

# FRGS

Another way of writing a  
research proposal

Perhaps a winning  
way



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# The Approach

- ▶ Focus and address each section of the proposal
- ▶ Strictly follow the guidelines – the most recent
- ▶ Look at the examples of past successful and rejected comments

# Title and Keywords

A. Application Details	
Application ID	173926
A(i). Selected Grant	FRGS 2017-1
A(ii). Title Of Proposed Research Project*	<input type="text"/>
A(iii). Keyword*	<input type="text"/>

# Title and Keywords

1. Title must be fundamental
2. Complete elements
  1. New idea/algorithm/mechanism
  2. Based on what technique/principal/theory
  3. Purpose
3. Avoid keywords that show the work is not fundamental
  1. Development of a system
  2. Integration
  3. Exploration through experiments in different domains

# Examples

1. Project title does not reflect fundamental research to improve government policy etc.
2. No new theories can be recognized from the title.
3. The research proposal does not reveal the fundamental research aspect.
4. Title: Looks like applied research.
5. Title: Penyelidikan ini tidak termasuk dalam agenda NRP negara dan tidak bersifat fundamental

# Principal Investigator

B. Details of Project Leader	
B(i). Name	<a href="#">SHUKOR BIN ABD RAZAK</a>
B(ii). Nationality	Malaysia
B(iii). IC/Passport No.	800606015131
B(iv). Position	Associate Professor
B(v). University	Universiti Teknologi Malaysia (UTM)
B(vi). Faculty/Centre	FAKULTI KOMPUTERAN
B(vii). Unit	Computer Science Department
B(viii). Office Phone No.	075532391
B(ix). Handphone No.	0177777852
B(x). E-mail Address	shukorar@utm.my
B(xi). Date of first appointment with this University (tarikh lantikan)	29/07/2002
B(xii). Type of Service (Permanent/Contract)	Permanent

# Principal Investigator



1. Please follow guidelines
2. Who can lead who can be the members
3. PI research area must match proposal research cluster
4. PI eligibility to supervise Master or PhD students
5. PI contract with institution

# Examples

1. Project leader is Iranian and contract will be finished by 2017. Most probably there will be no enough time for the applicant to deliver the project on-time. Also time constraints for the applicant to produce expected outcome of the research, PhD student less than 2 years as mentioned in the proposal.
2. The leader has MSc degree and no successful research project been done previously. How can the leader without PhD degree supervise PhD student.
3. While the project appears worthy, the performance of the PI in the last 2 years remains questionable as despite leading several grants, there has been no publication.
4. Track Record and Composition of Team: No indication of completed project.

# Research Cluster

C. Research Information	
C(i). Research Cluster* <input type="button" value="+"/>	
Research Cluster	Su
At least one research cluster is required.	
C(ii). Research Priority Area	
Priority Area:*	<input type="text"/>
Required field	
C(iii). Location of Research	
<input type="text"/>	

Research Cluster selection	
Research Cluster	<input type="text"/>
Sub Research Cluster	<input type="text"/>
<input type="button" value="Select"/>	

# Research Cluster



1. Wrong cluster – most probably will be rejected
2. Must reflect PI main research cluster/area
3. Must reflect title of the research proposal

# Examples



1. Researcher in Computer Science proposes a research project related to cardiovascular disease thus selected clinical and health science cluster
  - Rejected due to mismatch PI research area and project cluster

# Priority Area

C. Research Information	
C(i). Research Cluster* <input type="button" value="+"/>	
Research Cluster	Su
At least one research cluster is required.	
C(ii). Research Priority Area	
Priority Area:*	<input type="text"/>
Required field	
C(iii). Location of Research	
<input type="text"/>	

Research Cluster selection	
Research Cluster	<input type="text"/>
Sub Research Cluster	<input type="text"/>
<input type="button" value="Select"/>	

# Priority Area



1. Need to be carefully chosen
2. Must reaffirm in the executive summary and project background
3. Good if relevant to the university agenda or CoE or RG

# Examples



1. Expected Result: No development of new knowledge.  
Need to relate research to National Priority Areas.

# Duration of Research

C(iv). Duration of this research	
From* 	December/2016
To* 	November/2017
Duration	Duration cannot be more than and or less than and .

# Duration of Research



1. Always confirm your contract with the university
2. Related to human capital – Master or PhD
3. Must according to guidelines
4. Realistic to the problems and objectives of the research
5. If the project can be completed in 2 years do not extend it to 3 years

# Location of Research

C(iii). Location of Research

# Location of Research



1. Depends on methodology and case study
2. If multi location must mention here
3. This also justify budget for travelling
4. Make sure the research is conducted in Malaysia
5. Must synchronize with research activities

# Co-Researchers

C(v). Other Researchers  			
Researcher Id	Name	IC / Passport Number:	Faculty/ School/ Centre/ Unit

# Co-Researchers

1. At least 1 from same institution
2. Good combination of Prof/A.Prof/SL/L
3. Better if cross institution but not necessary
4. Must justify the role of co-researchers in methodology
5. Involve co-researchers relevant to the research domain/agency  
e.g. research related to cardiovascular – member from IJN
6. Any industry partners – to show the project has the potential to be commercialized

# Examples



1. Project Member: Does not contain well balanced team.
  - All Professor
2. No members from domain experts

# Past and Current Research Grants

C(vi). Research projects that have been completed or ongoing by project leader for the last three years

<input type="button" value="Include"/> <input type="button" value="Untick All"/>	Title	Grant Name	Role	Status	Duration	Start Date	End Date
<input checked="" type="checkbox"/>	New Access Control Mechanism Based on Palm Biometrics Authentication for Users Cardio Information	TRGS	Project Leader	In Progress	3 years	04/01/2016	03/01/2019
<input checked="" type="checkbox"/>	A Hybrid Multibiometric Continuous Authentication Framework Based on Shielding Functions and Non-Invertible Transformation	FRGS	Member	In Progress	2 years	01/11/2015	31/10/2017
<input checked="" type="checkbox"/>	Identification of True Identity of Online Users based on Human Intrinsic Characteristics for Cyber crime Investigation	FRGS	Project Leader	In Progress	1 year 6 months	02/11/2015	01/05/2017

# Past and Current Research Grants

1. Any ongoing FRGS?
2. Complete PR and ER in Mygrants?
3. To show the strength of PI based on completed or ongoing other research grants
4. Must update researcher profile in Mygrants – evaluators will not look at your homepage or anywhere else

# Publications

C(vii). Academic publications that has been published by the project leader for the last five (5) years <input type="button" value="+"/>			
<input type="button" value="Include"/> <input type="button" value="Untick All"/>	Title	Name of Journal	Year
<input checked="" type="checkbox"/>	An Efficient Pairing-Free certificateless Authenticated Two-Party Key Agreement Protocol Over Elliptic Curves	Pattern Analysis, Intelligent Security and the Internet of Things	2015
<input checked="" type="checkbox"/>	Local Coverage Measurement Algorithm In GPS-Free Wireless Sensor Networks	Ad hoc networks (Elsevier, IF 1.94)	2014
<input checked="" type="checkbox"/>	EF-MPR, A New Energy eFficient Multi-Point Relay Selection Algorithm for MANET	The Journal of Supercomputing (IF 0.914)	2012

# Publications

1. One of FRGS output is publication
2. Good track record of PI publication is a bonus especially in high impact and indexed journals
  - a must for Professor / Assoc. Professor
  - must be updated and verified by RMC
  - publications relevant to the field – better
  - any other forms of publications i.e. non-indexed, reports, monograph, etc. also matters to show that the PI is able to produce scientific publications

# Executive Summary

C(viii). Executive Summary of Research Proposal \*

(Please include the problem statement, objectives, research methodology, expected output/outcomes/implication, and significance of output from the research project)

**Required field**

words left

# Executive Summary



1. Please look at what is required in the exec. summary
  - The problem statement
  - Objectives
  - Research methodology
  - Expected output/outcomes/implication
  - Significance of output from the research project

# Research Background

(a) Research background

1. Problem Statement\*

Required field

2. Hypothesis

3. Research Questions\*

Required field

# Research Background



1. Must match and extend exec. summary
2. Problem statement must be clear – what is lacking in existing works that requires this research to be conducted
3. Emphasize on how the project relates to National Priority Area

# Literature Review and References

<p>4. Literature Reviews*</p> <div style="border: 1px solid black; height: 80px; width: 100%;"></div> <p>Required field</p>
<p>5. Relevance to Government Policy, if any</p> <div style="border: 1px solid black; height: 80px; width: 100%;"></div>
<p>(b) References*</p> <div style="border: 1px solid black; height: 120px; width: 100%;"></div> <p>Required field</p>

# Literature Review and References

1. It is important to show that PI has done a thorough review of existing work
2. Cite as many as possible relevant references
3. It is important to show that the literature review is recent – based on numbers of recent references

# Objectives and Methodology

## 4. Literature Reviews\*

Required field

## 5. Relevance to Government Policy, if any

## (b) References\*

Required field

# Objectives and Methodology

1. Objectives
  1. Measurable
  2. Not too many and not too few
  3. Avoid literature review to study research gap as objectives – prior work must be done
2. Methodology
  1. Methodology for each objective
  2. Show scientific approach not just general approach
  3. Explicitly mention data involve, duration, steps, technique will be used
  4. Show how each phase is related to each other – no disjoint

# Flow Chart, Activities and Milestones

2. Flow Chart of Research Activities *		Attach
3. Research Activities		
Activity*	<input type="text"/>	
Start Date*	<input type="text"/> 	
End Date*	<input type="text"/> 	Add
4. Milestones and Dates		
Description*	<input type="text"/>	
Overall Project Completion Percentage at time milestone is achieved(%)*	<input type="text"/>	
Year/Month*	2016 ▼ / January ▼	Add

# Flow Chart, Activities and Milestones

1. Flow chart attached as appendix
  1. Make sure it is not corrupted and can be opened – pdf
  2. Make sure it is addressing all the research methodology and activities
  3. Do not upload a generic flow chart. Must specific to the project
2. Activities
  1. Better to highlight which team members responsible for each activity
  2. Make sense – literature review 6 months?
  3. What, Who, When, How, Why (to correspond to which methodology/objective)

# Flow Chart, Activities and Milestones

## 3. Milestones

1. Proper wording – “Completion of ...
2. Realistic – not too many and not too few
3. Preferably every 6 months

# Expected Results and Outcomes

(e) Expected Results/Benefit
<u>1. Novel theories/New findings/Knowledge</u>
<div style="border: 1px solid black; height: 100px;"></div>
<u>2. Research Publications</u>
<div style="border: 1px solid black; height: 100px;"></div>
Total Number of Publications:* <input type="text"/>
<u>3. Specific or Potential Applications</u>
<div style="border: 1px solid black; height: 100px;"></div>

# Expected Results and Outcomes

## 4. Number of PhD and Masters (by research) Students

Number of PhD Students:

Number of Masters (by research) Students:

Remark (if any):

## 5. Impact on Society, Economy and Nation

## 6. Intellectual Property(IP)

Total Number of IP:\*

# Expected Results and Outcomes

1. Most important outcomes
  1. New Idea/Mechanism/Theory/Findings
  2. Publications – 2 indexed journals – better if already identify names of the journals
  3. Human Capital/Talents – see guidelines depends on project duration
  4. Potential Applications – 2 to 3 potential applications
  5. Impact on society
    1. Emphasize on NPA
    2. Increase in ....
    3. Decrease in ....
    4. List the society who will benefit from the research
  6. IP – Copyright is the simplest one

# Access to Equipment

D. Access to Equipment & Material	
Equipment	
Type	<input type="text"/>
Description	<input type="text"/>
Owner	<input type="text"/>
Location	<input type="text"/>
Address	<input type="text"/>
	<input type="button" value="Add"/>

# Access to Equipment



1. FRGS allocation is limited thus show how other resources contribute to the project
  1. Existing PC, Printer, Server, etc.
  2. Not just own institution, perhaps collaborators e.g. industry partners, members institution, etc.
  3. This shows the strength of the PI as well as the collaboration between members

# Budget

E. Budget				
Budget Type	Description	Year 1	Grand Total	-
11000 - Salary and Wages	<input type="text"/>	<input type="text"/>	0	-
Vot-Total		0	(0.00%) 0	
21000 - Travelling and Transportation	<input type="text"/>	<input type="text"/>	0	-
Local				
Sub-Total		0	(0.00%) 0	
Overseas	<input type="text"/>	<input type="text"/>	0	-
Sub-Total (Maximum 20%)		0	(0.00%) 0	
Field work	<input type="text"/>	<input type="text"/>	0	-
Sub-Total		0	(0.00%) 0	

# Budget

1. Be realistic – not too costly
2. Should we create a budget to match the maximum quantum?
  1. Not advisable unless justified
3. Avoid purchase of equipment that expected to be made available by the institution e.g. PC
4. Avoid purchase of personal mobile devices

# Budget

5. Pay attention to travelling expenses – overseas conference is OK but not recommended to put high cost. Local conference but International level is recommended.
6. Professional service – Do not pay for the service that is expected to be delivered by the PI
7. Try to avoid paid journals – but proof reading is OK

# Budget

8. Allowance for GRA
  1. Make sure the rate follows guidelines
  2. Must match the promised human capital output – do not contradict e.g. output is masters student but appointed GRA is PhD
  3. Specify in the description the duration and number of GRA expected to be appointed

# Budget

9. Purchase of equipment needs strong justification and always mention how the equipment is specific to the project
  1. If need to purchase a high end PC for computational purposes justify how the equipment is special and not available in institution
  2. If available in institution justify why the project needs a dedicated equipment

# Appendix

Appendix	
Name: <input type="text"/>	<input type="button" value="Attach Appendix"/>
Figures	

# Appendix

1. Make sure you check all attachments can be opened in several other PCs
2. Attach quotations to justify cost of equipment, proof reading service, professional service, etc.
3. For those who still have an ongoing FRGS project, attach financial and progress report certified by RMC to support the claim of 75% completion of current FRGS

# Some of the comments for rejection

- ▶ Quality of Proposal: This is an interesting topic. However, numerous grammatical errors compromise the quality of the proposal.
- ▶ Track Record and Composition of Team: Penyelidik tidak mempunyai pengalaman mengkaji isu-isu berkaitan dengan pekerja asing. Bidang penyelidikan penyelidik lebih tertumpu kepada pendidikan terutama pendidikan teknik dan vokasional. Oleh kerana banyak kajian telah dijalankan ke atas isu ini, maka impak kajian yang dicadangkan ini dijangka rendah.
- ▶ Title: need to refine the title. sustainability too wide Executive

# Some of the comments for rejection

- ▶ Summary: should consist of introduction, aim, objectives, methodology and significant contribution to the body of knowledge
- ▶ Research Background: should elaborate on the definition of sustainability as it too loose.
- ▶ Past LR and latest citation from ( 2015 -2010) inadequate LR need to relate the RMK11
- ▶ Track Record and Composition of Team: too many members.
- ▶ Similarity check showed 45.3% with another FRGS project on brain connectivity as part of multimodality treatment of seizure, started Nov 2015.

# Some of the comments for rejection

- ▶ The budget is too high, since the research can be done in a laboratory using simulation software
- ▶ travelling expenses could be reduced professional services could be reduced
- ▶ Most of the references are not recent.
- ▶ Output is not that significant because is can only be applied to medical images.

# Some of the comments for rejection

- ▶ On the methodology, it is not clear where the subjects are going to be recruited from.
- ▶ The writing of the whole proposal, especially the research questions, has not been meticulous.
- ▶ Ethical issues have not been stated, and references are plenty but very few are those published in the last 5 years.

# Some of the comments for rejection

- ▶ Title: Penyelidikan ini tidak termasuk dalam agenda NRP negara
- ▶ The proposal's research questions and objectives are not synchronize.
- ▶ Most references are out of date. (more than 5 years)
- ▶ Flow chart: The flow chart loaded is not relevant to the project.
- ▶ References: References are not recent and formatting in the text in term of citation of the works are not done properly.

# Some of the comments for rejection

- ▶ References: References are not recent and formatting in the text in term of citation of the works are not done properly.
- ▶ Methodology: To place an electrode on autistic kid, to capture the EMG signal will pose a huge challenge. The applicant needs to get clearance from ethical committee to conduct such experiment
- ▶ Too costly.
- ▶ There is no novelty and high impact on society in research
- ▶ Only 4 citations for most recent (last 5 years) references

# ISU-ISU PERMOHONAN DANA TAHUN 2016

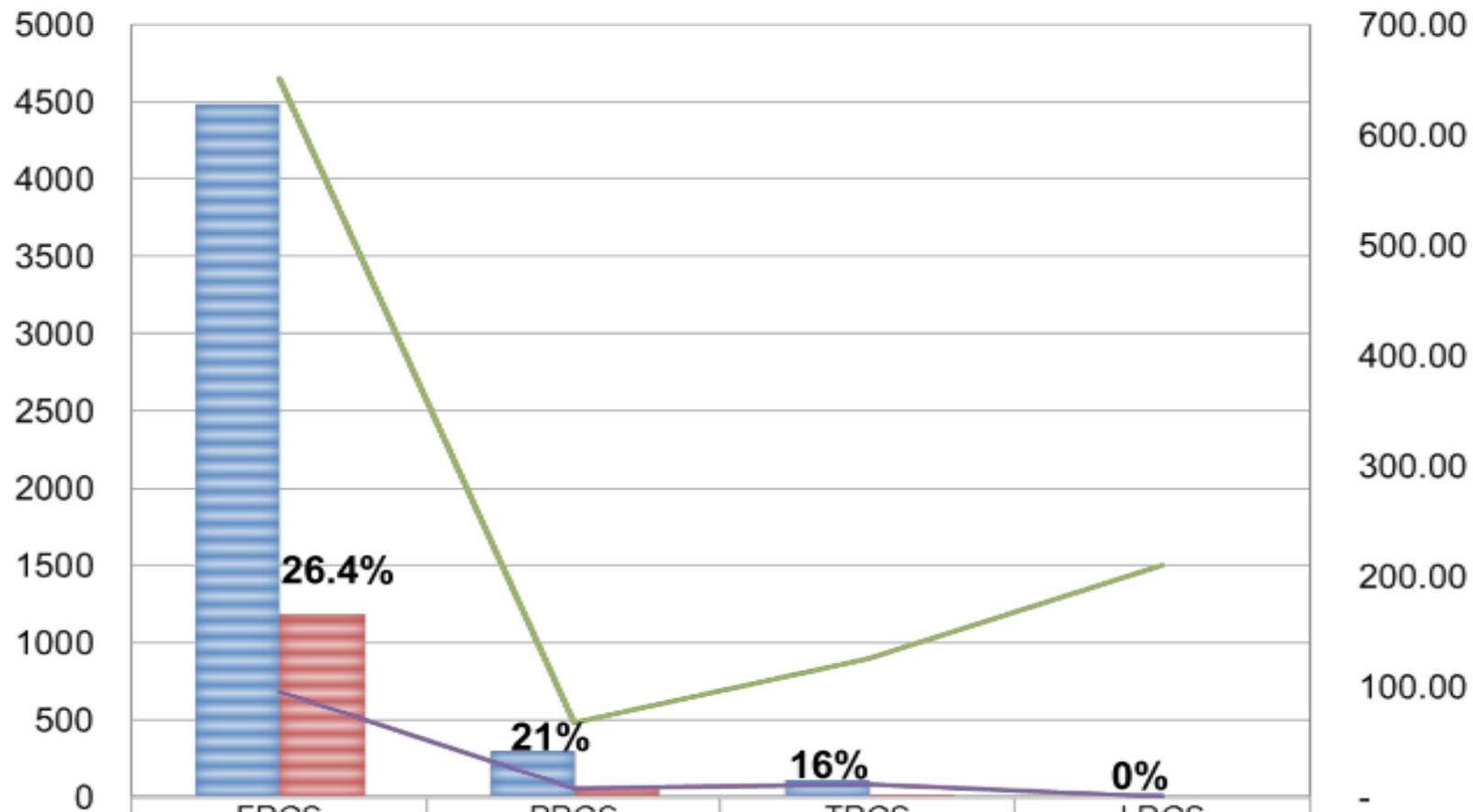
## Kualiti Proposal

- Penilaian dalaman perlu lebih ketat
- Syarat permohonan tidak dipatuhi – sebut harga tidak disertakan, tempoh kontrak pemohon, prestasi projek sebelum dll
- Proposal tidak ditambah baik mengikut ulasan penilaian dalaman
- Sesi pembentangan yang tidak mengikut format JPT, KPT - penyelidik tidak bersedia sepenuhnya

## Maklumat dalam Sistem MyGRANTS

- Profil penyelidik tidak dikemas kini (termasuklah penerbitan, IP, projek, penyeliaan)
- Lampiran tidak dapat dibuka
- Sebut harga tidak disertakan walau pun telah dinyatakan dalam Garis Panduan

## ANALISIS PERMOHONAN TAHUN 2016

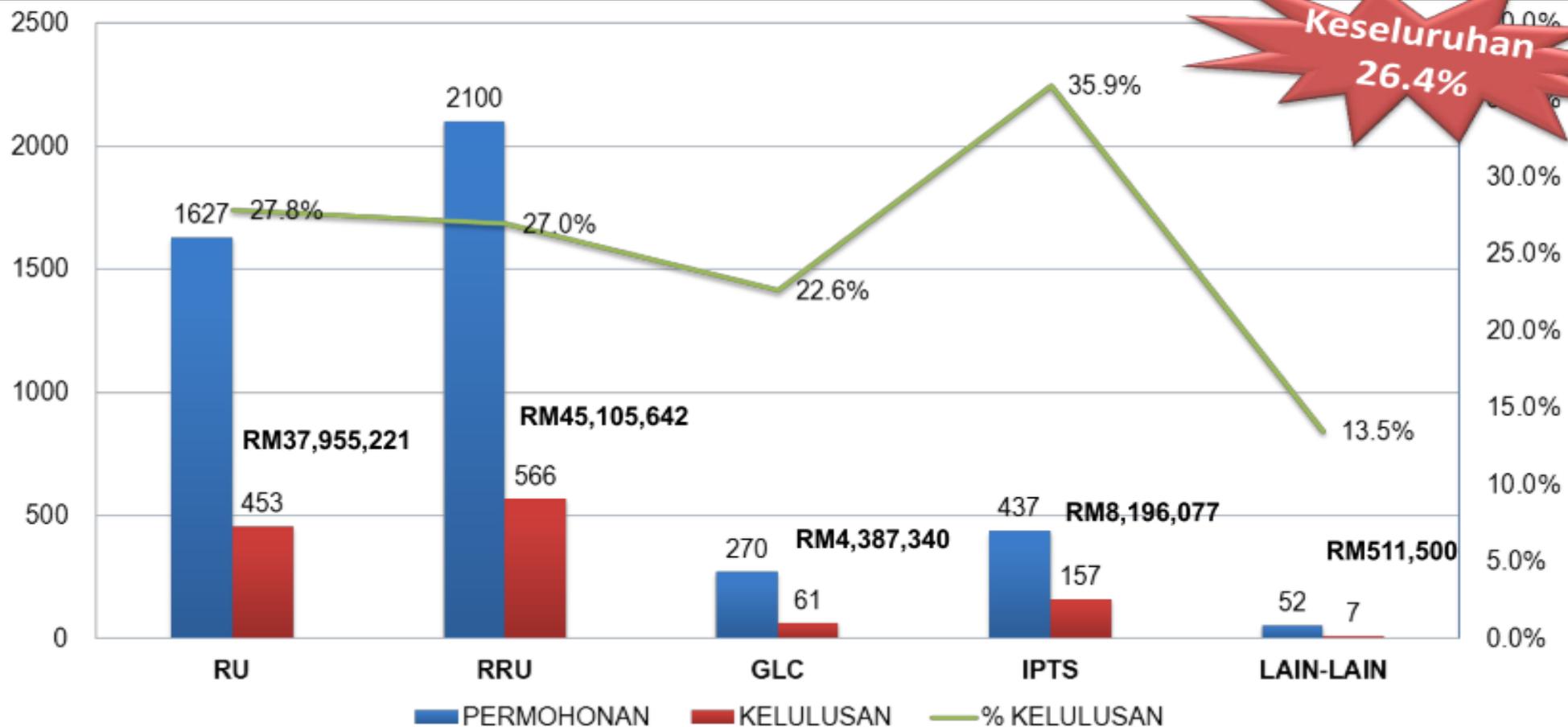


Program / Projek Mohon	4486	301	116	24
Program / Projek Lulus	1183	63	19	0
Peruntukan (RM) Mohon	650,892,815.00	67,581,816.00	124,891,026.00	210,021,351.00
Peruntukan (RM) Lulus	95,749,280.00	8,175,430.00	11,624,100.00	-

# Permohonan & Kelulusan FRGS

(Mengikut Universiti)

4,486 proposals  
63 IPT/Agencies  
>240 panels



Thank You