



CONCEPT NOTE: TECHNOLOGY AND SKILLS TRANSFER MAKEATHON BOTSWANA

THEME: “Developing robotics skills through innovation and creativity for a Smart Economy”

Proposed Date: 24th - 26th October 2023

Proposed Venue: University of Botswana, Faculty of Engineering, Block 250
Gaborone

1.0 Introduction

A Makeathon is a creative, cross-campus competition which accelerates innovative ideas into physical and digital prototypes to promote positive social impact. In this regard, it is anticipated that the Makeathon will facilitate the development of critical skills among learners through innovative capacity building as well as skills transfer in which several teams (from different field of studies) create and develop technological prototypes as well as innovative solutions during a short period of time. The challenges addressed will be on industrial automation and Internet of Things (IoT).

The topics for the Makeathon will be on Industrial Automation and Internet of Things (IOT) with specific focus on Robotics, the art of making robots, machines that combine concepts from multiple engineering disciplines. The Makeathon is scheduled to run for 3 days and expect 50 Participants.

Step 1: Botswana Robot Makeathon

- 1.1 Organizing Robotics Makeathon in Botswana
- 1.2 50 participants, 3 days
- 1.3 Supported by coaches from ITQ Germany
- 1.4 Know-How transfer and selection of high talents

2.0 Background

The Human Resource Development Council (HRDC) in collaboration with Botswana Digital Innovation Hub (BDIH) and Tertiary Education Institutions have partnered with ITQ GmbH of Germany to host the Technology and Skills Transfer Makeathon in October 2023. ITQ GmbH is

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a company with the core competence in mechatronic – software and systems engineering. The company focuses on sustainable training concepts to shape the future. Furthermore, it fosters young academics in practice-oriented assignments as well as international Education 4.0 projects.

The representatives of the HRDC and University of Botswana and two students were invited to participate at the SMART GREEN ISLAND MAKEATHON from 1st – 4th March 2023 in Las Palmas de Gran Canaria, Spain. The representatives participated in the international networking and exchange track among multiple universities and industrial companies. There was a benchmarking exercise on how to conduct a Makeathon in view of organising the Technology and Skills Transfer Botswana Makeathon earmarked for October 2023.

3.0 Objectives of the Makeathon

The objectives of the Makeathon are as follows:

- To provide an open innovation space that stimulates creativity through connecting researchers and innovators of different ages with industry.
- To facilitate the development of critical robotic skills among participants through innovation and creativity as well as skills transfer.
- To promote mind-set change towards transitioning to innovation, digitalisation and internet of things in Botswana.
- To create a baseline for the development and implementation of a broader technology and skills transfer programme.

4.0 Participating Organisations

HRDC is mandated to coordinate, promote and support Tertiary Education - Industry linked research and innovation activities. The Council therefore, host the Makeathon in collaboration with Botswana Digital Innovation Hub (BDIH) and Tertiary Education Institutions and in partnership with ITQ GmbH. The Local Organising Committee has been constituted and comprises of key stakeholders that have a stake in promoting research and innovation related activities in Botswana.

The participating stakeholders are as follows:

- Ministry of Education and Skills Development, part of its mandate is to provide and build knowledge and innovation through the development and implementation of policy on Research, Science and Technology to transform Botswana in to a knowledge based society through effective stakeholder collaboration.
- Botswana Digital Innovation Hub (BDIH), a parastatal under the Ministry of Communications, Knowledge and Technology that promotes technology transfer and commercialisation and entrepreneurship.
- The Botswana Institute of Technology, Research and Innovation (BITRI), a parastatal under the Ministry of Communications, Knowledge and Technology whose mandate is to identify and/or develop appropriate technology solutions in line with national priorities and needs of Botswana.
- The Department of Research Science and Technology (DRST), a government department under the Ministry of Communications, Knowledge and Technology, exist to coordinate and provide leadership in science and technology in Botswana.
- The Botswana Chamber of Mines, is a private entity established to serve the interests of the mining and exploration companies together with associated industries.

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- University of Botswana, an academic institution under the Ministry of Education and Skills Development that carries out high quality and internationally visible research, provides policy direction, professional services through consultancies for government, industry and other development agencies.
- Botswana International University of Science and Technology (BIUST), an academic institution under the Ministry of Education and Skills Development aiming to produce world class research and innovation in science, engineering and technology contributing to industry growth and development and advancement of a diversified knowledge-based economy.

5.0 Target Participants

The Makeathon will bring together Students, Graduates, Out-of-school youth, Senior and Junior Secondary and Primary School Students among others. Students will form academically diverse teams of 3-5 members.

6.0 Target Audience

The target audience for the Makeathon are Government Departments and Parastatals, Policymakers, Industry and the Public.

There will be a series of pre-launch activities that will be undertaken on social media platforms, TV, Radio and Print Media to create public awareness about the Makeathon. The Makeathon will also be livestreamed on the HRDC Facebook page.

7.0 Expected Results

- Foster networks of researchers and innovators with industry to share their ideas, expertise and experiences.
- Capacitation and transfer of skills to participants in the areas of robotics, industrial automation and Internet of Things (IoT).
- Inculcate culture of innovation, digitalisation and internet of things in Botswana.
- Development and implementation of a broader technology and skills transfer programme.

8.0 Target Date

The Makeathon will take place in 24th - 26th October 2023

9.0 Contact Information

For more information;

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