



# IEEE Aerospace Electronic Systems VP Finance

*Peter Willett*

*(with thanks to Bob Rassa & Mike Cardinale)*

*2022 AESSE Spring Board of Governors Meeting*

*25-26 March 2022*

*New York, New York, USA*

## ➤ Strengths:

- We have continuously generated a substantial surplus, primarily from Publications (overlength page charges) and Conferences (profits & post-conference downloads).
- We (and our partners) have reacted well to COVID-19 challenges.
- We have an excellent reserve amount, enabling us to undertake new initiatives that would benefit AES, IEEE, and our technical community at large.
- Our membership numbers are (IMO) stable compared to many societies in IEEE.
- We initiated a new Open Access Journal on Systems Engineering with the Systems Council and SMC which will serve to enhance our technical standing in this community.
- We have a share of JMASS, which is iffy right now but should find a niche.
- The (likely) Transactions on Radar (24%) should be highly valuable.
- New Open Journal on Systems Engineering (20%) shows positive survey reaction.
- Our Transactions and Magazine are both solid and improving. (The QEB deserves praise too, but likely not in the Finance report.)
- We have a healthy “stable” of productive, popular and valuable conferences.
- Our virtual DL program has been popular, and we have a significant (underpriced) “investment” in recorded lecture material.

## ➤ Weaknesses:

- We have not been able to identify new initiatives on a wholesale basis where we could effectively use some of our surplus/reserves.
- We have initiated the student scholarship program (which we could expand), the short course program, the mentoring program, increased our level of chapter support and others, and we should continue to seek additional opportunities.
- Both above indicate that we have an opportunity to leverage our investments, for growth and further service to our community.
- Our author community has not embraced OA (open access), which may put us out of step with the at-large IEEE's directions and attention.
- There are other electrical engineering fields that are growing faster than AESS's core technical interests (e.g., quantum, machine-learning & artificial intelligence, flexible electronics) and although we are open to some (e.g., quantum radar and ML for tracking) our publications and conferences are not a community target.

## ➤ Opportunities:

- We should consider expanding the student scholarship by offering additional scholarships, and perhaps increasing the amounts awarded (which stands at \$10k per scholarship now).
- We have memberships in several IEEE Councils (Sensors Council, Systems Council, Nanotechnology Council) and should consider engaging more with them to see if we could develop additional initiatives.
  - Sponsoring societies do not get indirect income from Councils, even for very successful publications like the Sensors Journal or the Journal on the Internet of Things.
- We are of late becoming open to financial partnership in emerging publications (T-ID?), and, given that that continues, we can expand our footprint and enhance our service to the wider community.
- Even given that we do not envision a wholly-owned open-access publication, we can consider requesting an IEEE Access section on AESS topics.
- We can explore using our reserves in an IEEE Foundation account.
  - But since AESS is generally financially positive, there be little need, can use operating income. This option can be best for financially-neutral societies that want to grow.

## ➤ Threats:

- The current COVID-19 situation is impacting our conference revenues. Conducting a hybrid conference is highly risky since we cannot predict how many potential attendees will simply decide to attend virtually instead of in person, impacting the hotel room block guarantee (and thus possibly causing attrition costs) and food/beverage attrition (again, with possible penalties). Our recommendation, if we believe a conference will be impacted by COVID, is to go 100% virtual.
- Our IEEE AutoTestCon cannot do this since exhibits and military attendance are critical to its success, and the Aerospace Conference might not be able to readily do this since one of the attractions of this conference is the mid-day skiing break, although it can be conducted virtually just without the skiing. In any case, virtual conferences will impact the conference income and profit.
  - AutoTestCon illustrates that “virtual” conferences may be a threat to finances.
  - The Aerospace Conference was “mobbed” with attendees.
  - The Fusion Conference may have disappointing numbers.
- Movement in the Open Access direction will impact our IEL revenue.
- The upcoming China policy on domestic publication will impact our Transactions revenue.
- There may be a “Plan S” directive regarding Open Access for conferences.

# Summary Budget – Revenue



	FY20 Final Actual	FY21 Final Budget	FY21 Final Sep Fcst	FY22 First View Budget	FY22 Final Budget
CC_21020 - Meetings /Conference	16.4	16.6	9.5	16.6	16.6
CC_21030 - Soc Publication Related Support	0.0	0.2	0.1	0.2	0.2
PD_505002 - Society Education Products	0.1		0.0		
PD_306001 - Society Membership	87.7	70.5	84.6	79.7	79.7
PD_140009 - Aerospace & Electronic Conferences Digital Library				0.0	0.0
PD_120023 - Trans on Aerospace & Electronic Systems	771.6	526.1	694.6	1062.6	1064.3
PD_120111 - Journal of Lightwave Technology				48.2	48.3
PD_120152 - IEEE Journal of Miniaturization for Air & Space Systems				1.8	1.8
PD_110008 - Aerospace & Electronic Systems Magazine	164.0	115.3	134.7	186.4	186.8
PD_220006 - Conference Distributed Package Products	700.0	472.5	608.4	1234.6	1238.1
PD_210102 - (WiSEE)International Conference on Wireless for Space and Extreme En	0.0		0.0		
PD_210103 - (MetroAeroSpace)International Workshop on Metrology for AeroSpace	23.1		0.0		47.2
PD_210161 - Aerospace Conference	824.5		0.0		826.8
PD_210219 - (ICNS)Integrated Communications, Navigation, Surveillance Conference	0.0		0.0		
PD_210245 - (DASC)Digital Avionics Systems Conference	17.6		-6.4		75.0
PD_210485 - Radar Conference	360.3		20.0		848.8
PD_210585 - Other Conference Events	214.1	703.0	1091.6	1279.0	290.6
PD_210608 - (FUSION)International Conference on Information Fusion	41.5		-43.0		
PD_210645 - AUTOTESTCON	0.0		0.0		
Operational revenue	3220.9	1904.2	2594.1	3909.3	4724.2

change from net to gross



place-holder



# Summary Budget – Expense

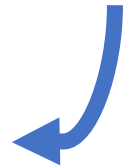


	FY20 Final Actual	FY21 Final Budget	FY21 Final Sep Fcst	FY22 First View Budget	FY22 Final Budget
CC_21015 - Societies Operations	483.2	563.1	451.3	572.4	665.5
CC_21020 - Meetings /Conference	43.8	48.5	30.9	50.8	50.8
CC_10130 - Education Committee	1.5	1.0	3.0	1.0	1.0
CC_10135 - Membership Committee	4.3	1.0	1.5	1.0	1.0
CC_10140 - Awards Committee	9.2	6.4	5.1	6.4	16.5
CC_10155 - Chapter Committee	0.1	30.0	14.1	30.0	30.0
CC_10160 - Other Committee	0.0	26.9	6.3	26.9	15.0
PD_505002 - Society Education Products	3.0	3.0	0.8	3.0	3.0
PD_306001 - Society Membership	0.2	0.2	0.4	0.2	0.2
PD_140009 - Aerospace & Electronic Conferences Digital Library	5.7	6.0	6.0	5.9	5.9
PD_120023 - Trans on Aerospace & Electronic Systems	220.5	209.0	176.1	592.8	594.6
PD_120111 - Journal of Lightwave Technology	-18.9	-7.2	-7.2	34.2	34.4
PD_120152 - IEEE Journal of Miniaturization for Air & Space Systems	0.1	0.8	0.8	1.9	1.9
PD_110008 - Aerospace & Electronic Systems Magazine	164.3	46.4	124.2	258.8	261.8
PD_220006 - Conference Distributed Package Products				667.0	669.2
PD_210102 - (WiSEE)International Conference on Wireless for Space and Extreme En	0.0		0.0		
PD_210103 - (MetroAeroSpace)International Workshop on Metrology for AeroSpace	19.6		0.0		41.3
PD_210161 - Aerospace Conference	578.8		0.0		688.6
PD_210219 - (ICNS)Integrated Communications, Navigation, Surveillance Conference	0.0		0.0		
PD_210245 - (DASC)Digital Avionics Systems Conference	13.9		-6.3		40.0
PD_210485 - Radar Conference	341.9		3.0		678.8
PD_210585 - Other Conference Events	82.6	622.8	818.9	1154.7	229.7
PD_210608 - (FUSION)International Conference on Information Fusion	38.7		-38.1		
PD_210645 - AUTOTESTCON	0.0		0.0		
Operational Expense	1992.6	1558.0	1590.7	3407.1	4029.0

change from  
net to gross



place-  
holder



# Summary Budget



	FY19			FY20			FY21			FY22			FY22		
	Actual			Actual			Budget			Budget			Budget		
	Final			Final			Final			First Pass			Final		
	Revenue	Expense	Net	Revenue	Expense	Net	Revenue	Expense	Net	Revenue	Expense	Net	Revenue	Expense	Net
CC_10130 - Education Committee	-	1.0	(1.0)	-	1.5	(1.5)	-	1.0	(1.0)	-	1.0	(1.0)	-	1.0	(1.0)
CC_10135 - Membership Committee	-	1.0	(1.0)	-	4.3	(4.3)	-	1.0	(1.0)	-	1.0	(1.0)	-	1.0	(1.0)
CC_10140 - Awards Committee	-	6.4	(6.4)	-	9.2	(9.2)	-	6.4	(6.4)	-	16.5	(16.5)	-	16.5	(16.5)
CC_10155 - Chapter Committee	-	11.0	(11.0)	-	0.1	(0.1)	-	30.0	(30.0)	-	30.0	(30.0)	-	30.0	(30.0)
CC_10160 - Other Committee	-	(3.1)	3.1	-	-	-	-	26.9	(26.9)	-	15.0	(15.0)	-	15.0	(15.0)
CC_21015 - Societies Operations	-	582.6	(582.6)	-	483.2	(483.2)	-	563.1	(563.1)	-	665.5	(665.5)	-	665.5	(665.5)
CC_21020 - Meetings /Conference	11.8	31.0	(19.2)	16.4	43.8	(27.4)	16.6	48.5	(31.9)	16.6	50.8	(34.2)	16.6	50.8	(34.2)
CC_21030 - Soc Publication Related Support	1.7	-	1.7	0.0	-	0.0	0.2	-	0.2	0.2	-	0.2	0.2	-	0.2
CC_21075 - IEEE Reserve Allocation	-	(1,026.6)	1,026.6	-	(1,007.4)	1,007.4	-	-	-	-	-	-	-	-	-
PD_500000 - Education Products	0.1	3.0	(2.9)	0.1	3.0	(2.9)	-	3.0	(3.0)	-	3.0	(3.0)	-	3.0	(3.0)
PD_300000 - Membership Products	85.5	0.2	85.3	87.7	0.2	87.5	70.5	0.2	70.3	79.7	0.2	79.5	79.7	0.2	79.5
PD_100000 - Periodical Products	945.4	412.3	533.1	935.6	371.7	563.9	641.4	255.0	386.4	1,301.2	898.4	402.8	1,301.2	898.4	402.8
PD_200000 - Conference Products	2,332.8	1,272.3	1,060.6	2,181.0	1,075.5	1,105.5	1,175.5	622.8	552.7	3,326.5	2,347.6	978.8	3,326.5	2,347.6	978.8
<b>Total</b>	<b>3,377.4</b>	<b>1,291.2</b>	<b>2,086.3</b>	<b>3,220.9</b>	<b>985.2</b>	<b>2,235.7</b>	<b>1,904.2</b>	<b>1,558.0</b>	<b>346.3</b>	<b>4,724.2</b>	<b>4,029.0</b>	<b>695.2</b>	<b>4,724.2</b>	<b>4,029.0</b>	<b>695.2</b>

Start of 2020: “net worth” to \$6.3M.

As of year-end 2020 our reserves were \$10.2M.





- As opposed to the spreadsheets that I used to know and understand, IEEE has moved to a web-based “NextGen” system.
  - I have recently got access (issue with account).
  - But our Treasurer (Bob Rassa) does know how to use it.
- “3 Percent Rule” (for new initiatives) for budgeting:
  - 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” (also for new initiatives) for forecasting:
  - 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%

- AESS Magazine expense reduction (from EJPRESS to ScholarOne) is very significant, and the integration to publication is tighter.
  - also now have preprint posting at no extra charge
- AESS Transactions budget increased due extra 500 pages.
- Presumably due to COVID, conference expense is reduced, but conference income is reduced even more.
- The COVID impact on AESS administrative (travel) expense is surprisingly small.
- AESS membership (and membership income) is rather stable.
  - My thought is that our printed and delivered Magazine is a reason for this.
- IEEE overhead is now partially in technical operations, as opposed to having been hidden in the publications budget as it was before: 16% versus 32%.

- As COVID wanes and IEEE Conferences and Meetings return to in-person, will the attendees return?
  - IEEE February 2022 meeting, which should have been in San Antonio, is virtual.
  - IEEE Aerospace Conference, March 2022 in Big Sky, is in-person.
  - IEEE Radar Conference, March 2022 in NYC, will be “hybrid.”
- My thoughts:
  - IEEE and sponsors may be “addicted” to lower expenses.
  - Attendee experience in a virtual format is negatively affected.
  - Attendees (and volunteers) may become disengaged.
  - The hybrid experience bears watching but is likely to be expensive and may be too attractive/unattractive for sponsors/participants.
- IEEE is examining Open Access for conferences
  - This will almost certainly be a significant budgetary negative for IEEE Societies, since it will be a loss of IEL income, and it is doubtful that OA fees will be much.

## ➤ New Publications:

- AESS sponsors the ~~proposed~~ 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

## ➤ Extra publications income for AESS:

- Overlength Page Charges for AES Transactions: \$210k in 2020
- Open Access Fees for AES Transactions: \$20k in 2020
- Voluntary Page Changes for AES Transactions: not sure

## ➤ AES Magazine does not charge OA fees nor page charges

- IEEE policy, but this may be changing.

- 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
- IEL income (both journal/magazine and conference) will decrease as library customers are less apt to buy for the prices they currently pay.
  - impact of “transformative agreements” is unknown but AESS should watch
  - under these, organizations pay a fixed price for researchers to access IEL and also to have unlimited (?) OA submissions
- China’s rules for its internally supported researchers are changing
  - 33% of their publications must be in domestic journals, this will impact all IEEE income but AESS no less than other societies

- Linkage of conference fees to AESS membership
  - positive for our numbers, but perhaps such members are unengaged and expensive (probably not a good idea!)
- We can spend up to 3% of reserves (outside of budget) on “initiatives”.
- Suggestion (useful information from being SPS representative to Sensors Council):
  - Budget extra money to contribute to an AESS Foundation account.
  - This could be used for:
    - Funding awards at larger levels to increase impact.
    - Funding talks to accompany awards, like the Weiner Lecture at ICASSP for SPS.
    - Encouraging diversity, for example conference attendance support for students from Region 9.
  - However, as noted earlier, this may be entirely unnecessary in our case.

- *"And relative to the suggestion that the Society consider turning some of the opportunities identified in its educational products and services portfolio and funding them as initiatives, perhaps it is good to recall how initiatives are funded. First of all, an Initiative in IEEE terms is essentially a one-time activity that will benefit members; starting a new conference, for example, is not typically an initiative. Initiatives can be funded up to 3% of a Society reserves, or 50% of their prior year surplus. But IEEE does not provide any additional funding for these – we are allowed to spend more than is in our current budget, even going negative for the year, but should that happen it would not count against AES in terms of Watch List criteria. The bottom line is that we are simply allowed to dip into reserves. This is excellent for a Society that has reserves but has been tending to run close to zero in surplus, but in the case of AES we run very positive and do not have to have things designated as Initiatives in order to pursue them. At this point, we can say that every single educational product we have identified we have done, since we have the resources to do such. I think we are saying that we can accomplish all of our goals and objectives without having to declare any of them initiatives, and the cost to AES is unchanged. But should we see a potential product or service that would exceed our annual surplus for funding, we will certainly declare that an initiative."*
- Bottom line is that since we run quite positive each year, we have not had the need to declare any spending on initiatives under the 3% of 50% rules. The 3/50 was put into place for Societies/Councils that tend to run close to net zero. We are definitely not in that category.

- We are partnering with several societies on T-RS: GRSS, MTTTS, SPS, VTS, Sensors, IMS, APS.
- We can (perhaps) leverage our Council memberships (Sensors, Systems, Nanotechnology).
- We can (perhaps) work with IEEE Access.
- IEEE has a plan to “partner” with Chinese journals
  - Proposed pilot to involve three journals
  - IEEE provides “brand,” but to keep it pure will do much of the oversight QA
  - Does IEEE wish to be part of this?



- Nothing specific, but perhaps scholarships? We can easily afford it.