

A decorative graphic on the left side of the slide, consisting of a network of white lines and circles on a blue background, resembling a circuit board or a data network.

ASIC GROUP PMG “THE PROCRASTINATION” EDITION “WORKING” FROM HOME #8

UPDATE FOR 14 SEPT 2020 (COVERING THROUGH AUG)

RUBINOV

HIRING

Now with N job openings!

- With Quantum work ramping very rapidly
 - Made offer (E2)– offer was declined
 - Made another offer (E3)– offer is (purportedly) 15K below current salary for candidate
 - Raising offer will cause significant equity issues
 - Next candidate is a small step down and then there is a cliff

This is all taking a long time...

The advertisement that closed on Aug 31 resulted in NO qualified applicants

PRIORITIES

- Fermilab priorities

1. ECON

→ MUST NOT SLIP PAST OCT

→ now looking at Nov... this is really not good

2. ColdDATA

→ ColdData must submit in Sept at the latest

hope it can be finished by end of Aug. Today is Sept 14

3. ETROC

→ targeting Q1 2021 submission for ETROCv2
might be slipping due to pandemic

→ aiming for Aug submission of “mini-ASIC” for Artur’s ECA (CFD)

4. FQI ramping up and needs help and already falling behind. Struggling to hire

MAJOR ISSUES IN IN DUNE AND ECON

ECON-T:

Xiaoran's work on PLL is on the critical path (by a lot)

DUNE COLDDATA:

Xiaoran's work on PLL is on the critical path (new development?)

Cadence services engaged but moving very slowly (currently billed for 0 hours)

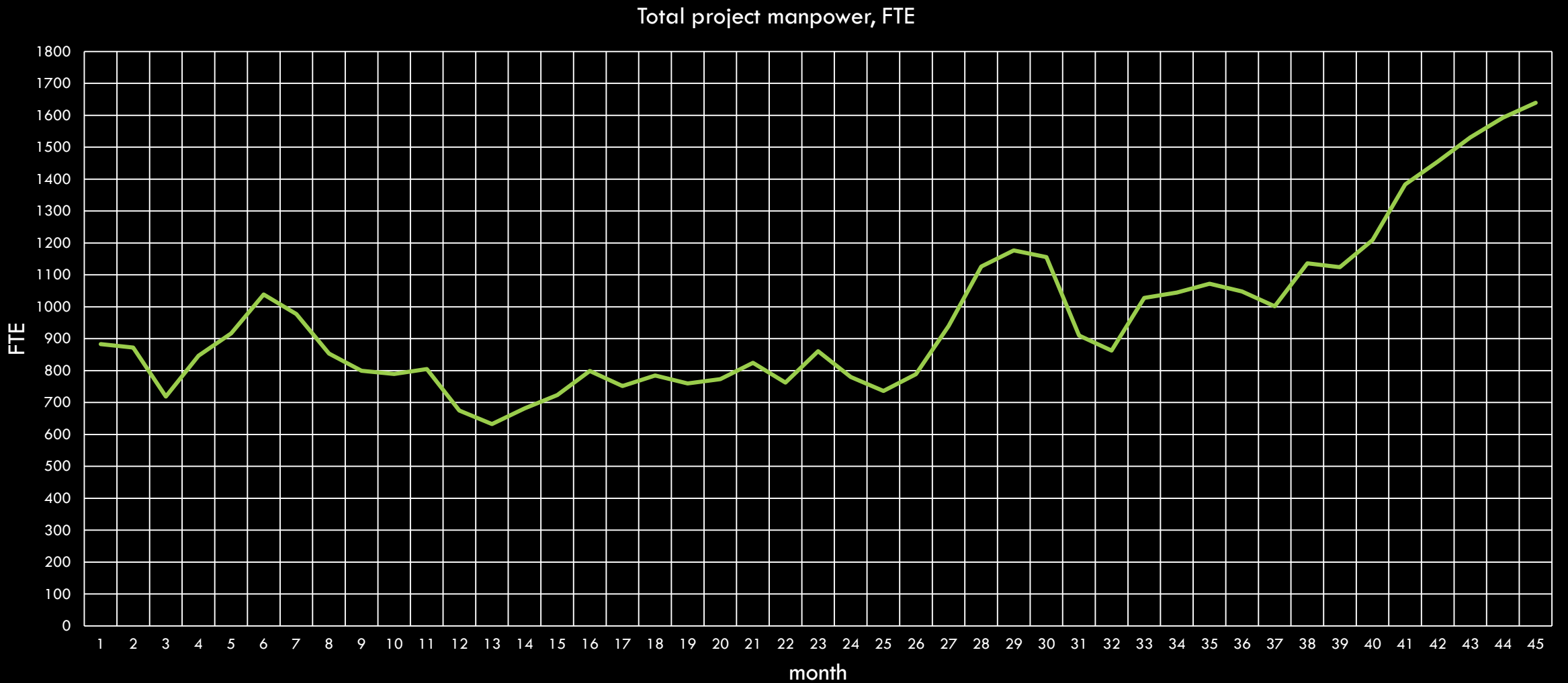
ASIC GROUP LABOR

| Sum of Hours | Column Labels | | | | | | | | | | |
|---------------------------------|---------------|-----------------|--------------------|-------------|----------------|-------------|--------------|---------------|-----------------|---------------------|--------------|
| Row Labels | BRAGA, DAVIDE | ENGLAND, TROY D | GINGU, V CRISTINEL | HOFF, JAMES | SHENAI, ALPANA | SUN, QUAN | SYAL, CHINAR | WANG, XIAORAN | WICKWIRE, RALPH | ZIMMERMAN, THOMAS N | Grand Total |
| ECON | 743 | | 1576 | 1114 | 1326 | | 752 | 893 | 2078 | | 5516 |
| DUNE | 277 | | 3 | 888 | 10 | | | 489 | | | 1664 |
| TIMING | | | | | 112 | 1863 | | | | 645 | 1329 |
| EED | 292 | 99 | 272 | 75 | 293 | 94 | 56 | 136 | | 56 | 934 |
| FQI | 544 | 860 | | 0 | 3 | | | | | | 664 |
| General Training | 37 | 6 | 21 | 31 | 6 | 9 | | 18 | 8 | 2 | 136 |
| External Reviews | 24 | 7 | | 13 | | | | | 2 | 3 | 49 |
| MaPSA FNAL Lab Committee & Grps | | | 23 | | | | | | | | 23 |
| BB Grphene Photodect | | | | 12 | | | | | | | 12 |
| ComOps Lbr | 8 | | | | | | | | | | 8 |
| PPD Outreach | 7 | | | | | | | | | | 7 |
| DRD Scintillator RD | | | 3 | | | | | | | | 3 |
| Grand Total | 1932 | 972 | 1908 | 2133 | 1750 | 1965 | 808 | 1535 | 2087 | 705 | 15794 |

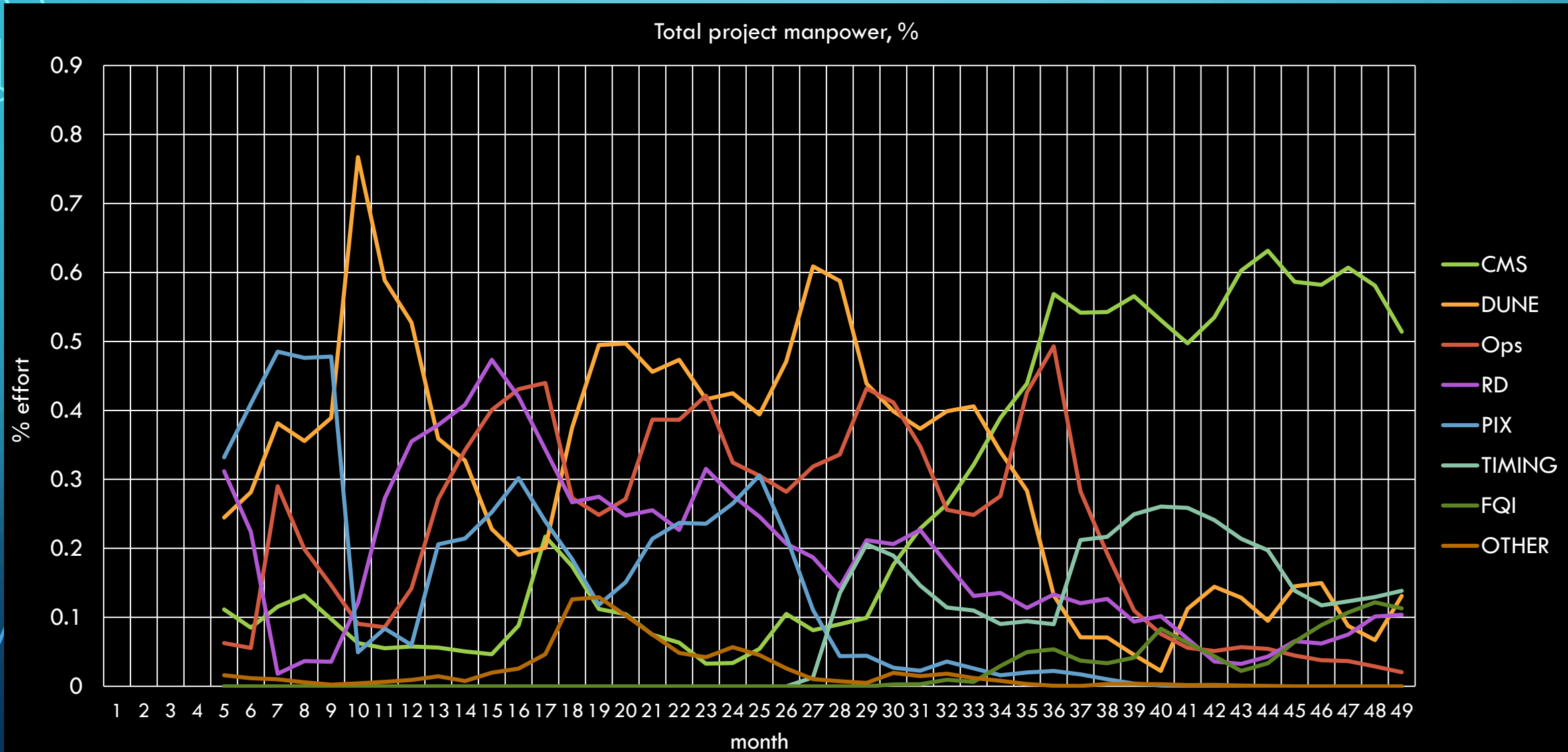
ASIC GROUP LICENSE USAGE

| Row Labels | Sum of Usage Time w/in filter period (hrs) |
|--------------------------------|--|
| 111 | 3272 |
| Virtuoso_Schematic_Editor_XL | 1795 |
| Incisive_Enterprise_Simulator | 1544 |
| Virtuoso_Layout_Suite_L | 1311 |
| Affirma_sim_analysis_env | 1216 |
| Virtuoso_ADE_Assembler | 1210 |
| Virtuoso_Digital_Implem | 977 |
| Virtuoso_Layout_Suite_XL | 938 |
| Virtuoso_Layout_Suite_GXL | 539 |
| Innovus_Impl_System_Basic | 360 |
| Tempus_Timing_Signoff_L | 170 |
| Virtuoso_Multi_mode_Simulation | 108 |
| Virtuoso_QRC_Extraction_XL | 19 |
| Virtuoso_Spectre_GXL_MMSIM_Lk | 4 |
| COSLITE_ACCESS | 1 |
| Grand Total | 13465 |

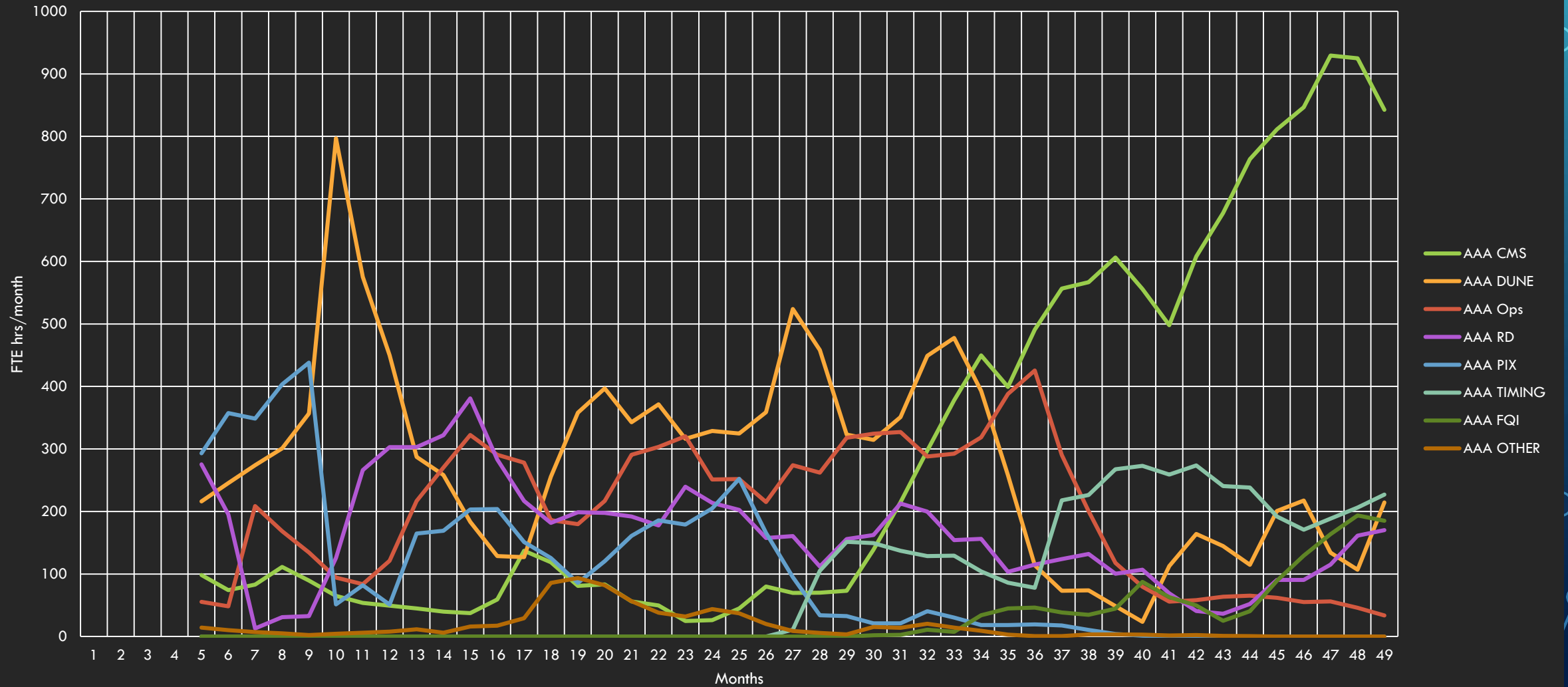
MANPOWER : HISTORY



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MANPOWER : HISTORY



TROUBLE AHEAD

- Last year has been spectacularly unusual
 - ECON chips are very different from what has gone on before
 - All the charts in the world will not make engineers interchangeable
 - Typically Fermilab ASIC group has had ~ 3 digital designer (maybe 2 FTE on projects)
Currently have 6: 2 verification, 2 RTL, 2 synthesis and PnR
Historical trend is ~ 6 FTE total
Not sustainable without new *digital* projects

TROUBLE AHEAD

- FQI request is ~3? 4? 6? Mostly analog
- CMS : ECON-D MUST finish in FY21. Significantly reduced effort in FY22
ETROC effort will grow but also has clear deadline
- (speculative) DUNE: Very little effort expected except possibly 4th module, but stiff competition
- (speculative) ANL APS upgrade
- ...

CURRENT REQUEST FOR FY21

- A.S. ~50%
- R.W. ~50%
- C.S. ~50%
- J.H. ~60%
- C.G. ~90%
- X.W. ~15% but expect 100% Q
D.B. ~50% but does not reflect Q
- T.E., Q.S. 100%
- T.Z. not an issue