

# Research Innovation Enterprise 2020 Plan

Winning the Future through  
Science and Technology



# Overview

*Our investments in research, innovation and enterprise will lay the foundation of our Future Economy... and transform Singapore into a Smart Nation.*

Research, innovation and enterprise are cornerstones of Singapore's national strategy to develop a knowledge-based innovation-driven economy and society. Public investment in research and innovation has grown over the last 25 years. Under the last five-year Research, Innovation and Enterprise (RIE) 2015 Plan, Singapore committed \$16 billion over 2011 to 2015 to establish Singapore as a global research and development (R&D) hub. The government will be sustaining its commitment to research, innovation and enterprise, and is setting aside \$19 billion for the RIE2020 Plan over 2016 to 2020.

**Public Investment in Research and Innovation**

Plan	National Technology Plan 1995	National Science & Technology Plan 2000	Science & Technology 2005 Plan	Science & Technology 2010 Plan	Research, Innovation and Enterprise 2015 Plan	Research, Innovation and Enterprise 2020 Plan
Budget	\$2 billion	\$4 billion	\$6 billion	\$13.5 billion	\$16 billion	\$19 billion

Today, Singapore has a strong scientific base. Our universities, research institutes (including the Agency for Science, Technology and Research (A\*STAR) institutes) and hospitals have established deep R&D capabilities, with peaks of excellence in areas such as quantum technologies and ophthalmology. Through initiatives such as the Campus for Research Excellence and Technological Enterprise (CREATE) and Research Centres of Excellence (RCEs), Singapore has become a nexus for international R&D collaborations.

These R&D capabilities have fostered industry-science linkages and catalysed new economic activity. We have seen the growth of public-private research partnerships and industry consortia such as the A\*STAR Aerospace Research Consortium and LUX Photonics Consortium. Through strategic research programmes in water and biomedical sciences, we have attracted major global companies such as Veolia, Toray and Chugai Pharmaceuticals to set up operations in Singapore. Singapore's start-up ecosystem has also become more vibrant, with a growing number of technology start-ups and a conducive environment for entrepreneurship. Singapore ranked tenth in the world (and first in Asia) for best start-up nations, according to The Global Startup Ecosystem Report 2015.

In RIE2020, we will build on the progress made and continue to leverage our investments to grow industry R&D capabilities, nurture innovative enterprises and meet our national needs.

Through long-term planning and effective implementation, our investments in research, innovation and enterprise will lay the foundation of our Future Economy, creating good jobs, sharpening our economic competitiveness, overcoming our constraints and transforming Singapore into a Smart Nation.

## Major Thrusts

Under the RIE2020 Plan, Singapore is implementing four major shifts that build on the progress achieved under the RIE2015 Plan to create greater value in Singapore from our investment in research, innovation and enterprise:

- **Closer Integration of Strategies.** Encourage multi-disciplinary, multi-stakeholder collaboration to allow greater coordination of efforts nationally towards achieving our research goals, and to invest strategically in curiosity-driven and mission-oriented research.
- **Stronger Dynamic for Renewal.** Continued shift towards more competitive funding (from 20% of public funding for research in RIE2015 to 40% in RIE2020) to support the best teams and ideas, and more White Space funding (from \$1.6 billion in RIE2015 to \$2.5 billion in RIE2020) to allow greater flexibility in reprioritising funding towards areas of new economic opportunities and national needs as they arise.
- **Sharper Focus on Value Creation.** Strengthen flow through from research to its eventual impact in society and economy, through additional budget allocation towards public-private research collaborations and increased efforts in helping companies expand their absorptive capacities for new technologies, so as to support our Future Economy and Smart Nation efforts.
- **Better Optimised RIE Manpower.** Sustain a strong research and innovation workforce in the private and public sector both by building a strong Singaporean core and also strengthening our team with international talent.

## Strategic Technology Domains

To maximise impact, funding will be prioritised in four strategic technology domains where Singapore has competitive advantages and/or important national needs. These are:

- Advanced Manufacturing and Engineering (AME)
- Health and Biomedical Sciences (HBMS)
- Services and Digital Economy (SDE)
- Urban Solutions and Sustainability (USS)

Activities in the four strategic technology domains will be supported by three cross-cutting programmes to ensure excellent science, a strong pipeline of talent, and value creation. These are:

- Academic Research
- Manpower
- Innovation and Enterprise

## RIE2020 Plan

*In the next five years, under the sixth science and technology plan for Singapore - the RIE2020 Plan - the Government has committed \$19 billion over 2016 to 2020 to research, innovation and enterprise, to take Singapore to the next stage of development.*

*With continued commitment to research, innovation and enterprise, Singapore seeks to support and translate research, build up the innovation capacity of our companies to drive economic growth, and leverage science and technology to address national challenges.*

# RIE2020 Framework

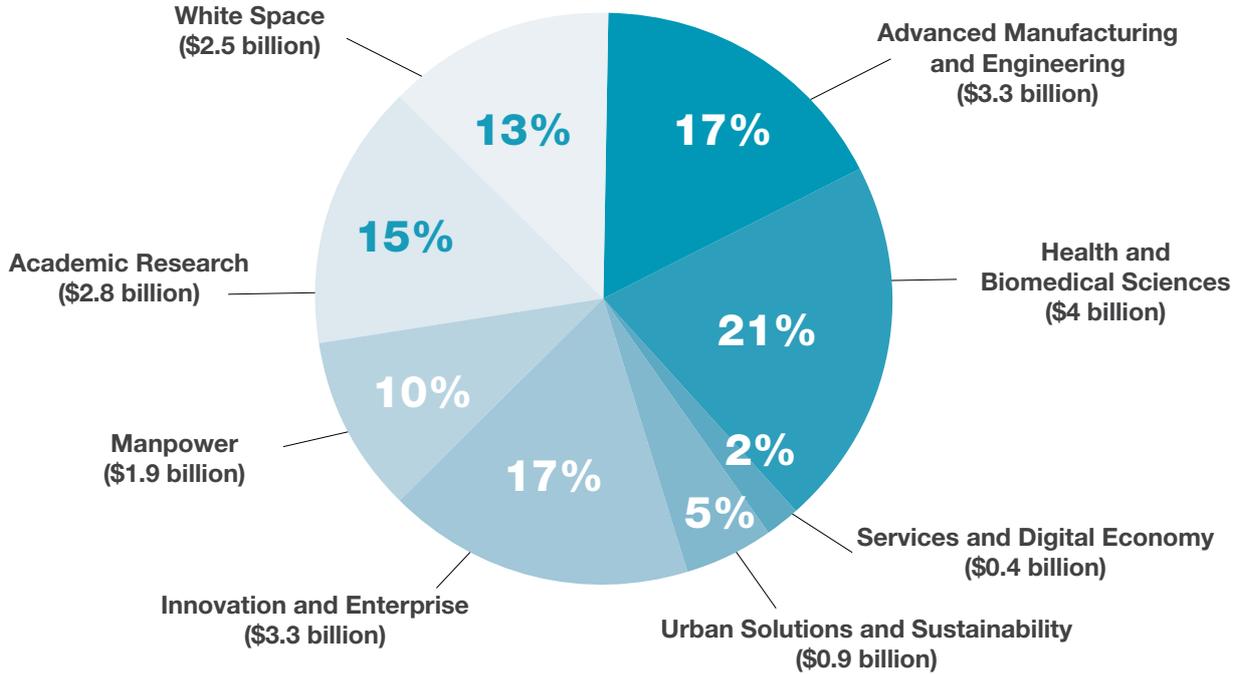
## Technology Domains

<p><b>Advanced Manufacturing and Engineering (AME)</b></p> <p>To develop technological capabilities that support the growth and competitiveness of our manufacturing and engineering sectors</p>	<p><b>Health and Biomedical Sciences (HBMS)</b></p> <p>To be a leading centre that advances human health and wellness, and creates economic value for Singapore and Singaporeans through the pursuit of excellence in research and its applications</p>	<p><b>Services and Digital Economy (SDE)</b></p> <p>To develop, integrate and leverage Singapore’s digital innovation capabilities to meet national priorities, raise productivity and support key services, create sustainable economic opportunities and quality jobs</p>	<p><b>Urban Solutions and Sustainability (USS)</b></p> <p>To develop a sustainable and liveable city through integrated solutions for Singapore and the world</p>
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Cross-cutting Programmes

<p><b>Academic Research</b></p> <p>To build up a significant base of capabilities and a pipeline of ideas that can feed into applied and industrial research to drive the next phase of growth</p>
<p><b>Manpower</b></p> <p>To build a strong research and innovation community</p>
<p><b>Innovation and Enterprise</b></p> <p>To build up a strong core of innovative enterprises that drive value creation and economic competitiveness</p>

# RIE2020 Portfolio



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