



IEEE Aerospace Electronic Systems VP Finances

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*(with thanks to Bob Rassa, Mike Cardinale, Mike Noble,
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2022 AESSE Strategic Planning Meeting

14 February 2023

- Objective 1: Develop plan for comfortable reserve level.
 - We have about \$12.5 million "in the bank," but how much would it be comfortable to spend this down to?
 - Several suggestions are later in this presentation.
- Objective 2: Explore initiative for contest with significant prize money.
 - Finance committee met and was excited about a contest of the "Signal Processing Cup" sort, with milestones and goals, competed at an AESS conference.
 - We can [Bob] develop a prize of \$25k with no need to get IEEE BoG approval, but there is no need to be constrained by that.
- No motions from Finance.

Summary Budget – Revenue



		FY21 Final Total Plan Actual YearTotal2	FY22 Final Total Plan Budget YearTotal	FY22 Final Total Plan Sep Fcst YearTotal	FY23 First View Total Plan Budget YearTotal	FY23 First Pass Inpu Total Plan Budget YearTotal	FY23 First Pass Total Plan Budget YearTotal	FY23 Final Total Plan Budget YearTotal
PD_000000 - None	CC_21020 - Meetings /Conference	9	17	9	17	17	17	17
PD_000000 - None	CC_21030 - Soc Publication Related Support	0	0	0	0	0	0	0
PD_505002 - Society Education Products	CC_00000 - None	0		0				
PD_306001 - Society Membership	CC_00000 - None	85	80	85	84	84	84	84
PD_140009 - Aerospace & Electronic Conferences Digital Library	CC_00000 - None		0					
PD_120023 - Trans on Aerospace & Electronic Systems	CC_00000 - None	807	1064	1218	1191	1191	1191	1191
PD_120111 - Journal of Lightwave Technology	CC_00000 - None	36	48	51	52	52	52	52
PD_120152 - IEEE Journal of Miniaturization for Air & Space Systems	CC_00000 - None	1	2	1	2	2	2	2
PD_120160 - Open Journal of Systems Engineering	CC_00000 - None				5	5	5	5
PD_120166 - Transactions on Radar Systems	CC_00000 - None				8	8	8	8
PD_110008 - Aerospace & Electronic Systems Magazine	CC_00000 - None	151	187	215	168	168	168	168
PD_220006 - Conference Distributed Package Products	CC_00000 - None	730	1238	1279	1248	1248	1248	1248
PD_210102 - (WISEE)International Conference on Wireless for Space and Extreme En	CC_00000 - None	0		0				
PD_210103 - (MetroAeroSpace)International Workshop on Metrology for AeroSpace	CC_00000 - None	23	47	0				
PD_210161 - Aerospace Conference	CC_00000 - None	227	827	827				
PD_210219 - (ICNS)Integrated Communications, Navigation, Surveillance Conference	CC_00000 - None	10		0				
PD_210245 - (DASC)Digital Avionics Systems Conference	CC_00000 - None	74	75	1				
PD_210485 - Radar Conference	CC_00000 - None	692	849	835				
PD_210585 - Other Conference Events	CC_00000 - None	-210	291	268	1917	1649	1649	1649
PD_210608 - (FUSION)International Conference on Information Fusion	CC_00000 - None	56		39				
PD_210645 - AUTOTESTCON	CC_00000 - None	-43		144				
OPERATIONAL REVENUE		2644	4724	4972	4691	4424	4424	4424

change from net to gross



placeholder



Summary Budget – Expense



		FY21 Final Total Plan Actual YearTotal2	FY22 Final Total Plan Budget YearTotal	FY22 Final Total Plan Sep Fcst YearTotal	FY23 First View Total Plan Budget YearTotal	FY23 First Pass Input Total Plan Budget YearTotal	FY23 First Pass Total Plan Budget YearTotal	FY23 Final Total Plan Budget YearTotal
PD_000000 - None	CC_21015 - Societies Operations	466	665	631	695	791	790	790
PD_000000 - None	CC_21020 - Meetings /Conference	28	51	33	53	53	53	53
PD_000000 - None	CC_10130 - Education Committee	3	1	0	1	1	1	1
PD_000000 - None	CC_10135 - Membership Committee	2	1	1	1	1	1	1
PD_000000 - None	CC_10140 - Awards Committee	3	17	3	17	17	17	17
PD_000000 - None	CC_10155 - Chapter Committee	8	30	14	30	30	30	30
PD_000000 - None	CC_10160 - Other Committee	0	15	0	15	15	15	15
PD_505002 - Society Education Products	CC_00000 - None	4	3	3	3	3	3	3
PD_306001 - Society Membership	CC_00000 - None	2	0	7	3	3	3	3
PD_140009 - Aerospace & Electronic Conferences Digital Library	CC_00000 - None	5	6	6	6	6	6	6
PD_120023 - Trans on Aerospace & Electronic Systems	CC_00000 - None	208	595	624	616	618	618	618
PD_120111 - Journal of Lightwave Technology	CC_00000 - None	17	34	34	36	36	36	36
PD_120152 - IEEE Journal of Miniaturization for Air & Space Systems	CC_00000 - None	1	2	2	2	2	3	3
PD_120160 - Open Journal of Systems Engineering	CC_00000 - None			0	6	6	6	6
PD_120166 - Transactions on Radar Systems	CC_00000 - None				11	11	11	11
PD_110008 - Aerospace & Electronic Systems Magazine	CC_00000 - None	174	262	239	161	263	263	263
PD_220006 - Conference Distributed Package Products	CC_00000 - None		669	668	678	678	678	678
PD_210102 - (WiSEE)International Conference on Wireless for Space and Extreme En	CC_00000 - None	0		0				
PD_210103 - (MetroAeroSpace)International Workshop on Metrology for AeroSpace	CC_00000 - None	19	41	0				
PD_210161 - Aerospace Conference	CC_00000 - None	196	689	689				
PD_210219 - (ICNS)Integrated Communications, Navigation, Surveillance Conference	CC_00000 - None	8		0				
PD_210245 - (DASC)Digital Avionics Systems Conference	CC_00000 - None	50	40	0				
PD_210485 - Radar Conference	CC_00000 - None	449	679	673				
PD_210585 - Other Conference Events	CC_00000 - None	-69	230	278	1571	1223	1223	1223
PD_210608 - (FUSION)International Conference on Information Fusion	CC_00000 - None	43		31				
PD_210613 - (IWQOS)International Symposium on Quality of Service	CC_00000 - None			0				
PD_210645 - AUTOTESTCON	CC_00000 - None	0		14				
PD_210668 - (SusTech)Conference on Technologies for Sustainability	CC_00000 - None			0				
TOTAL EXPENSE		1616	4029	3948	3904	3757	3756	3756

change from net to gross

place-holder



Summary Budget – Bottom Line



		FY21	FY22	FY22	FY23	FY23	FY23	FY23
		Final	Final	Final	First View	First Pass Input	First Pass	Final
		Total Plan	Total Plan	Total Plan	Total Plan	Total Plan	Total Plan	Total Plan
		Actual	Budget	Sep Fcst	Budget	Budget	Budget	Budget
		YearTotal2	YearTotal	YearTotal	YearTotal	YearTotal	YearTotal	YearTotal
Total from Operations		1028	695	1024	787	666	667	667
Total Expense	CC_21065 - Society Initiatives	0	0	3	0	0	172	172
Total Expense	CC_21075 - IEEE Reserve Allocation	-1232		0				
Total Net	All Cost Center	2260	695	1021	787	666	495	495



Summary Budget



	FY20			FY21			FY22			FY23		
	Actual			Actual			Budget			Budget		
	Final			Final			Final			Final		
	Revenue	Expense	Net	Revenue	Expense	Net	Revenue	Expense	Net	Revenue	Expense	Net
CC_10130 - Education Committee	-	1.5	(1.5)	-	3.0	(3.0)	-	1.0	(1.0)	-	1.0	(1.0)
CC_10135 - Membership Committee	-	4.3	(4.3)	-	1.5	(1.5)	-	1.0	(1.0)	-	1.0	(1.0)
CC_10140 - Awards Committee	-	9.2	(9.2)	-	2.8	(2.8)	-	16.5	(16.5)	-	16.5	(16.5)
CC_10155 - Chapter Committee	-	0.1	(0.1)	-	8.2	(8.2)	-	30.0	(30.0)	-	30.0	(30.0)
CC_10160 - Other Committee	-	-	-	-	-	-	-	15.0	(15.0)	-	15.0	(15.0)
CC_21015 - Societies Operations	-	483.2	(483.2)	-	466.0	(466.0)	-	665.5	(665.5)	-	790.1	(790.1)
CC_21020 - Meetings /Conference	16.4	43.8	(27.4)	8.9	27.7	(18.8)	16.6	50.8	(34.2)	17.1	53.0	(35.9)
CC_21030 - Soc Publication Related Support	0.0	-	0.0	-	-	-	0.2	-	0.2	0.2	-	0.2
CC_21065 - Society Initiatives	-	-	-	-	-	-	-	-	-	-	172.0	(172.0)
CC_21075 - IEEE Reserve Allocation	-	(1,007.4)	1,007.4	-	(1,232.0)	1,232.0	-	-	-	-	-	-
PD_500000 - Education Products	0.1	3.0	(2.9)	0.1	4.0	(3.9)	-	3.0	(3.0)	-	3.0	(3.0)
PD_300000 - Membership Products	87.7	0.2	87.5	84.6	2.4	82.1	79.7	0.2	79.5	84.3	2.5	81.8
PD_100000 - Periodical Products	935.6	371.7	563.9	993.3	405.2	588.2	1,301.2	898.4	402.8	1,425.1	942.9	482.2
PD_200000 - Conference Products	2,181.0	1,075.5	1,105.5	1,557.4	695.6	861.8	3,326.5	2,347.6	978.8	2,896.9	1,901.3	995.6
Total Cost Center	3,220.9	985.2	2,235.7	2,644.3	384.3	2,259.9	4,724.2	4,029.0	695.2	4,423.7	3,928.3	495.3



- Revenue: \$807k
 - Open Access revenue: \$34k
 - Voluntary page charge revenue: \$4k
 - Overlength page charge (OLPC) revenue: \$300k
 - ASPP revenue: \$445k
 - IEL revenue: \$0
- Expense: **\$208k**
 - Production Expense: **\$56k**
 - Internal IEEE/S1 Expense: **\$152k**
- Profit: \$598k

2021

- Revenue: \$1290k
 - Open Access revenue: \$27k
 - Voluntary page charge revenue: \$300
 - Overlength page charge (OLPC) revenue: \$421k
 - ASPP revenue: \$60k
 - IEL revenue: 818k
- Expense: **\$652k**
 - Production Expense: **\$71k**
 - Internal IEEE/S1 Expense: **\$211k**
 - ASPP/IEL Expenses: **\$15k/\$190k**
 - Overhead: **\$139k**
- Profit: \$638k

2022

- Revenue: \$151k
 - Open Access revenue: \$0k
 - Advertising: \$2k
 - ASPP revenue: \$138kk
 - IEL revenue: \$0
- Expense: **\$174k**
 - Production Expense: **\$69k**
 - Postage: **\$49k**
 - Internal IEEE/S1 Expense: **\$51k**
- Loss: **\$23k**

2021

- Revenue: \$210k
 - Open Access revenue: \$0k
 - Advertising: \$2k
 - ASPP revenue: \$35k
 - IEL revenue: \$153k
- Expense: **\$236k**
 - Production Expense: **\$56k**
 - Postage: **\$46k**
 - Internal IEEE/S1 Expense: **\$42k**
 - ASPP/IEL Expenses: **\$9k/\$41k**
 - Overhead: **\$132k**
- Loss: **\$26k**

2022

- Revenue: \$730k
 - CP Package revenue: \$730k
- Expense: **\$0k**
- Profit: \$730k

2021

- Revenue: \$1305k
 - Enterprise revenue: \$51k
 - CP Package revenue : \$62k
 - IEL revenue: \$1149k
- Expense: **\$651k**
 - Production Expense: **\$56k**
 - Postage: **\$46k**
 - Internal IEEE/S1 Expense: **\$42k**
 - CPP/IEL Expenses: **\$99k/\$310k**
 - Overhead: **\$220k**
- Profit: \$654k

2022

Society Reserves (Larger Half) [Repeat from 10/22]



Allocation of Investment Changes & Other Items									
December 31, 2021									
<i>UNAUDITED - PRELIMINARY - Subject to change</i>									
	2020 Reserves	Adjusted 2021 P&L	2021 Reserves	Reserves %	Foundation Donation & Inits Loss Allocation	Non-Operating Pension Gain/(Loss) Allocation	Investment Gain/(Loss) Allocation	Corp Recovery * (Over)/Under & GAAP Accounting Adj Allocation	2021 Reserves
Signal Processing (210010)	40,488,905	4,844,324	45,333,229	7.7%	(353,547)	387,536	5,056,011	(109,715)	50,313,514
Computer (210163)	30,936,105	11,779,355	42,715,460	7.3%	(348,237)	381,721	4,980,086	(116,049)	47,612,982
Power & Energy (210310)	29,767,775	8,309,179	38,076,954	6.5%	(304,705)	334,003	4,357,544	(101,542)	42,362,255
Microwave Theory & Techniques (210170)	25,967,794	3,478,433	29,446,226	5.0%	(229,117)	251,147	3,276,569	(76,352)	32,668,474
Communications (210190)	22,670,935	6,416,412	29,087,348	4.9%	(234,693)	257,259	3,356,310	(78,210)	32,388,014
Industrial Electronics (210130)	23,954,422	3,924,199	27,878,621	4.7%	(220,187)	241,359	3,148,869	(73,377)	30,975,285
Antennas & Propagation (210030)	22,493,650	3,922,383	26,416,033	4.5%	(209,255)	229,432	2,993,209	(69,767)	29,359,652
Geoscience & Remote Sensing (210290)	19,301,037	4,690,957	23,991,993	4.1%	(192,589)	211,107	2,754,192	(64,180)	26,700,524
Circuits & Systems (210040)	17,958,459	2,415,308	20,373,767	3.5%	(159,494)	174,829	2,280,896	(53,151)	22,616,848
Photonics Society (210360)	18,196,763	2,025,451	20,222,214	3.4%	(156,746)	171,818	2,241,602	(52,235)	22,426,653
Nuclear & Plasma Sciences (210050)	17,760,154	946,649	18,706,803	3.2%	(143,260)	157,035	2,048,746	(47,741)	20,721,583
Control Systems (210230)	16,236,375	2,289,607	18,525,982	3.1%	(144,872)	158,802	2,071,793	(48,278)	20,563,427
Robotics & Automation (210240)	14,627,423	3,290,873	17,918,296	3.0%	(142,170)	155,840	2,033,153	(47,378)	19,917,742
Power Electronics (210350)	14,082,340	2,956,291	17,038,631	2.9%	(135,345)	148,359	1,935,552	(45,103)	18,942,094
Vehicular Technology (210060)	14,507,057	2,059,292	16,566,349	2.8%	(130,297)	142,825	1,863,353	(43,421)	18,398,809
Systems, Man & Cybernetics (210280)	14,366,803	1,825,352	16,192,155	2.7%	(126,513)	138,678	1,809,249	(42,160)	17,971,409
Electron Devices (210150)	12,454,978	2,939,442	15,394,420	2.6%	(122,738)	134,540	1,755,264	(40,902)	17,120,583
Computation Intelligence (210110)	12,385,200	2,336,572	14,721,772	2.5%	(116,603)	127,815	1,667,525	(38,858)	16,361,651
Industry Applications (210340)	12,275,031	1,362,449	13,637,480	2.3%	(106,144)	116,350	1,517,945	(35,372)	15,130,259
Solid State Circuits (210370)	12,190,274	1,443,125	13,633,399	2.3%	(106,352)	116,578	1,520,919	(35,441)	15,129,103
Aerospace & Electron Systems (210100)	10,218,343	1,027,954	11,246,297	1.9%	(87,599)	96,022	1,252,748	(29,192)	12,478,276
Technical Activities	499,894,614	89,182,768	589,077,383	100%	(4,646,058)	5,092,793	66,442,636	(1,548,281)	654,418,481



Society Reserves (Smaller Half) [Repeat from 10/22]



	2020 Reserves	Adjusted 2021 P&L	2021 Reserves	Reserves %	Foundation Donation & Inits Loss Allocation	Non-Operating Pension Gain/(Loss) Allocation	Investment Gain/(Loss) Allocation	Corp Recovery * (Over)/Under & GAAP Accounting Adj Allocation	2021 Reserves
Aerospace & Electron Systems (210100)	10,218,343	1,027,954	11,246,297	9.1%	(87,599)	96,022	1,252,748	(29,192)	12,478,276
Engineering in Medicine & Biology (210180)	8,770,476	2,364,170	11,134,647	9.0%	(89,503)	98,109	1,279,973	(29,827)	12,393,399
Electronics Packaging (210210)	9,425,820	1,257,789	10,683,609	8.7%	(83,297)	91,306	1,191,216	(27,758)	11,855,076
Magnetics (210330)	7,454,041	625,991	8,080,032	6.6%	(62,240)	68,225	890,086	(20,741)	8,955,361
Information Theory (210120)	7,254,894	658,049	7,912,944	6.4%	(61,402)	67,306	878,096	(20,462)	8,776,482
IEEE Sensors Council (210390)	5,119,304	2,010,355	7,129,659	5.8%	(58,666)	64,307	838,973	(19,550)	7,954,722
Ultrasonics, Ferroelectrics & Frequency Control (210200)	5,926,165	824,206	6,750,371	5.5%	(52,936)	58,026	757,033	(17,641)	7,494,854
Intelligent Transportation Sys Council (210380)	4,694,284	1,539,001	6,233,285	5.1%	(50,591)	55,456	723,498	(16,859)	6,944,788
Dielectrics & Electrical Insulation (210320)	5,547,001	542,984	6,089,986	4.9%	(47,324)	51,874	676,773	(15,771)	6,755,539
Oceanic Engineering (210220)	5,628,848	147,518	5,776,365	4.7%	(43,931)	48,155	628,247	(14,640)	6,394,196
Instrumentation & Measurement (210090)	4,087,026	939,157	5,026,182	4.1%	(39,963)	43,806	571,506	(13,318)	5,588,213
Council on Superconductivity (210410)	3,764,563	625,852	4,390,415	3.6%	(34,633)	37,963	495,286	(11,541)	4,877,490
Electromagnetic Compatibility (210270)	3,967,638	403,307	4,370,945	3.5%	(33,889)	37,147	484,635	(11,293)	4,847,545
Reliability (210070)	3,567,622	659,399	4,227,021	3.4%	(33,392)	36,603	477,541	(11,128)	4,696,644
Council on Electronic Design Automation (210440)	3,448,128	313,992	3,762,120	3.1%	(28,995)	31,783	414,660	(9,663)	4,169,905
Broadcast Technology (210020)	3,776,020	(408,159)	3,367,861	2.7%	(24,412)	26,759	349,107	(8,135)	3,711,181
IEEE Systems Council (210450)	2,482,923	446,376	2,929,299	2.4%	(23,309)	25,550	333,341	(7,768)	3,257,113
IEEE Nanotechnology Council (210420)	2,518,316	269,920	2,788,236	2.3%	(21,691)	23,776	310,193	(7,228)	3,093,286
Consumer Electronics (210080)	2,014,000	619,399	2,633,399	2.1%	(21,378)	23,434	305,726	(7,124)	2,934,057
Education (210250)	2,052,762	396,079	2,448,841	2.0%	(19,395)	21,260	277,366	(6,463)	2,721,608
Engineering Management (210140)	853,320	373,381	1,226,701	1.0%	(10,171)	11,149	145,452	(3,389)	1,369,741
TAB Reserves (incl RC, MEMs and others)	1,592,590	(323,247)	1,269,343	1.0%	(4,958)	5,384	70,232	(9,721)	1,330,289
IEEE Biometrics Council (210460)	865,233	240,260	1,105,493	0.9%	(8,904)	9,761	127,341	(2,967)	1,230,722
Professional Communication (210260)	901,649	78,450	980,099	0.8%	(7,594)	8,325	108,605	(2,531)	1,086,903
IEEE Council on RFID (210700)	652,399	145,640	798,039	0.6%	(6,398)	7,013	91,494	(2,132)	888,017
Social Implications of Technology (210300)	459,015	66,406	525,421	0.4%	(4,104)	4,499	58,696	(1,368)	583,145
Product Safety Society (210430)	230,798	82,843	313,640	0.3%	(2,519)	2,761	36,025	(839)	349,068
Technical Activities	499,894,614	89,182,768	589,077,383	100%	(4,646,058)	5,092,793	66,442,636	(1,548,281)	654,418,481

Percentage of Smaller Half's 19% 11



- Presently our reserves are about \$12.5 million.
- How much should our reserves be?
 - We have a mission as a non-profit, but we do not want to be irresponsible.
 - What level of catastrophe do we plan for?
- One person (Dale) suggested twice annual expenses.
 - This would be about \$8 million.
- Another senior person suggested thrice annual expenses.
 - This would be about \$12 million.
- Both of these seem too conservative to me.
- VP of MGA said 50% of operating expenses.
 - This would be about \$2 million.
- Suggestion from AESS Finance group is one year's expenses: \$4 million

- Even in a terrible stock market year it would be unlikely to lose more than 30%. In two years, it would grow to 50%.
- Main expenses are administrative/operations publications and conferences.
 - Administrative/operations are about 75% commitment (like Conference Catalysts) and 25% discretionary (like travel).
 - Publications are unlikely to change very much due to outside catastrophic events in either income or expense, so ignore this.
 - Conferences actually made money during COVID due to creative ideas and flexibility (like virtual conferences) and expenses were drastically cut.
- Hence in the “meteor strike case we would need 75% of the admin/op budget for two years.
 - That would be 50% of reserves = 2 times 75% of \$750k, or reserves of \$2.1m.
 - This seems too low.

- More conservative: In addition to the reserves above (i.e., two years of 75% of admin/ops expenses) we also need one year of conference expenses.
 - In the meteor-strike case we may not be able to cancel our conference expenses.
 - Then 50% of reserves = 2 times 75% of \$750k plus \$1.5m
- This would mean reserves of \$5.9 million.
- This seems more reasonable.

➤ “3 Percent Rule:”

- A Society or Council can budget for projects/initiatives, using up to 3% of their reserve balance, provided:
 - The IEEE reserve levels meet the minimum criteria
 - The S/C reserve to expense ratio meets the required level (typically 50%)
 - The total for all of TAB is less than or equal to 1% of the aggregate of TAB/S/C reserves

➤ “50 Percent Rule:”

- Qualifying S/Cs can spend up to 50% of their prior year operating surplus (before investment returns) subject to overall IEEE reserves being OK
 - this spending should be identified in their current year forecast
 - To qualify, a S/C Reserve to Expense ratio must be equal to or greater than 50%

➤ New Publications:

- AESS sponsors the upcoming IEEE Transactions on Radar (24%)
- AESS sponsors IEEE Journal on Miniaturization for Air and Space Systems (5%)
- AESS sponsors the upcoming Open Journal on Systems Engineering (20%)
- These are not likely to be large (at first), but should be contributory
- Journal of Lightwave Technology – total 2020 net is \$757k, AESS share is 2.5%: \$19k
- **Open Journal of Instrumentation and Measurement: This comes up in my budget screens, but I didn't know we owned any part of it.**
 - There is no budget impact yet.

- If Plan S proceeds and OA gains momentum, we may need to “flip” our Transactions to Open Access.
 - page charges are not permitted
 - there is a thought for “Diamond OA” for certain articles
 - “read-and-publish agreements” with organizations will likely dominate
 - IEEE has engaged us in a “transformative agreement”
- IEL income (both journal/magazine and conference) will decrease as library customers are less apt to buy for the prices they currently pay.
- China’s rules for its internally-supported researchers are changing.