CONFIDENTIAL DRAFT (FOR DISCUSSION PURPOSES ONLY)

LETTER OF INTENT

100 Unit Sterile Fill-Finish Robotics Program

United Therapeutics Corporation

DATE	Aug 21, 2026
FROM	**United Therapeutics Corporation** (“UT”)
TO	**Engage Work LLC.** (“Engage”)
SUBJECT	Intent to proceed with a full P0–P5 robotics development, validation and deployment program.

1 Purpose and Intent

This Letter of Intent (“LOI”) records United Therapeutics Corporation’s intention to proceed with Engage as the prime commercial and integration counterparty for a staged robotics program supporting sterile fill-finish operations. The contemplated program progresses from discovery and engineering feasibility through production-intent engineering, pilot deployment, design freeze and scale-up toward a 100-unit production fleet.

2 Program Scope

The contemplated program value covers the P0–P5 program, including engineering and development, robotics integration, task-specific tooling and sensing, software and controls integration, validation and qualification support, pilot deployment, training, commissioning and production scale-up, subject to final technical definition, acceptance criteria and definitive agreements.

The technical and regulatory conditions that shape this scope are cleanroom and sterile engineering requirements, aseptic handling and sensing, cGMP validation and qualification are described for reference in Annex A on page four (4).

3 Commercial Value and Payment Schedule

TOTAL CONTEMPLATED PROJECT VALUE

USD 39,756,080

PHASE	SCOPE	PLANNING DURATION	PAYMENT	%
P0	Discovery & Architecture	6–8 weeks	$3,975,608	10%
P1	Engineering Feasibility	12–16 weeks	$3,975,608	10%
P2	Production-Intent Engineering	16–24 weeks	$3,975,608	10%
P3	Pilot Build, FAT & Site Deployment	24–32 weeks	$5,963,412	15%
P4	Pilot Evidence & Design Freeze	6–12 months	$5,963,412	15%
P5	Production Scale-Up / Full Deployment	12–18 months	$15,902,432	40%
	Total		**$39,756,080**	**100%**

The planning durations above are indicative phase durations and may overlap where technically appropriate. Payment triggers, invoicing mechanics, acceptance criteria, dependencies and any phase-specific deliverables will be set out in the definitive agreement and/or applicable statements of work.

4 Annual Maintenance and Support

ANNUAL MAINTENANCE AND SUPPORT PACKAGE

USD 4,436,102 per annum

Following deployment of production units, UT intends to enter into an annual maintenance and support program with Engage covering the integrated solution. The package is expected to include preventive maintenance, technical support, applicable software and system lifecycle support, fleet support, spare-parts coordination, field-service support, system updates, calibration support, and agreed service-level coverage. Final service levels, warranty interaction, support hours, exclusions and commencement timing will be defined in the definitive agreement.

5 Contracting Structure

Engage will serve as UT's prime commercial and integration counterparty for the contemplated program. Engage may use approved technology, robotics, engineering and specialist partners as required to deliver the agreed solution. Commercial arrangements between Engage and its suppliers or subcontractors are outside the scope of this LOI.

6 Definitive Documentation

The parties intend to work promptly and in good faith toward definitive documentation covering the final statement of work, technical specifications, phase deliverables, acceptance criteria, payment triggers, change control, intellectual property, data and cybersecurity, warranties, service levels, liability, termination rights and other customary terms.

7 Nature of this LOI

Except for any provisions expressly stated to be binding in a subsequently executed version, this LOI is intended as a statement of present commercial intent and a framework for preparation of definitive agreements. It does not, by itself, obligate either party to complete the contemplated transaction or program until definitive agreements are executed by authorized representatives of both parties.

8 Acceptance and Signatures

If the foregoing accurately reflects the parties' present understanding, the parties may acknowledge this LOI below and proceed to finalize the definitive commercial and technical documentation.

UNITED THERAPEUTICS CORPORATION

SIGNATURE

NAME
Pat Poisson

TITLE
EVP, Strategic Development

DATE

ENGAGE WORK LLC.

SIGNATURE

NAME
Jared Green

TITLE
President, CEO

DATE

ANNEX A

Technical and Regulatory Scope Basis

Humanoid Robotics Deployment in Sterile Fill-Finish Operations

Deploying a humanoid robotics platform inside a pharmaceutical sterile fill-finish environment is not a matter of introducing general-purpose hardware into an existing suite. The demands of cGMP validation, cleanroom engineering and aseptic precision govern the design of the platform, the qualification pathway and the operating model. This annex sets out the technical and regulatory conditions the program is engineered to satisfy, so that the scope contemplated in Section 2 is understood in the terms that matter to a regulated manufacturing operation.

A.1 Cleanroom and Sterile Engineering (Grade A / ISO Class 5)

General-purpose humanoid platforms are particle generators by default: exposed motors, shedding joint materials and convective cooling are incompatible with a Grade A zone. Operation within isolators or Restricted Access Barrier Systems (RABS) requires the platform to be re-engineered at the hardware level.

Surfaces and housings	Non-porous, corrosion-resistant, electropolished surfaces and smooth washdown encasings capable of surviving repeated Vaporized Hydrogen Peroxide (VHP) decontamination cycles without degradation.
Drive units and joints	Sealed internal drive units with effectively zero particle output; non-shedding joint materials and non-outgassing seals.
Ingress protection	Sealed, washdown-rated construction compatible with routine sanitisation regimes and ISO Class 5 / Grade A classification.
Airflow discipline	Geometry and motion profiles designed not to disrupt unidirectional laminar airflow over the critical zone.

A.2 Aseptic End-Effectors and Sensing

The critical-zone tasks contemplated involve delicate primary packaging components handled at close tolerance. This requires task-specific tooling rather than general-purpose manipulation.

Dexterous end-effectors	Non-shedding, fine-motor grippers and hands capable of manipulating glass vials, stoppers, crimp caps and syringes without component damage or airflow disruption.
Vision	High-accuracy three-dimensional vision for component identification, pose estimation and verification of intervention outcomes.
Force and tactile feedback	Tactile and force-feedback sensing to bound applied load on fragile components and to confirm successful engagement.

A.3 cGMP Validation and Qualification

In pharmaceutical manufacturing, the qualification burden associated with an automated intervention in an aseptic zone is substantial and is frequently the governing constraint on schedule. Any such intervention requires rigorous qualification before routine use.

Regulatory framework	EU GMP Annex 1 and applicable FDA requirements governing automated intervention in aseptic processing.
Qualification pathway	Installation, Operational and Performance Qualification (IQ / OQ / PQ) executed against agreed acceptance criteria.

Airflow studies	Airflow visualisation and smoke pattern studies, performed dynamically with the platform in motion.
Computer systems validation	CSV covering controls, motion software, data integrity and audit trail.
Contamination control	Contamination risk assessment aligned to the site Contamination Control Strategy, supported by aseptic process simulation (media fills).

A.4 Software, Controls and Lifecycle Re-Qualification

Validated status is a continuing obligation rather than a one-time event. The program therefore treats motion control, vision and system software as validated assets with a defined change-control and re-qualification pathway. Deterministic motion control is required in the critical zone so that behaviour is bounded, repeatable and demonstrable to a regulator. Vision and software updates, calibration and periodic re-qualification are handled under the annual maintenance and support program contemplated in Section 4.

A.5 Deployment Rationale Where the Humanoid Form Factor Applies

Fixed-position cleanroom robotics: SCARA and six-axis cleanroom arms remain the appropriate technology for high-speed, repetitive filling operations, and this program does not seek to displace them. The humanoid form factor is justified where the task is a flexible intervention that would otherwise require a human operator to breach the sterile envelope.

Representative interventions	Clearing jammed stoppers; replacing liquid lines; handling environmental monitoring plates; and comparable non-routine interventions performed inside aseptic isolators.
Operational value	Interventions are completed without an operator breaking the sterile envelope, reducing the principal contamination risk associated with manual aseptic intervention.
Fleet rationale	A single validated platform addresses a range of intervention types across the suite, rather than requiring dedicated fixed automation per task.

> **BASIS OF THIS ANNEX**
>
> This annex is descriptive and is provided to establish a shared technical and regulatory understanding of the contemplated program. It does not form part of the commercial terms, does not constitute a specification, and does not vary Sections 1 to 8 of this Letter of Intent. Final technical requirements, applicable standards, acceptance criteria and the validation strategy will be defined in the definitive agreement and applicable statements of work, and will be agreed with UT quality and regulatory functions.