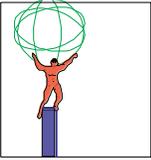


ATLAS Space Planning

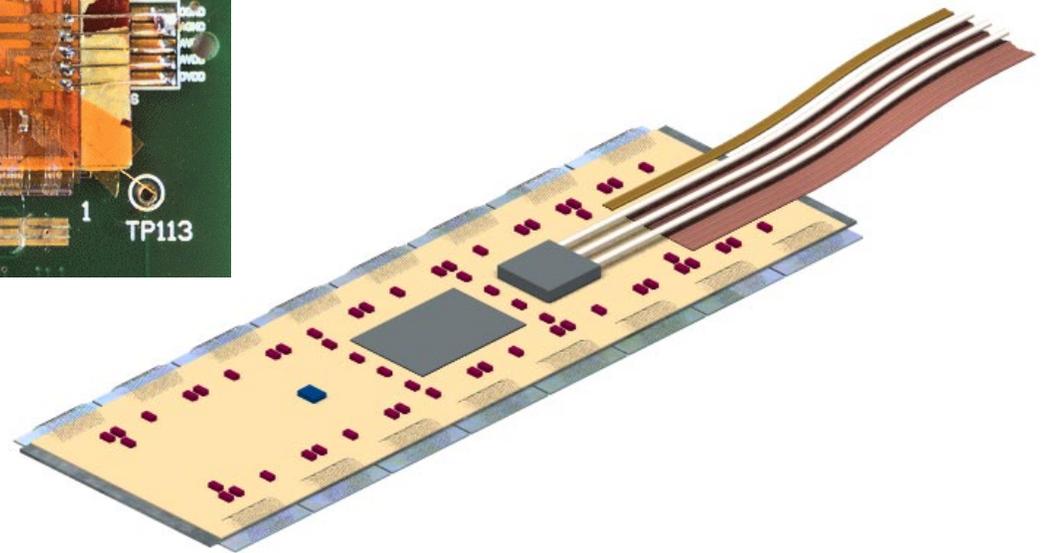
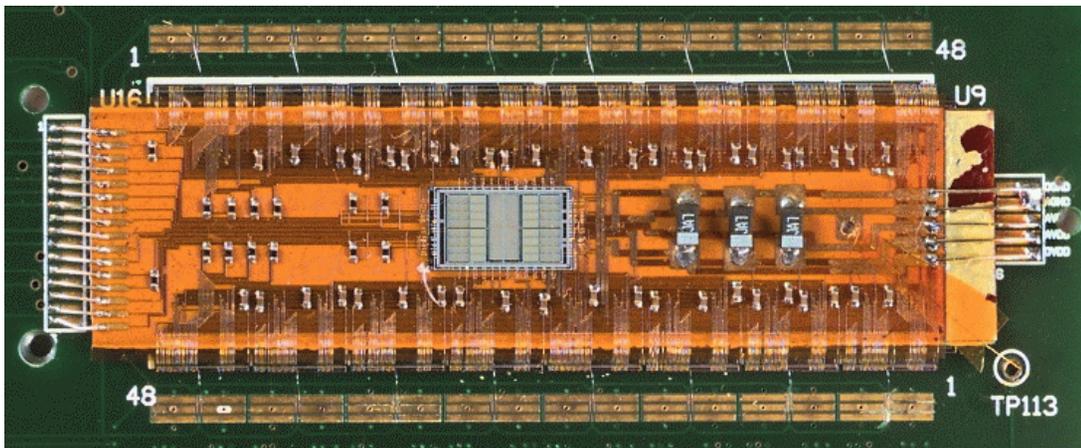
- **LBNL ATLAS responsibilities requiring special space needs**
 - ◆ Pixel module construction(clean space, temperature stability)
 - ◆ Silicon strip module construction(clean space, temperature stability)
 - ◆ Prototype assembly, final assembly and evaluation of pixel support structure(temperature stability and proximity to CMMs)
 - ◆ Final assembly and test of pixel subassemblies (overall US pixel deliverables) for ATLAS(clean, temperature stability, proximity to CMMs and space for substantial electronics and cooling)

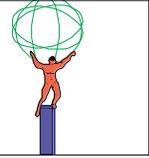


What Are Building?

- Pixel modules

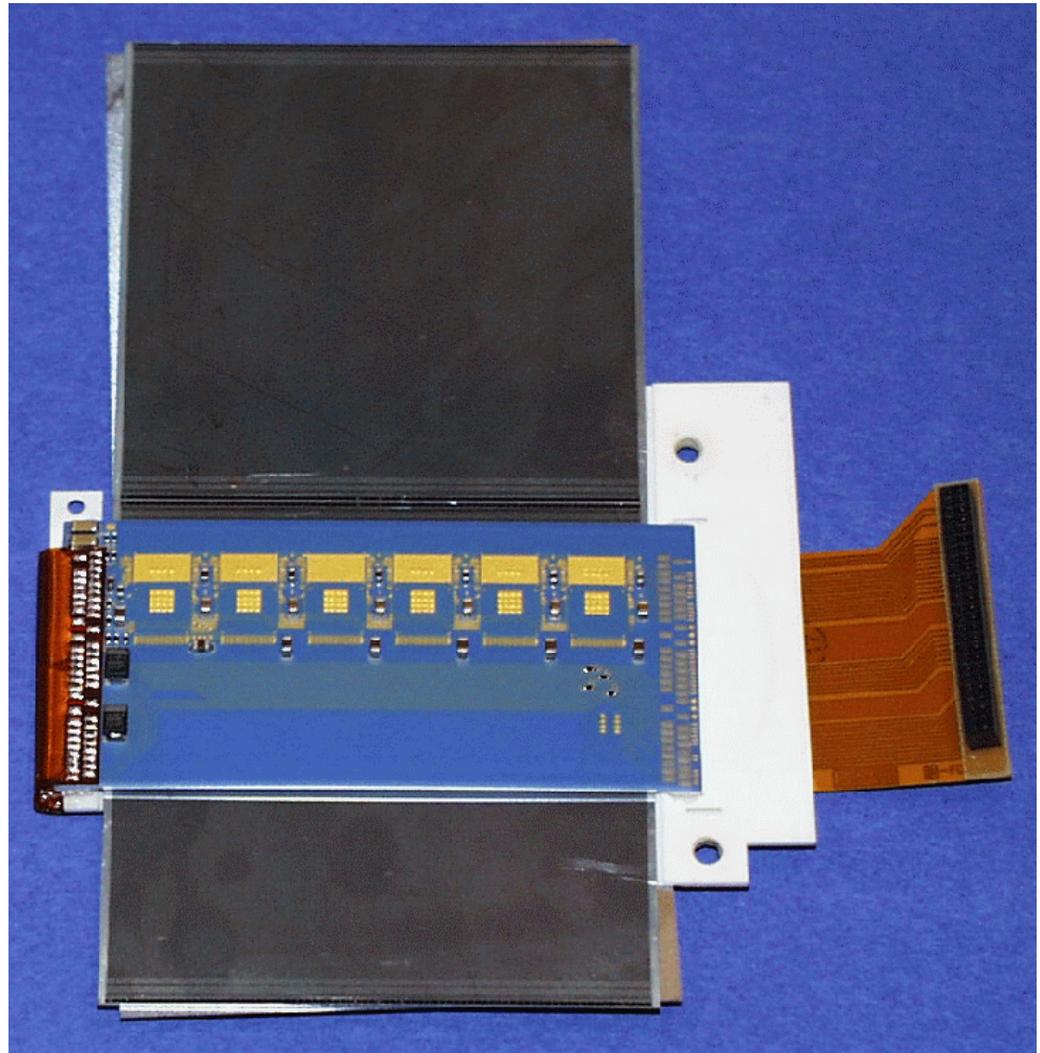
- ◆ About 500
- ◆ Requires clean environment for assembly, storage, burn-in and testing.

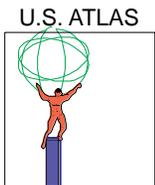




What Are We Building?

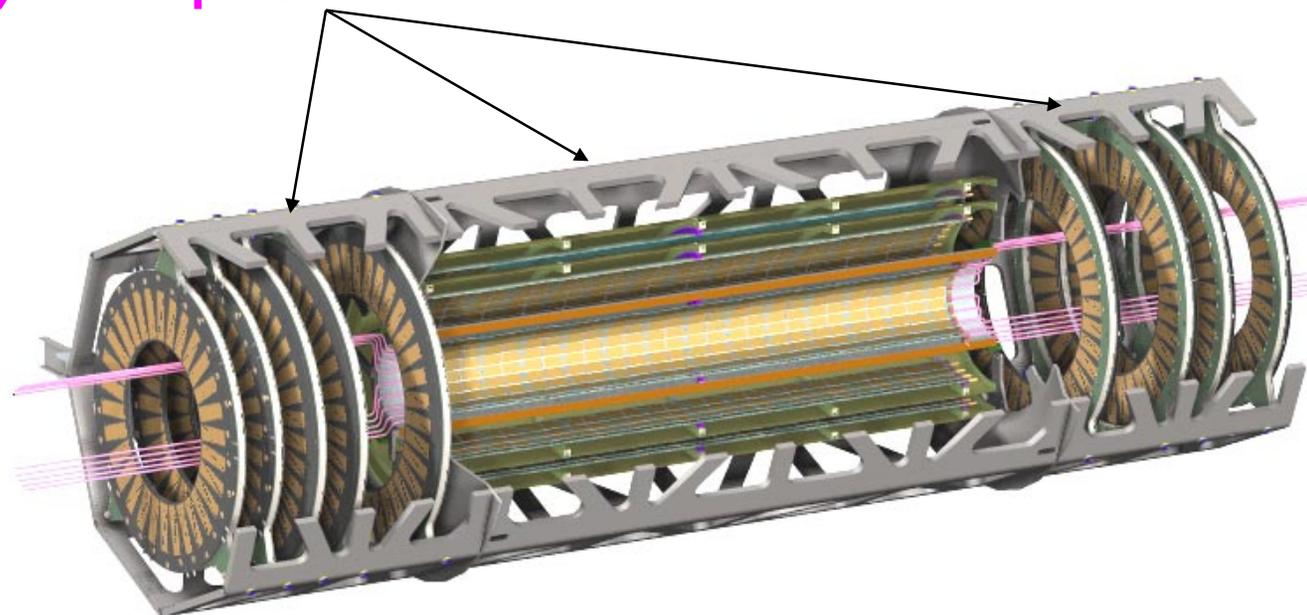
- Silicon strip modules
 - ◆ About 700
 - ◆ Requires clean environment for assembly, storage, burn-in and testing.
 - ◆ Substantial overlap of needs for pixel and silicon strip modules => share space, equipment, people.....

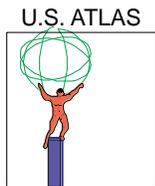




What Are We Building?

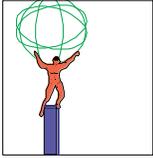
- Pixel structure and final assembly
 - ◆ Prototype first
 - ◆ Final structure
 - ◆ Final assembly and complete test (like running part of detector) of our parts



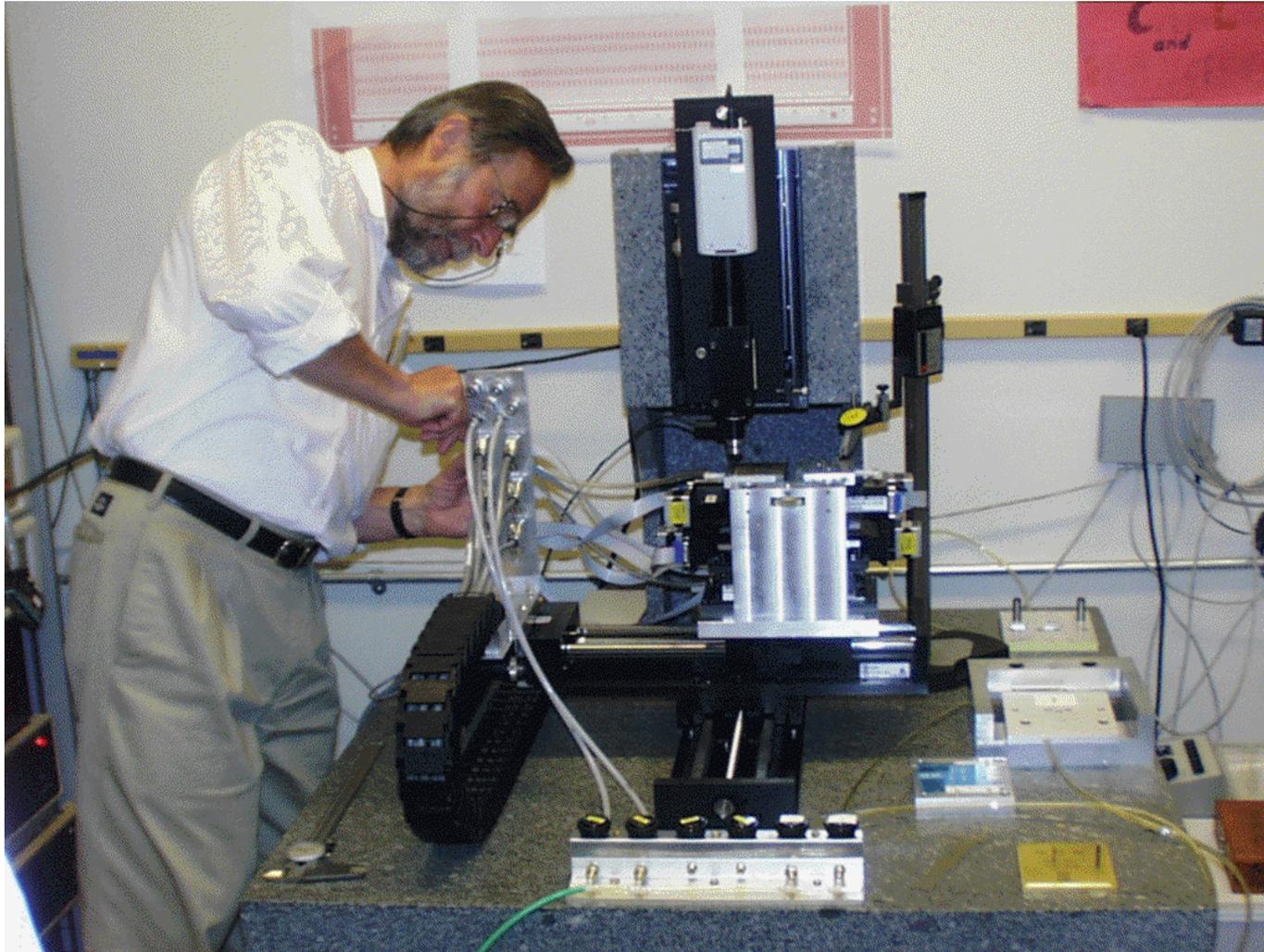


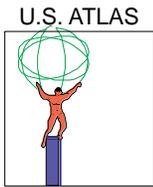
Schedule

- **Silicon strip modules**
 - ◆ Most tooling exists. Ready to move into clean space.
 - ◆ Mechanical dummies made
 - ◆ Prototypes through 2000. Preproduction early 2001
 - ◆ Full scale production must be operational by June 2001 and runs until August 2003.
- **Pixel modules**
 - ◆ Tooling development this year. Plan for prototype tooling by October.
 - ◆ Prototype assembly in 2000.
 - ◆ Production schedule not set but similar to silicon strips.
- **Pixel mechanical structure**
 - ◆ Full-scale prototype fab under contract now for delivery starting this summer
 - ◆ Complete prototype evaluation by summer 2000
 - ◆ Parts assembly, sub-sub assemblies, start in late 2000. Module construction so continuous sequence of assembly, measure, test
 - ◆ Final assembly and test in 2003



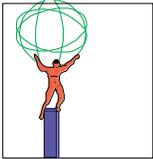
Silicon Module Tooling



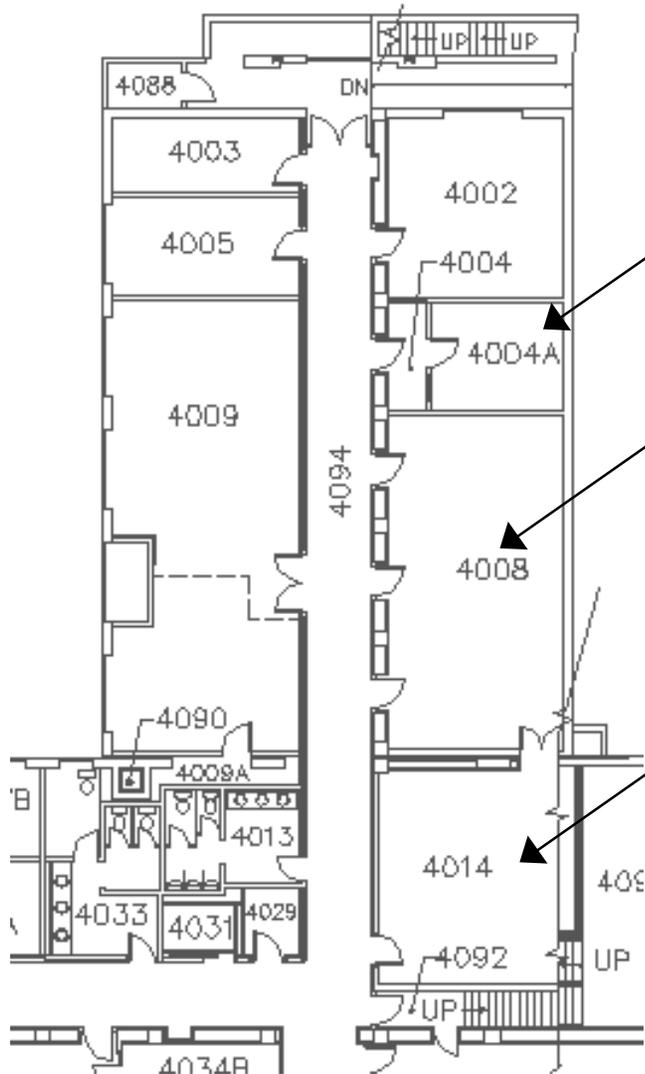


What Do We Need?

- **Module assembly space**
 - ◆ 50-4008 and 50-4014(see next page)
 - ◆ Clean space(not ultra clean but controlled)
 - ◆ Proximity to electronics testing space in 50B-6209 and 50B-6238 that is already in use.
- **Assembly and test space**
 - ◆ Bldg. 77 “clean room” most recently utilized for BaBar SVT final assembly and test.
 - ◆ Close proximity to CMMs that will be heavily used as subcomponents are assembled.



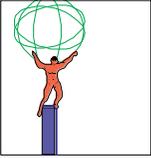
50 - Level 4



Currently a clean, temperature controlled area for optical inspection (recently upgraded) and small assembly

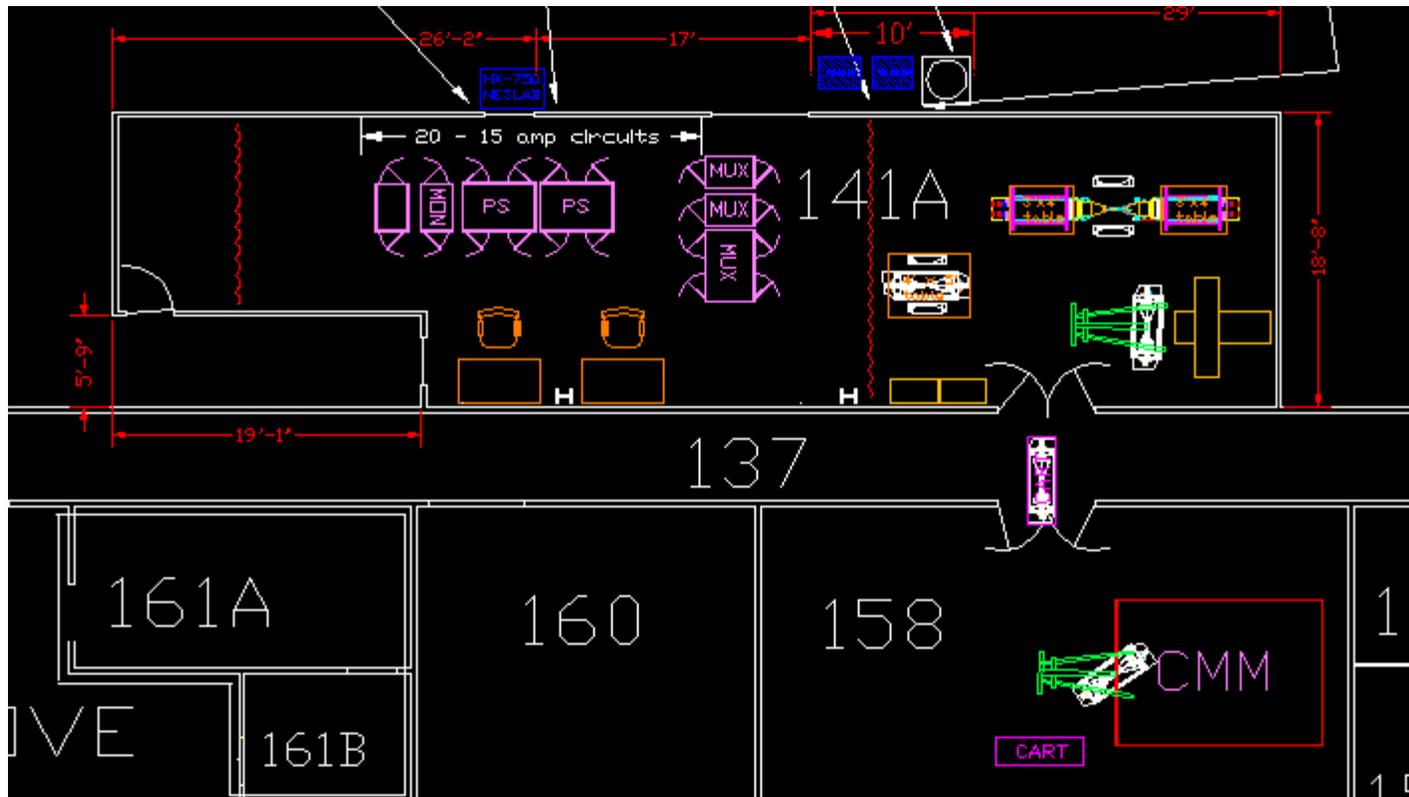
Currently mostly empty to be ready for new floor, paint, doors etc

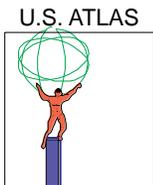
Currently full of preprints. Need to be moved before starting any work.



Bldg. 77 Space

- Finally expect similar configuration as used by BaBar.
- Need both electronics test and CMM access





What Do We Want?

- Utilize Bldg. 77 space now as is
- Keep our need for Bldg. 77 space in planning.
- Refurbish 50-4008 and 50-4014
 - ◆ Paint, new floor, bigger doors: detailed cost reviewed by us and is about \$61K
 - ◆ HVAC improvements: preliminary estimate \$120K
- We have \$61K but not \$180K.
- We would like to do whole package now. Most efficient.
- Doing this would give Lab long term facility for silicon detector construction in future with modest investment.