WMO 2016 Survey on the Use of Satellite Data

World Meteorological Organization (WMO)
Space Programme

5th Meeting of the Coordinating Group for the
RA II WIGOS Project to Develop Support for NMHSs in Satellite Data, Products and Training

Vladivostok, Russia
21 Oct 2017

WEATHER CLIMATE WATER
TEMPS CLIMAT EAU

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Outline

- Motivation
- The Survey
- Regional Distribution of Responses
- GEO: Region-specific Analysis
  - RAII: GEO Data Access and Processing
  - RAII: GEO Visualization Tools and Training Needs
  - RAII: Next-generation GEO satellites – Readiness Level
- LEO: Region-specific Analysis
  - RAII: LEO Data Access, Data Processing and Training Needs
  - RAII: Next-generation LEO satellites – Readiness Level
- Conclusions

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Motivation

- WMO carries out a global user survey every 4 years.
- Users worldwide need to prepare for new-generation satellites – gaps and issues?
- Need a dialogue between users and satellite operators.
- Satellite data are increasing in importance (nowcasting, NWP, marine services, climate monitoring, etc.)

The Survey

- Online questionnaire, developed by WMO CBS IPET-SUP
- Four languages (E, F, S, R)
- Three major topics:
  - accessing and using geostationary satellite data,
  - accessing and using low-Earth orbiting satellite data,
  - satellite applications and training

The Survey: RAII

March-May 2016
215 responses globally
38 from RA II, from 16 Members

66% NMHS
8% Other gov't agency
24% Research, Academia

Bangladesh
China
Hong Kong, China
Macao, China
India
Iran
Japan
Kazakhstan
Kyrgyzstan
Oman
Pakistan
Republic of Korea
Russian Federation
Thailand
United Arab Emirates
Uzbekistan

The Survey: Regional Distribution of Responses

WMO Region	Number of Members	Number of Members with at least one response (rate in %)	Total number of responses	Comparison to 2012 Survey
I (Africa)	57	36 (63%) ↗	56 ↗	17 (30%) ¦ 37
II (Asia)	35	16 (45%) →	38 →	19 (54%) ¦ 34
III (S America)	13	8 (62%) ↗	21 ↗	5 (38%) ¦ 14
IV (N&C America &C)	27	12 (44%) ↗	40 →	8 (31%) ¦ 44
V (SW Pacific)	23	6 (26%) ↘	10 ↘	12 (55%) ¦ 17
VI (Europe)	50	28 (56%) ↘	50 ↘	34 (68%) ¦ 72
All	191	106 (55%) ↗	215 →	95 (50%) ¦ 218

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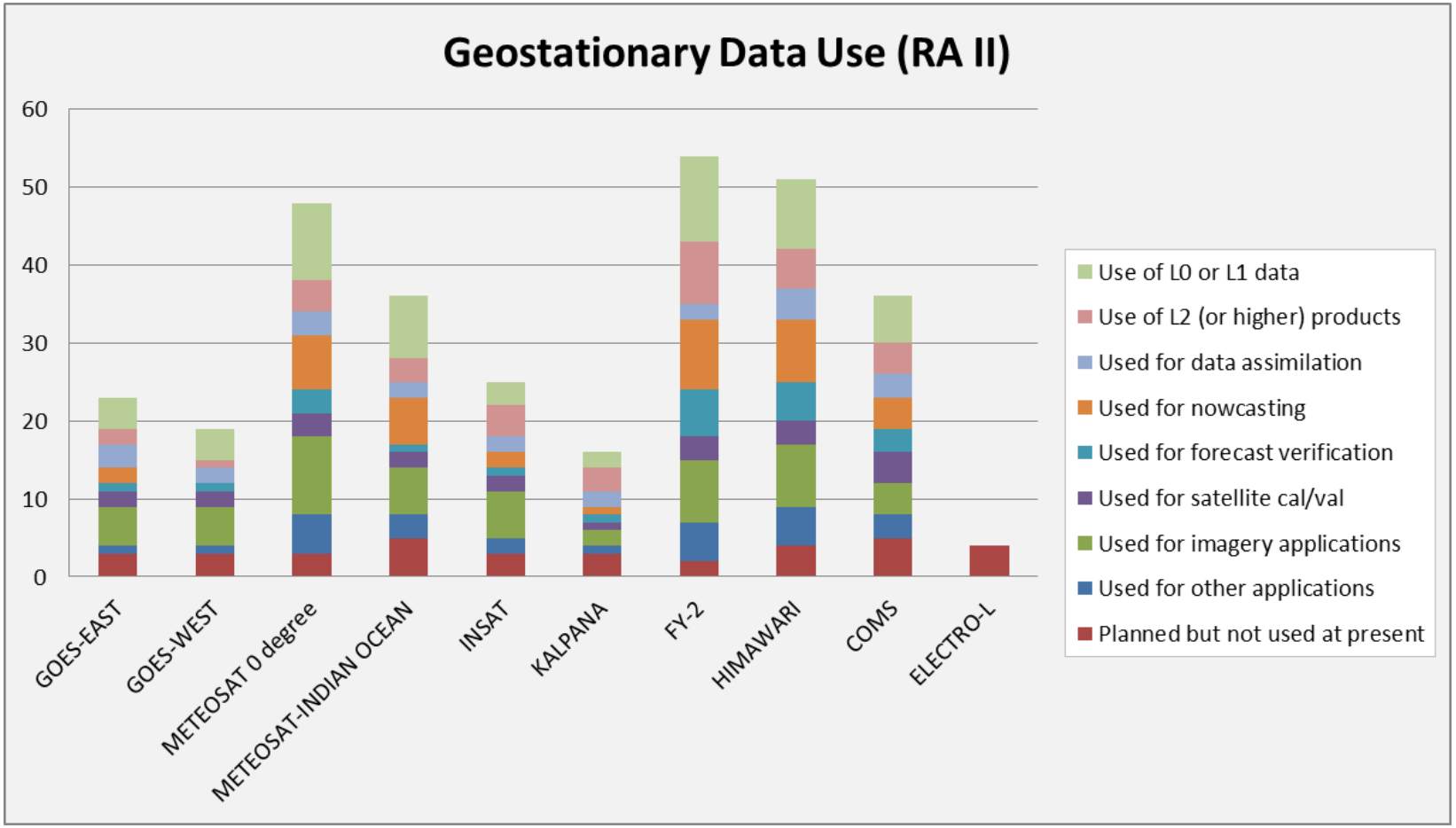
RAII: GEO Data Use



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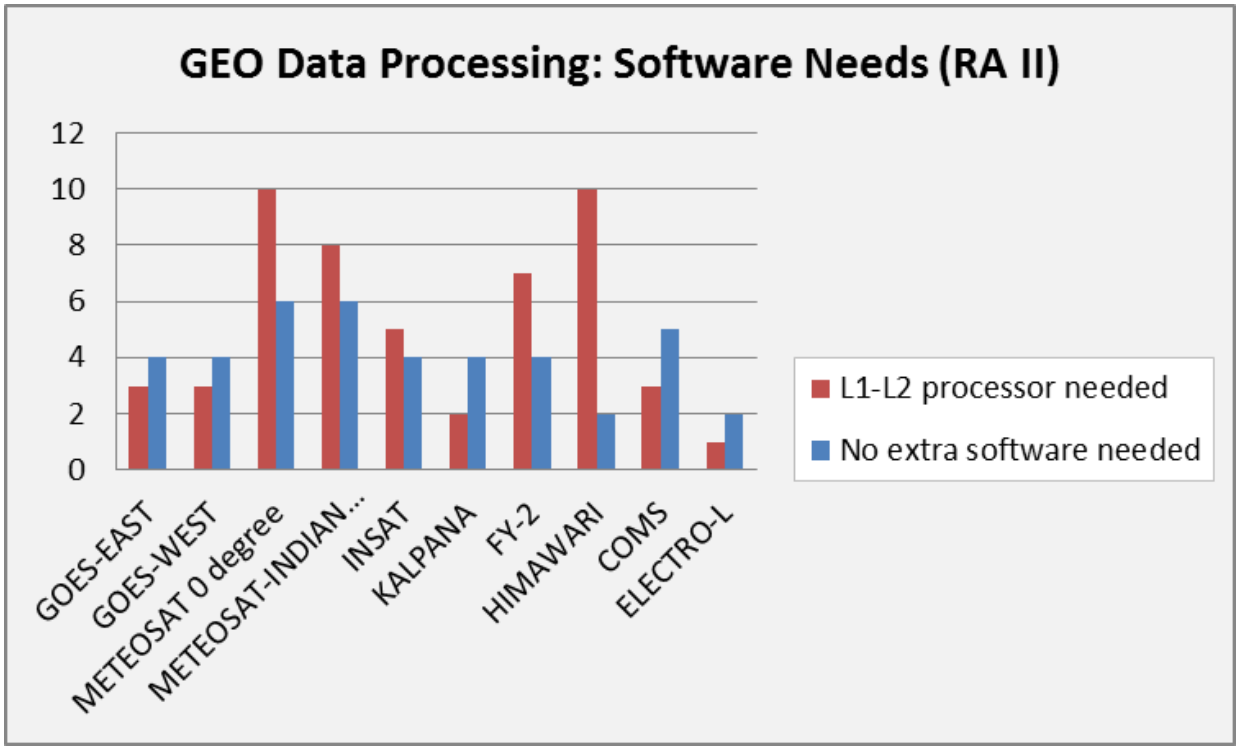
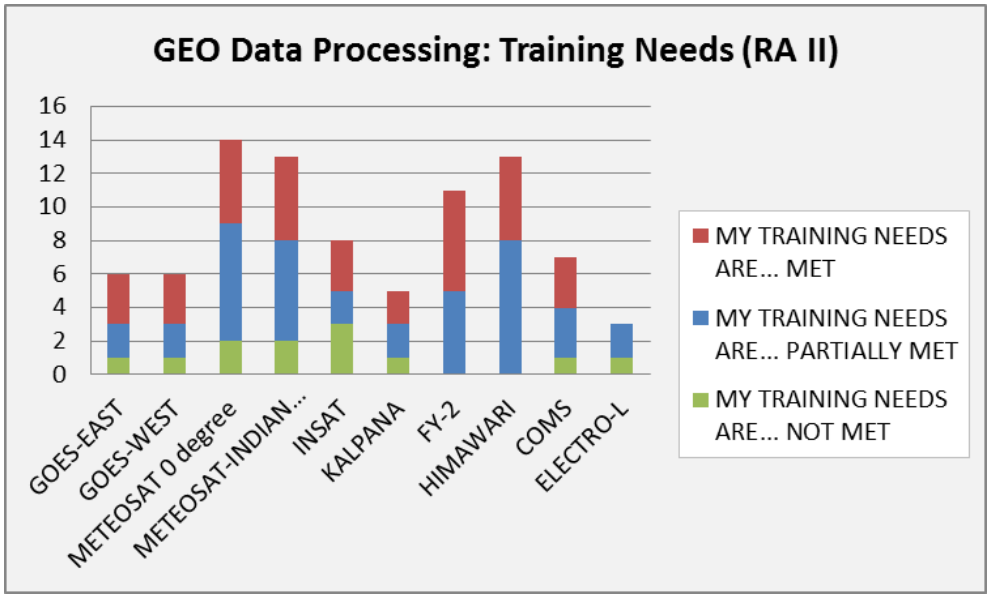
RA II: GEO Data Access and Processing

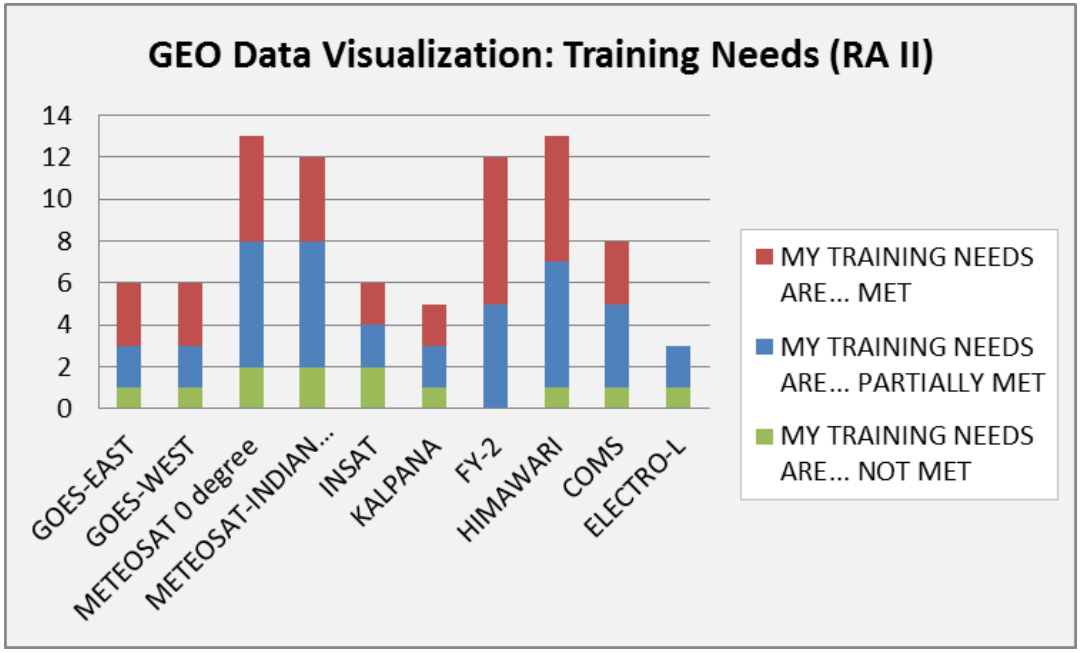
- Access to GEO data good
- Some challenges in GEO data processing and visualization (mostly minor)



"We have little experience in processsing Himawari-8 into high level secondary products. e.g. RDT products for severe storm detection" (Hong Kong, China)

RA II: GEO Data – Training Needs





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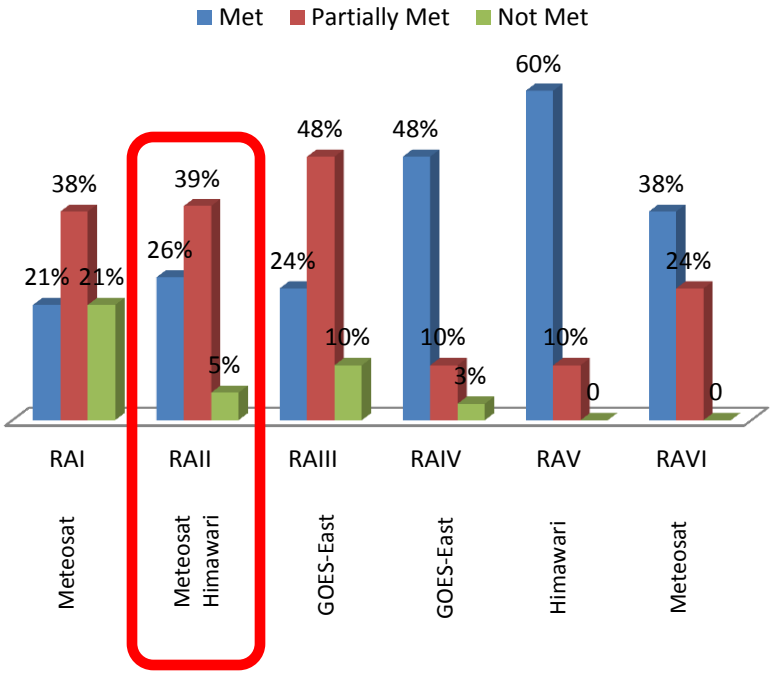
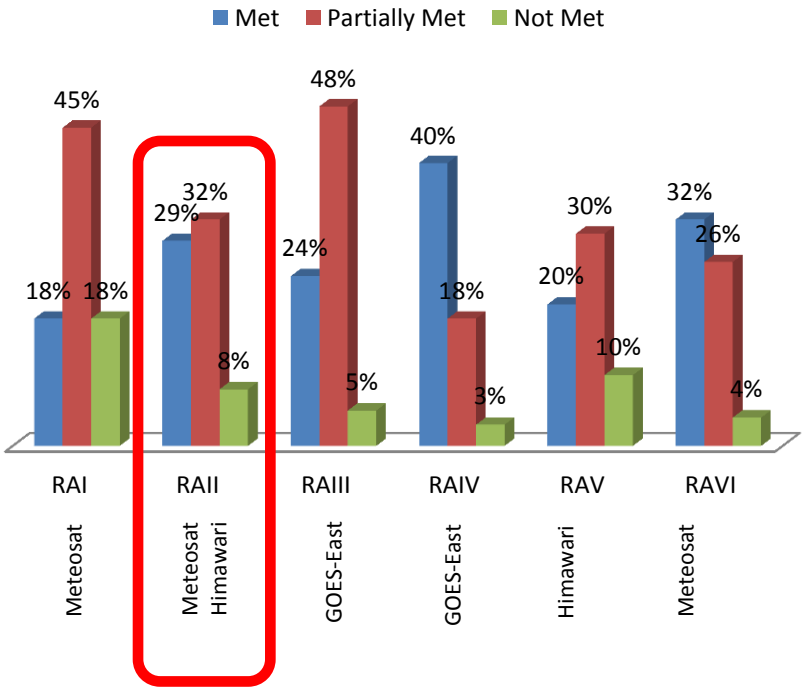
RAII: GEO Data Processing - Regional Analysis

Training Needs



Visualization Tools



- Unmet needs require attention, but
- Challenges in RA II no larger than elsewhere despite ongoing transition to new-generation Himawari-8 and FY-4A

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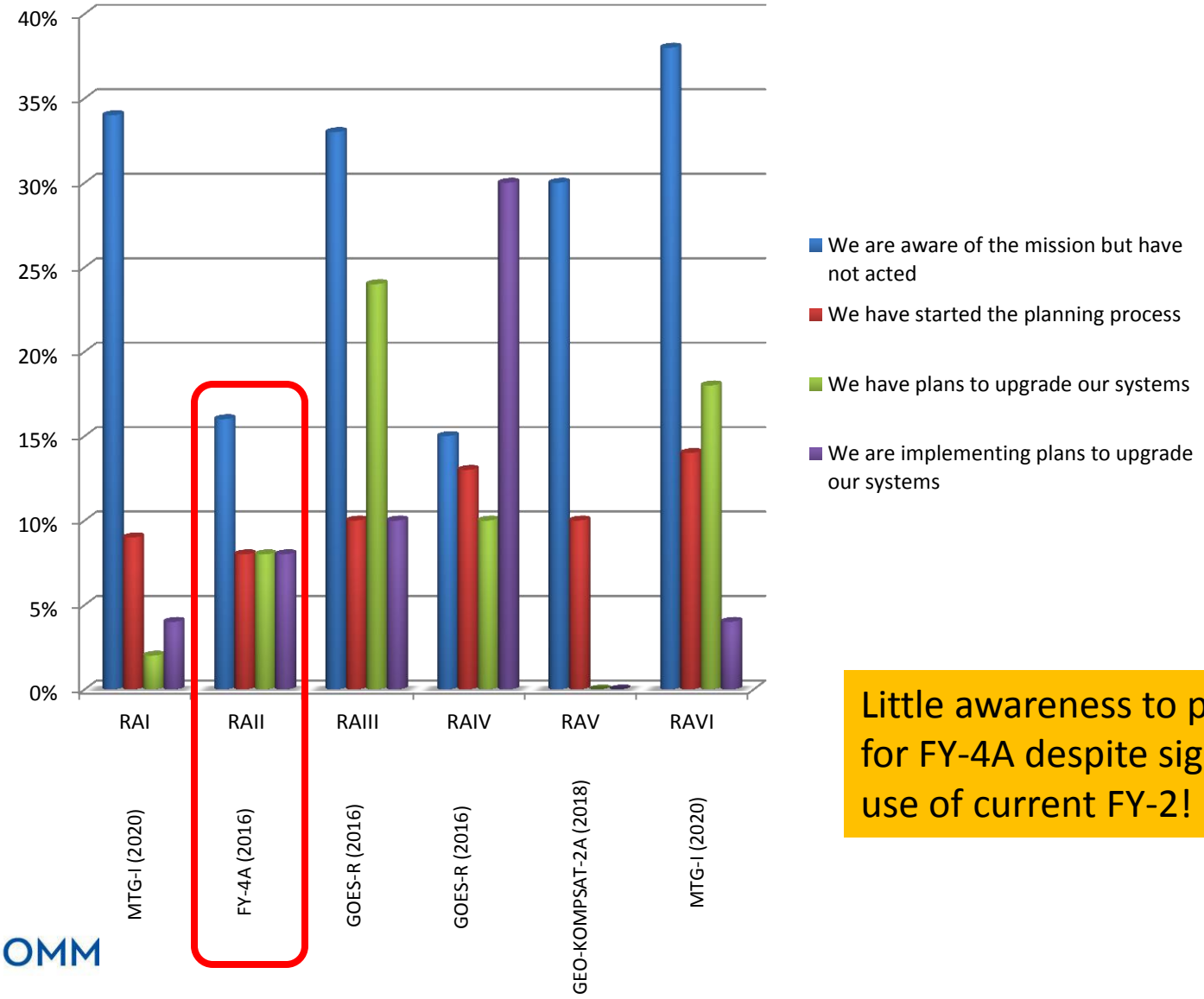
RAII: Next-generation GEO - Readiness Level Regional Analysis



Little awareness to prepare for FY-4A despite significant use of current FY-2!

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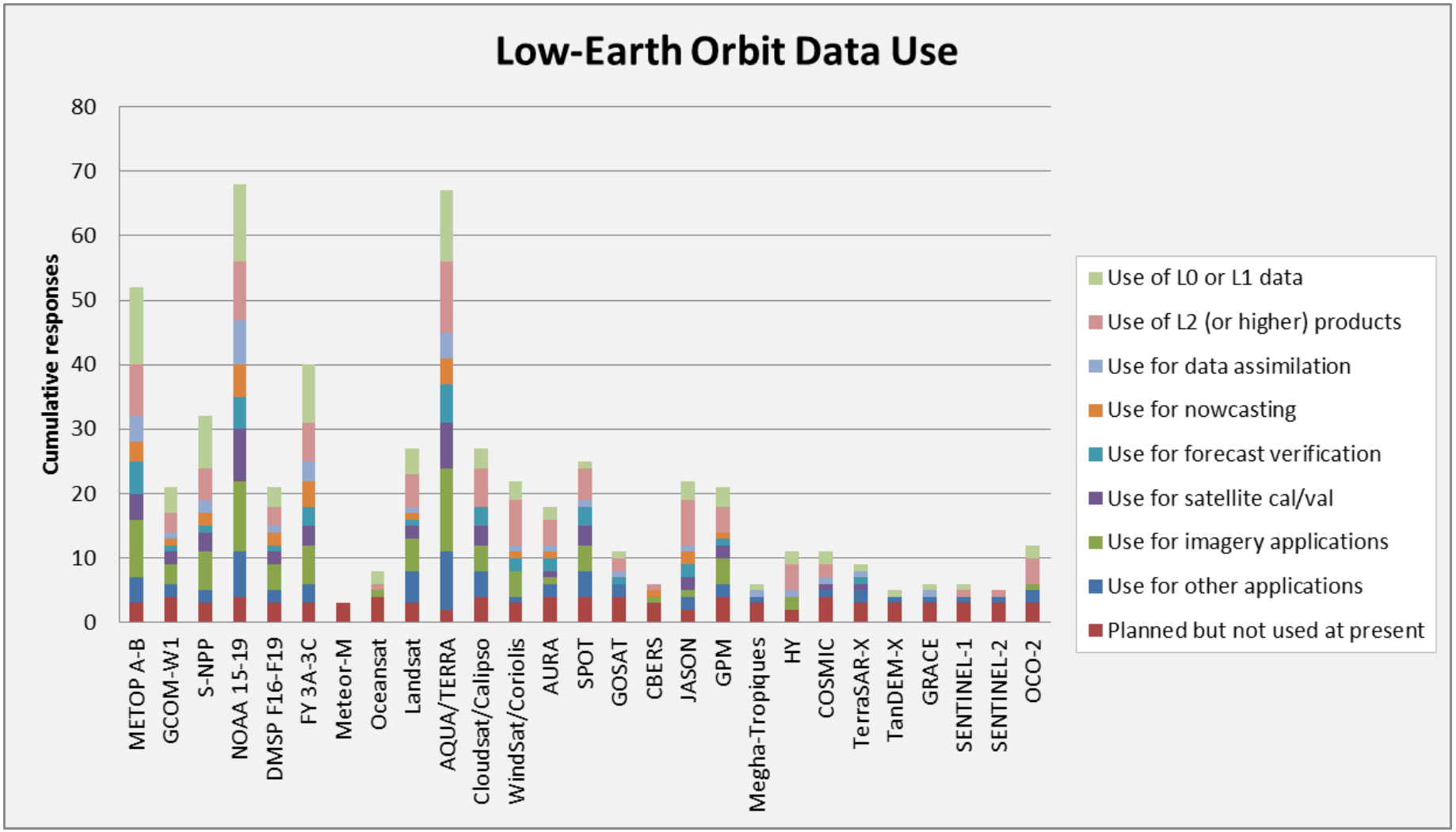
RA II: LEO Data Use



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RA II: LEO Data Access and Processing

- No issues with access (for those who access);
- Needs for pre-processing packages (Metop, POES, S-NPP, Aqua/Terra, FY-3) and related training

SOFTWARE NEEDS Answer Options	No extra software needed	L0-L1 processor needed	L1-L2 processor needed	Both L0-L1 & L1-L2 needed	Response Count
METOP A-B	1	1	2	7	11
GCOM-W1	2	1	2	1	6
S-NPP	1	1	1	6	9
NOAA 15-19	2	1	1	9	13
DMSP F16-F19	3	2	2	1	8
FY 3A-3C	1	1	0	7	9
Meteor-M	2	0	0	1	3
Oceansat	3	0	0	2	5
Landsat	3	0	1	6	10
AQUA/TERRA	1	0	3	7	11
Cloudsat/Calipso	2	0	2	3	7

- Part of AOMSUC-8 training course on 16-17 Oct 2017

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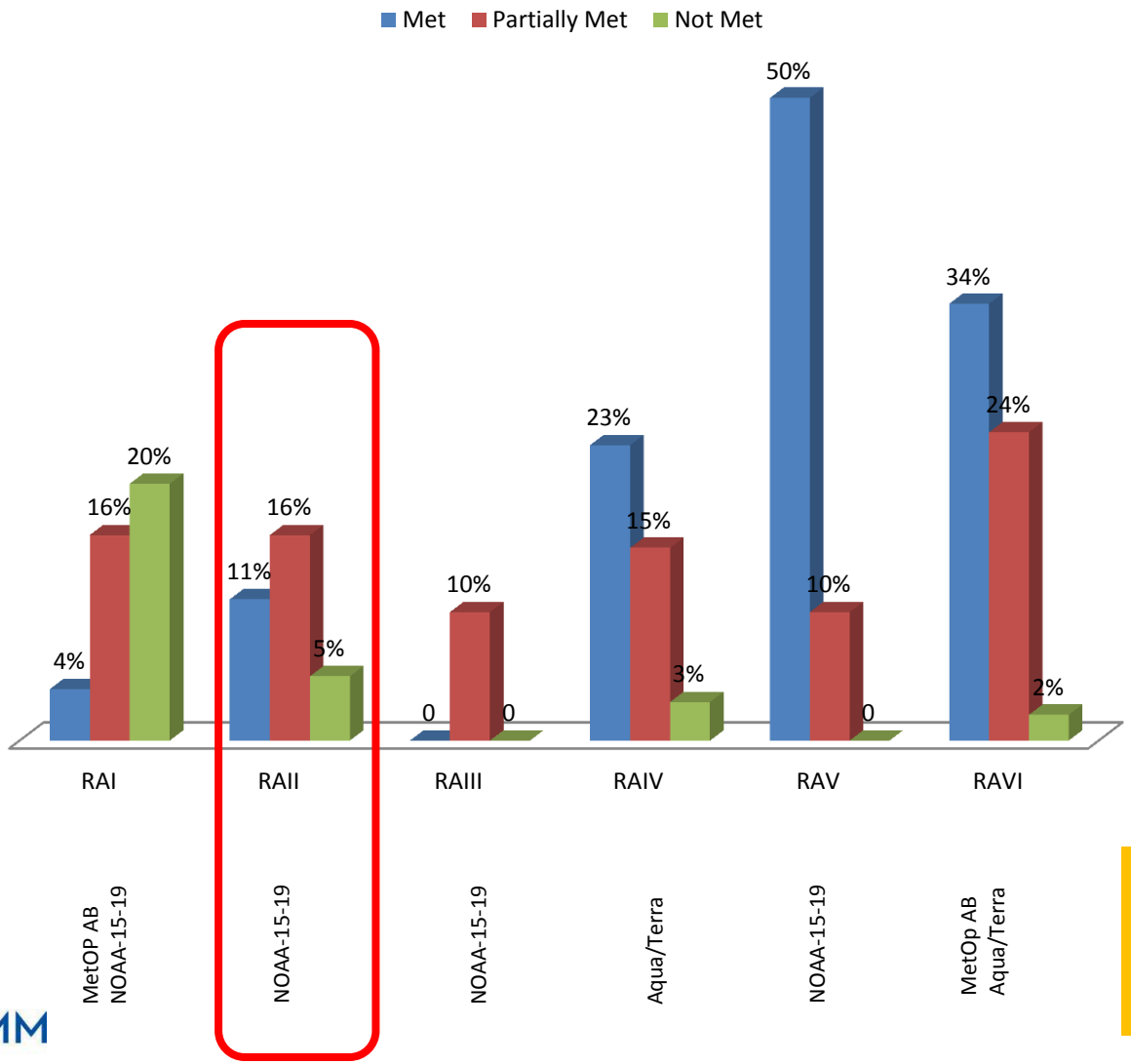
RAII: LEO Data Processing – Training Needs Regional Analysis



Missions with highest response rate per RA

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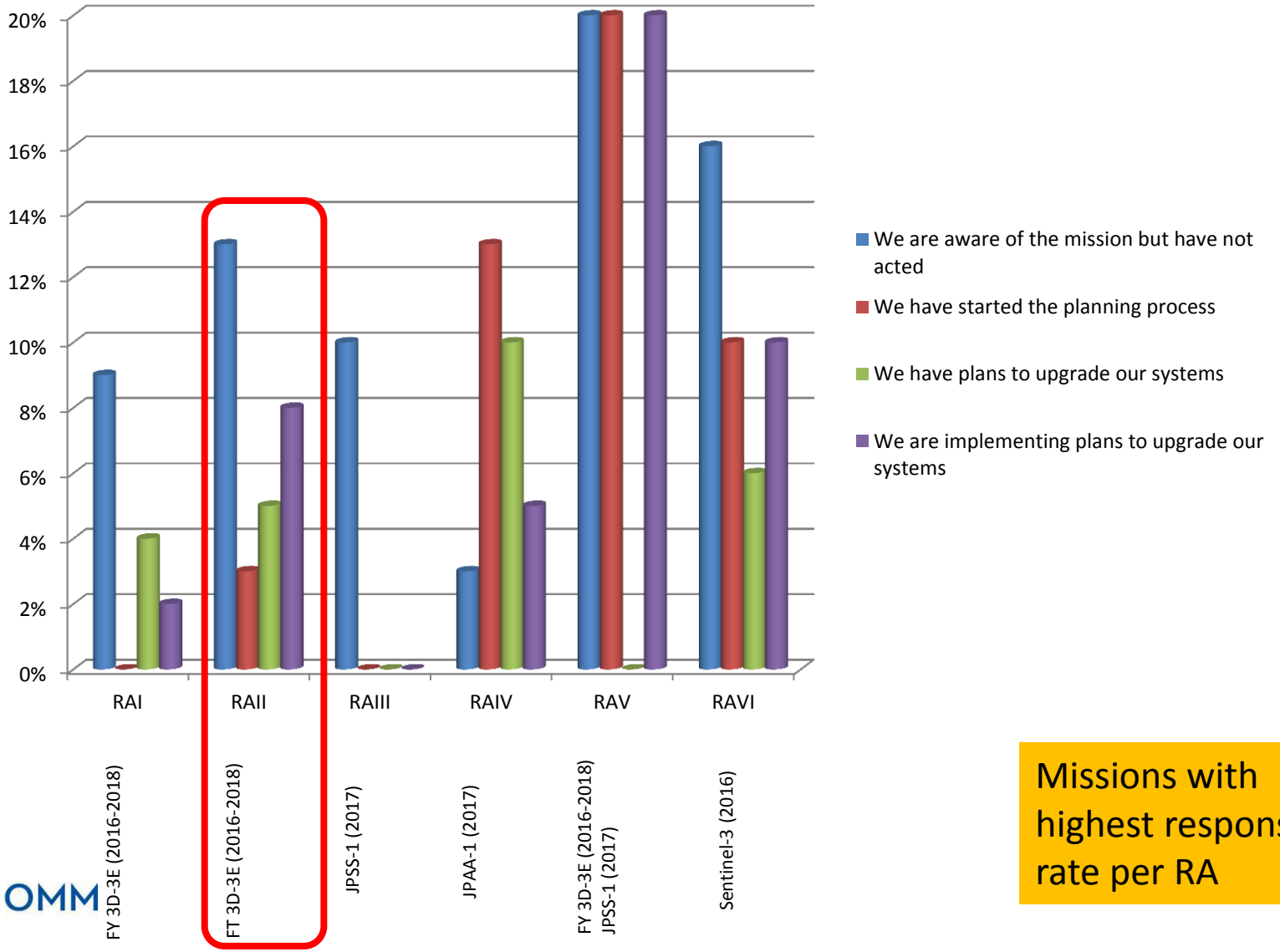
RAII: Next-generation LEO - Readiness Level Regional Analysis



Missions with highest response rate per RA

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Conclusion

- Good response rate in RA II
- Processing and visualization software needs (GEO and LEO) and related training
- Transition to Himawari-8 largely under control
- Transition to FY-4A requires attention
- Preparation to FY-3D/E under way by many Members

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Weather · Climate · Water

Thank you for your attention

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