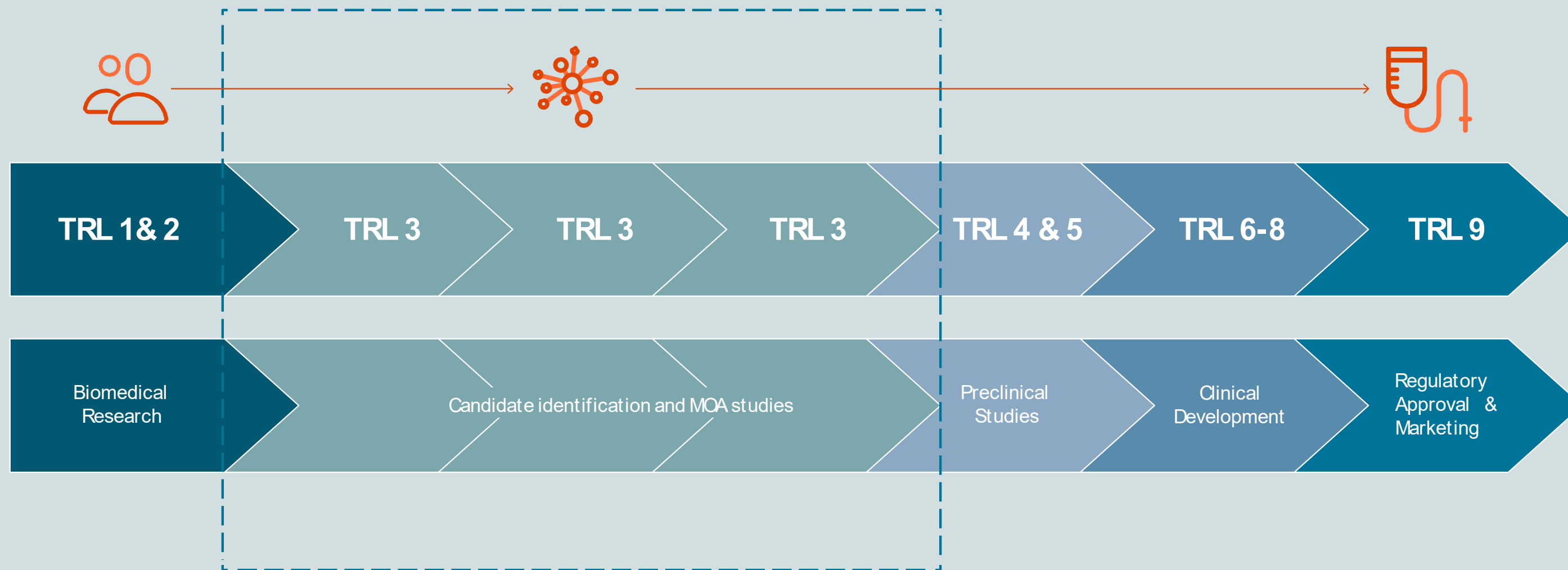
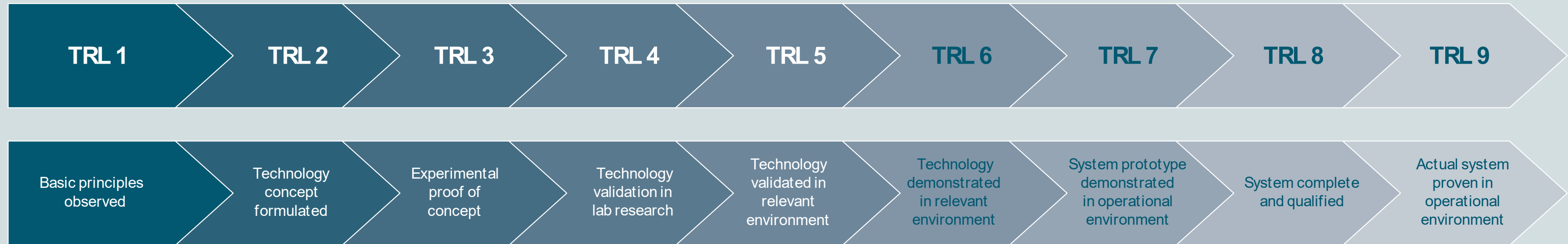




BioForum - Translating Innovation
From Lab Bench to Marketplace

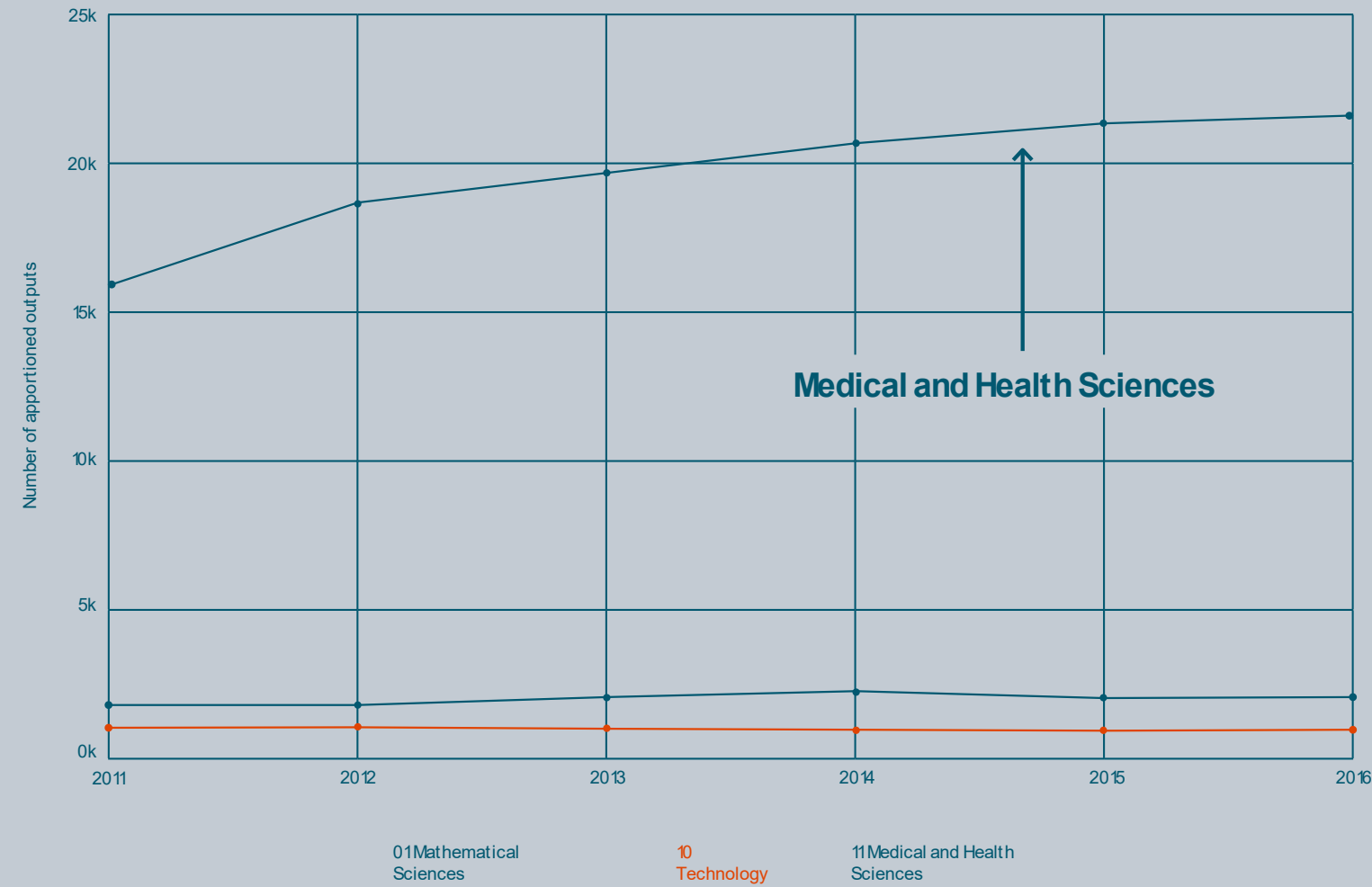
22 MARCH 2022

Research Translation and Technology Readiness Level



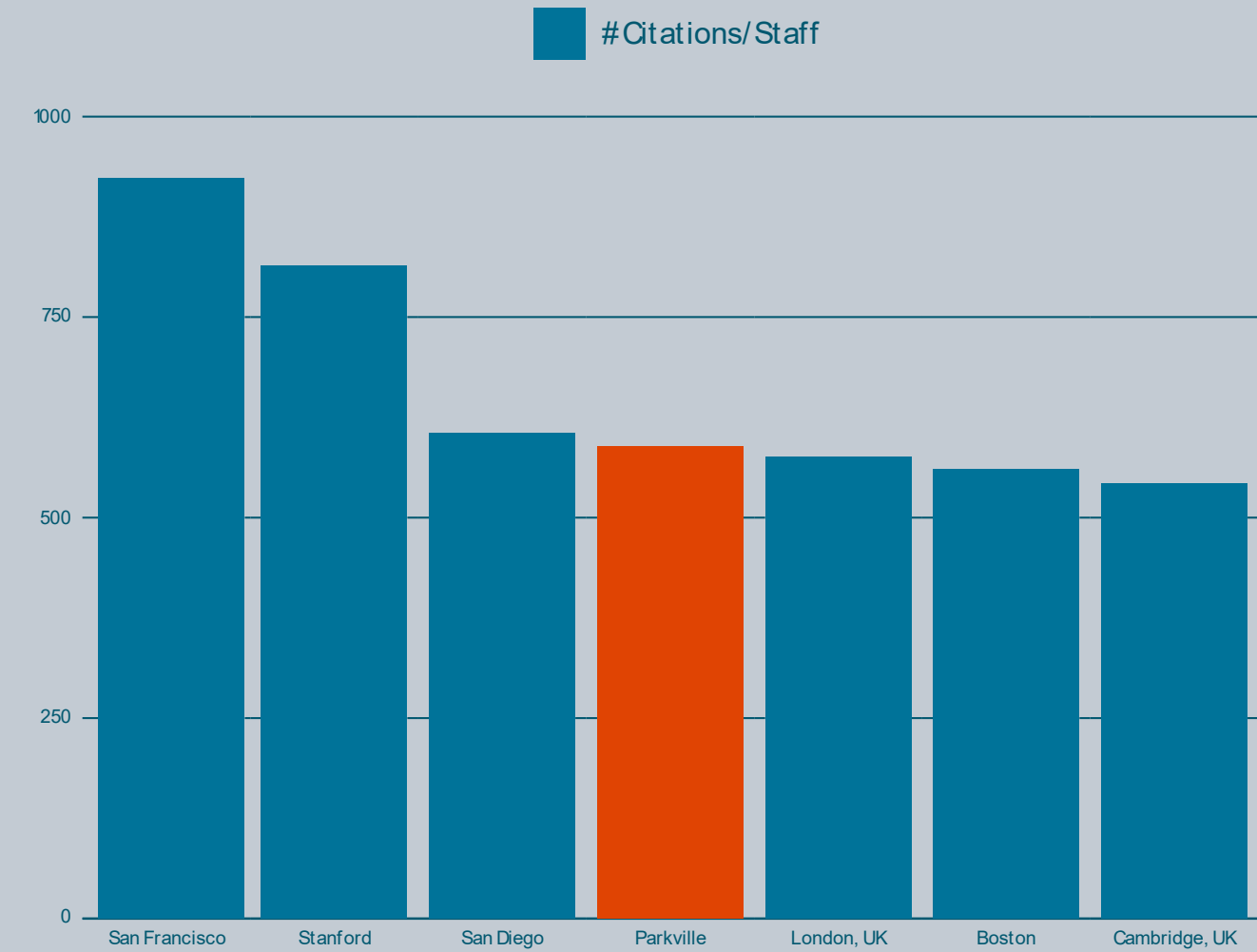
Australia is good at biomedical research. *Right?*

>90% OF RESEARCH OUTPUTS RATED ABOVE OR WELL ABOVE WORLD STANDARD¹



¹Australian Research Council (2019). State of Australian University Research 2018–19: ERA National Report. Australian Research Council, Canberra.

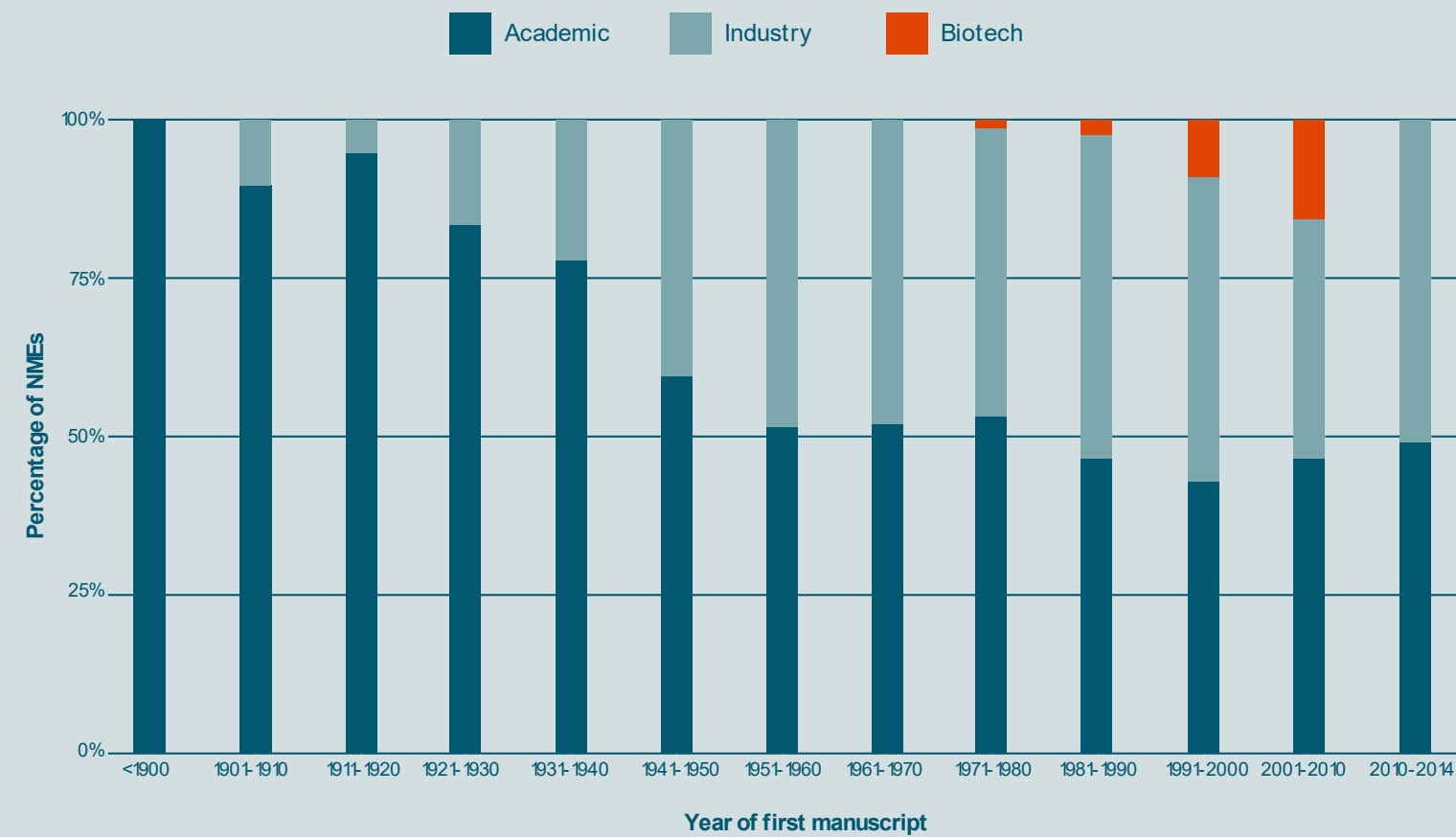
VICTORIA RECEIVED 40% OF NHMRC FUNDING



<https://www.bio21.unimelb.edu.au/directors-blog-16-december-2019-lost-translation>

Do new drugs originate from academic research?

55% of FDA approved drugs originated from academic research groups¹




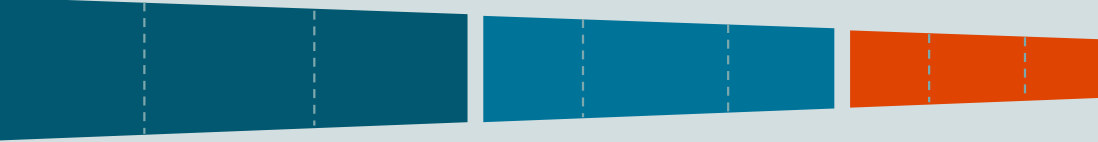


NIH funding contributed to all 210 new drugs approved by the FDA from 2010–2016

>90% of funding represents basic research related to the biological targets for drug action rather than the drugs themselves²



Challenges and Opportunities



<p>BIOMEDICAL RESEARCH</p> 	<p>CANDIDATE IDENTIFICATION AND MOA STUDIES</p> 	<p>PRECLINICAL DEVELOPMENT CLINICAL STUDIES</p> 
	<ul style="list-style-type: none"> • 80% of programs not commercially viable • Requires a mix of public, philanthropic and private funding • Scale 	<ul style="list-style-type: none"> • 7.9% likelihood of approval from Phase I¹ • SMEs • Biopharma • Venture Capital

¹<https://www.bio.org/clinical-development-success-rates-and-contributing-factors-2011-2020>

Challenges and Opportunities: Oncology



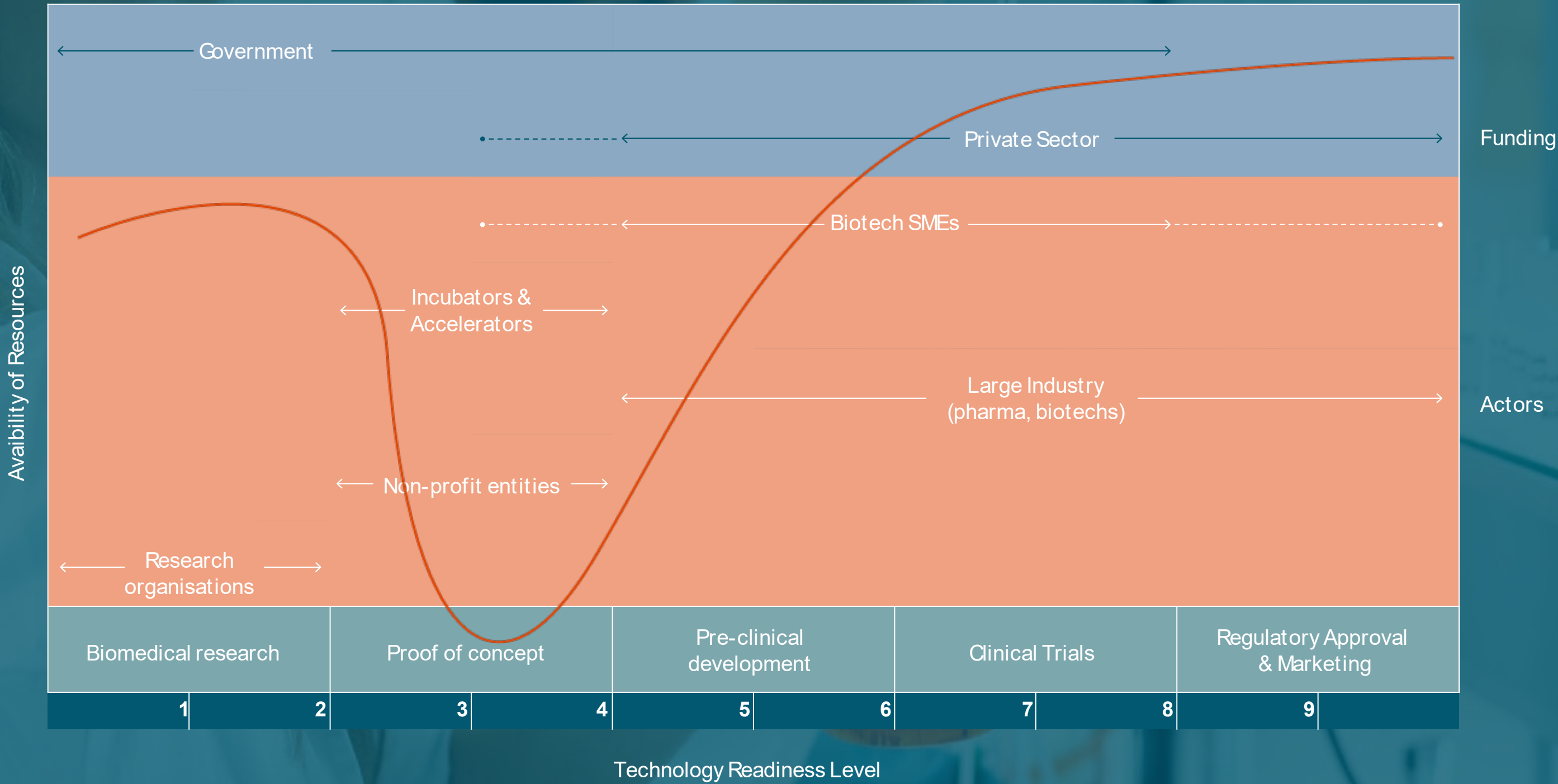
CANCER RESEARCH	HIT IDENTIFICATION	LEAD GENERATION	LEAD OPTIMISATION	PRECLINICAL STUDIES	CLINICAL DEVELOPMENT
<ul style="list-style-type: none"> NHMRC funding \$180M annually ~50% NHMRC cancer funding (MC) Research funding equivalent to Canada and UK¹ 	~\$1M/project (12 months)	~\$1.5M/project (12 months)	~\$5M/project (24 months)	5.3% likelihood of approval from Phase I ³ <div style="background-color: #e67e22; padding: 5px; margin: 5px;">Highest level VC investment and greatest licensing activity</div> <div style="background-color: #e67e22; padding: 5px; margin: 5px;">Global small molecule cancer drug market US\$ 130 billion by 2026²</div>	

¹<https://www.canceraustralia.gov.au/research/grants-and-funding/cancer-research-in-Australia>;

²<https://www.globenewswire.com/en/news-release/2020/09/01/2086629/28124/en/Global-Small-Molecule-Cancer-Drugs-Market-2020-2026-Expected-to-Double-in-Next-6-Year-Period-Reaching-130-Billion-Driven-by-New-Drug-Launches-Dynamic-Clinical-Pipeline.html>

³<https://www.bio.org/clinical-development-success-rates-and-contributing-factors-2011-2020>

There is a large gap in the Australian drug discovery landscape



Adapted from Hensen, J.L.M., Loonen, R.C.G.M., Archontiki, M., Kanellis, M. (2015). Using building simulation for moving innovations across the "Valley of Death". REHVA Journal, Volume 52, Issue 3, pp: 58-62

Recognised untapped value in academic institutions

Deerfield Management Company, L.P.

Healthcare investment firm based in New York

Five partnerships with academic institutions to accelerate drug discovery and translate biomedical science



FEBRUARY 2021
\$130 million
Dana-Faber Cancer Institute



NOVEMBER 2020
\$65 million
Boston Children's Hospital



MAY 2020
\$130 million
University of Michigan



DECEMBER 2019
\$130 million
Duke University



JUNE 2019
\$130 million
Columbia University

Recognised untapped value in academic institutions

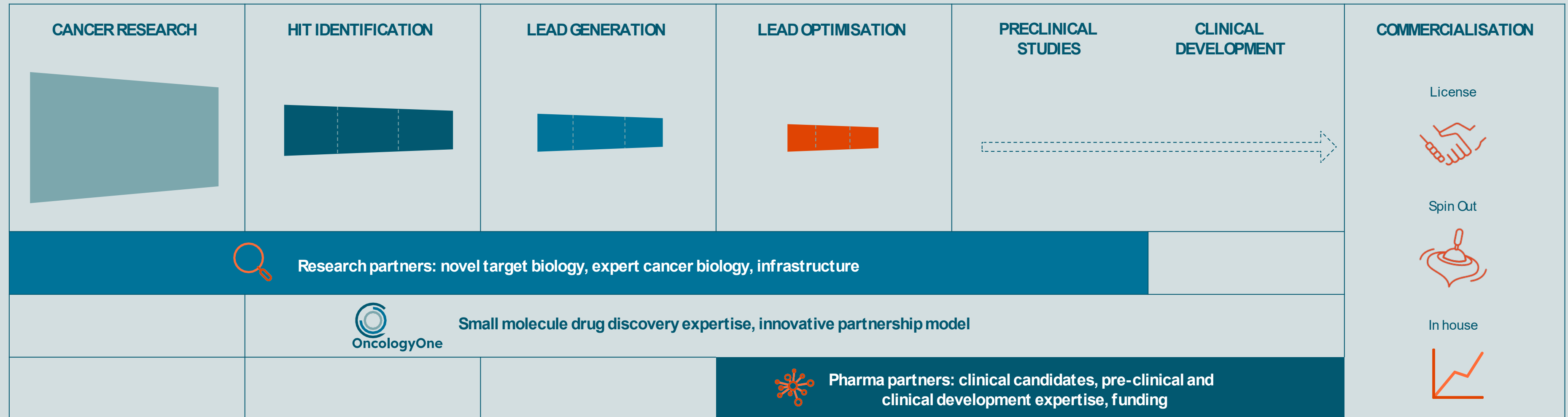
Evotec A.G.

Publicly listed drug discovery and development company

Seven BRIDGE partnerships to fast-track early-stage drug development originating from academic institutions in Europe, UK, US and Canada



Oncology One bridges gaps and provides scale at the intersection of industry discipline and research innovation



Leverage expertise, infrastructure and funding at each stage of drug development

Summary

- Australia has a base of high-quality biomedical research that can feed a drug discovery pipeline
- There remains a significant resource gap at the earliest stages of the pipeline, despite considerable increases to funding and infrastructure in recent years
- A mix of public, philanthropic and private funding –sustained and at scale - is required to bridge this gap
- Australia has a lack of private funding and commercial organisations in this space, which can provide scale and attract important skill sets
- Oncology is an area where Victoria has critical mass and is in demand globally



Thank you

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