section titled 'Objectives (238)' with a search bar and a 'Filter' button. The main content area displays a table of objectives with columns for 'Name', 'Status', 'Assigned To', and 'Created At'. The table is filtered to show 'All Objectives'. The first few rows show objectives like 'P1000-ASM-550', 'P1000-ASM-550', 'P1000-ASM-550', etc., with their respective status (e.g., 'Not Started', 'In Progress', 'Completed') and assigned users.

**Workflow automation & alerts** to ensure compliance based on scheduled events, and audit report generation.



The screenshot shows the 'St02 - ASM - 550' interface. It features a top navigation bar with 'Map', 'Manage', 'Analyze', and 'Performance' tabs. Below the navigation bar, there's a section titled 'St02 - ASM - 550' with a 'Download Data' button. The main content area displays a table of workforce coverage and performance metrics. The table has columns for 'Qualification', 'Shift 1 Covered', 'Shift 1 Needed', 'Shift 1 Gap', 'Shift 2 Covered', 'Shift 2 Needed', 'Shift 2 Gap', 'In Progress', 'Total Covered', 'Total Coverage Needed', and 'Total Gap'. The table is filtered to show 'All Workers'. A callout box points to a row with the text 'Click the row that we want to drill in to'.

**Automated insights** that highlight bottlenecks and opportunities for targeted workforce development.



The screenshot shows the 'Shift A' interface. It features a top navigation bar with 'Shift A', 'JOBS', 'WORKERS', and 'ASSIGNMENT' tabs. Below the navigation bar, there's a section titled 'Job Assignment Recommendations' with a 'Preview' button. The main content area displays a table of job assignment recommendations with columns for 'Worker's Name', 'ID', 'Availability', 'Role', 'Eligible Jobs', 'Job', 'Worker', 'Primary Occupation', 'Workstation', and 'Eligible Workers'. The table is filtered to show 'All Workers'. A callout box points to a row with the text 'Click the row that we want to drill in to'.

**Machine Learning assisted workflows** that accelerate current processes like work assignment by utilizing data.



# Customer Insights

Potential of Leveraging Workforce Data





# Case Study – Reduce Cost of Poor Quality



## 5X

MRO leverages Covalent to drive facility-wide increases in **qualified workforce coverage** boosting utilization rates

### **Problem**

- Jet Engine MRO aimed to identify a more efficient process to improve their process to orchestrate FAA & ISO training certification audits
- Difficulty keeping track of various training certifications across the workforce & identifying potential gaps
- Issues ensuring proper training and retention of knowledge

### **Solution**

- Mapped out training with Covalent OJT
- Improved certification coverage through better visibility of gaps
- Automated alerts and renewal workflows to ensure compliance
- Evaluation & remediation to ensure adequate training retention
- Audit report generation with proof of record of digital signatures

### **Business Impact**

- 100%+ Boost in coverage capacity per worker
- 5X coverage across all critical cells
- Zero Audit failures since implemented to date

# Case Study – Boost Time To Productivity & Coverage



## 64%

Covalent increases in **speed-to-productivity** resulting in reduced downtime at Polaris Industries

### **Problem**

- Automotive industry faces high turnover of workforce that requires speed of training ramp up for new hires
- Polaris aimed to identify key areas to bolster bench strength and cross-skilling to de-risk potential attrition
- Paper based training made it difficult to identify areas to improve training

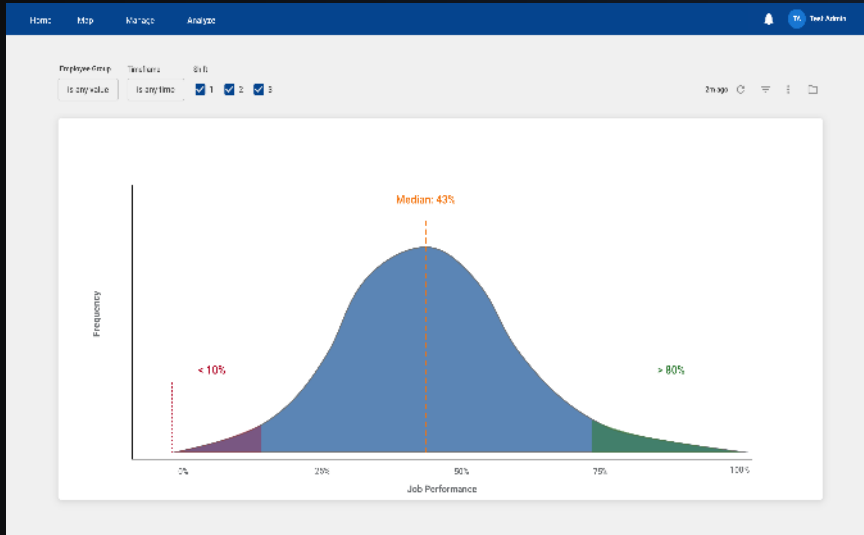
### **Solution**

- Mapped out training certification needs with Covalent OJT
- Coverage gap report and skill matrices ensured “3-deep” coverage across all critical workstations
- Implemented Evaluations to measure and improve effectiveness of training & identify areas to improve training

### **Business Impact**

- 125% Improvement in cross-skilling per worker
- 95% Boost in workforce coverage per station
- 65% Improvement in average time to train workers

# Case Study – Optimize Workforce Allocation



## 3X

Boat manufacturing OEM improves supervisor **flexibility to react to last-minute issues** in supply-chain & worker availability.

## Problem

- Boat manufacturer utilized excel based prioritization & SME Intuition to plan and coordinate work assignments
- High absenteeism & turnover + Frequent supply chain bottlenecks caused chaos during reprioritization of work whilst optimizing for performance with the workers at hand
- Lack of performance visibility led to attrition due to a lack of targeted coaching

## Solution

- Mapped out training & job operations with Covalent platform
- Leveraged worker training & past performance data to power machine learning based assignment recommendation system
- Utilized performance-based reporting for targeted training & coaching

## Business Impact

- 30%+ reduction in Assignment planning time
- 8%+ boost in overall productivity
- 3X improvement in flexibility





# Recommendations:

How to implement data in practice



# Recommendations – How to start?

1. Identify the **key results you want to drive** specific to your site (e.g. improved coverage, ensured compliance, efficient work assignment, etc.) and the **most impactful areas/departments** that can influence the result.
2. Map out your **digital taxonomy of your workforce** for these areas/departments including **key roles and headcount** you to sustain your current operations & where you want to be.
3. Determine your **training & operational needs** including **skills, capabilities & knowledge** needed across these various roles & what determines **eligibility** to work (OJT hours, passed evaluations, scheduled renewals, etc.).
4. Start small by picking a **pilot area to start digitizing your workforce data** (using Spreadsheet OR dedicated workforce training tool), before **expanding across other areas** at your site.



To learn about how Covalent can help you, contact me at  
**[yvana@covalentnetworks.com](mailto:yvana@covalentnetworks.com)**