PART A - SECTION SUMMARY

A.1 Executive Summary

- NZ North Section (R00301) Executive Committee Member List:

<table>
<thead>
<tr>
<th>Position</th>
<th>Officer</th>
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<tbody>
<tr>
<td>Chair</td>
<td>Patrick Aiguo Hu</td>
</tr>
<tr>
<td>Vice-Chair</td>
<td>Nitish Patel</td>
</tr>
<tr>
<td>Treasurer</td>
<td>Mohan Sridharan</td>
</tr>
<tr>
<td>Secretary</td>
<td>Kevin Wang</td>
</tr>
<tr>
<td>Past Chair</td>
<td>Morteza Biglari-Abhari</td>
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</table>

The section officers were nominated and formally elected at the Section AGM.

- Section Highlights

  The Section continued to implement its Strategic Plan (which was developed for 2013-2018) for sustainable development. The new Section website has fully replaced the old wiki site hosted by The University of Auckland, and it has become the central repository for Section records, and we also use it for section meeting organizations, forums, etc.

  The Section has started to have online video conferencing for organizing section committee meetings.

  Fiji Subsection has been formally approved by IEEE Member and Geographic Activities Department on 14 Aug15, effective from 20 June 15. Prof Maurizio Cirrincione acts as the interim Chair until the formal election.

  We have discussed the formation of SIGHT (Special Interest Group on Humanitarian Technology) in accordance of our strategic plan, and Prof Hossein Sarrafzadeh, Head of Depart of Computing and Information Technology, Unitec, has accepted to serve as the inaugural chair of NZ North Section to form a SIGHT committee. Prof Paul Pang, also from Unitec, will serve as the vice chair on the committee.

  The new joint Chapter Signal Processing / Information Technology (SP/IT) starts to be very active.

- Major Events (International, National)

  The section has successfully co-organized 10th IEEE ICIEA (International Conference on Industrial Electronics and Applications) held 15-17 May 2015 in Auckland.

  The Section has also technically sponsored or agreed to sponsor the following conferences held in New Zealand:

  - IEEE SPEC (Southern Power Electronics Conference), 5-8 Dec 2016.

  - IEEE 9th International Conference on Sensing Technology (ICST’15) held in Auckland, 8 - 10 December 2015, http://seatt.massey.ac.nz/conferences/icst2015/
  - Discussed technical sponsorship of APSEC’16 (Asian-Pacific Software Engineering Conference 6-9 Dec16 (http://www.apsec2016.org), but the conference organizers are concerned about the new fees ($1000 plus $15 each paper) proposed by IEEE.

- Three IEEE NZ sections are in the process of being incorporated, the new NZ Council Chair Dr Nirmal Nair starts to look at this in cooperation with Australian Council.
Major Chapter Activities
The New Zealand North Section has organized about 45 meetings during the year among which 6 are distinguished lectures (DLs). These include section committee administration meetings, technical seminars, technical/professional meetings, workshops, field trips and social events. The University of Auckland student branches has been active and organized their own activities. The AUT student branch was not very active due to the graduation of key committee members. Now a new committee has been formed and they have planned for a membership recruitment event early 2016.

The details of the activities have been listed on the Section website, and also reported online via IEEE v-tools L31 Meeting Reports.

Note some joint chapters activities are reported under other Sections. For example, The Instrumentation and Measurement Society (IM) (Joint under NZ North/Central/South Section) had 7 technical meeting (including The 9th International Conference on Sensing Technology, and 4 DLs) reported under the NZ Central Section. The SP/IT chapter (Joint NZ North/Central) also reported the activates under the Central Section.

An IEEE day event:
- Robot Soccer Championship was an event organized again by the University of Auckland and IEEE New Zealand North Section (13 - 15 October). This was planned as the IEEE Day event for this year. And proposal has been submitted for the celebration of the 50th year since the foundation of IEEE R10 to continue this popular event in 2016.

Major Student and Affinity Group Activities
We currently have two active student branches: The Univ of Auckland student Branch and Auckland Univ of Technology Branch. The UoA branch has been very active, the Auckland Univ of Technology had issues with the committee transition, but now in good shape again for the next step.

Awards
We continued the practice of sponsoring the poster prize of the final year research project poster presentations for the Dept of Electrical and Computers Engineering of The University of Auckland and Auckland University of Technology.

A.2 Financial Report – (Please follow the format given below)

- Summary (as per submitted L50)
The financial report was submitted separately via NetSuite. The Section finance is in a healthy condition with a total balance of NZ$28,153.23 (including Checking: $6713.48, savings: $5379.08, and Term deposit: $16060.67).

- Any other financial activities
No.

PART B - ORGANIZATIONAL ACTIVITIES

B.1 Membership Development Activities

- Total number of active members in the past 3 years.

The active membership breakdown (in Feb 2016) is shown below:

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<th>F</th>
<th>LS</th>
<th>SM</th>
<th>LM</th>
<th>M</th>
<th>AM</th>
<th>GSM</th>
<th>Higher Grade Total</th>
<th>StM</th>
<th>Grand Total</th>
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<tbody>
<tr>
<td>2015</td>
<td>2</td>
<td>2</td>
<td>54</td>
<td>15</td>
<td>399</td>
<td>9</td>
<td>93</td>
<td>574</td>
<td>157</td>
<td>731</td>
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This compares to the last year’s:

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<th>SM</th>
<th>LM</th>
<th>M</th>
<th>AM</th>
<th>GSM</th>
<th>StM</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>44</td>
<td>12</td>
<td>371</td>
<td>5</td>
<td>104</td>
<td>76</td>
<td>615</td>
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and 2014’s:

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<tr>
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<th>LF</th>
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<th>SM</th>
<th>LM</th>
<th>M</th>
<th>AM</th>
<th>GSM</th>
<th>StM</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>41</td>
<td>11</td>
<td>362</td>
<td>11</td>
<td>111</td>
<td>134</td>
<td>673</td>
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</table>
We are pleased to see the significant increase in the total numbers in 2016 — a net increase of about 18.9% on the 2015 basis!

- Summary and evidence of work done to improve the value of membership, which leads to retention and growth of members.
- We have a long term strategic plan for the Section development and quality activities, partially the technical seminars that have provided benefits to members.
- The societies in the section are trying hard to organize events to bring benefits to members, and the Univ of Auckland Student branch has run attractive recruitment events, and mock job interviews etc, which helped the recruitment and retention of our student members.

B.2 Chapter Activities

- Total number of Chapters in the Section: 8 (including 3 joint), plus 3 affinity groups (SIGHT, YP, WIE), and Fiji Subsection.
- Number of Chapters formed in the current year: 1, SIGHT, plus Fiji Subsection.
- Number of active Chapters (Chapters who have reported required number of meetings during the year): 6.
- Summary of Chapter activities (Chapter wise with attachment table/information): as per the reports in L31. Note some activities of the joint chapters are report are reported under other Sections.

| On Shared Understanding in Software Engineering - NEW ZEALAND NORTH C16 CHAP | 09-February-2015 | Show |
| Executive planning meeting for 2015 - NEW ZEALAND NORTH SECTION | 26-February-2015 | Show |
| IEEE NZ North Committee meeting 1, 2015 - NEW ZEALAND NORTH SECTION | 05-March-2015 | Show |
| IEEE Student Branch (Auckland) - Meeting One - NEW ZEALAND NORTH SECTION | 12-March-2015 | Show |
| NZ North Section seminar (BP/IT Joint Chapter) - NEW ZEALAND NORTH SECTION | 16-April-2015 | Show |
| First EMB Chapter Committee Meeting in 2015 - NEW ZEALAND NORTH EMB18 CHAPTE | 06-May-2015 | Show |
| Harmonic Distortion in Power Networks - NEW ZEALAND NORTH COM19 (JT NEW ZEAL | 06-May-2015 | Show |
| Harmonic Distortion in Power Networks - NEW ZEALAND NORTH PE31/PE35 CHAPTE | 06-May-2015 | Show |
| IEEE Student Branch (Auckland) - Graduate Talk - NEW ZEALAND NORTH SECTION | 11-May-2015 | Show |
| IEEE Student Branch (Auckland) - Meeting Two - NEW ZEALAND NORTH SECTION | 14-May-2015 | Show |
| Non-traditional Supercapacitor Topologies for Traditional Circuit Issues - R... | 21-May-2015 | Show |
| IEEE CICIA’S Past Conference Workshop on Wireless Power Technologies - NE... | 16-June-2015 | Show |
| IEEE NZ North Committee meeting 1, 2015 - NEW ZEALAND NORTH SECTION | 25-June-2015 | Show |
| IEEE Student Branch (Auckland) - Job Skills Seminar - NEW ZEALAND NORTH SECT | 10-July-2015 | Show |
| IEEE Student Branch (Auckland) - Practice Interviews - NEW ZEALAND NORTH SECT | 17-July-2015 | Show |
| IEEE Student Branch (Auckland) - Meeting Three - NEW ZEALAND NORTH SECTION | 20-July-2015 | Show |
| The Postgraduate Battic: How to do well and stay well - NEW ZEALAND NORTH WO | 31-July-2015 | Show Edit Delete |
| Invited talk by Luca Chiaraviglio - NEW ZEALAND NORTH COM19 (JT NEW ZEAL | 13-August-2015 | Show |
| Preconference meeting (IEEE EMBC-15) - NEW ZEALAND NORTH EMB18 CHAP | 14-August-2015 | Show |
| IEEE ComSoc DL and NSRG workshop - NEW ZEALAND NORTH COM19 (JT NEW ZEALAN... | 25-August-2015 | Show |
| Invited keynote talk by Alastair Nisbet - NEW ZEALAND NORTH COM19 (JT NEW ZEAL | 25-August-2015 | Show |
| Predictive Controller Design and Sensorless Technique for AC Motor Drives - ... | 28-August-2015 | Show |
| IEEE NZ North Committee meeting 3, 2015 - NEW ZEALAND NORTH SECTION | 01-October-2015 | Show |
| Plenary Lecture by IEEE Distinguished Lecturer - NEW ZEALAND NORTH EMB18 CHA | 19-November-2015 | Show |
| IEEE Distinguished Lecturer 2015, NZ North Section - NEW ZEALAND NORTH SECTION | 27-November-2015 | Show |
| IEEE New Zealand North Section AGM - NEW ZEALAND NORTH SECTION | 27-November-2015 | Show |

| IEEE NZ North Committee meeting 4, 2015 - NEW ZEALAND NORTH SECTION | 27-November-2015 | Show |
| IEEE Seminar - NEW ZEALAND NORTH SECTION | 02-December-2015 | Show |
| Introduction to IEEE - NEW ZEALAND NORTH COM19 (JT NEW ZEALAND NORTH/SOUTH/C... | 12-December-2015 | Show |

B.3 Professional and Continuing Education Activities

Summary of continuing Educational activities including conferences, technical activities, training courses, and distinguished lecture programs with attachment table / information.

We have successfully organized IEEE ICIEA’15, and have had technical sponsorships to others.

The annual Communication Society workshop was successfully organized again in Auckland in Dec 2015.

B.4 Students Activities

- Total number of Student Branches in the Section: 2.
Number of Student Branches formed in the current year: None, have discussed new student branch formation eg in Unitec, but sustained development was a concern so we will only do this when there is a solid sustaining plan in place.

Section level student activities (student congress, paper and other contests, awards etc):
NZ North Section has sponsored Ms Jasleen Kaur (Univ of Auckland Student Branch Chair) to attend the R10 Student/GOLD/WIE Congress organized by Sri Lanka Student branch in July 2015. The student branch organizes their own activities under the guidance the Section Student Activity Coordinator.

Number of active Student Branches: 1. UoA Branch was active, and AUT Branch started to be active from end of 2015 again.

Summary of Student Branch activities (Student Branch wise with attachment table/information)
Their activities are reported separately.

B.5 Affinity Group Activities

- Young Professional (YP)
  It took time for the YP to go through the transitional period after the Chair and committee change. More detailed planning is needed for sustained development in the new year.

- Women In Engineering (WIE)
  Newly formed, had only one activity. Need more effort for the Group to become more active in 2016.

- Life Member: had one, and there is another one just approved.

B.6 Awards & Recognition Activities

- Award constituted by the Section
  Only sponsored two student research project poster prizes. The Section discussed how to award the volunteers, but need more detailed policies and implementation plan.

- Award(s) received from R10:
  None.

- Award(s) received from IEEE HQ:
  IEEE Membership Recruitment and Recovery Committee have awarded the New Zealand North Section a silver recruitment Banner for meeting the recruitment goal for the 2015 membership year. The membership development goals were developed based on the Section's three year performance.

B.7 Communication Activities (Newsletter, Home Page, E-mail etc.)

- Newsletter (name and number of issues in the year): None. But we exchange emails frequently, and some e-news/events published on our new section website.

- Home Page of the Section (give the URL and how often it is updated)
  https://ieeenorth.org.nz/

- Other means of contacts with Section members
  Face to face meetings, Skype meetings, and phone calls.

B.8 Industry Relations

- Membership growth and retention
We have most members from universities, but we do have active members from industry coming to attend IEEE events. Growth and retention in industries are a bit difficult in NZ due to the small size.

- Activities for/with industrial members

Our IEEE seminars are often deliberately scheduled in late afternoons to make it easier for industrial members to attend, and we plan to have more speakers from industry.

**B.9 Humanitarian Technology Activities**
We have established a new SIGHT group, but need to make efforts to plan for good activities. The formation of Fiji Subsection provides good opportunities of projects.

**B.10 Community Activities**

- IEEE Social activities (Family day, IEEE day, Engineers Week)
  
  Apart from the end of year Section Dinner, we had the IEEE day with robot soccer competition. And the student Branches and the Young Professional had their own activates, including the dodge ball game with the Dept of Electrical and Computer Engineering, UoA.

**PART C - OTHERS**

**C.1 Special Events**
None.

**C.2 Relationship with National Societies**
We have an agreement with IPENZ, and we continued the practice of allowing members to attend seminars organized by the other party, including IET.

**C3. Collaboration with other IEEE Sections**

- Support extended to neighboring Sections
  
  We have joint chapters with NZ South and Central Section, and have been helping each other in seminar organizations, particularly DLs, conferences sponsorships, etc.

- Joint activities with any other Section
  
  We had joint activities, particular in organizing local and DL seminars.

**C.4 Support extended to Sub-sections & Society Chapters within the Section**

The Fiji subsection is formed under NZ North Section, and we plan to have some joint events. Our chapters are operating closely under the Section. The chapters don’t have their own accounts, so all the finances are under the section management directly.

**C.5 Best Practices of your Section (which you would like to share with other Sections for the benefits of members)**

Strong support to the student branches and YP, it is rewarding for both the young professionals and the Section.

**C.6 Problems anticipated and suggestions for solutions, if any**
None.

**PART D - GOALS AND PLANS**

**D.1 Continuation of project/activity in progress and their implementation plans**
We will continue to make the best use of our new Section website for running the Section. It is also a platform for information exchange and section management. We will also help to kick off the activities of newly formed SIGHT and Fiji Subsection, and give more support to YP, WIE, and the two existing student branches.

**D.2 Goals and Future Plans**
We will continue to align our goals and future plans with our Section Strategic plan (2013-2018). A summary of the main goals are shown below:
1. Create awareness of humanitarian issues and facilitate the development of sustainable technology services and solutions

2. Actively promote and recognize the activities and efforts of volunteers and members both nationally and globally

3. Increase positive visibility of NZ North Section in New Zealand

4. Organize and provide high quality technical, social and community related events

5. Enhance networking for members and external stakeholders by using latest technologies

6. Enhance local and global collaboration with other professional bodies

7. Create a sustainable, efficient and effective organisational structure to deliver to the Vision and ensure continuity through knowledge transfer and experience

8. Foster and support the activities of the Affinity Groups, Chapters and Student Branches of the NZ North Section.

9. Encourage volunteers and members to continue their involvement in IEEE.

**D.3 Any innovative ideas to make IEEE more creative and value added for sustaining the membership retention and recruitment goals.**

Provide more tangible benefits to members comparable to those experienced by American members. Discounts on conferences fees for members definitely help, but not all conference organizers are happy to give decent discounts, it would be great if the IEEE Headquarter can offer some subsidy.

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February 2016