

WDA and German Institute of Science and Technology – TUM Asia (TUM Asia) Launch S\$1 Million Scholarship Programme for Singaporean Professionals in the Manufacturing Industry

Breakthrough government-academia-industry initiative to support workforce training for innovation-driven manufacturing sector

Singapore, 6 February 2012 – The Singapore Workforce Development Agency (WDA) and German Institute of Science and Technology – TUM Asia (TUM Asia) today launched the Manufacturing STEP Scholarship (MS²) programme to build a pipeline of management talent for the long-term needs of the manufacturing industry.

An initiative under the Skills Training For Excellence Programme (STEP), the MS² programme was unveiled by Mr. Wong Hong Kuan, Chief Executive of WDA, and Dr. Markus Wächter, Managing Director of TUM Asia. Under this pilot programme, WDA will fund selected candidates to pursue studies leading to a Master of Science degree in one of the following six degree programmes:

- Master of Science in Integrated Circuit Design
- Master of Science in Microelectronics
- Master of Science in Aerospace Engineering
- Master of Science in Industrial Chemistry
- Master of Science in Transportation & Logistics
- Master of Science in Biomedical Imaging & Computing

The programme will commence its first run in August 2012. WDA's funding package for the MS² initiative covers grants for course fees and training stipends, which is estimated at S\$1 million over a three-year period from August 2012 to July 2015.

All the degree programmes will be held in Singapore. The Master of Science degrees in Transportation & Logistics and Biomedical Imaging & Computing will be solely awarded by Technische Universität München (TUM), one of the top three universities in Germany with strong links to industrial research and training excellence. The degrees in Integrated Circuit Design, Microelectronics and Aerospace Engineering will be jointly awarded by TUM and Nanyang Technological University (NTU), while those in Industrial Chemistry will be jointly awarded by TUM and the National University of Singapore (NUS).

The MS² programme is the latest initiative by WDA to help Professionals, Managers and Executives (PMEs) advance their careers, by broadening and deepening their skills through the provision of relevant, up-to-date and industry-validated training.

“WDA's joint scholarship programme for manufacturing professionals with TUM Asia is a timely initiative to boost the number of skilled professionals in the industry,” said Mr. Wong. “Singapore attracted a record S\$13.7 billion in Fixed Assets Investments (FAIs) last year, and investment commitments are projected to remain strong in

2012. The MS² programme will play a part in meeting the demand for skilled workers by helping companies to develop and retain their best talents. WDA will continue to explore and support further innovative and suitable programmes that will strengthen the capability and competitiveness of the manufacturing sector.”

“TUM-Asia is very honoured to collaborate with WDA on this unique initiative that will strengthen Singapore’s manufacturing capability in the long-term,” said Dr. Wächter. “During the past ten years, TUM Asia has been successful in leveraging the high academic standards of Technische Universität München (TUM) as the foundation for our industry-focused education programmes that equip graduates with relevant industry skills and prepare them for leadership roles in the global economy. The MS² is a demonstration of our commitment to further contribute to the development of manufacturing industry.”

The MS² is the first-of-its-kind government-academia-industry joint partnership that allows potential scholars to be nominated and sponsored by their employers with funding support from WDA. Additionally, scholars under the programme will benefit from an 8-month in-company attachment before completing their course. Another feature of the programme is the customised employer-designed career progression plan for the scholars, as part of their training and development roadmap.

Mr Christian Bischoff, Managing Director of Pan Asia Logistics Singapore Pte Ltd, affirmed his company’s support of the programme. He said: “Investment in young talents is an essential part of our strategic human resource policy. The development of our organisation calls for a constant supply of top performers, highly qualified specialists and management trainees. How else can we gear ourselves up for tomorrow’s challenges and ventures? It’s about investing in the future.”

The launch of the MS² programme comes after the successful rollout of the WDA-TUM Professional Conversional Programmes in Master of Science in Microelectronics, Master of Science in Integrated Design, Master of Science in Industrial Chemistry and Master of Science in Aerospace Engineering. More than 70 per cent of graduates from these degree programmes were successfully placed in major MNCs last year.

###

About TUM Asia

German Institute of Science and Technology – TUM Asia (TUM Asia) opens its doors in Feb 2002 as the subsidiary of Technische Universität München (TUM) in Singapore and the first German academic venture abroad. Through its groundbreaking collaboration with Singapore's two leading universities, TUM, Germany has pioneered globalization of German universities by creating TUM Asia in partnership with National University of Singapore (NUS) and Nanyang Technological University (NTU).

Since 2002, TUM Asia has been running joint Master Programmes between TUM and our partner universities NTU and NUS. Its Master of Science in Industrial Chemistry is the longest running programme with 7 successful intakes and 5 graduate batches. Through the years, programmes such as Integrated Circuit Design, Microelectronics, Aerospace Engineering, Transport and Logistics and Biomedical Imaging have been added to our list. TUM Asia also collaborates with Singapore Institute of Technology, providing 2 Bachelor programmes i.e. Bachelor of Science in Electrical Engineering and Information Technology and Bachelor of Science in Chemical Engineering. 2012 marks TUM Asia's 10th year in Singapore and there will be plans to launch more Master and Bachelor programmes that are industry focused and in tune with the needs of the global economy.

About Singapore Workforce Development Agency (WDA)

The Singapore Workforce Development Agency (WDA) enhances the competitiveness of our workforce by encouraging workers to learn for life and advance with skills. In today's economy, most jobs require not just knowledge, but also skills. WDA collaborates with employers, industry associations, the Union and training organisations, to develop and strengthen the Continuing Education and Training system that is skills-based, open and accessible, as a mainstream pathway for all workers – young and older, from rank and file to professionals and executives – to upgrade and advance in their careers and lives. For more information, please visit www.wda.gov.sg.

For media enquiries, please contact:

Dana Loh
Senior Marketing Executive
German Institute of Science and Technology – TUM Asia Pte Ltd
DID: +65 6777-7407 ext 127
Email: dana.loh@tum-asia.edu.sg

Steven Ng
Principal Manager, Corporate & Marketing Communications
Singapore Workforce Development Agency
DID: +65 6512-1241
Email: steven_ng@wda.gov.sg

FACTSHEET ON SKILLS TRAINING FOR EXCELLENCE PROGRAMME (STEP)

With the increasing pace of change in today's global business climate, Professionals, Managers, Executive and Technicians (PMETs) will have to constantly update their skills, knowledge and expertise to remain competitive. The Ministry of Manpower and the Singapore Workforce Development Agency have launched a continuing education and training initiative for PMETs called STEP or Skills Training for Excellence Programme.

OBJECTIVES OF STEP

2. The \$150 million programme aims to meet the diverse upgrading needs of PMETs. STEP will help some 60,000 PMETs over 3 years to achieve the following:
 - Skills Deepening – Helping PMETs deepen their industry and occupational specific skills.
 - Skills Broadening – Helping PMETs, who already have specialised skills, to broaden their knowledge and skills in other aspects of business operations.
 - Skills Refreshing – Helping PMETs update their knowledge on the latest trends and developments in their industries.
 - Developing a Talent Pool – Helping to develop high potential PMETs to form a talent pool and leadership core for different industries
3. Aimed at helping PMETs across all job functions – from entry level managers to senior level executives, STEP will strategically create not only deeply-skilled individuals who have great facility and skill in their chosen areas of work, but who are also able to manage the wider scope of business operations. A pool of highly skilled PMETs can become the bedrock for Singapore's continued growth through productivity and innovation, and allow us to remain competitive against the backdrop of an increasingly globalised economy.

OFFERINGS IN STEP

4. Interested PMETs will be able to tap on the following STEP offerings:
 - a) Courses leading to Qualifications: These are longer courses covering a comprehensive range of knowledge and skill sets, and leading to a full skills qualification. They can help PMETs to progress in their career or to obtain qualifications that enable them to take on new responsibilities, or even move into new sectors. Examples include WSQ Diplomas/Specialist Diplomas (e.g. Digital Animation, Precision Engineering, Software Development, Tourism) and WSQ Graduate Certificates/Graduate Diplomas (e.g. Enterprise Resource Planning, Systems Analysis). There will also be non-WSQ qualifications.

b) Modular Courses: These programmes are typically identified in collaboration with industry partners to help address knowledge and capability gaps in our PMETs. Examples include modular Workforce Skills Qualifications (WSQ) courses in “horizontal” skills areas such as business management and human resource as well as in “vertical” skills areas such as tourism and environmental technology to groom “T-shaped PMETs”. Examples of non-WSQ courses include professional development programmes for the manufacturing industry by German Institute of Science and Technology - Technische Universität München (GIST - TUM Asia) and executive development courses by Warwick University.

c) Industry Scholarships: WDA will seek suitable opportunities with reputable institutions and industry bodies and expand our scholarship offerings as part of our sectoral approach in upgrading workforce capabilities. Some examples of current scholarships include those we have with Embry Riddle/UniSIM (e.g. the Bachelor of Science in Aviation Business Administration and Bachelor of Science in Aviation Maintenance), Master in Landscape Architecture with NUS, Master in Retail Management with Stirling University and Early Childhood Education with Management via UniSIM.

d) Master-classes/Seminars: These would typically be 1-2 day programmes on specific topics (e.g. productivity, green retailing, service leadership) involving best-in-class institutions such as Cranfield University, London College of Fashion, Ritz Carlton Leadership Centre and Newcastle University, to name a few.

e) Industry Skills Development Advisory Services: These services will be offered through key channels like industry associations or lead bodies with insights into the industries and their skill needs. The aim is to give employers and PMETs a sustained skill development pathway, where PMETs can plan their career progression pathway, while employers can leverage it for their companies’ future development plan. WDA will also be working with industry associations, lead bodies and selected CET centres to develop STEP training road-maps for their sectors.

5. Typically, a PMET who attends a programme under STEP will enjoy up to 70 per cent subsidies of course or participation fees. Successful applicants for industry scholarships may enjoy additional support such as stipends, book allowances, etc.

PROGRAMME/ MEDIA FACTSHEET

MANUFACTURING STEP SCHOLARSHIP (MS²) WITH GERMAN INSTITUTE OF SCIENCE AND TECHNOLOGY – TUM ASIA (TUM ASIA) AND TECHNISCHE UNIVERSITÄT MÜNCHEN (TUM)

A. About Manufacturing STEP Scholarship (MS²)

The Manufacturing STEP Scholarship is an initiative of Singapore Workforce Development Agency (WDA) and German Institute of Science and Technology – TUM Asia (TUM Asia) that aims to build a pipeline of advanced manufacturing managers to meet the long-term requirements of the manufacturing industry.

MS², the chosen acronym for the Manufacturing STEP Scholarship, symbolises the importance of engineering and technological skills in Singapore's workforce.

The German Institute of Science and Technology – TUM Asia (TUM Asia) is the programme partner in this initiative for the training, upgrading and placement of workers in the manufacturing industry by offering 6 Master programmes with Technische Universität München (TUM) leading to the Master of Science certification.

Only Singapore Citizens are eligible for the Manufacturing STEP Scholarship and participating scholars and scholars must be nominated and sponsored by their employers:

B. List of Master Programmes (Covered under MS²) Offered by TUM Asia

Programme Title	University	Programme Description	Duration
Master of Science in Integrated Circuit Design	TUM & NTU	The MSc in Integrated Circuit Design equips students with the academic proficiency and hands-on knowledge required in the design, development and manufacture of integrated circuit or integrated electronic products. This Master degree is jointly awarded Technische Universität München (TUM) and Nanyang Technological University (NTU).	18 months

Master of Science in Microelectronics	TUM & NTU	The MSc in Microelectronics is a highly specialized programme to train engineers to work in silicon wafer fabrication industries, engage with the related research institutions. This Master degree is jointly awarded by Technische Universität München (TUM) and Nanyang Technological University (NTU).	18 months
Master of Science in Aerospace Engineering	TUM & NTU	The MSc in Aerospace Engineering is a programme that caters to highly qualified engineers to meet the ever-increasing demand from a growing aerospace sector in Singapore and the world. This Master degree is jointly awarded by Technische Universität München (TUM) and Nanyang Technological University (NTU).	24 months
Master of Science in Industrial Chemistry	TUM & NUS	The MSc in Industrial Chemistry aims to groom future leaders in selected areas of technology. It is an enabling postgraduate programme for specialist engineers for the pharmaceutical, as well as the fine and specialty chemical industries. This Master degree is jointly awarded by Technische Universität München (TUM) and National University of Singapore (NUS).	18 months

<p>Master of Science in Transport and Logistics</p>	<p>TUM</p>	<p>The MSc in Transport and Logistics will provide graduates with the necessary knowledge and skill to employ a diverse range of technologies that leverage on state of the art computer and communications technologies to implement sophisticated and far reaching solutions to transportation challenges that characterize modern economy. This Master degree is awarded by Technische Universität München (TUM).</p>	<p>18 months</p>
<p>Master of Science in Biomedical Imaging</p>	<p>TUM</p>	<p>The MSc in Biomedical Imaging is an interdisciplinary specialisation which closes the gap between engineering and the medical field. The course focuses in the topics of Bio-computing and Bio-imaging and addresses students who will pursue future development and research to improve healthcare diagnoses, monitoring and therapy. This Master degree is awarded by Technische Universität München (TUM).</p>	<p>20 months</p>

MEDIA FAQ – Manufacturing STEP Scholarship (MS²)

1. Can I have more information about TUM Asia?

German Institute of Science and Technology-TUM Asia (TUM Asia) started in Feb 2002 as the subsidiary of Technische Universität München (TUM) in Singapore and the first German academic venture abroad. Through its groundbreaking collaboration with Singapore's two leading universities, TUM, Germany has pioneered globalisation of German universities by creating GIST in partnership with National University of Singapore (NUS) and Nanyang Technological University (NTU).

Since 2002, TUM Asia has been running joint Master Programmes between TUM and partner universities NTU and NUS. TUM Asia's Master of Science in Industrial Chemistry is the longest running programme with 9 successful intakes and 8 graduate batches. Through the years, programmes such as Integrated Circuit Design, Microelectronics, Aerospace Engineering and Transport and Logistics have been added to the list. 2012 marks TUM Asia's 10th year in Singapore.

2. Why is TUM Asia picked as a training provider?

TUM Asia is a subsidiary of the Technische Universität München (TUM) in Singapore and TUM is a globally acclaimed research university with top results in technology sciences and medicine. Their core competencies are high technologies and life sciences. TUM has produced six Nobel Laureates so far, one of them is also a regular lecturer at TUM Asia's Master of Industrial Chemistry programme in Singapore.

3. What is the objective of the Manufacturing STEP Scholarship (MS²)?

The Manufacturing STEP Scholarship is an initiative of Singapore Workforce Development Agency (WDA) that aims to build a pipeline of talent to meet the long-term requirements of the manufacturing industry. TUM Asia is the programme partner, offering 6 Master programmes with Technische Universität München (TUM) leading to the Master of Science certification.

4. What are the programmes available?

Master of Science in Industrial Chemistry

The MSc in Industrial Chemistry aims to groom future leaders in selected areas of technology. It is an enabling postgraduate programme for specialist engineers for the pharmaceutical, as well as the fine and specialty chemical industries. This Master degree is jointly awarded by Technische Universität München (TUM) and National University of Singapore (NUS).

Master of Science in Integrated Circuit Design

The MSc in Integrated Circuit Design equips students with the academic proficiency and hands-on knowledge to design, develop and manufacture integrated circuit or integrated electronic products. This Master degree is jointly awarded Technische Universität München (TUM) and Nanyang Technological University (NTU).

Master of Science in Microelectronics

The MSc in Microelectronics is a highly specialised programme to train engineers to work in silicon wafer fabrication industries, engage with the related research institutions. This Master degree is jointly awarded by Technische Universität München (TUM) and Nanyang Technological University (NTU).

Master of Science in Aerospace Engineering

The MSc in Aerospace Engineering is a programme that caters to highly qualified engineers to meet the ever-increasing demand from a growing aerospace sector in Singapore and the world. This Master degree is jointly awarded by Technische Universität München (TUM) and Nanyang Technological University (NTU).

Master of Science in Transport and Logistics

The MSc in Transport and Logistics will provide graduates with the necessary knowledge to employ a diverse range of state-of-the-art technologies to implement sophisticated, far-reaching solutions to transportation challenges. This Master degree is awarded by Technische Universität München (TUM).

Master of Science in Biomedical Imaging

The MSc in Biomedical Imaging is an interdisciplinary specialisation that focuses on Bio-computing and Bio-imaging. It addresses students who will pursue future development and research to improve healthcare diagnoses, monitoring and therapy. This Master degree is awarded by Technische Universität München (TUM).

5. Who is the Target Audience?

The target audience are Singapore Citizens who are professionals and executives in the relevant industries. They need to be nominated and sponsored by their internal talent development programme or equivalent scheme.

6. What are the objectives of the Master of Science programmes?

The key objectives of the master courses under the TUM Asia Master of Science programmes are to provide top notch German-Singaporean degrees in relevant and emerging technological areas like Chemistry, Electronics, Aerospace, Biomedical, Transport and Logistics, as well as to provide local industries with crucial skills to meet the demand of the future.

7. How much is the funding percentage for MS²?

The funding is up to 80% for qualified candidates with the remainder to be borne by sponsoring companies.

8. Will the training lead to jobs?

Yes, this is a place and train programme, so scholars will already be hired by companies before embarking on training.

9. What are the screening and selection processes for the trainees?

Upon receiving the application documents and application fees, TUM Asia will start processing the application. Selection process takes place in both NTU/NUS and TUM, therefore all submitted documents are sent to the Professors of both Universities. An Applicant is offered a place in the Programme only when both Universities agree on the admission. The application for the MS² will only be processed after the candidate has obtained an in principle admission letter from

TUM Asia. Candidates will also be required to attend interview with the TUM Asia/WDA scholarship board to ascertain his/her eligibility to receive the scholarship. Candidates are also required to under-go a psychometric test administered by TUM Asia before they are awarded the scholarships.

10. What funding can the employer/company enjoy?

Employees who send their Singaporean employees to the TUM Asia programmes under the MS² will enjoy course fee support.

11. Are there plans for another programme since the MS² is only for 15 scholars?

There will be plans to expand the training programme to more candidates if there are demands from the industry on this programme.

12. What other collaborations does WDA have with GIST-TUM Asia?

WDA and TUM Asia are also partnering a series of Professional Development Programmes for various industries including Chemicals, Transport and Logistics, Biomedical Sciences and Electronics. The Professional Development Programmes aim to bring in domain experts and thought leaders from TUM to provide their insights on the latest industry trends and cutting edge technologies.

13. How important is the manufacturing sector to Singapore and how will MS² help to address the sector's manpower needs?

The MS² programme is specially catered to sectors which are of economic importance in terms of manpower development and which will enable Singaporeans to embark on specialised jobs in strategic industries.

For example, within the manufacturing sector, the electronics industry is the largest contributor to Singapore's economy and MS² addresses its talent needs through the Master of Science in Microelectronics and Master of Science in Integrated Circuit Design. The biomedical industry contributes S\$20.7 billion or 10% of total manufacturing output, and MS² tackles its needs via the Master of Science in Biomedical Imaging and Computing. Singapore's logistics industry, which is a world leader in supply chain solutions, will benefit from the Master of Science in Transportation & Logistics. Furthermore, companies from the aerospace and industrial chemicals fields can send their top talent for the Master of Science in Aerospace Engineering and Master of Science in Industrial Chemistry, respectively.

14. Has MS² received any endorsements from industry players?

The programme has had the endorsement of many leading industry members across the manufacturing sector including Lantiq Asia Pacific, Infineon Technologies Asia Pacific Pte Ltd, both from the semiconductor industry, BASF Asia Pacific one of the world's principal chemical companies, Clariant (Singapore) Pte Ltd, a global leader in specialty chemicals and Pan Asia Logistics Singapore Pte Ltd, an integrated global transportation and logistics solutions company.

Media Contact:

Dana Loh (Ms)

67777407 ext 127

dana.loh@tum-asia.edu.sg

Testimonies on the Professional Conversion Programme with TUM-Asia

1. “The programme prepared us (the graduates) with the necessary foundation for a research and design career path and many of us are placed within the industry even before graduation.” Mr. Phua Jian Rong, one of the graduates from the Master of Science in Microelectronic programme who found a job with VIRTUS – Nanyang Technological University as a Research Associate
2. Ms. Amylia Ghani, another graduate from the Master of Science in Industrial Chemistry added “The programme was nicely structured with a good balance of coursework and research component. In addition, there is an opportunity for us to work on an internship and thesis either in Singapore or abroad. Because of the WDA programme, I was talent spotted and offered the opportunity to do my PhD at TUM.”
3. “At STMicroelectronics, we have currently employed many graduates from TUM Asia. Most of these graduates had previously done an internship with us. Their confirmation of employment was given before the end of their internship. TUM Asia’ graduates are generally able to learn fast and perform tasks given by their superiors and we will rate a scale of 8 out of 10 for their performance in fulfilling the company expectations.” said Mr. Fabien Sincere, Senior Administrator, HR (L&D) of STMicroelectronics Asia Pacific Pte Ltd on the Professional Conversion Programme.