

FY2020 Inter-University Exchange Project

Akita University and Kyushu University

Support for the Formation of Collaborative Programs with African Universities

[Name of project] (Year of Adoption: FY2020, (Type A②))

An innovative program for development of core human resources for smart mining to lead sustainable resource development in Southern Africa

[Summary of Inter-University Exchange Projects]

Resource Development in Southern Africa has Become More Challenging

Scope1. Deeper and Deeper

- ⇒ Ensure Safety
- Establish new Mining Method
- Automation/Unmanned Operation

Scope2. Lower Concentration

- ⇒ Explore Resources
- Evaluate Resources properly
- Development with Economic rationality
- Optimization of Management
- Automation/Autonomous

Scope3. Environmental (Regional) Friendly

- ⇒ Comprehend Mechanism of Pollution
- Propose Environmental Countermeasures
- Improve Recycling Technologies
- Energy Management

Integration of Humanities and Sciences!

- Technology Transfer and Education
- Understand Cultural Backgrounds
- Respect Policy and Mutual Understanding

"Good and Strong Relationships" has been established!

Expand

Staff: 25
Student: 40
Paper: 7

NEW EDUCATION PROGRAM (Inter-University Exchange Project)



Utilize AI, IoT and "Big Data" to Solve these Tasks!

[Summary of Exchange Program]

○ Program for Human Resource Collaborative Training of undergraduate and master's students in Japan and Southern Africa to train global experts in resource development implementation (Smart Mining) through Information Engineering with a focus on the core technology for Society 5.0 (such as AI, IoT, and Big Data, among others)

○ Online-driven program with COVID-19 pandemic taken into account

[Development of Global Human Resources]

Training of the global human resources skills listed below

- ① Practical skills based on advanced technical knowledge
- ② Ingenious technological development skills based on a solid foundation of Information Engineering to allow for a dimensional transition into the next stage of current resource development studies
- ③ Design and management capabilities with a panoramic view of the whole resource and environment system
- ④ Ability to negotiate between producer and consumer countries with a sense of balance that demonstrates a firm understanding of the positions of both parties

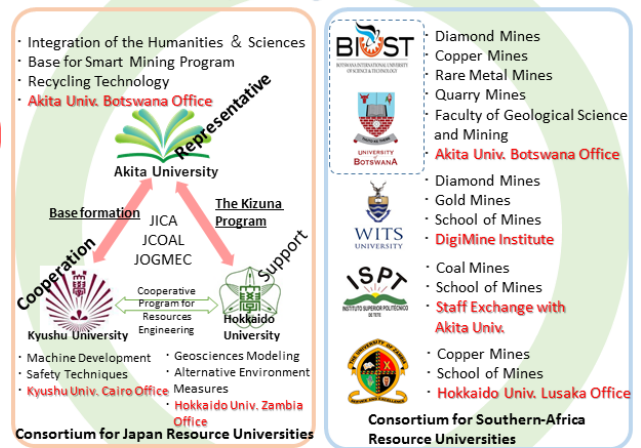
[Features of the project]

This collaborative program aims to train global human resources who will be able to implement and utilize Smart Mining techniques, one of Japan's strengths in the field of natural resources. As such, Japan strives to assume a leading role in developing abundant underground resources in Southern Africa. This program, as a part of this vision, consists of an interactive education and student exchange program. A certificate will be awarded to students who complete the program.

[Exchange number] (Total number)

		2020	2021	2022	2023	2024
Out bound	Students studying abroad		10	25	20	20
	Students taking online international education and exchange programs in their home countries	0	0	15	45	45
In bound	Students studying abroad		10	10	20	20
	Students taking online international education and exchange programs in their home countries	0	0	40	40	40

⇒ Offer of Japanese advanced resource technical research (Smart Mining) & education



⇒ Offer of Education and Research field for development of resources that doesn't exist in Japan

Consortium for Japan-Africa Resource Universities

Training of global human resources between Japan and Africa, who, using their combined knowledge of both past and present resource development and information engineering, will be able to implement new resource development technology in the coming decades (Smart Mining).

