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Title	: Building a strong research foundation
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Page	: 8

8 Higher Education

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Building a strong research foundation

THE role of research is highly prized in the academic world. Researchers who teach in universities have greater insight in the subject they concentrate on and can impart cutting-edge information to their students.

That is what Universiti Tenaga Nasional (Uniten) aims to accomplish by the year 2025.

In Uniten's BOLD2025 initiative, the plan was to transform the university into a world-class academic institution. To do so, it has set out to achieve certain targets.

The acronym BOLD stands for "Building Opportunity Leading Dreams" and 2025 is the year that is inline with the roadmap of its mother company Tenaga Nasional Berhad (TNB).

Its plan has three strategic goals: excellence in teaching and learning, excellence in research and financial sustainability.

Strategic hires

One of the main initiatives under "excellence in research" is to build a world-class international faculty via strategic hires.

It has employed two local professors and visiting international professors.

Uniten's deputy vice-chancellor of Academic and Research Prof Datuk Dr Ibrahim Hussein said currently six foreign professors visit on a part-time basis taking a month or so.

"These visiting professors still retain their research at their home institutions and this provides an advantage to Uniten," said Prof Ibrahim.

This allows Uniten's research groups in Malaysia and ones overseas to collaborate in projects – forming partnerships.

Visiting professor Prof Vassilios G. Aggelidis from the Technical University of Denmark's Department of Electrical Engineering had been involved with Uniten for 10 years before being appointed as a visiting prof. He mentioned while Uniten has developed an excellence in teaching, it is time to perfect its research.

"Having strategic hires programme allows for transference of skills and innovation," said Prof Aggelidis.

"It is about human capital building first and foremost."

This is because Uniten staff can also seek transfers to the visiting professors' universities and work on the projects there and vice-versa.

As Uniten is a subsidiary of TNB, most of its concern is energy-focused, with most professors concentrated in energy technology.

This includes electrical, renewables, energy policies and informatics, and infrastructure, among others.

Prof Nowshad Amin, who was seconded from Universiti Kebangsaan Malaysia and whose main expertise is in solar energy, fabricates solar cells in small-scale research that can be upsized for commercial use.

Having graduated from Japan, he has already commercialised a few products and is working on a prototype of a solar-powered car.

With his connections, Prof Nowshad aims to nurture more networks and links that can benefit Uniten students.

Prof Mohd Zainal Abidin Abd Kadir, who specialises in high voltage and lightning protection, regarded translating an impact



The team that oversees the Research Hub at Uniten.



Educators spearheading the Research Hub at Uniten are (from left) Prof Nowshad, Prof Aggelidis, Prof Mohd Zainal and Prof Lariyah.

from a finding to the public as the crucial point in a research.

Prof Mohd Zainal, seconded from Universiti Putra Malaysia, said, "strategic hires would help Uniten in terms of capacity building, as many researchers still look for a niche area of research, based on their expertise and more".

He said the role of visiting professors help group and mentor Uniten's own researchers among their own circle so they can expand their interests.

"At the same time we also provide the opportunity through our networking programme to engage, not only in local but also the international level," he said.

High-performing staff

There is also the development of staff performance, through the introduction of a multi-thread system. In this system, while everyone does research and teaching, their focus is dependent upon their strengths.

That means those who excel in research would concentrate in the research thread, while those who

stand out in teaching can concentrate on that.

Currently 80% to 90% of the instructors in Uniten are in the research thread, while the rest are in administrative and industrial.

Research partnerships

Uniten collaborates with key top international academics such as the University of Oxford's Institute of Energy Studies, the Imperial College London's Energy Future Lab, the University of Strathclyde, Scotland and Sheffield University.

Uniten also has ties with Institute of Energy Economics Japan (IEEJ) and access to TNB's research grants.

Global recognition

A good way to gauge the success of an institution is in its milestone and Uniten has so far received five stars in the Malaysian Research Assessment this year.

Its impressive ranking and rating on the QS University Rankings as well as the Times Higher Education



Prof Ibrahim said that while visiting professors still retain their research at their home institutions, this provides Uniten the opportunity to form working partnerships with research groups from foreign countries.

(THE) University Rankings have shown it edging higher.

This year Uniten ranked 159 on the THE Emerging Economies World University Rankings and at 171 in Asia, 13 in South-East Asia and seventh in Malaysia.

THE's world ranking for Uniten is among the top 801-1,000 and eighth in Malaysia.

In the QS Asian University Rankings, Uniten stands at 243, while it is 255 on the QS World University Rankings, 74 in Asia, 13 in South-East Asia and eighth in Malaysia.

Centre for open research learning

"Another large initiative under BOLD2025 is the establishment of an Open Lab, to encourage multidisciplinary research.

The construction of this 9.22 acres (3.7ha) development in Uniten's grounds will start soon and is expected to be completed by next year.

With a roadmap that stretches to achieve a status of a national leader by 2020, BOLD2025 aims to put Uniten as an emerging global champion by 2025.

"Out of the RM258m budget from TNB to support BOLD2025 for 2017 and 2018, about 50% goes towards the construction of Open Lab building," said assistant vice-chancellor of Research Prof Dr Lariyah Mohd Sidek.

Prof Lariyah explained that a researcher today not only teaches and conducts research, he would need to become an inventor and entrepreneur for the product as well.

"It is a complete cycle," she said. "Research is more than just about writing theses and publishing papers – now it needs to have commercial value that goes back to society."

■ For more information, log on to <http://www.uniten.edu.my> or follow <https://www.facebook.com/unitenresearchexcellence>