Albert-Ludwigs-Universität Freiburg

1. Summary and lessons from Atlas SCT assembly
   - precision, time scale, problems

2. Assembly of single-sided modules on two-sided petals for the upgrade
   - requirements on precision
   - tools for optical alignment and use of fiducials
   - scheme for precise alignment of modules on petal/core
   - apply it in prototyping
   - availability in mass production

3. Measurement techniques, tools for evaluation of precision
   - precision in changing environment, temperature, humidity
   - understand how to measure precision on two-sided petal in x-y-z

Double-sided Stave
Coolant tube structure
Module
Bus cable
Carbon fiber facing
Hybrids
Module
Carbon honeycomb or foam
Readout IC's