Adding New Volumes to G4 geometry Baseline

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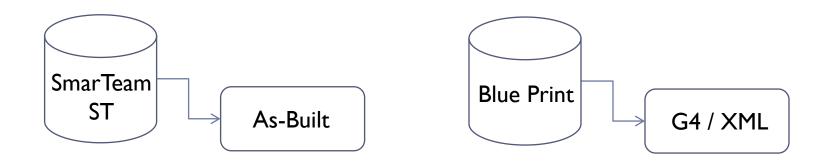
Requirements for Adding New Volumes

- Development of G4 geometry Baseline is multidirectional activity
- Requirements for Adding:
 - Missing parts in G4
 - Detectors updates
- ▶ CATIA tolls should be used for this activity
 - We know CATIA well
 - We now how to integrate in CATIA both "as built" geometry and G4
 - We can use power of this tool itself



Models Anatomy

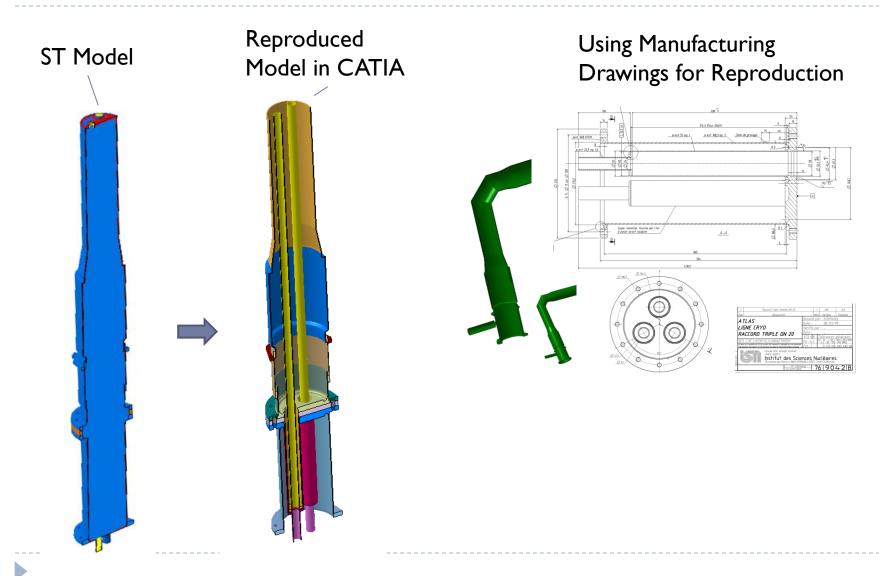
"As-built" geometry and G4 using different sources



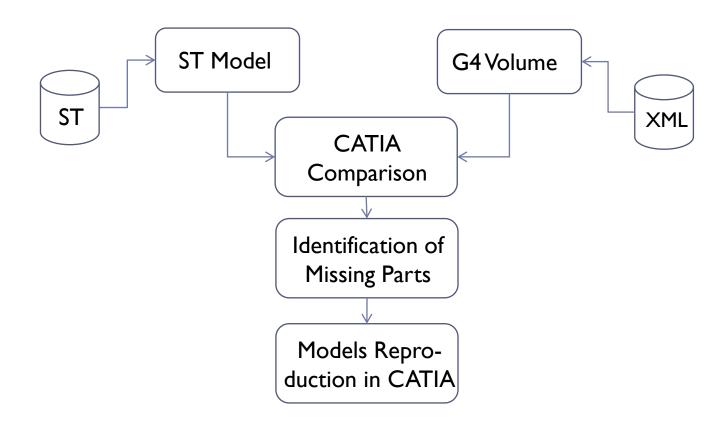
- > ST models in many of cases describing just outer envelops
- ST models don't have descriptions of materials



ST Outer Envelops

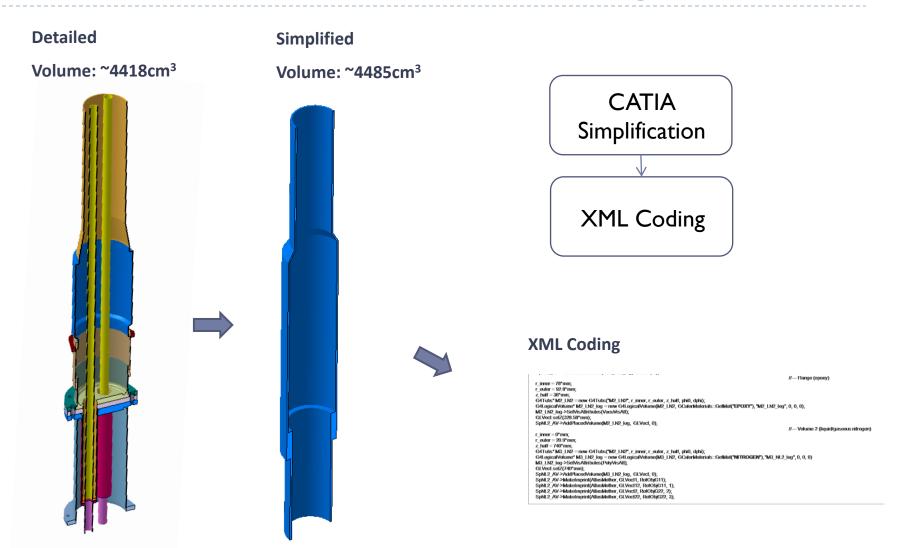


ST vs G4 Comparison and Reproduction

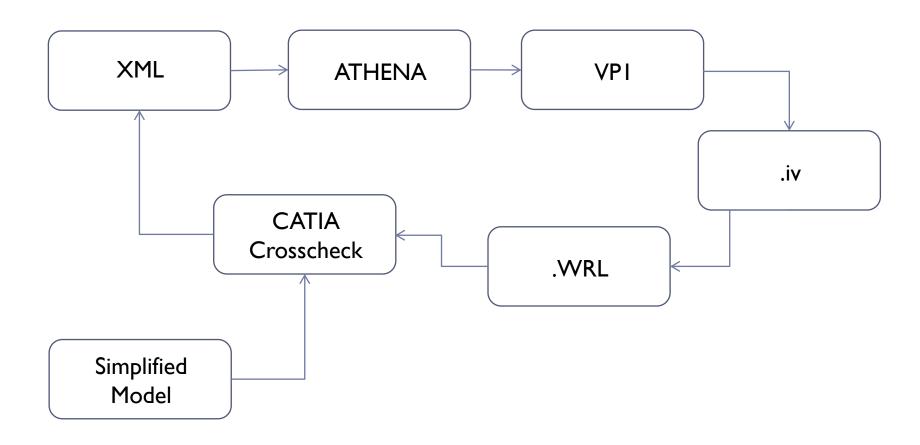




Simplification and XML coding

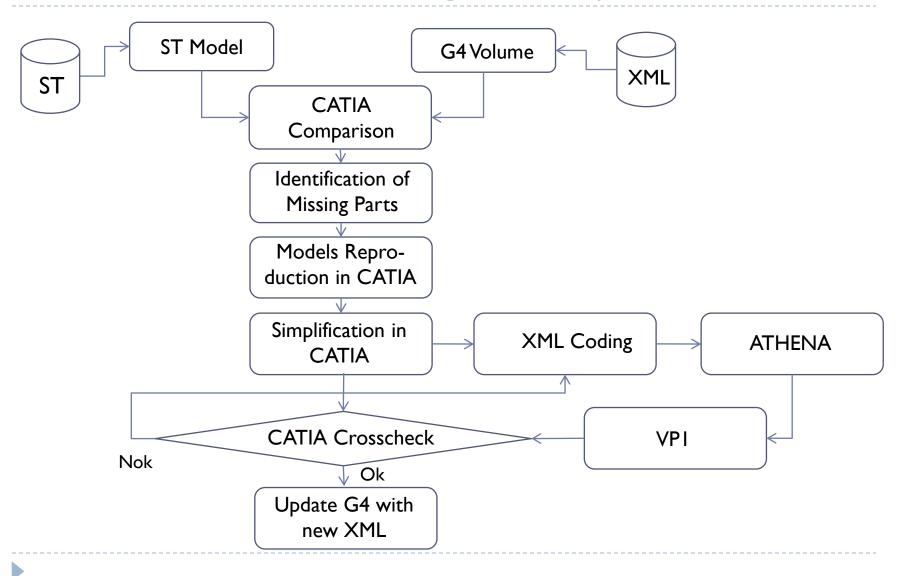


Loop for XML Overlaps Checking





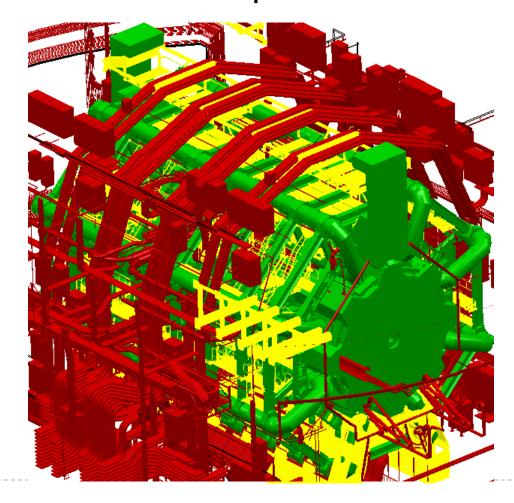
New Volumes Adding Life Cycle



Consideration Services and Supports

▶ For the moment detector components are well described

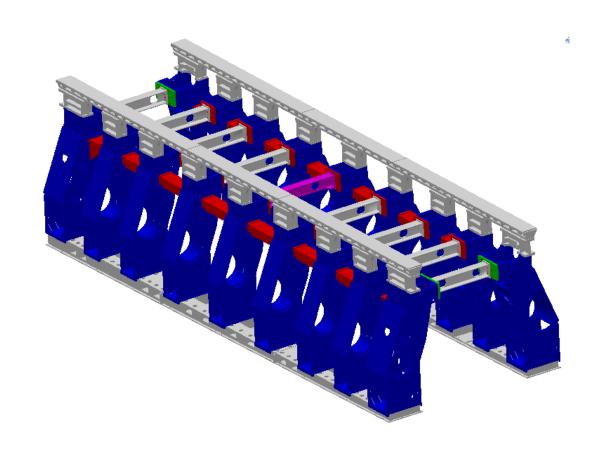
in G4





Consideration of Supports

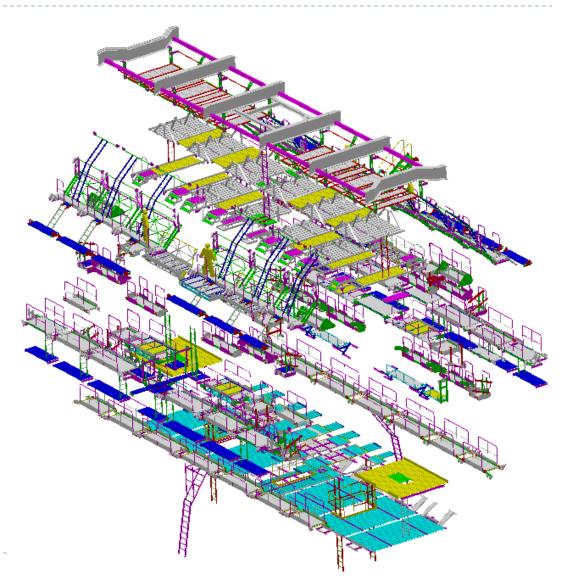
▶ Feets and Rails



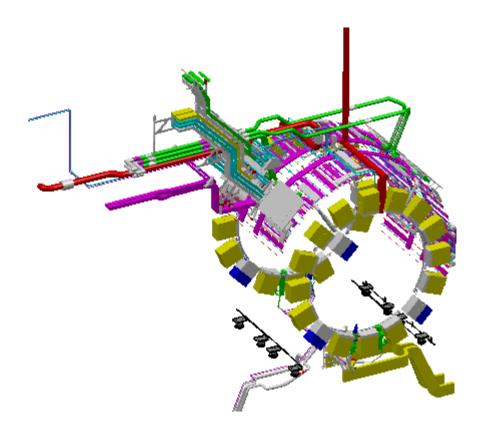


Consideration of Supports

Access Structures

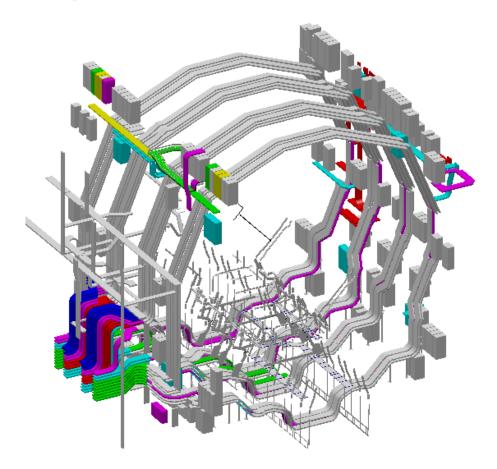


Barrel Services



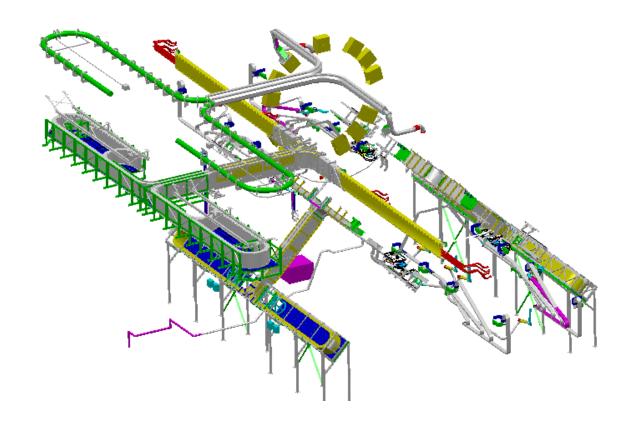


Racks, Cable Trays



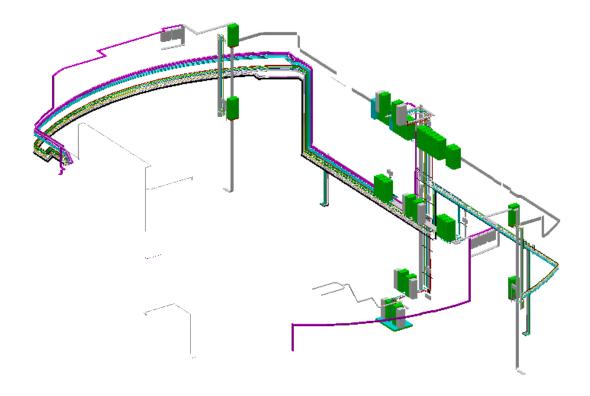


Extended Calorimeter Services



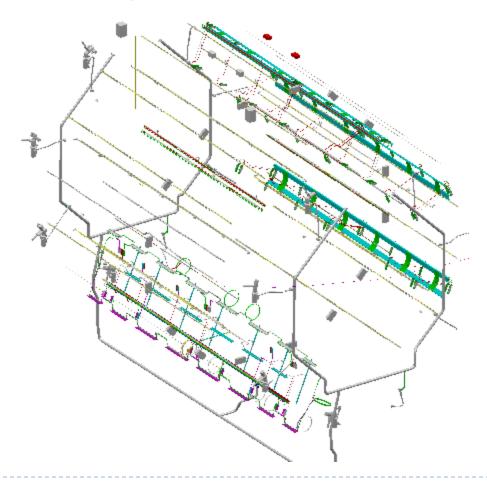


Gas Services





Services of Muon Spectrometer





Cooling

