A R10 DISCUSSION PAPER

# REALIGNMENT OF REGIONAL BOUNDARIES FOR BETTER MEMBERSHIP REPRESENTATION AT THE IEEE BOARD OF DIRECTORS

PREPARED BY:
Akinori Nishihara, R10 Director/Delegate (2019-2020)
Zia Ahmed, R10 Vice Chair (Members Activities) for 2019 – 2020

# REALIGNMENT OF REGIONAL BOUNDARIES FOR BETTER MEMBERSHIP REPRESENTATION AT THE IEEE BOARD OF DIRECTORS

## 1. INTRODUCTION

IEEE is currently geographically divided into ten regions. It is mostly based on regional boundaries established by a motion passed at an IEEE Board of Directors meeting more than 50 years ago on 24 August 1966. The US was divided into six regions (Region 1 – 6), Region 7 covering Canada, Region 8 covering Europe, Middle East and Africa and Region 9 covering territories comprising the Caribbean and Bahamas Islands, South America, Central America and North America (excluding the US and Canada). Region 10 (R10) was designated as the "Rest of the World" for areas that were not under Regions 1 – 9. After readjustment of boundaries in 1981 R10 became the current Asia-Pacific region and is currently bounded by Japan in Northeast, Afghanistan and Pakistan in the West and Australia and New Zealand in the Southeast corner. Since the creation of these ten regions the IEEE membership has increased many fold making IEEE a truly global technical and professional organisation with over 422,000 members worldwide. The membership is continuously growing in regions outside the North America while on a decline in the US as shown in Figure 1. The membership growth rate in the Asia-Pacific region has been the fastest for more than three decades and the trend is expected to continue in foreseeable future, especially in India and China.
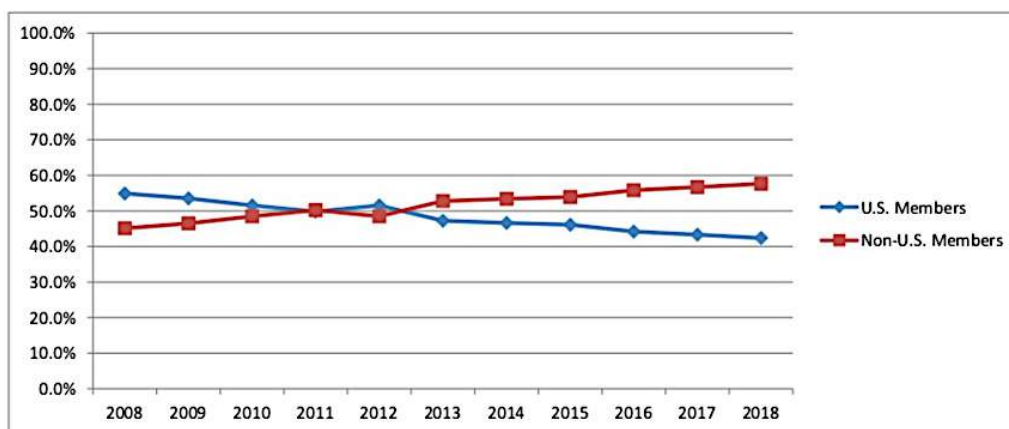


Figure 1. IEEE membership growth trend over the past ten years.

A Director directly elected by the IEEE members in the region manages the region for a term of two years. The regional directors are also the delegates to represent the views of members in their region at the IEEE Assembly. However with disproportionate geographical boundaries and uneven distribution of membership in the regions, it is evident from Table 1 that not all segments of membership are truly represented at the Board level by the regional Directors/Delegates. For example, Region 8, 9 and 10 cover very large heterogeneous areas with socially and culturally diverse countries. They spread over two continents in the case of Regions 9 and 10 and three continents in the case of Region 8. Table 1 reveals that many Regional Delegates represent only around 6% or less membership whereas Region 10 Director/Delegate represents >30% (5 times more) members at the IEEE Board of Directors. The disparity is noted and currently IEEE Members & Geographical

Activities (MGA) Board is looking into ways to improve representation of membership at the IEEE Board of Directors (BoD).

Table 1. IEEE membership represented by the Regional Director/Delegate

| Region | Members Represented (31-Dec-2018) | Members % Represented (31-Dec-2018) | Voting Members Represented (31-Dec-2018) | Voting Members % Represented (31-Dec-2018) |
|---|---|---|---|---|
| Region 1 | 29,565 | 7.0% | 26,714 | 7.9% |
| Region 2 | 25,130 | 5.9% | 23,136 | 6.9% |
| Region 3 | 27,548 | 6.5% | 24,436 | 7.2% |
| Region 4 | 19,901 | 4.7% | 17,633 | 5.2% |
| Region 5 | 25,482 | 6.0% | 22,793 | 6.8% |
| Region 6 | 51,311 | 12.1% | 46,181 | 13.7% |
| Region 7 | 17,253 | 4.1% | 14,922 | 4.4% |
| Region 8 | 77,519 | 18.3% | 63,078 | 18.7% |
| Region 9 | 18,224 | 4.3% | 10,769 | 3.2% |
| Region 10 | 130,527 | 30.9% | 87,594 | 26.0% |

One simple solution to the problem is to divide existing large regions into relatively smaller regions with more directors/delegates representing smaller segments of the membership. However, the IEEE Board of Directors is already a very large board with around 40 members. It is therefore deemed that dividing existing regions into smaller regions with more directors, and thus increasing the number of members of the IEEE Board of Directors, is not a viable solution. Considering this serious constraint it is thought that perhaps some regions in the US can be merged to make way for the creation of new regions by breaking large regions into smaller and culturally homogeneous regions while keeping the total number of regions still to ten. This approach requires some serious considerations to achieve a practical solution to the problem.

A subcommittee of the MGA Strategic Planning Committee, chaired by Prof Kukjin Chun, is tasked to look into the regional structure with focus on alternatives to current structures of Regions 8 and 10. As part of this deliberations Director Prof Akinori Nishihara called the R10 OpsCom WebEx meeting on July 1st 2019, to brief the committee about some of the options and discuss way forward. Two options for breaking Region 10 into smaller regions were presented and discussed. The slides and membership figures presented at the meeting are attached at Annex I. R10 Director also invited OpsCom members to think about alternative options.

This discussion paper records the key points from the OpsCom WebEx meeting and some financial aspects highlighted by Prof Kukjin Chun that may influence the decision makers at the IEEE Board of Directors. It was recognized that relevant financial figures are currently requested from the MGA and need to be included in the considerations. In addition to the two options discussed at the meeting three more options are presented in this paper for further deliberations. The discussion paper is prepared from Region 10 prospective and does not take into account the preferences of other IEEE regions. This paper may need to be revised after the availability of missing information identified in section 3.

## 2. R10 Options for Split & Merger

Region 10 is the largest and most rapidly growing region of IEEE. It consists of climatically wide-ranging countries with diverse socio-economic conditions and extreme levels of living standards. While having some of the most technologically advanced countries, the Asia-Pacific region also consists of some of the poorest or least developed countries in the world.

Since the diversity of the region is regarded as one of its strengths, it is recognized that any breakup of Region 10 or merger with other region must take into account the geo-political, social and cultural sensitivities for an optimum solution. This paper presents two type of options; one to split current Asia-Pacific region into two regions without adding any more organizational unit (OU) from another region and the second is to split and merge parts of R10 and R8 to create a new region and thus reduce the sizes of both existing regions. Five options for the two ways of achieving a solution are presented in this section.

### 2.1 Split Region 10

Two options are proposed for splitting the Region 10 into two regions. The first option was discussed in the OpsCom meeting whereas the second one is a newly proposed option in this paper.

### 2.1.1 R10 Split (Option# 1)

Figure 2 shows the option of splitting Region 10 into North Asia and South Asia/Pacific regions by percentages, whereas Figure 3 shows the geographical boundaries. The option divides membership into roughly equal number of voting members as follows:

> North Asia
>> 43,890 voting members (December 2017 data)
>> 47,137 voting members (December 2018 data)
>
> South Asia and Pacific
>> 37,768 voting members (December 2017 data)
>> 40,417 voting members (December 2018 data)

Based on December 2018 figures this split will result in the Delegate from North Asia representing around 11% and delegate from South Asia & Pacific region representing around 9.6% of the total IEEE membership.
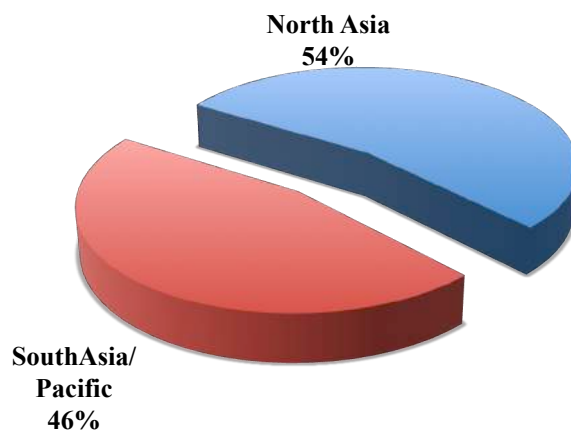


Figure 2. Breakup of R10 into North Asia and South Asia & Pacific regions.

**Pros:**

    (a) The new South Asia & Pacific region will remain a diverse region.

    (b) Considerable improvement in the representation of current R10 membership at the BoD by the Directors/Delegates of two regions.

    (c) Both regions will be able to continue joint activities such as R10 flagship conferences and the annual Region's Committee meeting.

**Cons:**

    (a) Even with a slightly bigger slice of R10, the North Asia region will not be as diverse as current R10 or the new South Asia & Pacific region.

    (b) One region may not be financially as beneficial to the IEEE as the other and may result in unequal growth opportunities for one or both regions.

    (c) Risk of domination of one or two larger countries (membership-wise), especially in the South Asia/Pacific region. However, appropriate Regional Bylaws may address this issue.

    (d) Does not address the same problem faced by other regions, namely R8 and R9.

**Unknown**: Financial implications for the IEEE and the region(s). It needs to be further studied.
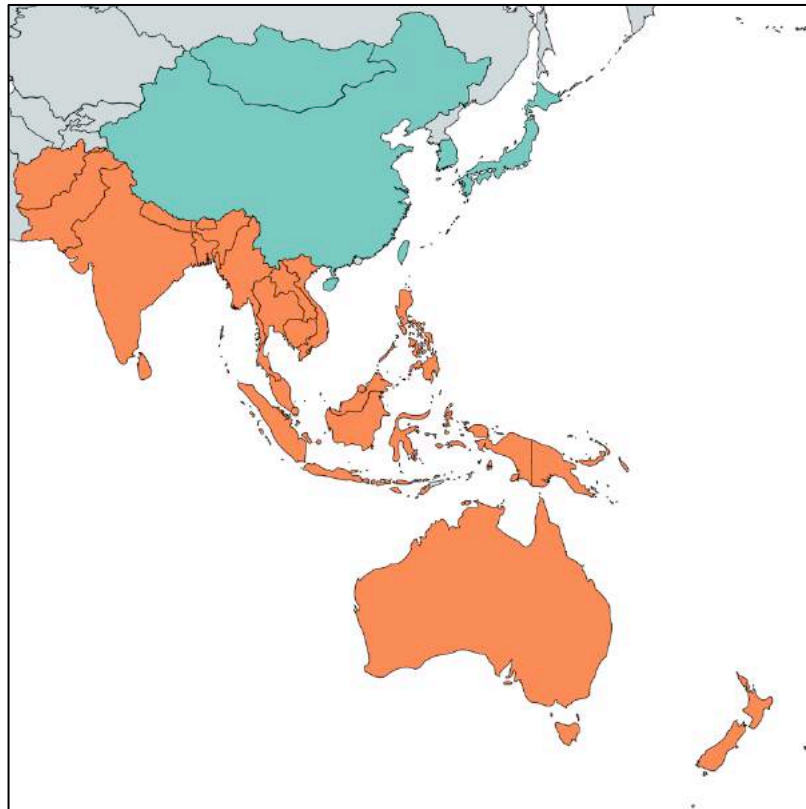


Figure 3. Option# 1 – Split R10 into North Asia and South Asia/Pacific regions.

### 2.1.2 R10 Split (Option# 2)

The second proposed option tries to achieve a balance of diversity for both splitting parts of R10, named as Asia region and Pacific region. Table 2 shows the composition and membership for the two new regions. The geographical boundaries are shown in Figure 5.

**Asia Region**

30860 voting members (December 2017 data)

38285 voting members (December 2018 data)

**Pacific Region**

51402 voting members (December 2017 data)

57554 voting members (December 2018 data)

Based on December 2018 figures the proposed split will result in the Delegate from Pacific region representing around 13.6% and delegate from Asia region representing around 9.1% of the total IEEE membership at the BoD.

Table 2. Compositions of two regions by countries and memberships.

| Asia (18) | Dec-18 | Pacific (17) | Dec-18 |
|---|---|---|---|
| Afghanistan | 14 | Australia | 7531 |
| Bangladesh | 1013 | China | 21,090 |
| Bhutan | 13 | Cook Islands | |
| Brunei Darussalam | 15 | Fiji | 41 |
| Cambodia | 17 | French Polynesia | |
| India | 21,221 | Hong Kong | 4368 |
| Indonesia | 1446 | Japan | 13593 |
| Laos | | Korea (South) | 4881 |
| Malaysia | 2699 | Macao | 167 |
| Maldives | 8 | Mongolia | 7 |
| Myanmar | 70 | New Caledonia | |
| Nepal | 67 | New Zealand | 1116 |
| Pakistan | 1381 | Norfolk Island | |
| Philippines | 401 | Papua New Guinea | |
| Singapore | 3096 | Solomon Islands | |
| Sri Lanka | 1108 | Taiwan | 3576 |
| Thailand | 705 | Tonga | |
| Vietnam | 145 | **Total** | **56,370** |
| **Total** | **33,419** | | |
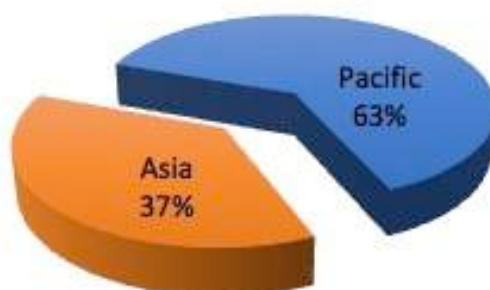


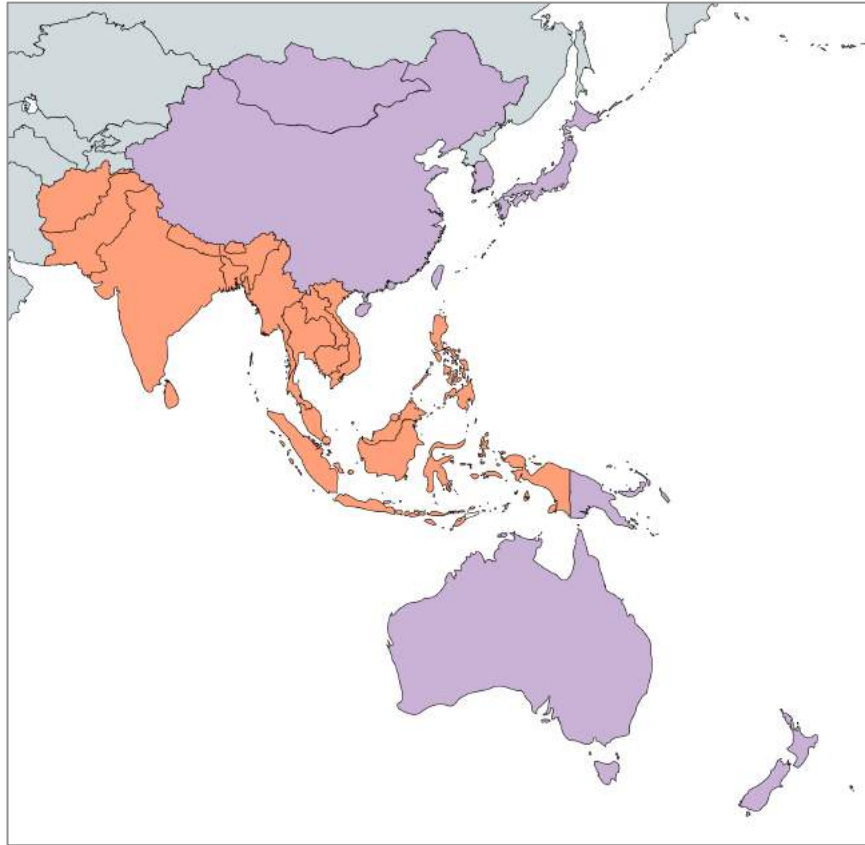Figure 4. Breakup percentages of R10 into Asia and Pacific regions.

Figure 5. Proposed Breakup of R10 into Asia region and Pacific region.

**Pros**

    (a) Split of R10 into Asia and Pacific regions will not unfavorably affect the diversity of either part.

    (b) All ASEAN countries with close working relations and ease of travel will remain in one IEEE region, namely South Asia/Pacific region.

    (c) Both new regions will be able to continue to work jointly on technical and administrative activities of current R10, e.g. flagship conferences (TENCON, TENSYMP and R10 HTC), annual regional committee meetings and Students/YP/WIE/LM Congress.

    (d) No "cultural shock" of joining countries with new and very different culture and customs.

**Cons**

    (a) Not helpful to R8 with a similar problem of large membership and vast geographical spread.

    (b)

### 2.2 Merger of Parts of Region 10 and Region 8

The second category of options is about the merger of parts of R10 with some parts of R8 to create a third IEEE region. If done carefully the merger of parts of R8 and R10 has the potential to help the two IEEE regions to reduce their geographical expanse and spread of cultural and social dissimilarities among IEEE membership.

The third option, also discussed at the R10 OpsCom meeting, is to merge African part of R8 and Southwest Asian part of R10 to form a new region. In addition to this, two new and alternate merger options (Option# 4 & 5) are presented in this section. It is

hoped that the R10 OpsCom and the subcommittee of the MGA Strategic Planning Committee will give them serious considerations.

### 2.2.1 Merger (Option# 3)

The first option for the merger (Option# 3) proposes to combine Southwest part of R10 with the Middle East, Central Asia and African part of the Region 8 to create a new region as shown in Figure 7. The member countries with membership figures are shown in Table 3. Based on membership figures of December 2018, this option will result the new region composed of 69% members from R10 and 31% members from R8 as depicted in Figure 6. The total membership of the new region will be about 8.5% of the total IEEE membership, which would be a reasonable figure to be represented by the Regional Director/Delegate.
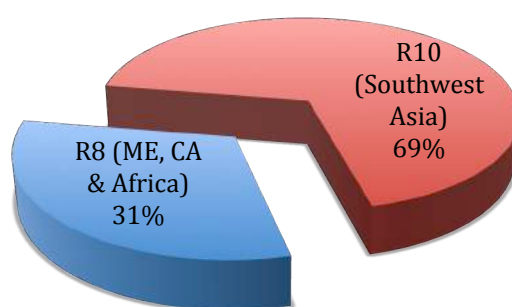


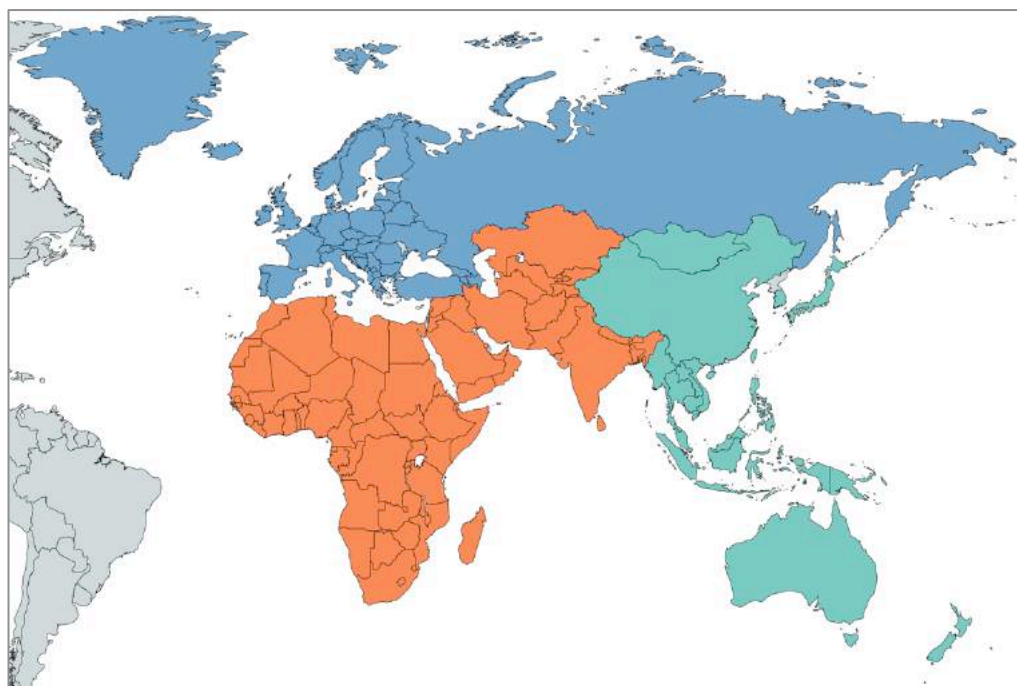Figure 6. Percentages of membership from R8 and R10 joining the new region.



Figure 7. Proposed option for merger of part of R10 with African part of R8.

Table 3. Option# 3 - Merger of R8 (Middle East, Central Asia & Africa) and R10 (Southwest Asia).

| R8 Countries (32) | | R10 Countries (8) | |
|---|---|---|---|
| Country | Dec 2018 | Country | Dec 2018 |
| Bahrain | 118 | Afghanistan | 14 |
| Iran | 987 | Bangladesh | 1013 |
| Iraq | 289 | Bhutan | 23 |
| Jordan | 364 | India | 21,221 |
| Kazakhstan | 53 | Maldives | 8 |
| Kuwait | 141 | Nepal | 67 |
| Kazakhstani | 51 | Pakistan | 1381 |
| Oman | 208 | Sri Lanka | 1011 |
| Qatar | 218 | | |
| Palestine | 61 | | |
| Saudi Arabia | 1133 | | |
| Ukraine | 344 | | |
| United Arab Emirates | 901 | | |
| Uzbekistan | 1 | | |
| Yemen | 92 | | |
| Algeria | 104 | | |
| Egypt | 959 | | |
| Ghana | 163 | | |
| Israel | 1019 | | |
| Kenya | 265 | | |
| Lebanon | 585 | | |
| Morocco | 237 | | |
| Nigeria | 739 | | |
| South Africa | 980 | | |
| Tunisia | 561 | | |
| Uganda | 99 | | |
| Zambia | 149 | | |
| Botswana Subsection | 61 | | |
| Burkina Faso Subsection | 28 | | |
| Mauritius Subsection | 76 | | |
| Sudan Subsection | 73 | | |
| Tanzania Subsection | 41 | | |
| **Total** | **11,100** | **Total** | **24,738** |
| **Total Membership (% of IEEE)** | | **35838 (8.5%)** | |

**Pros:**

(a) A new culturally diverse region with potentials for growth.

(b) A reasonable membership figure for the Regional Director/Delegate to represent at the IEEE Assembly.

**Cons:**

   (a) This option will create another large and very diverse region and will defeat the purpose of regional realignment for better representation of membership segments by a regional director.

   (b) It will be difficult for the Asian part to maintain close working relationship with its previous limb.

   (c) The dissimilarities in social and cultural way of life will result in less understanding of members needs across the region and thus diversity will become a disadvantage for the new region.

   (d) Difficult to manage the whole region by the Director/delegate from a far-flung country in a different continent.

   (e) It is anticipated that African part of the region will continue to need support from more experienced Asian part to grow, which may not be as practical as the existing long running arrangements by R8.

   (f) It is worth noting that IEEE membership in African countries is not as high as the Southwest part of R10. In Africa membership is also a bit patchy across a larger number of countries with not many fast growing Sections. This may result in a significant financial drain at the cost Asian part of the region.

**Unknown**: At this stage the financial implications for the IEEE and the region(s) for this option are unknown. It needs to be further studied.

A quick look at pros & cons reveals that this option may not help to achieve the desired solution to the problem though the number of members represented by the delegate would be reasonable. The R10 OpsCom in its discussion also did not find it to be a very attractive option.

### 2.2.2 Merger (Option# 4)

The proposed Option# 4 is to combine South Asia (Pakistan, India, Sri Lanka, Bangladesh, Nepal) along Afghanistan and Far East (Thailand, Malaysia, Singapore and Indonesia) from R10 with the Middle East and Central Asian part of R8 as shown in Figure 8.

As compared to the first merger option, this option does take into account the cultural similarities of countries that will form the new region. It is worth pointing out that a very large number of technical and professional people from existing parts of R10 work in the Middle East and the proposed merger will bring their places of origin and workplaces under one IEEE regional umbrella. However, it may not be the case for IEEE members in the Central Asia (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan). The total number of members in Central Asian countries is just under 60 and therefore their merger may not effect either way if they are (a) left as it is in R8 (b) absorbed in the Pacific region or (c) become part of the new Asia region. Similarly Israel and Lebanon may prefer to stay with R8.

Based on December 2018 figures, the membership of the two regions will be as follows:

     Pacific Region: 57285 voting members (December 2018 data)

     Asia Region: 37,531 voting members (December 2018 data)

Table 4 delineates the composition of the proposed new region by countries and membership figures.

Table 4. Option# 4 - Composition of the new Asian Region

| R8 Countries (15) | | R10 Countries (14) | |
|---|---|---|---|
| Country | Dec 2018 Data | Country | Dec 2018 Data |
| Bahrain | 118 | Afghanistan | 14 |
| Iran | 987 | Bangladesh | 1013 |
| Iraq | 289 | Bhutan | 23 |
| Jordan | 364 | Brunei Darussalam | 15 |
| Kazakhstan | 53 | India | 21,221 |
| Kuwait | 141 | Indonesia | 1446 |
| Kazakstan | 51 | Malaysia | 2699 |
| Oman | 208 | Maldives | 8 |
| Qatar | 218 | Myanmar | 70 |
| Palestine | 61 | Nepal | 67 |
| Saudi Arabia | 1133 | Pakistan | 1419 |
| Ukraine | 344 | Singapore | 3096 |
| United Arab Emirates | 901 | Sri Lanka | 1011 |
| Uzbekistan | 1 | Thailand | 705 |
| Yemen | 92 | | |
| **Total** | **4,961** | **Total** | **37,673** |
| **Total Membership (% of IEEE)** | | **42,634 (10.1%)** | |

Based on December 2018 figures this option will result in the Delegate from Pacific region representing around 13.5% and the Delegate from Asian region representing around 10% of total IEEE membership at the IEEE Assembly.

**Pros**

(a) Potentially beneficial for members in more than one IEEE regions with substantial improvement in representation of membership segments at the BoD with an additional Director/Delegate from the Asian side of the globe.

(b) Merger will not experience a big "cultural shock" by the two merging parts from R8 and R10.

(c) Common cultural and social systems across the new region will make it relatively easier to be fully functional and effective in a short period.

(d) New region will find it easier to maintain close relationship with R8 and R10 and hence possibly serve as a bridge for enhanced inter-regional collaboration.

(e) May enhance employment opportunities for engineers graduating in the Asian part of the region (South Asia and Far East).

(f) The leftover Region 10 will remain as the Asia-Pacific Region and maintain its diversity by covering Northeast Asia (China, Japan, Korea and Mongolia) and Pacific countries (Australia, New Zealand, Cambodia, Vietnam, Philippines and other Pacific island countries).

**Cons**

(a) Concentration of large IEEE Sections (membership >1500) in only one country, namely India with few exceptions such as Malaysia and Singapore in the newly formed Asian region.

(b) ASEAN countries are divided into two.

(c) No major technologically advanced country in the newly formed Asian region.

**Unknown**: At this stage the financial implications for the IEEE and the regions (left-over R10 and the new Asian region) for this option are not known. It needs to be further studied.
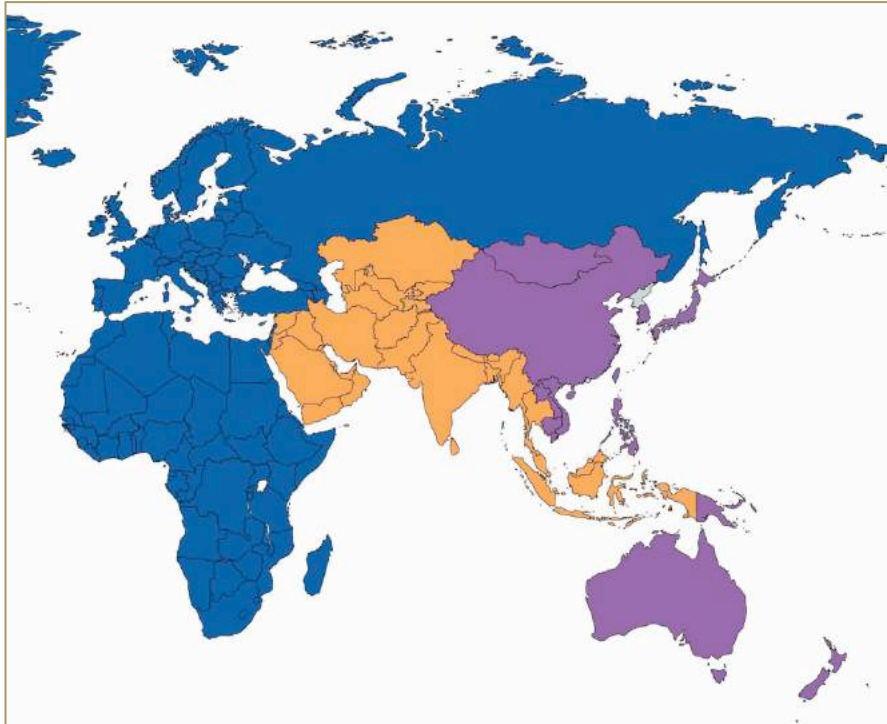


Figure 8. Option# 4 for the merger of parts of R8 and R10 to form a new IEEE Asian region.

### 2.2.3 Merger (Option# 5)

This option proposes to combine South Asia (Pakistan, India, Sri Lanka, Bangladesh, Nepal), Afghanistan and all ASEAN countries of R10 with the Middle East, Central Asian countries and Russia of R8. The new region can therefore be called the Eurasian region, whereas the leftover R10 as the Pacific region. Figure 9 shows the merging percentages of the proposed new region and Figure 10 shows its geographical boundaries.

Based on December 2018 figures, the membership distribution in the Pacific and Eurasian regions will be as follows:

Pacific Region: 55,989 voting members

Eurasian Region: 46,699 voting members

The detailed composition of the proposed region is given in Table 4 using 2018 membership figures. This option will result in the Delegate from the Pacific region representing around 13.5% and Delegate from the Eurasian region representing around 11% of total IEEE membership.
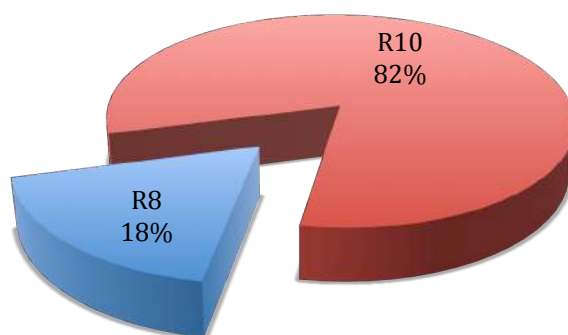
.

Figure 9. Composition by membership percentages from R8 & R10 in the proposed Eurasian region.

Table 5. Option# 5 – Member countries of the proposed new Eurasian Region

| R8 Countries (24) | | R10 Countries (18) | |
|---|---|---|---|
| **Country** | **Dec 2018 Data** | **Country** | **Dec 2018 Data** |
| Armenia* | 9 | Afghanistan | 14 |
| Azerbaijan* | 6 | Bangladesh | 1013 |
| Bahrain | 118 | Bhutan | 23 |
| Belarus | 25 | Brunei Darussalam | 15 |
| Georgia | 42 | Cambodia | 17 |
| Iran | 987 | India | 21,221 |
| Iraq | 289 | Indonesia | 1446 |
| Israel | 1019 | Laos | 2 |
| Jordan | 364 | Malaysia | 2699 |
| Kazakhstan | 51 | Maldives* | 8 |
| Kuwait | 141 | Myanmar | 70 |
| Kyrgyzstan* | 2 | Nepal | 67 |
| Lebanon | 585 | Pakistan | 1419 |
| Mauritius | 76 | Philippines | 401 |
| Moldova* | 4 | Singapore | 3096 |
| Oman | 208 | Sri Lanka | 1011 |
| Palestine | 61 | Thailand | 726 |
| Qatar | 218 | Vietnam | 145 |
| Russia | 1775 | | |
| Saudi Arabia | 1133 | | |
| Ukraine | 344 | * Data not confirmed | |
| United Arab Emirates | 901 | | |
| Uzbekistan | 1 | | |
| Yemen | 90 | | |
| **Total** | **8,440** | **Total** | **38,259** |
| **Total Membership (% of IEEE)** | | 46699 (11.5%) | |

**Pros**

(a) ASEAN countries, which have close connections, are together. Similarly CIS (former Soviet Union) countries are together.

(b) Director/Delegate representing a reasonable number of members at the BoD.

(c) A culturally very diverse region close to both R8 and Pacific region.

**Cons**

(a) The proposed Eurasian region will be geographically very large with more than 40 countries in the region.

(b) Difficult to manage by the Region's Director/Delegate from a far-flung country.

(c) The diversity will most like becoming a weakness instead of strength.


**Unknown:** At this stage the financial implications for the IEEE and the regions (left-over R10 and the new Asian region) for this option are not known. It needs to be further studied.
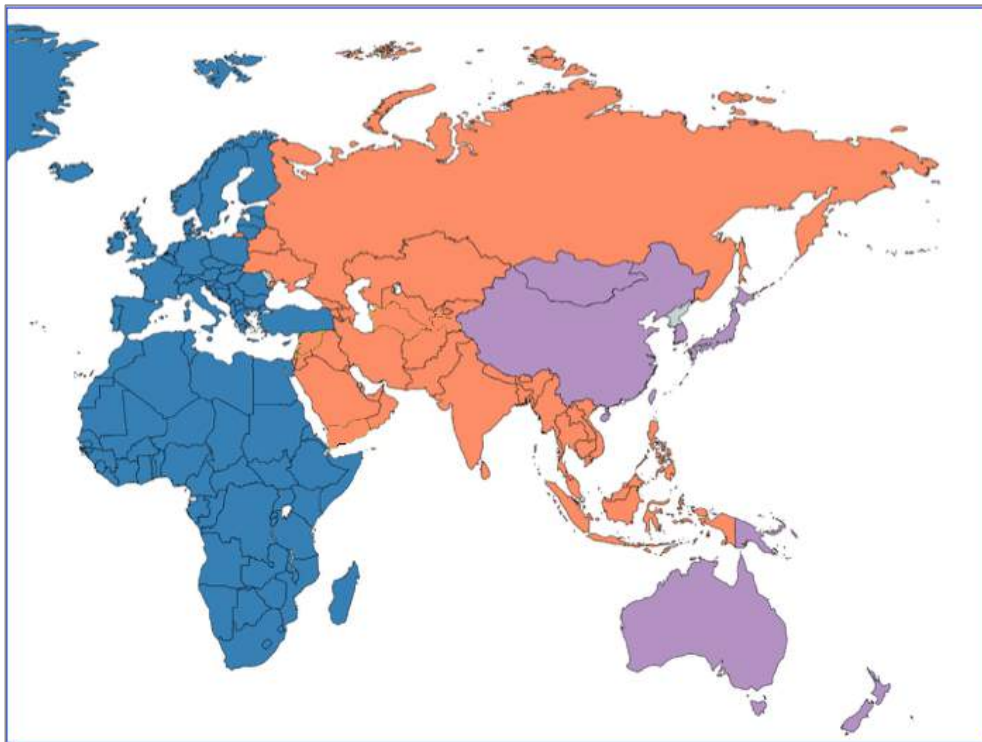


Figure 10. Option# 5 - Proposed Eurasian region curved out of R8 and R10.

## 3. Missing Information

The paper is drafted without any consideration of financial aspects and its implications for the IEEE or the emerging regions. Prof Kukjin Chun has indicated that financial consideration may play an important role in the decision making about the realignment of regional boundaries by the IEEE Board of Directors. Not only the data about financial aspects is not made available at this stage but also it is not well understood what are the key elements of financial aspects that R10 OpsCom needs to consider. It is guessed that these financial elements include membership dues, income from IEEE services such as Explorer, technical conferences and other technical and

non-technical events. Once this data is made available, the discussion paper may need to be revised to take a comprehensive look at the problem and proposed solutions.

## 4. Concluding Remarks

As the IEEE membership growth trends over the last three decades show, R10 is expected to remain on the fastest growth trajectory in the foreseeable future with the emerging economies in the region. R10 is already the largest region of the IEEE and as the regional economies expand it is quite natural that the engineering and professional workforces will continue to grow significantly offering far greater opportunities for the IEEE to grow and play a major role in the regional development. To avail those opportunities and stay as the most relevant technical professional global organisation, it is imperative that the views of members from the Asia-Pacific region are taken into account in the IEEE strategic planning and policy decisions by effective representation at the IEEE Board of Directors level. This paper highlights the need for better representation of IEEE members from the Asia-Pacific region at the IEEE Assembly and presents some of the options to realign the regional boundaries to achieve that goal.

Five options, two for splitting R10 into two regions and three to split & merger with parts of R8, are presented with apparent pros and cons and relevant data from the IEEE statistics released at the end of last year. Though these five options are not an exhaustive list of possible solutions, they are the reasonable choices taking into account the cultural and social diversities for creating regions that can continue to grow and serve members in an operationally effective manner. The discussion paper aims to stimulate productive discussion in the region and consolidate views of members to decide the future of the R10 and insure the evolving IEEE structure remains professionally and technically rewarding for IEEE members.

**Slides & Figures Presented at the R10 OpsCom Meeting held on July 01, 2019)**

## MGA Strategic Planning Committee

*Alternative for Realignment of the Regions*

REGION REALIGNMENT: A subset of the MGA Strategic Planning Committee, chaired by Vice President-Elect Kukjin Chung is looking at the Region structure with regard to the vastly different sizes of regions. The Committee is looking at whether the current structure adequately represents the diverse membership of IEEE and is considering alternatives. Focus to date has been on alternatives to current regions 8 and 10 structure. Three options are under consideration. Further work is continuing.

◆IEEE

1

## Region Realignment

Assumptions:

1. The number of regions and the number of divisions should remain equal.
2. How to combine regions or partial regions should be determined by the organization itself. (e.g. US directors)
3. We should bring R7 and R9 into the discussion to see if they would like to combine with any US or other region.
4. How to break up regions should be determined by affected regions (e.g. Regions 8 and/or 10)
5. Any changes to region structure should be respectful of country boundaries and take into account cultural sensitivities.
6. The changes will have to be phased in over several years because volunteers have already been elected to these positions. A transition plan will be needed.
7. There may still be very small regions (in member numbers) but large geographically, such as regions 7 and 9, unless they wish to be combined with part of another region.
8. Consider future growth in this study.

◆IEEE

2

# IEEE Bylaws

## I-400. Groups of Members

I-402. Geographic Organization of Members

Regions. A Region shall be a geographical organizational unit consisting of a part of one, or of one, or of more than one country established by MGAB in accordance with the IEEE Constitution as an operating organizational unit of IEEE for management and administrative purposes to represent and fulfill the missions of IEEE within the territory prescribed.

In intent, all parts of the world are in a Region. The boundaries of the Regions are as follows and shall be further specified in each Region's Bylaws:

Region 1 shall comprise Northeastern USA.

Region 2 shall comprise Eastern USA.

Region 3 shall comprise Southeastern USA and the island of Jamaica as a part of its territory.

Region 4 shall comprise Central USA.

Region 5 shall comprise Southwestern USA.

Region 6 shall comprise Western USA.

Region 7 shall comprise the territory of Canada.

Region 8 shall comprise Africa, Europe, Greenland, Iceland, the Republics of the former USSR, and the Near and Middle East countries located west of Afghanistan and Pakistan.

Region 9 shall comprise the territory encompassing the Caribbean and Bahamas Islands, South America, Central America and North America (except the United States, Jamaica and Canada).

Region 10 shall comprise Asia, Australia, New Zealand and related islands.

3

# Dividing Option
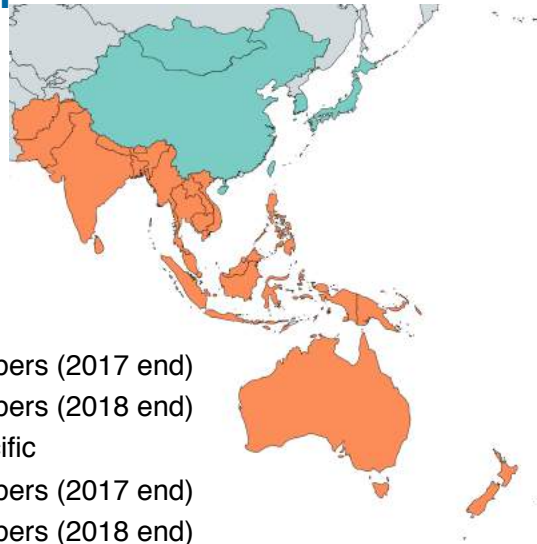


▶ North Asia

43,890 voting members (2017 end)

47,137 voting members (2018 end)

▶ South Asia and Pacific

37,768 voting members (2017 end)

40,417 voting members (2018 end)

4

# Another Option

- Europe
  51,492
- Africa, Middle East, Central and South Asia
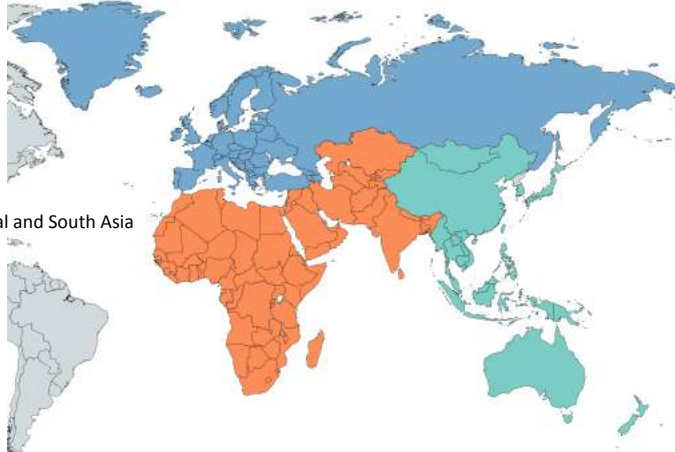  33,929
- East Asia & Pacific
  59,134

**◆IEEE**

|  | 2017 | 2018 | Increase |
|---|---|---|---|
| **North Asia Total** | **43890** | **47137** | 3247 |
| China | 18289 | 20806 | 2517 |
| Mongolia | 16 | 28 | 12 |
| Korea | 4494 | 4885 | 391 |
| Hong Kong | 4203 | 4285 | 82 |
| Macao | 141 | 142 | 1 |
| Taiwan | 3523 | 3394 | -129 |
| Japan | 13224 | 13593 | 371 |

|  | 2017 | 2018 | Increase |
|---|---|---|---|
| **South Asia & Pacific Total** | **37768** | **40417** | 2649 |
| Afganistan | 14 | 14 | 0 |
| Pakistan | 1137 | 1255 | 118 |
| India | 19043 | 21,221 | 1650 |
| Bangladesh | 972 | 1015 | 43 |
| Sri Lanka | 848 | 881 | 33 |
| Maldives | 3 | 3 | 0 |
| Seychelles | 2 | 2 | 0 |
| Nepal | 69 | 73 | 4 |
| Bhutan | 22 | 22 | 0 |
| Myanmar | 62 | 70 | 8 |
| Thailand | 666 | 705 | 39 |
| Cambodia | 13 | 16 | 3 |
| Laos | 9 | 11 | 2 |
| Vietnam | 134 | 145 | 11 |
| Malaysia | 2399 | 2542 | 143 |
| Singapore | 2461 | 2547 | 86 |
| Indonesia | 1293 | 1446 | 153 |
| Brunei | 19 | 15 | -4 |
| Philippines | 369 | 400 | 31 |
| Australia | 7176 | 7443 | 267 |
| New Zealand | 1018 | 1076 | 58 |
| New Caledonia | 2 | 4 | 2 |
| Cook Islands | 1 | 1 | 0 |
| Fiji | 39 | 41 | 2 |
| French Polynesia | 1 | 1 | 0 |
| Papua New Guinea | 6 | 6 | 0 |
| Solomon Islands | 2 | 2 | 0 |
| Tonga | 2 | 2 | 0 |

**Data for Option# 4 –** Memberships by countries after merger

| Region | Pacific Region | 2017 Voting Members | 2018 Voting Members |
|---|---|---|---|
| 10 | Australia | 7281 | 7531 |
| 10 | Cambodia | 22 | 16 |
| 10 | China | 16872 | 21,090 |
| 10 | Cook Islands* | 1 | |
| 10 | Fiji | 39 | 41 |
| 10 | French Polynesia* | 1 | |
| 10 | Hong Kong | 4203 | 4368 |
| 10 | Japan | 13436 | 13593 |
| 10 | Korea (South) | 4494 | 4881 |
| 10 | Laos | 2 | 2 |
| 10 | Macao | 141 | 167 |
| 10 | Mongolia | 16 | 7 |
| 10 | New Caledonia* | 3 | |
| 10 | New Zealand | 1041 | 1116 |
| 10 | Norfolk Island* | 1 | |
| 10 | Papua New Guinea* | 6 | |
| 10 | Philippines | 368 | 401 |
| 10 | Solomon Islands* | 2 | |
| 10 | Taiwan | 3523 | 3657 |
| 10 | Tonga* | 1 | |
| | Vietnam | 152 | 145 |
| | * Apo/Fpo | | 36 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | **Total** | **51,605** | **57,051** |

| Region | Proposed Asian Region | 2017 Voting Members | 2018 Voting Members |
|---|---|---|---|
| 10 | Afghanistan | 16 | 14 |
| 8 | Bahrain | 119 | 118 |
| 10 | Bangladesh | 912 | 1013 |
| 10 | Bhutan | 24 | 22 |
| 10 | India | 20224 | 21,221 |
| 8 | Iran | 1304 | 987 |
| 10 | Indonesia | 1224 | 1446 |
| 8 | Iraq | 242 | 289 |
| 8 | Jordan | 291 | 364 |
| 8 | Kazakhstan | 47 | 51 |
| 8 | Kuwait | 178 | 141 |
| 8 | Kyrgyzstan | 2 | 2 |
| 10 | Malaysia | 2608 | 2739 |
| 10 | Maldives | 8 | 8 |
| 10 | Myanmar | 108 | 70 |
| 10 | Nepal | 61 | 67 |
| 8 | Oman | 201 | 218 |
| 10 | Pakistan | 1120 | 1419 |
| 8 | Qatar | ? | 223 |
| 8 | Palestine | 62 | 61 |
| 8 | Saudi Arabia | 1204 | 1133 |
| 10 | Singapore | 2533 | 3096 |
| 10 | Sri Lanka | 763 | 1011 |
| 10 | Thailand | 698 | 726 |
| 8 | United Arab Emirates | 871 | 901 |
| 8 | Uzbekistan | 1 | 1 |
| 8 | Yemen | ? | 90 |
| | **Total** | **34,826** | **37,431** |