康龙化成
PHARMARON

Pharmaron Shaoxing Site Overview

Laboratory Services

Chemistry, Manufacturing and Control

Clinical Development

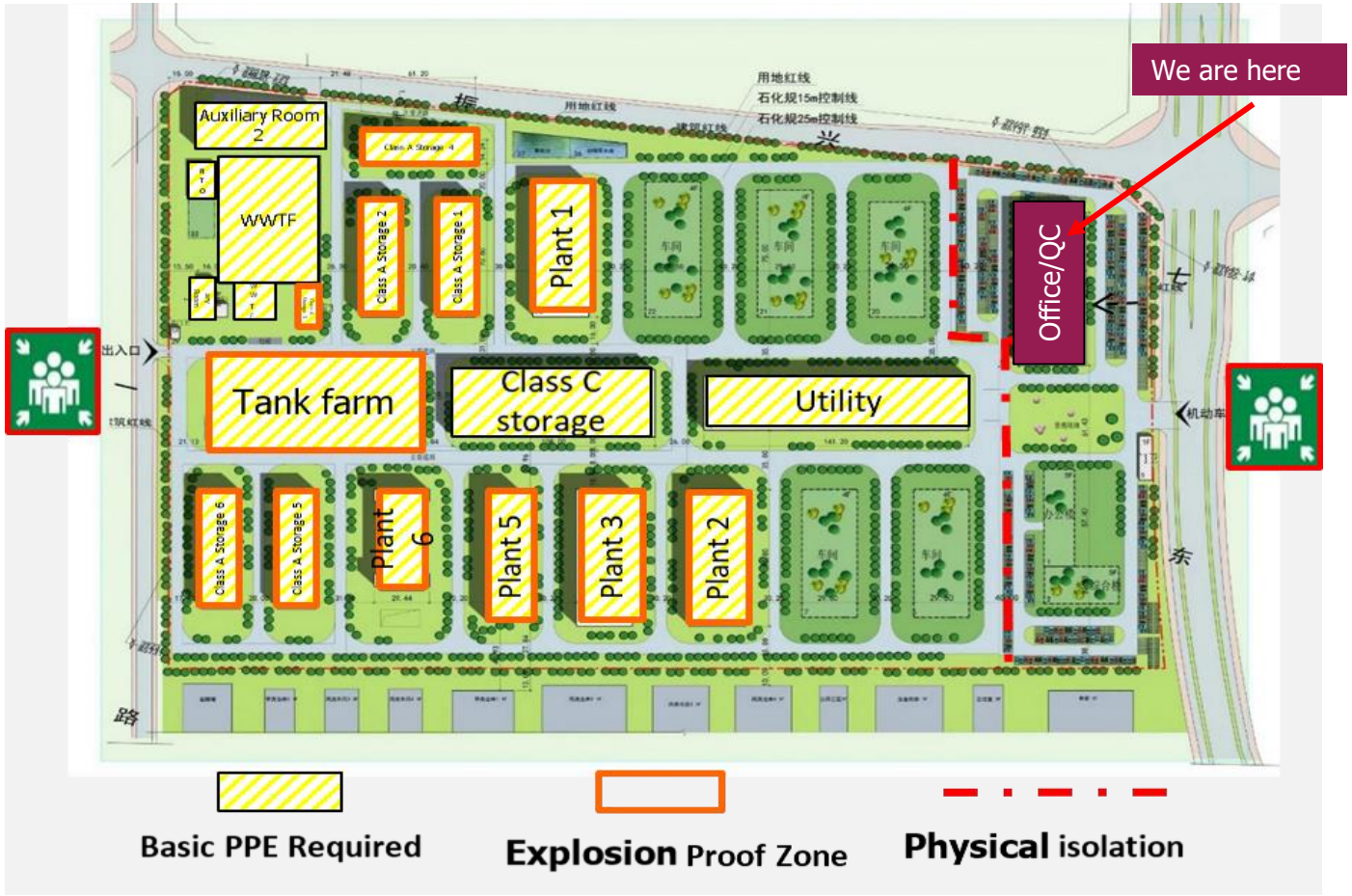
Biologics & CGT

First to Know...

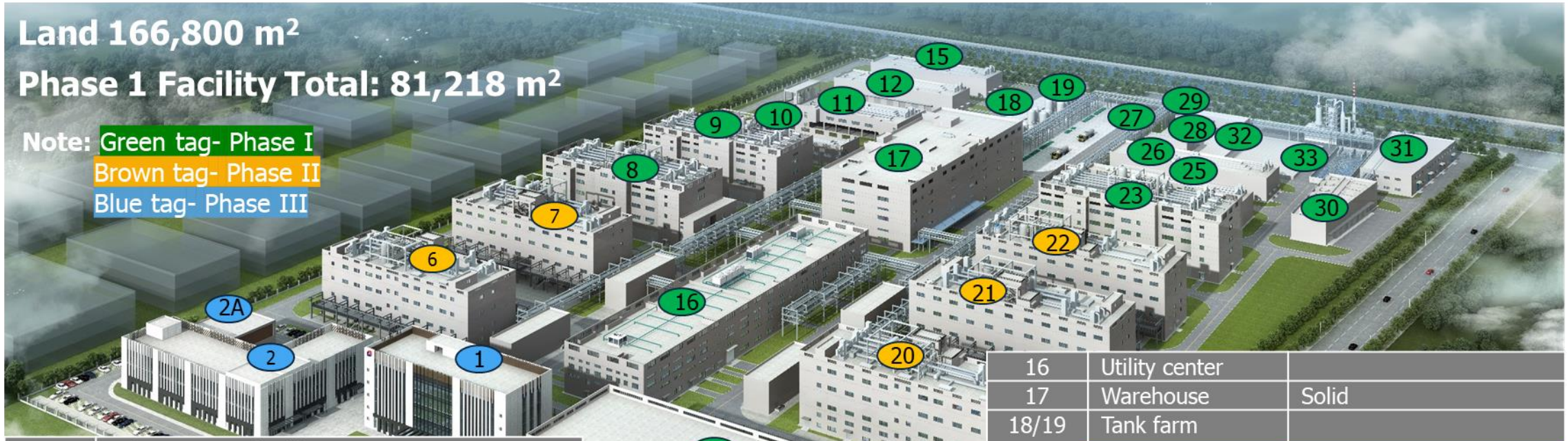
Safety Reminder

- Always escorted by Pharmaron employee during site tour
- Get to know evacuation route & Follow instruction in emergency
- Wear right PPE/RPE in dedicated area
- Don't touch equipment and chemical containers
- Walk in pedestrian lanes
- Always wear badge during visit

Basic PPE in Production Areas



Aerial View of Shaoxing Campus



1	Administration building	
2	Dining hall	
2A	Centrial control building	
3	R&D Center	
5	Entrance	
6	Plant 607	Intermediates, RSM
7	Plant 608	Adv. intermediates, API
8	Plant 602	Adv. intermediates, API
9	Plant 603	Intermediates, RSM
10	Plant 605	Hydrogenation
11	Plant 606	Solvent recovery
12/15	Warehouse	Solvent

16	Utility center	
17	Warehouse	Solid
18/19	Tank farm	
20	Plant 611	Intermediates, RSM
21	Plant 610	(Intermediates, RSM)+HP
22	Plant 609	TIDES, spray drying
23	Plant 601	Adv. intermediates, API
25/26	Warehouse	Solvent
27	Warehouse	Special reagents
28	Auxiliary 1	
29	Entrance	
30	Warehouse	Waste
31	Auxiliary 2	
32/33	Waste treatment	

Shaoxing Phase I Project

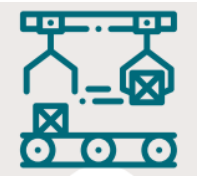
06/2018
Design

09/2019
Construction

10/2020
Installation

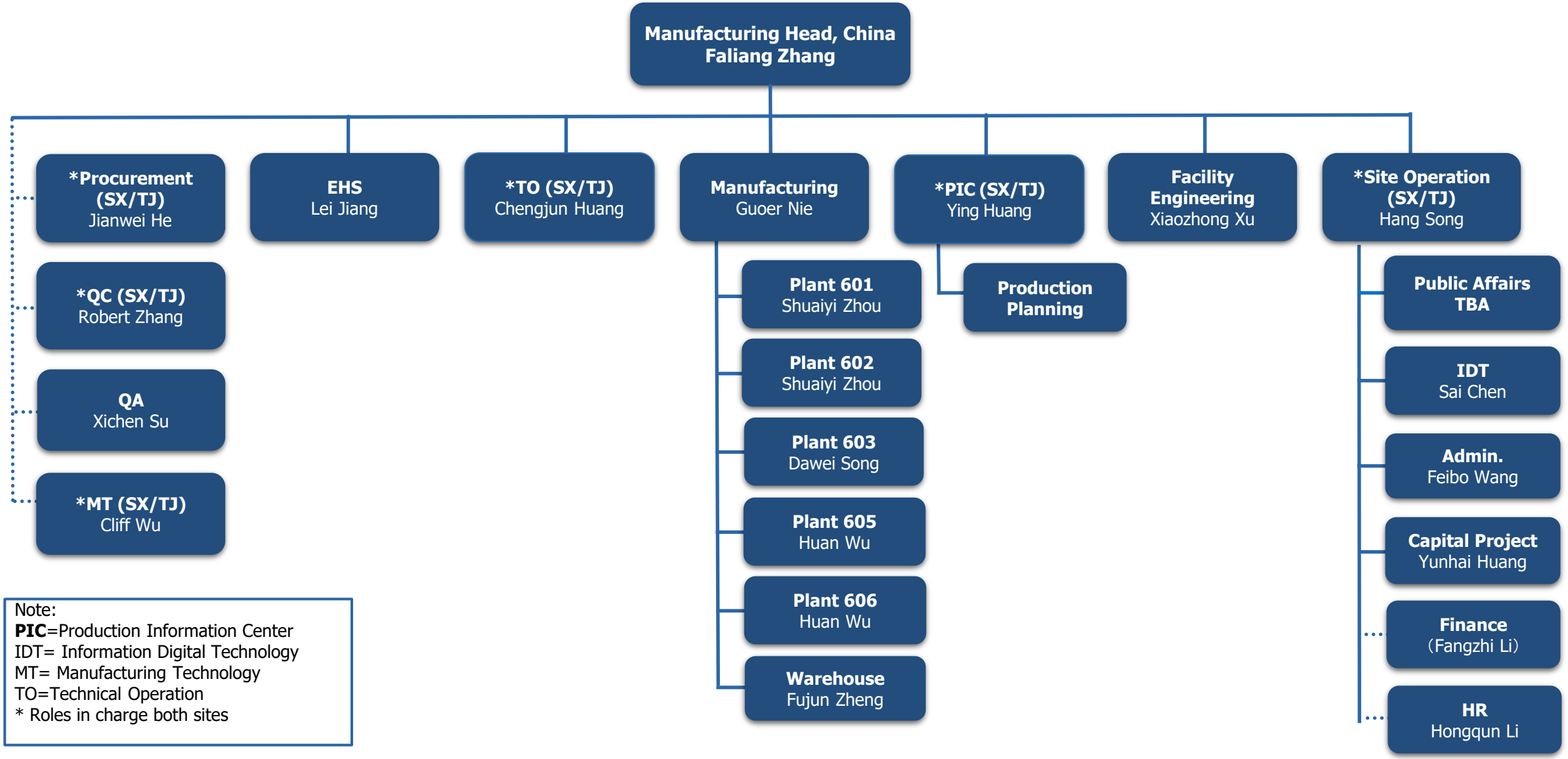
05/2021
C&Q

04/2022
1st PQ project



9/2022
Fully Operation

Shaoxing Site Organization Chart



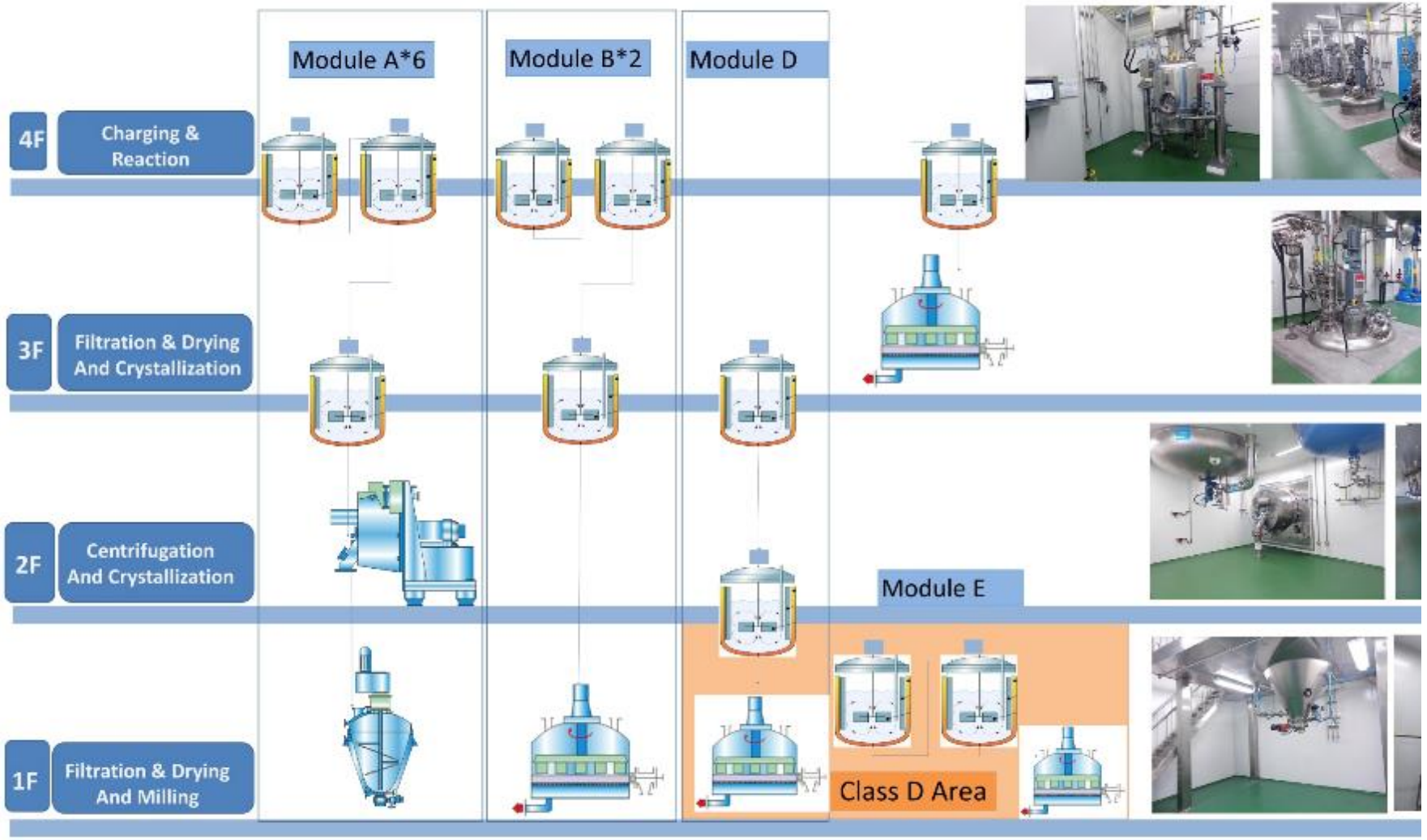
Note:
PIC=Production Information Center
IDT= Information Digital Technology
MT= Manufacturing Technology
TO=Technical Operation
* Roles in charge both sites

Capacity Summary

		B-601	B-602	B-603	B-605	*B-607	*B-608
Reactor size	From	300–12,500 L	300–12,500 L	300–12,500 L	300–3,000 L	2,000-12,500 L	1,000-12,500 L
	Total volume	208 m^3	206.7 m^3	207.5 m^3	16.4 m^3	231 m^3	164 m^3
# Reactor	Glass lined	51	44	49	4	34	26
	SS	5	5	5	--	2	4
	Hastelloy	3	3	2	--	1	4
	Cryogenic	4	4	4		2	N/A
	Autoclave	--	--	--	9	0	N/A
	Total	63	56	60	13	39	34
Separation & Drying	Centrifuge	6	9	9	--	12	5
	Cone drier	6	9	9	--	12	4
	Filter drier	16	11	11	--	2	4
	Tray drier	3	2	3	--	N/A	N/A
Plant standard		Advanced intermediates and API	Animal health	Intermediates, RSM	Hydrogenation plant	Intermediates, RSM	Advanced intermediates and API
		Up to OEB4	Up to OEB4	Up to OEB3	Up to OEB3	Up to OEB3	Up to OEB3

*The current capacity in Shaoxing site is 638.6 m^3. As plant 607&608 will be put into use by middle of 2025, the overall capacity will be increased to 1,031.6 m^3.

Plant 601: Advanced Intermediates and API



Continuous Flow in Shaoxing Site

	Capability	Process Development		Pilot Scale	Kilo GMP	Manufacturing (Non-GMP/GMP)
No.	Site	Beijing	Ningbo	Tianjin	Tianjin	Shaoxing
1	Continuous hydrogenation (100 bar, 150 °C)	√	√	√	√	√
2	Cryogenic (-80 °C)	√	√	√	√	√
3	High temperature (280 °C)	√	√	√	√	√
4	Pressure >50 bar for most reactors	√	√	√	√	√
5	Micro-reactors	√	√	√	√	√
6	Various kinds of coil reactor	√	√	√	√	√
7	Photoredox	√	x	√	√	x
8	Ozonolysis	x	x	√ (Under construction)	x	x
9	CSTR	√	√	√	√	√
10	PAT Tool	√	√	√	√	√
11	Capacity	Tens of kilos	Tens of kilos	Up to MT	Tens of kilos	Up to tens of MT

API Manufacturing Capabilities at Shaoxing Site

Manufacturing Plant

- Reactor: Glass-lined/Hastelloy/Stainless Steel with temperature range -90°C to 160°C
- Corrosive conditions, hydrogenation, cryogenic, reduction, oxidation, metal catalysis etc.
- Various milling including jet mill and wet mill
- Emerson/Siemens Automation Control System
- Continuous Flow (6 trains including one of continuous hydrogenation)
- High Potency (Under designing)
- Gravity process flow
- Closure charging
- Closure sampling
- Control transfer
- Control packaging

In Operation 24/7





QC Lab

Instrument List	GMP QC Lab
HPLC (Agilent 1260)	20
HPLC (Waters Arc)	12
UPLC (Agilent 1290)	2
UPLC (Waters H Class)	2
GCHS (Agilent 8890/7697A)	9
Balance (Mettler)	6
KF (Mettler)	2
Titrator (Mettler T7)	1
TOC (GE 860)	1
FT-IR (Shimadzu Tracer 100)	1
UV (Shimadzu 2600i)	1
LOD (Mettler HX204)	1
XRPD (Bruker D2)	1
PSD (Malvern 3000)	1
Polarizing Microscope	1
ICP-MS + ICP-OES (Thermo)	1 + 1
DSC (TA Discovery 250)	1
TGA (TA Discovery 550)	1
Raman True Scan	1
Milli-Q Purified Water System	2
Ion Chromatography (ICS-6000)	1

QC Lab

Micro Lab

Supporting Facilities

Warehouse

- Solid 13,800 m^2, including quarantine/dispensing/sampling/rejected area
  - Temperature and relative humidity controls, air changes
  - Cooling/cold storage
- Liquid 4×1,500 m^2

Tank Farm

- 18 solvent tanks

Waste Treatment

- Waste water 600 T/day
- Waste gas 20,000 m^3/h
- Solvent recovery 500 kg/h*2

Utility Center

- Cooling medium: Glycol/water -25 ℃, 5-7 ℃
- Purified water: 2 T/H
- Soft water: 35 T/H





Manufacturing Capacity Expansion at Shaoxing Site

Plant 607 & 608 (for small molecule manufacturing, by middle of 2025)

- Capacity: 393 m^3
- Reactor size: 1,000 L-12,500 L
- Progress: Facility installation in August of 2024, plan to put into use by middle of 2025

Plant 609 (for commercial manufacturing of TIDES and spray drying, by Q1 of 2026)

- Capacity of TIDES: three production lines for peptide and two lines for oligonucleotide
- Spray drying: two sets (800 kg/day, H_2O)
- Progress: under constructing, plan to put it into use by Q1 of 2026

Plant 610 (half)& 611 (for small molecule manufacturing, by Q4 of 2026)

- Capacity: 442 m^3
- Reactor size: 8,000 L-12,500 L
- Progress: completed design, plan to put it into use by middle of 2026

Plant 610 (half of building for HP capability construction, by Q4 of 2026)

- Capacity: 5.6 m^3
- Reactor size: 50 L-1,000 L
- Progress: under designing, plan to put it into use by Q4 of 2026

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Continues to Strengthen Our Global Chemistry and Manufacturing Capabilities and Capacities

Laboratory Services

Chemistry, Manufacturing and Control

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