

LUCA MAGHET
SALES ENGINEER
DANIELI MORGÅRDHAMMAR
NON-FERROUS

DANIELI ALUMINIUM ROD MILL TECHNOLOGY

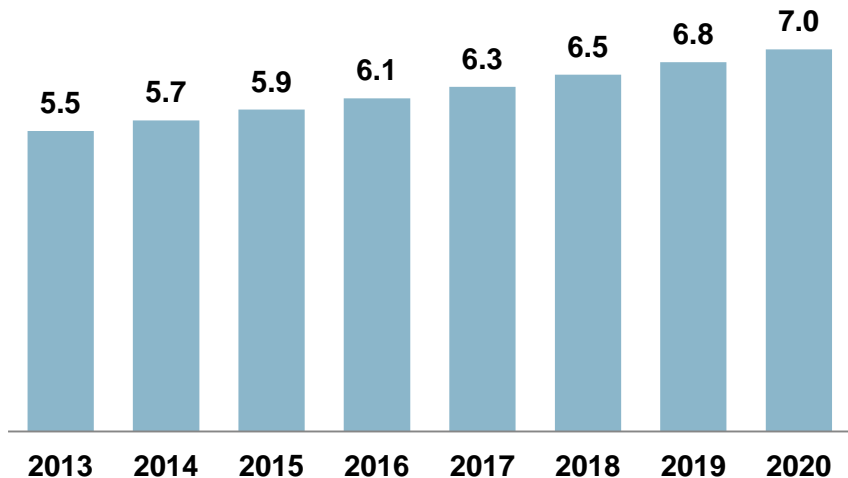
4th IIAC IRAN INTERNATIONAL
ALUMINIUM CONFERENCE
OLYMPIC HOTEL
TEHRAN, IRAN
11-12 MAY 2016

DANIELI
PASSION TO INNOVATE
AND PERFORM
IN THE METALS INDUSTRY



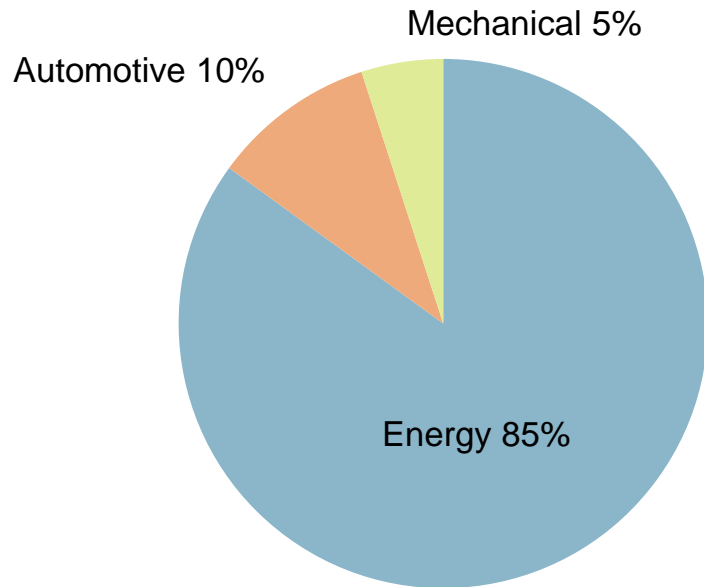
DANIELI TEAM
A CENTURY
OF PARTNERSHIP
EXPERIENCE

Forecast Worldwide Consumption of Aluminum and Aluminum Alloy in Rod (Mtpy)



CAGR 3 ÷ 5% constant growing since 2013

Aluminum in Rod Application market share



6 Million Tons / yearly



**ELECTRICAL
CONDUCTOR / CABLES**

**Alloys
1xxx, 6xxx, 8xxx, AlZr**



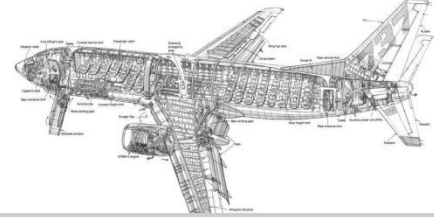
**WELDING
PROCESSES**

**Alloys
4xxx, 5xxx**



**MECHANICAL
APPLICATIONS**

**Alloys
5xxx, 6xxx**



**AEROSPACE
& AUTOMOTIVE**

**Alloys
2xxx, 7xxx**

AVAILABLE PLANTS

Capacity
[ton/year]

9,000 ÷ 90,000

**Final rod
diameters**
[mm]

9 ÷ 40

Alloys capability

ALL ALLOYS
(from series 1xxx to 8xxx)

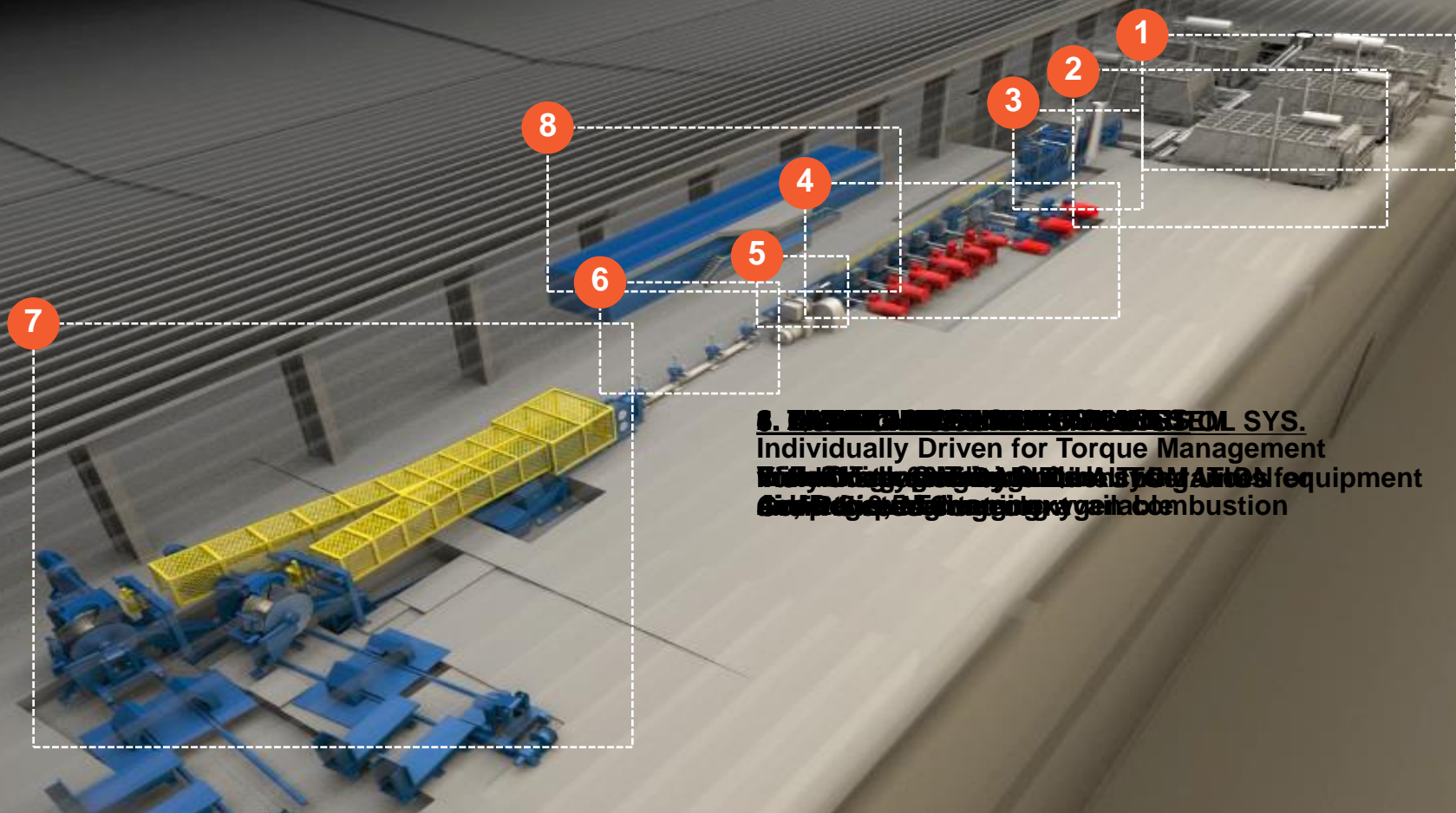
Process mode

Continuous casting & rolling
(endless production)

Tolerances
Dimensional & Oval

≤ 2% (or even better)





8. INDIVIDUALLY DRIVEN PROCESSORIAL SYS.
Individually Driven for Torque Management
Highly Efficient Drive System with
Compact Design and Available
Equipment

ENDLESS MINI-MILLS
FOR ALUMINUM ROD
PRODUCTION

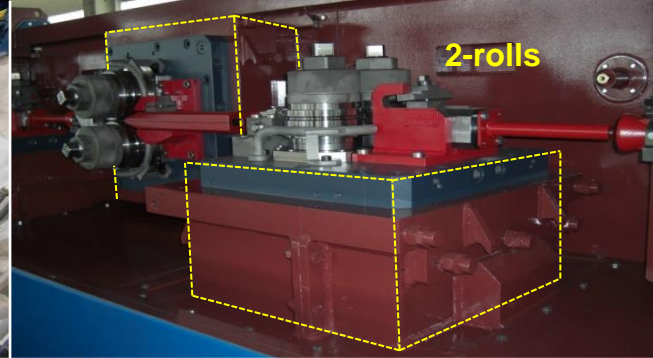
3D PLANT EXPERIENCE

DANIELI

**ENDLESS MINI-MILLS
FOR ALUMINUM ROD
PRODUCTION**

ADDED VALUE TO OUR CUSTOMER

DANIELI



**HIGH EFFICIENCY
MELTING PROCESS**

**ENDLESS CASTING
FOR ALL THE ALLOYS**

**STURDY STAND DESIGN CONCEPT
FOR OPEX SAVING**



**ROLLING ROLLS LONG-LIFE
BY SINGLE TORQUE MANAGEMENT**

**FULLY INTEGRATED
AUTOMATION SYSTEM**

**COMPACT AND HEAVY
QUALITY COILS**

ENDLESS MINI-MILLS
FOR ALUMINUM ROD
PRODUCTION

PLANT INFRASTRUCTURE

DANIELI



SURAL QUEBEC INC.
Lyne Victoriaville, QC
G6T 1P6



PLANT CAPACITY:
60,000 tons / year

STARTING MATERIAL:
Aluminium Liquid, Ingots, T-bars
In-plant scraps

ALUMINUM ALLOYS:
All Alloys
from Series 1xxx to 8xxx
and Al-Zr

FINISHED PRODUCT:
Wire - Rods with diameters of
9,5- 12,5-15 - 18 - 23 - 25,4 - 32 mm

PRODUCT TOLERANCES:
<2% ovality

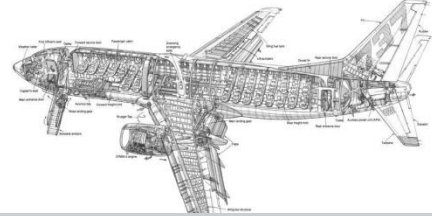
FINISHED PRODUCT SUPPLY:
Compact coils with sizes of
2,500 ÷ 3,500 Kg
European and US Standard



ENDLESS MINI-MILLS
FOR ALUMINUM ROD
PRODUCTION

SURAL
FINAL PRODUCT APPLICATIONS

DANIELI



**ELECTRICAL
CONDUCTOR / CABLES**
Alloys
1xxx, 6xxx, 8xxx, AlZr



**1670 KM
HIGH VOLTAGE LINE**

40,000 tpy

**WELDING
PROCESSES**
Alloys
4xxx, 5xxx

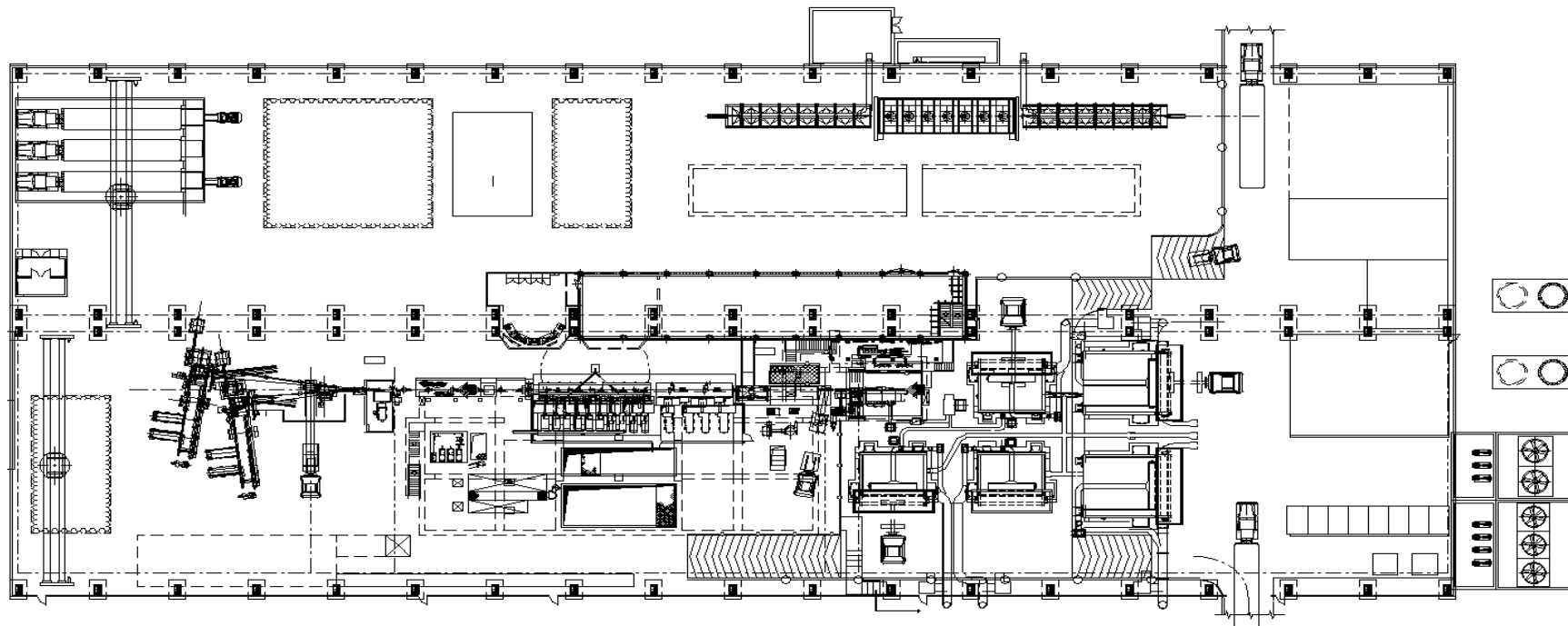
**MECHANICAL
APPLICATIONS**
Alloys
5xxx, 6xxx



20,000 tpy

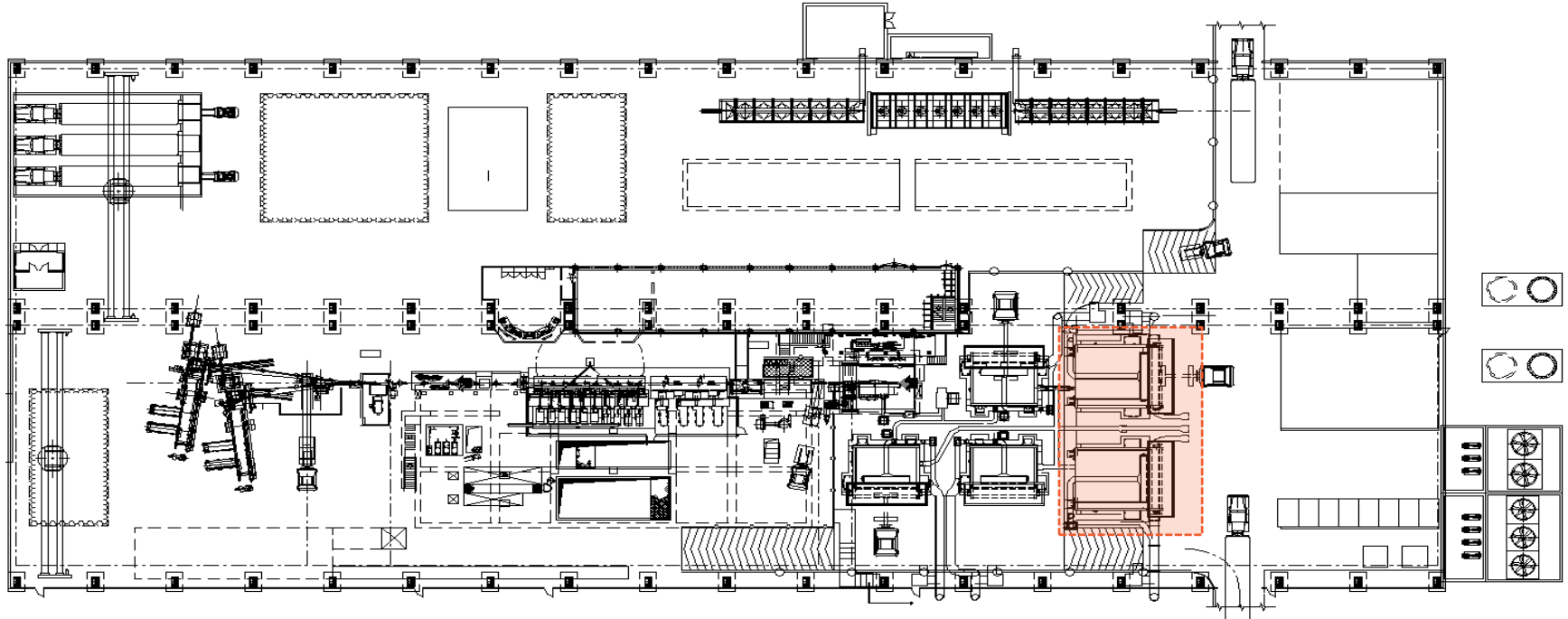
**AEROSPACE
& AUTOMOTIVE**
Alloys
2xxx, 7xxx

MORE THAN 15,000 SQM OF NEW COMPLETE MINI-MILL PLANT



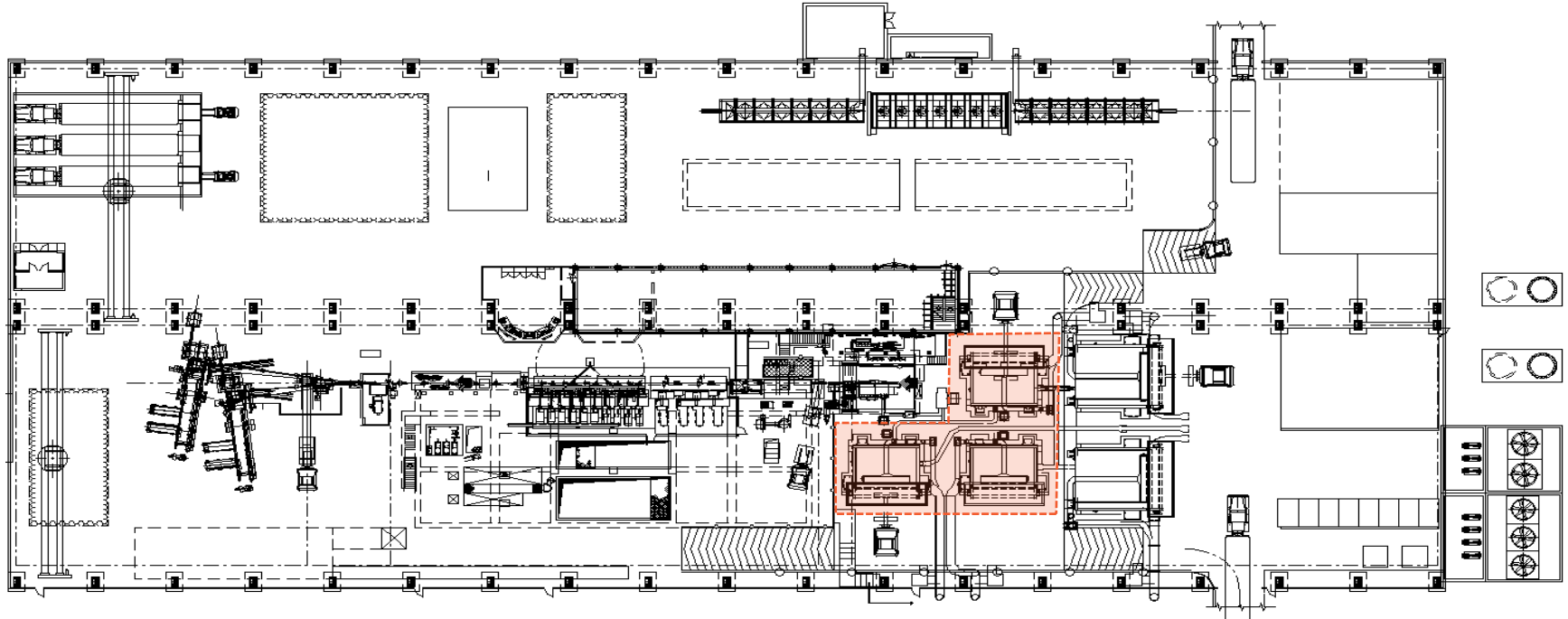
**N. 2 MELTING FURNACES
45 TONS CAPACITY**

**DRY HEARTH TECHNOLOGY
OXYGEN COMBUSTION**

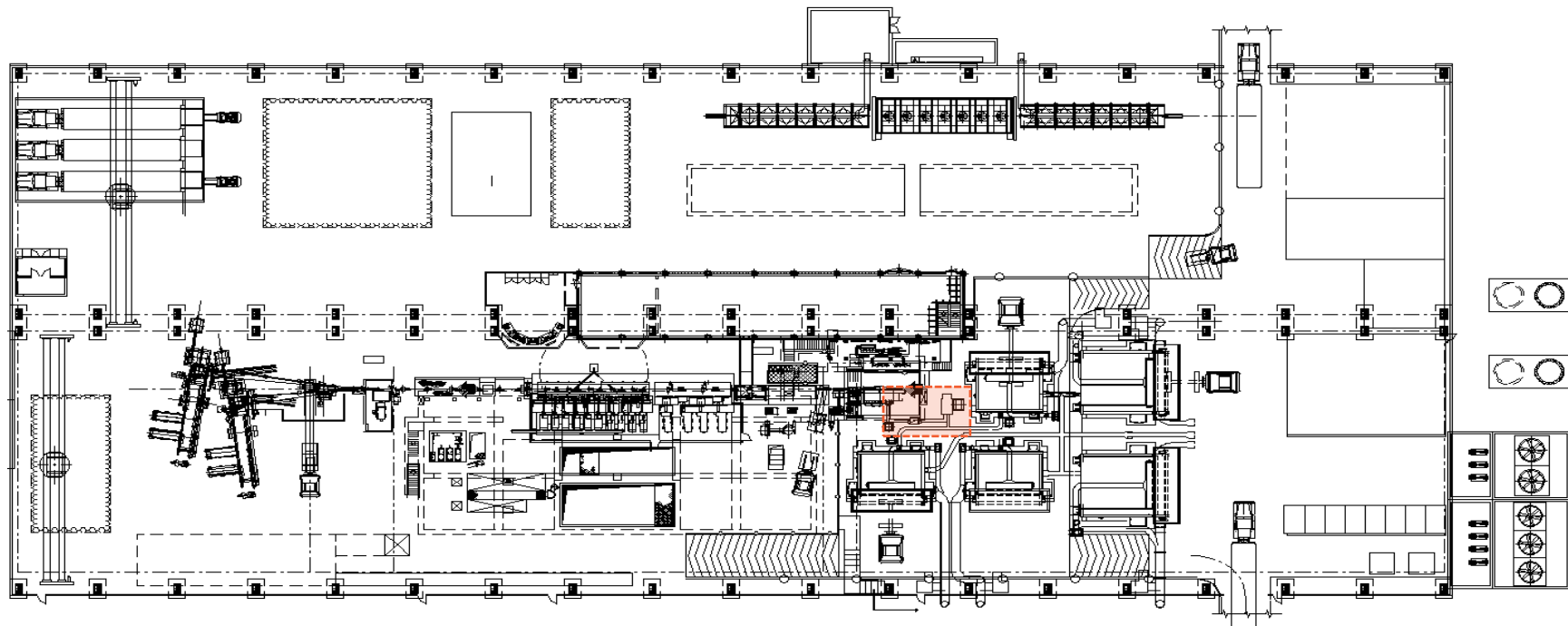


**N. 3 HOLDING FURNACES
30 TONS CAPACITY**

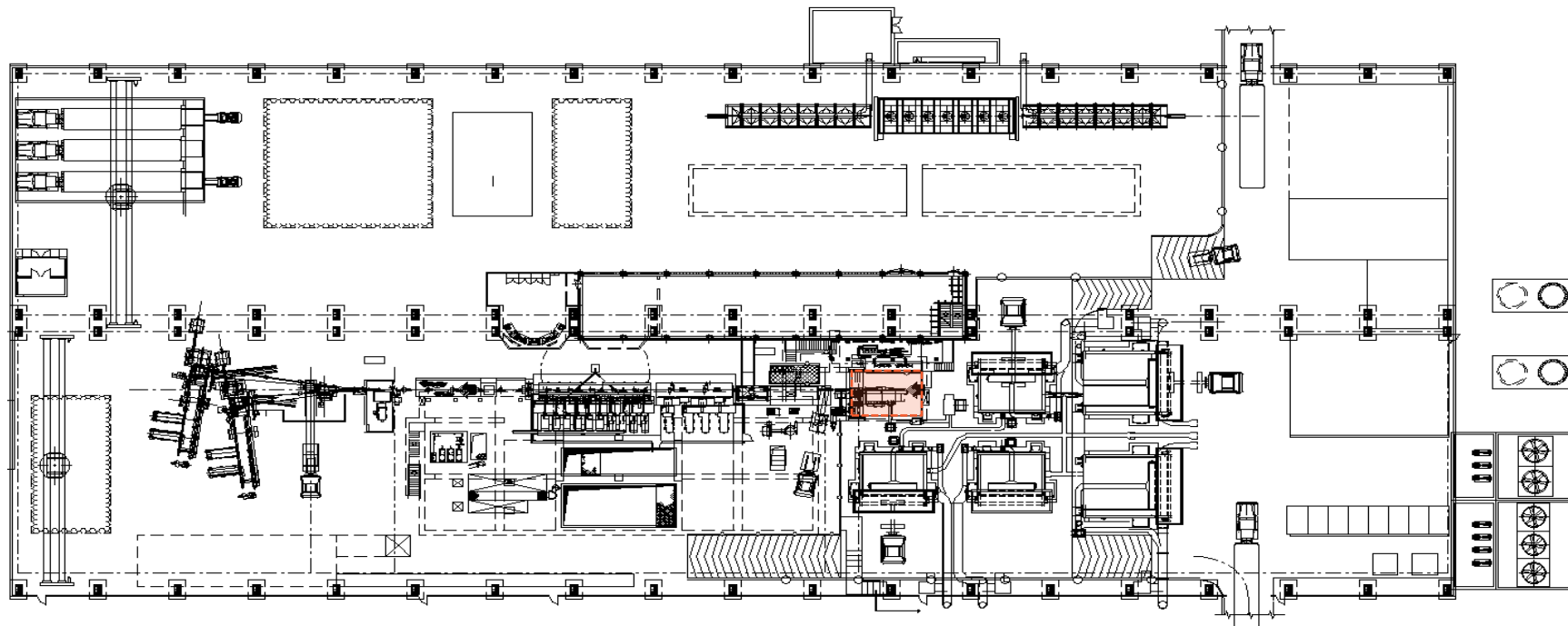
**OXYGEN COMBUSTION
AND STIRRING PROVISION**



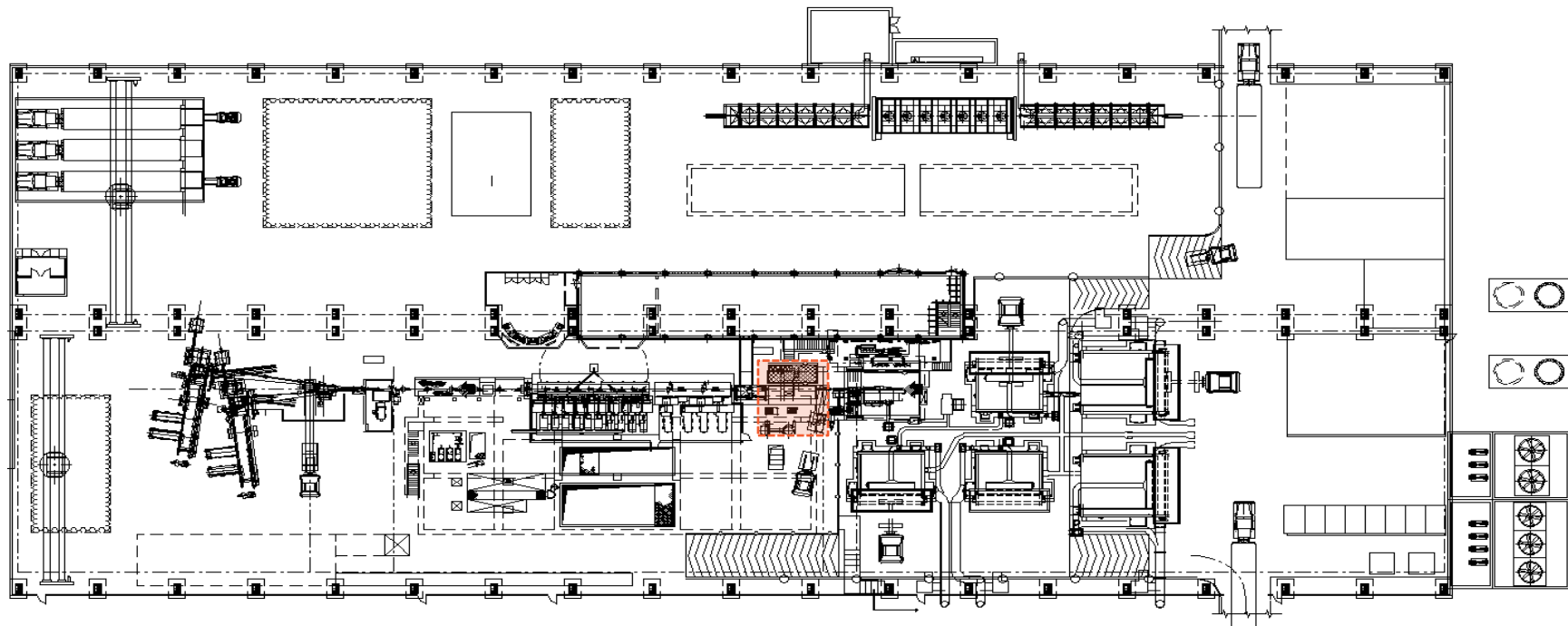
MELTING LIQUID TREATMENT
BY DOUBLE CERAMIC FILTER
AND DEGASSING UNIT



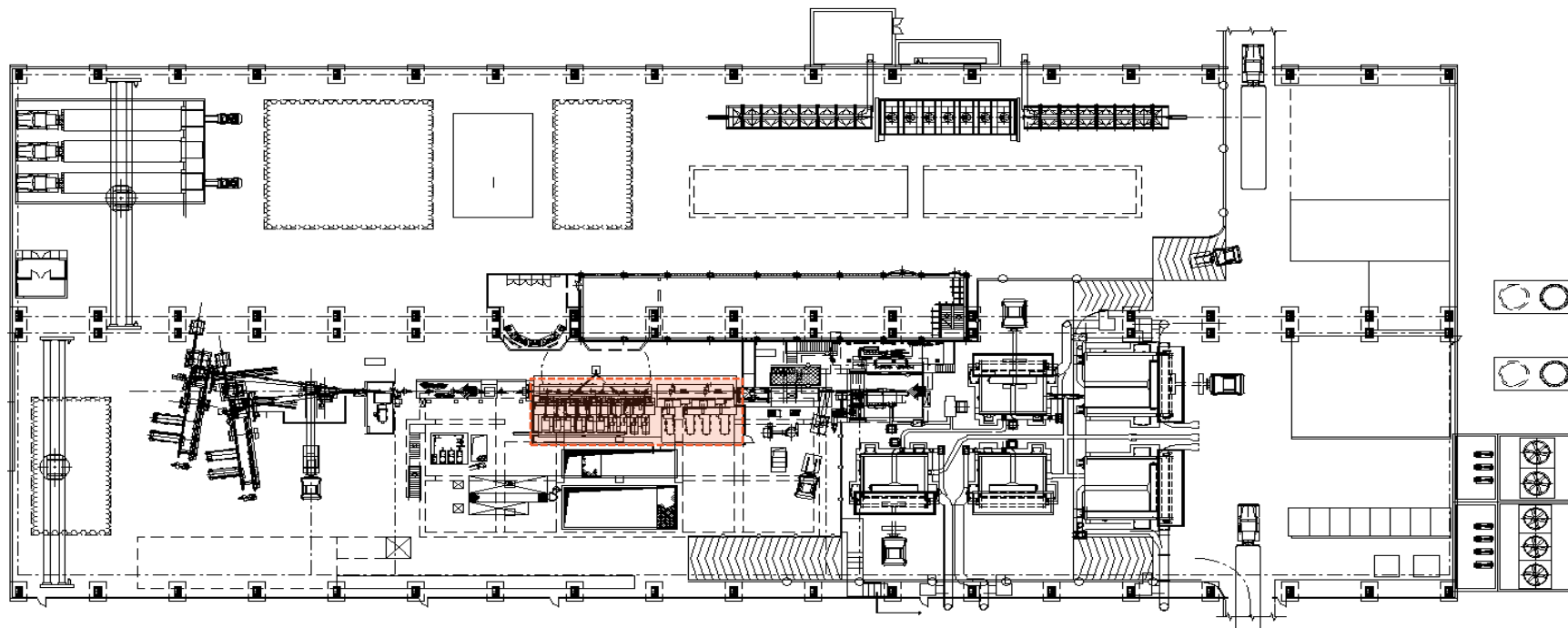
Ø 2,250 MM
CASATING WHEEL
9 TPH CAPACITY



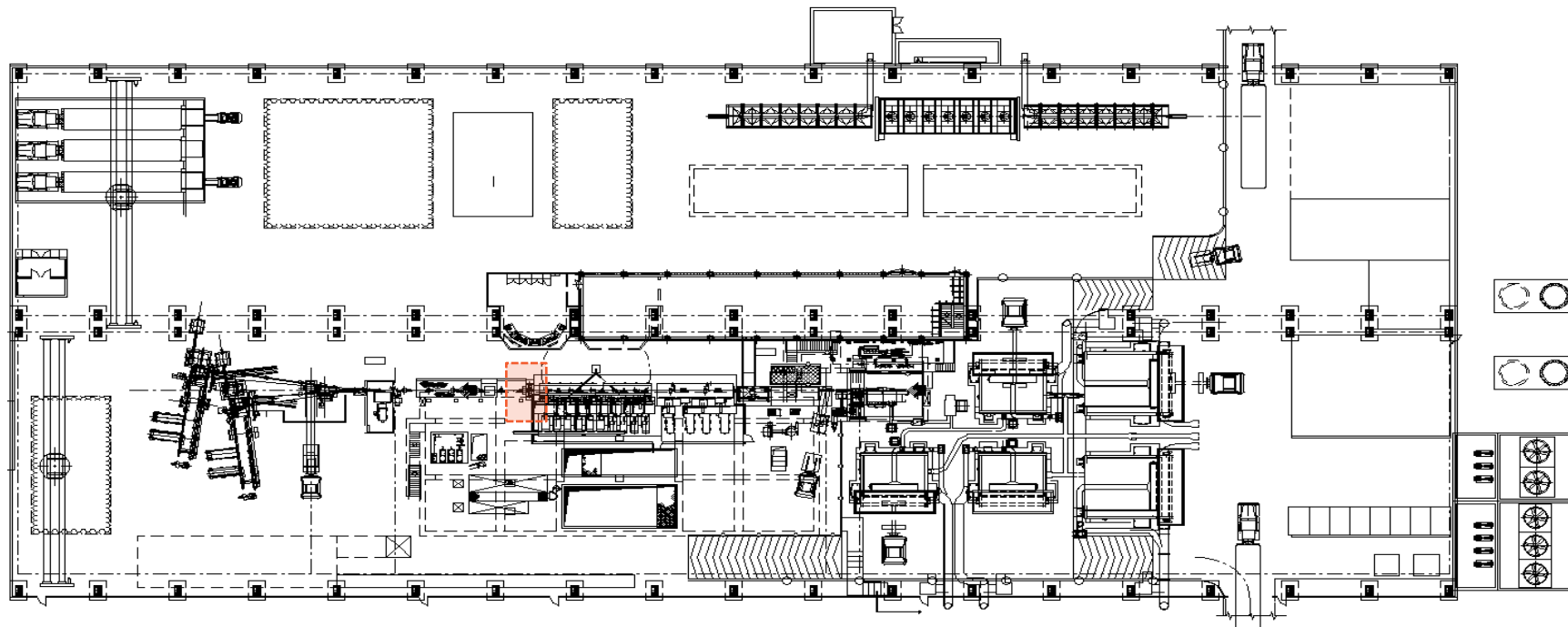
BAR PREPARATION BY
3-HEAD SCALPER UNIT
AND INDUCTION HEATER



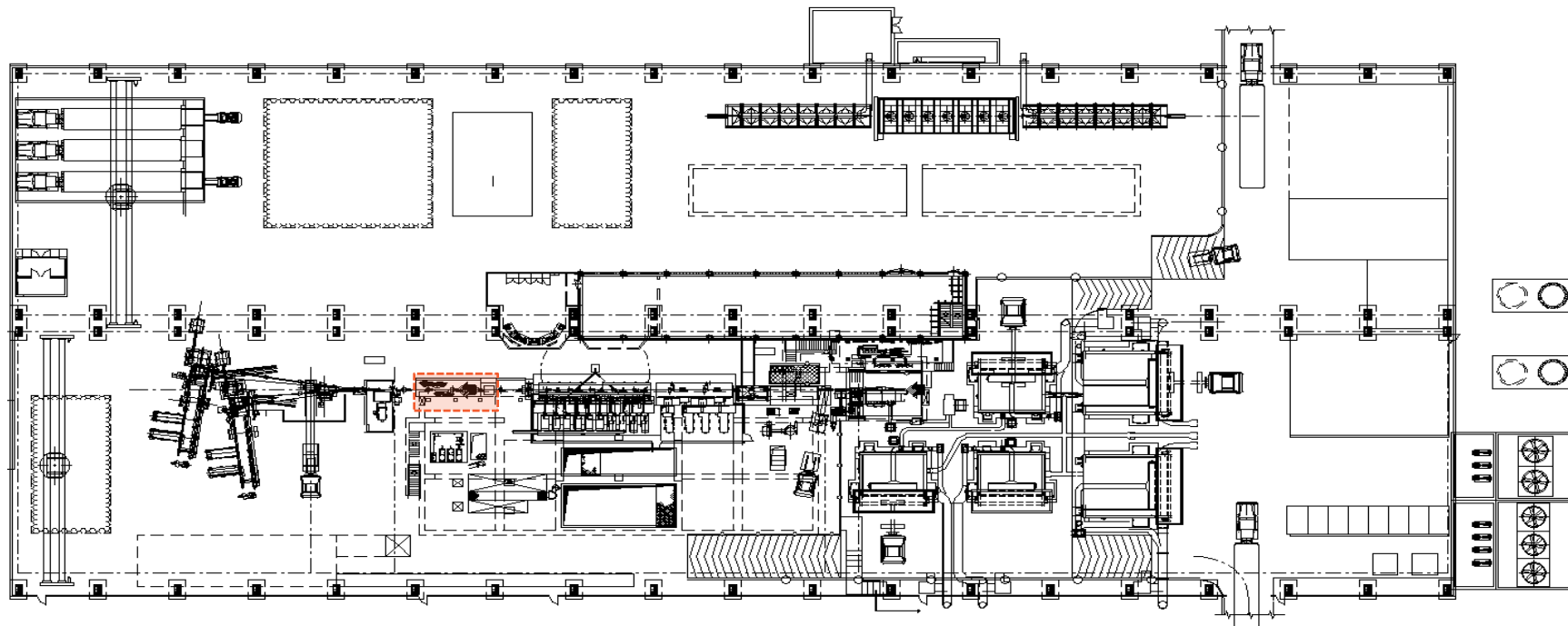
**14 CANTILEVER STANDS
ALL 2-ROLLS AND INDIVIDUALLY DRIVEN**



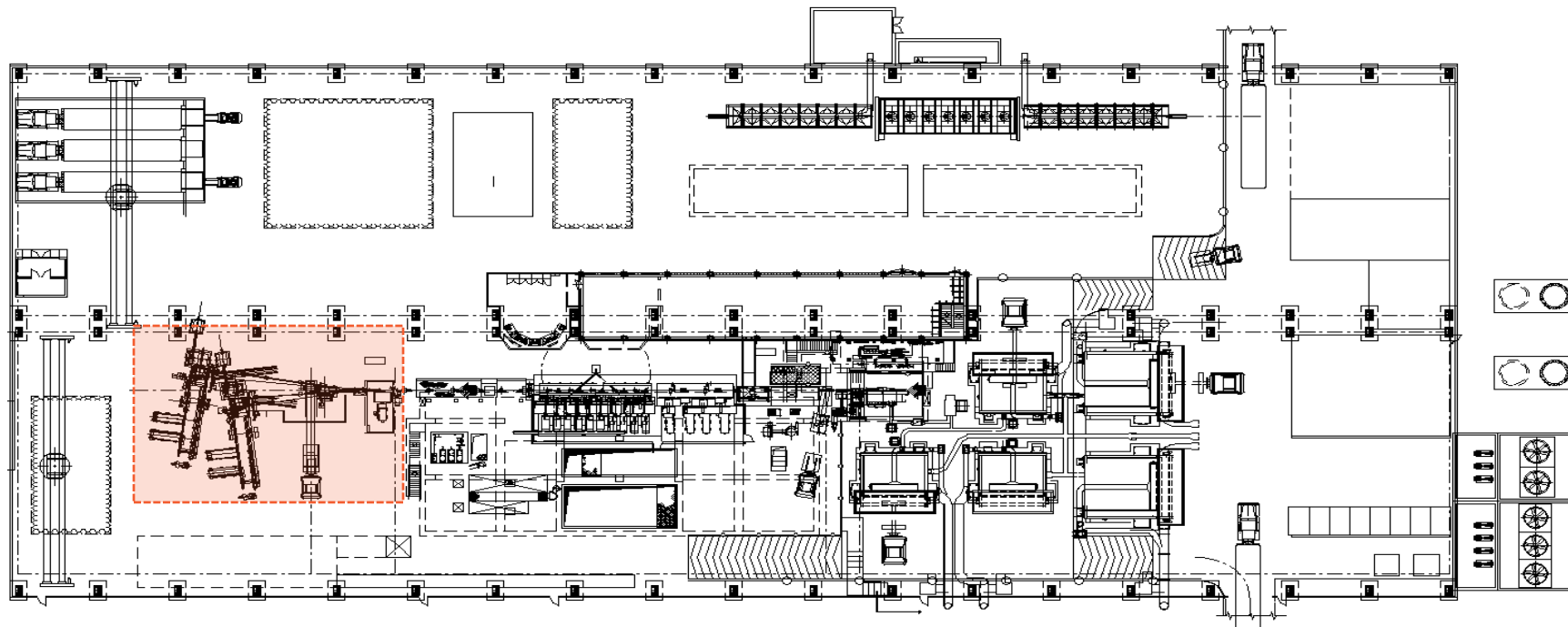
IN-LINE
TOLLERANCES CONTROL



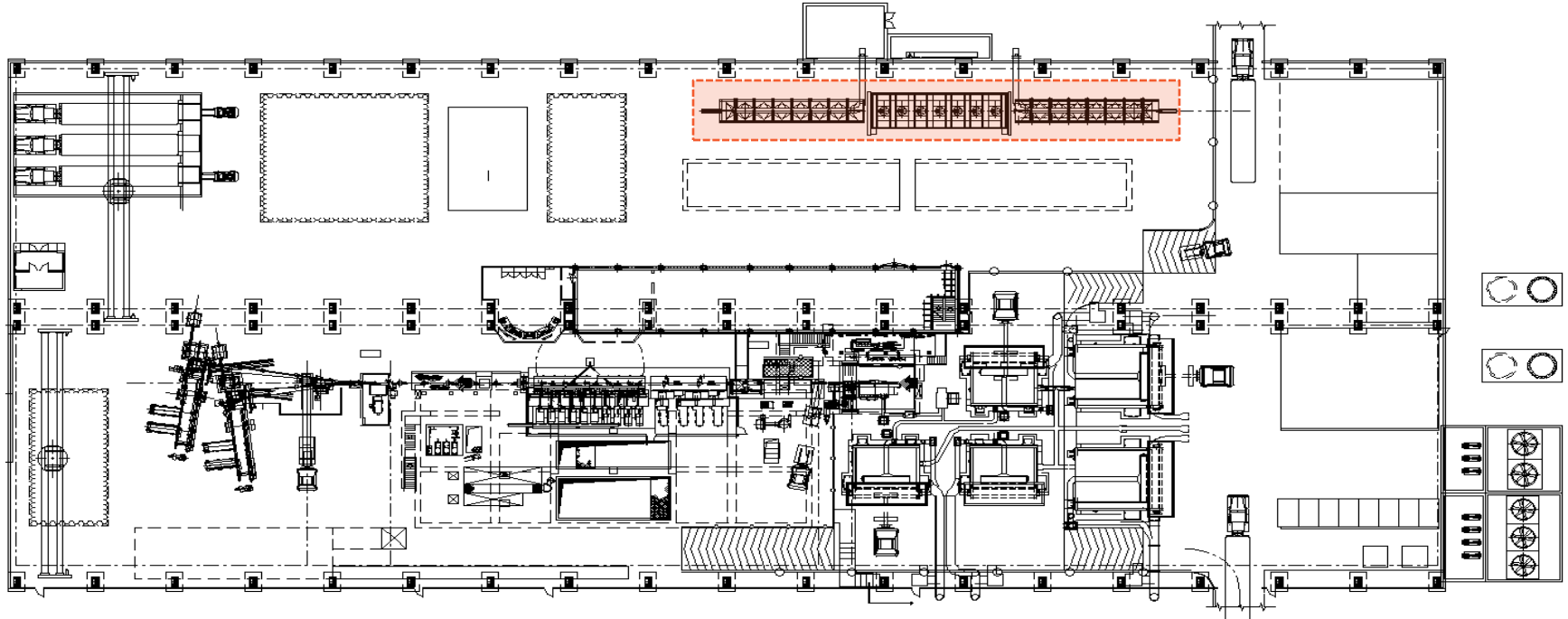
QUENCHING LINE



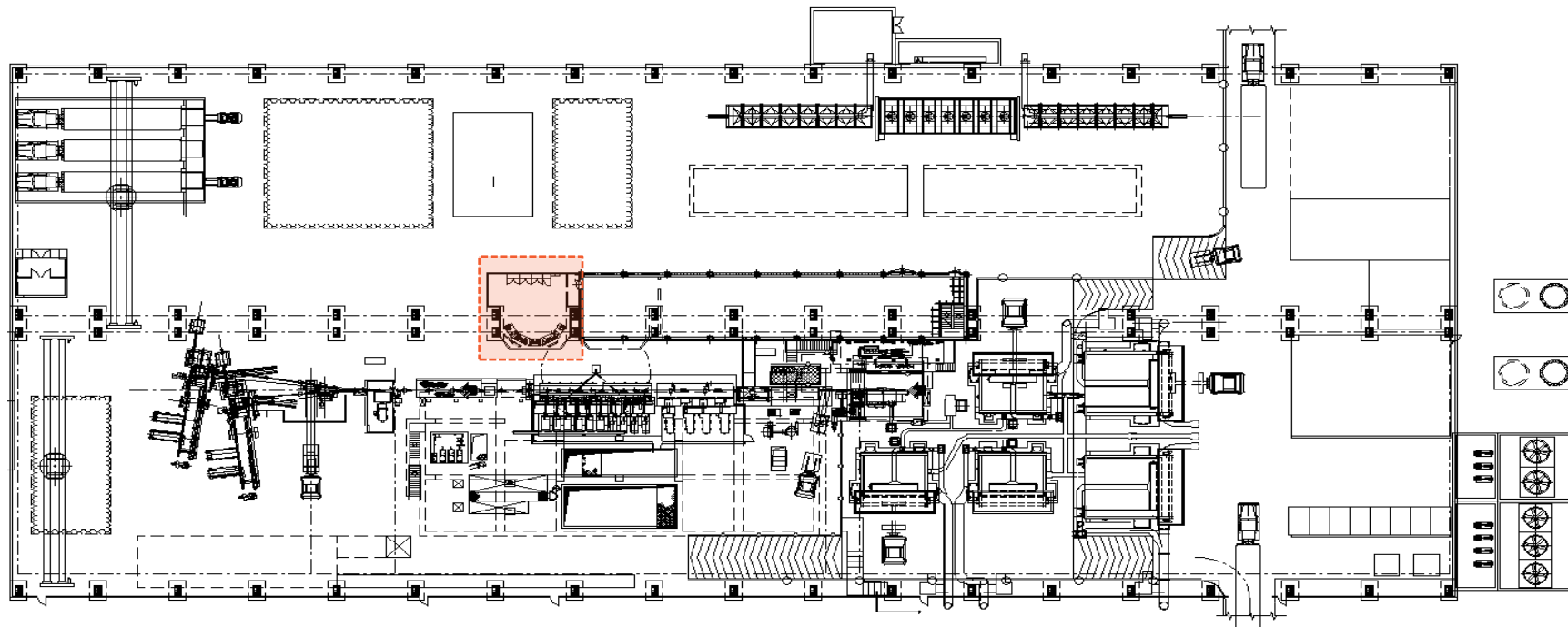
**DOUBLE SPOOLING MACHINES
UP TO 3,5 TONS OF COMPACT COILS**



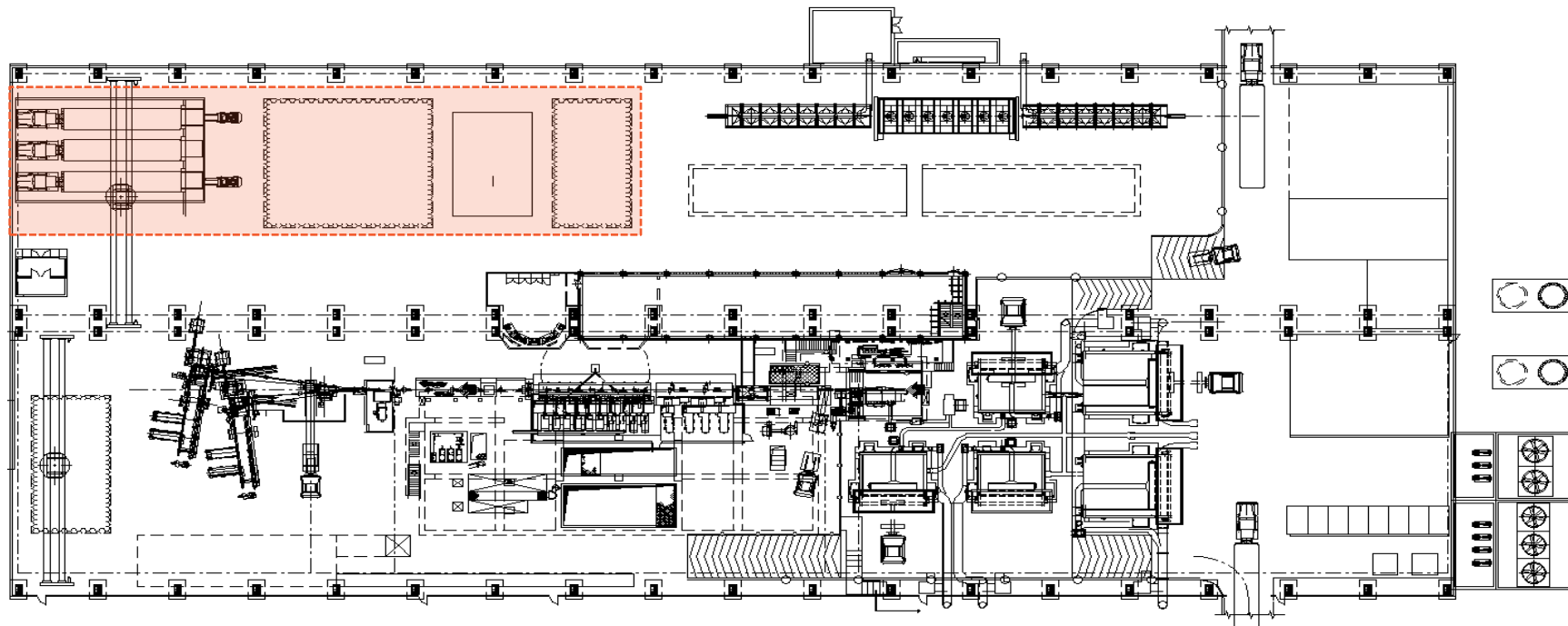
COILS ANNEALING, AGEING AND HOMOGENIZING
FURNACE 50 TONS CAPACITY



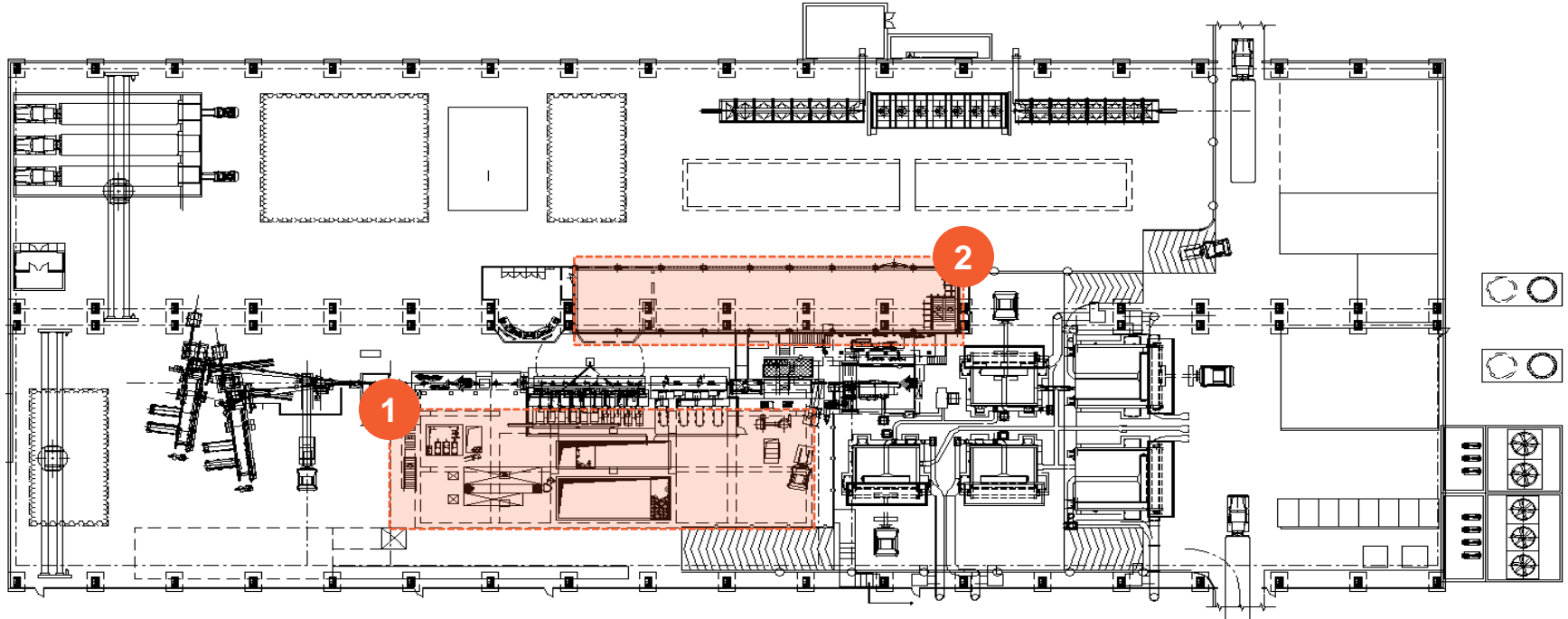
LEV. 2
AUTOMATION PROCESS CONTROL
ALONG THE ENTIRE LINE



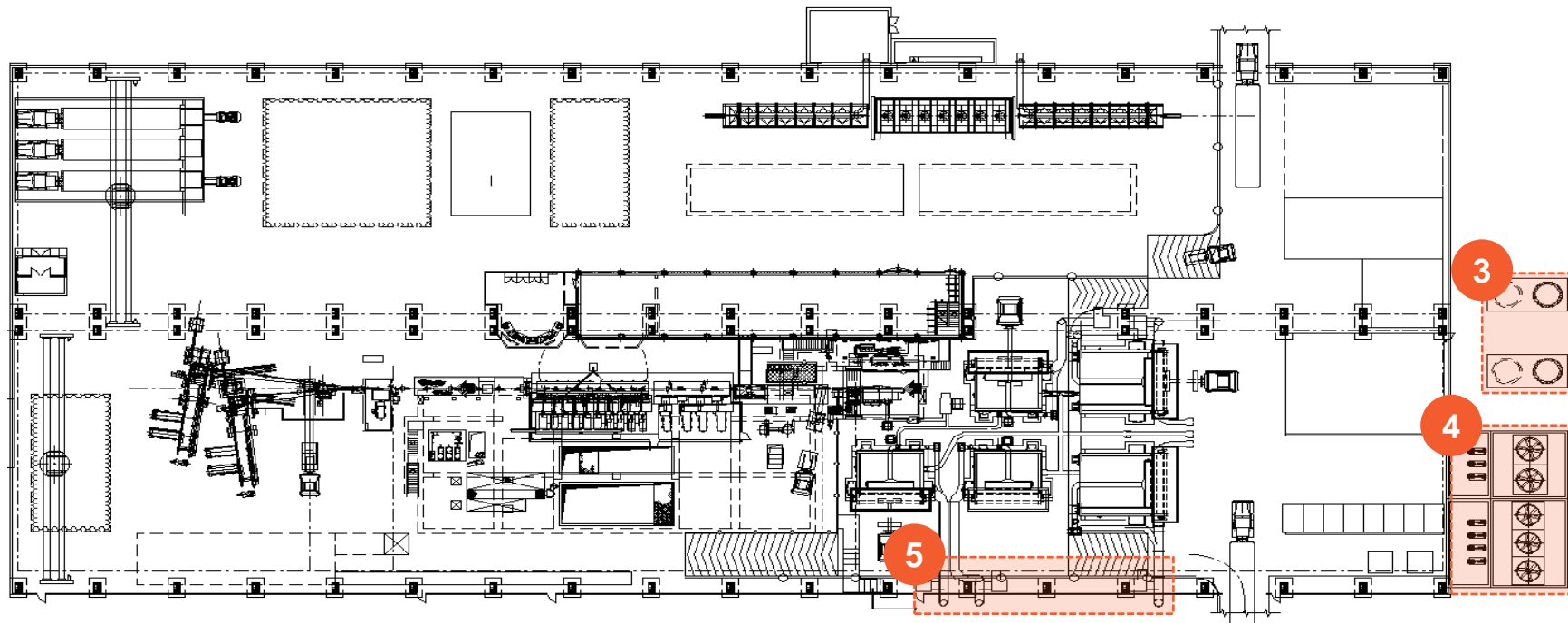
MORE THAN 1,000 SQM
OF PRODUCT STORAGE



1. COMPLETE HYDRAULIC, LUBRICATION AND EMULSION SYSTEM
2. ELECTRICAL EQUIP.



- 3. OXYGEN PLANT
- 4. WATER TREATMENT PLANT
- 5. FUMES TREATMENT PLANT





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