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# The Profitable Sustainability Platform for Industrial Process Optimization

Ferolabs.com | New York, USA | Düsseldorf, Germany

# Factory optimization AI built for steelmakers

Fero helps factories to prevent and fix production issues faster and optimize process efficiencies to drive profit and sustainability.

*“I thought this was another analytics tool, but I am blown out of my shoes. I wasn’t even aware that this technology was out there.”*

**-Melt Shop Manager, Largest US steel mill**

# The Fero AI Suite:
# AI to run your factory better, more profitably

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## Fero Diagnostics

AI to find root causes of issues or explore process improvements faster

## Fero Simulator

AI to identify precise setpoints to fix issues faster without waste

## Fero Production

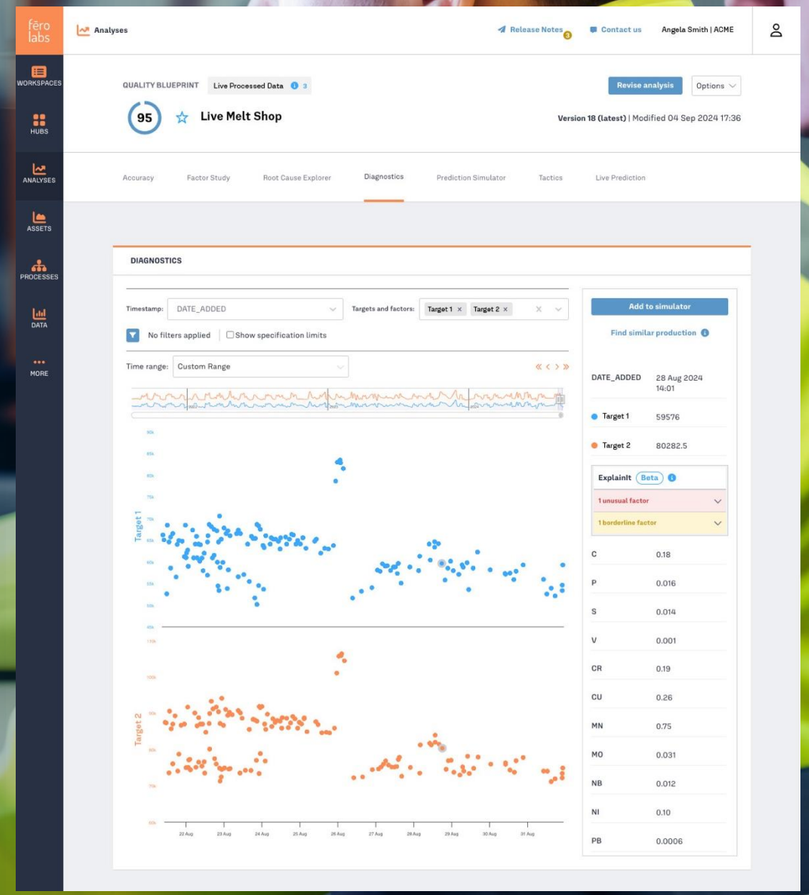
AI optimization controlled by Engineers & Operators to stay in-spec 24/7

## Fero Foundation

AI for effortless data preparation and process mapping

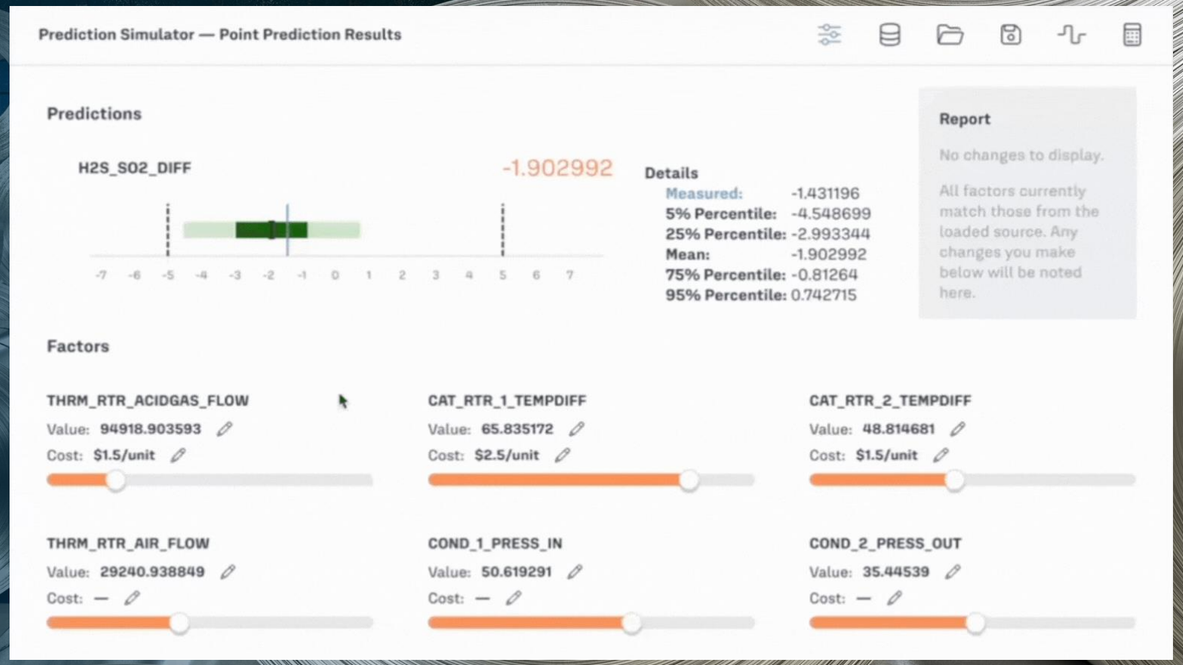
# Fero Diagnostics:
# AI to prevent & fix issues faster

- Engineers receive explainable anomaly alerts to get ahead of potential issues & prioritize next steps
- Run deeper, faster diagnostics to determine and fix root causes, not just the issue itself
- Save time by finding historical events with similar conditions in seconds, with the Find Similar toolkit



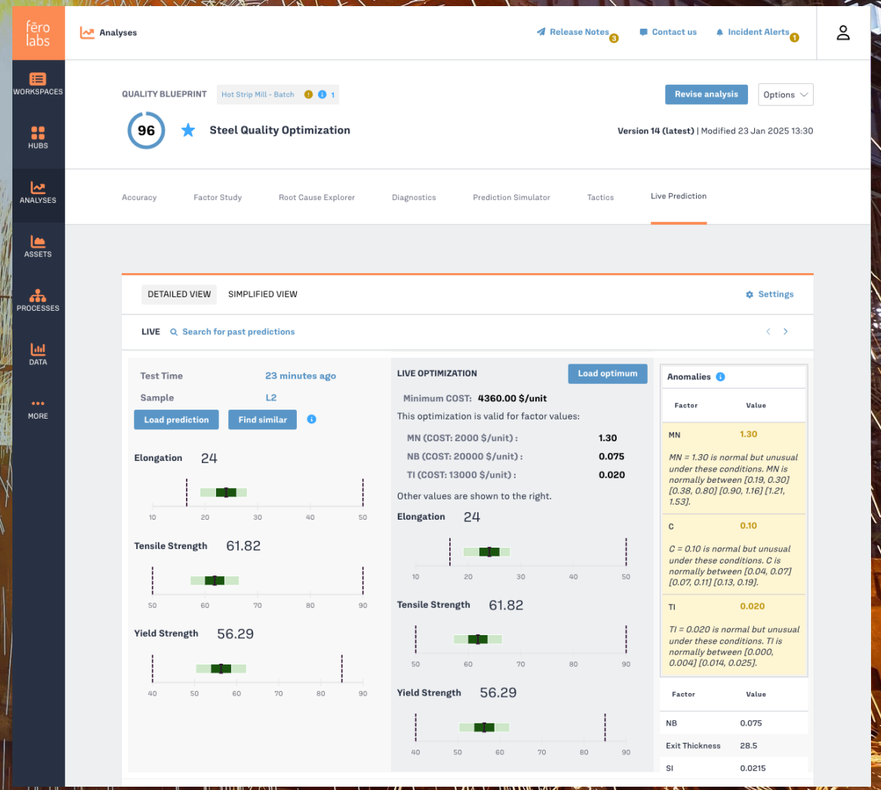
# Fero Simulator:
# Make confident production changes using AI

- A simulated environment to identify precise setpoints for each batch and product to correct issues faster
- Rapid hypothesis testing to validate in 5-mins what would previously take a day
- Actionable recommendations using historic activities that don’t rely on over-design margins



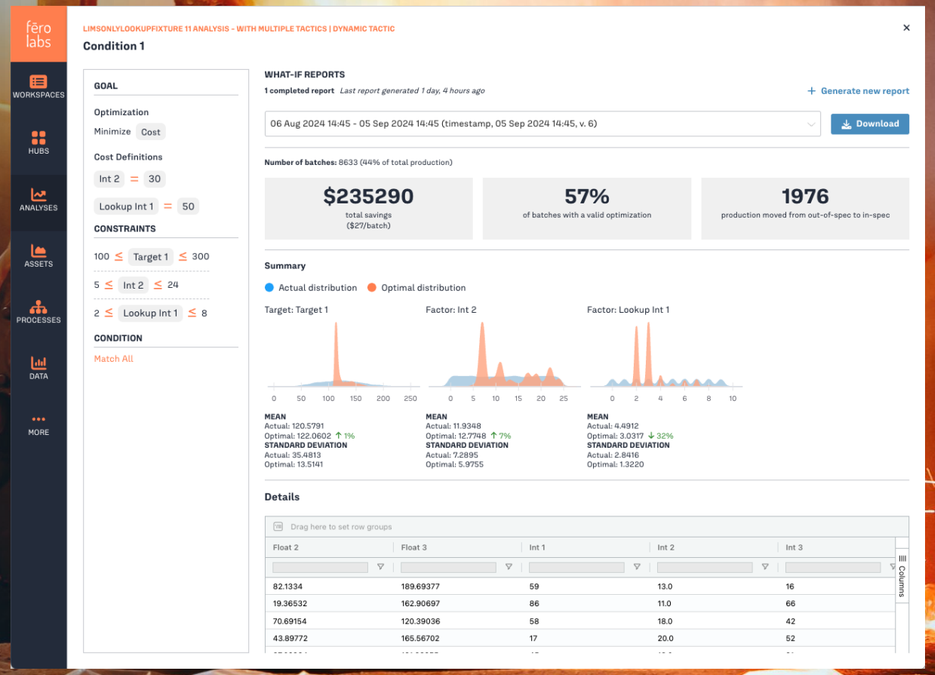
# Fero Production:
# Seamlessly deploy changes to your plant

- Production changes can be seamlessly deployed and monitored without anything falling through the cracks
- Engineers can choose a manual or automated production optimization mode
- Fero's AI optimization can automatically adapt to changing conditions to keep production in-spec without intervention



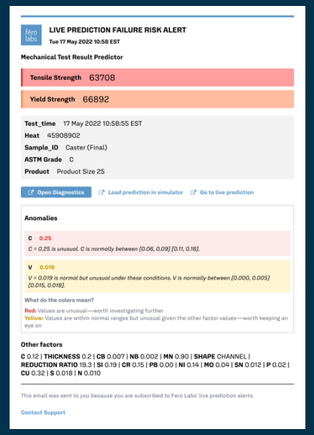
# Fero Foundation:
# AI to turn domain experts into data heroes

- Engineers with any experience can quickly connect & combine production data sources in one place
- AI-guided data preparation democratizes data-readiness across the entire team so no one is waiting on others
- Instantly back-test changes to provide greater deployment confidence
- Have greater control over custom changes deployed to production

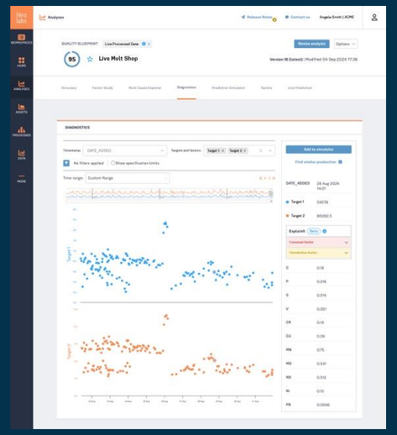


# A typical workflow using Fero starts with an anomaly alert

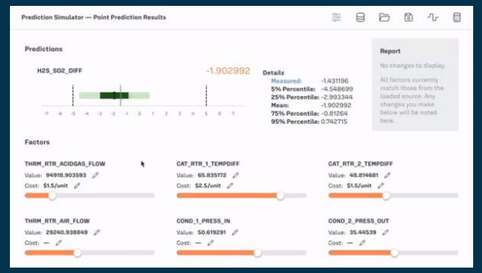
Receive incident anomaly Alert ❯ Incident conditions replicated in Fero Diagnostics ❯ Incident conditions replicated in Fero Simulator ❯ Create & back-test production changes ❯ Deploy changes to Operators with a Simplified view



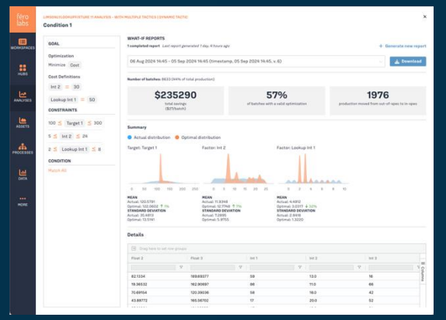

Where a typical process starts with a failure, a Fero alert helps to prevent them




Identify root causes ‘Find Similar’ events

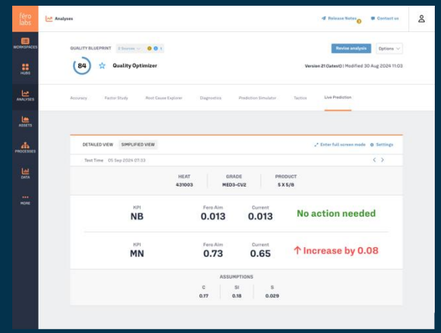



Determine precise setpoints in seconds

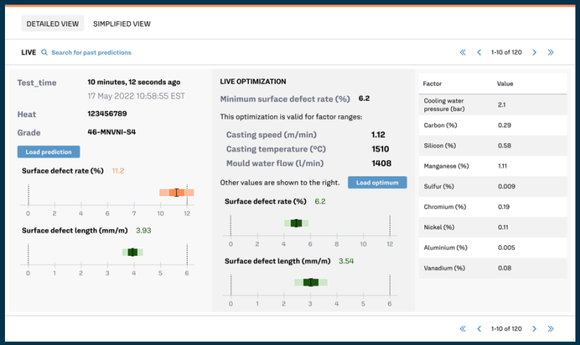



Create rules that instruct production when to deploy a change

Back-test to ensure it works and model the changes on historical data




Engineers access a detailed live production view



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# Ferroalloy Minimization

Additive costs were Gerdau's greatest product expense. They wanted to cut costs whilst maintaining their high product quality.

## Planning

- ✓ Minimized lab tests by forecasting setpoints
- ✓ Gerdau initially added artificial buffers to the software's recommendations, prioritizing production volume over maximum profits

## Optimization

- ✓ Real-time optimization to dynamically allow for heat-to-heat fluctuations
- ✓ Fero software provided real-time recommendations for the minimum amounts of alloys needed for each heat

- ☑ Reduced raw material costs by $3 per ton steel
- ☑ Conserved 500,000 lbs manganese, carbon, niobium, and vanadium
- ☑ 15% reduction in quality variation
- ☑ Significant Scope 1 & 2 reductions

# Distillation Unit Steam & Energy Minimization

German chemistry company needed to reduce energy consumption to adapt to rising European energy costs, whilst maintaining yield.

## Diagnostics

- ✓ Determine the timeframes where they were using unnecessarily high levels of natural gas

## Forecasting

- ✓ Predict yield and energy costs
- ✓ Ensure production remained in-spec using the new setpoints

- ☑ 10% reduction in energy costs
- ☑ Maintained maximum yield
- ☑ Scope 1 reduction (on-site energy usage)

# The Fero Labs Advantage

- Explainability
- Transparency
- Adaptability
- Profitable Sustainability

# What customers say about us

“This is a fantastic tool for process engineers. It’s a tool with great peculiarities – the kind that engineers know what to do with.”

“The speed of calculation is unreal. No matter what unstable conditions surround a process, Fero is going to immediately give the right answer.”

"Usually we assume the worst-case scenario, plus a buffer for failure. Fero tells us the lowest amounts of alloys we can use to pass, so we can optimize in real time."

“Manufacturing leaders that rely on the accumulated skills of an aging workforce to balance production variables, can use Fero Labs’ ML capabilities to support a smaller workforce that may lack decades of intuition and experience.” **–Gartner Cool Vendor, 2024**

# Together we'll build a sustainable tomorrow

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