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WuXi AppTec

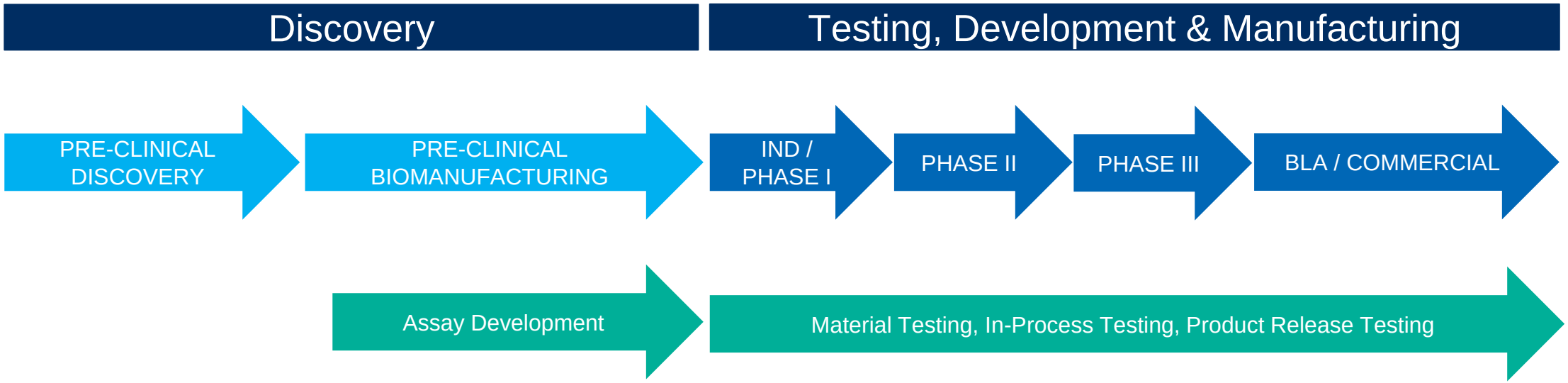
WuXi ATU
A Global CTDMO

Dr. David Chang 张幼翔 博士
WuXi ATU CEO

Forward Looking Statements

This presentation may contain certain “forward-looking statements” which are not historical facts, but instead are predictions about future events based on our beliefs as well as assumptions made by and information currently available to our management. Although we believe that our predictions are reasonable, future events are inherently uncertain and our forward-looking statements may turn out to be incorrect. Our forward-looking statements are subject to risks relating to, among other things, the ability of our service offerings to compete effectively, our ability to meet timelines for the expansion of our service offerings, our ability to protect our clients’ intellectual property, unforeseeable international tension, competition, the impact of emergencies and other force majeure. Our forward-looking statements in this presentation speak only as of the date on which they are made, and we assume no obligation to update any forward-looking statements except as required by applicable law or listing rules. Accordingly, you are strongly cautioned that reliance on any forward-looking statements involves known and unknown risks and uncertainties. All forward-looking statements contained herein are qualified by reference to the cautionary statements set forth in this section. All information provided in this presentation is as of the date of this presentation and are based on assumptions that we believe to be reasonable as of this date, and we do not undertake any obligation to update any forward-looking statement, except as required under applicable law.

WuXi ATU – Revolutionary Global CTDMO Model



OXGENE®
A WuXi Advanced Therapies Company

WuXi Advanced Therapies | 药明康德 WuXi AppTec

Global Platform, Global Talents

1,100+ employees	**8** global sites	**800k+ ft²** global sites	**587** Programs worldwide

WuXi ATU Leadership Team

David Chang, Ph.D.

CEO, WuXi ATU

29+ years of experience

Ryan Cawood, Ph.D.

CSO, WuXi ATU

14+ years of experience

Jennifer Cheung

VP, QA and RA

28+ years of experience

Heather Malicki, Ph.D.

ED, AD & Testing

20+ years of experience

RJ Fitch

GM - US

25+ years of experience

Angela Chen, Ph.D.

GM - China

19+ years of experience

Jocelyne Bath

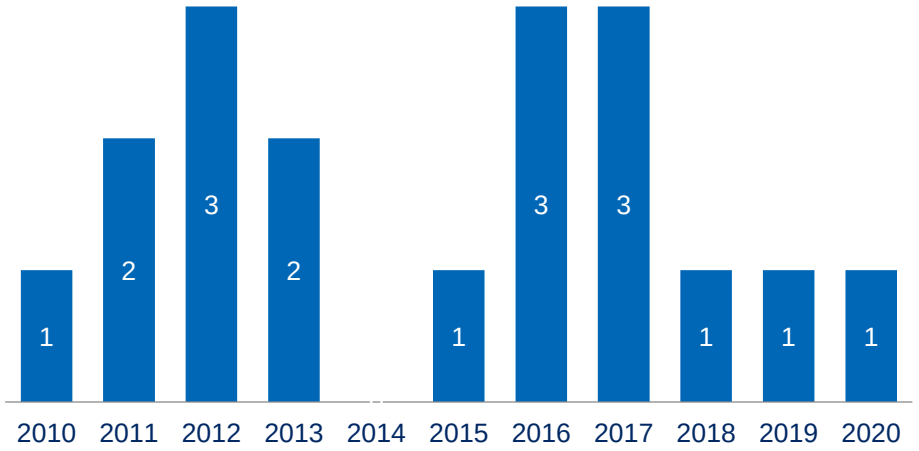
GM - UK

22+ years of experience

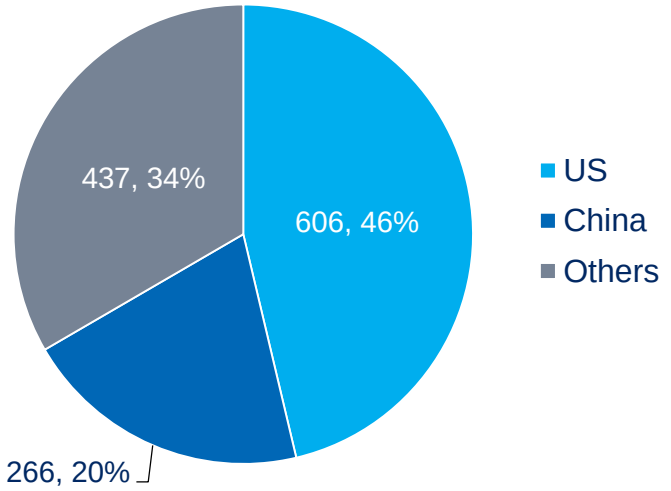
Cell & Gene Therapy Product Development Landscape

- Cell and gene therapy-related research, development and market in the global will continue to grow at a fast rate. There are currently 1,306 cell and gene therapies in clinical trials as of the end of 2020 globally.
- As of 2020, there are total 18 FDA-approved cell and gene therapies (3 in the last 3 years). It is expected that cell and gene therapy will make big advances in the next years.
- 46% of CGT product are developed in US, and 20% are in China.

FDA Approved Cell and Gene Therapies, 2010-2020



Cell and Gene Therapies under Development by Region, 2020



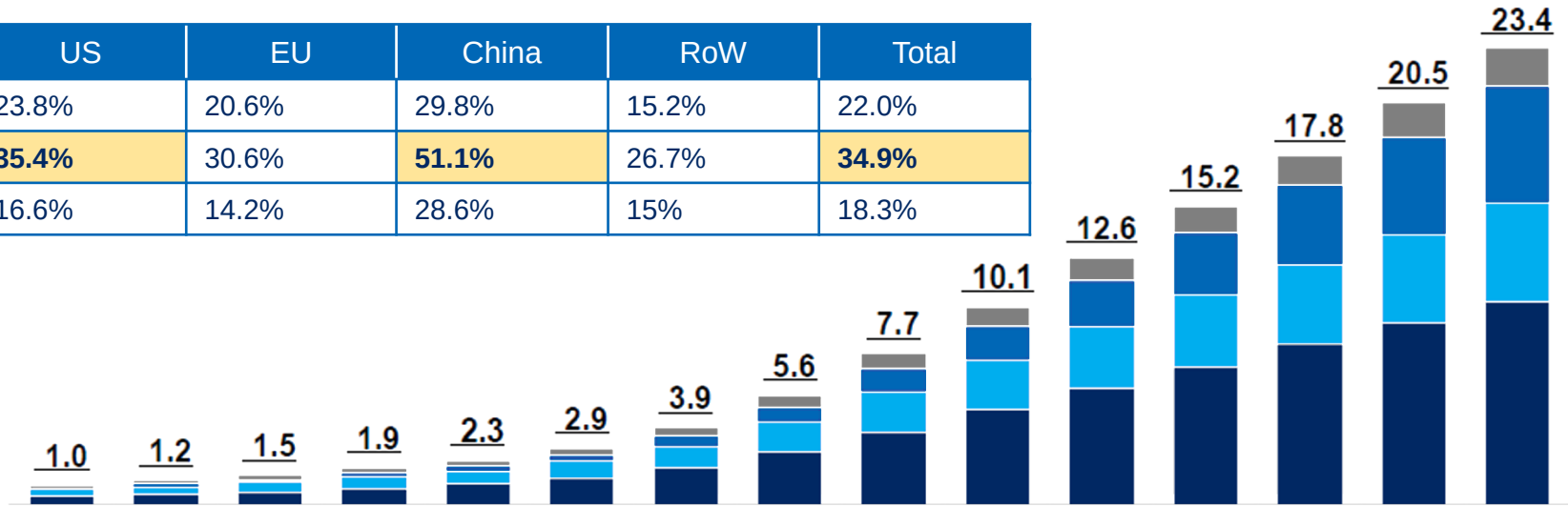
Source: FDA, ClinicalTrials.gov, Frost & Sullivan analysis

Historical and Forecast Cell and Gene Therapy CDMO Growth by Region

- Global CDMO services market increased at **22.0%** CAGR (2016-2020)
- Global CDMO for cell and gene therapy set to be **USD10.1B** by 2025 (CAGR **34.9%** 2020-2025)
- China CDMO forecast to be the fastest growing market at **51.1%** CAGR (2020-2025)

CAGR

Period	US	EU	China	RoW	Total
2016-2020	23.8%	20.6%	29.8%	15.2%	22.0%
2020-2025E	**35.4%**	30.6%	**51.1%**	26.7%	**34.9%**
2025E-2030E	16.6%	14.2%	28.6%	15%	18.3%



USD:B

	2016	2017	2018	2019	2020	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	**2030E**
Total	1.0	1.2	1.5	1.9	2.3	2.9	3.9	5.6	7.7	**10.1**	12.6	15.2	17.8	20.5	**23.4**
RoW	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.7	2.0
China	0.1	0.1	0.1	0.2	0.2	0.3	0.5	0.8	1.2	**1.7**	2.3	3.1	4.0	5.0	**5.9**
EU	0.3	0.4	0.5	0.7	0.7	0.9	1.1	1.5	2.0	2.6	3.1	3.7	4.1	4.5	5.1
US	0.5	0.5	0.7	1.1	0.1	1.4	1.9	2.7	3.7	**4.8**	5.9	7.0	8.2	9.3	**10.4**

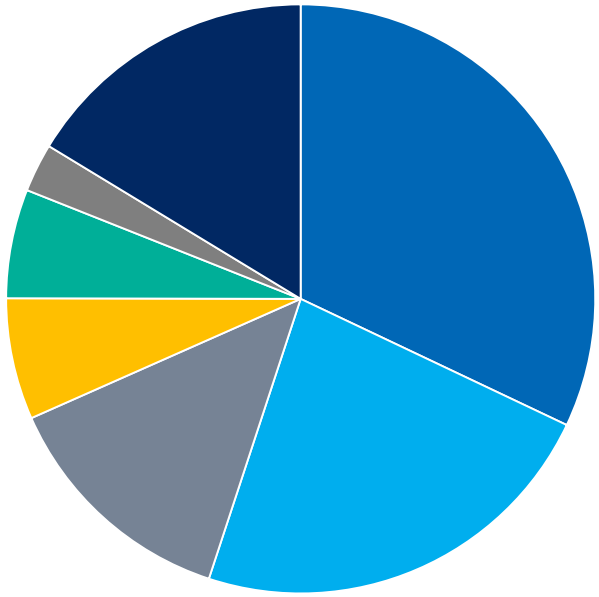
Source: Frost & Sullivan

Competitive Landscape of Global Cell and Gene Therapy CMO/CDMO Market, 2020

- Cell and gene therapy CMO/CDMO market is an emerging segment in CMO/CDMO market due to high demand and approved clinical efficacy of cell and gene therapy in clinical. Catalent is the largest market players in global market with a revenue of USD722.8 Million or 32.0% of market share in 2020.
- WuXi ATU ranked 4th by revenue or 6.7% market share in 2020.

Competitive Landscape of Global Cell and Gene Therapy CMO/CDMO Market, 2020

Unit: Million USD



Company	Revenue	Market Share	
Catalent	722.8	*32.0%*	CDMO
Lonza	518.8	*23.0%*	CDMO
Thermo Fisher	300.5	*13.3%*	CDMO
WuXi ATU	150.4	*6.7%*	CTDMO Business Model
Charles River	135.0	*6.0%*	CRO (T)
Oxford BioMedica	60.0	*2.7%*	CDMO
Others	368.1	*16.3%*	

Notes: China-based market includes revenue that companies in China provide and generate revenue in China or global. F&S has estimation for the revenue which does not have public information.

Source: Annual report, Frost & Sullivan analysis

WuXi ATU C“T”DMO

Why “Testing” is So Important from Lessons Learned

FIERCE Biotech

Biotech

Mesoblast hit by FDA rejection, request to run another trial

Mesoblast said “assays measuring the potency of remestemcel-L will continue to be refined to provide further scientific rationale for its use in severe inflammatory diseases with high mortality risk.”

BRIEF

BIOPHARMADIVE

FDA delays a biotech's cancer cell therapy once again

FDA is taking a tougher line on gene therapy development in general. FDA asked Sarepta to run another laboratory test using a new potency assay and Pfizer recently said it’s working with the FDA to resolve questions about potency assays for its own experimental Duchenne treatment.

BioSpace

Iovance Biotherapeutics Faces Another Delay in BLA Submission for TIL Therapy

Iovance said in a statement on Tuesday that it will continue to develop and validate its potency assays for the TIL drug, with plans to submit the additional assay data to the FDA in the second half of this year.

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What Complex Testing for CGT is All About?

STARTING MATERIALS

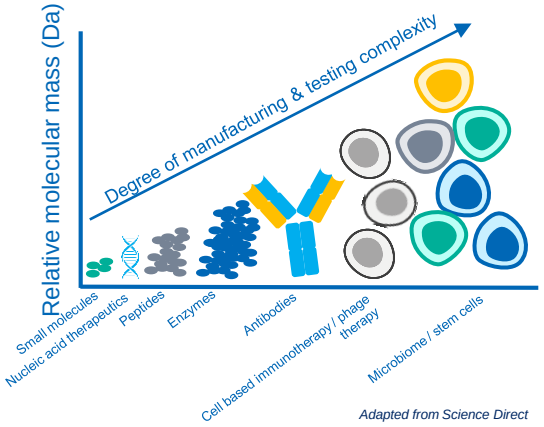
- Cell Bank Testing
- Viral Vector Release Testing
- Animal/human derived raw materials need extensive safety testing
- Heterogeneity of patient cells
- High numbers of complex raw material in CGT program

ASSAY DEVELOPMENT

- Complex cell and molecular based assays (eg potency assays)
- High number of product specific, customizes assays
- Specialized technical capability (rare)
- Experience in managing patient heterogeneity

PRODUCT RELEASE

- Extremely short turnaround time for cell therapies (~24-96 hours)
- Very limited sample volumes for assays
- Complex biosafety testing (eg RCL, RCAAV, …)
- Regulatory guidance is still evolving – no clear path to market



- Product companies & traditional CDMO do not possess the internal analytical development and testing capabilities for CGT products
- WuXi ATU internal, integrated testing could address all these challenges in US, China and EU

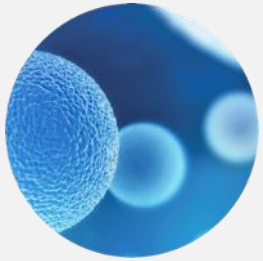
Testing: Serving the Funnel for Integrated CGT Projects, and Integral Part of the Process Dev and Manufacturing

"WuXi ATU's 3 Decades of "Testing" Experiences in Cell and Virology Testing"

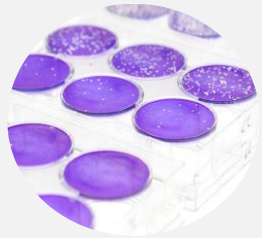
1,700+ Global Submissions

27+ Commercial Lot Release Testing

Strong Assay Development



Biosafety



Virology
Microbiology
Molecular

Viral Clearance

Commercial Lot Release

3x Capacity | CGT Focused | Enhanced Automation | Global Expansion

>90% On-time Delivery | >90% Right First Time | 99% Manufacturing Customer Take Advantage of Integrated Testing

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WuXi ATU CT“D”MO

WuXi ATU Acquires OXGENE (March/2021)

OXGENE®
A WuXi Advanced Therapies Company

THE QUEEN'S AWARDS FOR ENTERPRISE: INTERNATIONAL TRADE 2020

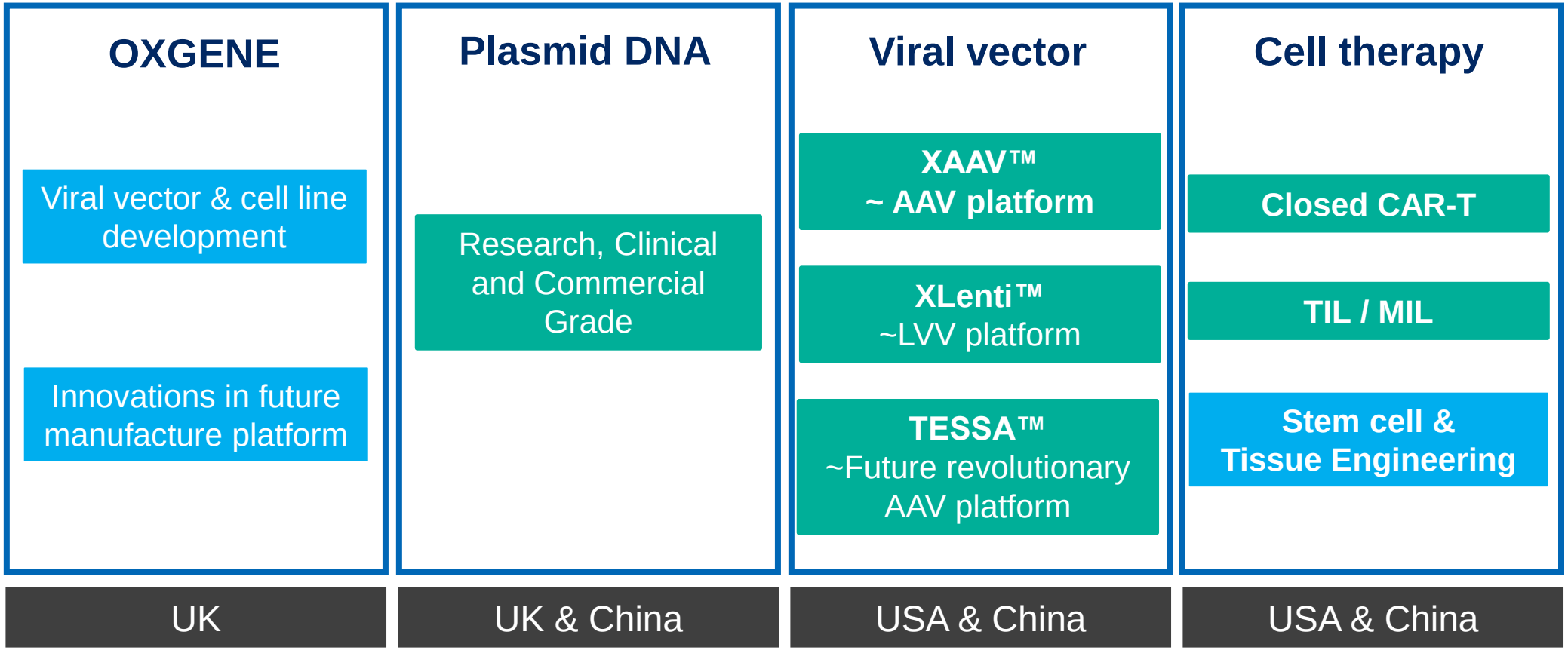
THE SUNDAY TIMES TECH TRACK 100 2020 sage

50 Technology Fast 50 2019 UK WINNER Deloitte.

TOP 100 BRITAIN'S FASTEST-GROWING BUSINESSES 2019

WuXi ATU + OXGENE Platform Portfolio

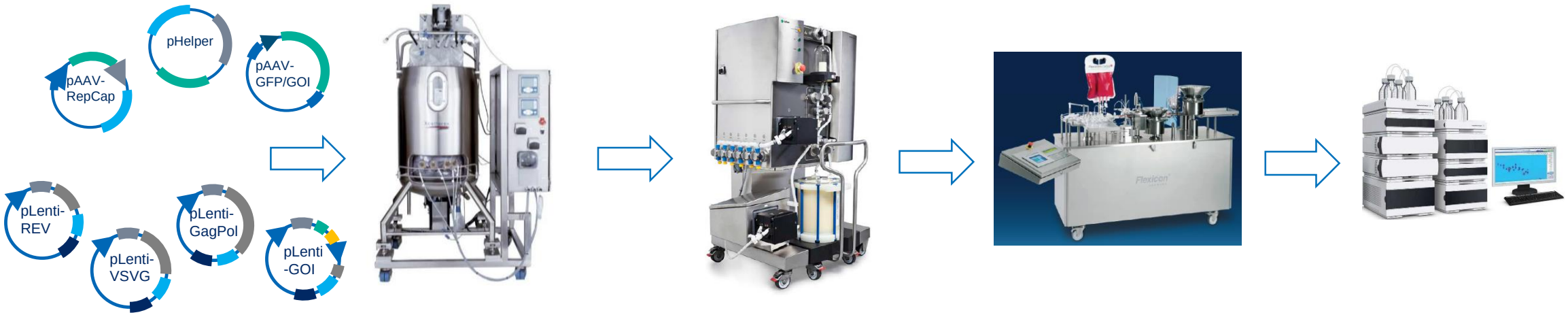
Fully Integrated World-Class CTDMO Platforms



Plasmid DNA Production Platform

Off-the-shelf XAAV™ and XLenti™ Plasmids and customized GOI plasmids with Patented Technology

Technology and Process (USP / DSP)	Filling and Testing



Immediately Available Packaging Plasmid → Customized Plasmid with Rapid Turnaround Time → Flexible Manufacturing Scale from 5L to 300L → High Purity, Homogeneity, Low Endotoxin → With Regulatory Package for IND / BLA

- Research, Clinical-GMP and Commercial-GMP grades available
- Antibiotics-free manufacturing process (regulatory friendly, especially in China)
- Delivers consistent high yields (1-10 g) and high quality plasmid in 5 days (thaw to fill/finish)

XAAV™ Suspension Transient Platform

Consistently (10 Serotypes) Delivering High AAV Yields and Reproducible Productivity

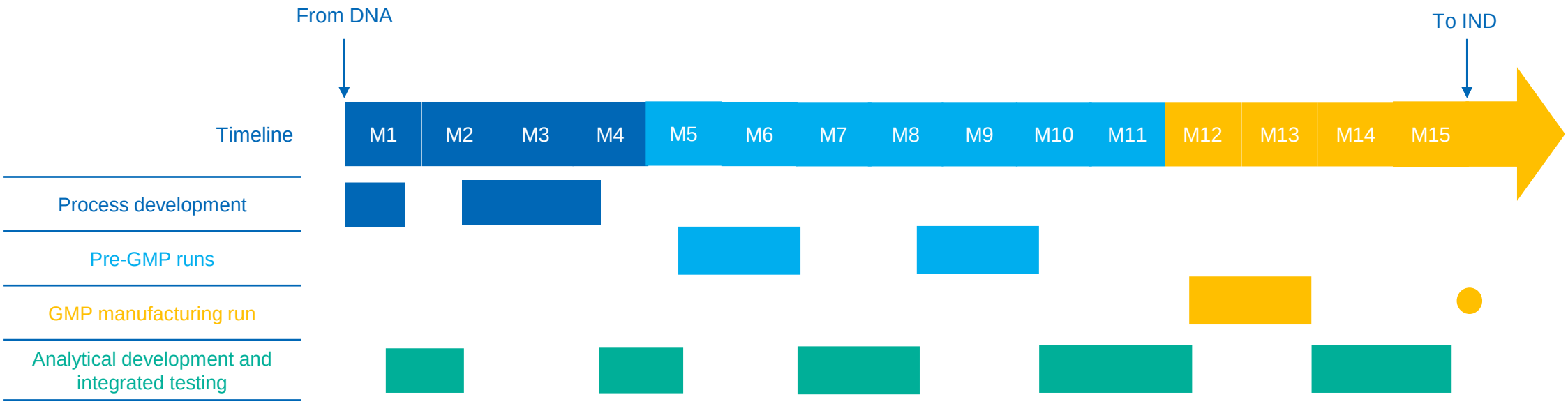
Technology and Upstream Process	Downstream and Testing

High Performing Clonal HEK293 cell line → Patented Plasmid Technology → Scalable Suspension Platform Up to 200L → Pre-Validated Downstream Processes → Validated Integrated and Release Testing

- Use OXGENE high-performance plasmids (off the shelf)
- Delivers consistent industry-leading AAV yields at harvest (**2x10^{10}-2x10^{11}** GC/ml) and high quality in **30 Days** for 200-400L/batch (Thaw to Final Fill/Finish)
- Excellent customer satisfaction of recent **8** AAV clients (eg, ViGeneron)

XAAV™: From DNA to IND in 15 months

An Accelerated, Fully integrated Industrially Leading Customer Journey



* These timelines are reduced/eliminated if customer's GOI is already in an OXGENE backbone

XLenti™ Adherent and Suspension Transient Platform

Consistently Delivering High Lenti Viral Vector Yields and High Quality

Technology and Upstream Process | **Downstream and Testing**

High Performing Clonal HEK293 cell line → Patented Plasmid Technology → Scalable Platform Up to 24-48 Hyperstack (adherent) or 200L Bioreactor (Suspension) → Pre-Validated Downstream Processes → Validated Integrated and Release Testing

- Use OXGENE high-performance plasmids (order off the shelf)
- Deliver consistent industry-leading Lenti yield at harvest (**1x10^7** TU/ml) and high quality in each adherent batch **(100-200L)**, or in a **200L** suspension batch in **20 Days** (Thaw to Final Fill/Finish)
- Excellent customer satisfaction of recent **12** Lenti VV clients (2 for global BLA filing).

Closed CAR-T Platform: 3 Months from Signature to MFG

CD4/CD8 T Cell Isolation via CliniMACS/Prodigy

Activation/ Transduction in G-Rex

Expansion in G-Rex or Xuri

Concentration, Wash via LOVO

Formulation, Fill via Sepax

Off-the-shelf GMP grade chemically defined media, activator, and cytokines

- The platform includes pre-established equipment, documents, raw materials, testing catalog and specifications -> Enable fast tech transfer to manufacturing.
- Closed CAR-T enables Mfg in lower grade of clean room -> **reduce COGs and increase Mfg throughput**
- **>400** batches of autologous / allogeneic CAR-T experience

Tumor-Infiltrating Lymphocytes (TIL) Platform

- Receive Tumor
- Isolate and fragment
- Seed in G-Rex Flask

- Count cells seed TILs in a bigger G-Rex Flask

- Count cells seed TILs in multiple G-Rex Flasks

- Count cells
- Wash/Harvest
- Formulate in bags

Categories of Tumors

- Melanoma, Metastatic Melanoma
- Cervical, Cervical Carcinoma
- Head & Neck, Head Neck & Shoulder, HNSCC
- Other (Carcinoma, Soft tissue sarcoma, Lung)

Processed Lots

- **> 300** TIL lots processed and released
- WuXi ATU is current industrial leader

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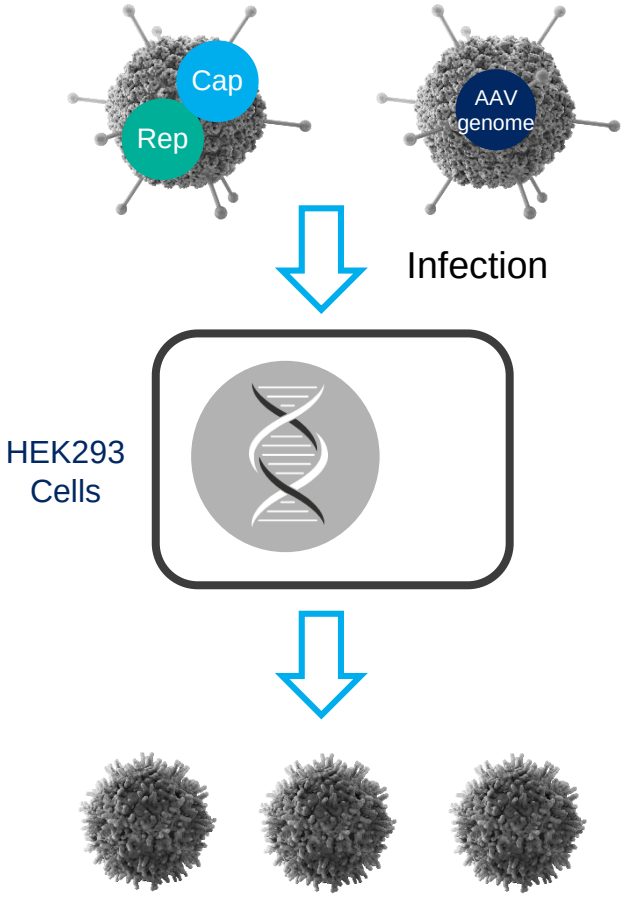
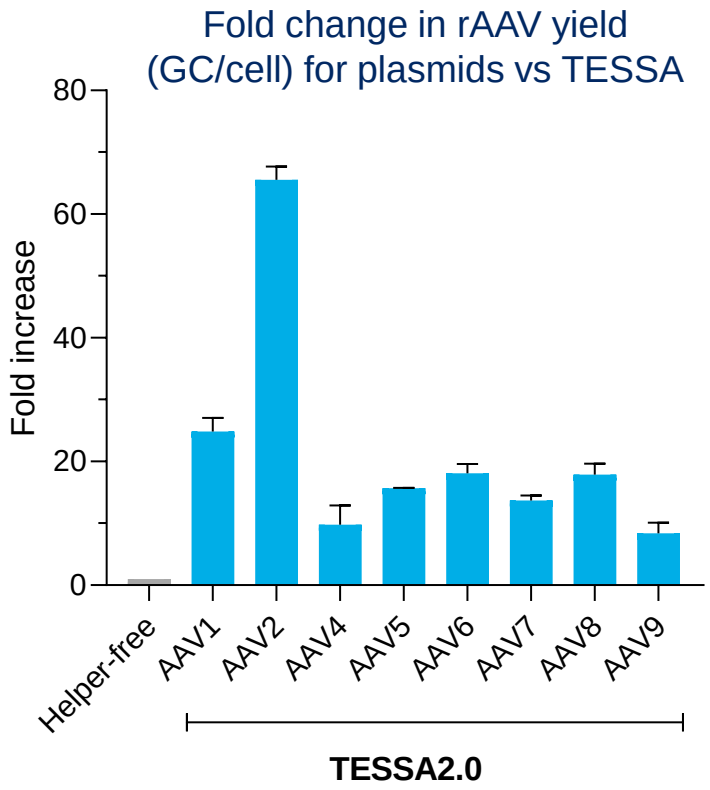
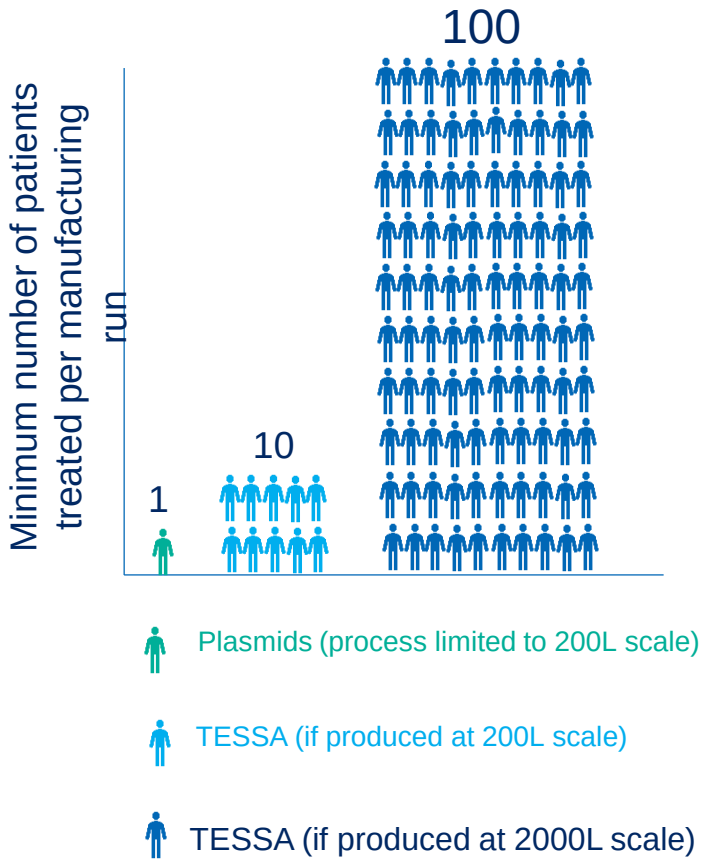
TESSA™ AAV Revolutionizes AAV Manufacture

TESSA™ AAV Process







TESSA™ AAV Technology: Current Deployment Status

Early adopters

2 Big pharma **>10** biotech **3** academic

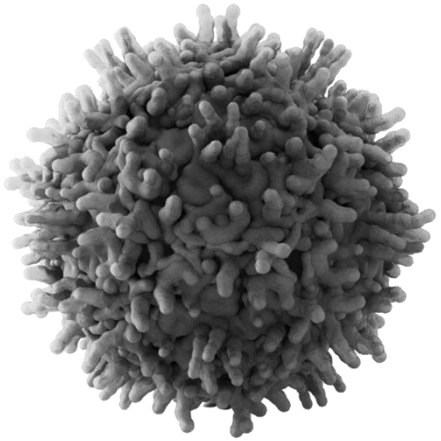
Feedback from early adopters

"AAV titers were 1 log higher" – big pharma

"Significantly better than controls" – big pharma

"All of this was way better than helper free triple transfection in the same experiment, which gave us 26-180 times less yield" – Rockefeller University

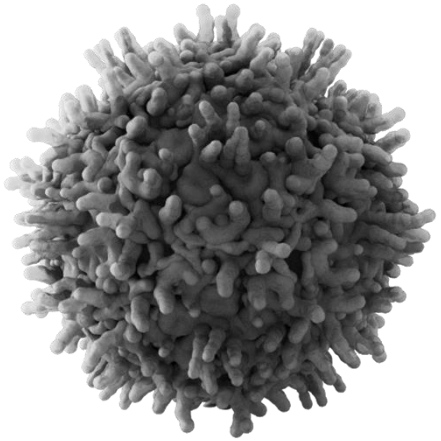
"TESSA™ enables us to test new constructs much faster and cheaper now, which is why we like to keep using it" – renowned university



TESSA™ AAV Technology: An Innovation to Transform and Revolutionize AAV Manufacturing

Transformational Advantages

- Significantly increases AAV particle yields
- Increases AAV particle quality
- Reduces adenovirus contamination by 99.9999999%
- Removes the use of plasmids thus significantly reduce COG
- Significantly improve scalability (> 2000L) and process robustness, and uniform infection of cells, thus further significantly reduce COG



Greatly Increase Market/Patient Access Through Significant Reduction of COGs

WuXi ATU CTD“M”O

CTDMO Model of Manufacturing Lifecycle Management

CELL & VIRAL BANKING | **PLASMID MANUFACTURING** | **CELL THERAPY & VECTOR MFG.**

- Dedicated Cell & Viral Banking
- R&D and Commercial Client Banks
- Full on site characterization testing
- On-site & remote long term storage options

- Research, GMP like ad GMP grade plasmid production offering from an antibiotic free process; supporting both CGT and mRNA modalities

- Adherent & 1K L Suspension technologies
- Build to EU & FDA & China Compliance standards
- >95% batch success rate

A Global Footprint to Support Cell and Gene Therapy Programs

United States, Philadelphia, PA

LI1 82,000 ft²
D M

CC3 55,000 ft²
D M

LI2 150,000 ft²
D M

R400 140,000 ft²
D T

China

Wuxi City, Jiangsu 143,000 ft²
D M T

WGQ, Shanghai 6,600 ft²
D

Lingang, Shanghai 231,000 ft²
D M T

Huishan, Jiangsu, 50,000 ft²
M T

United Kingdom

Oxford, UK 26,000 ft²
D

T Testing 4
D Development 8
M Manufacturing 6

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WuXi ATU Facilities

USA: 400K+ ft^2 of Integrated End-To-End Facilities

- Occupy 400K+ ft^2 in the Navy Yard, Philadelphia, PA
- 800+ highly-skilled scientific professionals recruited from Philadelphia, a major global cell and gene therapy hub
- 30 GMP suites / 3 manufacturing facilities
- All Facilities are US & EU & CHN Compliant
- Clinical and commercial capability
- Dedicated facilities for cell Therapy, gene-mediate cell therapy and vector Mfg.
- Recently expanded testing footprint (3X) to meet increased industry demand

League Island 1 (LI1, 82,000 ft^2)
Early Phase Cell & Gene Therapy Clinical Manufacturing

League Island 2 (LI2, 150,000 ft^2)
Late Phase/Commercial Manufacturing Gene-Mediated Cell Therapies and Viral Vectors

Commerce Center 3 (CC3, 55,000 ft^2)
Late Phase and Commercial Manufacturing Autologous / Allogeneic CT

Rouse 400 (R400. 140,000 ft^2)
Testing for ATMPs and Standard Biologics

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WuXi ATU Facilities

China: 380K+ ft^2 – Largest CGT Dedicated CTDMO in China

Huishan Wuxi + Lingang Shanghai + Waigaoqiao Shanghai

- Over 380K + ft^2 full scale plasmid, viral vector and cell therapy GMP manufacturing
- 250+ skilled work force (>10% domain experts with international background)
- Global standard quality system, compliant with CHN, US, and EU
- Building largest CGT Testing center in Asia
- Dedicated customer project suites and shared platforms
- Commercial suites and space can be reserved for future projects

Wuxi City, Jiangsu
143,000 ft^2

WGQ, Shanghai
6,600 ft^2

Lingang, Shanghai
231,000 ft^2

Newly expanded plasmid manufacture facility opening 2022

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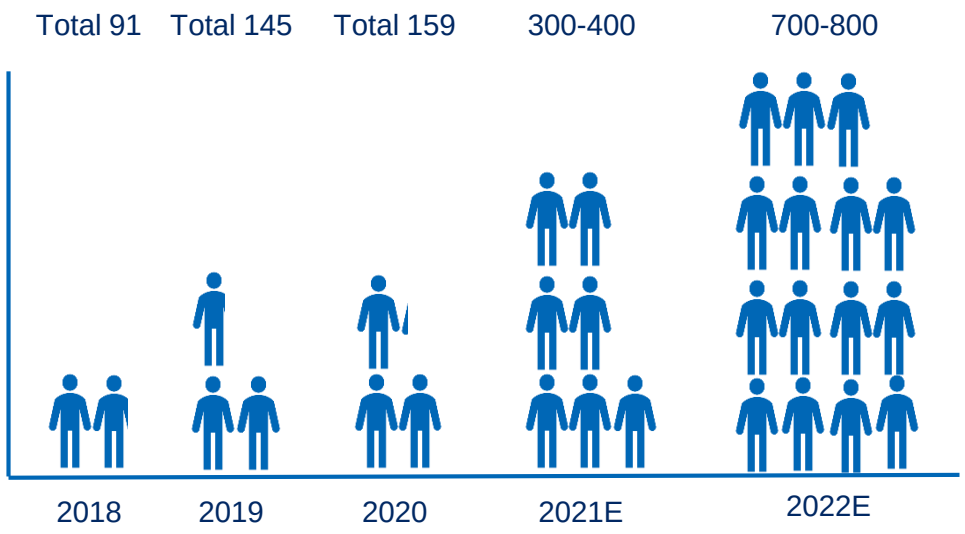
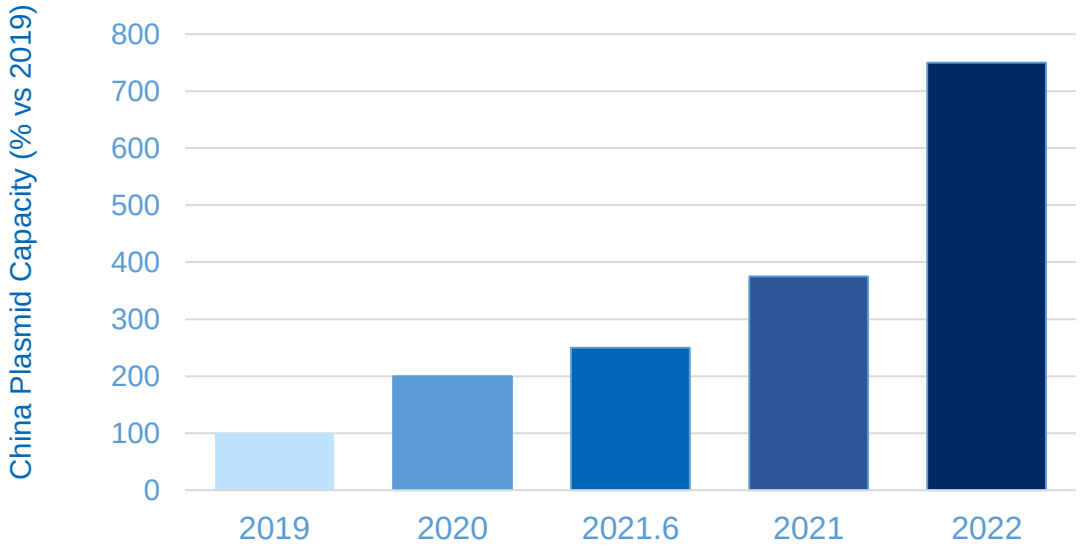
Accelerating WuXi ATU China Growth to Meet Global Demand (Plasmid, CTDMO)

- Opening Lingang Shanghai new facility Q4 2021; largest CGT GMP facility in China, housing end to end CTDMO capability for gene therapy, from testing, to PD, and to manufacturing
- China will have 300-400 employees by end of 2021, and estimate to have 700-800 by 2022
- Expanding plasmid manufacturing capacity in WuXi headquarter (**450** lots/year, triple capacity by 2022)

China Team Expansion to Meet Increasing Demand



China Plasmid Capacity (% increase vs 2019)



WuXi ATU Quality and Regulatory

A Strong Global Track Record of Regulatory Compliance

U.S. FOOD & DRUG ADMINISTRATION

EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

CBER

US FDA Inspections

- December 2019, EMA GMP Inspection (GMP Certificate)
- May 2019, TGA GMP Inspection (GMP Certificate)
- March 2019, PMDA GCTP Inspection
- April 2019, ISO 17025 Re-Certification
- September 2018, AATB Inspection
- August 2018 & March 2019, EU QP GMP Inspection
- October 2014, EMA (Spanish Inspectorate)
- September 2013, Korean FDA (No Observations)
- Jun 20/May 19 USDA (Release Product Intermediate to EU)

Additional Inspections

- January 2020, GMP Inspection (No Actions Indicated)
- April 2015, GMP Inspection (483 with Minor Observations)
- September 2013, GTP/GMP Inspection (No Form 483 Issued)
- August 2012, GMP Inspection (No Form 483 Issued)
- January 2010, GMP Inspection (No Form 483 Issued)

Client Audits

- ~65-75 / year

Registrations

- FDA (CBER) #1000122198

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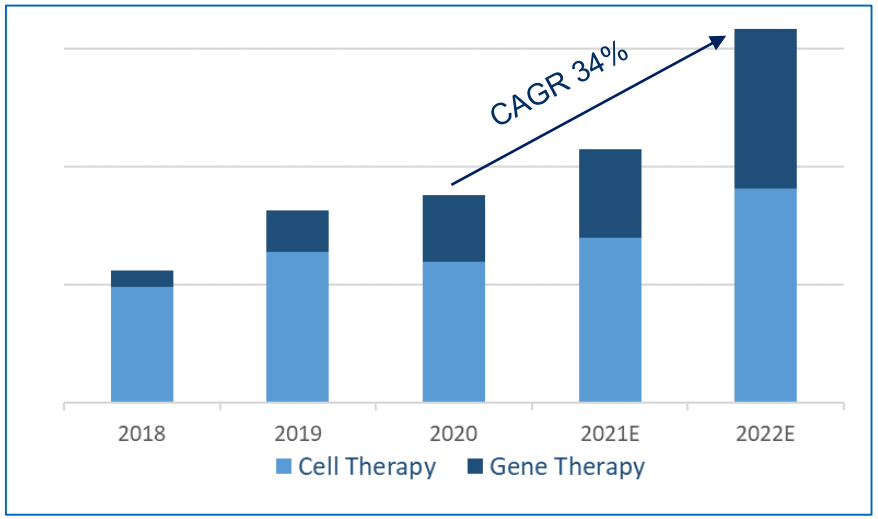
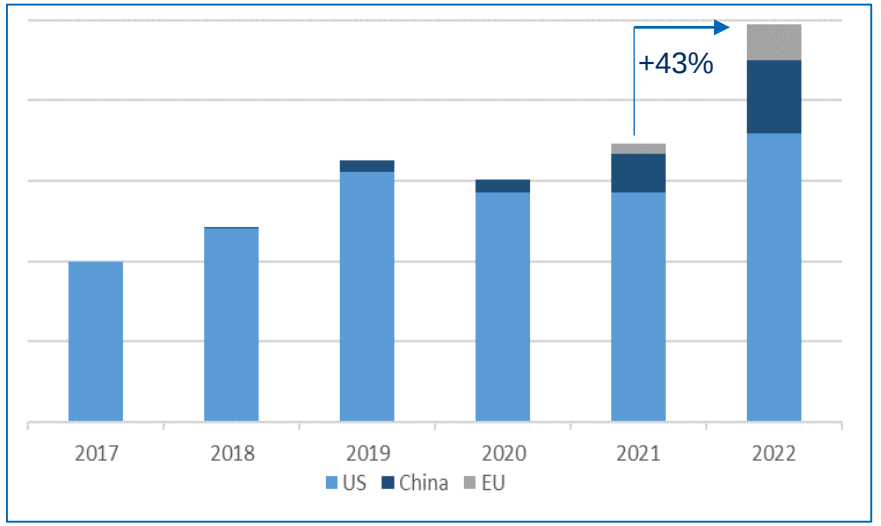
Strong Growth in CTDMO Services and Global Back Log in 2021 and Beyond

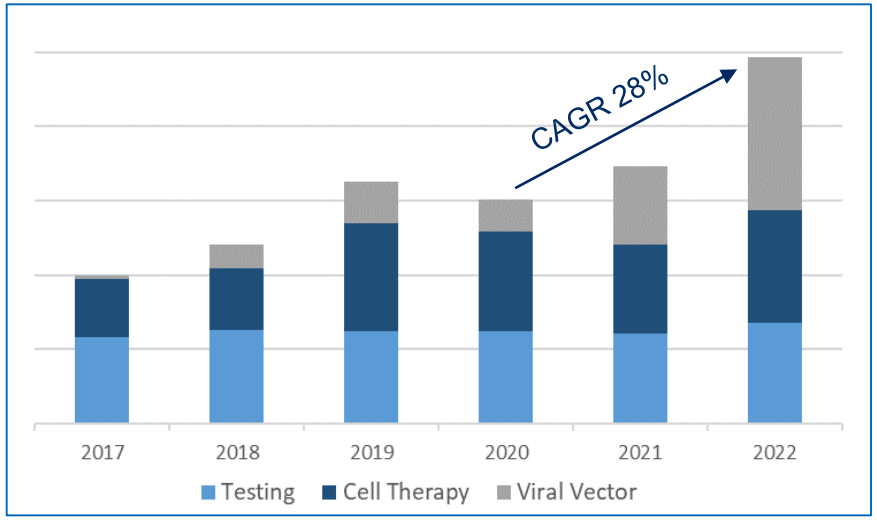
Manufacturing Backlog by Modality



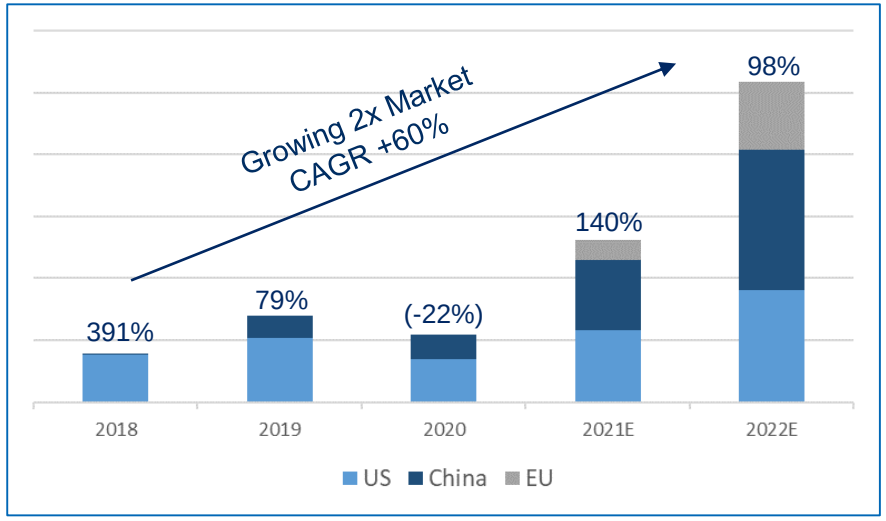
Global ATU Revenue by Region



Global ATU Revenue by Service Segment



Gene Therapy (Viral Vector)



Growth Strategy: Accelerating Time to Clinics & Market for Innovative CGT Companies Globally

WuXi Advanced Therapies

1. CTDMO Business Model Leveraging Testing to Funnel Business to “D”&”M”
2. Next Generation Platform Technologies ~ TESSA-AAV
3. Expand Capabilities and Capacities in US, China & EU to Service Global Markets
4. Attract & Retain Highly Skilled Talents