

MEDIA RELEASE

A*STAR's Aerospace Programme Consortium attracts more Leading Organisations in Aerospace Research Initiatives

*A total of 18 members joined the A*STAR Aerospace Programme's consortium to collaborate on pre-competitive research in aviation technologies, develop new products, processes and solutions in aviation engineering, and improve performance, safety and productivity.*

Singapore, 13 February 2012: With the addition of Embraer, ST Aerospace, Honeywell, SAFRAN, General Electric and the Defence Science Technology Agency, membership of the A*STAR Aerospace Consortium grew to 18 partners. The consortium brings together leading aerospace organisations including four commercial aircraft manufacturers, three aircraft engine OEMs, an increasing number of aircraft components and systems provider as well as all three of the largest Singapore organisations in aviation to embark on innovative research and share technology risks and costs in pre-competitive research. (see Annex A for members' list)

The scale of A*STAR Aerospace Programme consortium research has expanded over the years. The R&D projects launched annually by the consortium have grown from an initial four in 2008 to 13 in 2012. To date, the consortium has undertaken a total of 37 multidisciplinary projects ranging from materials and coatings; inspection and data analytics; communications and electronics; to manufacturing and repair technologies; to develop new products, processes and solutions to improve performance, safety and productivity in aviation. The projects initiated by the consortium leverages on the broad spectrum of R&D capabilities of A*STAR's seven physical sciences and engineering research institutes and also its research collaborators in the universities.

Said Mr Tay Kok Kiang, Chairman, A*STAR Aerospace Programme: "The consortium platform offers a unique and attractive proposition to leading aviation industry players to realise the value of collaborative research in the pre-competitive arena. By identifying common agendas and reducing the proprietary space, companies can mutually benefit from joint research. The large number of leading aviation companies in the A*STAR Aerospace Programme is particularly powerful in ensuring the research focus is on important issues for the aviation industry and our researchers are adding value to our partners in the Aerospace Programme."

Bringing Value to Singapore's Aviation Industry

The consortium, and efforts of A*STAR in pre-competitive-level research, underpins Singapore's vision to enhance the value add to the aerospace business through innovation and talent. Since 1990, Singapore's aerospace industry has grown at an annual rate of more than 10% CAGR. In 2010, the aerospace industry achieved S\$ 7 billion in revenue, employing over 18,000 workers.

The consortium creates value by maximising returns on the industry's research dollars and incentivising MNCs to intensify research activities in Singapore. Local small-and-medium enterprises (SME) can gain from membership to the consortium as it allows them to work with the giants in aviation and benefit from the research outcomes and opportunities in being part of the supply chain.

As a recent example, Flight Focus, a local aerospace SME and A*STAR Aerospace Programme member, is signing an agreement with A*STAR's Institute for Infocomm Research (I²R) to pursue research to develop a next-generation cabin communication platform that will enable in-flight cabin communications with various devices. This research builds on the outcomes from a project launched in the third cycle of the A*STAR Aerospace Programme.

Said Mr Ralf Cabos, Managing Director at Flight Focus Pte Ltd, "With our collaboration in A*STAR's Aerospace Programme, and the subsequent bilateral work with I²R, Flight Focus can now enter the fast growing, global, passenger communications market with a versatile and highly competitive solution, dramatically cutting cost for passenger SMS and voice calls. Without this joint project, this would not have been achievable for Flight Focus."

Said Mr Lim Chuan Poh, A*STAR Chairman, "By fostering meaningful public-private collaborations via the aerospace consortium platform, we are contributing to the growth of Singapore's aviation industry. The consortium not only leads to the development of new technologies in strategic areas, but also secures substantial R&D investments, helps to anchor MNCs in Singapore and create a whole value chain that benefits Singapore's companies in the aviation industry."

Forging deeper bilateral partnerships with A*STAR Aerospace Programme members

The consortium platform also paves the way for multiple bilateral partnerships with MNCs:

Boeing

Most recently, Boeing agreed to transfer ten A*STAR-developed technologies from research areas such as non-destructive testing, materials, and coatings that will contribute towards enhancing airline value and improving factory operations.

“Boeing has been actively involved in A*STAR Aerospace Programme as a Tier 1 member since 2007.” Said Peter L Hoffman, Director, Global R&D Strategy, Boeing Research & Technology, “The A*STAR Aerospace Programme is attractive in that you get a good critical mass in research funds for a common benefit. The increase in membership has effectively opened up new research areas such as inspection techniques, coatings and machining. For Boeing, finding the right partners to conduct R&D and to co-invest with other industries and government agencies like A*STAR helps us make the best use of our R&D resources.”

Beyond the consortium platform, **Boeing’s Network Enabled Manufacturing (NEM) team** has partnered A*STAR’s Institute for Infocomm Research (I²R) to improve its manufacturing and assembly processes via the development of an integrated sensor platform. Based on this platform, a jointly-developed Intelligent Factory Alert System has been successfully deployed in the production of Boeing 777 Airplanes and now enables mechanics to summon for immediate help from Ship Side Support teams, eliminating unnecessary delay in contacting and searching for support personnel.

Rolls-Royce

In 2009, A*STAR’s Singapore Institute of Manufacturing Technology (SIMTech) and Rolls-Royce set up a joint Surface Finishing Lab to enhance productivity in manufacturing production. SIMTech and Rolls-Royce have over 75 collaborative projects including those on manufacturing process development for the aerospace and marine sectors. Said Dr David Low, Chief of Manufacturing Technology, Advanced Technology Centre of Rolls-Royce Singapore, “A*STAR and Rolls-Royce have a long history in R&D partnership since 2006. In the course of the collaborations, Rolls-Royce leveraged on SIMTech’s expertise in process automation and reliability to complement its own domain knowledge. We look forward to more research collaborations with SIMTech.”



Agency for
Science, Technology
and Research

With the congregation of eminent technology and thought leaders at the Singapore Airshow, A*STAR is holding its Aerospace Technology Leadership Forum. The forum will be a platform for CTOs from partner companies in the A*STAR Aerospace Programme to share their thoughts on R&D to shape the future of the aviation industry. The biennial event, coinciding with the Singapore Airshow allows industry players to discuss and exchange views on technologies as a competitive advantage. This year's programme, entitled "Aerospace Technology Directions and R&D Investments in Highly Uncertain Times", will be held on 13 February 2012 at Marina Mandarin Singapore.

Agency for Science, Technology and Research (A*STAR)

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Encl. :
ANNEX A - Factsheet on A*STAR Aerospace Programme Members
ANNEX B - Factsheet on A*STAR's Aerospace Programme



About the Agency for Science, Technology and Research (A*STAR)

The Agency for Science, Technology and Research (A*STAR) is the lead agency for fostering world-class scientific research and talent for a vibrant knowledge-based and innovation-driven Singapore. A*STAR oversees 14 biomedical sciences, and physical sciences and engineering research institutes, and seven consortia & centre, which are located in Biopolis and Fusionopolis, as well as their immediate vicinity.

A*STAR supports Singapore's key economic clusters by providing intellectual, human and industrial capital to its partners in industry. It also supports extramural research in the universities, hospitals, research centres, and with other local and international partners.

Website: www.a-star.edu.sg

Factsheet: A*STAR's Aerospace Programme Members

Members *(in alphabetical order)*

About Addvalue Technologies

Addvalue Technologies, established in Singapore since 1994, is a leading one-stop digital, wireless and broadband communications technology products innovator, which provides state-of-the-art satellite-based communication terminals and solutions for a variety of voice and IP-based data applications.

Website: www.addvaluetech.com

About Boeing

Boeing is the world's leading aerospace company and the largest manufacturer of commercial jetliners and military aircraft combined. Additionally, Boeing designs and manufactures rotorcraft, electronic and defense systems, missiles, satellites, launch vehicles and advanced information and communication systems. As a major service provider to NASA, Boeing operates the Space Shuttle and International Space Station. The company also provides numerous military and commercial airline support services. Boeing provides products and support services to customers in 150 countries and is one of the largest U.S. exporters in terms of sales.

Website: www.boeing.com

About Bombardier Aerospace

With more than 30,300 employees and well-positioned in global markets, Bombardier Aerospace is a world leader in the design, manufacture and support of innovative aviation products for the business, commercial, specialized and amphibious aircraft markets.

Website: www.bombardier.com

About Defence Science Technology Agency (DSTA)

The Defence Science and Technology Agency (DSTA) is a statutory board set up under the Ministry of Defence (MINDEF). It is responsible for implementing defence technology plans, acquiring defence materiel and developing defence infrastructure for MINDEF. DSTA aims to provide leading-edge technological solutions to the Singapore Armed Forces (SAF) so that it continues to be a formidable fighting force for the defence and security of Singapore. To do so, DSTA will tap the best technologies - military and commercial - and foster an environment of creativity and innovation for defence applications. DSTA also helps build up a strong community of scientists and engineers from the universities, research institutes, government and industry to meet the defence and security needs of the nation.

Website: www.dsta.gov.sg

About Embraer

Embraer is a global aerospace company creating imaginative aircraft and technologies.

Website: www.embraer.com



About European Aeronautic Defence and Space Company (EADS)

EADS is a global leader in aerospace, defence and related services. In 2010, the Group's 20th anniversary year, EADS comprising Airbus, Eurocopter, Astrium and Cassidian generated revenues of Euro 45.8 billion and employed a workforce of some 122,000.

Website: www.eads.com

About Flight Focus

Flight Focus Pte Ltd is a flight operations solutions and services provider for the aviation industry. The primary business is to provide airlines an open and complete Electronic Flight Bag solution resulting in savings and efficiencies almost immediately via the Flight Focus PLATFORM. A well defined global delivery model enables a reduction in time-to-market and cost-of-ownership while offering world class quality solutions and services. Flight Focus headquarters is located in Singapore, with offices and staff located worldwide.

Website: www.flightfocus.net

About General Electric (GE)

GE has a strong set of global businesses in infrastructure, finance and media aligned to meet today's needs, including the demand for global infrastructure; growing and changing demographics that need access to healthcare, finance, and information and entertainment; and environmental technologies.

Website: www.ge.com

About GT Industrial

GT Industrial, with Nadcap approved related party GT-Baiker Metal Finishing, are leading providers of complementary metal refurbishment services in Singapore. GT Industrial offers a wide range of specialised equipment and techniques in supporting various aerospace OEMs with vibratory finishing involving compressor and turbine blade refurbishment. GT-Baiker Metal Finishing can also provide shot peening expertise certified in accordance with Nadcap approvals for Aerospace Quality System (AC 7004) and Surface Enhancement (AS 7117). Our expertise has secured approvals from various OEMs including Rolls-Royce, Boeing, Singapore Aerospace Management, Hamilton Sundstrand, Windsor Airmotive and GE Aircraft Engines.

Website: www.gt-ind.com.sg

About Honeywell

Honeywell is a Fortune 100 company that invents and manufactures technologies to address tough challenges linked to global macro trends such as safety, security, and energy. With approximately 122,000 employees worldwide, including more than 19,000 engineers and scientists, we have an unrelenting focus on quality, delivery, value, and technology in everything we make and do.

Website: www.honeywell.com

About Pratt & Whitney

Pratt & Whitney's Commercial Engines & Global Services is an industry leader in customer solutions and service excellence through its broad portfolio of offerings. Its Global Service Partners network helps customers benefit from overhaul and repair facilities worldwide capable of servicing all Pratt & Whitney engines, as well as those made by other manufacturers.



Pratt & Whitney is a world leader in the design, manufacture and service of aircraft engines, space propulsion systems and industrial gas turbines. United Technologies, based in Hartford, Conn., is a diversified company providing high technology products and services to the global aerospace and building industries.

Website: www.pratt-whitney.com

About Rolls-Royce

Rolls-Royce, the world-leading provider of power systems and services for use on land, at sea and in the air, operates in four global markets - civil aerospace, defence aerospace, marine and energy. The company continues to invest in core technologies, products, people and capabilities to broaden and strengthen the product portfolio, improve efficiency and enhance the environmental performance of its products. These investments create high barriers to entry.

Rolls-Royce has a broad customer base comprising 600 airlines, 4,000 corporate and utility aircraft and helicopter operators, 160 armed forces and more than 2,000 marine customers, including 70 navies.

Rolls-Royce is a technology leader, employing 38,000 people in offices, manufacturing and service facilities in 50 countries. This global presence allows the Group to access long-term international growth opportunities with its technology, presence, partnerships and people.

Website: www.rolls-royce.com

About Rösler

The Rösler Group has 1400 employees worldwide, including 990 in Germany. Our distribution network is supported by 15 branches and over 60 worldwide representatives. The world's leader in the manufacture of equipment and process technology for optimum surface finishing (deburring, descaling, polishing, grinding) of metal parts and other materials, Rösler also has an R&D arm that research new application areas for technologies and develop innovative process solutions, which combine consistent surface quality with the highest level of economic feasibility.

Website: www.rosler.com

About Safran

Safran is an international high-technology group with four core businesses : Aerospace Propulsion, Aircraft Equipment, Defense and Security. The Safran Group comprises a number of companies with prestigious brand names, and holds, alone or in partnership, global or European leadership positions in all of its markets

Website: www.safran.com

About SIA Engineering Company

SIA Engineering Company (SIAEC), together with its 25 joint ventures and subsidiaries across nine countries, forms the SIAEC Group.

The SIAEC Group provides extensive maintenance, repair and overhaul (MRO) of aircraft to more than 80 international airlines worldwide.

With certifications from more than 20 airworthiness authorities, SIAEC's six hangars and 22 in-house workshops in Singapore provide complete MRO services in airframe, component, engine, aircraft conversions and modifications to major airlines from four continents. Our component, engine and modifications joint ventures forged with the world's leading engine and component manufacturers, further deepen our MRO service offerings.

Website: www.siaec.com.sg



About ST Aerospace

ST Aerospace is a global company with more than 7,000 employees around the world and a global customer base that includes the world's advanced military forces, major airlines and leading freight carriers.

As a leading independent, third party aviation Maintenance, Repair and Overhaul (MRO) with an annual capacity of more than eight million man hours in 2006, and extensive capabilities in engineering and development, engines, aircraft components repair and spares, we assure our customers consistency in quality standards for all your aviation maintenance and engineering services.

With international offices and facilities located in key aviation hubs in Americas, Asia Pacific, Europe and Middle East, ST Aerospace believes in being responsive to our customers' needs. Our work processes are focused on meeting your requirements and creating value for you to enhance your operational excellence.

Website: www.staerospace.com

About Sunny Instruments Singapore

Sunny Instruments Singapore Pte Ltd provides measurement and inspection solutions that harnesses the powers of optics and electronics. We can address your needs for dimensional measurement, vibration testing, and close-up inspections.

Our products include 3D automated Vision Measuring Machine, Dynamic Laser Interferometer and a great variety of microscopes. We promise to deliver products and services with the highest value to our esteemed customers.

Website: www.sunnyinstruments.com.sg

About Tru- Marine

From our early beginnings in 1977, Tru-Marine has held a leading position today with a worldwide network as a specialist in turbocharger servicing the heart of Tru-Marine's excellence lies in the uncompromising reliability of our service delivery.

Tru-Marine takes pride in offering high standards of customer-centric service that is backed by sound technical expertise and superior savings of innovative repair alternatives to the replacement of worn turbocharger parts.

Website: www.trumarine.com.sg

For more information, please access the following link:

<http://www.serc-aerospace-prog.sg/>

Factsheet: A*STAR's Aerospace Programme

About the Programme

Spearheaded by the Science and Engineering Research Council (SERC) of A*STAR, the Aerospace Programme aims to drive innovation in the aerospace industry and support Singapore's standing as a global aviation hub through investment in R&D. The Programme proposes to carve a niche in the aerospace global marketplace by providing resources for research and technology development that lead to reduced investment risks and optimised business opportunities. It also aims to strengthen the value-chain among the key industries of aviation, MRO and precision engineering so as to contribute to accelerating the overall growth of the industry, as well as increase aerospace manufacturing activities in Singapore.

Objectives

Engage the aerospace industry and R&D community in Singapore to drive innovation:

- Carry out pre-competitive research work with strong industry participation in the aerospace domain
- Allow sharing of resources
- Keep abreast with the technological challenges in advanced aerospace materials and technologies
- Form value-chains among aerospace, MRO, precision engineering and other aerospace related industries

Research Projects

To date, a total of 37 projects have been launched by the Programme in the 5 key thrusts of Advanced Materials, Manufacturing Processes & Automation, Information & Communication, Inspection & Non-Destructive Testing, Computational Modelling & Dynamics.