CSL 2022 Research Acceleration Initiative

Information Session
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Outline

- Overview of CSL
- CSL's core Therapeutic Areas (TAs)
- CSL's areas of focus for the 2022 Research Acceleration Initiative
- Benefits of collaborating with CSL
- CSL Research Acceleration Initiative
  Application & selection process, timeline, agreement guidance, eligibility, past recipients
- Questions
CSL at a Glance

35+ Countries of operations around the world

US$10.3 Billion in annual revenue

US$4.1 Billion in R&D investments in the last 5 years to advance product pipeline

25,000+ Employees around the world

1700+ R&D employees

300+ Plasma collection centres across China, Europe and North America
## Top 20 Pharma Companies of 2021

<table>
<thead>
<tr>
<th>Rank</th>
<th>Company</th>
<th>Ticker Symbol</th>
<th>No. of Employees</th>
<th>Market Cap (US$ Billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Johnson &amp; Johnson</td>
<td>JNJ (NYSE)</td>
<td>134,500</td>
<td>433.8</td>
</tr>
<tr>
<td>2</td>
<td>F. Hoffmann-La Roche Ltd</td>
<td>ROG (SWF)</td>
<td>101,465</td>
<td>329.8</td>
</tr>
<tr>
<td>3</td>
<td>Novartis AG</td>
<td>NOVN (SWF)</td>
<td>109,000</td>
<td>226.0</td>
</tr>
<tr>
<td>4</td>
<td>Eli Lilly and Co</td>
<td>LLY (NYSE)</td>
<td>35,000</td>
<td>220.1</td>
</tr>
<tr>
<td>5</td>
<td>Pfizer Inc</td>
<td>PFE (NYSE)</td>
<td>78,500</td>
<td>219.2</td>
</tr>
<tr>
<td>6</td>
<td>AbbVie Inc</td>
<td>ABBV (NYSE)</td>
<td>48,000</td>
<td>198.9</td>
</tr>
<tr>
<td>7</td>
<td>Merck &amp; Co Inc</td>
<td>MRK (NYSE)</td>
<td>74,000</td>
<td>196.9</td>
</tr>
<tr>
<td>8</td>
<td>AstraZeneca Plc</td>
<td>AZN (LON)</td>
<td>76,100</td>
<td>157.7</td>
</tr>
<tr>
<td>9</td>
<td>Bristol-Myers Squibb Co</td>
<td>BMY (NYSE)</td>
<td>30,250</td>
<td>149.2</td>
</tr>
<tr>
<td>10</td>
<td>Novo Nordisk AS</td>
<td>NOVO B (CPH)</td>
<td>45,971</td>
<td>148.5</td>
</tr>
<tr>
<td>11</td>
<td>Amgen Inc</td>
<td>AMCN (NASD)</td>
<td>24,300</td>
<td>140.0</td>
</tr>
<tr>
<td>12</td>
<td>Sanofi</td>
<td>SAN (EPA)</td>
<td>99,412</td>
<td>13211</td>
</tr>
<tr>
<td>13</td>
<td>GlaxoSmithKline Plc</td>
<td>GSK (LON)</td>
<td>94,066</td>
<td>98.7</td>
</tr>
<tr>
<td>14</td>
<td>CSL Ltd</td>
<td>CSL (ASX)</td>
<td>25,000</td>
<td>97.3 B</td>
</tr>
<tr>
<td>15</td>
<td>Moderna Inc</td>
<td>MRNA (NASDAQ)</td>
<td>1,100</td>
<td>94.3</td>
</tr>
<tr>
<td>16</td>
<td>Gilead Sciences Inc</td>
<td>GILD (NASDAQ)</td>
<td>13,600</td>
<td>86.3</td>
</tr>
<tr>
<td>17</td>
<td>Jiangsu Hengrui Medicine Co Ltd</td>
<td>600276 (SHSE)</td>
<td>28,903</td>
<td>67.3</td>
</tr>
<tr>
<td>18</td>
<td>Bayer AG</td>
<td>BAYN (ETR)</td>
<td>99,439</td>
<td>59.6</td>
</tr>
<tr>
<td>19</td>
<td>Regeneron Pharmaceuticals Inc</td>
<td>REGN (NASDAQ)</td>
<td>9,123</td>
<td>59.5</td>
</tr>
<tr>
<td>20</td>
<td>BioNTech SE</td>
<td>BNTX (NASDAQ)</td>
<td>2,500</td>
<td>54.1</td>
</tr>
</tbody>
</table>

Source: GlobalData September 2021
More than a century ago, CSL made a promise to protect the health of those stricken with a range of serious medical conditions. Today, that promise has never been stronger.

**CSL LTD Revenue growth (US$m)**

- CSL established
- CSL privatised and listed on the Australian Securities Exchange
- Acquired JRH Biosciences (cell culture media)
- Acquired Biocor Animal Health
- Acquired US Nabi plasma collection centres
- Acquired ZLB from Swiss Red Cross
- Acquired Aventis Behring
- Sale of Biocor Animal health
- Sale of JRH Biosciences
- Acquired Novartis influenza vaccine business
- Acquired Rulde plasma fractionator

Revenues (US$m):
- 1916: 122
- 1992: 136
- 1994: 131
- 1997: 212
- 1998: 250
- 1999: 267
- 2000: 317
- 2001: 460
- 2002: 707
- 2003: 767
- 2004: 1,310
- 2005: 1,996
- 2006: 2,169
- 2007: 2,597
- 2008: 3,399
- 2009: 3,724
- 2010: 4,056
- 2011: 4,228
- 2012: 4,814
- 2013: 5,130
- 2014: 5,524
- 2015: 5,628
- 2016: 6,129
- 2017: 6,923
- 2018: 7,915
- 2019: 8,539
- 2020: 9,151

Driven by **Our Promise™** | External Use
Global Research & Development footprint

Cities and Laboratories:
- Bern, Switzerland
- Marburg, Germany
- Amsterdam, Netherlands
- London, UK
- Liverpool, UK
- Siena, Italy
- Wuhan, China
- Tokyo, Japan
- Melbourne, Australia
- Sydney, Australia
- Pasadena, US
- Kankakee, US
- King of Prussia, US
- Summit, US
- Cambridge, US
- Holly Springs, US

CSL Behring
Driven by Our Promise™
## Manufacturing sites

<table>
<thead>
<tr>
<th>City</th>
<th>Country</th>
<th>Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marburg</td>
<td>Germany</td>
<td>2,900</td>
</tr>
<tr>
<td>Bern</td>
<td>Switzerland</td>
<td>1,700+</td>
</tr>
<tr>
<td>Lengnau</td>
<td>Switzerland</td>
<td>300+</td>
</tr>
<tr>
<td>Kankakee</td>
<td>USA</td>
<td>1,600</td>
</tr>
<tr>
<td>Melbourne</td>
<td>Australia</td>
<td>1,100+</td>
</tr>
<tr>
<td>Wuhan</td>
<td>China</td>
<td>300+</td>
</tr>
</tbody>
</table>

**Core products:**

- **Marburg, Germany**
  - Coagulation factors
  - Critical care

- **Bern, Switzerland**
  - Immunoglobulins
  - Albumin

- **Lengnau, Switzerland**
  - Recombinant coagulation factors

- **Kankakee, USA**
  - Alpha1-Proteinase-Inhibitor
  - Albumin

- **Melbourne, Australia**
  - Coagulation factors
  - Critical care
  - Immunoglobulins

- **Wuhan, China**
  - Immunoglobulins
  - Albumin
  - Hyperimmunes
CSL Research

CSL Research Melbourne
Bio21 Institute, University of Melbourne
~4,100 m² lab / office space

CSL Research Bern
Swiss Inst. for Translational & Entrepreneurial Medicine, University of Bern
~2,000 m² lab / office space

CSL Research Marburg
~20,000 m² lab / office space

CSL Research US
Pasadena, KOP
~480 m² lab space
Our history and pioneering at the facility in Bern

- **1949**: Federal mandate for blood supply
- **1951**: CSL founded
- **1954**: World's first highly purified immunoglobulin (Ig) for intravenous use
- **1979**: First virus-filtered liquid anti-D immunoglobulin launched on the Swiss market
- **1993**: World's first paper-free documentation in the pharmaceutical industry (electronic batch record)
- **1996**: CSL acquires Aventis Behring and creates ZLB Behring
- **2000**: CSL acquires Prothom insulin (Protnus) for subcutaneous use launched on the US/EU markets
- **2004**: Name change to CSL Behring
- **2006**: Inauguration of the new Ig plant
- **2007**: Construction start of the Protnus plant
- **2012**: Inauguration of the new Ig plant
- **2018**: CSL was invested CHF 700 million in the Bern facility
- **2019**: CSL Behring in Bern
CSL’s Core Therapeutic Areas (TAs) & Platforms

TAs and Platforms of focus for RAI

Not in scope for RAI
Key Products & Pipeline

**Privigen®** (10% intravenous Ig)
Primary immunodeficiencies (PID),
Chronic inflammatory demyelinating polyneuropathy (CIDP)

**Hizentra®** (20% subcutaneous Ig)
PID, CIDP
Dermatomyositis (DM), Ph III
Systemic sclerosis (SSc), Ph II

**Haegarda®** (C1 Esterase Inhibitor)
Hereditary angioedema

**Garadacimab** (Anti-FXIIIa mAb)
Hereditary angioedema, Ph III

**CSL324** (Anti-G-CSFR mAb)
Hidradenitis suppurativa (HS), Ph I

**CSL730** (Recombinant Trivalent Human IgG1 Fc Multimer), Ph I

Gene Therapy Treatments
PID, Research

2022 RAI Focus Areas

**Immune deficiencies**
(PID gene therapy and targets)

**Autoimmune diseases (AIDs)**
(e.g. primary Sjögren’s syndrome; SSc; idiopathic myositis incl. DM, polymyositis and others; autoimmune blistering diseases)

**Therapeutic strategies for AIDs**
- Novel immunomodulatory strategies targeting cytokines, chemokines, modulatory proteins and TNF-family members
- B cell depletion / regulation strategies

**Alternatives to plasma-derived Ig / Recombinant IVIg**
Key Products & Pipeline

Idelvion® (Recombinant FIX-FP)  
Hemophilia B

Afstyla® (Recombinant FVIII)  
Hemophilia A

Kcentra® (Prothrombin complex concentrate)  
Urgent warfarin reversal

EntranaDez (AAV FIX gene therapy)  
Hemophilia B, Ph III

CSL889 (Hemopexin)  
Sickle cell disease, Ph I

CSL888 (Haptoglobin)  
Sub-arachnoid hemorrhage, PC

2022 RAI Focus Areas

Hemorrhagic stroke  
Novel biologic targets/therapeutics or strategies to understand pathomechanisms

Acute thrombosis (pulmonary embolism, acute ischemic stroke)  
Novel therapies/approaches for targeted fibrinolysis/thrombolysis with increased efficacy and safety

Sickle cell disease  
Prophylactic therapies to reduce vaso-occlusive crises and chronic vasculopathy

Biomarker/Omics approaches for patient stratification and drug discovery for above indications
Key Products & Pipeline

**ZEMAIRA®/RESPREEZA®** (Alpha 1 Antitrypsin)

**Garadacimab** (Anti-FXIIa mAb)
Idiopathic Pulmonary Fibrosis, Ph IIa

**CSL311** (Anti-β-common mAb)
Airways inflammation, Ph I

**CSL787** (Nebulised Ig)
Respiratory infections, Ph I

2022 RAI Focus Areas

Idiopathic pulmonary fibrosis (IPF) and other chronic, progressive fibrosing interstitial lung diseases (ILD)

Community acquired pneumonia (CAP)-associated complications
(acute respiratory distress syndrome (ARDS), sepsis, acute kidney injury)

Therapeutic biologics and Omics approaches for patient stratification and drug discovery for above indications
Key Products & Pipeline

**CSL112** (ApoA-1)
Acute coronary syndrome, Ph III

**CSL346** (Anti-VEGFB mAb)
Diabetic kidney disease, Ph II

2022 RAI Focus Areas

**Myocarditis / Inflammatory cardiomyopathy**

**Rare lipid disorders**
(e.g. familial hypercholesterolemia, familial chylomicronemia)

**Severe forms of atherosclerosis**
Key Products & Pipeline

CSL964 (Alpha 1 Antitrypsin)
Graft versus host disease, Ph III

Clazakizumab (Anti-IL-6 mAb)
Antibody mediated rejection, Ph III

CSLO40 (Novel Complement Inhibitor), PC

2022 RAI Focus Areas

Chronic lung allograft dysfunction (CLAD)
Novel biologic targets / therapeutics for prevention of CLAD

Tolerance
Novel biologic targets / therapeutics for immunomodulation and tolerance induction in SOT and HSCT incl. strategies to expand Tregs in vivo

Hematopoietic stem cell transplants (HSCT)
Novel biologic targets / therapeutics for improving efficacy / safety

Chronic GvHD
Novel biologic targets / therapeutics for treatment and prevention

Cardiovascular allograft vasculopathy
Novel biologic targets / therapeutics for treatment and prevention
2022 RAI Focus Areas

Gene Therapy
Non-viral in vivo delivery of gene editing RNPs
Lipid nanoparticle (LNP) or polymer-based

Modulation of transgene expression in vivo
Technologies that may be able to tune the expression of a transgene delivered by lentiviral gene therapy

Universal HDR enhancers to improve gene editing efficiency
Methods or molecules that may enhance gene insertion

Improved HSC transduction methods
Chemically or physically to enhance transduction of lentiviral vectors on HSCs

LV production improvements
Yield and/or quality of lentivirus production

Oral delivery
Technologies enabling oral delivery of biologics (e.g. antibodies and other protein therapeutics)

Areas not of interest
• Oncology (including hematological malignancies)
• Medical devices or diagnostics
• Small molecule approaches
Capabilities from Discovery to Patients

**THERAPEUTIC PLATFORMS**
- Target Discovery
- Translational Medicine & Data Science
- Phase I/II Manufacturing
- Animal Models of Disease
- Toxicology & Product Development
- Phase III/Launch Manufacturing

**CLINICAL STUDIES**
- Patients
Benefits of collaborating with CSL

- **Global capabilities on your doorstep**
- **Work** with one of the world’s leading biotech companies
- **Funding** for successful proposals
- **Access** to commercial, R&D, clinical, intellectual property, marketing and manufacturing expertise

- **Accelerate** translation of your research to deliver new therapies
- **>20 new** Research Acceleration Initiative partnerships established since 2019
- **>150 active** Research collaborations
- **225 scientific papers** published with our collaborators since 2015
Research Acceleration Initiative
CSL’s Research Acceleration Initiative

**Objective**: to build relationships with entrepreneurial researchers and fastrack discovery of innovative medicines that address unmet needs

Focus on early stage projects in specific areas aligned with CSL’s Therapeutic Areas

**Why?** Early collaborations with high quality academic partners are key to building a sustainable pipeline

CSL has a strong interest in supporting local medical research efforts and strengthening POC capability in the countries in which we work

- Successful applicants receive up to CHF 180k p.a. for up to 2 years
- CSL scientific champions assigned to each project to provide expert, industry guidance

**CSL’s Research Acceleration Initiative**

CSL is a leading global biotech company that develops and delivers innovative biotherapies to help people living with life-threatening medical conditions live full lives.

CSL’s Research Acceleration Initiative aims to fast-track discovery of innovative biotherapies through partnerships between CSL and global research organisations. These partnerships provide funding and access to industry experts for scientists working on novel biotherapeutic strategies in CSL’s therapeutic areas.

**Expressions of Interest** are sought from Business Development / Commercialisation representatives across global research organisations that wish to participate in the 2022 CSL Research Acceleration Initiative.

The 2022 Research Acceleration Initiative will focus on innovative research projects that address unmet medical needs and are aligned with CSL’s Therapeutic Areas and scientific platforms.

To register your research organisation please email RAI@csl.com.au by 10th December, 2021.
Abstract submission via online portal

Please contact your TTO / BD / Commercialisation representative listed on the promotional flyer for submission link. Abstract submissions close 28th Feb 2022.

Step 1/2 - Lead Investigator Information

- Fields with * are mandatory

  First Name *
  Last Name *
  Organization *
  Email *
  Address
  City
  Country *

CONTINUE

Step 2/2 - Describe your opportunity and confirm submission

- Fields with * are mandatory

  Proposal Title *
  Therapeutic Area *
    Cardiovascular & Metabolic
    Hematology
    Immunology
    Respiratory
    Transplant
    Not specific to a Therapeutic Area (e.g., platform technology)

  Indication *
  Modality *
    Plasma
    Recombinant (incl. antibodies)
    Gene therapy
    Cell therapy
    Peptide
    Extracellular vesicles
    Oligonucleotides (siRNA, shRNA, etc.)
    Small molecule
    Other modality

  Project Description (max. 300 words)*

  Example of what to include in Project Description: "We have discovered a novel target expressed in X cells. We have generated data in X assays (and/or X models). We have shown the mechanism of action and the efficacy of our lead candidate in vivo and in vitro. This novel strategy could address an important need.

  I have read the privacy policy and agree with it. * Read more... *
  I hereby confirm that my submission does not contain any confidential information. *

  I'm not a robot
CSL 2022 Research Acceleration Initiative Process

4th Jan 2022 - applications open

28th Feb – 300 word online abstract submission deadline
Applications reviewed by CSL

25th Apr – full application submission deadline
Applications reviewed by CSL

27th – 30th June confidential presentations by shortlisted applicants

28th Mar – selected applicants invited to submit full application
End May – shortlisted applicants notified, CDAs put in place

July/Aug – confidential data evaluated, CSL due diligence completed & successful applicants selected

Sept – notification of intention to fund successful applicants

Contracts negotiated
Will involve CSL Global Licensing, CSL IP, CSL Research. Agreement to include detailed research plan & budget.

Funding awarded & collaborative projects commence

No obligation for registered organisations to submit applications

No limitation on number of abstracts registered organisations can submit
Agreement Guidance

Separate collaboration agreements will be negotiated for each project which reflect the nature of the project, nature of funding and support, and the contributions of both parties.

Under these negotiated agreements, CSL will be granted certain rights of interest to the program results for further R&D and/or commercialisation.

Collaboration agreements will typically include the following terms (although CSL may propose other conditions depending on the nature of the project):

- **Research organisation will own results arising under the project** [NOTE: CSL would typically own any results which relate to proprietary CSL products if they are contributed to the project]
- **CSL will be granted an exclusive option to negotiate an exclusive, worldwide licence**
- **CSL supports publication of research outcomes**

Further details on agreement terms can be provided on request.
Eligibility

To be eligible to apply, researchers/clinicians must satisfy the following 2 conditions:

1. Be employed by a research organisation registered to participate in the 2022 Research Acceleration Initiative
2. Submit a 300 word online abstract that aligns with a CSL Therapeutic Area, a Focus Area (slides 7-12), and that is amenable to or includes a Modality listed below:

CSL is also interested in new uses for our existing products. If you have a proposal in this area, please e-mail RAI@csl.com.au to discuss.
20 new collaborations funded under CSL’s Research Acceleration Initiative since 2019*

*7 RAI 2021 collaborations pending execution of definitive agreements
How to apply for CSL’s 2022 RAI

- Contact your organisation’s RAI representative (listed on the CSL 2022 RAI flyer) to express your interest in applying. If you are unsure who your organisation’s representative is, please email RAI@cslbehring.com.

- Discuss your proposal with your organisation’s RAI representative (or other appropriate TTO/BD/Commercialisation office member).

- If desired, RAI representatives from your organisation may seek high level guidance on the strategic fit of your proposal by emailing RAI@cslbehring.com.

- Obtain the online portal submission link from your organisation’s RAI representative.

- Submit a non-confidential, 300 word abstract to the online portal prior to the 28th Feb 2022 deadline.
THANK YOU & QUESTIONS

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Manager, Research Innovation
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RAI@cslbehring.com
csl.com/csl-rai
Terms and Conditions for Research Acceleration Initiative Portal ("RAI Portal")

1. This RAI Portal is an online portal operated by CSL Innovation Pty Ltd ("CSL") for the purpose of allowing individuals to submit scientific proposals for consideration by CSL for its Research Acceleration Initiative program. By using this website and the RAI Portal, and by providing your submission and personal information to CSL, you are agreeing to abide by these terms and conditions.

2. You acknowledge and agree that CSL has no obligations of confidentiality or non-use in relation to the submission provided. You warrant that your submission does not contain confidential information of any kind.

3. You further represent and warrant that:
   a. you have the right and authorisation (including where relevant after consultation with all relevant commercialisation or technology transfer offices) to submit an application to the RAI Portal and to accept the terms and conditions set out herein;
   b. you are an employee or are otherwise affiliated with a registered organisation authorised by CSL to submit an application to the RAI Portal; and
   c. to the best of your knowledge and without making any further enquiries, the information provided in your submission (and CSL’s use of that information in connection with the Research Acceleration Initiative program) shall not infringe on the intellectual property rights of any third party, including your current or former employer, university, public research institute or other registered organisation.

4. CSL may disclose personal information collected in connection with your use of this website or the RAI Portal to your employer, university, public research institute or other registered organisation (if applicable) as at the time your application was submitted, solely for the purpose of reviewing and determining your application. CSL will ensure that any personal information collected, used or disclosed in connection with your use of this website or the RAI Portal is handled in accordance with all relevant privacy legislation.

5. CSL is under no obligation to respond to any individual application submitted to the RAI Portal, and may in its sole discretion choose not to progress an application further for any reason without any further communication with you.