A*STAR Mission and Vision Statements

Mission Statement

We advance science and develop innovative technology to further economic growth and improve lives.

The Agency for Science, Technology and Research (A*STAR) drives mission-oriented research that advances scientific discovery and technological innovation. We play a key role in nurturing and developing talent and leaders for our Research Institutes, the wider research community, and industry.

Our research creates economic growth and jobs for Singapore. As a Science and Technology Organisation, we bridge the gap between academia and industry in terms of research and development. In these endeavours, we seek to integrate the relevant capabilities of our research institutes and collaborate with the wider research community as well as other public sector agencies towards meaningful and impactful outcomes. Together with the other public sector entities, we develop industry sectors by:

- integrating our capabilities to create impact with Multi-National Corporations and Globally Competitive Companies;
- partnering Local Enterprises for productivity and gearing them for growth; and
- nurturing R&D-driven Start-ups by seeding for surprises and shaping for success.

Our research, in addition, also contributes to societal benefits such as improving outcomes in healthcare, urban living, and sustainability. These serve to enhance lives in Singapore and beyond.

Vision Statement

A global leader in science, technology and open innovation

The Agency for Science, Technology and Research (A*STAR) is a catalyst, enabler and convenor of significant research initiatives among the research community in Singapore and beyond. Through open innovation, we collaborate with our partners in both the public and private sectors, and bring science and technology to benefit the economy and society.

We aspire to be a global leader in Science, Technology and Open Innovation.
Research, Innovation and Enterprise 2020

The government has committed $19 billion to support research, innovation and enterprise (RIE) activities in the next five years (FY2016-2020). Funding has been allocated, after a Whole-of-Government planning exercise, under four Domains¹ that mirror Singapore’s major R&D investments, national challenges and economic opportunities. The Domains will be supported by three cross-cutting horizontals² that aim to ensure excellent science, a strong pipeline of manpower and value creation.

As Singapore’s mission-oriented Science and Technology Organisation, A*STAR is committed to furthering economic growth and improving lives through research that advances scientific discovery and technological innovation, attracting and nurturing talent, and fostering public-private and public-public partnerships under an open innovation framework.

This aide memoire provides information on the funding initiatives both within and beyond A*STAR that may be available for your research. An overview of the list of open competitive funds available to A*STAR researchers in RIE2020 is as shown in Figure 1.

You may also visit the RIE 2020 Funding Initiative portal: https://app.a-star.edu.sg/rie2020fip/Default.aspx for a listing of RIE2020 funding initiatives currently available for submission.

¹ The four Domains are Advanced Manufacturing and Engineering (AME), Health and Biomedical Sciences (HBMS), Services and Digital Economy (SDE), and Urban Solutions and Sustainability (USS).
² The three cross-cutting horizontals are Academic Research, Manpower, and Innovation and Enterprise
Figure 1: List of Funding Initiatives Available to A*STAR Researchers

<table>
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<tr>
<th>Advanced Manufacturing and Engineering (AME)</th>
<th>Health and Biomedical Sciences (HBMS)</th>
<th>Urban Solutions and Sustainability (USS)</th>
<th>Services and Digital Economy (SDE)</th>
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<tr>
<td>• Industry Alignment Fund prepositioning Programme (IAF PP)</td>
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**ACADEMIC RESEARCH**

- NRF Competitive Research Programme (CRP);
- NRF Fellowship;
- NRF Investigatorship;
- MOE Academic Research Fund*

**INNOVATION & ENTERPRISE**

- Includes ETPL Gap Funding

**Manpower**

- A*GA Funding for Scholarships

*To be updated.
White Space

The RIE2020 Strategic White Space seeks to support large scale funding initiatives that meet the following criteria.

- **Potential impact and value capture.** Proposals for innovative initiatives or breakthrough technological solutions, which will create greater value for Singapore.

- **Support for national priorities.** These areas will be identified based on key priorities highlighted at Whole-of-Government platforms or technology foresighting exercises.

- **Expanded mission or new challenges beyond the existing scope of domains and their strategies.** Proposals to address an expanded mission taken on by government, or due to fundamental shifts in underlying drivers that result in new technological challenges.

- **Timeline.** White Space proposals should aim to realise benefit to Singapore in the medium to long term (around 5-10 years).

All enquiries on White Space Initiatives may be directed to:

A-STAR  JCO@a-star.edu.sg
Advanced Manufacturing and Engineering (AME) Domain

Overview
The AME aim is to develop and strengthen technological capabilities to support continued growth and competitiveness of our manufacturing and engineering sectors, in order to generate GDP growth, Good jobs for Singaporeans & Position the Economy for the Future.

A. Industry Alignment Fund Pre-Positioning (IAF PP)
Funding Agency: A*STAR and EDB
The IAF PP aims to develop industry-ready capabilities towards deepening the alignment of public sector research as well as develop multidisciplinary and integrated programmes with early industry involvement. Projects supported by IAF-PP are expected to lead to industry traction in a 3 to 5 year timeframe.

B. Individual Research Grants (IRG)
Funding Agency: A*STAR
The IRG is aimed at developing novel, fresh R&D ideas solicited through an investigator-led ground up mechanism across the research ecosystem in themes in line with the AME domain strategy. Proposals will be solicited through a grant call mechanism.

C. Programmatic Funds
Funding Agency: A*STAR
The Programmatic Funds are aimed at seeding long term capabilities for future industry readiness, typically beyond a 5 year timeframe. Programmes funded are expected to advance new capabilities relevant to existing industrial sectors or seed new growth sectors through first building scientific peaks of excellence.

All enquiries on AME funding Initiatives may be directed to:
A-STAR_SERC@a-star.edu.sg
Overview
The HBMS vision is for Singapore 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.

A. Industry Alignment Fund Prepositioning Projects (IAF-PP)
Funding Agency: A*STAR and EDB

The IAF-PP supports public sector research aligned with industry outcomes for Singapore, through the development of integrated capabilities and programmes, which address major challenges faced by industry, or which have the potential to transform or disrupt existing industry sectors.

Programmes are expected to lead to industry participation within 3 to 5 years. IAF-PP\(^3\) will allow A*STAR and EDB to catalyse and orchestrate R&D activities across Singapore in research and academic institutes, hospitals, public institutions and companies, towards industry development outcomes and to achieve economic impact. This encompasses new programmes, as well as existing programmes that have demonstrated strong track record of success and industry potential.

\(^3\) The IAF-PP process/mechanisms are currently being worked out and A*STAR/EDB will provide more information to the research community.
B. **Individual Research Grants (IRG)**
Funding Agency: NMRC

The IRG, with a funding quantum of up to $1.5M (inclusive of indirect costs) up to a maximum of 5 years, supports basic and translational clinical research that are relevant to human health and wellness, as well as research that looks at the causes, consequences, diagnosis, prevention and treatment of human diseases.

C. **Young Individual Research Grant (YIRG)**
Funding Agency: NMRC

The YIRG is a sub-category of IRG and a step for new investigators to a first independent national level grant. The YIRG will provide a funding quantum of up to $0.5M (inclusive of indirect costs) over 3 to 5 years.

D. **Large Collaborative Grants (LCG)**
Funding Agency: NMRC

LCG, with a funding quantum of up to $25M (inclusive of indirect costs) over a maximum of 5 years, aims to bring together the best teams from all the public research performers to advance human health and wellness, and/or create economic value for Singapore and Singaporeans, through the pursuit of excellence in research and its applications. Interdisciplinary collaboration across institutions is preferred so as to integrate, coordinate and leverage on the full spectrum of research capabilities in Singapore from basic science to clinical research.

For more details on NMRC’s funding Initiatives, please refer to NMRC website: [http://www.nmrc.gov.sg/](http://www.nmrc.gov.sg/)

All enquiries on HBMS funding Initiatives may be directed to: A-STAR_Admin_BMRC@a-star.edu.sg
Urban Solutions and Sustainability (USS)

Overview
In RIE2020, USS will set challenge statements such as improving urban mobility, expanding our space capacity, reducing our carbon emissions and reducing the energy dependency of the water sector to enhance our living environment and address our resource constraints. USS will also encourage an integrative approach to reap synergies at the energy-water-land nexus, and to ensure that solutions will be optimised to people’s needs.

USS will strive to develop and deploy advanced technologies that will allow us to overcome our challenges and anchor Singapore as the best home for our people. The key schemes that are open to public research performers are listed below, with more details and new schemes to be published in due course.

A. Industry Alignment Fund Prepositioning Projects (IAF-PP)
Supports collaborative research in the USS space with companies to seek and build capabilities in areas ahead of industry need.

B. Competitive Programmes
Funding Agencies: EMA, EDB, BCA, NEA, IDA, PUB, MND and MOT/LTA

Support cutting-edge research with potential impact to Singapore. Open to science and technology areas that are relevant to the USS domain, including solar, power systems, green buildings, waste-to-energy, green data centres, water, land and liveability, and urban mobility.

C. Living Lab Initiatives
Funding Agencies: EMA, BCA, NEA, IDA, PUB and MOT/LTA.

Support piloting and test-bedding of new technologies in the USS space to accelerate their commercialisation and adoption. Open to science and technology areas that are relevant to the USS domain, including power systems, green buildings, waste-to-energy, green data centres, water, and urban mobility.

All enquiries on USS funding Initiatives may be directed to: USS_Secretariat@nrf.gov.sg
Overview

The SDE Vision/Mission is 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 high quality jobs.

Digital innovation will be used as a force multiplier to meet national priorities and enhance productivity in our services sector. Under the Smart Nation banner, SDE will launch a Strategic Research Programme on Smart Systems, with the following three priority areas: Urban Mobility, Healthcare ICT, and Services Productivity.

Key schemes open to research performers are as follows:

A. Industry Alignment Fund Prepositioning Projects (IAF-PP)
   Funding Agency: IMDA

To support forward-looking research projects ahead of industry demand.

B. Strategic Capabilities Research Centres
   Funding Agency: IMDA

To anchor SDE R&D expertise in our research institutes and universities for deep capability building along strategic sub-themes, by providing economies of scale and some certainty of funding. Each centre will be funded via a combination of assured and performance-based components (e.g. dollar matching for industry co-funding), potentially supplemented by other competitive grants attained by the centre.

C. Emergent Areas Research Projects
   Funding Agency: IMDA

To seed R&D capabilities in new/emerging areas through projects funding.

D. Public Sector-Led Translational R&D Centres/Projects
   Funding Agency: IMDA

To fund translation of R&D that is driven by demand from the public sector, to address Government needs.
E. **Private Sector-Led Translational R&D**
Funding Agency: IMDA

To encourage R&D translation, productisation, and adoption of public R&D outcomes by private sector, including building research-industry linkages in bringing technology/IP to the market.

All enquiries on SDE funding Initiatives may be directed to: SDE_Secretariat@nrf.gov.sg
In RIE2020, industry-oriented projects may be eligible for IAF funding under two RIE Funding Initiatives, namely, Industry Collaboration Projects (ICP) and Prepositioning Programmes (PP)\(^4\).

The IAF-ICP Initiative supports strategic R&D projects between industry and public sector R&D performers, which involve commitment of tangible (cash or in-kind) contributions from industry. Such projects include those with local SMEs. To encourage integration of capabilities across institutes and disciplines, IAF-ICP is designed as a single pot open to all research performers across all Domains.

All enquiries on IAF ICP funding Initiatives may be directed to:
info@idg.a-star.edu.sg

\(^4\) Please refer to the description of IAF PP under each domain.
A. **NRF Competitive Research Programme (CRP)**  
Funding Agency: NRF

Seeks to foster the formation of multi-disciplinary teams in Singapore to conduct cutting-edge research that are of relevance to Singapore. Offers funding support of varying sizes, up to a period of 5 years, for use inspired research programme selected through a scientific merit review process.

Open to research ideas in all areas of science and technology, including Health & Biomedical Sciences. Research ideas at the intersection of multiple disciplines are encouraged. For more details on NRF CRP, please refer to NRF website: [http://www.nrf.gov.sg/about-nrf/programmes/competitive-research-programme](http://www.nrf.gov.sg/about-nrf/programmes/competitive-research-programme)

All enquiries on NRF CRP may be directed to:  
[NRF_CRP@nrf.gov.sg](mailto:NRF_CRP@nrf.gov.sg)

B. **NRF Fellowship**  
Funding Agency: NRF

Seeks to attract and retain outstanding young scientists and researchers in the early stages of their career, to lead independent research in Singapore.

Provides a research grant of up to S$3 million over 5 years, inclusive of overheads. Only for research conducted in Singapore.

Open to all outstanding researchers of any nationalities, in their early stage of research careers with a PhD degree in any discipline of science and technology from a reputable university. Candidates must have shown potential to lead an independent research group and demonstrate track record of early achievements. For more details on NRF Fellowship, please refer to NRF website: [http://www.nrf.gov.sg/about-nrf/programmes/nrf-fellowship-and-nrf-investigatorship](http://www.nrf.gov.sg/about-nrf/programmes/nrf-fellowship-and-nrf-investigatorship)

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5 Note: A*STAR researchers participating in NRF grant calls as Lead PI, Co-PI or Collaborator, are required to submit their proposals through their respective Councils for clearance.
All enquiries on NRF Fellowship may be directed to: NRF_Fellowship@nrf.gov.sg

C. NRF Investigatorship
Funding Agency: NRF

Seeks to recognise and retain top research talent, at mid-stage of their career, in Singapore. It is designed to support a small number of excellent Principal Investigators with a proven track record of research achievements that identify them as leaders in their fields of research.

Provides a research grant of up to S$3 million over 5 years, inclusive of overheads. Only for research conducted in Singapore.

Application is by nomination\(^6\) only.

For more details on NRF Investigatorship, please refer to NRF website: http://www.nrf.gov.sg/about-nrf/programmes/nrf-fellowship-and-nrf-investigatorship

\(^6\) Candidates from A*STAR must be nominated by SERC and BMRC Executive Directors.
**ETPL Gap Fund**
Gap funds have been used to enhance the maturity of upstream IPs and drive industry adoption. Moving into RIE 2020, Gap funding will be further focused to allow ETPL to validate technology solutions by developing proof-of-concept or prototypes for commercial adoption.

<table>
<thead>
<tr>
<th>Grant Type</th>
<th>Max Duration</th>
<th>Max Quantum Per Proposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETPL Gap Funding</td>
<td>Up to 2 years</td>
<td>Up to $250,000 for ICT projects and up to $750,000 for other products developed</td>
</tr>
</tbody>
</table>

**Proposals must:**
1. Involve background IPs that require further development (where possible with industry) for commercial readiness

2. Possess significant market potential, including interest by a potential licensee

For more details on Gap Funding, please refer to ETPL website: [https://www.etpl.sg/engage-us/to-collaborate](https://www.etpl.sg/engage-us/to-collaborate)

All enquiries on ETPL Gap Funding may be directed to: tech-offer@etpl.sg.
**A*STAR Graduate Academy**
The A*STAR Graduate Academy (A*GA) seeks to develop young scientific talent through the following programmes:

<table>
<thead>
<tr>
<th>Programme</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>For Singaporean students</strong></td>
<td></td>
</tr>
<tr>
<td>NSS (BS-PhD / PhD)</td>
<td>Undergraduate and/or PhD studies at overseas universities</td>
</tr>
<tr>
<td>NSS (MBBS / MD- PhD)</td>
<td>Clinician-scientist training at overseas universities or the Duke-NUS Graduate Medical School</td>
</tr>
<tr>
<td>AGS</td>
<td>PhD training at A*STAR and/or partner university</td>
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<tr>
<td>AUS</td>
<td>Undergraduate studies at local universities</td>
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<tr>
<td>RAOS</td>
<td>Research internships at A<em>STAR for overseas Singaporean undergraduate/Masters’ students at A</em>STAR</td>
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<tr>
<td>AIF</td>
<td>Postdoctoral training at overseas institutions</td>
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<tr>
<td><strong>For international students</strong></td>
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<tr>
<td>SINGA</td>
<td>Full-time PhD training at A*STAR or local universities</td>
</tr>
<tr>
<td>ARAP</td>
<td>Split-site PhD training at A*STAR and overseas partner university</td>
</tr>
<tr>
<td>SIPGA</td>
<td>Research internships at A*STAR for pre-PhD students</td>
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</tbody>
</table>

More information can be found at: [www.a-star.edu.sg/scholarships](http://www.a-star.edu.sg/scholarships)