

Fact Sheet

About Nanyang Environment & Water Research Institute (NEWRI)

Headed by: Professor Ng Wun Jern, founding Executive Director

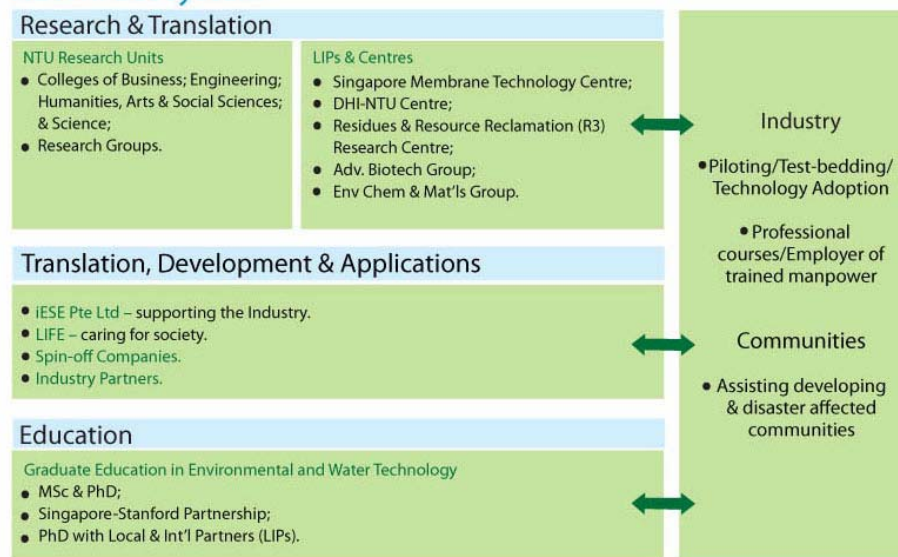
NEWRI unifies NTU's EWT efforts in academia, research and applications. As the coordinating body of NTU's EWT efforts, NEWRI serves as the 'entrance' to NTU's EWT capabilities. It allows researchers to engage in leading research, bringing together groups across the university so as to leverage one another's strengths.

NEWRI's ultimate goal is to translate cutting-edge EWT research and bring it to an industry eager to benefit society and lead in an expanding market.

NEWRI is an 'ecosystem', with alliances between largely independent entities that pursue a common vision of environmental research. Members of the NEWRI ecosystem are:

1. Advanced Environmental Biotechnology Group
2. Environmental Chemistry and Materials Group
3. iESE
4. Lien Institute for the Environment (LIFE)
5. Residues & Resource Reclamation Centre
6. Singapore-Stanford Partnership
7. Singapore Membrane Technology Centre ^{*new}
8. DHI-NTU Water & Environment Research Centre & Education Hub ^{*new}

NEWRI Ecosystem



About Singapore Membrane Technology Centre (SMTC)

Headed by: Professor Anthony Fane, Director

The Singapore Membrane Technology Centre (SMTC) has a mission to be a world-class research Centre in membranes for the environment and water technology. The SMTC is part of the Nanyang Environment & Water Research Institute 'ecosystem', and is supported by NTU, EWI and Others (including industry).

SMTC's objectives are:

- Education & Training ~ produce PhDs and Researchers in membranes for EWT;
- Research & Development ~research with links to industry and international community;
- Industry & Application ~ act as incubator for novel membrane technology in EWT.

A total of more than 30 researchers are planned over the 5 year period, including;

- 22 PhD students and 8 Post Doc Research Fellows, and support staff.

- At least 12 academic staff will be involved in research supervision.

The SMTC expects to host several international specialists for collaborative research.

The SMTC is partner in the following projects (based on IP developed in TP programme);

- NRF CRP Solar driven membrane distillation and bioreactor for water production.
- EWRP Demonstration trials of Integrity Sensor for Membrane Plant.
- TEC Demonstration of waste heat driven MD bioreactor for industrial wastewater.

The SMTC is in active discussion with a wide range of companies seeking collaboration. Projects will include;

- Water treatment and novel desalination,
- Water reuse, 'NeWater' and beyond,
- Membrane bioreactors, novel concepts,
- Trace pollutant removal,
- Energy from waste water using membranes,
- Novel membranes and processes,
- Fouling and cleaning,
- Sensors and monitoring for smart membrane processes, etc.

About DHI-NTU Water & Environment Research Centre & Education Hub (DHI-NTU Centre)

Headed by: Mr Jesper Dorge, Centre Leader

The DHI-NTU Centre was set up as part of the Environment and Water Research Programme (EWRP) with support from EWI. The Centre will generate specialist knowledge on water technology and strengthen the water and environment industry via development of innovative solution and water technologies serving the needs for clean and sustainable water re-sources in Singapore and neighbouring countries.

The interdisciplinary DHI-NTU Research Centre aims to carry out research corresponding to more than 200 person-years of research efforts, create 10 PhDs in key water and environment disciplines, publish more than 10 scientific papers per year, and develop several new products over a period of 5 years for the benefit of the water and environment industry. It focuses on four research areas: Industrial Water Management, Urban Planning and Water Management, Solid Waste Management and Environmental Impact Assessment; and a cross-cutting research and techno-logical development area: Decisions Support System Tools and Technologies

The Education Hub provides high quality training and education for existing and future water and environ-ment personnel. This training will strengthen the man-power development of the water and environment industry via a number of vocational training courses, including the following key areas: Integrated Water Resources Management, Integrated Environment and Water Management, Environment, Health and Safety for Chemicals and Environmental Impact Assessment

About research collaborations with

- ***Hitachi Plant Technologies Ltd***

NTU and Hitachi Plant technologies have signed an MOU to collaborate on the research and development of a novel and cost-effective submerged membrane bioreactor system suitable for water re-use applications.

Hitachi Plant Technologies is based in Japan and provide solutions in the fields of energy systems, among others. For more information on Hitachi Plant Technologies, please visit <http://www.hitachi-pt.com/index.html>

- ***TWI (The Water Initiative)***

NTU and TWI are in discussion to collaborate on projects in arsenic removal from water and arsenic sensors. It is anticipated that research activity will begin this year.

TWI is based in North America, and is founded and led by a team of scientists from MIT. It is an organisation focused on creating small-scale, point-of-use water technologies and systems for developing communities around the world.

For more information on TWI, please visit <http://www.thewaterinitiative.com/>

- ***Siemens Pte Ltd***

Siemens Pte Ltd, through its R&D Centre, and NTU are in discussion on collaborative projects aimed at creating unique water and wastewater treatment solutions. Project interests include the study of membrane bioreactors and membrane distillation.

Siemens' R&D Centre commenced operations in October 2007. The Centre currently employs seventeen scientists and engineers. The centre will be a competence center for water and wastewater treatment technologies for the Asia-Pacific region, and a technology hub for innovative products and processes for water treatment.

For more information, please visit <http://www.siemens.com.sg>