



UNITED NATIONS
Office for Outer Space Affairs

58th Scientific and Technical Subcommittee
Committee On the Peaceful Uses of Outer Space

21st April 2021



SPACE GENERATION
ADVISORY COUNCIL



Commercial Space
Project Group

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

José Pedro Ferreira

Commercial Space Project Group Co-Lead



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)





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





Participation

Diversity

- 15+ countries

Response rate

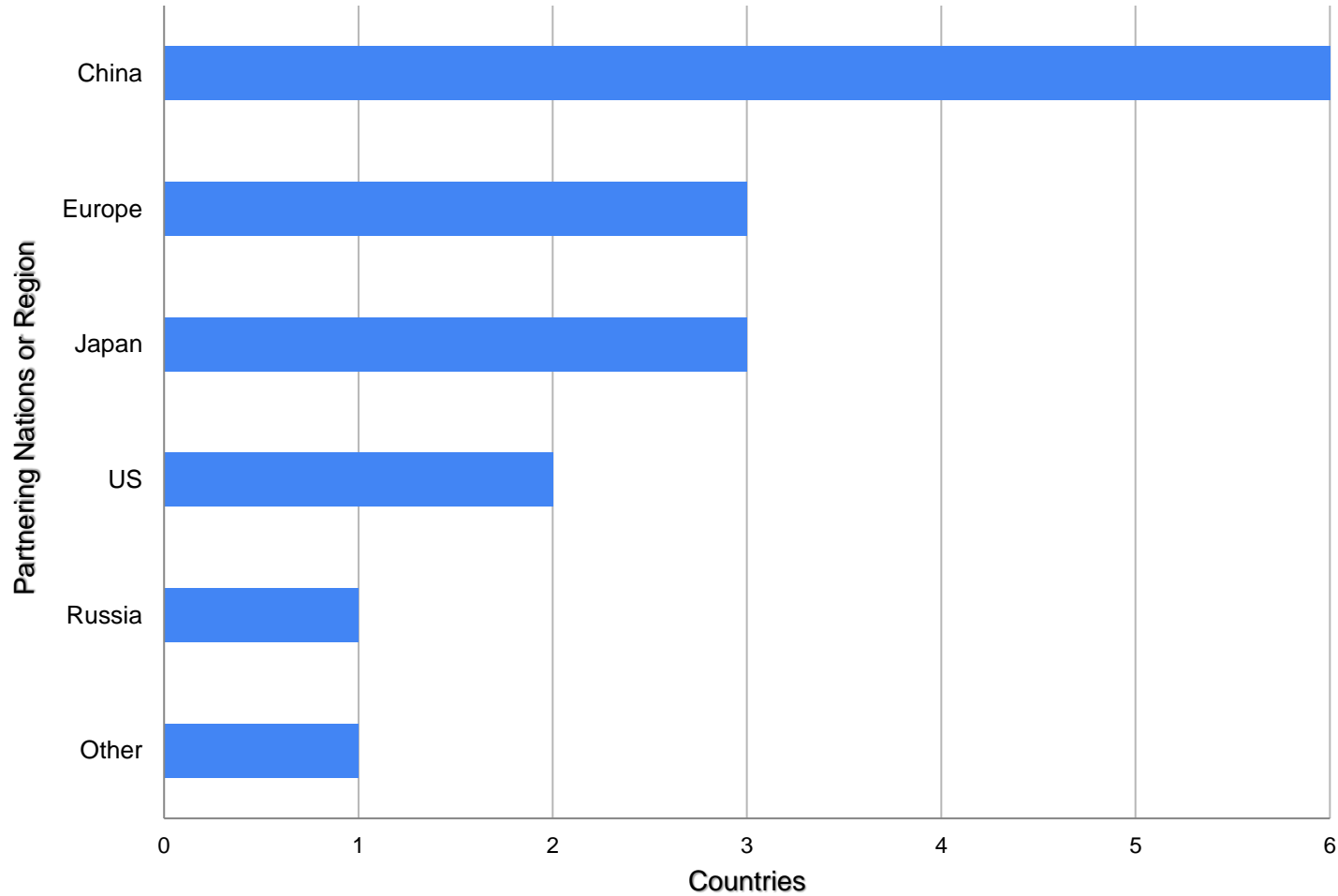
- > 40 %

Map credit to mapchart.net



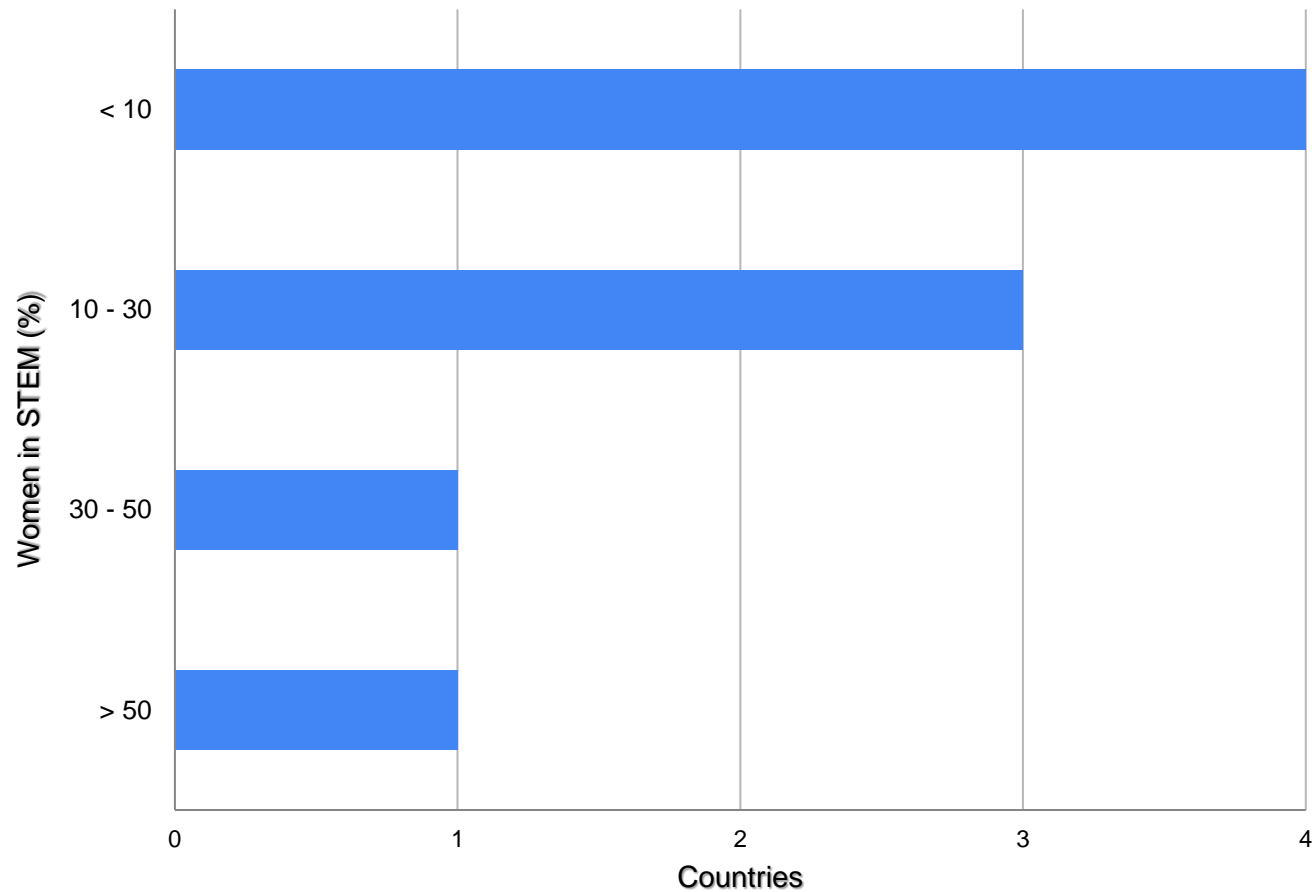


Major International Partner



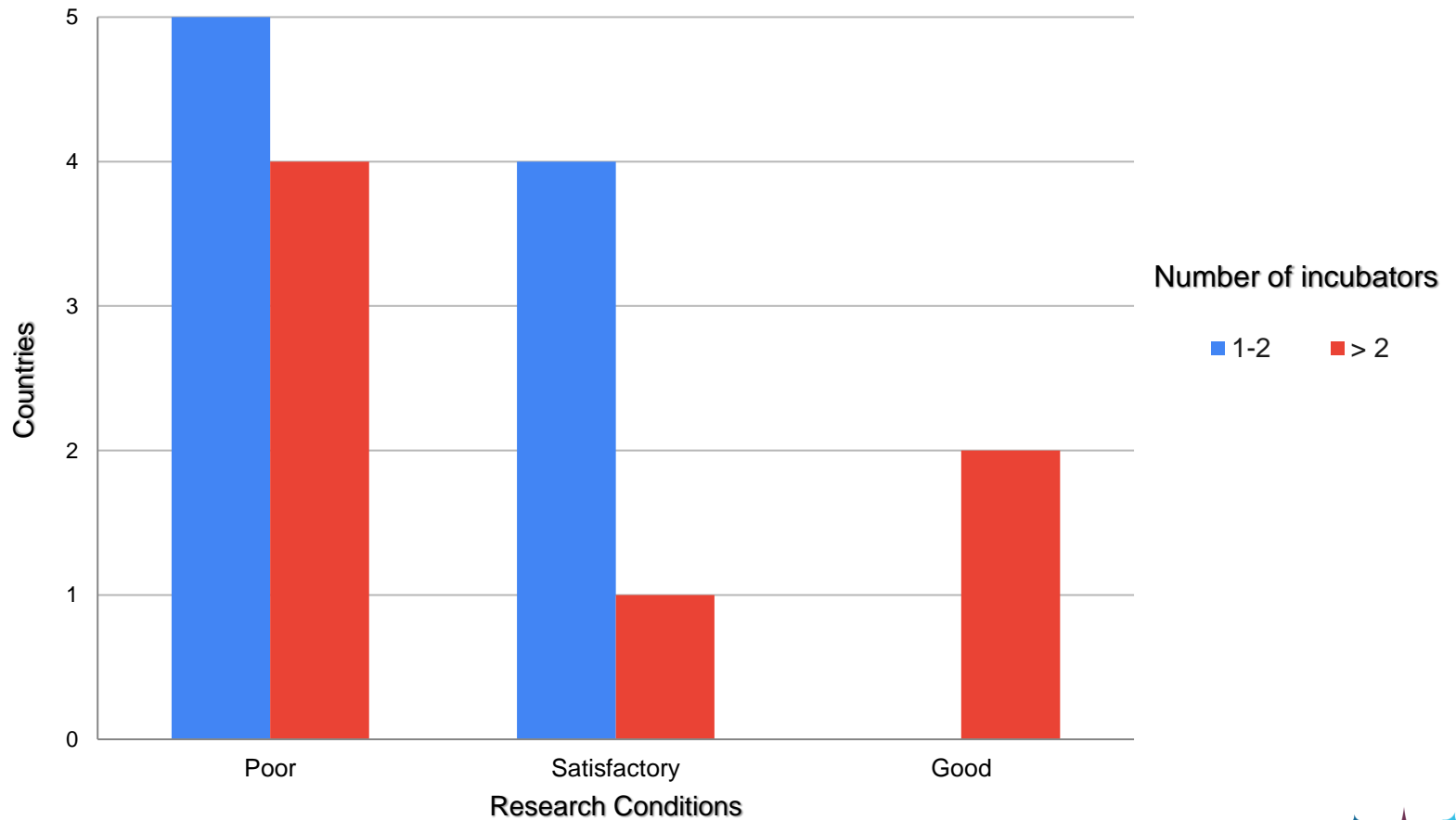


Women in STEM for countries with poor research conditions



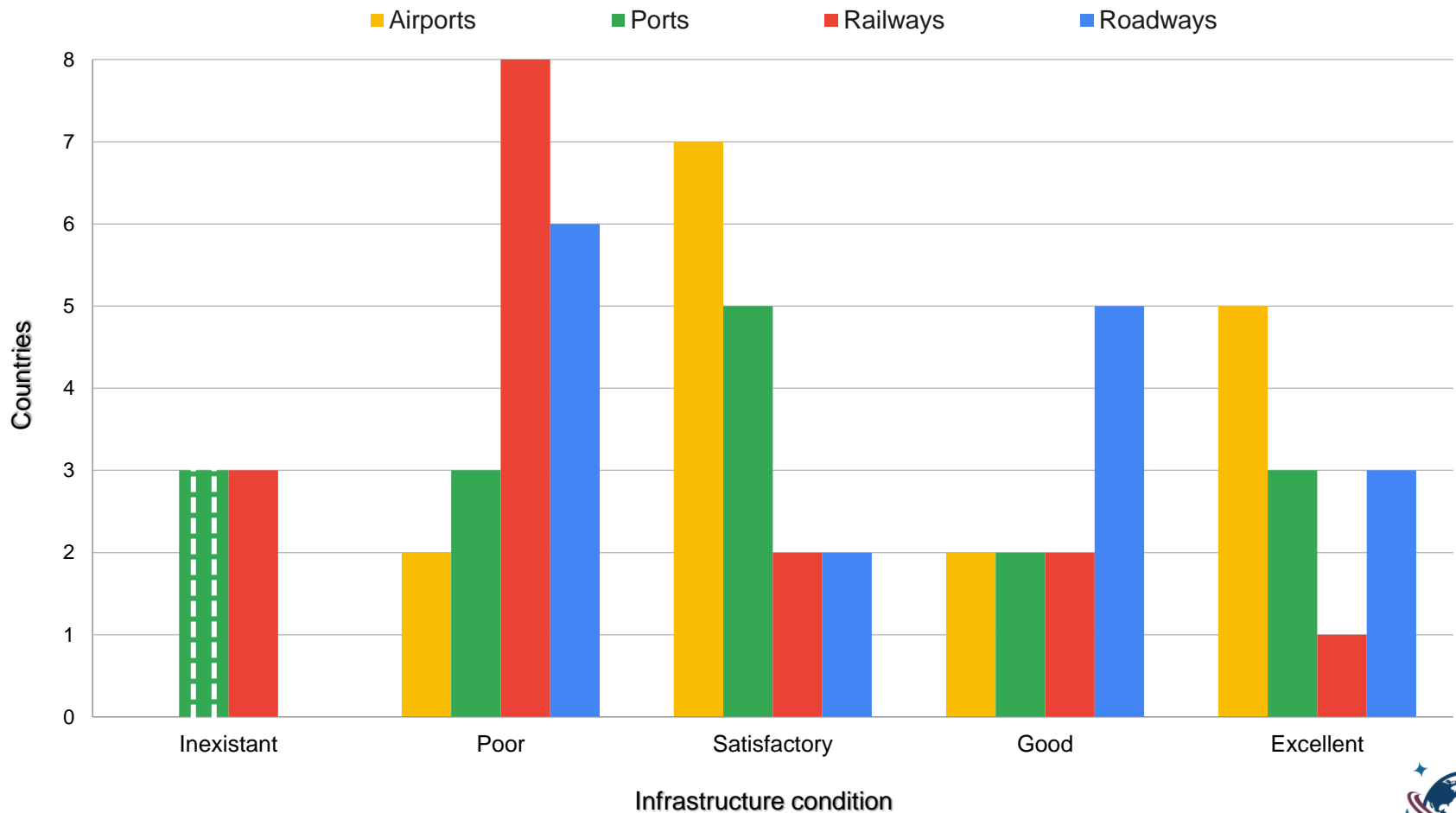


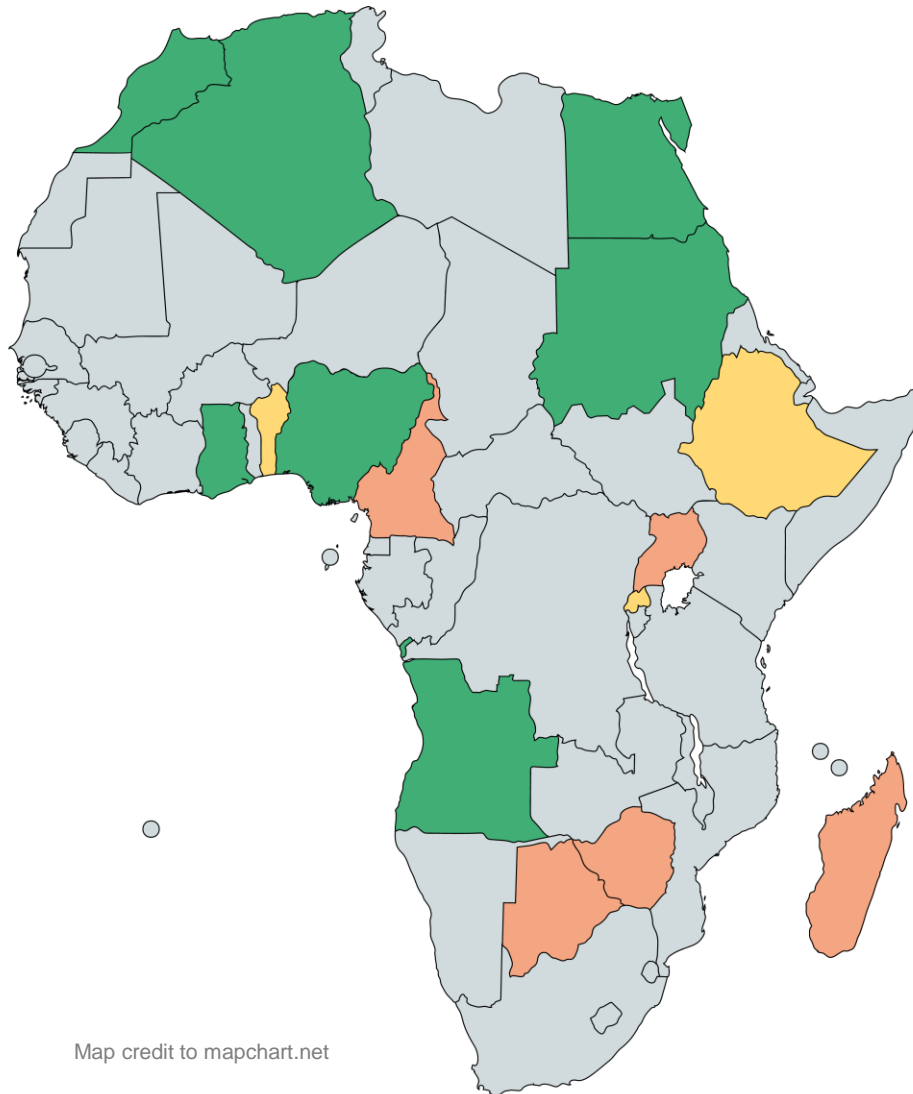
Number of incubators for varying research conditions





Infrastructure quality per transportation sector





Map credit to mapchart.net

SBRL

Conditions for a fruitful investment in the space sector



A: Favorable

- 7 countries



B: Improving

- 4 countries



C: Scarce

- 5 countries



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

* Ferreira, J. P., et al. (2020). THE SPACE-FARING AFRICA: COMMERCIAL SPACE INDUSTRY AND ITS READINESS FOR INNOVATION-DRIVEN INVESTMENT. 71st *International Astronautical Congress*. International Astronautical Federation



Acknowledgements



CSPG - *Space in Africa Working Group*

- Ananyo Bhattacharya
- Federico Rondoni
- Imane El Khantouti
- José Pedro Ferreira
- Maxim Mommerency

Special thanks to the SGAC Regional Coordinators and National Points of Contact in the African Region





UNITED NATIONS
Office for Outer Space Affairs

Commercial Space Project Group
Space Generation Advisory Council

GRATEFUL FOR YOUR ATTENTION



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



commercialspace@spacegeneration.org



[sgac.cspg](https://www.facebook.com/sgac.cspg)

In support of the United Nations Programme on Space Applications



SPACE GENERATION
ADVISORY COUNCIL