ingenero 360AI

olefinX360

Plant-wide, fully interacting decision support for the ethylene plant

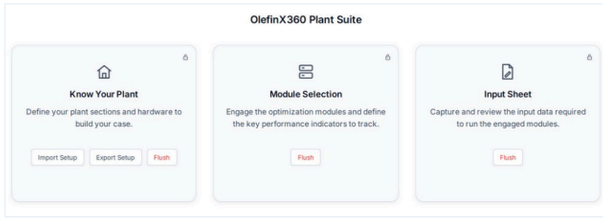
MODULE OF THE INGENEROX360 AI SUITE

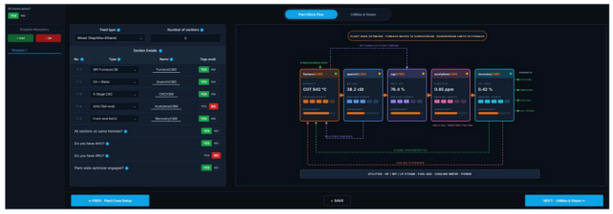
PRODUCT OVERVIEW

OlefinX360 is the plant-wide decision-support suite for the ethylene plant. It brings five section modules – FurnaceX360, QuenchX360, CGCX360, AcetyleneX360 (ARU or AHU) and RecoveryX360 – onto one configuration, one data layer and one workflow, with every agent interacting with every other. A move proposed by the furnace optimizer (severity, feed, COT, dilution steam) is carried through quench, CGC, acetylene and recovery, and every downstream limit – QWT dP, CGC suction and surge, acetylene slip, refrigeration and reflux – returns to the furnace optimizer as a live constraint. Output reaches the process engineer as ranked, quantified actions that are feasible for the whole plant. Every module is configured, validated and commissioned per site by Ingenero process engineers.

01 Plant-wide Configuration

Shown: OlefinX360 plant suite – plant block flow with section drill-down

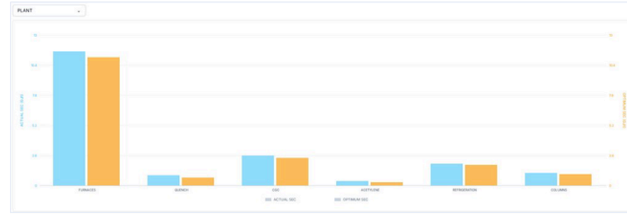


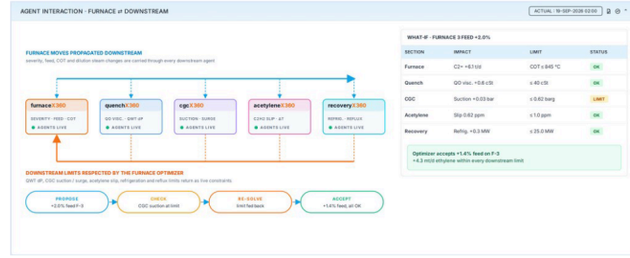


Know Your Plant	*Configure furnaces, quench, CGC, ARU / AHU and cold section in one case*
Module Selection	*Engage any of the five section modules plus plant-wide agents as needed*
Input Sheet	*Single input sheet – sensor info driven by configuration & module selection*
Interactive Config	*Plant block flow linked to every section PFD and agent link*

02 Plant Data and Model Execution

Shown: section-wise specific energy, furnace-to-downstream agent interaction.



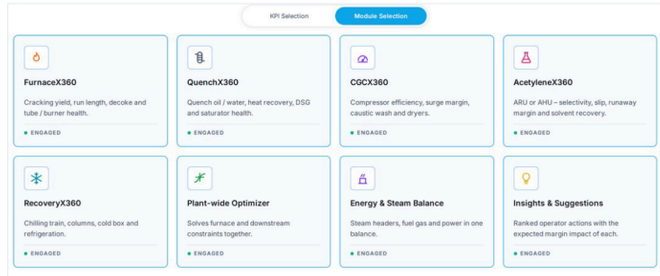


Inputs	*Plant historian tags, lab / analyser data and design values per section*
Processing	*tag validation, plant-wide reconciliation and cross-agent limit exchange*
Outputs	*plant KPIs, ranked actions feasible for every section, trends, alerts*

03 Section Modules & Plant-wide Agents

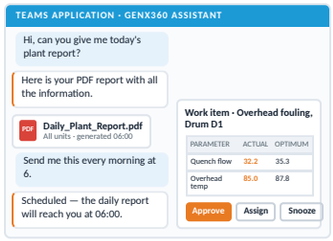
Five section modules and plant-wide agents sharing moves and limits live

FurnaceX360	*Yield, run length, decoke, tube health and burner optimization.*
QuenchX360	*Quench oil / water, fouling, heat recovery, DSG and saturator.*
CGCX360	*Compressor efficiency, surge margin, caustic wash and dryers.*
AcetyleneX360	*ARU or AHU – selectivity, slip, runaway margin, solvent recovery.*
RecoveryX360	*Chilling train, columns, cold box and refrigeration.*
Plant-wide Optimizer	*Pushes furnace moves downstream; downstream limits fed back.*
Energy & Steam Balance	*Steam headers, fuel gas and compression power in one balance*



04 One Assistant, Everywhere You Work

Shown: a report requested in chat, and a work item actioned in Teams.



Live in the Teams application
Work items arrive in the Teams application; users review, respond and act without leaving the chat.

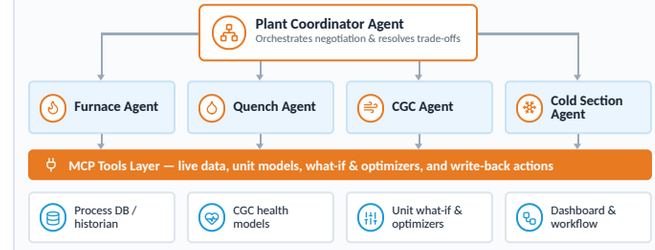
Ask in plain English
Any question about the process or the dashboard, answered in seconds.

Your channels
Teams, dashboard, email or mobile — flexible to integrate wherever teams work.

Nothing to learn
No new console and no training programme; it runs inside tools already in daily use.

Agent Architecture for the Cracker

A coordinator agent orchestrates unit agents; each agent reaches its unit's data and models through MCP tools



+1–2%	**Overall Ethylene Yield**	plant-wide furnace-to-recovery optimization
3–5%	**Specific energy**	steam, fuel & compression power balance
+10%	**Run length & uptime**	coordinated furnace, CGC & AHU cycles

Basis: furnace moves are carried downstream and downstream limits are respected at the furnace optimizer – every agent interacts.

05 Platform

Historian connectivity	**Simulation integration**	**Daily reporting**	**Gen AI assistant**	**Build your own dashboard**
plug and play with leading plant historians	third party simulators integrate without custom work	downloadable daily reports with interactive trends	answers plant questions in the operating workflow	engineers build the views their unit needs

DELIVERY
Configured, validated and commissioned by Ingenero process engineers.

FLEXIBILITY
Any feed slate; start with one module, add the rest; selectable KPIs

SCALE
Repeat sites reuse the configuration, with no/minimal rework per plant.

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