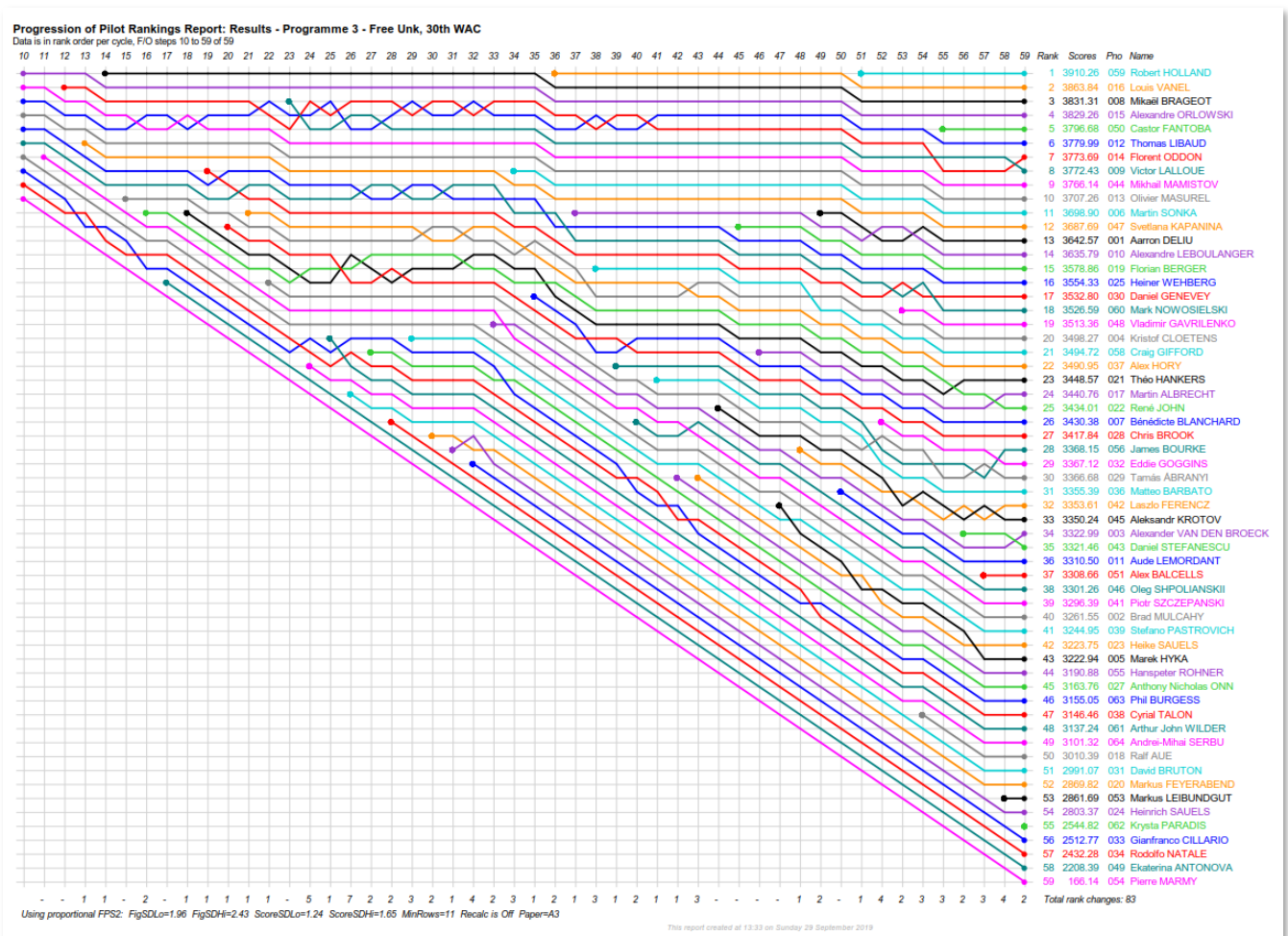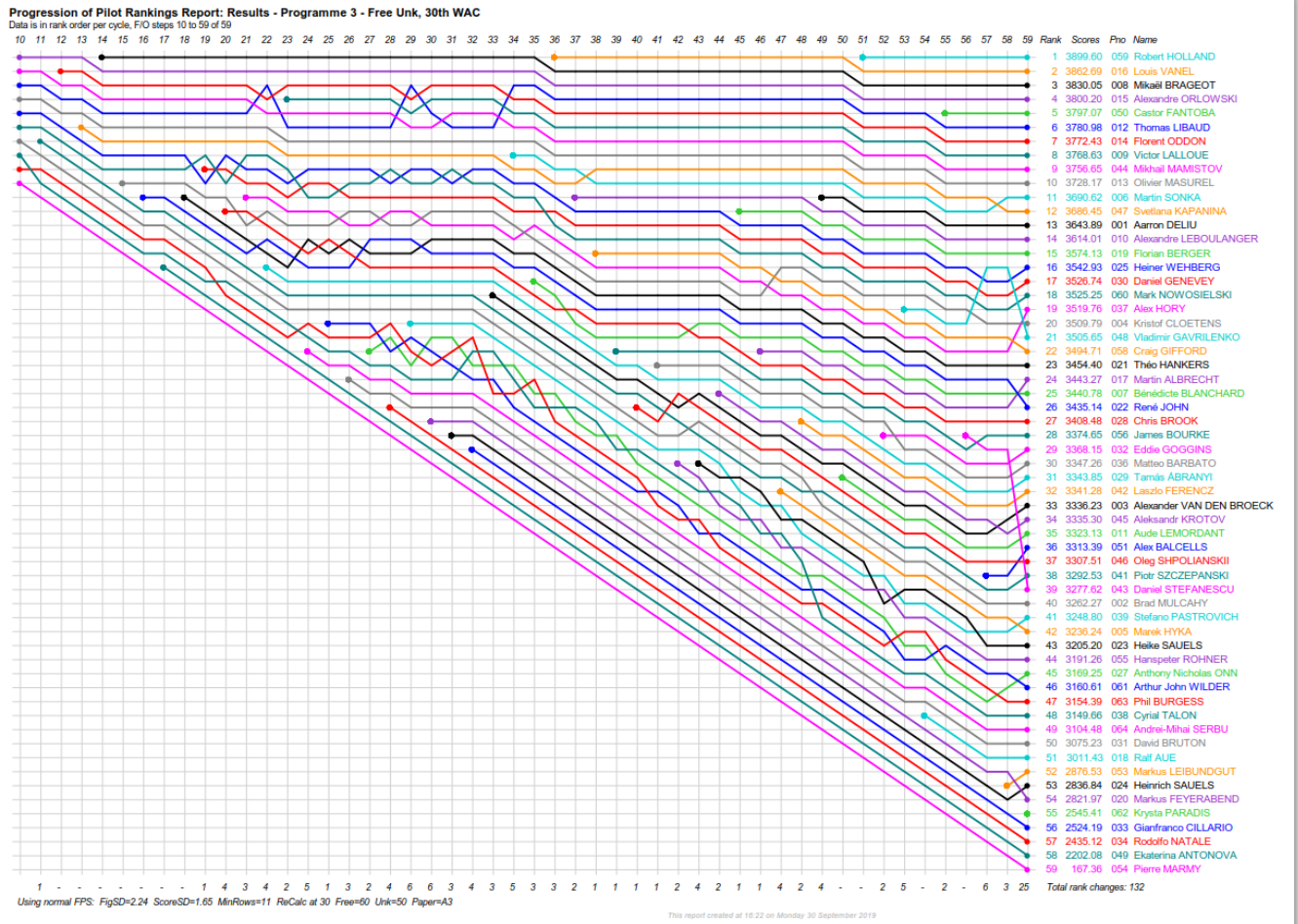# Report of the FPS Working Group

2019 Review

The new version of FPS with proportional outlier handling (FPS2) that was developed by the FPS Working Group during last year has been employed at all five of CIVA's 2019 championships. No significant issues have been detected during these operations, in fact FPS2 provides the results in about half the time due to its single-stage handling of all the pilots in one calculation process.

A review of the way that the process ranks the pilots through successive iterations as marking data for more pilots is entered, when compared to the original FPS algorithms that have been used since 2005, shows that pilot rank stability has been significantly improved, though rank changes between pilots with similar scores are certainly not eliminated. The graphics below provide a direct comparison between FPS2 (2019) and FPS (pre-2019) as applied to the Programme-3 Free Unknown at the Chateauroux WAC:

With the newer FPS2 software -

and with the original pre-2019 FPS software –

Only minor differences that are confined to the mid-ranking pilots can be seen between the two versions of FPS, but the rank stability of the more recent version is clearly much enhanced. An indication of this improvement is given by the number of pilot-to-pilot rank changes in the newer system, which is reduced by almost 60% from the pre-2019 version.

The abrupt score changes that are visible in both versions are the result of mark and score anomalies falling either just inside or outside the statistical pass / fail SD boundaries that are used, as influenced by the data of all other pilots from iteration to iteration. Through the continued use of this and any other statistically based full data-table evaluation system it is most unlikely that these sensitivities will be overcome.

Nick Buckenham