

# HCD ON SPACE SCIENCE APPLICATIONS IN SOUTH AFRICA



Andiswa Mlisa

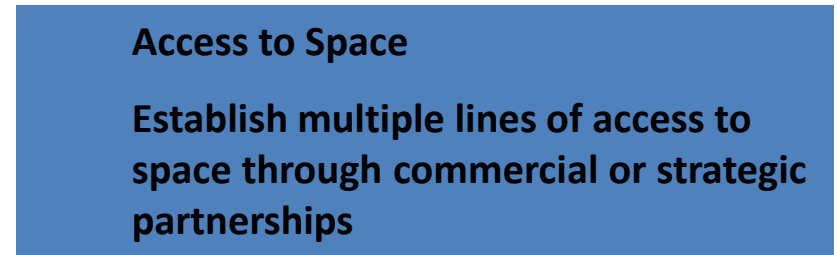
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19 – 20 November 2013, Pretoria



science  
& technology

Department:  
Science and Technology  
REPUBLIC OF SOUTH AFRICA

# SPACE POLICY AND HCD



- Focused on EO, PNT & SatComms
  - To assess status of current HCD activities
  - To identify gaps and needs
  - To propose a purposeful HCD strategy in space applications training
- Steering Committee: NRF, DST & IEEE
- Consultative workshops (x3)
- Desktop research & Questionnaire
- Site visits and interviews







# AUDIT INSTRUMENT

## **PART I - Institutional overview**

- Faculty
- Resources
- Partnerships
- Applications

## **PART II – Academic & Research Programmes**

- Degree programmes
- Courses
- Postgraduate research
- Professional development courses

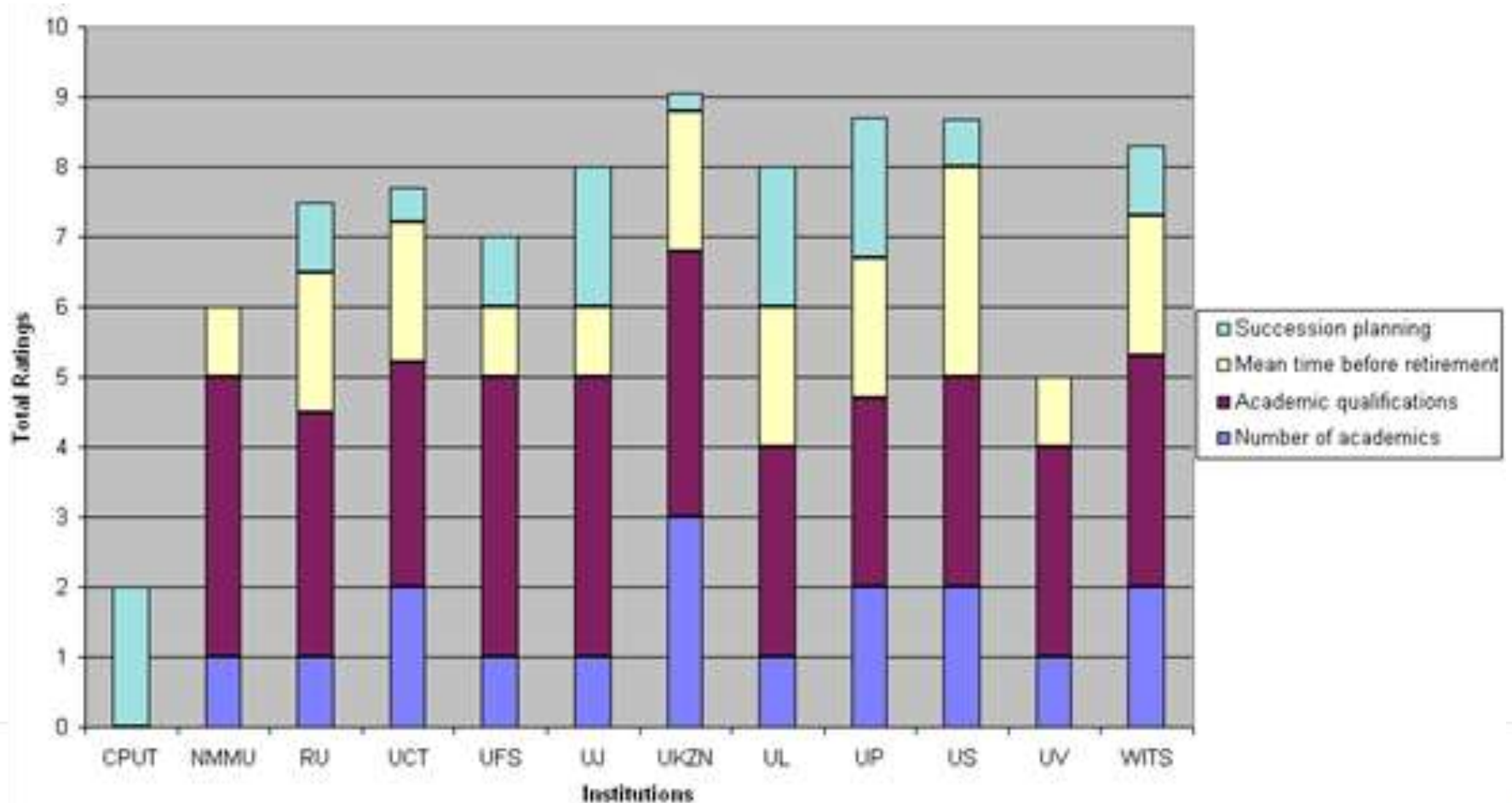
## **PART III – Strategic and Future Developments**

- Future plans/developments



# AUDIT DATA ANALYSIS PART I – INSTITUTIONAL OVERVIEW

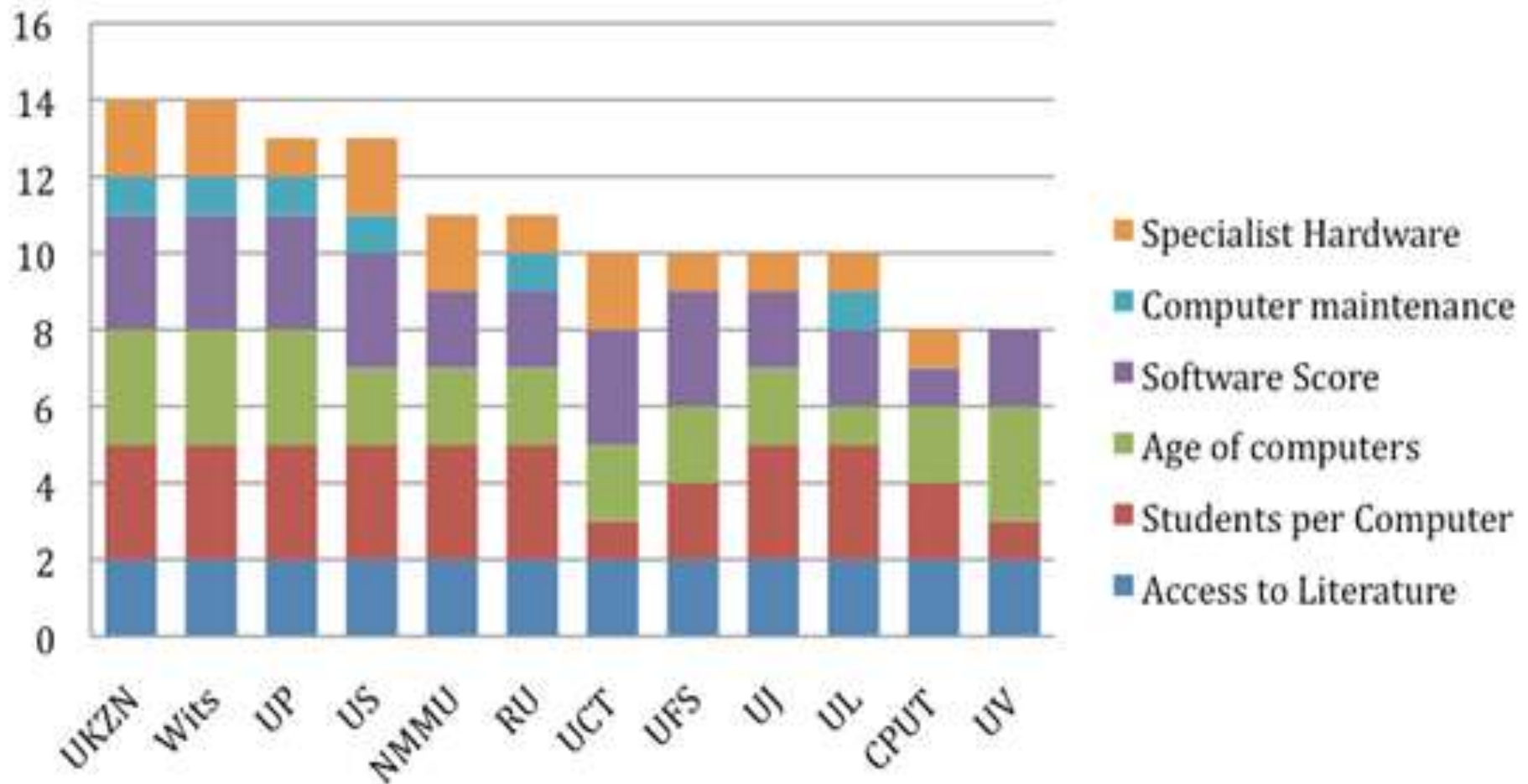
## EO By Department/School





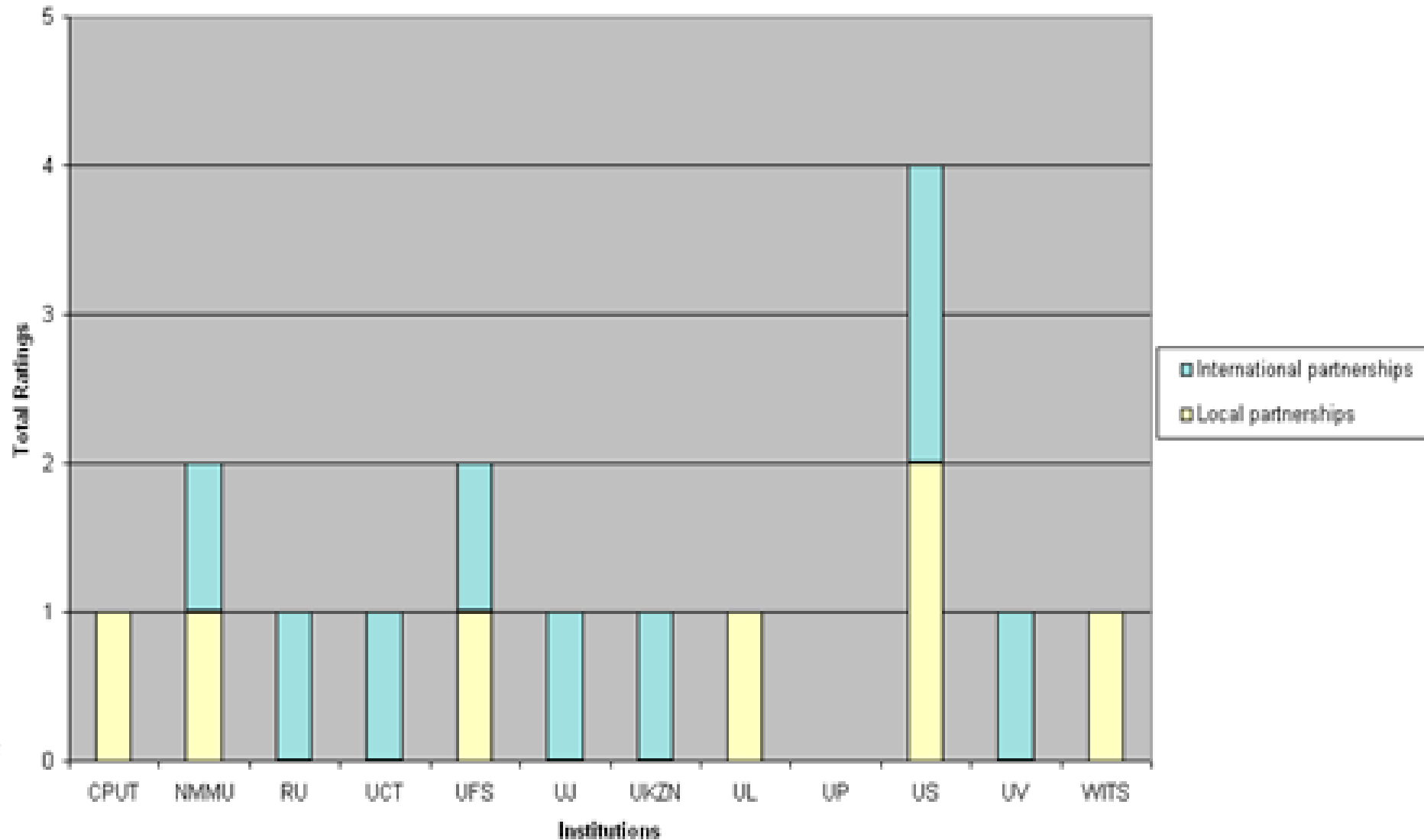
# AUDIT DATA ANALYSIS PART I – INSTITUTIONAL OVERVIEW

## Institutional Capacity



# AUDIT DATA ANALYSIS

## PART I – INSTITUTIONAL OVERVIEW

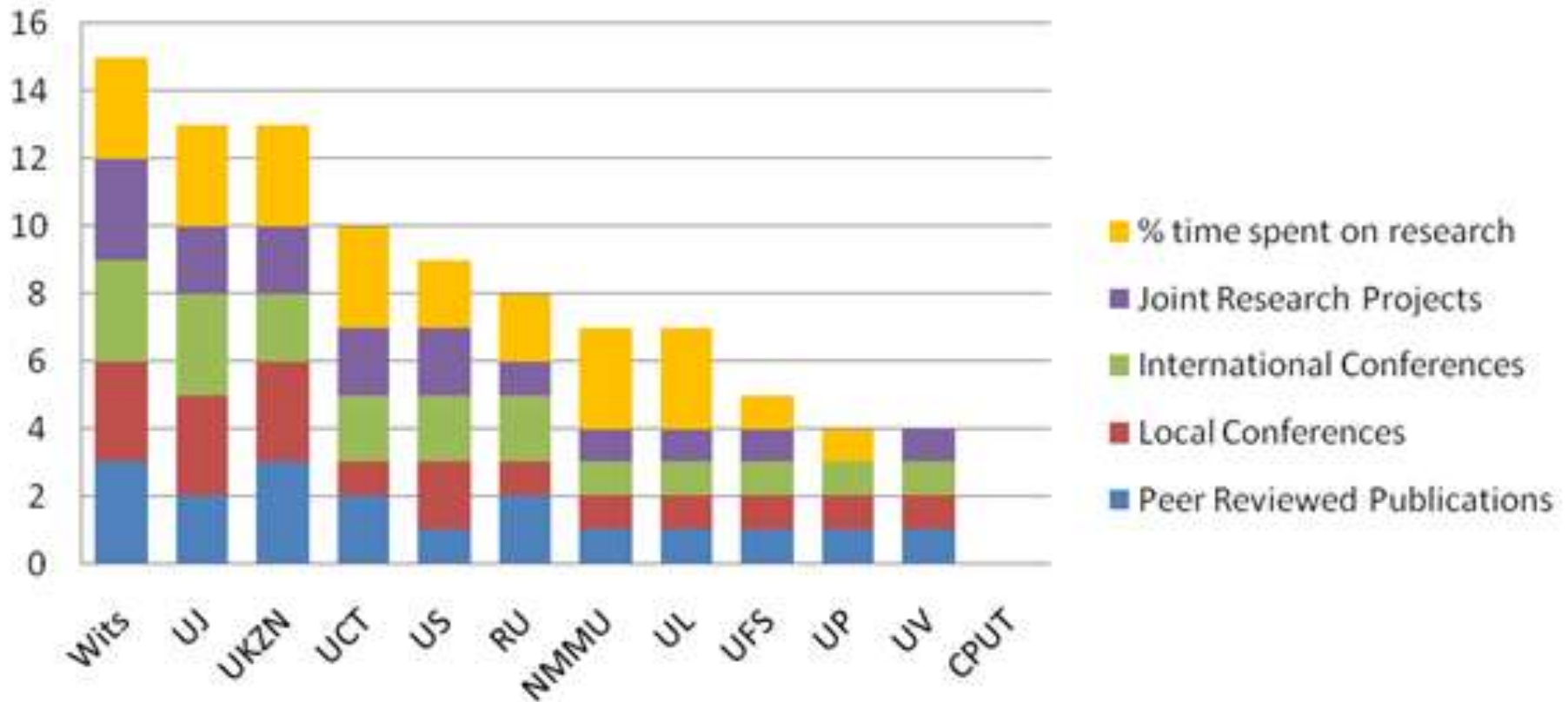




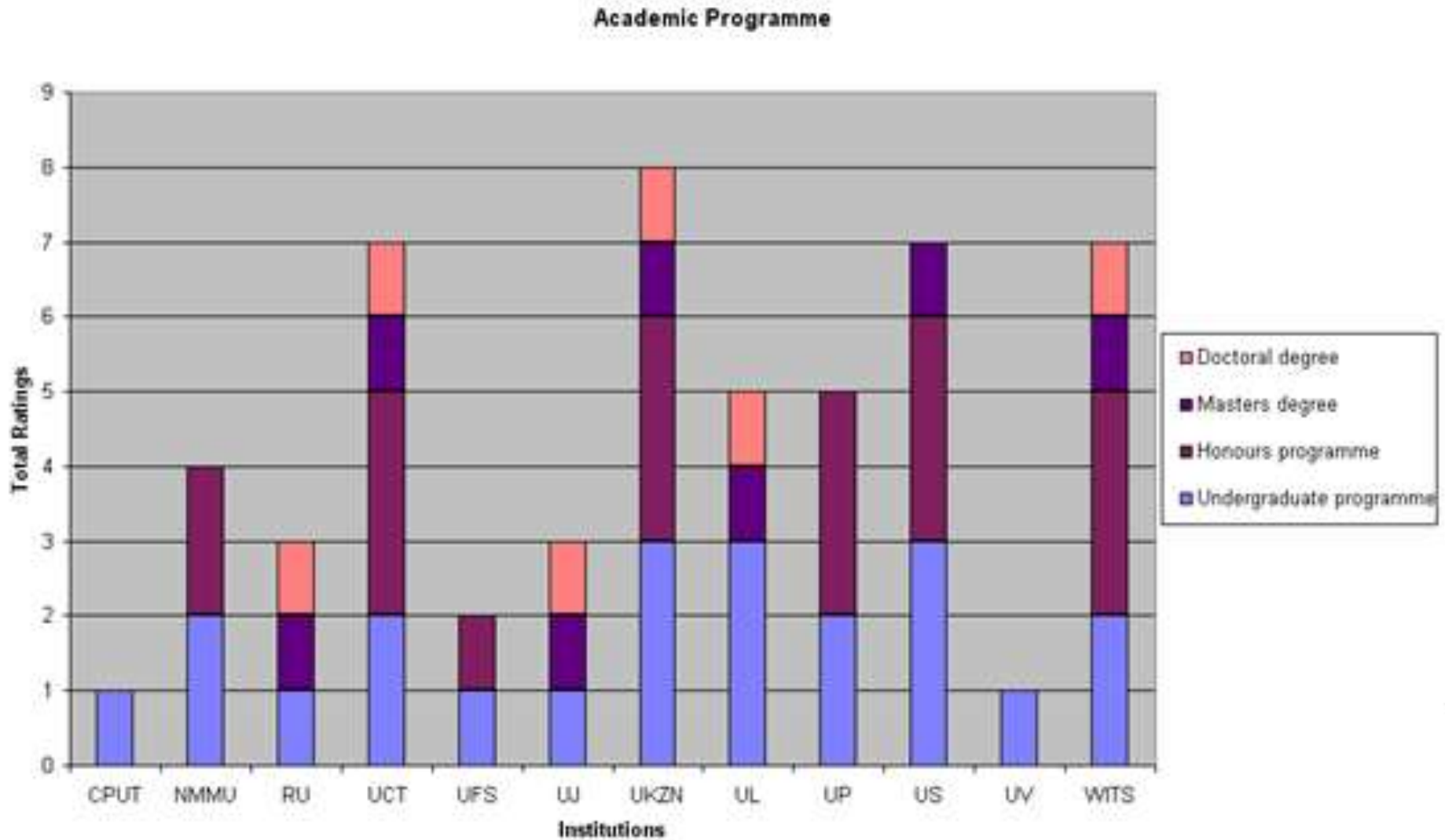


# AUDIT DATA ANALYSIS PART I – INSTITUTIONAL OVERVIEW

## Institutional Research Ranking



# AUDIT DATA ANALYSIS PART II – ACADEMIC & RESEARCH PROGRAMMES



- Gaps and needs assessment
  - Data access
  - Students ill prepared – mathematics, physics and english
    - Because of Geography – those who mathematics opt for Engineering
  - Specialist equipment and software
  - Foreign student enrolment high in certain institutions
    - No local funding for them to do MSc or PhD



- Suggested interventions by Institutions
  - Suitably qualified staff
  - Bursaries
  - Funding for hardware, software, exchange programs and guest lecturers
  - Awareness campaign on EO at school level
  - On-demand data access





# AUDIT RECOMMENDATIONS

- Sharing of resources within Institutions
- Mentorship of academic staff – platforms like CEOS/GEO to be used to solicit support
- Funding and incentives for students & institutions to have sandwich programs
- Identification of emerging technologies e.g. Lidar, SAR,
- Enrolment of MSc and PhD students should allow lectures more time to do research
- Alignment of curriculum with government priorities & industry needs
- Creation of a national facility: South African Institute for Geomatics Sciences (SAGE)





# STAKEHOLDER RECOMMENDATIONS

- Need for in-house EO training and it should form a separate and key element of any HCD intervention
- HCD to benefit both industry and DST/ SANSA strategies
- Rapid development of forums to provide input into the national space strategies
- Need for a Space/EO HCD strategy and implementation plan
- IEEE recommendations are good but need support mechanism for them to be achievable





# DISCUSSION AND WAY FORWARD

- Roadmap has been drafted and further consultations will take place
- Develop a HCD model for EO based on recommendations and the industry needs for human capacity





***Thank You***

