



EURYDICE

Collaborating towards a future in renewable energy

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CUT individual report

WP: 2.2 – GAP analysis

Month Year: March 2021

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1. Individual goals (sub-task 2.2.1)

Based on the CUT individual status quo document (Vo.2), the following individual goals are proposed:

1. Contract and involve industry partners in a more efficient manner.
2. Develop experienced educators with special consideration to gender aspects.
3. Promote the field of renewable energy under female students.
4. Improve laboratory equipment.
5. Engage in active collaboration between South African UoT's.

2. GAP identification (sub-task 2.2.2)

With reference to the CUT individual goals the following individual GAPS are identified:

1. The Legal procedures and liability considerations inhibit industry involvement.
2. RET is a relative new industry in SA. The specialized nature of professionals heightens scarcity of skilled persons/educators for appointment in HEI's.
3. Lack in institutional funding and a constant increase in student numbers burdens the current equipment and laboratories.
4. The qualification structure was recently re-shuffled by the South African ministry. This caused Universities to structure their new qualifications in an individual manner. Inter-University collaboration and student migration is as a result inhibited.

3. Proposed measures (sub-task 2.2.3)

To address the CUT GAPS, the following individual measures are suggested:

1. Introduce industry partners to the proposed "Industry porthole" and highlight the advantages on offer for them. Promote guest lecturing as a credit bearing activity for industry professionals.
2. Collaborate with international HEI partners. Training from and exposure to visiting lecturers are to be maximized during exchange visits.
3. Introduce virtual or remote laboratories which can be specialized and shared with other UoTs. This will alleviate the financial burden on the respective institutions.
4. Collaborate with South African UoT's to find/define common goals and hopefully achieve some level of standardization in terms of industry exposure for students.

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TUT individual report

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Deliverable author: Memane N.P

Contributors: Prof J.L Munda

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4. Individual goals (sub-task 2.2.1)

The following goals are proposed by TUT:

6. Build a solid relationship with industry stakeholders (opportunities to consult outside academe)
7. Improve our lab facilities and equipment.
8. Provide relevant training for university staff members.
9. Work closely with other academic institutions in South Africa.

5. GAP identification (sub-task 2.2.2)

The following gaps have been identified:

5. Limited lab equipment and old technologies in the laboratories
6. Lack of funding is a huge factor, since lab upgrades are highly dependent on funds.
7. Limited communication with industry stakeholders.
8. Shortage of skilled professionals in RE.

6. Proposed measures (sub-task 2.2.3)

To address the TUT GAPS, the following individual measures are suggested:

5. Designate contact points for industries as liaisons to ensure continuity in communications
6. A clear understanding at the onset of partners' roles and the rules of engagement
7. Collaborate with HEI at the national and international level.
8. Organize collaboration opportunities for students.
9. Look for ways to share facilities with industry partners and UoTs in SA.

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DUT individual report

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Contributors: Prof I Davidson

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7. Individual goals (sub-task 2.2.1)

The key goals are listed below.

10. Create a basis for collaboration with industry stakeholders and Eurydice educational partners through a research and development hub. This can be used for joint project proposal; project development and supervision; and creating educational summaries and project portfolios. Ideally, project portfolios will be used to create prototype products.
11. Provide a wider access to the labs for Bachelors and Masters students. Ensure that equipment and test beds include sufficient safety and protection. Ideally include presence of a qualified student who can assist as a lab mentor during open lab hours.
12. Widen the spectrum of renewable energy (RE) technology testbeds for design and development.
13. Arrange for short course that staff and students can attend to improve skills.
14. Provide take-home entry level RE training & development kits to be used by students.

8. GAP identification (sub-task 2.2.2)

In reaching the above-mentioned goals, the following gaps have been identified.

9. General lack of communication and collaboration with industry stakeholders and academics at other universities.
10. Insufficient logistical planning to make currently available lab equipment accessible for student projects and research design and development. Insufficient budget to provide a lab assistant.
11. RE lab equipment is essentially limited to PV technology. Need additional equipment to address battery technology, wind energy harvest and e-mobility testbeds.
12. General lack of communication and budget allocation for short courses for staff and student researchers.
13. Student project budgets (as part of module levies) are limited and difficult to access.

9. Proposed measures (sub-task 2.2.3)

In order to close the gaps listed, the following measures are suggested.

10. Create a design and development hub (initially around Bachelors, Honors and Masters project work) as a center point for industry and academic liaison. Include partners from industry and other academic institutions as mentors and assessors.

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11. Allocate a budget for laboratory use planning and allocate lab supervision sessions to lab assistants.
12. Allocate capital for procurement of additional RE test bed equipment. This can be enhanced through mutual sharing of lab facilities with industry and academic partners.
13. Use the design and development hub mentioned in item 1 above to share information about relevant short courses and learning programmes for staff and students. This may also serve as a networking platform to connect with industry and academic partners.
14. Include an allocation of budget for RE kits. This may be done centrally rather than per student. Available kits can be allocated to students at no cost.

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Minutes of the EURYDICE WP2.2 Closing Workshop, held on Wednesday 05 May 2021 at 15:00 - 15:30

https://teams.microsoft.com/join/19%3ameeting_YTFIMTRIYTMtMDQyOS00NzNmLTkzM2EtZDJhOTRhMjc1OGZk%40thread.v2/0?context=%7b%22Tid%22%3a%224b1930d1-12f4-40b5-b48c-bd86117429d8%22%2c%22Oid%22%3a%2271e906e7-6d67-4b23-94ba-ccce40849ede%22%7d

Attendees:

- Johan Raath (CUT)
- Ntombi P Memane (TUT)
- Rathi Sewsunker (DUT)

Apologies:

- None

1. Opening & Welcome

Rathi opened the meeting.

2. Work Package 2.2 Gap Analysis

The following documents have been submitted for this WP:

- Individual goal document of each SA University
- Individual gap analysis document of each SA University
- Individual measures document of each SA University

It was noted that the documents as submitted by each SA University on the WP was sufficiently complete. The attendees agreed this WP is now closed. The review process has begun.

3. Review Process

The revised process of one review has been adopted and Ntombi P Memane (TUT) agreed to complete the review of the DUT documents.

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