

Research Models & Services

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Global Research Models & Services



Leading Provider of High-Quality Research Models & Services



Research
models & human
cells are
foundational
tools spanning
the research
and development
continuum
and beyond

~1 of 2
Small models
sold in Western
markets is a
CRL model



~\$1.7B

RMS market sector opportunity

position in research models



HemaCare/ Cellero involved in

100%

of FDA-approved cell therapies*

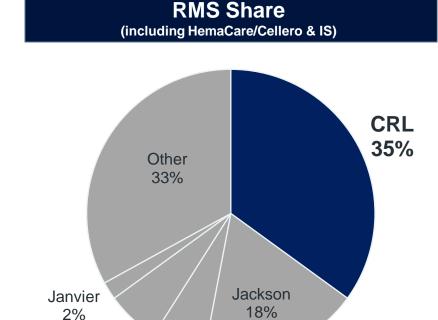
>70

years of innovation and leadership in laboratory animal science



Research Models & Services (RMS)

- Global leader in breeding and distribution of research models
 - Largest selection of the most widely used research model strains in the world
 - Expertise in biosecurity supports production of high-quality models, reducing risk to critical research
- Global footprint with facilities strategically located in close proximity to clients
 - Increasing presence in high-growth China market
- Premier provider of services that support the use of research models in discovery/development of new molecules
 - Genetically Engineered Models & Services (GEMS)
 - Research Animal Diagnostic Services (RADS)
 - Insourcing Solutions (IS)
- Acquired cell supply businesses HemaCare and Cellero in 2020
 - Enhances RMS segment's growth profile and ability to supply biomaterials to clients
 - Focused on providing clients with critical research tools to support their drug research, early-stage development, and manufacturing activities



Taconic

6%

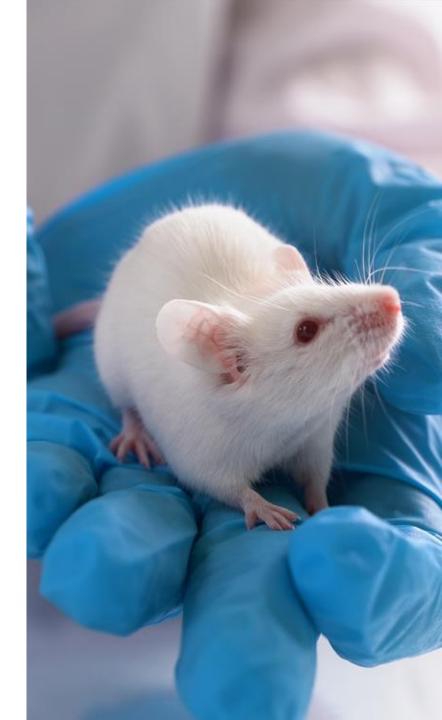
Envigo

RMS Current Addressable
Market Sector: \$1.7B
(including HemaCare/Cellero & IS)



C> Spans the RMS Portfolio

- Humanized immunodeficient rodent models using human cellular materials are critical for C> development and preclinical safety assessment
 - Many cell and gene therapies are in the area of oncology (i.e. CAR T therapies)
- Strong presence in the key Cambridge and South San Francisco biohubs offering turnkey CRADL vivarium space (Charles River Accelerator and Development Labs)
 - Attracting a range of biopharma companies small and large
 - Key cell supply clients of HemaCare/Cellero have occupancy in our CRADL facilities emphasizing the role of CRADL in supporting C> clients
 - Additional synergies for CRADL from growing biotech clients providing new business opportunities in the GEMS business
 - Illustrates the highly bespoke nature of the in vivo models that clients use in their R&D programs
 - Our investments in CRADL will expand to other geographies with biotech hubs



HemaCare and Cellero Join Forces with Charles River

Advancing discoveries across the cell therapy continuum by providing high quality human-derived biological products and services







A leading provider for cell supply across healthy donors, patients, research/RUO, and GMP

Cell supply market sector expected to grow at

~30% CAGR to

\$2B in 10 years





HemaCare and Cellero Expand Scientific Capabilities in the High-Growth Cell Therapy Sector

ENHANCES SCIENTIFIC CAPABILITIES

- Premier, leading providers of research, clinical, and CGMP-quality human-derived cellular products used in allogeneic (donor-derived) and autologous (patientderived) cell therapies
- Differentiated by customizable, reliable, and recallable highly characterized donor network
- Differentiated R&D portfolio of specialty immune cells and assays, such as antigen-specific T-cells

CREATES A COMPREHESIVE CELL THERAPY SOLUTION

- Cell therapy developers can work with one scientific partner iteratively throughout the discovery, development, and manufacturing processes
 - Enhances client retention and accelerates biopharmaceutical clients' speed to market

INCREASES EXPOSURE TO HIGH-GROWTH MARKET SECTOR

- Addressable market sector for cell supply products expected to increase from ~\$200M today to nearly \$2B in 10 years
 - At least 30% CAGR
- Driven by expected rapid increase in cell therapy product approvals

CELL SUPPLY OPPORTUNITY

~2,000

cell therapy programs in development today (Preclinical to Phase 3); ~two-thirds in preclinical stage

~75%⁽¹⁾

of these cell therapy programs addressable by HemaCare/Cellero

~\$1.5M⁽²⁾

est. spend per program on human biomaterials for autologous cell therapies (Preclinical-Phase 3)

~\$3-\$4M⁽²

est. spend per program on human biomaterials for allogeneic cell therapies (Preclinical-Phase 3)

Sources: CRL management estimates, PwC Strategy&, L.E.K., and PharmaProjects.

- (1) Based on analysis of ~900 cell therapy compounds in development excluding Asia-Pacific.
- (2) Assumes \$0.3-\$0.5M spent per development phase for research and process development; For allogeneic cell therapies only, assumes an additional \$0.5M-\$1M per clinical development phase for manufacturing (does not include potential commercial manufacturing spend).

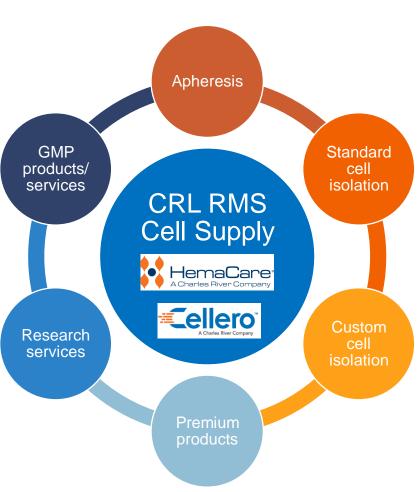
HemaCare and Cellero Acquisitions

Enhancing CRL's comprehensive solutions for cell therapies



Specialty Services:

- Coast-to-coast cell collection services ensure supply chain continuity
- Healthy and disease-state donor collections
- Patient collections for cell-based therapies
- Customized assay development
- Customized product development including antigen-specific T cells
- Contract immunology research services





Global Cell Therapy Supply Chain Leadership

Delivering an easy-to-use, end-to-end cell therapy supply chain solution

UPSTREAM PROCESSING















DOWNSTREAM PROCESSING (CDMO)





Patient

Administration

Donor Management & Testing

- Donor management
- Recallable donor pool
- Donor recruitment
 & retention
- Donor screening & characterization

Cell/Tissue Sourcing & Collection

- Normal & disease state cell collections for autologous & allogeneic therapies
- High-quality cells
- Research use, clinical grade, & GMPcompliant
- · Global footprint
- Human stem cells/ CD34+ mobilized cells
- Cord blood access
- · Disease tissue access

Cell Processing & Isolation

- High yield/quality
- Customization
- Scalable & automated processes
- GMP cell isolation & processing
- Biostorage

Product / Release Testing

- Product release testing for GMP cellular materials including cell recovery, viability, sterility, endotoxin, & mycoplasma
- Stability testing

Cryopreservation & Storage

- GMP cryopreservation
- Best-in-class cryomedia
- Cryostorage & biorepository services
- Scalability & automation

Cold Chain & Logistics

- Global logistics team
- Specialty logistics for international & complex shipments
- Cold chain logistics & product management
- Secure supply chain management with GMP documentation

Selection & Expansion

- Cleanroom access
- GMP capabilitiesCustomizable cell
- models
- Exclusive antigenspecific T cell lines
- Cell culture for customized selection & expansion
- Critical media, growth factors, & other reagents

Purification & Formulation

- Cell banking & formulation
- Integration & bridging with GMP manufacturing for ease of scale-up
- Critical media, buffers, & reagents for stable, high-quality finished product & injectables

- Highly respected products/services with strong recallable and reliable donor network
- Broad cell supply access and global footprint
- Automation & digital logistics to enhance speed, efficiency, security, and consistent supply
- Optimized "solutions" to make cell therapy "plug-and-play" with cells, media, growth factors, and other critical reagents



Key RMS Growth Drivers



Continue China expansion

Support double-digit growth amidst healthy funding environment



Drive Insourcing Solutions and GEMS growth

Expand CRADL footprint; enhance IS penetration; Expand GEMS strategic relationships



Target growth in biotech and academia

Targeted sales strategies aimed at growing biotech and academic markets



Enhance digital enterprise

Enhance client experience and productivity through innovative uses of technology



Cell supply strategy

Excel in customization from a deep donor pool as the trusted partner for RUO and GMP materials

