58th Scientific and Technical Subcommittee
Committee On the Peaceful Uses of Outer Space
21st April 2021

Item 5. Space Technology for Sustainable Socioeconomic Development

The Commercial Space Industry in Africa and its Readiness for Innovation-Driven Investment: The Space Generation's View

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Space Business Ecosystem in Developing Countries

CSPG Vision:

• Identify key factors to foment investment in emerging space-faring countries
• Disseminate conclusions to foment such development in developing countries
• Involve the SGAC network in a wide-range analysis of such factors worldwide

Africa as the first take on this effort

• Leveraging the thriving momentum of the African space sector
• Following on previous research done within SGAC
Space Business Ecosystem in Africa

Goals:

• Assessment of space business infrastructures in African nations to fix innovation-driven investment – based on people’s views
• Analysis of facilities, capacity building infrastructures, and current state of space activities using a hybrid qualitative and quantitative approach
• Formulation of an index as a standard for innovation-driven investment in the space sector:

The Space Business Readiness Level (SBRL)
Methodology

Questionnaire

• Targeting the young generation with first-person view of the national ecosystem
• Opinion-based survey issued to representatives of the SGAC community within the African continent
• Open-ended and close-ended questions focusing on:
  1. Space Activities
  2. Transportation and Infrastructures
  3. Capacity Building and Opportunities

Data Analysis

• SWOT + STEEP/PESTE
• SBRL Indexation
Questionnaire

Participation

Diversity
• 15+ countries

Response rate
• > 40 %
Results

Major International Partner

Partnering Nations or Region

- China
- Europe
- Japan
- US
- Russia
- Other

Countries

58th STSC 2021
Results

Women in STEM for countries with poor research conditions

- < 10
- 10 - 30
- 30 - 50
- > 50
Results

Number of incubators for varying research conditions

<table>
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<tr>
<th>Research Conditions</th>
<th>Number of Incubators</th>
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<tbody>
<tr>
<td>Poor</td>
<td>5</td>
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<tr>
<td>Satisfactory</td>
<td>4</td>
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<tr>
<td>Good</td>
<td>2</td>
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</tbody>
</table>

Number of incubators for varying research conditions:

- Poor: 5
- Satisfactory: 4
- Good: 2

Number of incubators:
- 1-2
- > 2

Countries: 58
Results

Infrastructure quality per transportation sector

- **Airports**
- **Ports**
- **Railways**
- **Roadways**

<table>
<thead>
<tr>
<th>Infrastructure condition</th>
<th>Inexistant</th>
<th>Poor</th>
<th>Satisfactory</th>
<th>Good</th>
<th>Excellent</th>
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Results

SBRL

Conditions for a fruitful investment in the space sector

- **A: Favorable**
  - 7 countries

- **B: Improving**
  - 4 countries

- **C: Scarce**
  - 5 countries

Map credit to mapchart.net
Remarks

Conclusions*

• Economic partnerships are extrapolated to the space sector, with Asian countries taking the prominent role
• Infrastructures that enable international connections are firstly developed
• The SBRL indexation suggests that the majority of African countries present attractive factors for space business development

Future Work

• Enlarge the reach of the study by leveraging the SGAC network in a broader set of nations
• Get the inside view from local decision-makers engaged in STEM

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GRATEFUL FOR YOUR ATTENTION

https://spacegeneration.org/projects/commercial-space

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