

21st meeting of NMI Directors and Member State Representatives
21st - 22nd Oct. 2021

Report of Survey on the Pandemic impact to NMI activities

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Outline

Objectives of the Survey

- The pandemic caused by the novel coronavirus infectious disease has had a great impact on the world. The activities of NMIs have also been affected by COVID-19.
- The survey was carried out to collect information about the impact caused by the pandemic so far and the foreseeable effect it will have on the activities and challenges of NMIs going forward in the post-pandemic world.

Target

NMIs and related institutes of the Member States and Associates to the Metre Convention

Survey period

5th August 2021 – 10th September 2021

Method

Web-form and e-mail

Responses

47 responses were collected.

Respondents (1)

All-Russian Scientific Research Institute for Metrological Service, Rosstandart (VNIIMS)

Azerbaijan Institute of Metrology (AzMI)

Belarussian State Institute for Metrology (BelGIM)

Bureau Haïtien de Normalisation (BHN)

Bureau Luxembourgeois de Métrologie (BLM)

CARICOM Regional Organisation for Standards and Quality (CARICOM)

Center for Measurement Standards, Industrial Technology Research Institute (CMS ITRI)

Central Office of Measures in Poland (Główny Urząd Miar - GUM)

Centro Español de Metrología (CEM)

Centro Nacional de Metrología (CENAM)

Centro Nacional de Metrología de Panamá AIP (CENAMEP AIP)

CSIR National Physical Laboratory of India (NPLI)

Danish Fundamental Metrology Ltd (DFM)

Emirates Metrology Institutes (EMI)

Federal Institute of Metrology (METAS)

Instituto Nacional de Metrologia, Qualidade e Tecnologia (INMETRO)

We really appreciate your cooperation in completing this survey.

Respondents (2)

Istituto Nazionale di Ricerca Metrologica (INRiM)

Korea Research Institute of Standards and Science (KRISS)

Laboratoire de métrologie du Ministère de la Défense Nationale (DEFNAT)

Laboratoire National de Métrologie et d'Essais (LNE)

Laboratorio Costarricense de Metrología (LCM)

Laboratorio Tecnológico del Uruguay (LATU)

Measurement Standards Laboratory of New Zealand (MSL)

Metrology Institute of the Republic of Slovenia (MIRS)

Montenegrin Bureau of Metrology (MBM)

National Institute of Metrology, China (NIM)

National Institute of Standards (NIS)

National Institute of Standards and Technology (NIST)

National Measurement Institute, Australia (NMIA)

National Metrology Center of Cambodia (NMC)

National Metrology Centre, Agency for Science, Technology and Research (NMC, A*STAR)

National Metrology Institute of Japan (NMIJ/AIST)

We really appreciate your cooperation in completing this survey.

Respondents (3)

National Metrology Institute of Malaysia (NMIM)

National Metrology Institute of South Africa (NMISA)

National Metrology Institute of Turkey (UME)

National Metrology Laboratory of the Philippines (NMLPHIL)

National Physical Laboratory (NPL)

National Physical Laboratory of Israel (INPL)

National Research Council of Canada (NRC)

Norwegian Metrology Service (Justervesenet)

Physikalisch-Technische Bundesanstalt (PTB)

RISE Research Institutes of Sweden AB (RISE)

RSE Kazhakstzan Institute of Standardization and Metrology (KazStandard)

Slovak Institute of Metrology (SMU)

State Office for Metrology (DZM)

VSL Dutch Metrology Institute (VSL B.V.)

VTT Technical Research Centre of Finland Ltd, Centre for Metrology (MIKES)

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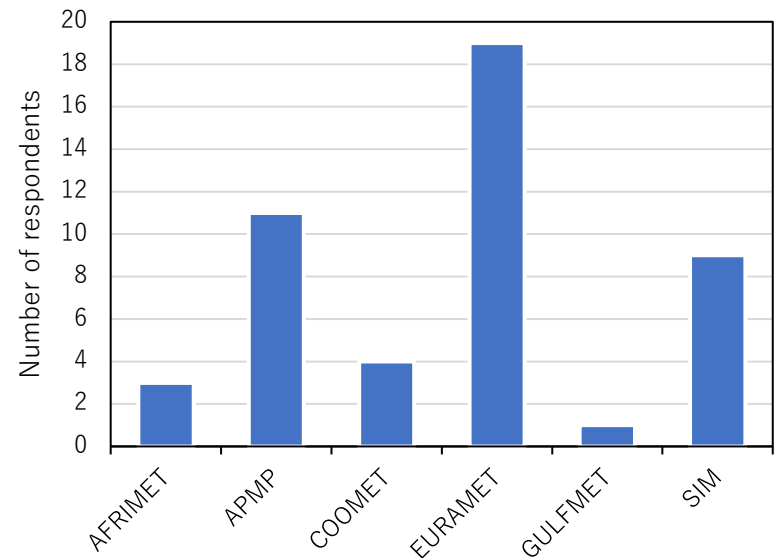
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Method

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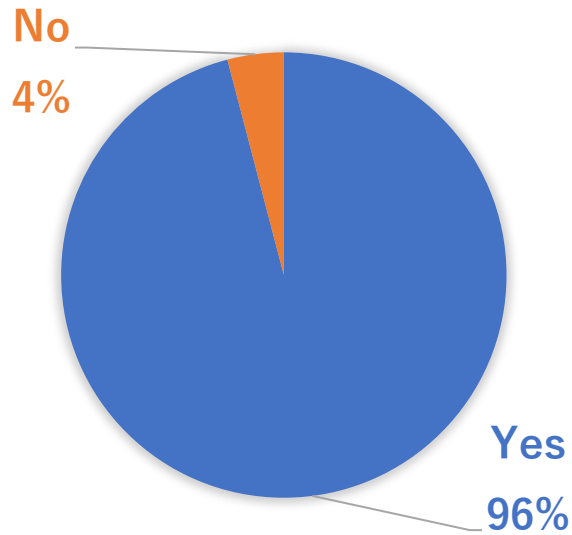
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About the influence of the pandemic (1/8 & 2/8): Situation

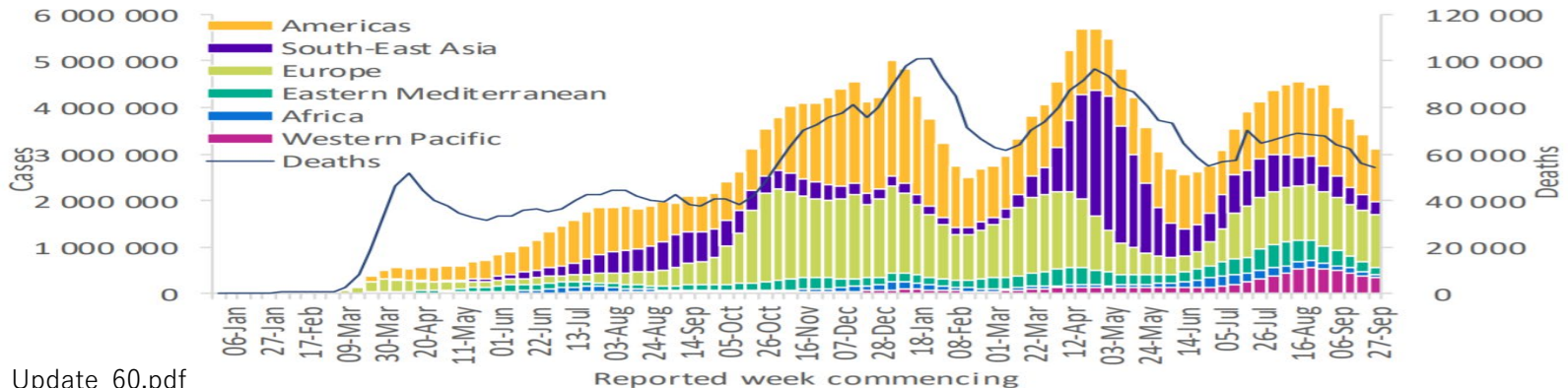
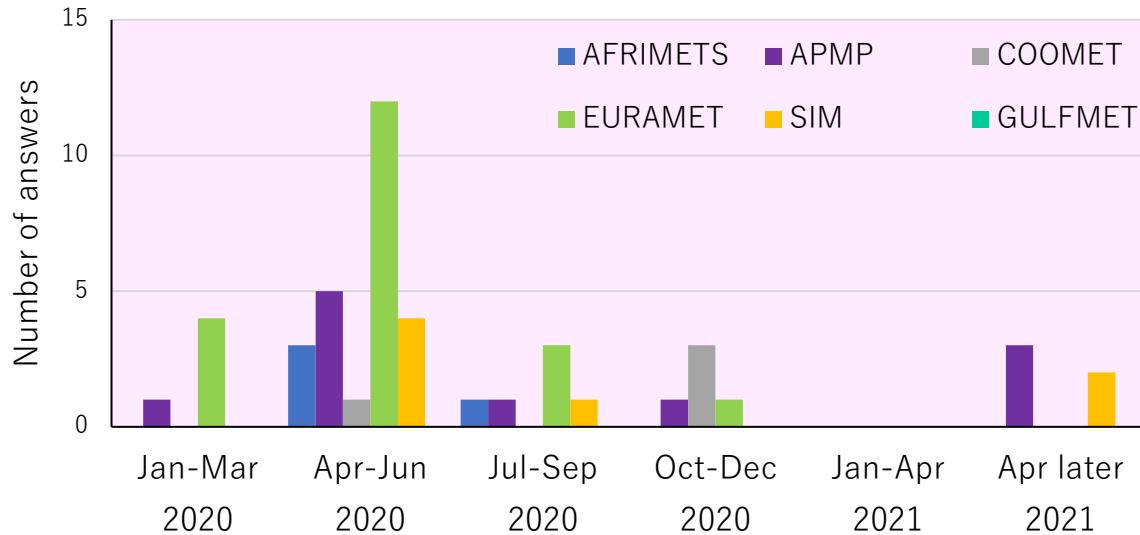
Q5. Is your institute affected by the COVID-19 pandemic?



Most of institutes were affected by the COVID-19 pandemic.

About the influence of the pandemic (1/8 & 2/8): Situation

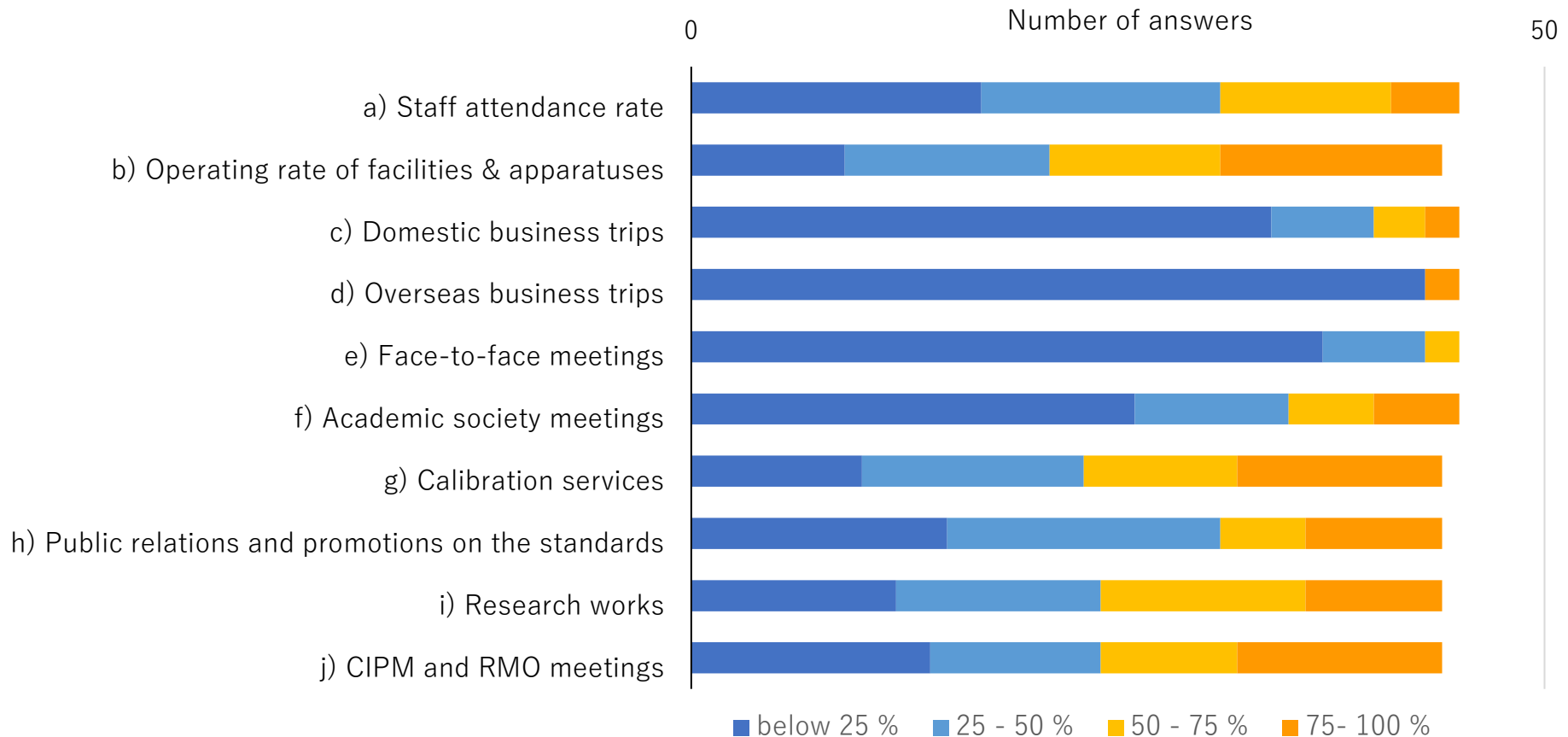
Q6. When did your institute's activities get into the worst situation by the COVID-19 pandemic?



WHO document, 20211005_Weekly_Epi_Update_60.pdf

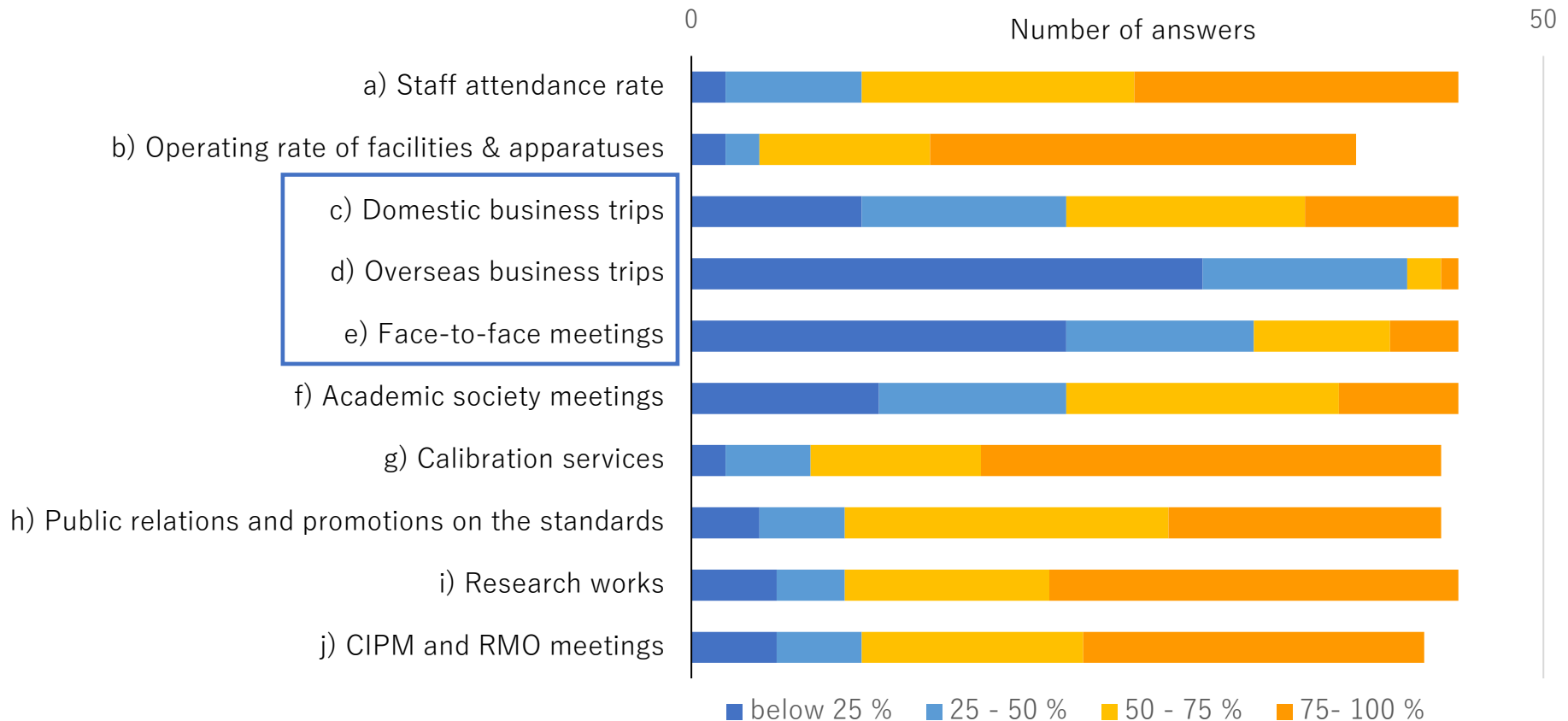
About the influence of the pandemic (2/8): Situation

Q7. What percentage is **the activity of your institute at the worst situation** caused by the COVID-19 pandemic described as in the Q6, assuming the activities before the COVID-19 pandemic are rated at 100 %?



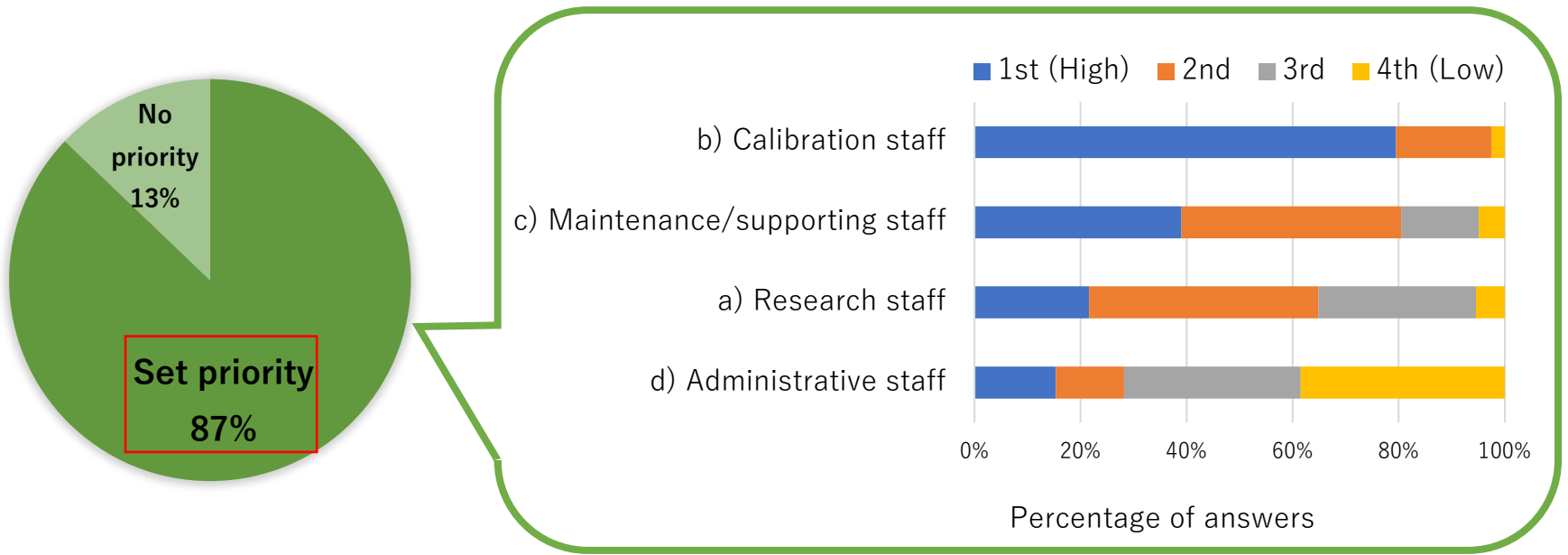
About the influence of the pandemic (2/8): Situation

Q8. What percentage is **the activity of your institute as of July 2021,** assuming the activities before the COVID-19 pandemic are rated at 100 %? This asks a question to know recovery status.



About the influence of the pandemic (3/8) : Activities of overall institute

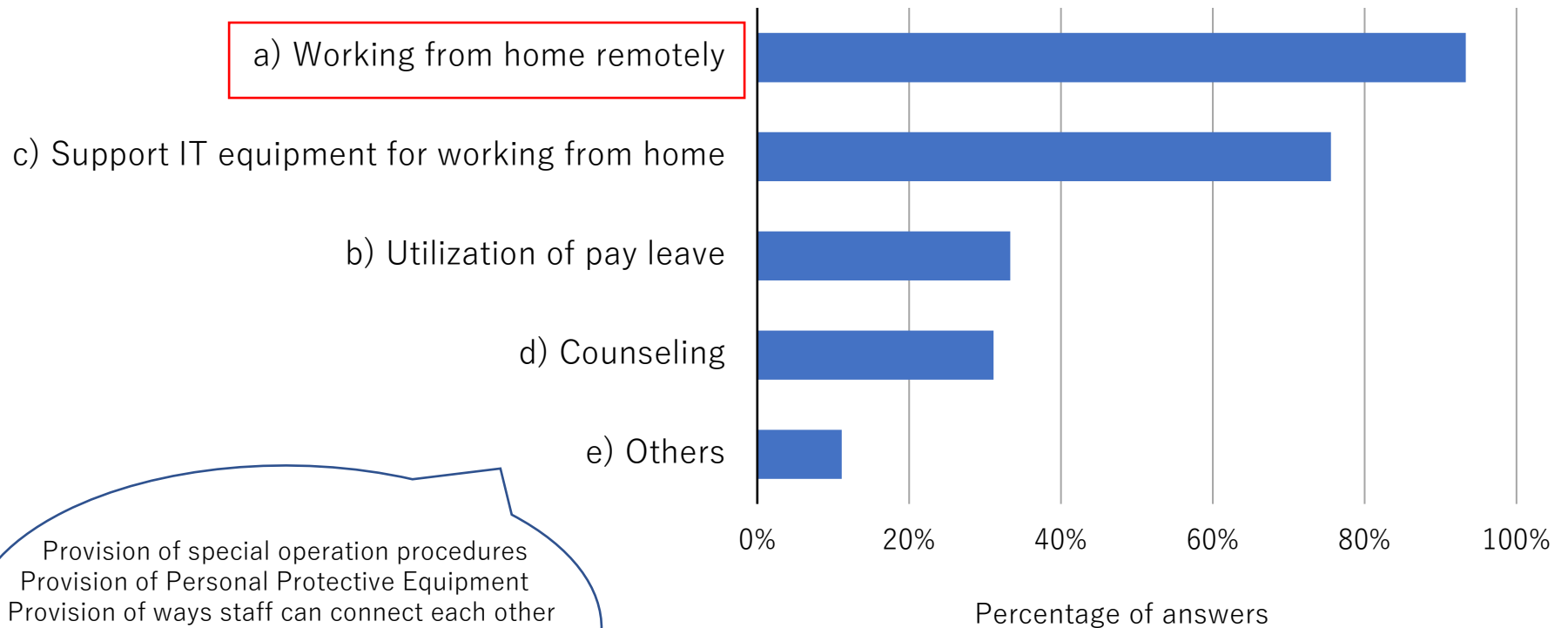
Q9. About staff attendance, please answer priorities if your institute set priorities of staff attendance.



Most of institutes set priorities of staff attendance.

About the influence of the pandemic (3/8) : Activities of overall institute

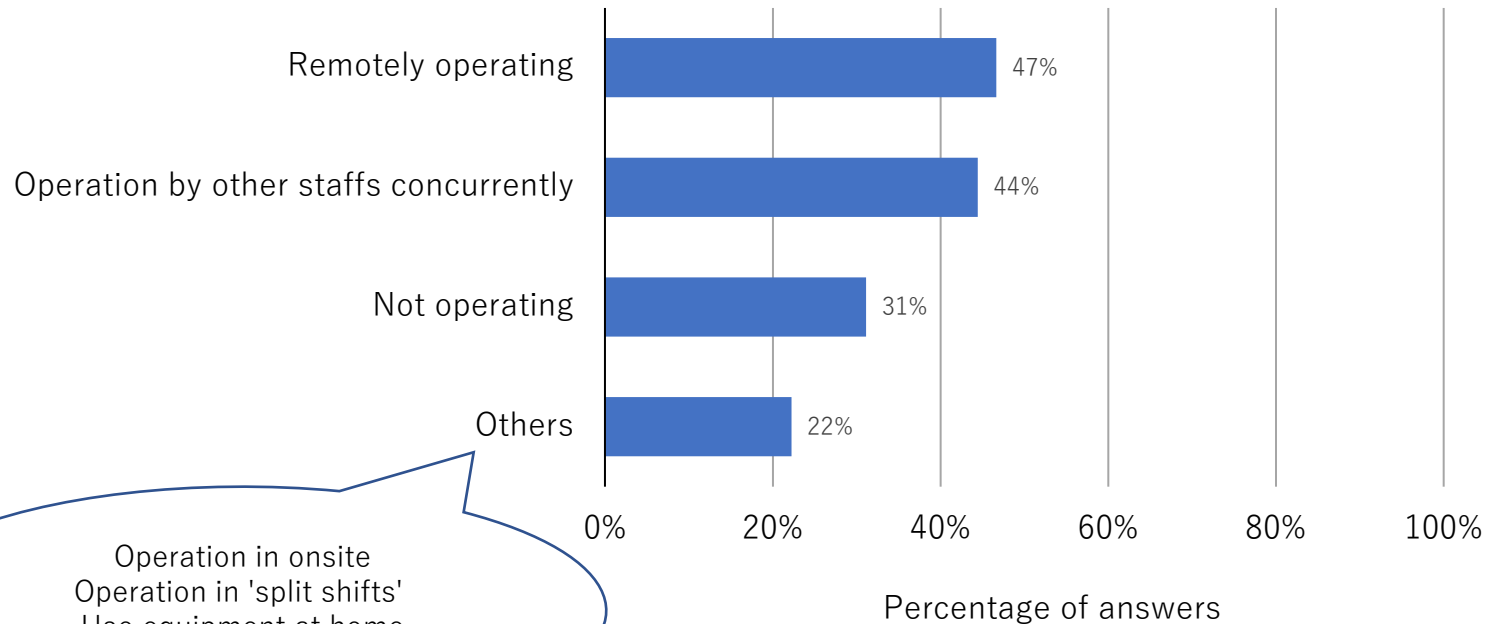
Q10. About staff support, what kind of measures did your institute take? (multiple answers allowed)



Provision of special operation procedures
 Provision of Personal Protective Equipment
 Provision of ways staff can connect each other
 Offer redeployment to different priorities for staff
 Standby mode of urgency as required
 Digitalization of some administrative services

About the influence of the pandemic (3/8) : Activities of overall institute

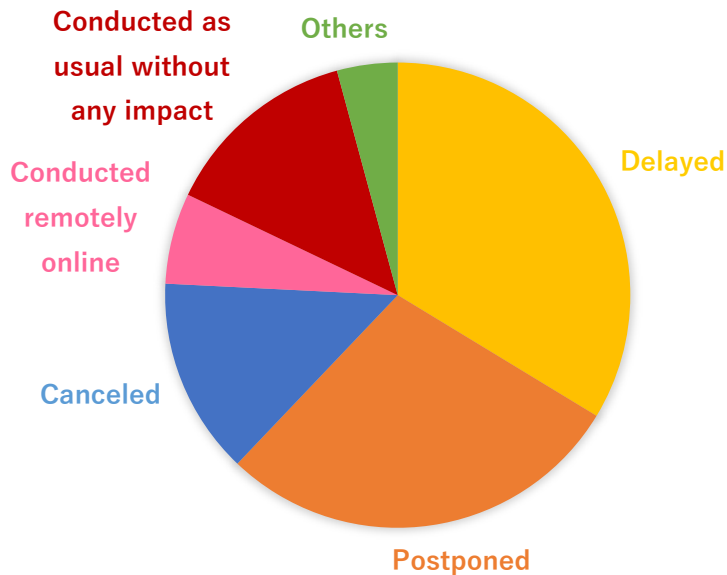
Q11. About operation of equipment and apparatuses, what kind of measures did your institute take? (multiple answers allowed)



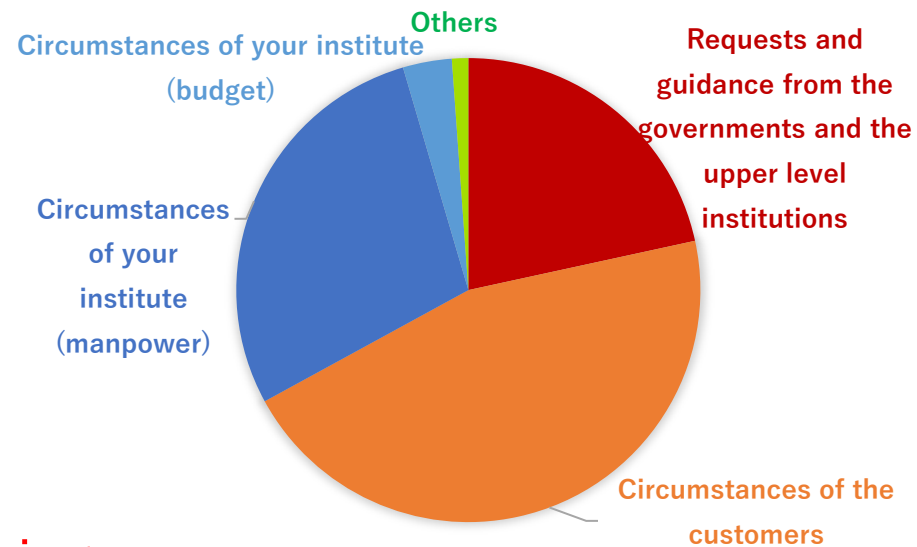
Operation in onsite
Operation in 'split shifts'
Use equipment at home

About the influence of the pandemic (4/8) : Calibration service

Q14. What kind of actions did your institute take on calibration service?
(multiple answers allowed)



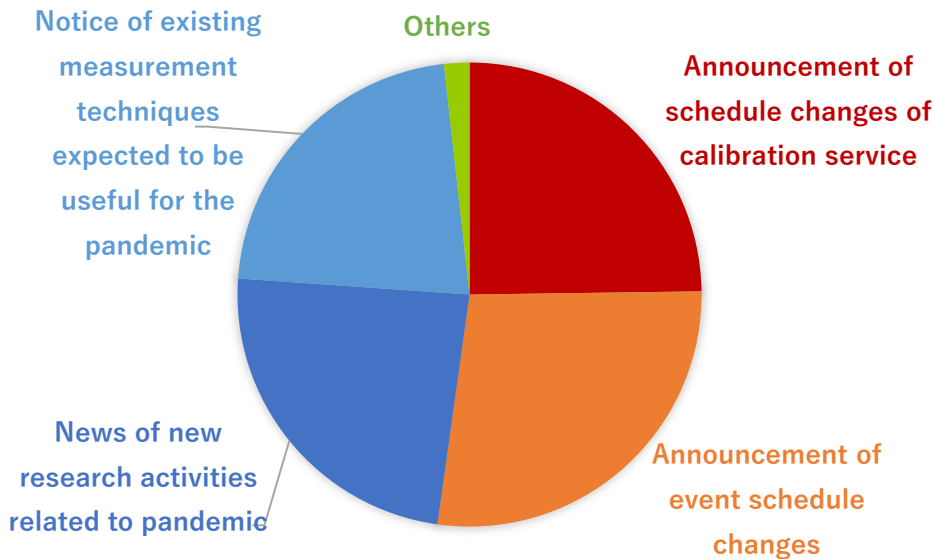
Q15. Please select two main factors of the above pandemic impacts on calibration service supply.



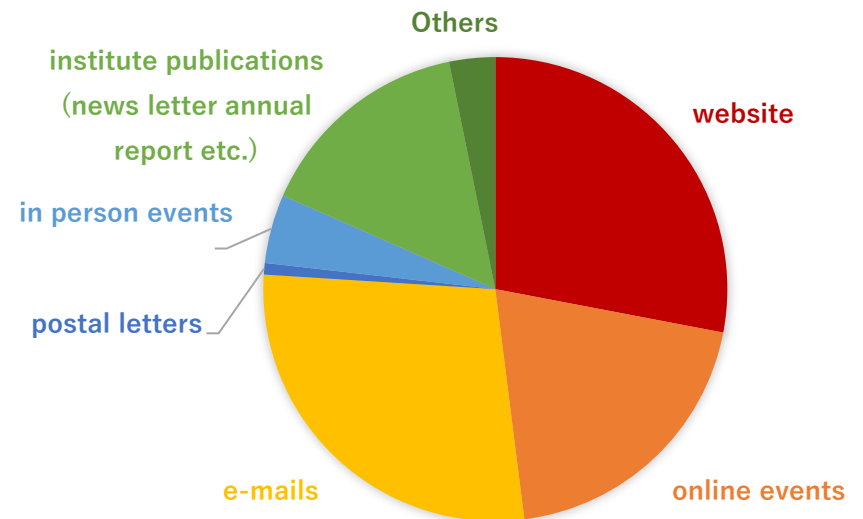
Calibration services have kept supplying.

About the influence of the pandemic (5/8) : Public relations and promotions of the standard

Q16. What kinds of information related to pandemic were transmitted from your institute? (multiple answers allowed)



Q17. How did your institute transmit the information on the influence by the pandemic? (multiple answers allowed)

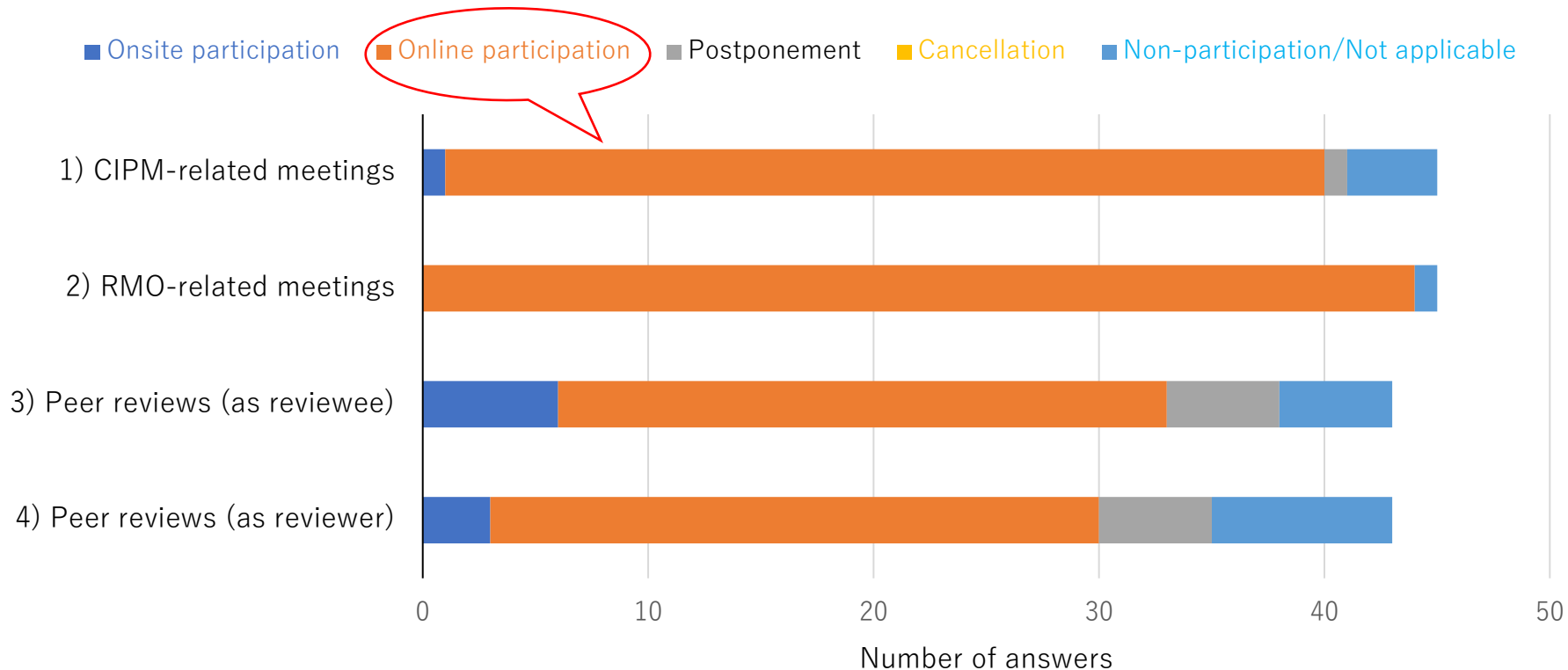


Information have transmitted by mainly online tools.

About the influence of the pandemic (6/8) : CIPM and RMO

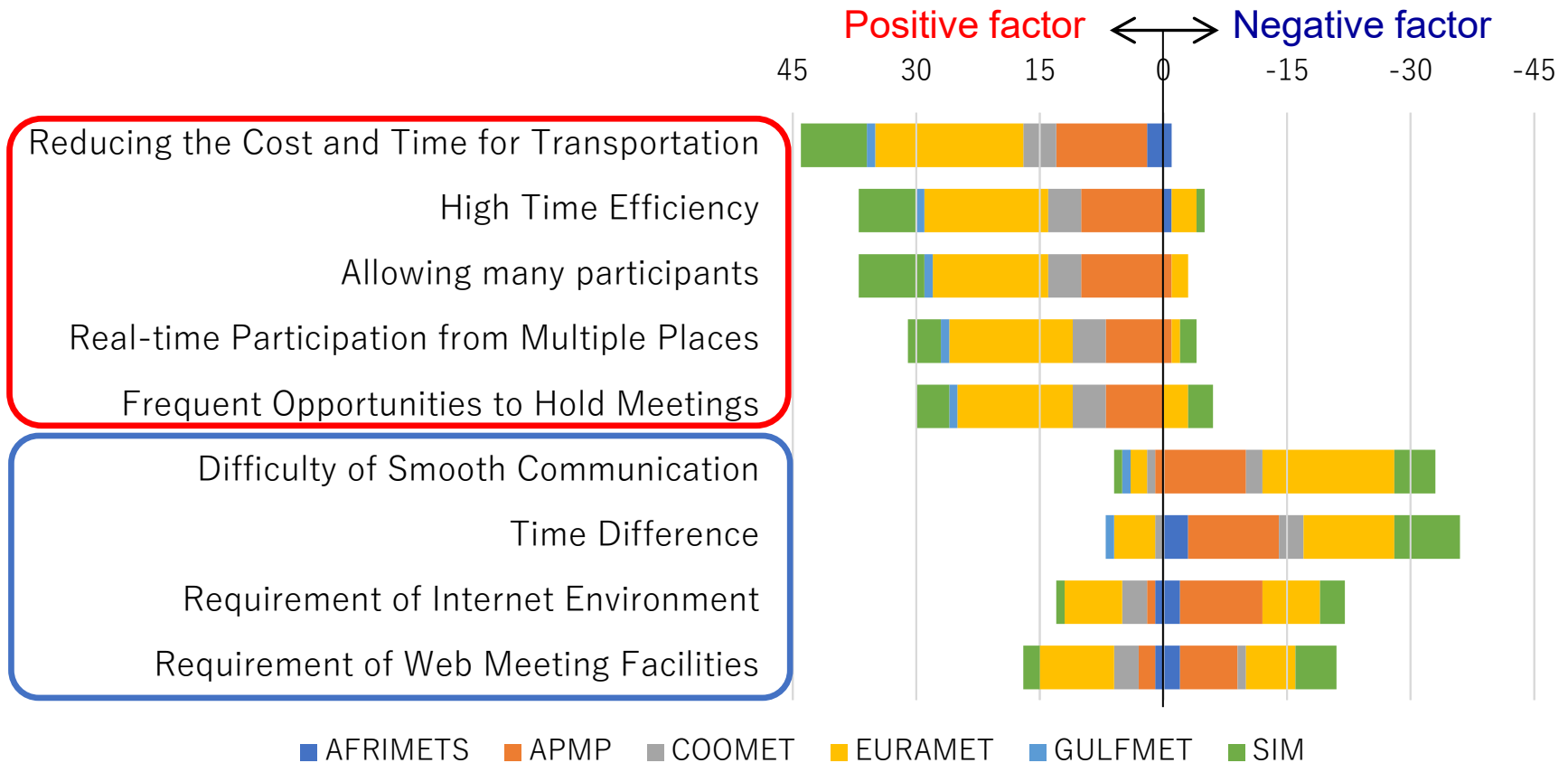
Q18. What kinds of events did your institute participate in? And how did you participate in them?

Meetings were held as online meetings. Peer reviews are implemented by online but also partially onsite.



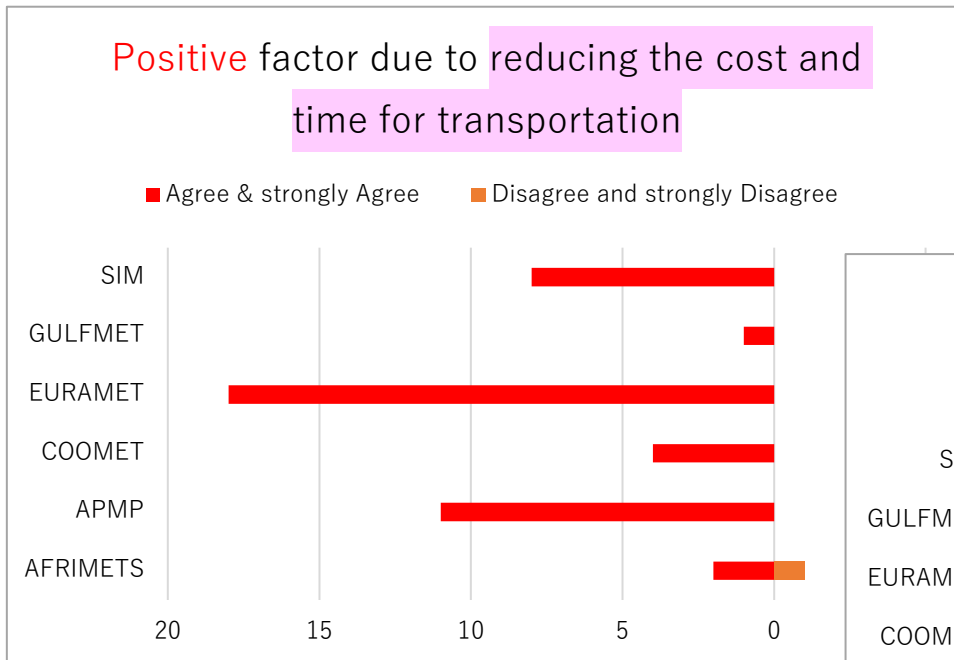
About the influence of the pandemic (6/8) : CIPM and RMO

Q19. What are your institute's thoughts on **online meetings**? Please answer the following questions about online meetings if your institute has experienced during the pandemic.

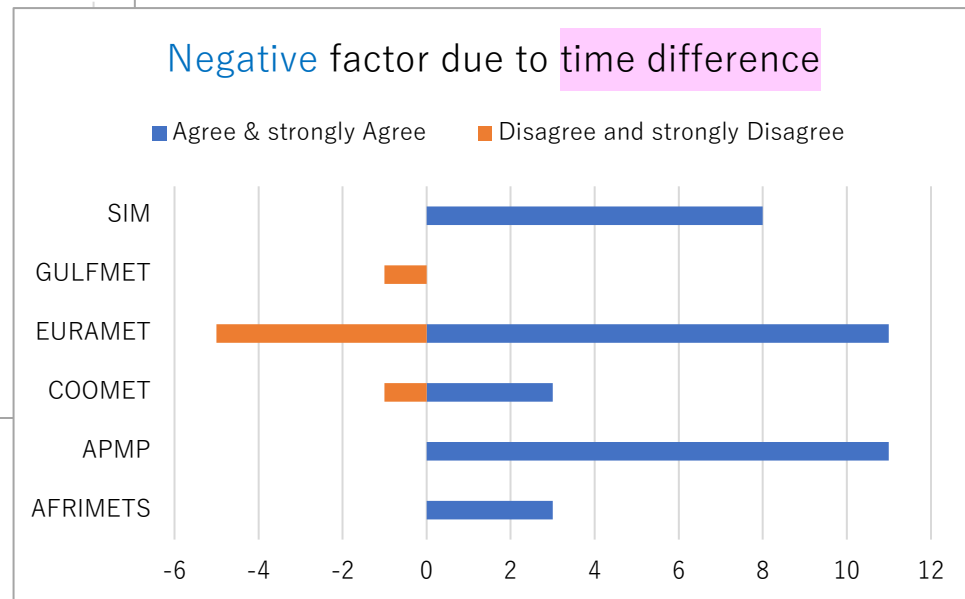


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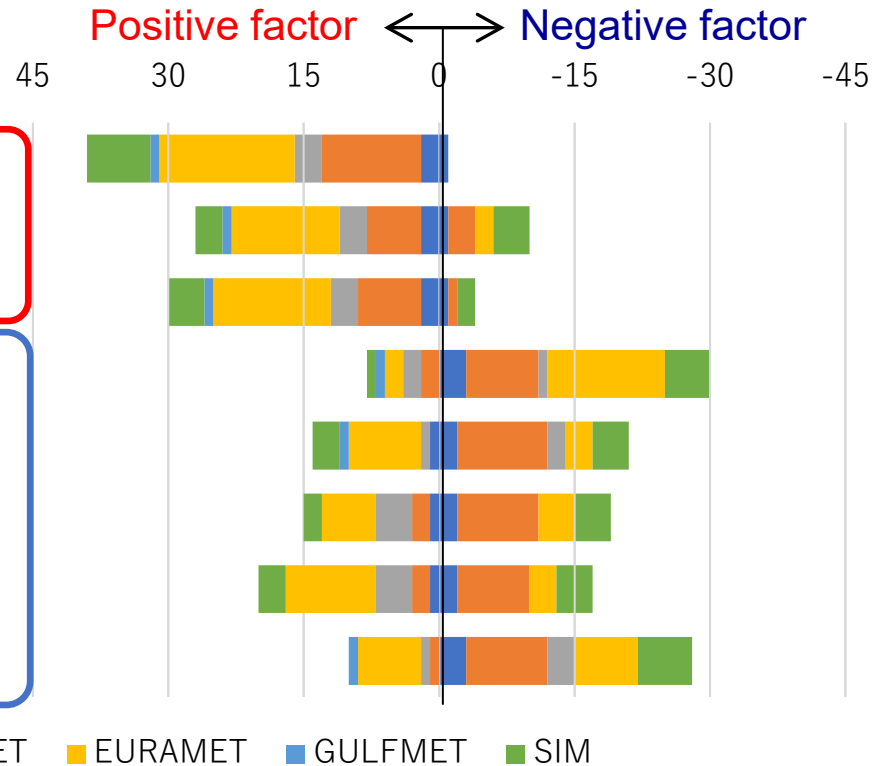
Online meetings are useful.
However, some regional feelings are different.



About the influence of the pandemic (6/8) : CIPM and RMO

Q20. What are your institute's thoughts on **online peer reviews as a reviewee**? Please answer the following questions about online peer reviews if your institute has experienced during the pandemic.

- Reducing the Cost and Time for Transportation
- High Time Efficiency
- Participation of Reviewers from Multiple Places
- Difficulty of Smooth Communication
- Time Difference
- Requirement of Internet Environment
- Requirement of Web Meeting Facilities
- More preparatory meetings and documents

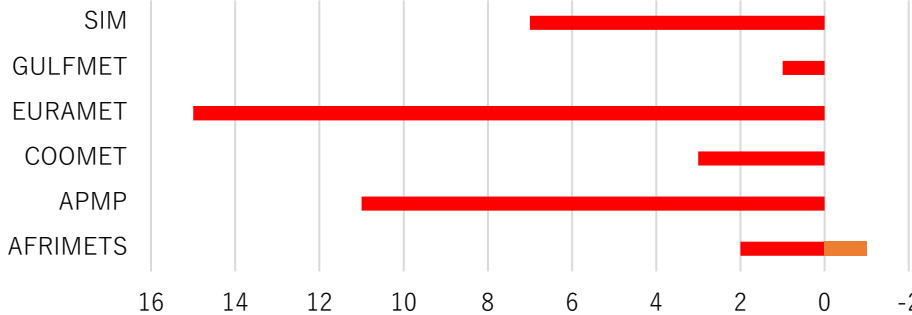


About the influence of the pandemic (6/8) : CIPM and RMO

Q20. What are your institute's thoughts on **online peer reviews as a reviewee**? Please answer the following questions about online peer reviews if your institute has experienced during the pandemic.

Positive factor due to reducing the cost and time for transportation

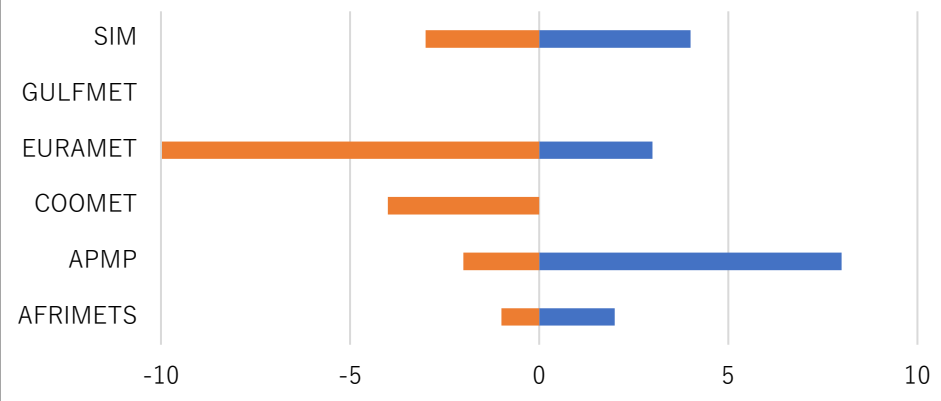
■ Agree & strongly Agree ■ Disagree and strongly Disagree



Online meetings are useful.
However, some regional feelings are different.

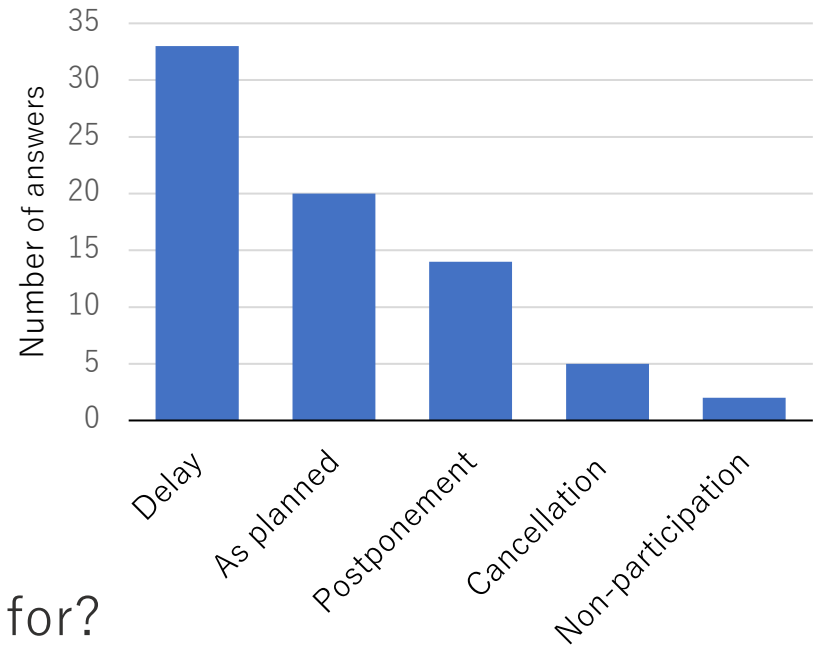
g) Negative factor due to time difference

■ Agree & strongly Agree ■ Disagree and strongly Disagree

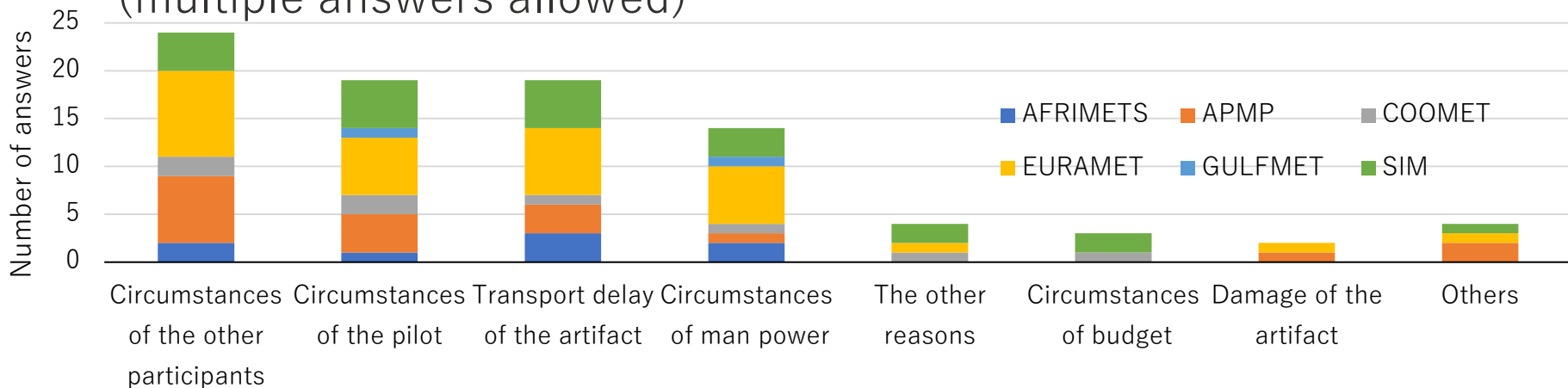


About the influence of the pandemic (6/8) : CIPM and RMO

Q21. Did your institute **participate in international comparisons**? And how did you participate in them?

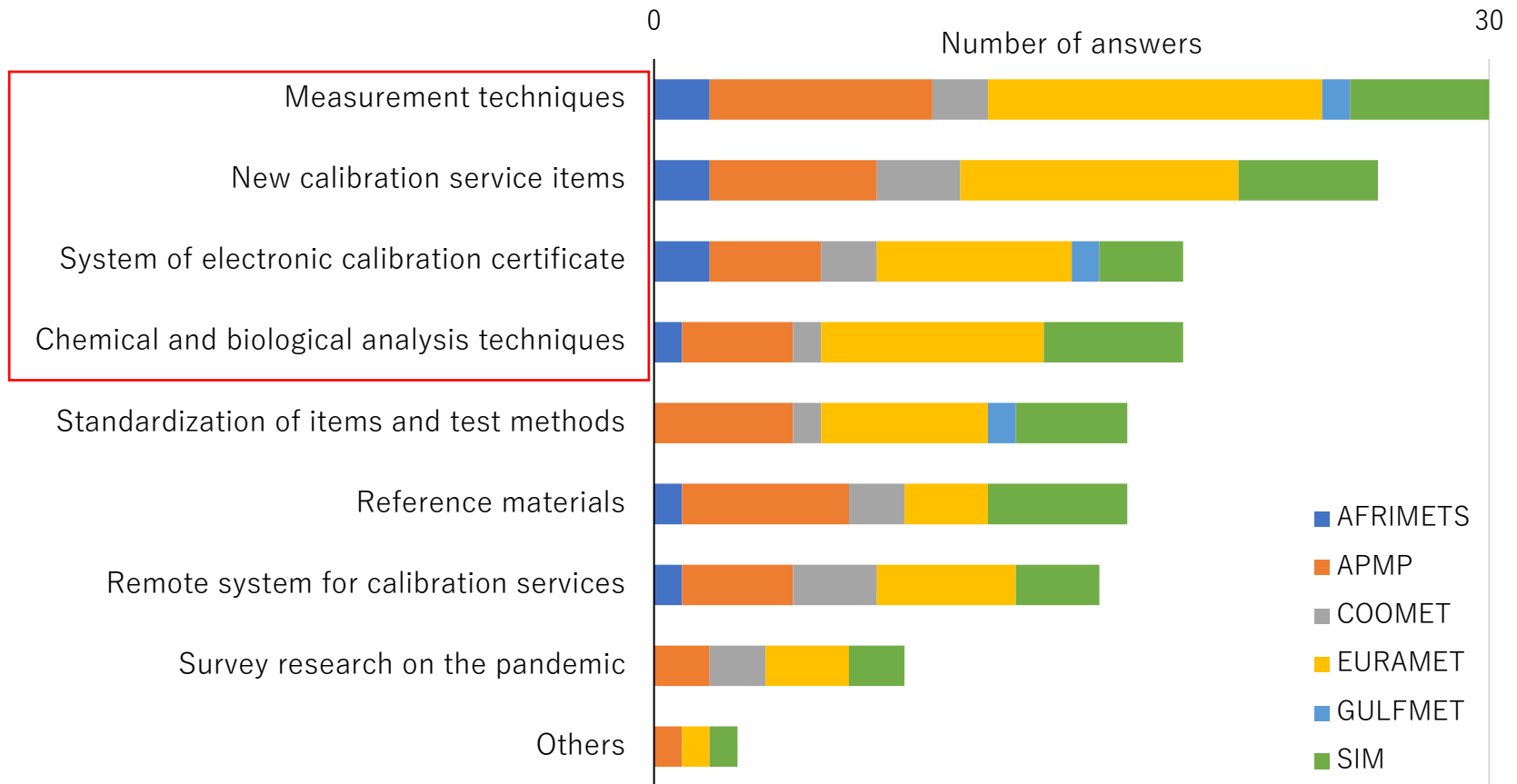


Q22. If you answered “delay, postponement, or cancellation” on question 20 of the international comparisons, what are **the reasons** for? (multiple answers allowed)



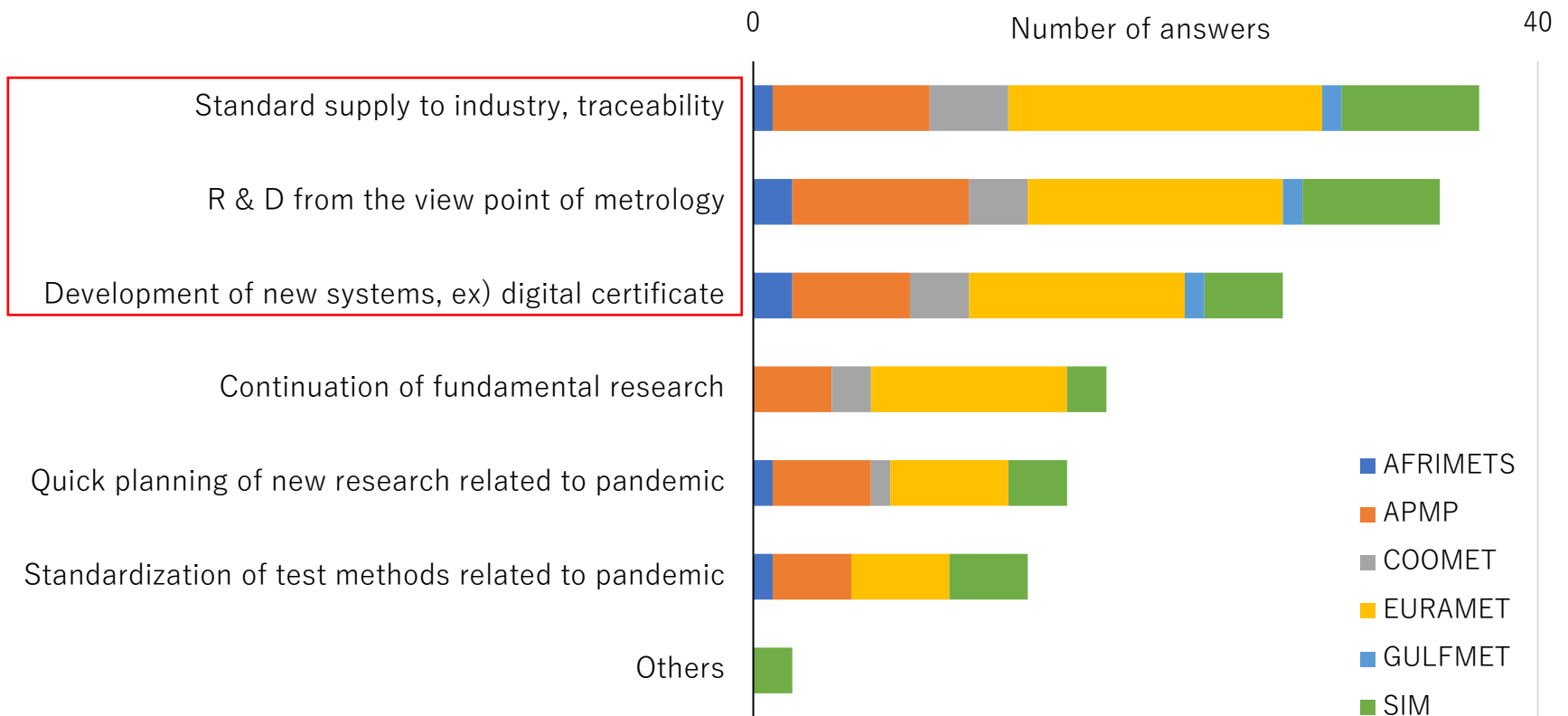
About the influence of the pandemic (7/8) : Required research works

Q23. Which were **strongly requested among new-demand research work** as NMI under pandemic? (multiple answers allowed)



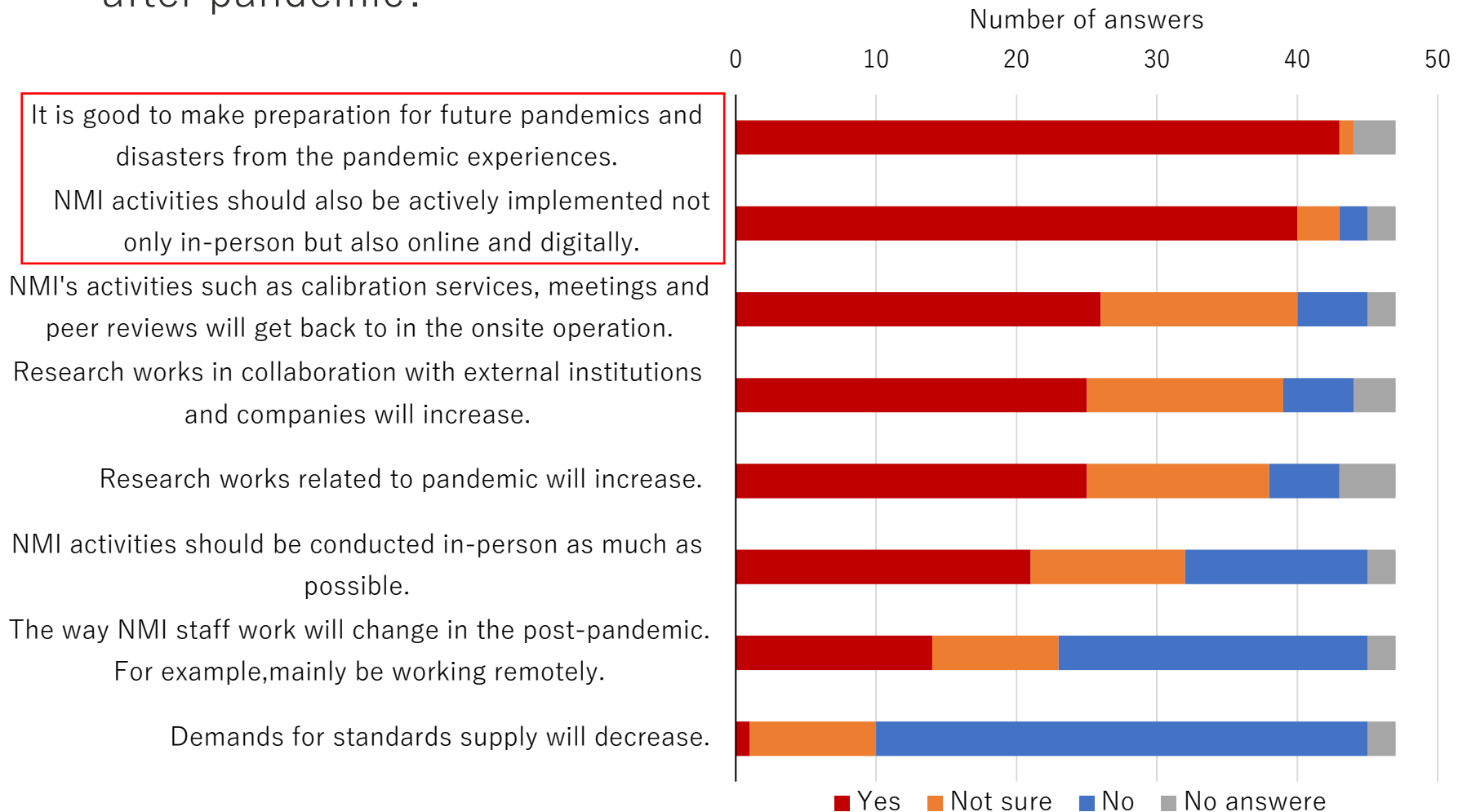
About the influence of the pandemic (8/8) : Role of NMI

Q24. Taking the impact from the pandemic into consideration, what are **the important roles as NMI**. Please select three main roles.



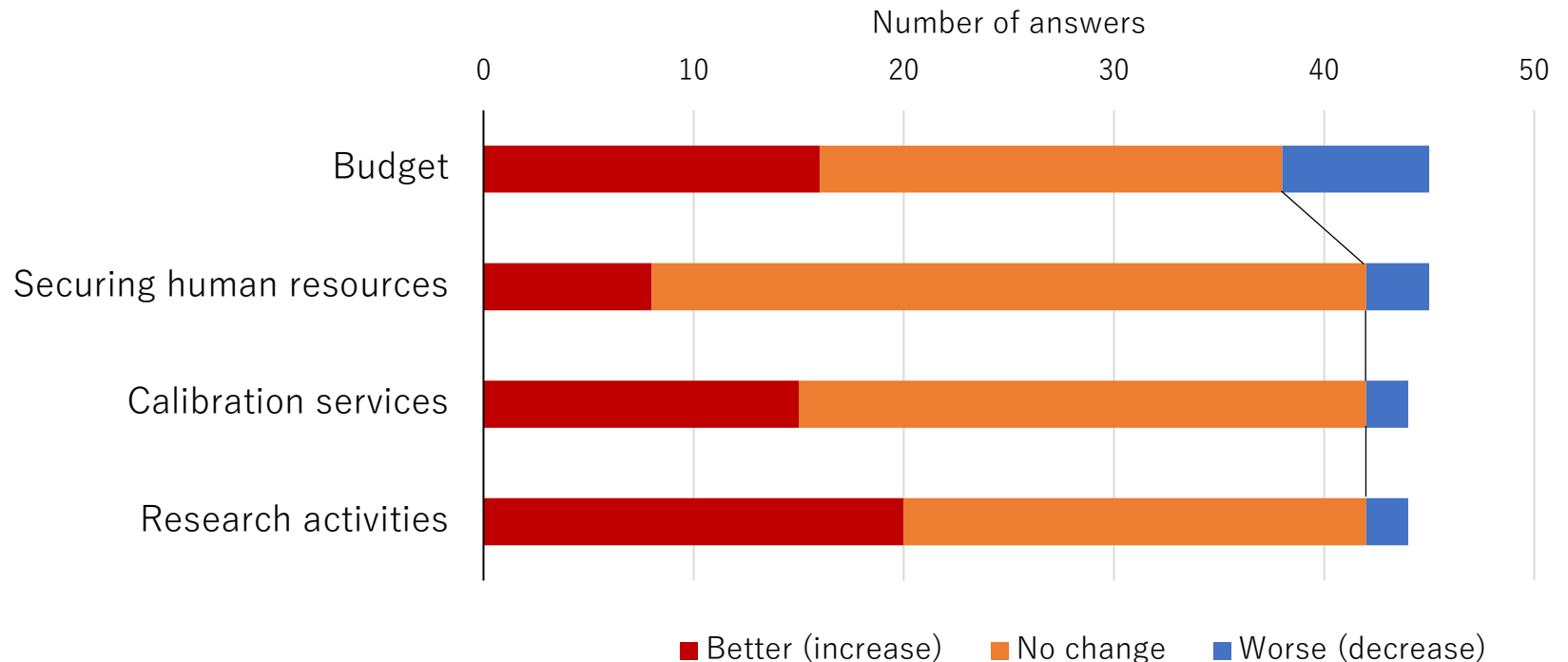
About NMI's "new normal" in the post-pandemic (1/2)

Q25 What are your institute's thoughts on NMI's "new normal" after pandemic?



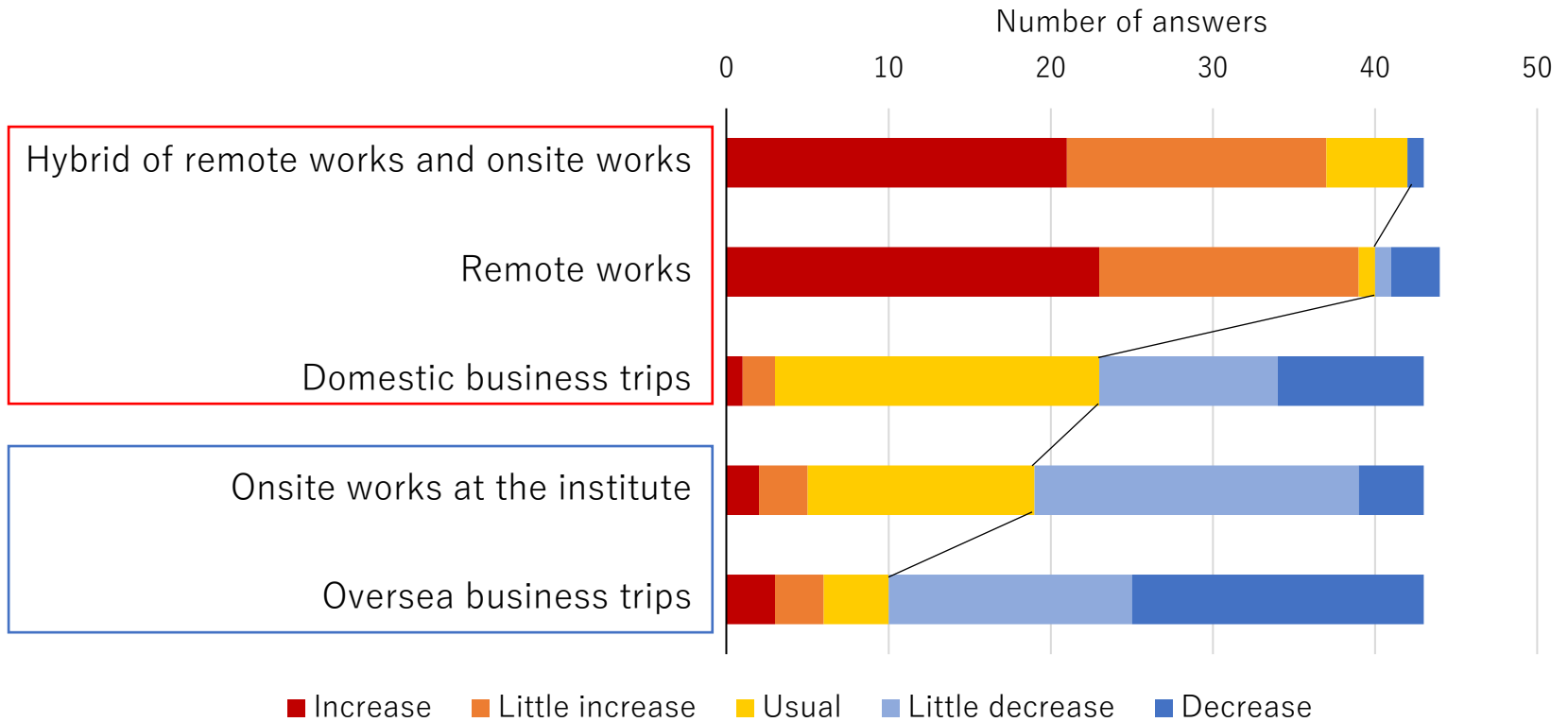
About NMI's “new normal” in the post-pandemic (2/2)

Q26. What does your institute expect in “the new normal” to be better than before the pandemic in the operation and activities as NMI?



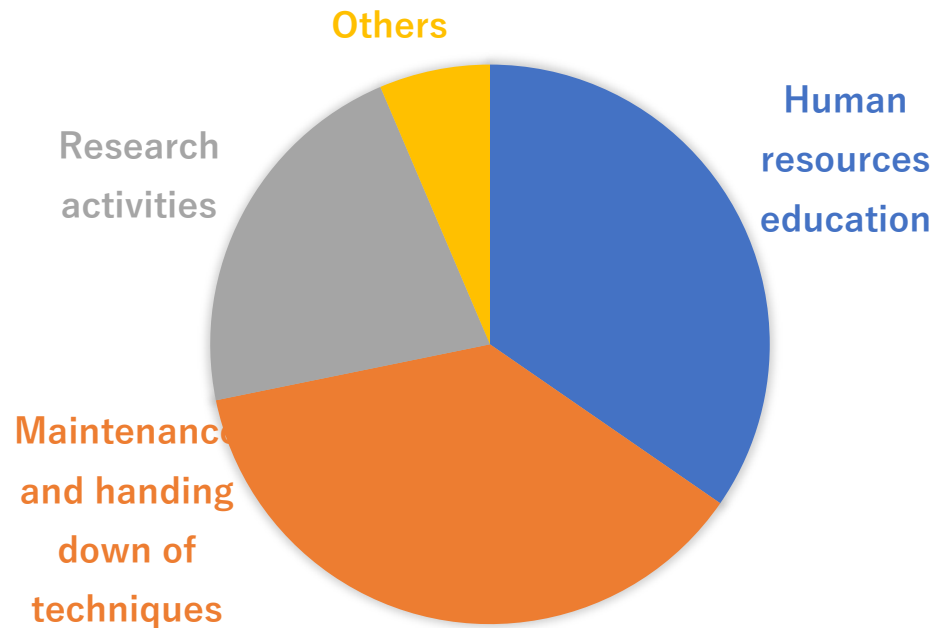
About NMI's "new normal" in the post-pandemic (2/2)

Q27. What are the possible ways of working at your institute in the post-pandemic world compare before the pandemic?



About NMI's “new normal” in the post-pandemic (2/2)

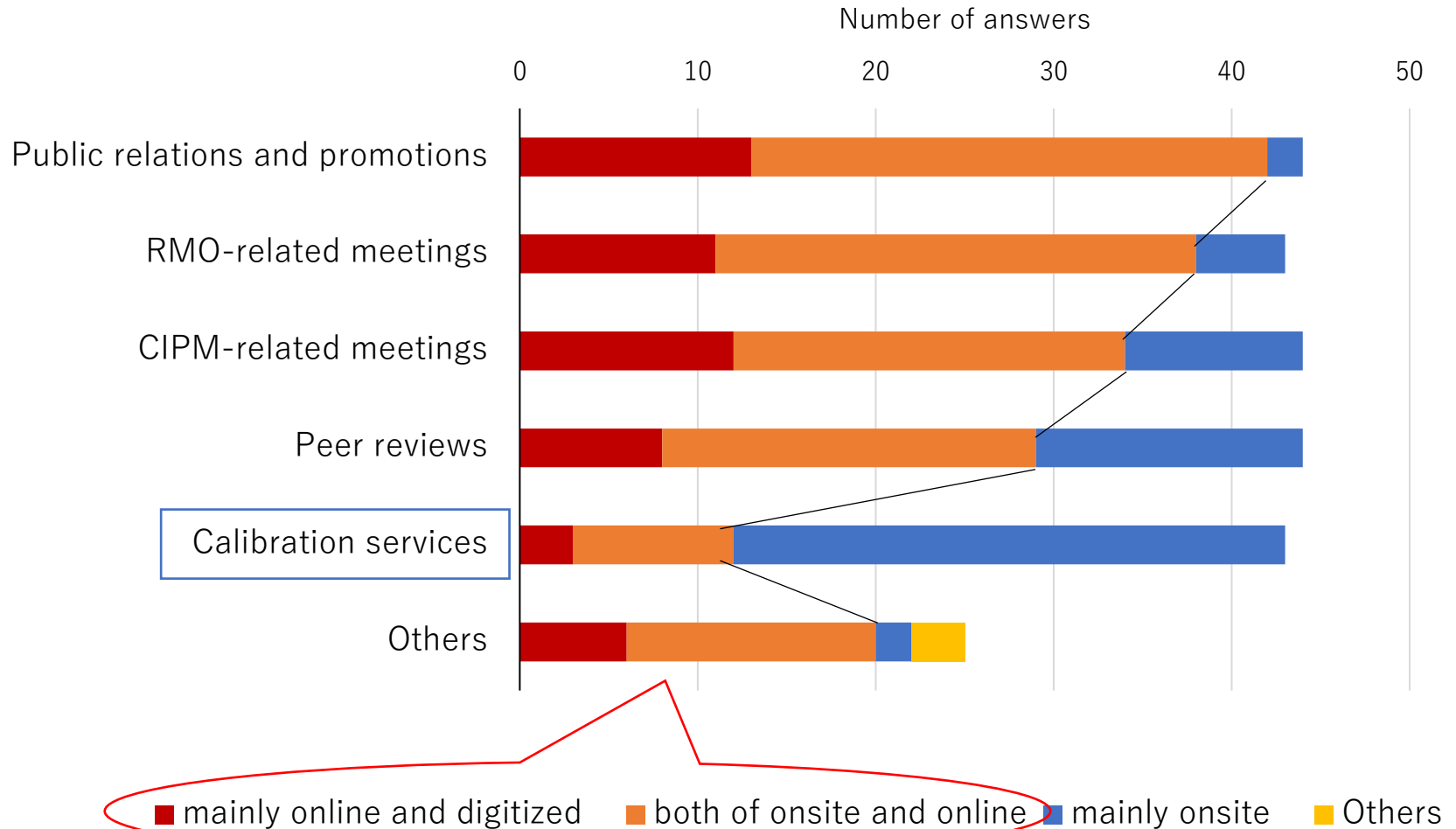
Q28. What are the difficulties or concerns about the impact in your institute when the Q26 and Q27 actually are implemented?
(multiple answers allowed)



Human resources education and Maintenance and handing down of techniques are concerned when decrease in person activities.

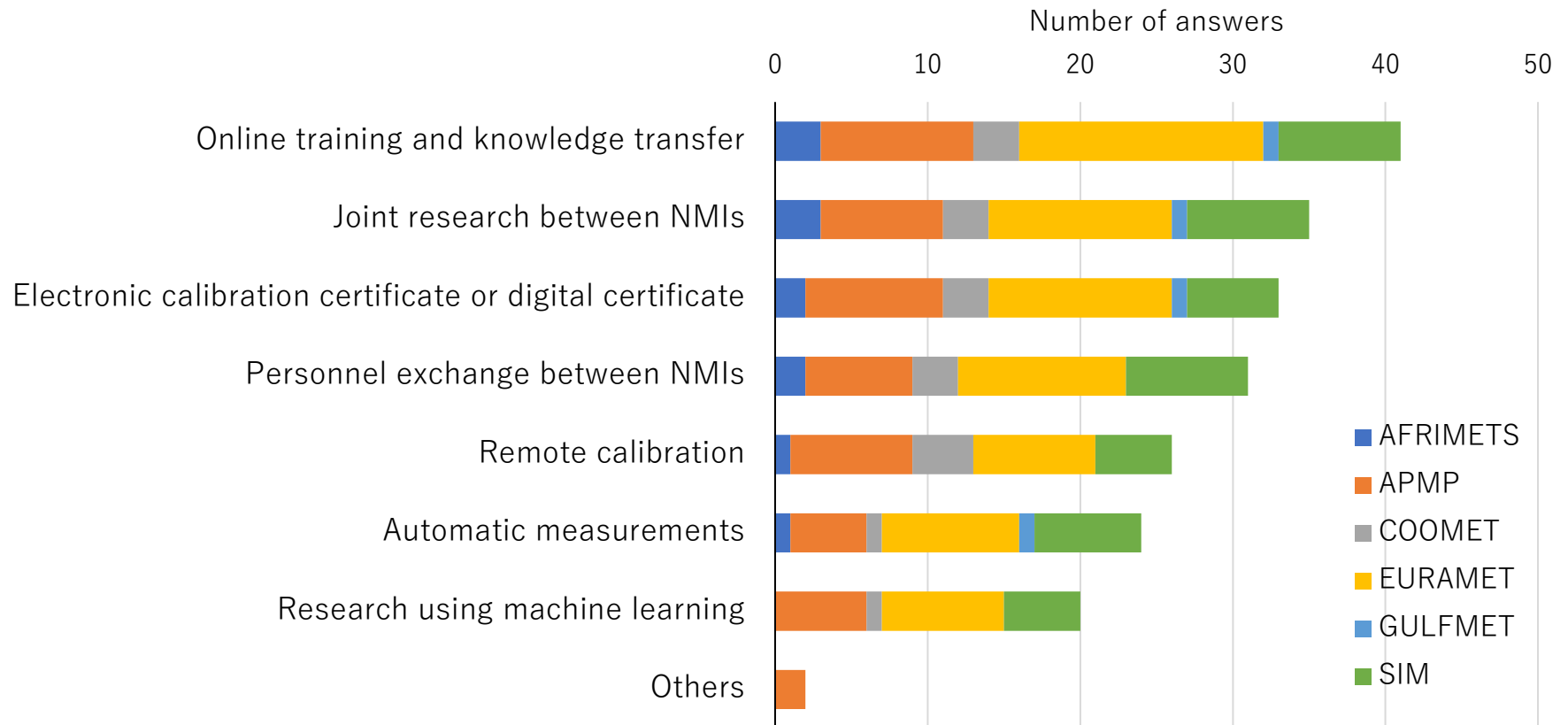
About NMI's "new normal" in the post-pandemic (2/2)

Q30. How should be carried out below NMI activities by?



About NMI's “new normal” in the post-pandemic (2/2)

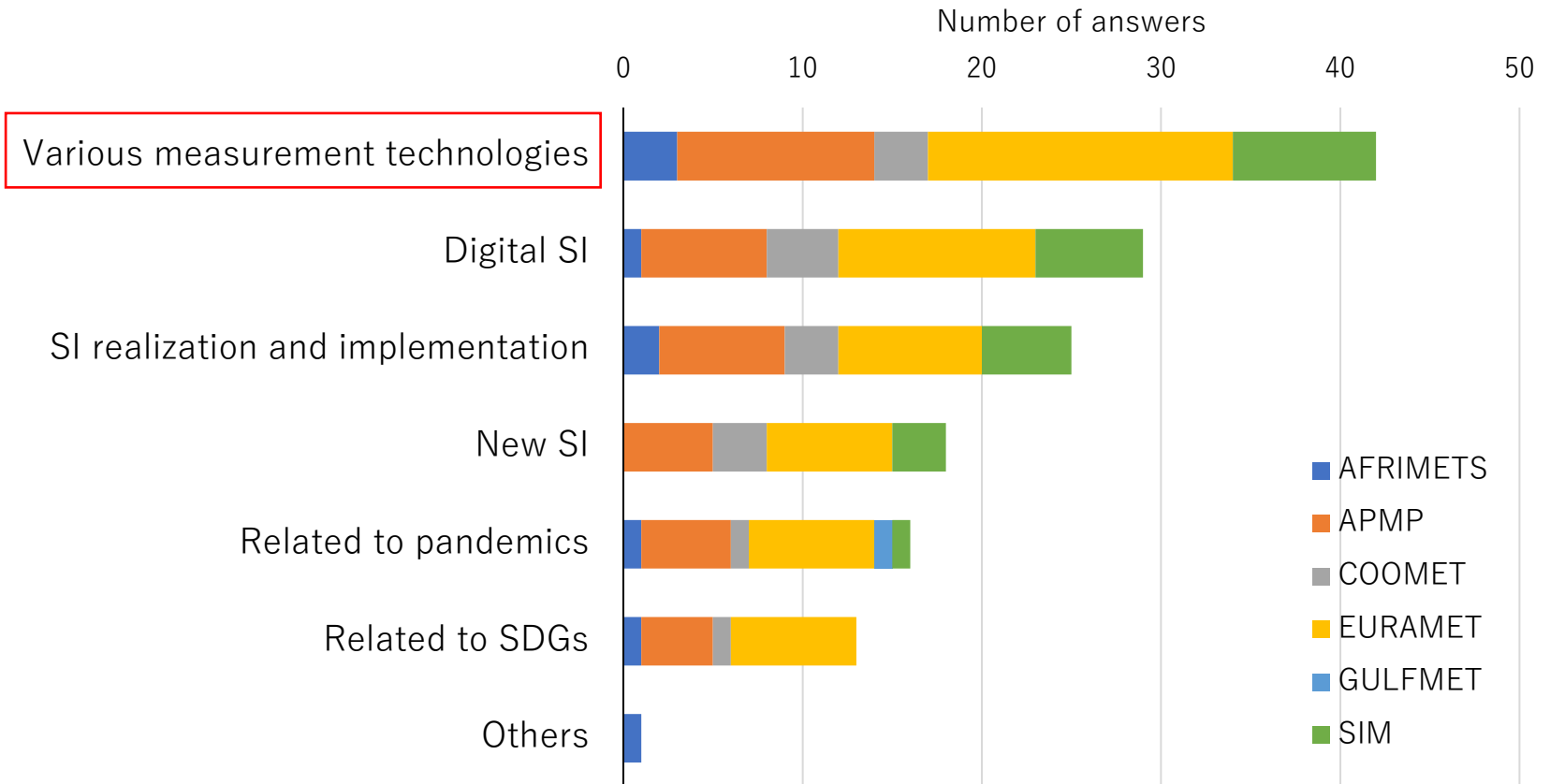
Q32. Which of the following activities is your institute interested in the post-pandemic? (multiple answers allowed)



Activities between NMIs with in person, remote certifications and calibrations are interested.

About NMI's "new normal" in the post-pandemic (2/2)

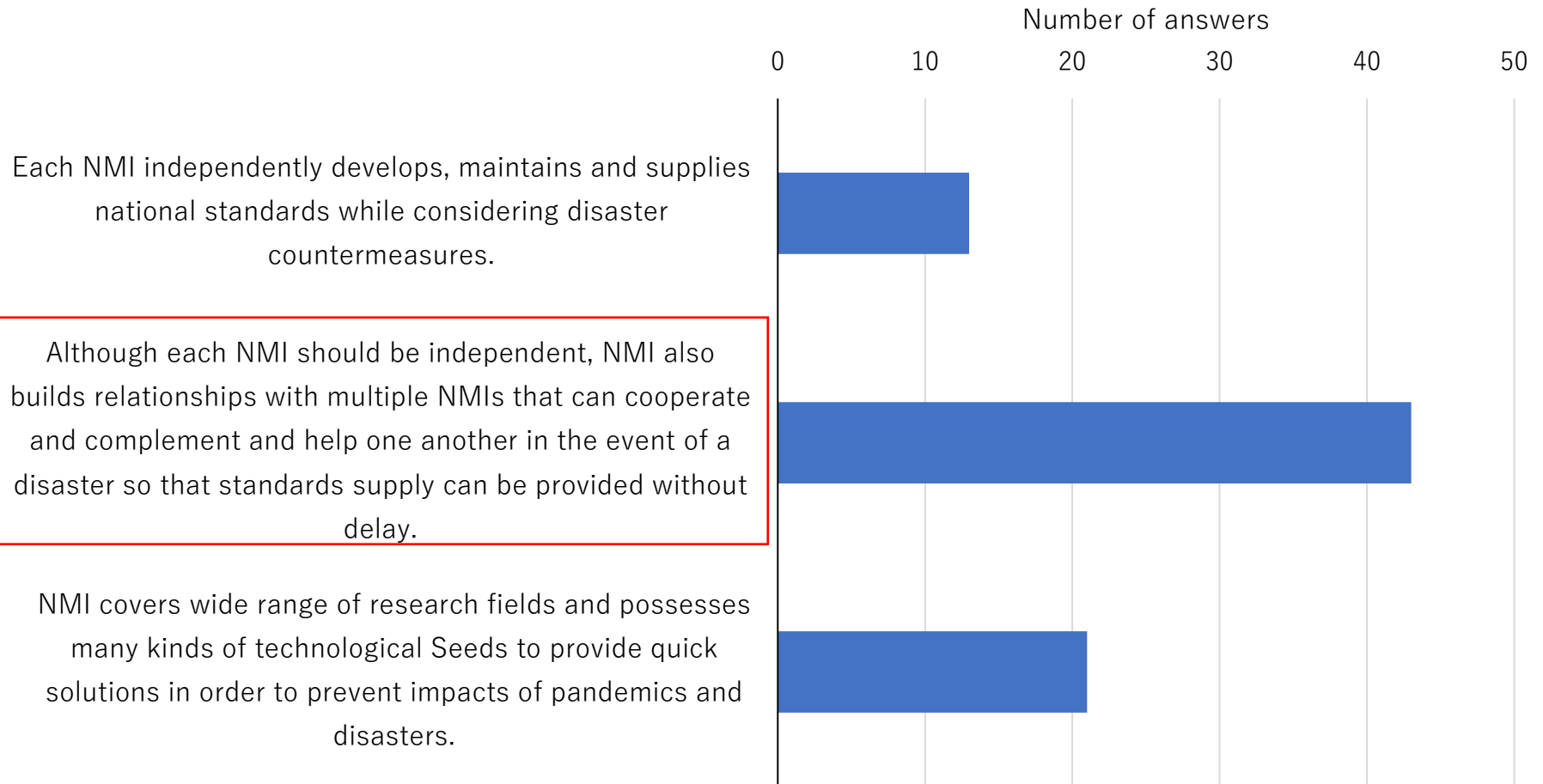
Q33. Select **research that will be prioritized**. (multiple answers allowed)



Development of measurement technologies seems to be important for NMIs.

About NMI's “new normal” in the post-pandemic (2/2)

Q34. What kind of preparation is necessary for future pandemics and disasters? (multiple answers allowed)



Summary (1)

Most of institutes were affected by the COVID-19 pandemic.

- Impacts link the pandemic epidemic situation.
- Some activities of institutes are currently on a recovery trend.
- Especially, activities in person were strongly influenced.

Institutes are taking measures under the pandemic to keep their activities.

- Priority of staff attendance are set.
- Equipment and facilities are operated remotely or in shift system.
- Calibration services tried to continuously keep supplying.
- Information are transmitted by website, online events, e-mail...etc.
- Online meetings and online peer reviews were used.
- Online meetings and online reviews have issues. ex.) time difference, environment and facilities for web meeting, preparatory meetings and documents, difficulty of smooth communications.

Summary (2)

The role of NMI under the Pandemic

- Supplying of standard and traceability are the most important and essential.
- Developments of new measurement and analysis techniques and new calibration items were required.

For the post-pandemic

- We will take advantage of online meetings and hybrid meetings.
- Onsite activities are essential.
- NMI's activities are centered on calibration services, ensuring traceability, and developing measurement technology that meets needs.
- Something are needed to prepare for a pandemic or disaster.
- It is necessary that NMI builds relationships with multiple NMIs that can cooperate and complement and help one another in the event of a disaster so that standards supply can be provided without delay.

Proposal of issues according to the result

- We know that online meetings are useful. **Isn't it necessary to make mutual efforts to considering smooth communication, time difference and online environment?**
- Online is not perfect for peer reviews and calibrations. **What we do and what we can to develop complementary technologies for them?**
- We know that onsite meetings are also important. NMIs have kept good relationships between NMIs and mutual understanding between regions based on the CIPM-MRA under the pandemic. **Is there any concerns that the decrease of face-to-face meetings widen the regional disparity and poor communication?**
- Supplying of standard and traceability, developments of measurement and analysis techniques, and development of new calibration items are continuously required for NMIs. **What are needed to prepare for the pandemic and disasters from the viewpoint of this?**

Thank you for your kind attention !

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