ESCO ASTER AND A*STAR’S BIOPROCESSING TECHNOLOGY INSTITUTE TO ADVANCE BIOPROCESSING TECHNOLOGIES FOR CELL AND GENE THERAPIES

January 24, 2019

SINGAPORE – Esco Aster, a contract development and manufacturing organisation (CDMO) of Esco Group, today announced the official opening of the BTI–ESCO ASTER Centre of Excellence in Bioprocessing in Biopolis, Singapore. The company has entered into an agreement with A*STAR’s Bioprocessing Technology Institute (BTI) to adopt an Industry 4.0 integrated bioprocessing platform.

This Centre of Excellence (COE), located at Centros building in Biopolis, was inaugurated today at the 11th Asian Federation of Biotechnology (AFOB) Regional Symposium 2019 by Prof. Lam Kong-Peng, Executive Director of Bioprocessing Technology Institute, A*STAR and Mr. Lin Xiangliang, Chief Executive Officer of Esco Aster (see Annex).

This COE marks a significant milestone to advance the development of safe and effective cell and gene therapies. Underscoring such translational efforts, Esco Aster shall:

- **Accelerate** research and development using linearly scalable, cost-effective manufacturing technologies into closed-system operation. Researchers can potentially utilise Esco Aster’s upstream high cell density bioreactors, downstream purification processing, fill and finish processing in an aseptic containment isolator; via its proprietary closed-transfer processes;

- **Support** customised requirements by providing small batch-size production, making it as easy as possible for clinicians to outsource preclinical development work and move quickly from product concept into first-in-human studies;

- **Train** the next generation of thought leaders and cultivate interest in bioprocessing with institutions, specifically for the biopharmaceutical industry;

- **Establish** a biomanufacturing roadmap towards a PIC/S (Pharmaceutical Inspection Convention/ Co-operation Scheme) GMP (Good Manufacturing Practice) compliant pilot incubation facility at JTC LaunchPad @ one-north BLK 67 where bioprocess suites and ISO (International Organization for Standardization) classified cleanrooms will be fully accessible to bioentrepreneurs;

- **Reengineer** processes to de-risk the design space posed by complexity of products/ single-use technologies from process development to plant design – and then validation, enabling a cost-effective manufacturing process.
“We have come full circle with this Centre of Excellence partnership driven by upstream viral vector biomanufacturing and downstream purification,” said Lin Xiangliang, Chief Executive Officer, Esco Aster. “We are keen to contribute to the global reach of this field, and to anticipate bioprocess technological disruptions that will certainly shape the future of cell and gene therapies.”

“We are pleased to be a partner in setting up this Centre of Excellence. It will leverage BTI’s expertise in bioprocessing science and engineering and affirms our commitment to work with local enterprises to develop innovative biomanufacturing solutions and meet the demands of the high-value cell and gene therapy space”, said Prof. Lam Kong-Peng, Executive Director, Bioprocessing Technology Institute, A*STAR.

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**About Esco Group**

Esco Group’s vision is to invent, discover, and commercialise enabling technologies to make human lives healthier and safer. Esco Group is a Singapore-based life sciences ecosystem builder comprising over 30 companies, 1000 employees, with proprietary products and services sold in 100 countries. Esco Group’s operating businesses are in life sciences equipment, medical devices, bioprocess tools and services. As of July 2018, Esco Group has invested RMB100 Million into a new 20,000m$^2$ manufacturing and innovation centre based in Jiangsu, China.

Esco Ventures is the corporate venture investment arm of Esco Group and invests in life sciences start-ups globally. Esco Ventures X, the incubation arm of Esco Ventures, builds biotech start-ups based on in-house inventions and academic technologies.

Esco Aster is a contract development and manufacturing organisation (CDMO) focusing on offering vaccine-, cell- and gene-therapy development and biomanufacturing services using its proprietary Tide Motion technology, bioprocessing and bioengineering equipment. For more information, visit [www.escoaster.com](http://www.escoaster.com)

**Annex – Signing Ceremony at the 11th AFOB Regional Symposium 2019**
Signing Ceremony between Prof. Lam Kong-Peng, Executive Director, Bioprocessing Technology Institute, A*STAR (left) and Lin Xiangliang, Chief Executive Officer, Esco Aster (right)
Lin Xiangliang, Chief Executive Officer, Esco Aster delivered his speech on “Bioprocessing Strategies in the Age of Cell and Gene Therapy”.
艺思高艾斯特与隶属新加坡科技研究局的生物处理科技研究院
成立联合生物制备工程研究中心加速细胞治疗与基因治疗临床转化

1月24日，2019，新加坡  艺思高艾斯特 (ESCOASTER)，新加坡艺思高集团 (ESCO Group) 旗下生物技术及生物制药 CDMO 公司 （Contract Development Manufacturing Organisation、CDMO），致力于细胞治疗与基因治疗技术的开发与应用。本公司与隶属新加坡科技研究局 (A*STAR) 的生物处理科技研究院 (Bioprocessing Technology Institute) (以下简称“BTI”) 联合成立 BTI–ESCOASTER 生物制备工程卓越中心 (Centre of Excellence in Bioprocessing)，采用 “生物制造 4.0” 技术平台，正式签订《细胞与基因治疗》项目合作协议。

BTI–ESCOASTER 生物制备工程卓越中心坐落于新加坡启奥城 (Biopolis)，于第11届亚洲生物技术研讨会 (Asian Federation of Biotechnology) 召开之际隆重举行签约仪式，双方签约代表为生物处理科技研究院院长蓝康平教授与艺思高艾斯特首席执行官林向亮先生。秉持着为加速生物制药的研发转化、细胞培养和制药工程提供整体解决方案的宗旨，BTI–ESCOASTER 生物制备工程中心的成立是艺思高艾斯特进军 CDMO 领域的重要里程碑。艺思高艾斯特集成了:

- **Accelerate** – 研究人员可以利用艺思高艾斯特的上游高密度细胞生物反应器、下游纯化工艺以及无菌生物安全洁净制造技术，开发出一个高效易用的封闭自动化系统，加速细胞与基因治疗的封闭自动化系统开发的进程；
- **Support** – 支持封闭自动化系统小批量、定制化为临床提供科研服务，加快科研临床前转化，并迅速从产品概念转变为人类研究的第一阶段；
- **Train** – 培训、培养新一代研发英才，提高年轻人对生物工程、工艺的兴趣；
- **Establish** – 将在新加坡 JTC LaunchPad @ one north BLK 67 建造符合 PIC/ (Pharmaceutical Inspection Convention/ Co-operation Scheme) 的 GMP 中试车间和符合 ISO (International Organisation for Standardisation) 标准的洁净实验室，成立孵化器，加速研发的临床转化；
- **Reengineer** – 使用低成本和一次性工艺，颠覆生物制品和药品的设计流程，降低生物制品和药品从概念到产品的复杂性风险，提高生物制品和生物药品的开发及高效制造流程。
“依托艺思高艾斯特上游病毒生产、下游纯化的技术平台，新的征程已经开始，我们将开发一个生物制造 4.0 的智能系统，”艺思高艾斯特首席执行官林向亮先生表示，“通过我们的技术平台实现生物制备智能化，这将在细胞治疗和基因治疗领域引起革命，我们希望在全球生物制药领域做出贡献。

生物处理科技研究院院长蓝康平教授说：“我们很高兴与艺思高艾斯特共同成立卓越中心，它将发挥我们在生物制品制备和生物工程方面的优势，与本地的企业合作，开发创新的生物制备智能系统，以满足高价值细胞治疗与基因治疗领域的需求。”

关于艺思高集团

艺思高集团 (Esco Group) 的愿景是发明及发现创新技术并将其商业化，从而使人类生活更健康、更安全。

艺思高集团是一家总部位于新加坡，致力于生命科学与医疗健康领域的研发型企业，拥有超过 1000 人，其自营产品与服务覆盖全球 100 多个国家。艺思高集团的经营范围涵盖生命科学设备、医疗设备、生物工艺处理工具及相关服务。日前，艺思高集团投资 1 亿元人民币在江苏省苏州市太仓兴建了江苏创新中心，新工厂占地面积 2 万平方米，计划于 2019 年底前完工。更多关于艺思高集团详细介绍，请查看中文官网 www.escolifesciences.cn。

艺思高风险投资公司 (Esco Ventures)，在全球范围内投资生命科学初创企业。艺思高风险投资平台系统 X (Esco Ventures X) 是创新发明和科学研究孵化转化成为生命健康初创公司。

艺思高艾斯特 (Esco Aster) 是生物技术及生物制药的 CDMO 公司，为医药企业提供生物制药上下游技术支撑、创新药研发、大型 cGMP 厂房建设等服务。更多关于艺思高艾斯特介绍，请查看官网 www.escoaster.com。