MD Monthly—JUNE 2017

Membership Development Report

This report is issued monthly on behalf of the IEEE Member & Geographic Activities Board. Source data is IEEE membership statistics.

Contact: Elyn Perez, <u>elyn.perez@ieee.org</u>

MD Summers & Lindetee		Dagaa 1 0			Pages 8-9				
MD Summary & Updates	Pages 1-2								
Membership Year Goals & Progre	ess	Pages 3-6		Active Members	•		Page 10		
Retention & Recovery		Pages 7		Society & Speci	al Interest Men	nberships F	Pages 11-13		
				-	ent i				
Monthly Snapshot		YoY Vari	ance	Jun '17	Jun '16	May '17	Jun '17 vs. May '17		
IEEE Membership		-6,669	-1.8%	363,725	370,394	349,868	+4.0%		
Honorary	V	-2	-6.3%	30	32	30	0.0%		
Fellow		126	+1.7%	7,479	7,353	7,462	+0.2%		
Senior Member		1,662	+4.3%	40,320	38,658	39,548	+2.0%		
Member	V	-10,508	-4.6%	217,072	227,580	200,453	+8.3%		
Associate Member	V	-997	-14.5%	5,901	6,898	5,113	+15.4%		
Graduate Student	V	-419	-1.1%	36,589	37,008	39,052	-6.3%		
Undergraduate Student	\wedge	3,469	+6.6%	56,334	52,865	58,210	-3.2%		
Society Membership	0	-4,155	-1.4%	286,944	291,099	278,166	+3.2%		
15 Societies up > 1%		5,969	Societies Note	e: Sum of respectiv	e dains and loss	es with all counts	excluding Affili-		
4 Societies +/- 1%	ties +/- 1% 🔊 🔥 9					ps are down year			
20 Societies down > 1%	V	-10,133	3 -5,231 or -1.7%.						

MD Channel		June—Membership Year to Date												
MD Channel	'17	'16	'15	'14		'17	'16	'15	'14					
Retention	68.2%	69.3%	69.9%	70.1%	Pooruitmont	82,293	87,125	78,889	80,985					
Retention	262,762	264,218	271,510	275,727	Recruitment	02,295	07,125	10,009	00,905					
Higher-Grade	77.6%	78.7%	79.2%	80.1%	Deinetetement	19.045	10 111	17 224	16 620					
	229,720	232,107	237,217	238,836	Reinstatement	18,045	18,111	17,334	16,639					
STU/GSM	36.9%	37.2%	38.5%	38.8%	Recovery	04 754	22.042	06.027	02 472					
	33,042	32,111	34,293	36,891	(subset of Retention)	24,751	22,042	26,937	23,173					

MD Calendar	Recruitment Activities	Retention Activities
August	New Membership Year Begins – New members join- ing after 16 August are joining for the 2018 membership year and receive benefits through 31 December 2018. Promote: Get 16 months for the price of 12.	First-Year Members – Member retention begins the day after a new member joins IEEE, and re- ceives a personal greeting from like-minded mem- bers and Volunteers. Don't forget to make use of the new member rosters, available to Section and MD officers monthly. Visit <u>www.ieee.org/start</u>
September	New Membership Year Begins – New members join- ing in September get 16 months for the price of 12.	2018 Renewal Begins – Members can renew online anytime after 5 September. E-mail outreach- es commence the last week in September, includ- ing distribution of Member-Get-a-Member awards.





June MD Highlights

IEEE Membership

In June there was a turning point in the overall membership decline as it improved for the first time this membership year, from -2.8% last month to -1.8% this month. The two contributing factors were improvements in the undergraduate and graduate student recruitment <u>and</u> retention, and the fact that we have moved past the months of record recruitment in 2016 that have made year-over-year comparisons in 2017 look very bleak.

While at this point we will most likely end the membership year in August with an overall decline, we should continue to see that decline improve in the last two months of the year. In looking at the four-year trend (page 1), one can see that the levels of recruitment, reinstatement and arrears recovery activity are better than years prior to 2016. Renewal activity remains a challenge and is the biggest factor in determining overall membership growth.



2017 MD Goals Summary

- ⇒ 117 Sections have met their retention goals
- ⇒ 76 Sections have met their recruitment goals
- ⇒ 34 Sections have met both recruitment and retention goals

More detail, pages 3-5.

Recruitment

The decline in year-over-year recruitment has subsided for the first time in this membership year, from an all-year low of -7.0% last month to -5.5% this month. There was improvement in all categories. We saw continued growth in student recruitment, and the higher grade recruitment declines in Region 10 have subsided as move past the record recruitment period of 2016. We had record higher grade recruitment there through May of last year, and we are now returning to typical levels.

See more detail on recruitment, page 8.

Retention

June renewal activity was once again above average, the second highest June result on record. As such, the retention gap was reduced by half since last month and is behind by –0.9% instead of –1.8%. Renewal activity has been above average the last three months as more members are renewing later. First-year student member retention is the highest it has ever been and is driving the positive gains in overall first-year member retention.

Based on current trending, it is anticipated we will recover about 19%, or 27,500 members during the March-August time period. While this will be slightly more as a raw count than years past, it will not be enough to end the year with positive overall membership growth. We didn't have the recruitment gains either and that is working even more not in our favor.

To give one last push, MGA will be running one last additional incentive promotion to members in arrears during the month of June, a free *Proceedings* electronic subscription with their renewal.

Reach out to your members in arrears who have not yet renewed for 2017. In SAMIEEE utilize the query named "(MD) 2016 Last Renewal Year " to identify them. There is also a tab in the Section Vitality Dashboard for members in arrears.

See more detail on retention, page 7.

Society Membership

Overall Society memberships are also down year-over-year, by -1.4% following -2.2% last month—a significant improvement in the decline. We see the same trend here of the declines leveling off for the same reasons noted above. Also, more Societies are showing growth this month. The top Societies in terms of percentage growth thus far in the 2017 membership year are Systems, Man & Cybernetics (+12.4\%), Intelligent Transportation Systems (+8.8\%), and Power & Energy (+7.6\%).

Society membership details are on page 11.

Visit Us at Sections Congress in Sydney August 11-13!

Membership Development, Booth #18	IEEE Day, Booth #30
IEEE Collabratec Learning Hub	IEEE Humanitarian & Philanthropic Opportunities Pavilion





Membership Development Goals



Takako Hashimoto takako@cuc.ac.jp 2017 MRRC Chair

Membership Development goals are created for each individual Section for both recruitment and retention. On page 6 are the Section goals rolled up to the Region level for each channel. In this report, we will track progress to goal on the Region-level. You will find the Section levels goals and progress in your monthly Region MD report.

For 2017 goals, we reviewed five years of history. Each Section has a unique goal based on different dynamics - whether the Section has had growth or decline, as well as the overall size and location of the Section. Note that reinstatement goals are assigned on the Region level only.

Detail on the Section goals and progress are included in the Region-level MD reports. These reports are sent via e-mail once monthly. If you are not receiving your Region MD report, please contact your Region MD Chair.

For the complete listing of Section goals, visit the MD goals page on the MD portal, www.ieee.org/md.

Congratulations to these 34 Sections for earning the gold medal of recognition for meeting both their 2017 recruitment and retention goals already!

R1	Springfield Section	R8	Belarus Section	
R2	Delaware Bay Section	R8	Bosnia And Herzegovina Section	
R2	Central Pennsylvania Section	R8	Russia (Siberia) Section	1999
R3	Savannah Section	R9	El Salvador Section	2
R4	Fort Wayne Section	R9	Queretaro Section	Outstandin Recruitment a
R4	Northeast Michigan Section	R9	Panama Section	Rectultinent o
R4	Southern Minnesota Section	R9	Venezuela Section	
R4	Iowa-Illinois Section	R9	Bahia Section	
R5	Corpus Christi Section	R9	South Brazil Section	
R6	Eastern Idaho Section	R9	Costa Rica Section	
R6	Spokane Section	R9	Paraguay Section	
R6	Central Coast Section	R9	Puebla Section	
R6	Metropolitan Los Angeles Section	R10	Bombay Section	
R7	South Saskatchewan Section	R10	Changwon Section	
	Jordan Section	R10	Harbin Section	
R8	Iceland Section	R10	New Zealand South Section	
R8		R10	Gujarat Section	
R8	Latvia Section			



Section Recognition Awards

Each Section that meets their goal receives a special recognition in the form of an electronic banner that can be placed on Section websites, in newsletters, and even in e-mail signatures. Banners are distributed to the Section's Membership Development Chair, and/or Section Chair.

These Sections will also be recognized in the MD Monthly report, region level MD reports and on the MD portal, <u>www.ieee.org/md</u>.

Banners include the membership year and Section name in the graphic. A **silver award** will be given in either the recruitment or retention category once met. A **gold**

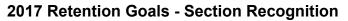
medal of recognition will be given once both goals are met.

At the end of the year, a special gift and certificate of recognition will be mailed to those who earned the gold award. Certificates of recognition will also be mailed to those who earned either silver award.



www.ieee.org/md









Berkshire Section R1 Binghamton Section Worcester County Section Springfield Section New Hampshire Section **Boston Section** New Jersey Coast Section Long Island Section **R2** Youngstown Section **Delaware Bay Section Cleveland Section R6** Central Pennsylvania Section **R3** Columbia Section Tallahassee Area Section Miami Section **Orlando Section** Chattanooga Section **Broward Section Coastal South Carolina Section** Lexington Section Memphis Section Winston-Salem Section **R7** Savannah Section Palm Beach Section Alabama Section Huntsville Section **Daytona Section** Atlanta Section Jacksonville Section R4 Fort Wayne Section Missouri Slope Section **Central Indiana Section** Northeast Michigan Section **R8** Twin Cities Section Madison Section Red River Valley Section Southern Minnesota Section (Iowa-Illinois Section Milwaukee Section

Sections That Already Met Their 2017 Retention Goal

 R5
 Beaumont Section

 El Paso Section
 Corpus Christi Section

 Baton Rouge Section
 High Plains Section

 Fort Worth Section
 New Orleans Section

 Central Texas Section
 Panhandle Section

 Dallas Section
 Dallas Section

Congratulations to the 117 Sections that have achieved their 2017 retention goal!

That is more than one third of Sections worldwide.

Fort Huachuca Section Eastern Idaho Section (Spokane Section Central Coast Section Metropolitan Los Angeles Section Palouse Section Western Montana Section Santa Clara Valley Section Tucson Section Buenaventura Section Alaska Section New Brunswick Section Kingston Section Ottawa Section Peterborough Section Quebec Section London Section Winnipeg Section South Saskatchewan Section Southern Alberta Section **Toronto Section** Victoria Section

Jordan Section Iceland Section Malta Section Croatia Section Latvia Section Finland Section **Belarus Section** Portugal Section Iraq Section **Bulgaria Section** Bosnia And Herzegovina Section Qatar Section Oman Section Egypt Section Switzerland Section France Section Russia (Siberia) Section South Africa Section

Region	# of Sections Met Goal	% of Sec- tions
1	8	36.4%
2	4	20.0%
3	17	41.5%
4	10	43.5%
5	10	38.5%
6	11	31.4%
7	11	55.0%
8	18	31.0%
9	15	42.9%
10	13	22.0%
Total	117	34.5%

Centro Occidente Section R9 El Salvador Section Veracruz Section Trinidad And Tobago Section Aquascalientes Section Queretaro Section 🔄 Panama Section (Venezuela Section Bahia Section 🔄 Rio De Janeiro Section **South Brazil Section** Costa Rica Section (**Minas Gerais Section** Paraguay Section **Puebla Section** R10 Bombay Section Uttar Pradesh Section **Changwon Section**

Taegu Section
Harbin Section
Australian Capital Terr Section
New Zealand North Section
Islamabad Section
New South Wales Section
Shin-Etsu Section
New Zealand South Section
Gujarat Section
Shanghai Section

Indicates a gold medal of recognition for meeting both recruitment and retention goals





2017 Recruitment Goals - Section Recognition

Congratulations to the 76 Sections that have achieved their recruitment goal! 33 more Sections joined the list this month:

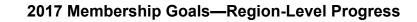


-

	ections That Already Met Their 2017	R8	Iceland Section
	Recruitment Goal		Zambia Section
₹1	Ithaca Section		Jordan Section
	Springfield Section 🥘		Russia (Northwest) Section
			Tunisia Section
R 2	Lima Section		Kenya Section
	Central Pennsylvania Section		Belarus Section
	Delaware Bay Section		Latvia Section
			Morocco Section
R3	Mobile Section		Romania Section
	Savannah Section 🥥		Greece Section
	Western North Carolina Section		Russia Section
	Canaveral Section		Ukraine Section
	Northwest Florida Section		Estonia Section
	Tri Cities Section		Russia (Siberia) Section 🥥
	Melbourne Section		Algeria Section
	Charlotte Section		Bosnia And Herzegovina Section
			Israel Section
D 4			
R4	Fort Wayne Section	R9	Costa Rica Section 🥥
	Northeast Michigan Section		Paraguay Section
	Iowa-Illinois Section		Queretaro Section
			Bahia Section 🦳 😾
R5	Corpus Christi Section		El Salvador Section
	Arkansas River Valley Section		Centro Norte Brasil Section
	Pikes Peak Section		Monterrey Section
			Venezuela Section
R6	Eastern Idaho Section 🤵		South Brazil Section
	Central Washington Section		Colombia Section
	Los Alamos/Northern New Mexico Section		Western Puerto Rico Section
	Central Montana Section		Puebla Section
	Metropolitan Los Angeles Section 👷		
	Central Coast Section		Panama Section 🥥
	Foothill Section	B 40	Harbin Section 🥘
	San Francisco Section	RIU	The second se
	Orange County Section		Northern Australia Section
	Utah Section		Changwon Section
	Eastern Montana Section		Bombay Section
	Spokane Section 🥌		Daejeon Section
			New Zealand South Section 🤤
R7	Newfoundland-Labrador Section		New Zealand Central Section
	South Saskatchewan Section 🥘		Gujarat Section
	Montreal Section		Chengdu Section
	Montreal Section		44
	Montreal Section		Kwangju Section Bangladesh Section

meeting both recruitment and retention goals





Below is a summary by Region showing the goal and progress to goal, as of the current month. Tenmonths into the membership year, the <u>percent to goal benchmark (last column in charts below) is</u> <u>83% or more.</u>

Retention	2017 Goal	2017 % Growth	2017 YTD	% to Goal
R1	81.8%	0.7%	80.7%	98.7%
R2	83.5%	1.2%	81.4%	97.5%
R3	79.1%	1.0%	77.6%	98.2%
R4	79.8%	1.1%	78.6%	98.5%
R5	78.7%	1.4%	77.6%	98.6%
R6	81.0%	1.7%	79.2%	97.7%
R7	75.7%	1.6%	75.0%	99.0%
R8	71.0%	1.8%	67.9%	95.6%
R9	52.4%	1.7%	50.4%	96.1%
R10	57.2%	1.9%	52.1%	91.1%
Total	71.6%	1.6%	68.2%	95.3%

Since most retention activity occurs in the first half of the membership year, the higher percentages to goal are expected. This is not a sign that retention is tracking far ahead.

The goals for retention growth are reflective of the last five years history, and are rather aggressive.

<u>117 Sections worldwide have already met or</u> <u>exceeded their retention goal! This is almost</u> <u>twice as many Sections as at this time last</u> <u>year!</u>

Recruitment	2017 Goal	2017 % Growth	2017 YTD	% to Goal
R1	3,816	5.1%	3,020	79.1%
R2	2,998	5.3%	2,373	79.2%
R3	4,217	6.8%	3,292	78.1%
R4	3,086	7.2%	2,372	76.9%
R5	3,898	8.1%	2,968	76.1%
R6	6,218	6.6%	5,589	89.9%
R7	2,876	9.7%	2,220	77.2%
R8	17,240	0.5%	15,343	89.0%
R9	6,535	7.0%	5,973	91.4%
R10	45,545	-9.2%	39,143	85.9%
Total	96,429	-2.4%	82,293	85.3%

Reinstatement	2017 Goal	2017 % Growth	2017 YTD	% to Goal
R1	1,302	5.0%	1,136	87.3%
R2	1,159	5.0%	958	82.6%
R3	1,334	5.0%	1,141	85.6%
R4	914	5.0%	786	86.0%
R5	1,256	5.0%	1,133	90.2%
R6	2,570	5.0%	2,357	91.7%
R7 🧙	694	5.0%	764	110.1%
R8	4,296	5.0%	3,709	86.3%
R9	1,149	5.0%	1,148	99.9%
R10	5,329	5.0%	4,913	92.2%
Total	20,001	5.0%	18,045	90.2%

Despite the year-over-year recruitment deficits, 46% of all Sections are at or above benchmark, and <u>76 Sections have already</u> met or exceeded their recruitment goal!

<u>Congratulations Region 9 for having the highest percentage of total Sections achieve their</u> <u>goals!</u>

Remember, goals are based on historical data so each Section is unique. This Sectionlevel data is then rolled up to the Region-level progress noted here.

Congratulations Region 7 (Canada) for surpassing the reinstatement goal of 5%!

Former members are a ripe pool of candidates to outreach to. Following the service deactivation, all members that were in an arrears status from last year move to an inactive status, so each year that pool grows.

Focus on sustaining reinstatement growth by regularly outreaching to them and/or inviting them to events.

All Regions are tracking above the goal benchmark. The goal is to grow reinstatement by 5%, which is the 4-year average historical growth rate.





June renewal activity was once again above average, the second highest June result on record. As such, the retention gap was reduced by half since last month and is behind by –0.9% instead of –1.8%. Renewal activity has been above average the last three months as more members are renewing later. First-year student member retention is the highest it has ever been and is driving the positive gains in overall first-year member retention.

		<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>
Thru June	Cumulative Recovered	24,751	22,042	26,937	23,173	24,670	19,671	15,990
	% of Total Deactivated	16.9%	15.6%	19.2%	16.4%	17.8%	15.8%	14.1%

Based on current trending, it is anticipated we will recover about 19%, or 27,500 members during the March-August time period. While this will be slightly more as a raw count than years past, it will not be enough to end the year with positive overall membership growth. We didn't have the recruitment gains either and that is working even more not in our favor.

<u>Make every effort to communicate with your members in arrears</u>. Every Section should be reaching out to this group. They can renew any time before 15 August to remain a member for 2017. Need help or ideas? Contact <u>elyn.perez@ieee.org</u>, or use the templates available on the MD portal, <u>www.ieee.org/md.</u>

	IEEE Membership Renewal / Retention - June 2017															
RE-	HIGH	IER GRA	DE w/o	GSM	GRA	DUATE	STUDE	NTS	UNDERGRADUATE STUDENTS				T	TOTAL MEMBERS		
GION	Oppor-		Renewal		Oppor-		Renewal		Oppor-		Renewal		Oppor-		Renewal	
	tunity	#	%, '17	%, '16	tunity	#	%, '17	%, '16	tunity	#	%, '17	%, '16	tunity	#	%, '17	%, '16
1	26,633	22,665	85.1%	84.8%	1,511	837	55.4%	56.0%	1,563	483	30.9%	33.1%	29,707	23,985	80.7%	80.7%
2	23,244	19,825	85.3%	85.0%	1,422	834	58.6%	60.1%	1,241	422	34.0%	43.5%	25,907	21,081	81.4%	81.9%
3	22,744	18,838	82.8%	82.8%	1,860	1,140	61.3%	65.8%	1,957	646	33.0%	33.2%	26,561	20,624	77.6%	77.7%
4	16,672	13,962	83.7%	83.0%	1,574	962	61.1%	62.8%	1,231	390	31.7%	33.3%	19,477	15,314	78.6%	78.1%
5	22,041	18,049	81.9%	81.9%	1,478	903	61.1%	61.7%	1,550	497	32.1%	30.0%	25,069	19,449	77.6%	76.9%
6	44,351	36,724	82.8%	83.2%	2,248	1,310	58.3%	55.9%	2,527	853	33.8%	32.8%	49,126	38,887	79.2%	78.9%
R 1-6	155,685	130,063	83.5%	83.5%	10,093	5,986	59.3%	60.1%	10,069	3,291	32.7%	33.6%	175,847	139,340	79.2%	79.1%
7	12,425	9,863	79.4%	78.6%	1,593	1,036	65.0%	64.5%	1,058	401	37.9%	36.1%	15,076	11,300	75.0%	73.7%
8	52,244	39,176	75.0%	75.6%	9,347	5,675	60.7%	60.8%	7,908	2,323	29.4%	29.1%	69,499	47,174	67.9%	68.5%
9	8,988	5,725	63.7%	61.7%	1,156	686	59.3%	60.3%	5,367	1,399	26.1%	26.7%	15,511	7,810	50.4%	49.9%
10	66,583	44,893	67.4%	71.6%	13,371	5,654	42.3%	45.0%	29,657	6,591	22.2%	18.2%	109,611	57,138	52.1%	54.1%
R 7-10	140,240	99,657	71.1%	73.1%	25,467	13,051	51.2%	53.3%	43,990	10,714	24.4%	22.0%	209,697	123,422	58.9%	60.4%
TOTAL	295,925	229,720	77.6%	78.7%	35,560	19,037	53.5%	55.3%	54,059	14,005	25.9%	24.5%	385,544	262,762	68.2%	69.3%

				First	-Year	Memb	Reten	tion -	June	2017						
RE-	HIGH	IER GRA	DE w/o	GSM	GRA	DUATE	STUDE	NTS	UNDER	GRADU	ATE STU	DENTS	Т	OTAL M	EMBER	S
GION	Oppor-		Renewal		Oppor-		Renewal		Oppor-		Renewal		Oppor-	Oppor- Renewal		
GION	tunity	#	%, '17	%, '16	tunity	#	%, '17	%, '16	tunity	#	%, '17	%, '16	tunity	#	%, '17	%, '16
1	1,750	567	32.4%	35.9%	652	249	38.2%	39.0%	1,217	310	25.5%	25.4%	3,619	1,126	31.1%	33.2%
2	1,437	502	34.9%	35.5%	576	244	42.4%	41.7%	902	233	25.8%	33.6%	2,915	979	33.6%	36.2%
3	1,756	609	34.7%	32.3%	758	337	44.5%	46.3%	1,485	392	26.4%	23.8%	3,999	1,338	33.5%	31.5%
4	1,291	430	33.3%	33.4%	685	298	43.5%	42.8%	929	237	25.5%	26.4%	2,905	965	33.2%	33.0%
5	1,820	621	34.1%	36.7%	591	271	45.9%	44.7%	1,191	300	25.2%	22.0%	3,602	1,192	33.1%	32.5%
6	3,050	1,096	35.9%	36.8%	905	355	39.2%	34.5%	1,895	530	28.0%	25.5%	5,850	1,981	33.9%	32.6%
R 1-6	11,104	3,825	34.4%	35.4%	4,167	1,754	42.1%	40.8%	7,619	2,002	26.3%	25.4%	22,890	7,581	33.1%	33.0%
7	1,286	417	32.4%	34.5%	630	303	48.1%	47.3%	718	192	26.7%	25.1%	2,634	912	34.6%	34.8%
8	6,435	1,775	27.6%	30.1%	4,417	1,993	45.1%	43.8%	6,063	1,317	21.7%	20.9%	16,915	5,085	30.1%	30.6%
9	1,600	359	22.4%	22.7%	508	194	38.2%	39.6%	4,052	731	18.0%	19.3%	6,160	1,284	20.8%	21.7%
10	16,576	4,811	29.0%	27.7%	8,514	2,504	29.4%	30.7%	25,101	4,250	16.9%	15.3%	50,191	11,565	23.0%	21.4%
R 7-10	25,897	7,362	28.4%	28.4%	14,069	4,994	35.5%	36.4%	35,934	6,490	18.1%	17.0%	75,900	18,846	24.8%	24.3%
TOTAL	37,001	11,187	30.2%	30.9%	18,236	6,748	37.0%	37.5%	43,553	8,492	19.5%	18.7%	98,790	26,427	26.8%	26.6%





Membership Recruitment Update

The decline in year-over-year recruitment has subsided for the first time in this membership year, from an all-year low of -7.0% last month to -5.5% this month. There was improvement in all categories—continued growth in student recruitment and turning the corner in higher grade recruitment declines in Region 10. We had record higher grade recruitment there through May of last year, and we are now returning to typical levels. Here is how each of the three categories impacted the overall result this month:

- Undergraduate recruitment is positive YoY +2.0%, from +0.7% last month
 - * Main drivers: Improvements continue in the two largest Regions, 8 and 10; Region 9 ahead by double digit percentage
 - * Last year at this time: undergraduate recruitment was +4.3%
- Graduate student recruitment continues to grow, up +2.5% from +2.0% last month
 - * Main drivers: Regions 9 and 10 growth
 - * Last year at this time: graduate student recruitment was +0.6%
- **Higher Grade recruitment** declines leveled off from –31.2% last month to –28.2%
 - * We pushed past the record recruitment period of 2016; declines will continue to shrink but not disappear
 - * Four regions now positive; Region 1 now ahead along with Regions 6, 8 and 9
 - * Last year at this time: higher grade recruitment was +39.2%, or 6,226 HG members and now this year we are down (6,245) HG members.

	Cumulative Recruitment - Sept through June 2017															
REGION	HIGI	HER GRA	DE w/o G	SMs	GR	ADUATE	STUDEN	TS	UNDE	RGRADU	ATE STU	DENTS		TOTAL M	EMBERS	
REGION	2017	2016	Cha	inge	2017	2016	Change		2017	2016	Cha	inge	2017	2016	Cha	nge
			#	%			#	%			#	%			#	%
1	889	879	10	1.1%	722	752	(30)	-4.0%	1,409	1,653	(244)	-14.8%	3,020	3,284	(264)	-8.0%
2	696	745	(49)	-6.6%	662	644	18	2.8%	1,015	1,189	(174)	-14.6%	2,373	2,578	(205)	-8.0%
3	759	856	(97)	-11.3%	871	814	57	7.0%	1,662	1,856	(194)	-10.5%	3,292	3,526	(234)	-6.6%
4	566	662	(96)	-14.5%	711	732	(21)	-2.9%	1,095	1,179	(84)	-7.1%	2,372	2,573	(201)	-7.8%
5	848	982	(134)	-13.6%	733	698	35	5.0%	1,387	1,561	(174)	-11.1%	2,968	3,241	(273)	-8.4%
6	1,828	1,785	43	2.4%	1,022	1,133	(111)	-9.8%	2,739	2,330	409	17.6%	5,589	5,248	341	6.5%
R 1-6	5,586	5,909	(323)	-5.5%	4,721	4,773	(52)	-1.1%	9,307	9,768	(461)	-4.7%	19,614	20,450	(836)	-4.1%
7	622	699	(77)	-11.0%	702	688	14	2.0%	896	885	11	1.2%	2,220	2,272	(52)	-2.3%
8	3,223	3,118	105	3.4%	4,342	4,672	(330)	-7.1%	7,778	7,626	152	2.0%	15,343	15,416	(73)	-0.5%
9	823	795	28	3.5%	606	527	79	15.0%	4,544	3,978	566	14.2%	5,973	5,300	673	12.7%
10	5,609	11,587	(5,978)	-51.6%	8,855	8,095	760	9.4%	24,679	24,005	674	2.8%	39,143	43,687	(4,544)	-10.4%
R 7-10	10,277	16,199	(5,922)	-36.6%	14,505	13,982	523	3.7%	37,897	36,494	1,403	3.8%	62,679	66,675	(3,996)	-6.0%
TOTAL	15,863	22,108	(6,245)	-28.2%	19,226	18,755	471	2.5%	47,204	46,262	942	2.0%	82,293	87,125	(4,832)	-5.5%



IEEE-USA Recruitment Incentive

In an effort to increase US higher-grade membership, IEEE-USA and MGA have partnered on a campaign that builds on the existing Member-Get-a-Member program.

Higher-grade members in the US are eligible to submit referrals through a special online form. An automated email invites the referral to join and offers a US\$25 discount on their first year (16 August - 28 February), or to

join at the special half year dues rate (1 March – 15 August). For each successful new recruit, the referring member can select an IEEE-USA branded merchandise item including a hat, cooler, backpack, golf balls, pen sets, portable charger, tablet case, umbrella and more.

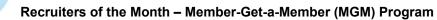
MGA promotes the program in the monthly Benefits Bulletin, and <u>US Sections and Regions should promote the program on</u> their own website. For more information on how to do this, contact Elyn Perez, <u>elyn.perez@ieee.org</u>.

Membership Year	2017 To Date	2016 Total	2015 Total	2014 Total	Program To Date
Referrals Submitted	497	1,094	941	1,240	3,772
Referrals Joined	229	475	224	397	1,325
% of Referrals Joined	46.1%	43.4%	23.8%	32.0%	35.1%
# New US HG Members	142	377	168	295	982

Sections are encouraged to **promote the Member-Get-a-Member referral program** to existing members, especially within the student branches in your Section. Need help or ideas? E-mail d.maestri@ieee.org







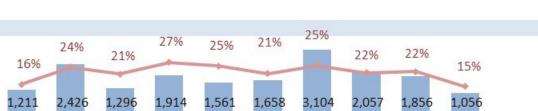
We are pleased to recognize this month's top program participants. The IEEE Member-Get-a-Member (MGM) program is popular with student members and therefore the program results often ebb and flow with the academic school year.

MD. Naimur Rahman	R10, Bangladesh Section	31 new members
Navnidh Bhalla	R10, Singapore Section	24 new members
Tito Nunciragacharna	R9, Colombia Section	23 new members
Fatimah Alaydrus	R10, Indonesia Section	20 new members
Ayush Girdhar	R10, Delhi Section	15 new members
Sattar Bader Sadkhan	R8, Iraq Section	14 new members
Jaeyong Kweon	R10, Seoul Section	13 new members
Kirubakaran S	R10, Madras Section	12 new members
Swathi N	R10, Madras Section	12 new members
Fernando Chipana Medina	R9, Peru Section	11 new members
Paul Fernandez Ortega	R9, Bolivia Section	11 new members
Isik Altuntas	R8, Turkey Section	11 new members
Muhammad Saeed UI Hassan Raza	R10, Islamabad Section	10 new members
Mohammad Siddique	R8, Oman Section	10 new members
Hazna Hanifa	R10, Indonesia Section	10 new members

2017 MGM Recruits YTD: 18,139 new members*

Same period last year: 18,293*

Year-over-year: -0.8%



FEB

MAR

APR

----- % of Total Recruitment

MAY

JUN

3,750

3,000

2,250

1,500

750

0

SEP

NOV

OCT

DEC

MGM Recruitment

JAN

*Eligible referrals under the program rules.

MGM awards for the 2017 membership year will be sent via e-mail in late September, to the member's primary e-mail address on record.

Sections can earn awards for top recruiting activity. To learn more, go to <u>www.ieee.org/mgm</u> or contact Denise Maestri, <u>d.maestri@ieee.org</u>.

40%

30%

20%

10%

0%

JUL

AUG





Overall IEEE Membership by Region and Grade Category

Green shading = year-over-year growth >1.0%; Yellow shading = +/- 0.99%; Red shading > (1.0%)

	Geographic IEEE Membership Summary - June 2017															
RE-	Hig	her-Grad	de w/o G	SM	G	raduate	Student	ts	Und	ergradu	ate Stud	ents	Т		IEMBER	S
GION	2017	2016	Cha	nge	2017	2016	16 Change		2017	2016	Change		2017	2016	Cha	inge
			#	%			#	%			#	%			#	%
1	25,255	26,080	(825)	-3.2%	1,438	1,546	(108)	-7.0%	1,436	1,621	(185)	-11.4%	28,129	29,247	(1,118)	-3.8%
2	21,859	22,680	(821)	-3.6%	1,315	1,457	(142)	-9.7%	1,099	1,372	(273)	-19.9%	24,273	25,509	(1,236)	-4.8%
3	21,433	21,884	(451)	-2.1%	1,906	1,968	(62)	-3.2%	1,834	2,132	(298)	-14.0%	25,173	25,984	(811)	-3.1%
4	15,647	16,126	(479)	-3.0%	1,548	1,585	(37)	-2.3%	1,224	1,327	(103)	-7.8%	18,419	19,038	(619)	-3.3%
5	20,536	21,342	(806)	-3.8%	1,532	1,528	4	0.3%	1,495	1,720	(225)	-13.1%	23,563	24,590	(1,027)	-4.2%
6	42,314	43,107	(793)	-1.8%	2,253	2,363	(110)	-4.7%	2,744	2,711	33	1.2%	47,311	48,181	(870)	-1.8%
R 1-6	147,044	151,219	(4,175)	-2.8%	9,992	10,447	(455)	-4.4%	9,832	10,883	(1,051)	-9 .7%	166,868	172,549	(5,681)	-3.3%
7	11,437	11,777	(340)	-2.9%	1,732	1,781	(49)	-2.8%	1,112	1,048	64	6.1%	14,281	14,606	(325)	-2.2%
8	47,031	48,182	(1,151)	-2.4%	9,667	10,249	(582)	-5.7%	9,459	8,734	725	8.3%	66,157	67,165	(1,008)	-1.5%
9	7,697	7,824	(127)	-1.6%	1,270	1,209	61	5.0%	6,064	5,498	566	10.3%	15,031	14,531	500	3.4%
10	57,593	61,519	(3,926)	-6.4%	13,928	13,322	606	4.5%	29,867	26,702	3,165	11.9%	101,388	101,543	(155)	-0.2%
R 7-10	123,758	129,302	(5,544)	-4.3%	26,597	26,561	36	0.1%	46,502	41,982	4,520	10.8%	196,857	197,845	(988)	-0.5%
TOTAL	270,802	280,521	(9,719)	-3.5%	36,589	37,008	(419)	-1.1%	56,334	52,865	3,469	6.6%	363,725	370,394	(6,669)	-1.8%

Note: e-Members are included in the higher-grade counts of Regions 3, 8, 9, and 10. Life Members are included in Higher Grade counts.

- Overall membership is behind -1.8% YoY, improved from -2.8% last month
 - First improvement in the decline all year
 - Main drivers: Strong renewal activity, strong STU/GSM recruitment, leveled off HG declines
 - Last year this time was +0.3% (and same trend of first month of improvement for the year)
- **Higher-grade membership** behind by -3.5%, was -3.6% last month
 - Region 10 HG has been the biggest factor, but we are now past the higher growth periods of last year
 - Last year overall HG was +0.3%
- **GSM grade** down -1.1% over last year, second month in a row negative
 - Last year this time was –2.3%
- STU membership completely turned around and is ahead +6.6%, was –1.0% last month
 - Main driver: Strong, positive recruitment and renewal activity
 - Last year this time was +2.1%







Society Memberships

IEEE Society Membership Totals as of June 2017																				
SOCIETY / DIVISION	Grade M	lembers a GSMs)	Cha	inge	IEEE S Mem	tudent ibers	Cha	nge		ciety iates	Cha	ange		/ Totals ffiliates)	Cha	inge		<mark>y Totals</mark> affiliates)	Cha	nge
IEEE Societies DIVISION I	2017	2016	#	%	2017	2016	#	%	2017	2016	#	%	2017	2016	#	%	2017	2016	#	%
Circuits & Systems	8,610	9,161	-551	-6.0%	358	427	-69	-16.2%	41	44	-3	-6.8%	9,009	9,632	-623	-6.5%	8,968	9,588	-620	-6.5%
Electron Devices	9,145	8,934	211	2.4%	587	327	260	79.5%	40	42	-2	-4.8%	9,772	9,303	469	5.0%	9,732	9,261	471	5.1%
Solid-State Circuits	9,078	9,164	-86	-0.9%	185	257	-72	-28.0%	90	86	4	4.7%	9,353	9,507	-154	-1.6%	9,263	9,421	-158	-1.7%
Div I Subtotal DIVISION II	26,833	27,259	-426	-1.6%	1,130	1,011	119	11.8%	171	172	-1	-0.6%	28,134	28,442	-308	-1.1%	27,963	28,270	-307	-1.1%
Components,	2,155	2,264	-109	-4.8%	66	32	34	106.3%	28	26	2	7.7%	2,249	2,322	-73	-3.1%	2,221	2,296	-75	-3.3%
Packaging & Mfg Tech Dielectrics & Electrical		-																		
Insulation	1,871	1,982	-111	-5.6%	10	20	-10	-50.0%	25	29	-4	-13.8%	1,906	2,031	-125	-6.2%	1,881	2,002	-121	-6.0%
Industry Applications	10,262	10,184	78	0.8%	2,822	2,100	722	34.4%	43	41	2	4.9%	13,127	12,325	802	6.5%	13,084	12,284	800	6.5%
Instrumentation & Measurements	3,456	3,544	-88	-2.5%	87	87	0	0.0%	21	15	6	40.0%	3,564	3,646	- <mark>8</mark> 2	-2.2%	3,543	3,631	-88	-2.4%
Power Electronics	7,526	7,230	296	4.1%	638	566	72	12.7%	25	19	6	31.6%	8,189	7,815	374	4.8%	8,164	7,796	368	4.7%
Ultrasonics, Ferroelectrics, Freq Ctrl	2,056	2,079	-23	-1.1%	42	69	-27	-39.1%	39	39	0	0.0%	2,137	2,187	-50	-2.3%	2,098	2, <mark>1</mark> 48	-50	-2.3%
Div II Subtotal	27,326	27,283	43	0.2%	3,665	2,874	791	27.5%	181	169	12	7.1%	31,172	30,326	846	2.8%	30,991	30,157	834	2.8%
DIVISION III																				
Communications	24,634	26,886	-2,252	-8.4%	785	702	83	11.8%	354	369	-15	-4.1%	25,773	27,957	-2,184	-7.8%	25,419	27,588	-2,169	-7.9%
DIVISION IV Antennas &	0.000	7 000	15	0.001	0.45	400	40	0.001			-	0.00%	0.000	0.010	50	0.70	0.010	0.407		0.70
Propagation	8,033	7,988	45	0.6%	215	199	16	8.0%	51	56	-5	-8.9%	8,299	8,243	56	0.7%	8,248	8,187	61	0.7%
Broadcast Technology Consumer Electronics	1,567 2,523	1,548 2,651	19 -128	1.2% -4.8%	78 93	41 100	37 -7	90.2% -7.0%	24 16	20 16	4	20.0%	1,669 2,632	1,609 2,767	60 -135	3.7%	1,645 2,616	1,589 2,751	56 -135	3.5%
Electromagnetic	3,417		-120	-4.6%	47	37	-7	27.0%	36	38	-2	-5.3%	3,500	3,650	-150	-4.1%	3,464	3,612	-135	-4.1%
Compatibility		3,575											-							
Magnetics Microwave Theory &	2,581	2,700	-119	-4.4%	44	51	-7	-13.7%	68	62	6	9.7%	2,693	2,813	-120	-4.3%	2,625	2,751	-126	-4.6%
Techniques Nuclear & Plasma	10,041	10,259	-218	-2.1%	268	274	-6	-2.2%	26	27	-1	-3.7%	10,335	10,560	-225	-2.1%	10,309	10,533	-224	-2.1%
Sciences	2,707	2,648	59	2.2%	126	68	58	85.3%	41	40	1	2.5%	2,874	2,756	118	4.3%	2,833	2,716	117	4.3%
Div IV Subtotal DIVISION V/VIII	30,869	31,369	-500	-1.6%	871	770	101	13.1%	262	259	3	1.2%	32,002	32,398	-396	-1.2%	31,740	32,139	-399	-1.2%
Computer	37,545	42,622	-5,077	-11.9%	4,133	3,003	1,130	37.6%	6.387	7,131	-744	-10.4%	48,065	52,756	-4,691	-8.9%	41,678	45,625	-3,947	-8.7%
DIVISION VI																				
Education	2,996	3,035	-39	-1.3%	55	66	-11	-16.7%	39	32	7	21.9%	3,090	3,133	-43	-1.4%	3,051	3,101	-50	-1.6%
Industrial Electronics Product Safety	6,207	5,926	281	4.7%	218	205	13	6.3%	27	25	2	8.0%	6,452	6,156	296	4.8%	6,425	6,131	294	4.8%
Engineering	744	743	1	0.1%	22	29	-7	-24.1%	10	14	-4	-28.6%	776	786	-10	-1.3%	766	772	-6	-0.8%
Professional Communication	601	603	-2	-0.3%	33	15	18	120.0%	50	44	6	13.6%	684	662	22	3.3%	634	618	16	2.6%
Reliability Social Implications of	1,484	1,583	-99	-6.3%	58	12	46	383.3%	21	18	3	16.7%	1,563	1,613	-50	-3.1%	1,542	1,595	-53	-3.3%
Technology	1,347	1,384	-37	-2.7%	86	62	24	38.7%	22	16	6	37.5%	1,455	1,462	-7	-0.5%	1,433	1,446	-13	-0.9%
Technology and Enginee		2,659	-21	-0.8%	181	65	116	178.5%	33	29	4	13.8%	2,852	2,753	99	3.6%	2,819	2,724	95	3.5%
Div VI Subtotal DIVISION VII	16,017	15,933	84	0.5%	653	454	199	43.8%	202	178	24	13.5%	16,872	16,565	307	1.9%	16,670	16,387	283	1.7%
Power & Energy	28,545	28,141	404	1.4%	5,920	3,899	2,021	51.8%	377	354	23	6.5%	34,842	32,394	2,448	7.6%	34,465	32,040	2,425	7.6%
DIVISION IX																				
Aerospace & Electronic Systems	4,209	4,182	27	0.6%	212	180	32	17.8%	19	21	-2	-9.5%	4,440	4,383	57	1.3%	4,421	4,362	59	1.4%
Geoscience & Remote Sensing	3,207	3,117	90	2.9%	157	100	57	57.0%	166	166	0	0.0%	3,530	3,383	147	4.3%	3,364	3,217	147	4.6%
Information Theory	2,877	2,999	-122	-4.1%	70	70	0	0.0%	27	26	1	3.8%	2,974	3,095	-121	-3.9%	2,947	3,069	-122	-4.0%
Intelligent Transportation	1,493	1,385	108	7.8%	43	27	16	59.3%	22	17	5	29.4%	1,558	1,429	129	9.0%	1,536	1,412	124	8.8%
Systems Oceanic Engineering	1,557	1,610	-53	-3.3%	69	46	23	50.0%	32	23	9	39.1%	1,658	1,679	-21	-1.3%	1,626	1,656	-30	-1.8%
Signal Processing	14,513	15,321	-808	-5.3%	471	829	-358	-43.2%	160	146	14	9.6%	15,144	16,296	-1,152	-7.1%	14,984	16,150	-1,166	-7.2%
Vehicular Technology	4,067	3,939	128	3.2%	113	99	14	14.1%	22	16	6	37.5%	4,202	4,054	148	3.7%	4,180	4,038	142	3.5%
Div IX Subtotal DIVISION X	31,923	32,553	-630	-1.9%	1,135	1,351	-216	-16.0%	448	415	33	8.0%	33,506	34,319	-813	-2.4%	33,058	33,904	-846	-2.5%
Computational	6,014	5,804	210	3.6%	457	317	140	44.2%	73	74	-1	-1.4%	6,544	6,195	349	5.6%	6,471	6,121	350	5.7%
Intelligence Control Systems	7,826	7,930	-104	-1.3%	239	229	10	4.4%	66	69	-3	-4.3%	8,131	8,228	-97	-1.2%	8,065	8,159	-94	-1.2%
Engineering in	7,560	8,363	-803	-9.6%	978	878	100	11.4%	218	632	-414	-65.5%	8,756	9,873	-1,117	-11.3%	8,538	9,241	-703	-7.6%
Medicine & Biology Photonics	5,345	5,420	-603	-9.6%	109	88	21	23.9%	153	155	-414	-05.5%	5,607	5,663	-1,117	-11.3%	5,454	5,508	-703	-1.0%
Robotics & Automation	9,875	9,840	35	0.4%	1,990	2,058	-68	-3.3%	127	120	7	5.8%	11,992	12,018	-26	-0.2%	11,865	11,898	-33	-0.3%
Systems, Man & Cybernetics	4,419	3,949	470	11.9%	148	113	35	31.0%	36	34	2	5.9%	4,603	4,096	507	12.4%	4,567	4,062	505	12.4%
Div X Subtotal TOTAL	41,039	41,306	-267	-0.6%	3,921	3,683	238	6.5%	673	1,084	-411	-37.9%	45,633	46,073	-440	-1.0%	44,960	44,989	-29	-0.1%
TOTAL	204,731	273,352	-8,621	-3.2%	22,213	17,747	4,466	25.2%	9,055	10,131	-1,076	-10.6%	295,999	301,230	-5,231	-1.7%	286,944 WWW.	291,099	-4,155	-1.4%

www.ieee.org/md





Special Interest Memberships



IEEE Women in Engineering (WIE) membership is only available to IEEE members. WIE membership is free for students, graduate students and life members. Professional members pay a WIE membership fee.

Grade	This Month '17	This Month '16	YoY # Chg	YoY % Chg
Fellow	111	100	11	11.0%
Senior Member	763	693	70	10.1%
Member	3552	3347	205	6.1%
Associate Member	107	93	14	15.1%
Graduate Student	2054	2013	41	2.0%
Student	11289	9397	1892	20.1%
Total	17,876	15,643	2,233	14.3%

Region	This Month '17	This Month '16	YoY # Chg	YoY % Chg
U.S.	3052	2937	115	3.9%
Canada	381	354	27	7.6%
Europe, Middle East, Africa	2915	2483	432	17.4%
Latin America	2265	2084	181	8.7%
Asia Pacific	9263	7785	1478	19.0%
Total	17,876	15,643	2,233	14.3%

IEEE STANDARDS ASSOCIATION

Grade	This Month '17	This Month '16	YoY # Chg	YoY % Chg
Student	47	37	10	27.0%
Higher Grade	6,280	6,031	249	4.1%
Affiliate	58	58	0	0.0%
SA Only Members	440	434	6	1.4%
Total	6,825	6,560	265	4.0%

IEEE Standards Association members may also be IEEE members or Society Affiliates. However IEEE or Society membership is not a requirement to join. These individuals join the Standards Association for the benefit of being able to ballot on standards projects and assume leadership roles within a working group.





Special Interest Memberships

IEEE youngprofessionals

Membership in IEEE Young Professionals is automatically given to Graduate Students and higher grade members within 15 years of receiving their first professional degree, and higher grade members beyond 15 years who wish to opt in, at no additional cost.

	Geographic IEEE Young Professionals - June 2017													
Region	Highe	r Grade w	o GSM	Т	otal Stude	nts		Total						
	2017	2016		2017	2016		2017	2016						
	#	#	% Change	#	#	% Change	#	#	% Change					
1	3,323	3,031	9.6%	1,374	1,466	-6.3%	4,697	4,497	4.4%					
2	2,829	2,613	8.3%	1,255	1,379	-9.0%	4,084	3,992	2.3%					
3	3,109	2,807	10.8%	1,825	1,826	-0.1%	4,934	4,633	6.5%					
4	2,593	2,448	5.9%	1,466	1,498	-2.1%	4,059	3,946	2.9%					
5	3,164	2,984	6.0%	1,452	1,434	1.3%	4,616	4,418	4.5%					
6	6,394	5,842	9.4%	2,137	2,235	-4.4%	8,531	8,077	5.6%					
R 1-6	21,412	19,725	8.6%	9,509	9,838	-3.3%	30,921	29,563	4.6%					
7	2,319	2,300	0.8%	1,660	1,684	-1.4%	3,979	3,984	-0.1%					
8	11,453	11,677	-1.9%	9,478	9,664	-1.9%	20,931	21,341	-1.9%					
9	2,189	2,106	3.9%	1,370	1,097	24.9%	3,559	3,203	11.1%					
10	14,406	13,049	10.4%	14,056	12,558	11.9%	28,462	25,607	11.1%					
R 7-10	30,367	29,132	4.2%	26,564	25,003	6.2%	56,931	54,135	5.2%					
TOTAL	51,779	48,857	6.0%	36,073	34,841	3.5%	87,852	83,698	5.0%					



ETA KAPPA NU

Electrical and Computer Engineering Honor Society

Active IEEE Members that belong to Eta Kappa Nu

	Geographic IEEE HKN Membership - June 2017													
Region	Highe	r Grade w	/o GSM	Тс	otal Stude	nts		Total						
	2017	2016		2017	2016		2017	2016						
	#	#	% Change	#	#	% Change	#	#	% Change					
1	1,173	1,221	-3.9%	191	279	-31.5%	1,364	1,500	-9.1%					
2	1,127	1,156	-2.5%	137	265	-48.3%	1,264	1,421	-11.0%					
3	1,094	1,173	-6.7%	227	378	-39.9%	1,321	1,551	-14.8%					
4	807	861	-6.3%	174	397	-56.2%	981	1,258	-22.0%					
5	1,130	1,211	-6.7%	197	374	-47.3%	1,327	1,585	-16.3%					
6	1,644	1,520	8.2%	309	433	-28.6%	1,953	1,953	0.0%					
R 1-6	6,975	7,142	-2.3%	1,235	2,126	-41.9%	8,210	9,268	-11.4%					
7	36	36	0.0%	3	4	-25.0%	39	40	-2.5%					
8	83	77	7.8%	13	27	-51.9%	96	104	-7.7%					
9	44	48	-8.3%	13	57	-77.2%	57	105	-45.7%					
10	118	116	1.7%	21	45	-53.3%	139	161	-13.7%					
R 7-10	281	277	1.4%	50	133	-62.4%	331	410	-19.3%					
TOTAL	7,256	7,419	-2.2%	1,285	2,259	-43.1%	8,541	9,678	-11.7%					

www.ieee.org/md