

A 3D architectural rendering of an industrial facility, likely a refinery or chemical plant. The scene is dominated by a vibrant red color. On the left, a large vertical cylindrical structure is partially visible, with several white pipes of varying heights extending from its base. To the right, a series of parallel red walkways or platforms are shown, each featuring a white cube-shaped object. The overall composition is clean and modern, emphasizing geometric forms and industrial design.

# CHEM TECH

Case study:  
Oil & Gas

# Case study: Oil & Gas

Customer:

**Independent oil & gas producer**

Implementation:

**Natural gas processing plant**



# Customer's problems

## The primary concerns:

- **Low yield of high margin product - LPG**
- **Unexpected downtime happened every three weeks**
- **High CO<sub>2</sub> emissions**

## Which led to:

- **8% of LPG were going to natural gas stream - low margin product**
- **91% average equipment utilization**
- **108% CO<sub>2</sub> emissions to the base scenario**

## Bottom line:

- **Customer lost around \$840k every month**

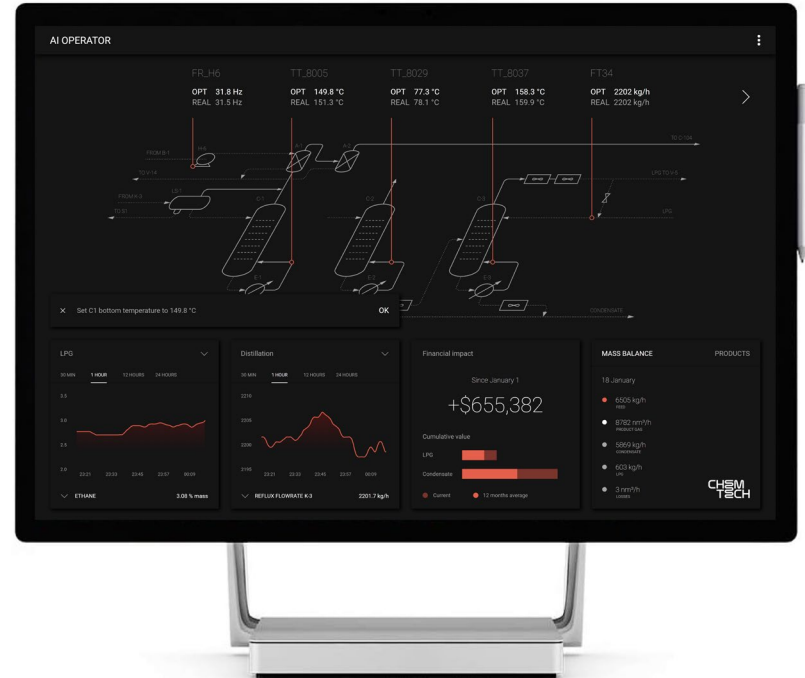
# Result with AI Operator

## Achieved metrics:

- **99.6% the yield of LPG**
- **98.7% of equipment utilization**
- **83% CO<sub>2</sub> emissions to the base scenario**

## Bottom line:

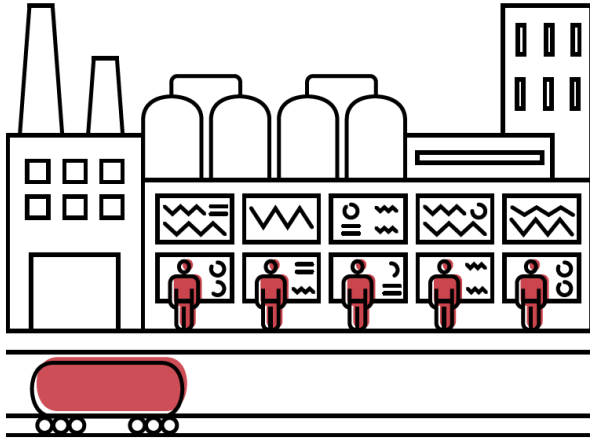
**+ \$780k additional profit per month**



# AI Operator is operating factory 100% autonomously

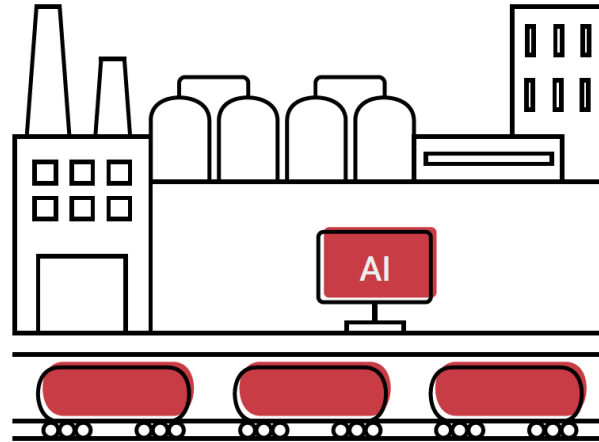
## Before

- Human mistakes
- Low product yield



## After

- Fully automated decisions
- Real-time recommendations



# How we reached the result

## Step 1:

- We analyzed 1-year historical data from current sensors and laboratory

## Step 2:

- Based on the real-time analyzers, we provided the neural network to manufacture unit optimization.

## Step 3:

- The optimal process parameters displayed on the interface and were directly sent to the production automation system

# Project risks

## Risk of losing money:

- We started the initial project with a 100% money-back guarantee
- After a successful implementation customer connected other manufacturing units

## Risk of losing time:

- We had only three online meetings with the customer's team before implementation.
- There were four weeks from the initial meeting to the commercial operation of AI Operator.

## Operational risk:

- Product reliability - 99.98%

# Customer's IT infrastructure

## level of automation:

- Customer had a standard SCADA system

## Data for project:

- Historical data from sensors and laboratory: 1-year period

## New hardware:

- The customer didn't install any hardware devices



# Next steps

## Step 1

- Find a production unit for an initial project
- Send historical data from current sensors
- Install AI Operator three weeks after

## Step 2:

- Connect additional manufacturing units



Rate #1 as highly-efficient AI technology for manufacturers by HP Awards

A 3D rendered scene with a red background. On the left, a curved red surface features several white tubes of varying heights. On the right, a red track with a ribbed texture contains four white cubes. The text 'CHSM TECH' is centered in the middle of the scene.

CHSM  
TECH

[info@chmtch.com](mailto:info@chmtch.com)  
646.284.3189