

# Concept to Completion

of the world's most advanced microelectronic facilities



# Exyte at a Glance

### Bringing the future of technology to life

### Advanced Technology Facilities Biopharma & Life Sciences





Semiconductor **Batteries** Flat Panel Display **Photovoltaics** 





Pharmaceuticals & Biotechnology Food & Nutrition Consumer Care **Specialty Chemicals** 

### **Data Centers**





Cloud Computing Enterprise Co-Location **High Performance Computing** 

Exyte is a global leader in design, engineering and construction delivering high-tech facilities, plants and factories. With a history of more than 100 years, we have developed a special expertise in controlled and regulated environments.

We serve the most technically demanding clients in growth markets such as semiconductors, batteries, pharmaceutical, biotechnology and data centers. Our business is organized in three strategic segments - Advanced Technology Facilities (ATF), Biopharma & Life Sciences (BLS) and Data Centers (DTC).

We offer the full spectrum of services from consulting and design to managing turnkey solutions. Operating in more than 20 countries, Exyte is uniquely positioned to support clients locally and globally.



History of 100+ years



Special expertise in cleanrooms and controlled environments



Serving the most **technically** demanding clients



Full spectrum of services from consulting and design to managing turnkey solutions



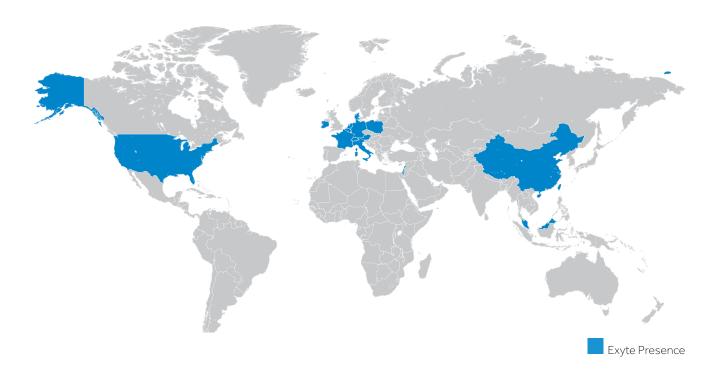
Client centric operations in 20+ countries



Commitment to safety: "Incident Free Workplace" (IFW)

## A Global Company with Local Presence

With around 9,000 employees across more than 20 countries



### **Global Delivery**

Exyte's global footprint, coupled with our profound knowledge of the local requirements, allows us to fully support our clients in their global manufacturing expansion.

Our global Concept Development Team, cross-regional collaboration and digitalization effort allow us to deliver fast-track project executions with consistent quality to clients across Asia, Europe and North America. Therefore, enabling our clients to achieve a faster time-to-market to cater to the rapidly growing semiconductor demand.

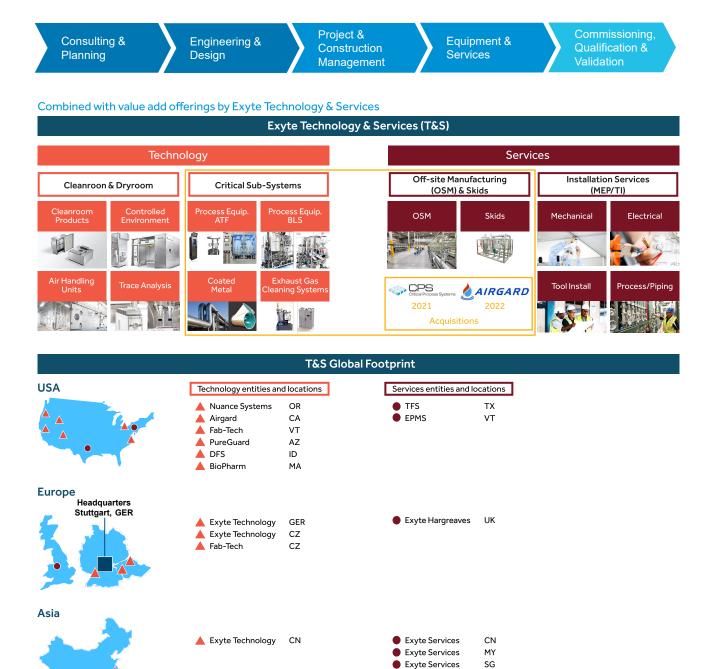
# Advanced Technology Facilities

Exyte delivers the most advanced microelectronic projects



# Complete Design & Build Solutions

### Deep expertise across all engineering disciplines



## Lean, Clean, Green, Fast

### Enabling fab operational excellence



#### Lean

Efficient, consistent and reliable project delivery through process mastery and technological expertise.



### Clean

High quality cleanroom and dry room to provide controlled environment to meet customers' technology requirement.



### Green

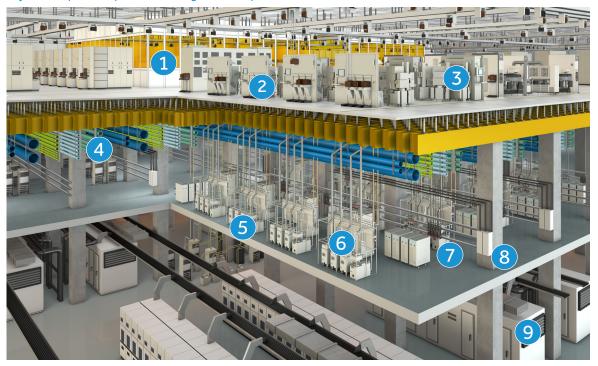
Enhancing system sustainability encompassing energy efficiency, waste reduction throughout a fab's life cycle.



#### Fast

Integrated Design-Build approach meeting process and regulatory requirements for fast-track project execution – improving clients' Time-to-Market.

### Exyte's complete scope of work integrates all aspects of fab facilities



Cleanroom

Process Equipment

Manufacturing Automation System

Mechanical System Distribution

Critical Subsystems

Tool Install

Process System Distribution

Electrical Distribution

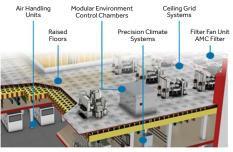
Facility Plant Equipment

## Leader for Controlled & Regulated Environments

# Comprehensive and in-depth coverage for fab construction and critical processes

### 50+ years experience in creating ultra-pure atmospheres for semiconductor manufacturing

Our Capabilities		Parameters
	± 0.001	<b>Air Temperature Control</b> Kelvin
<b>(</b> \\$	± 0.1	Humidity Control % r.H.
0 <u>0</u> 0	-50	Humidity Control/Reduction °C (Dew Point)
	± 0.0005	<b>Water TemperatureControl</b> Kelvin
Δр	± 0.05	<b>Differential Pressure Control</b> Pascal
	1	Magnetic Fields nT (control active/passive)
<b>□</b>	≤ 20	<b>Noise Insulation</b> dB (ambient/process)
<b>Д</b> ==	1 (0.01)	<b>Air Quality (Particles)</b> ISO (FED STD)
(La	А	<b>Air Quality (Bacteria)</b> GMP
o TO	0.1	AMC (Acids, Bases, Dopants)
(ii)	1.0	VOC (Condensables) ng

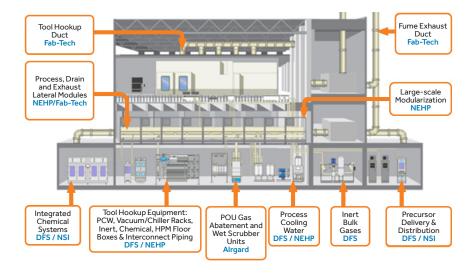








### Extensive solutions catered to our clients' needs



DFS
An Exyte Group Company

Fab-Tech
An Exyte Group Company

An Exyte Group Company

NEHP
An Exyte Group Company

ENGVT
An Exyte Group Company



Fab Decarbonization Focus for a Better Future





## Digital Tool Install

# Redefining engineering & project delivery of semiconductor fabs and associated process equipment



### **Integrated Data**

Base build  $\sim$  Tool Install Integrated data management.

Engineering Management Platform (EMP) as connected database-one source of truth.



### **Smart Design**

Data-driven approach for Design & Engineering hyper-automation.

Smart P&IDs with intelligent data management for integrated engineering.



### Laser Scan

3D laser scanning for multidisciplinary coordination.3D laser scanning for as-built.



### Off-site Fabrication

Isometric from 3D BIM model for off-site fabrication (pre-fabrication, pre-assembly and modularization).

Efficient inventory management.



### 3D, 4D, 5D BIM Model

5D cost estimation.

LOD 400/500 3D BIM model. 4D dynamic sequencing, material management progress tracking & constructability analysis.



### Digital Change Management

AgileIT change management system Efficient task & issue tracking Automated process and workflows.



### **Supply Chain**

Integration of entire supply chain (procurement, operation, distribution and integration).

Efficient project planning and execution.



# Higher Level of Customer Experience with Off-Site Manufacturing (OSM)

### Self-perform capabilities providing added certainties to cost, schedule, safety and quality

An expansive OSM program through a fully integrated design-build approach utilizing a global network of self-perform facilities and specialty sub-supplier businesses to provide a global approach for our customers.

### OSM delivers key benefits that our clients need



### Speed and Schedule Improvement

Off-site fabrication and assembly of fab components / modules allow other on-site construction activities to be carried out simultaneously and uninterrupted.



### **Cost Competitiveness and Sustainability**

Increasing efficiency in project execution through OSM not only leads to productivity and cost saving benefits, but also reduces the carbon footprint during construction.



### **Increased Safety Assurance**

Less activities and workers at the construction site reduces safety hazards and risks.



### **Higher Reliability**

More consistent and reliable quality of fab components can be achieved as they are designed and manufactured by the same team with the same processes, and at the same site.

### Encompassing a wide range of fab components/ modules





Gas skids



Self-perform assembly facilities



Self-perform fabrication facilities



Subfab laterals



E-House

# Incident Free Workplace



# We are committed to an Incident Free Workplace so that everyone goes home safe every day



# Recognition for Safety & Performance

### Exyte is a regular recipient of coveted awards

### Quality First Award

2023, The Netherlands, by Customer ASML

### **Excellent Safety Performance Award**

2022, China, by Customer CXMT 2020, China, by Customer AT&S

### Platinum Diamond Award

2019, Malaysia, by Malaysian Occupational Safety and Health Practitioners Association (MOSHPA)

### Gold Premier Award

2019, Malaysia, by Malaysian Occupational Safety and Health Practitioners Association (MOSHPA)

### **Excellent Supplier Award**

2018, China, by Customer HLMC

### **Excellent Contractor and Safety Award**

2017, China, by Customer AUO

### Occupational Safety and Health (OSH) Award

2017, Malaysia, by Malaysian Occupational Safety and Health Professionals' Association (MOSPHA)

### RoSPA Gold Award for Health and Safety

2017, UK, by the Royal Society of Prevention of Accidents (RoSPA)

### International Project of the Year

2016, UK, by the British Construction Industry (BCI)

### RoSPA Gold Award for Health and Safety

2016, Ireland, by the Royal Society of Prevention of Accidents (RoSPA)

### Perfect Safety Record

2015, Philippines, by Safety Organization of the Philippines



At Exyte, safety is not just about tasks and checklists. First and foremost, it is about creating a safety culture that inspires active and open engagement amongst our colleagues, suppliers, subcontractors and clients, resulting in a safe workplace that ensures that everyone goes home safely, every day.

## Our Projects

### Key references delivered by Exyte

### 1. 300mm Wafer Fab (Foundry)

Hsinchu, Taiwan, 2011 - 2013 Extended Cleanroom EPC

### 2. 300mm Wafer Fab 10X (Memory)

Singapore, 2014 - 2016 Design/Build & Tool Install

### 3. 300mm Wafer Fab 10A (Memory)

Singapore, 2018 - ongoing EPC Basebuild & Tool Install

### 4. SUNY Polytechnic Institute

300mm Wafer Fab 450mm Wafer R&D Albany, NY, USA, 2013 - 2017

### 5. 300mm Wafer Fab (Analog)

Dallas, TX, USA, 2017 - ongoing Tool Install

### 6. TFT Display Facility

Kunshan, China, 2015 - 2017 Extended Cleanroom EPC

### 7. 300mm Wafer Fab (Foundry)

Shanghai, China, 2016 - 2018 Extended Cleanroom EPC & MEP Package

### 8. 300mm Wafer Fab (Logic)

China, 2016 - ongoing Design/Build & Tool Install

### 9. 300mm Wafer Fab 7H (Foundry)

Singapore, 2021 - ongoing EPC Design/Build

### 10. 300mm Wafer Fab (Analog/mixed signal & Power)

Germany, 2023 - ongoing EPC

### 11. 300mm Wafer Fab (Power)

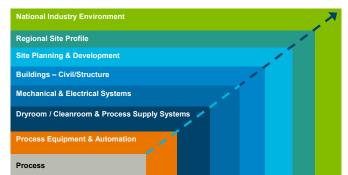
Austria, 2018 - 2021 EPC



# Why Exyte?

1. Integrated Design-Build Approach: Fast-track project delivery improving clients' Time-to-Market, integrating process and manufacturing technology requirements.

### "Inside-out" approach



- 2. Full range and combination of services offered for the design and construction of cost-efficient microelectronic fabs.
- 3. Long-term experience with innovative cleanroom projects.
- 4. Proven track record for worldwide project execution with numerous references.
- 5. All forms of contract types serviced (reimbursable, open book, lump sum).





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