

SUPCON

An Universal Way to Future Plant

— Elevate Industrial Intelligence, Drive Customer Success —

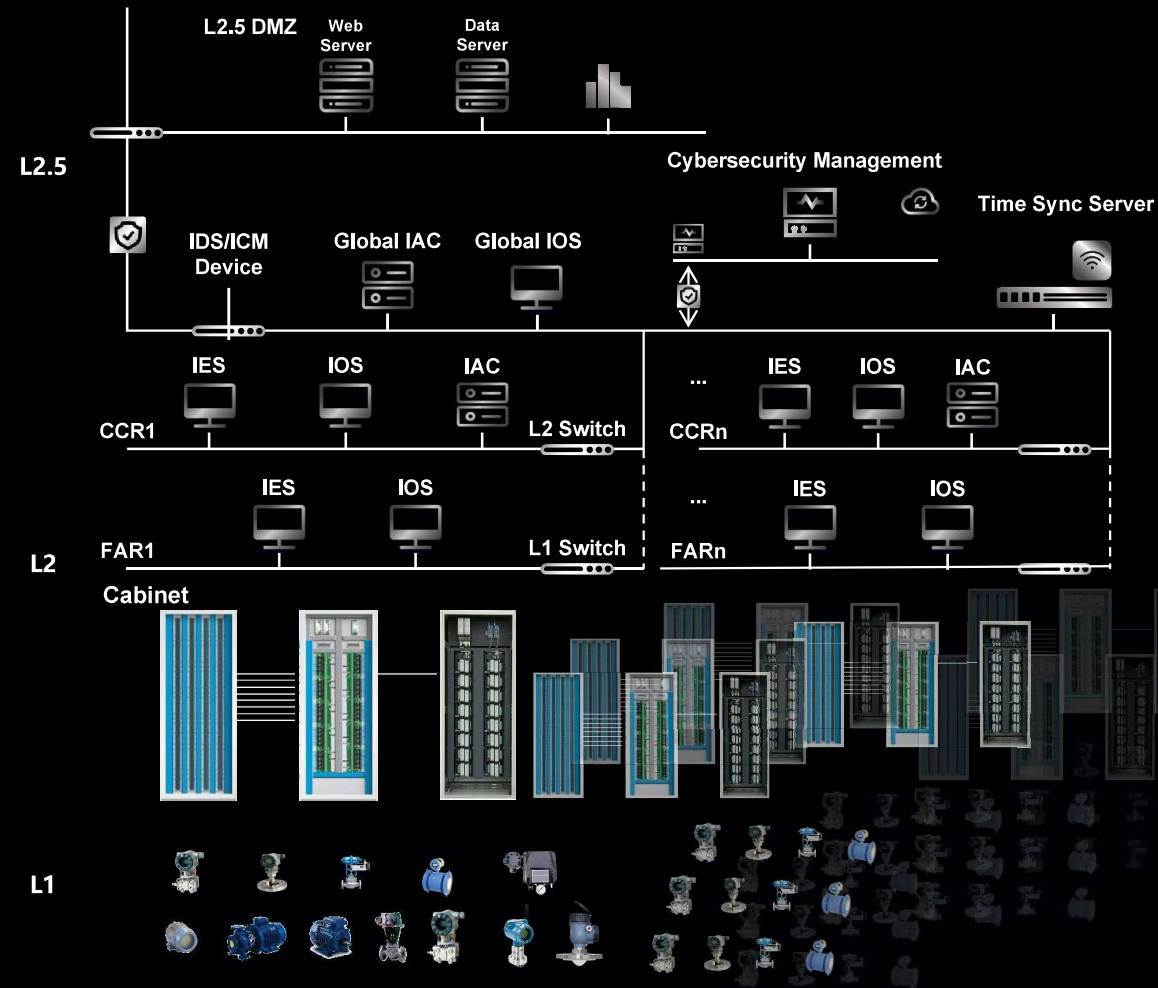
688777.SH | SUPCON.SW

Traditional Control System is built on Rigid, Hierarchical Architecture

Built for Purpose Hardware

Rigid Layers, Restricts Data Flow

Fixed Computing Power



Universal Control System



Control Services



Software Defined



Total Digitalized



Cloud-based

Control Data Center

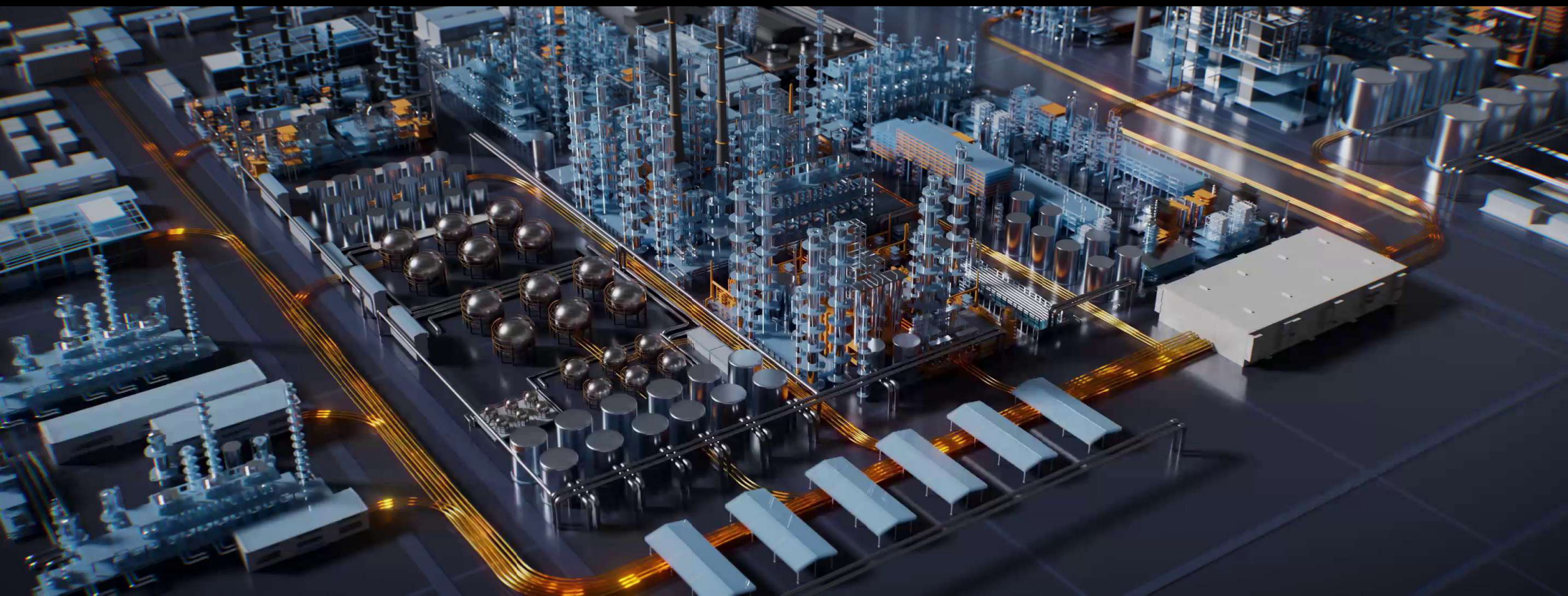


Optic Fiber Network



Intelligent Field

SUPCON



Nyx - 1st Universal Control System

Control Data Center



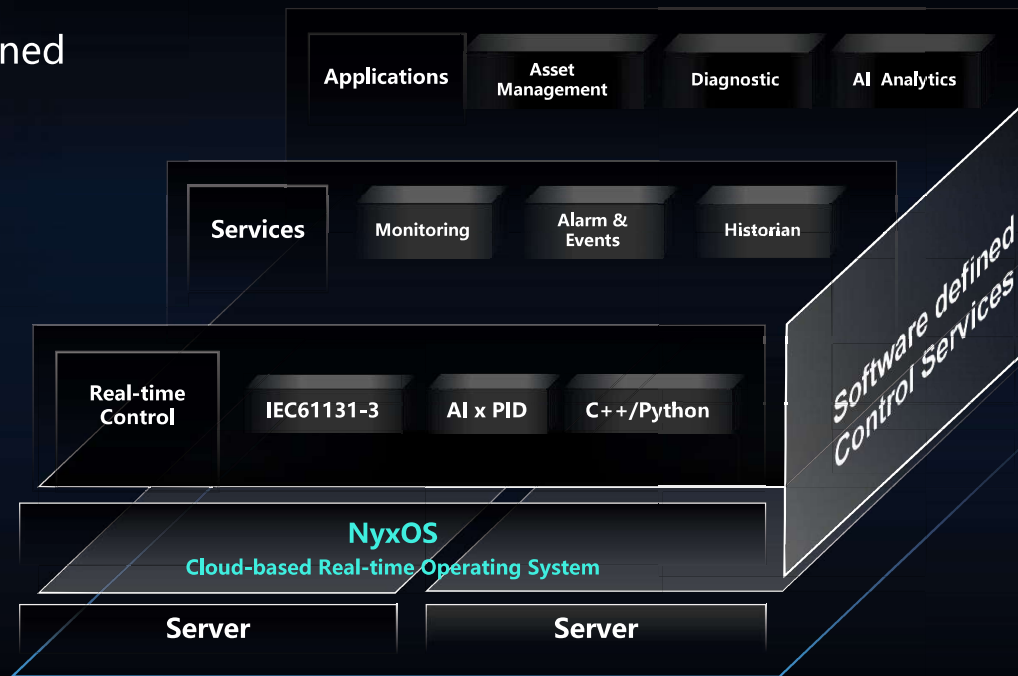
APL Ecosystem



Optical Fiber Network

Control Data Center

- Software defined
- Scalable
- Reliable
- Cloud based



Integrated Control Data Center

Nyx Optical Network

↓ **80%** Copper Cable

- Simplified Architecture
- Highly Reliable, Safety
- Easy Maintenance



25Gbit/s, 0 Switchover time

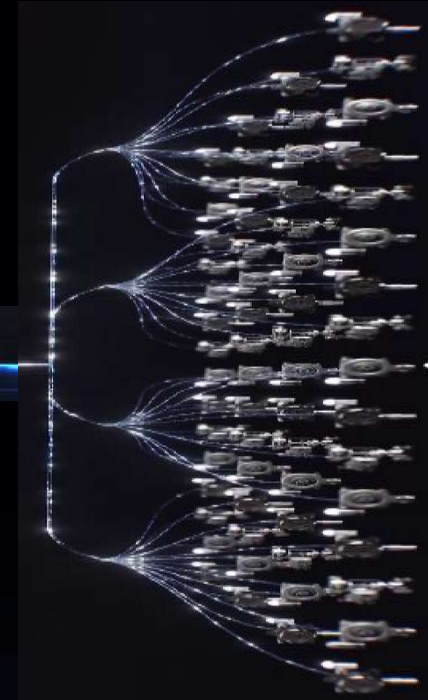
Central Control Network

10Gbit/s, 100 μ s low latency

Plant Connection


10Mbps, 10,000 IS points

Field Connection





Promotion of an Intelligent Field Ecosystem

Co-innovation / Symbiosis



APL

- 10 MBit/s, 1000m Cable Length
- 2-Wire with Power
- Designed for Intrinsic Safety
- Enable Field Instruments with Ethernet

-  Ethernet for high-speed communication
-  Ease of Installation, Configuration, Maintenance
-  Digitalized to enable Predictive Analysis
-  Adopt Proven IP Technology

Pioneer of APL Technology Complete Portfolio for APL Connectivity

- APL Field Junction Box
- APL Field Switch



Promote APL Ecosystem Empower Instrument Partners

- Technology Investment and Knowledge Sharing
- Mutual Recognition Testing
- Promote APL Associations



30+ Leading APL instrument manufacturers

25+ APL process measurements and actuators

Intelligent Field Ecosystem

Leading APL Technology

APL Connectivity Portfolio



APL PowerSwitch



APL FieldSwitch



APL-DIO



APL Field JB



APL-EIO



APL-WirelessIO



HART - APL adaptor

APL Instruments & Actors



Pressure



Temperature



Radar Level



Valve Positioner



Mechanical Position



Coriolis Mass Flowmeter



Turbine Flowmeter



Magnetic Flowmeter



Gas Detector



Limit Switch



Magnetic Level



Explosion-proof camera

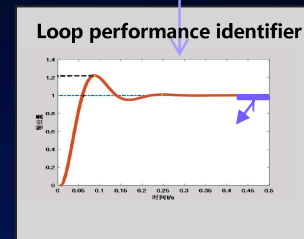
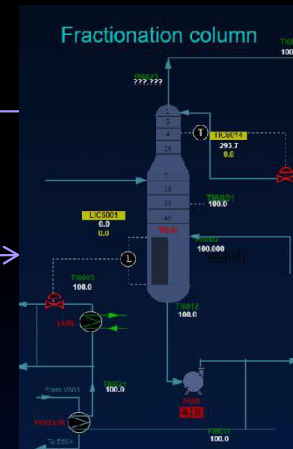
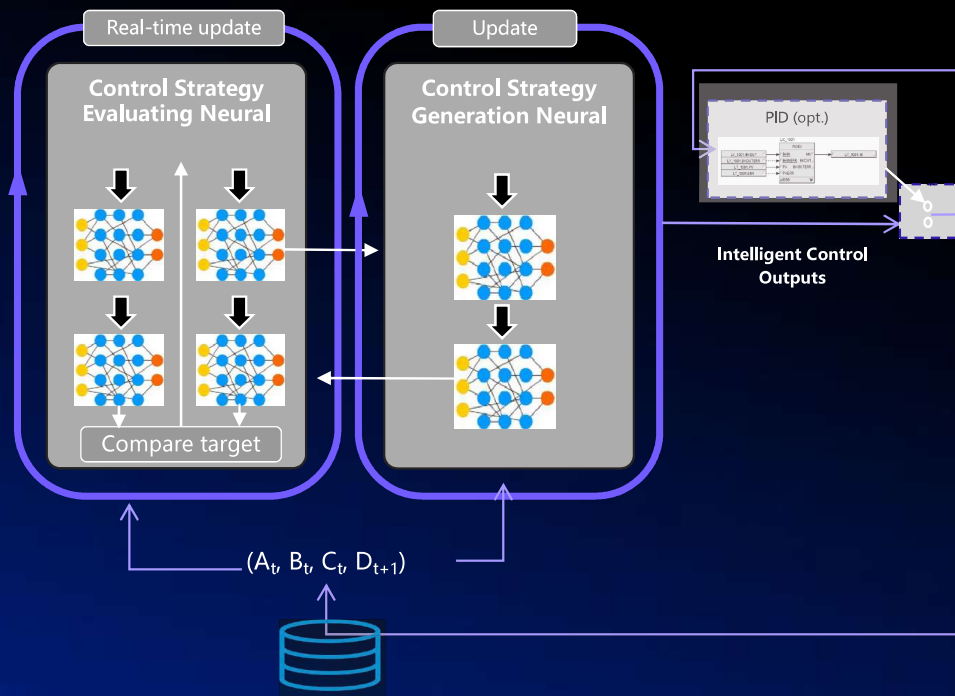
AI Inside: Reinforced Learning for Intelligent Loop Control

Adaptive for Dynamic Status

Improve Loop Autonomy Rate

Less PID Turning

Reinforced Learning Based Intelligent Control Agent



Reward and Evaluation Module



AI Inside: AI Code generation

AI generate code by upload control logic file

AI generate code by natural language

Private, stable LLM specific for industrial control

SFC

Step Config

Design Doc

Prompt

Generating

Code Review

Design Document

裂解气干燥器再生方案 .pdf
246.5K

1) 自动再生程序处于初始化状态并验证列表中的所有开关阀限位处于正确位置。

阀门位号	仪表说明	初始位置	开位置位号 限位开关	关位置位号 限位开关
MOV-30181	"A" 裂解气进口	OPEN	MZOL-30181	MZCL-30181
MOV-30182	"A" 再生气出口	CLOSED	MZOL-30182	MZCL-30182
XV-30183	"A" 再生气出口旁路	CLOSED	XZOL-30183	XZCL-30183
XV-30184	"A" 泄压	CLOSED	XZOL-30184	XZCL-30184
XV-30185	"A" 副压	CLOSED	XZOL-30185	XZCL-30185
XV-30186	"A" 冷/热再生气旁路	CLOSED	XZOL-30186	XZCL-30186
MOV-30187	"A" 冷/热再生气进口	CLOSED	MZOL-30187	MZCL-30187
MOV-30188	"A/B" 冷再生气进口	CLOSED	MZOL-30188	MZCL-30188
MOV-30189	"A/B" 热再生气进口	CLOSED	MZOL-30189	MZCL-30189
XV-30181	"A" 分析仪	OPEN	XZOL-30181	XZCL-30181
MOV-30191	"A" 裂解气出口	OPEN	MZOL-30191	MZCL-30191
MOV-30192	"B" 裂解气进口	CLOSED	MZOL-30192	MZCL-30192
MOV-30193	"B" 再生气出口	CLOSED	MZOL-30193	MZCL-30193
XV-30187	"B" 再生气出口旁路	CLOSED	XZOL-30187	XZCL-30187
MOV-30195	"B" 裂解气出口	CLOSED	MZOL-30195	MZCL-30195
MOV-30196	"B" 冷/热再生气进口	CLOSED	MZOL-30196	MZCL-30196
XV-30190	"B" 冷/热再生气旁路	CLOSED	XZOL-30190	XZCL-30190
XV-30188	"B" 泄压	OPEN	XZOL-30188	XZCL-30188
XV-30189	"B" 副压	CLOSED	XZOL-30189	XZCL-30189
XV-30182	"B" 分析仪	CLOSED	XZOL-30182	XZCL-30182

Base Config

Step Name *
5001

Description
Min Wait Time
0 s

Name	AI Type	Description	Qualifier
01	Boolean		N

+ Add

Cancel OK

AI Inside: Future Trending & Alarming

Best Practise Recommendation

Future process trends / state prediction

Future alarms & events prediction

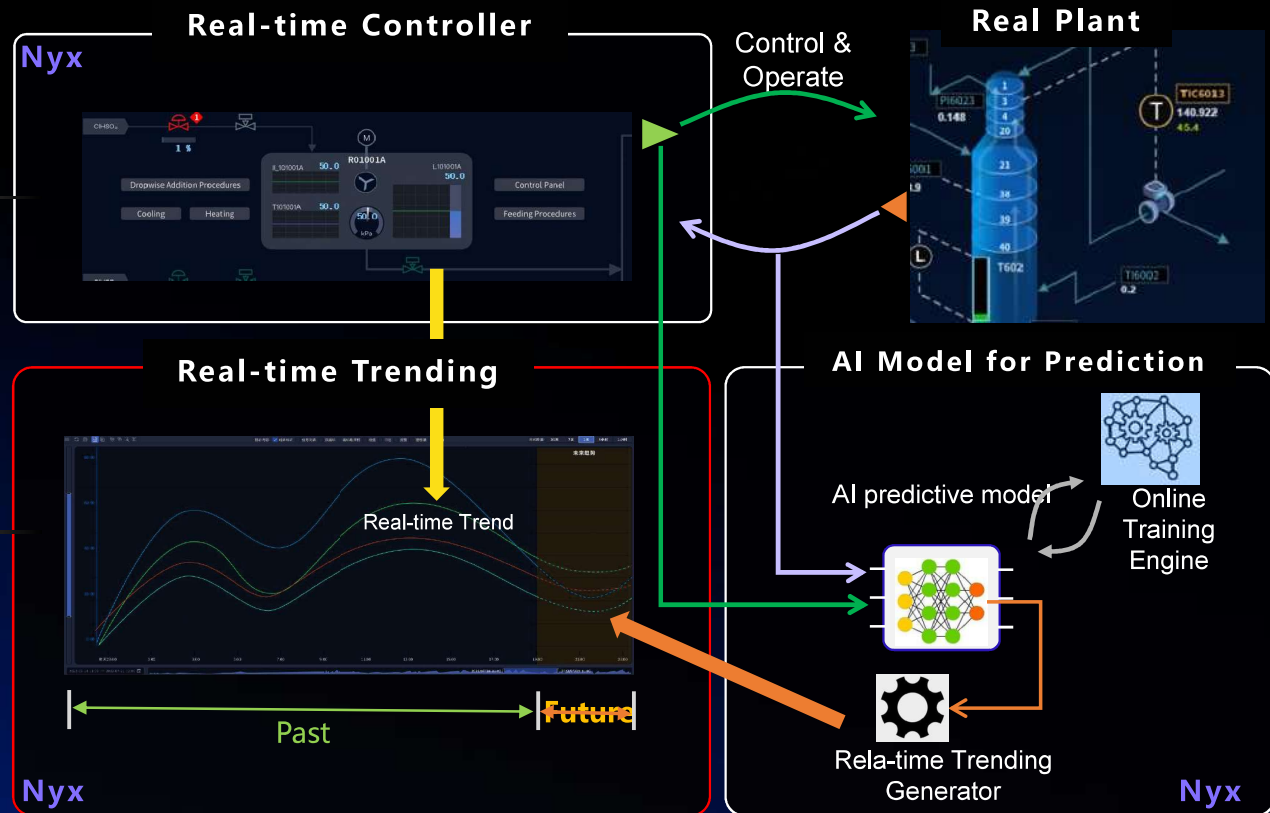
Parallel operate and control for digital twin

Loop Trending & Alarm Predict

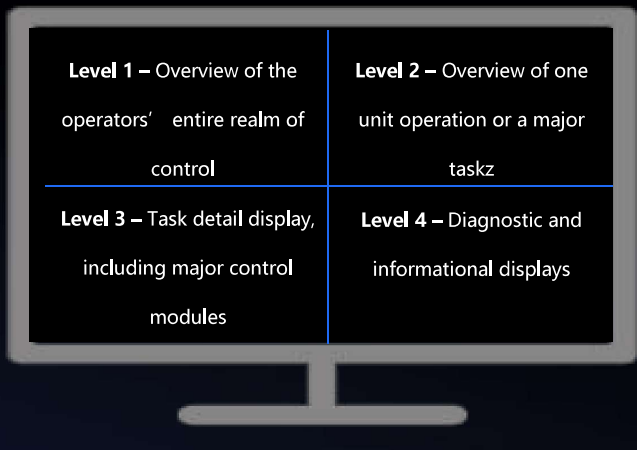
- ✓ AI Predictive Model based on Control Objectives
- ✓ Online Real-time Model Training
- ✓ Real-time Prediction

Used for >>>>

- ✓ Future Trending
- ✓ Incoming Alarming Alert
- ✓ Operate Result Predict



Nyx x Modern HMI/UX = Human Center



- ISA-101 compliance
- 2.5D graphic
- Enterprise graphic standard supported
- One click for screen color switching
- One click for multi-language switching

High Performance HMI



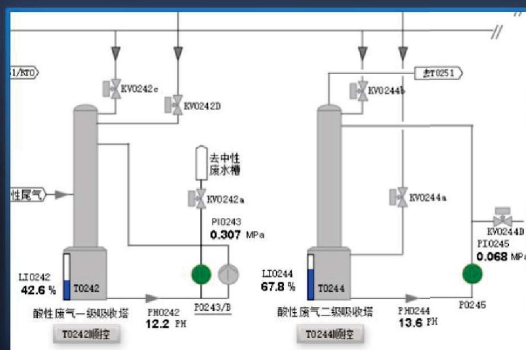
Nyx x Modern HMI/UX = Human Center



Longsheng UCS Project Introduction

Project Objectives

Dye production line exhaust gas dispose system renovation



- Consistency, stable, long-term uninterrupted production
- Pilot project for whole plant unmanned operation and autonomous operation

Customer Challenges

Tight project schedule

Limited installation space

Intelligence & Digitalization

Sustainable

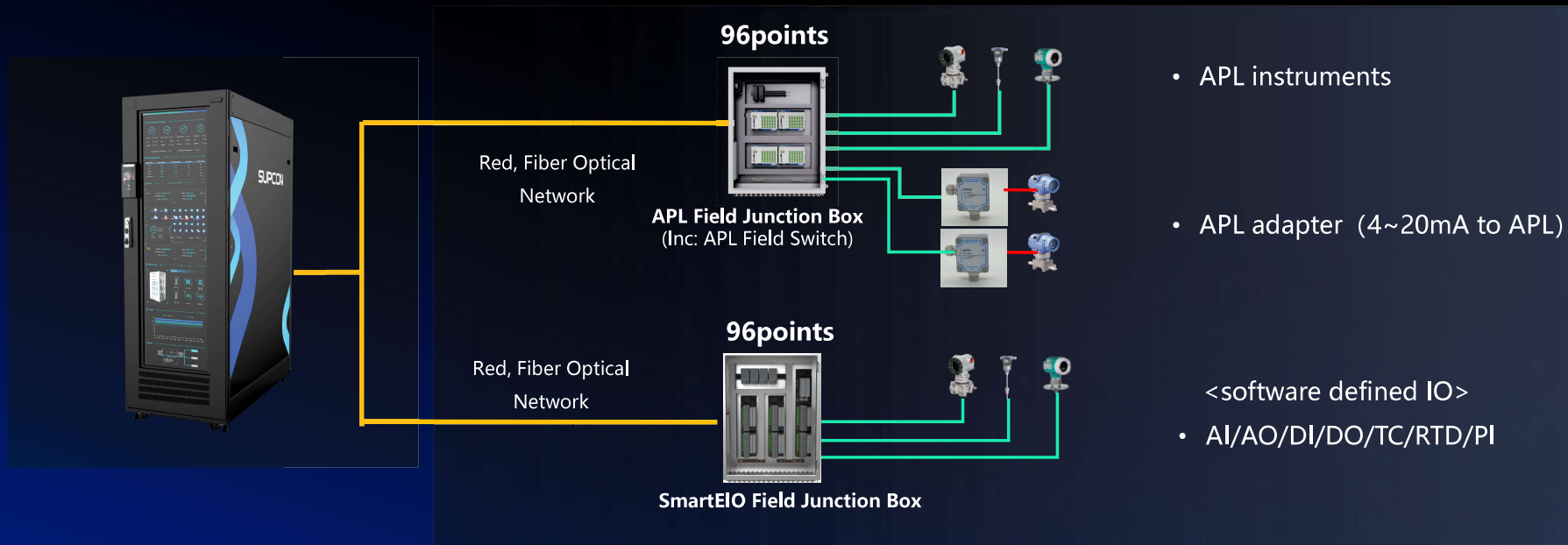
Nyx Solutions

- APL intelligent instrument & fully digitalized sensing, instrument predictive diagnosis
- Skid deployment for Control Data Center, no need to build a new cabinet room
- Fully digitalized optical network, significance reduce the cable investment, including installation and maintenance cost

Nyx Solution Brief

Nyx solution

- Control Data Center, NyxOS, HP-HMI
- APL Field Junction Box - for APL instruments connectivity
- SmartEIO - software defined I/O for connecting analog input/output, digital input/output, RTD, TC, etc
- APL adapter - for conventional HART instrument



Highlights of the achievement

APL instrument application, predictive healthy diagnosis

APL field switch



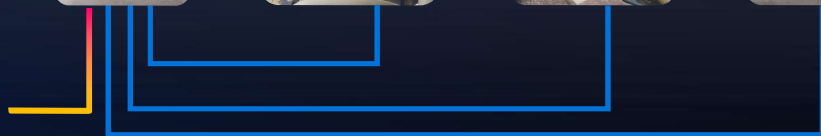
APL pressure transmitter



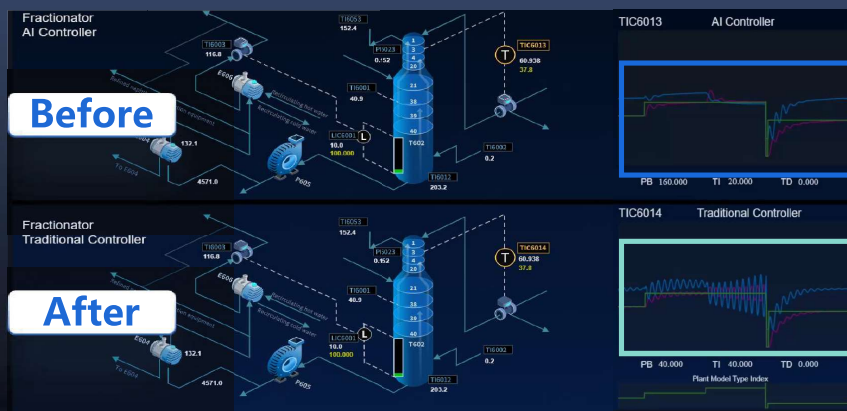
APL adapter + conventional instruments



APL Universal I/O



AI-PID performance verified



Highlights of the achievement - Cost Effective

90% Footprint



80% Copper cable



50% Project time



Workstations

Client



Client



Mobile



Control
Data Center



I/O-Cabinet

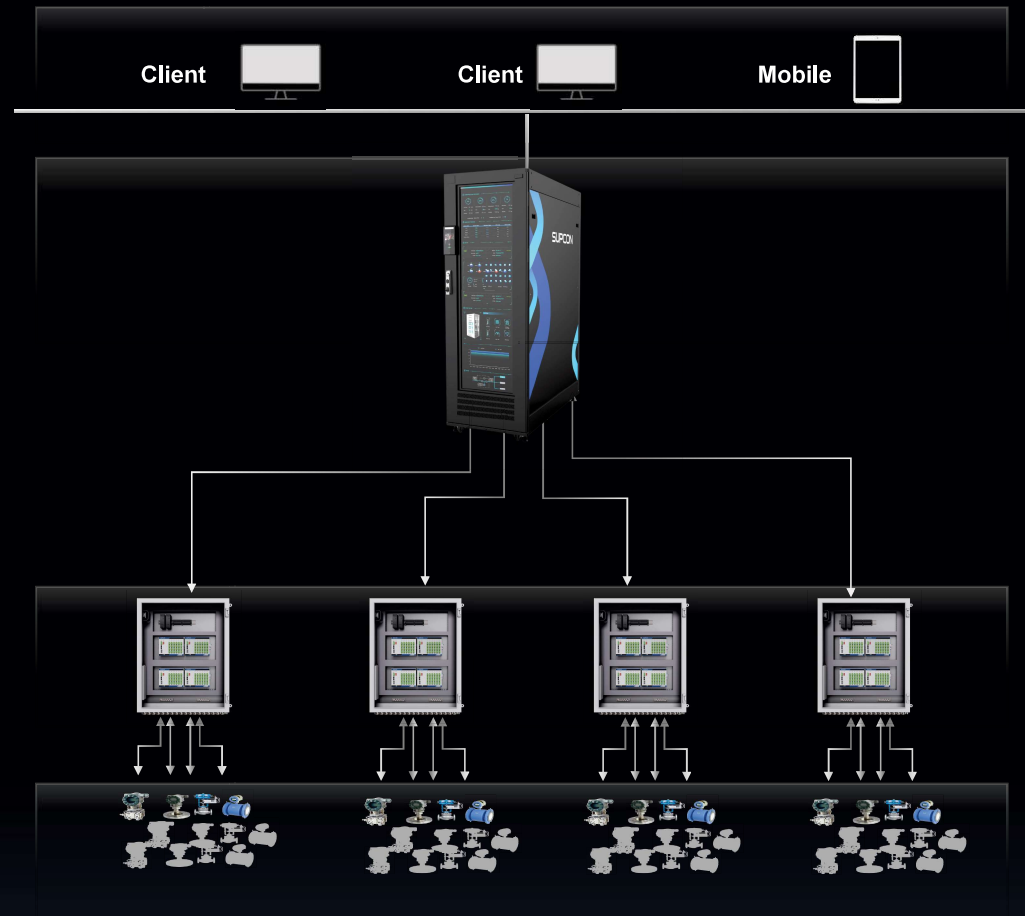
Termination
Cabinet

Barrier
Cabinet

APL Field
Junction Box



APL Field
Instrument



Our Vision

Leading Industrial AI to Sustainable Growth

Our Mission

Elevate Industrial Intelligence, Drive Customer Success

Our Values

User First, Collaboration , Innovation, Integrity, Self-Driven

Our Corporate Culture

Happy, Fulfilled, Valued, Respected