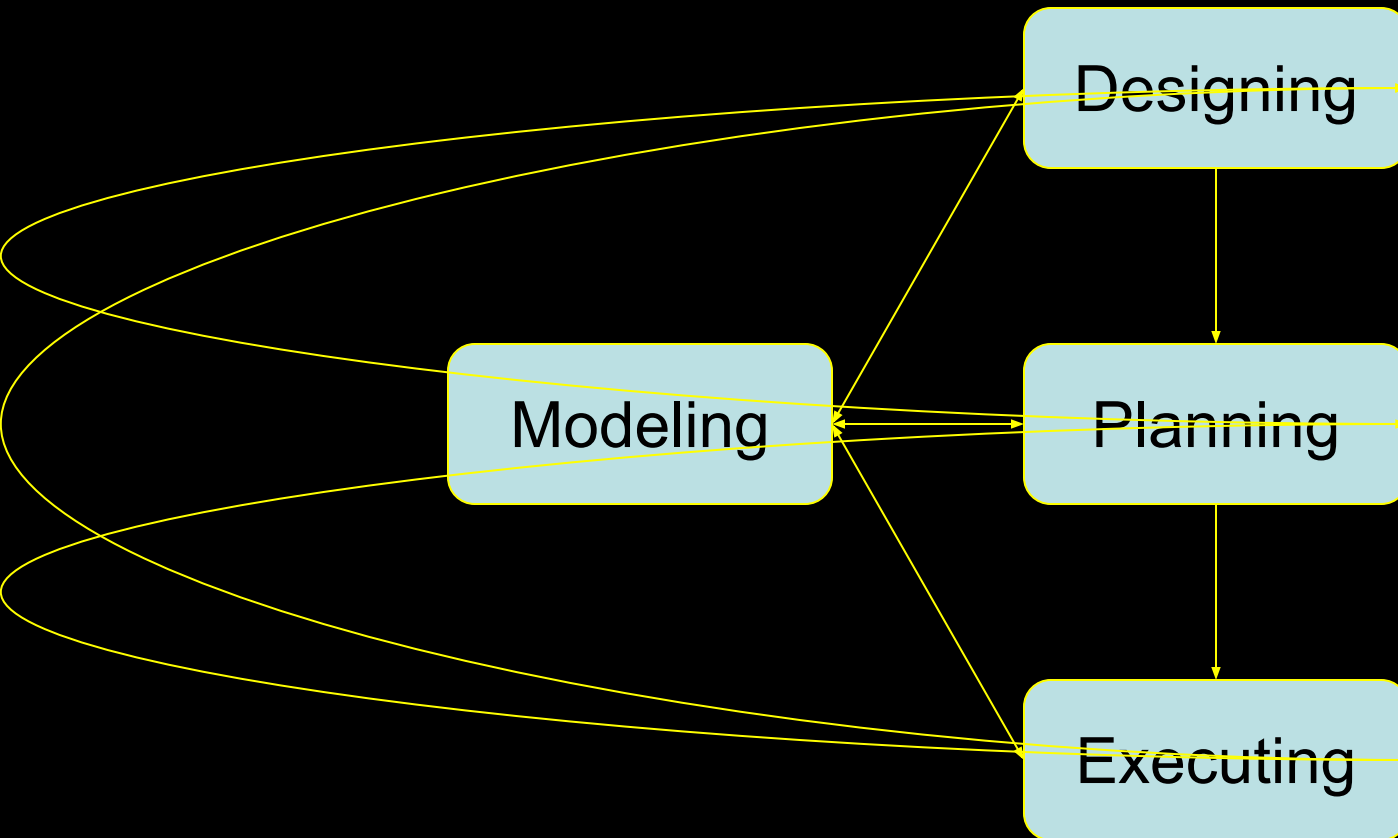




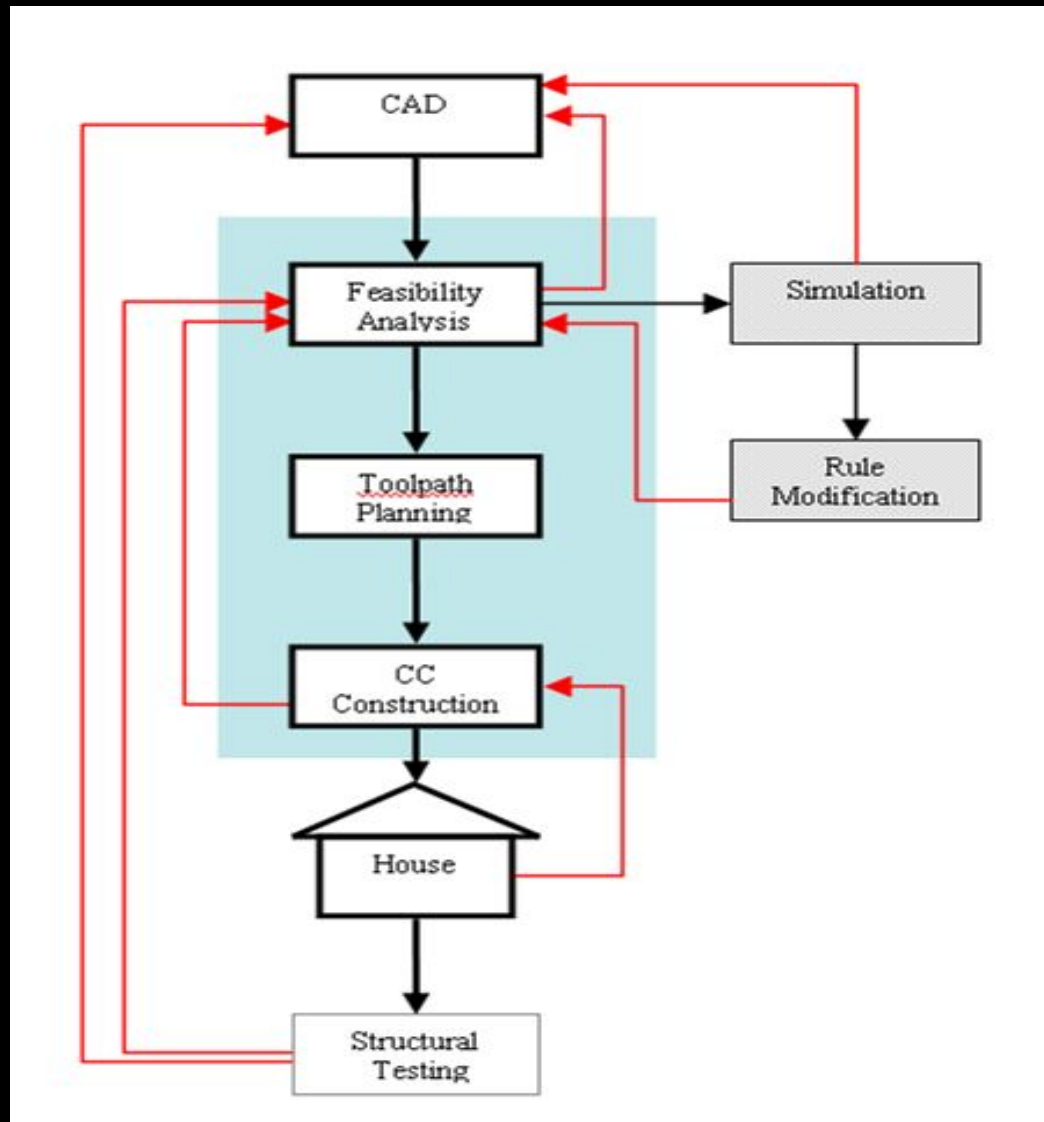
Information Technology Goals

- Perform the fundamental research and develop the software components for automating mega-scale fabrication
- Integrate components with each other and with robots from other thrusts

Four Classes of Software

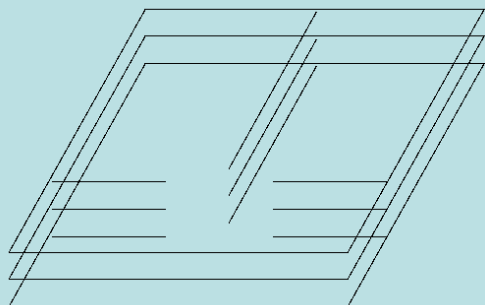


Research Plan

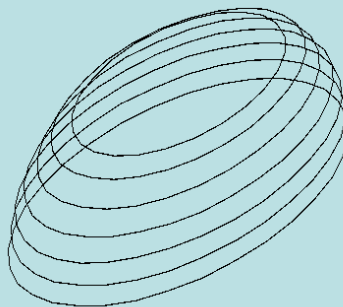




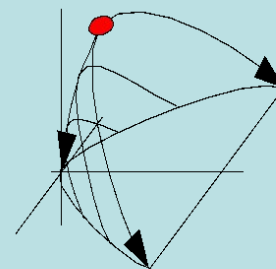
Layering various geometries



(a)



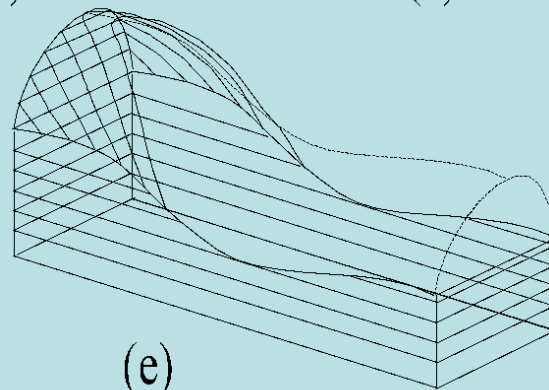
(b)



(c)



(d)

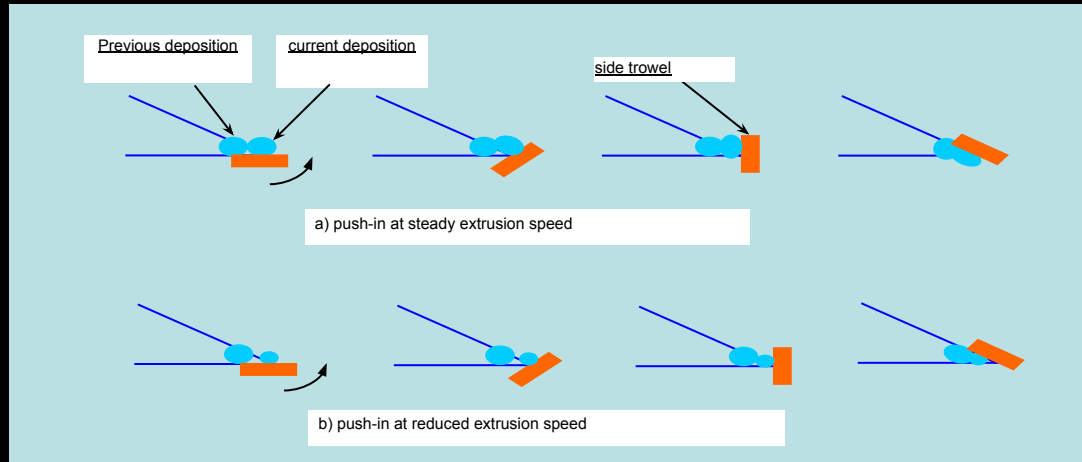


(e)

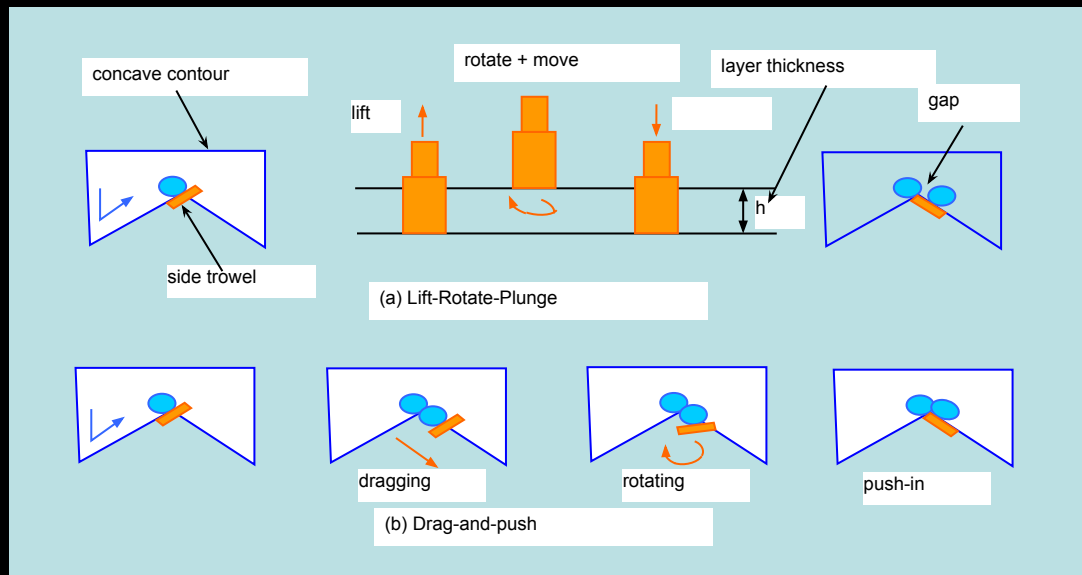
Trowel path planning



Trowel path planning and nozzle control around sharp convex corners

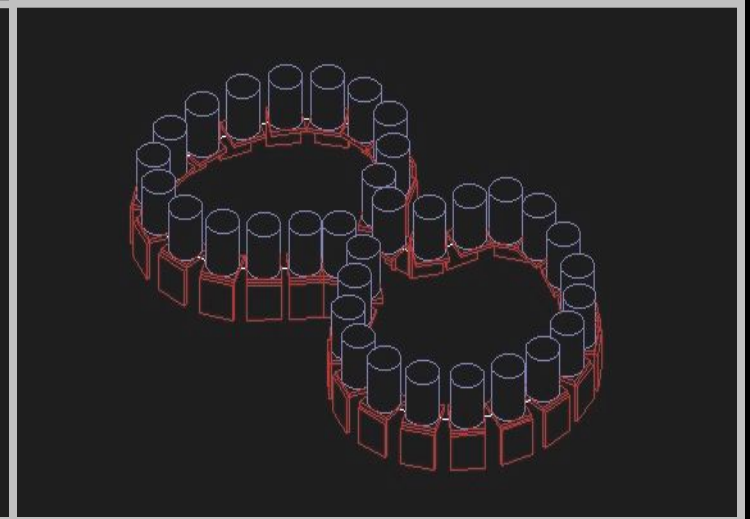
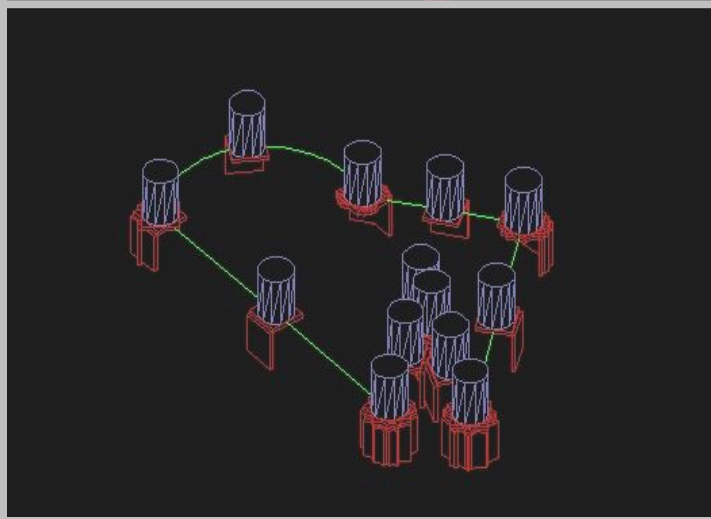
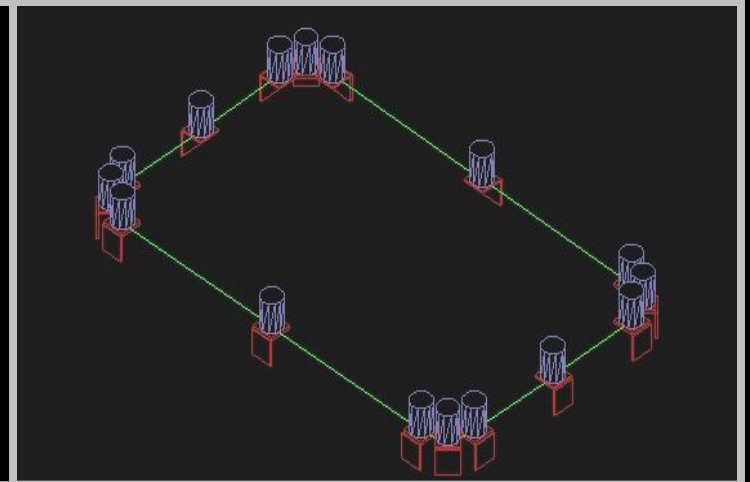
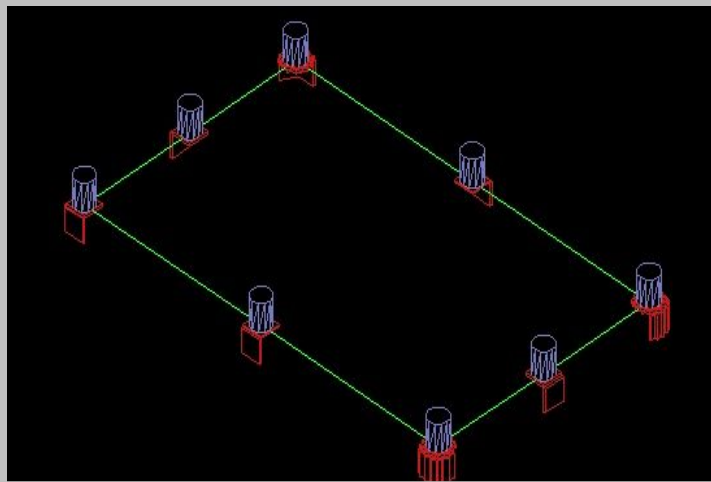


Trowel path planning and nozzle control around concave corners

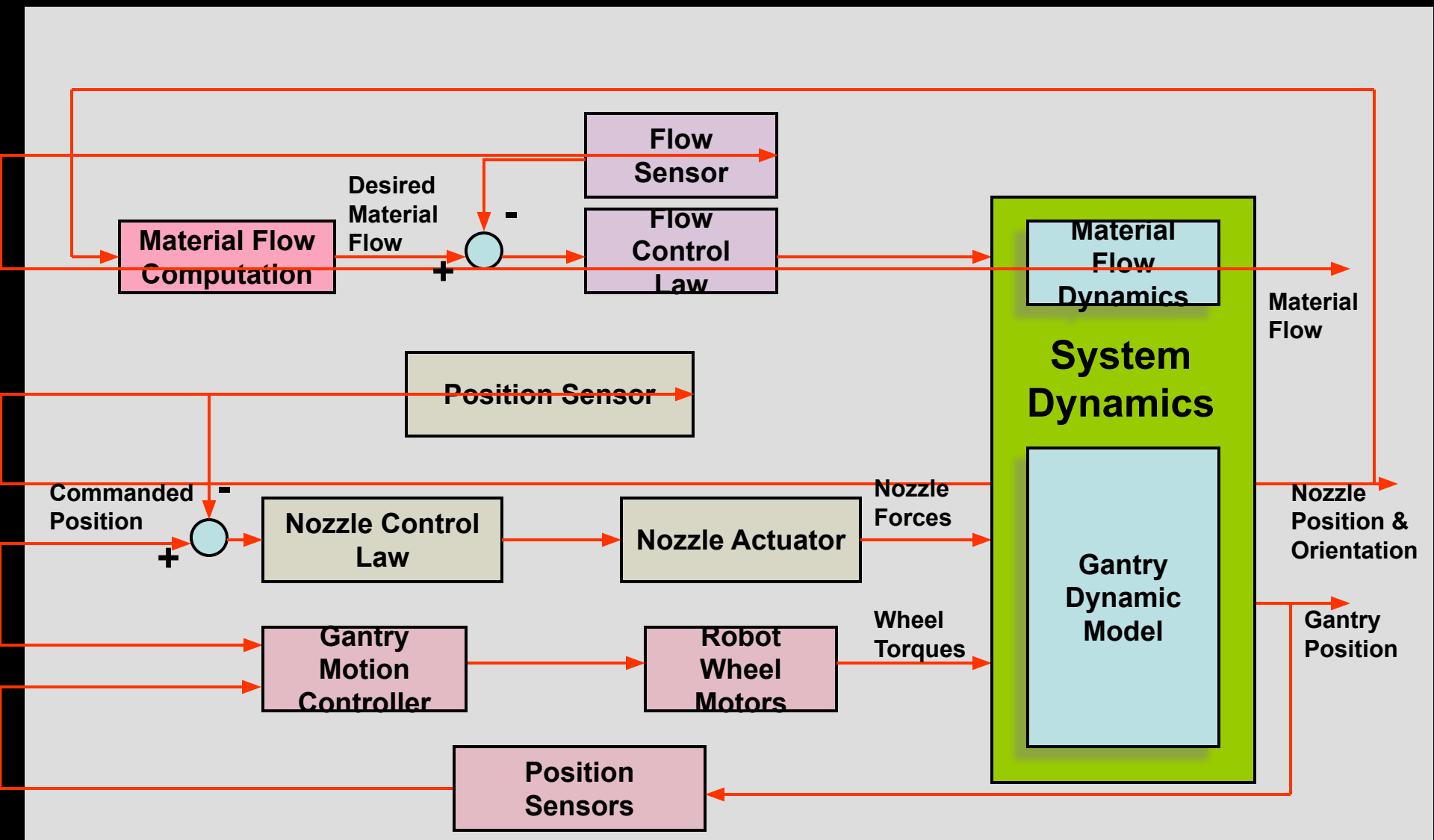




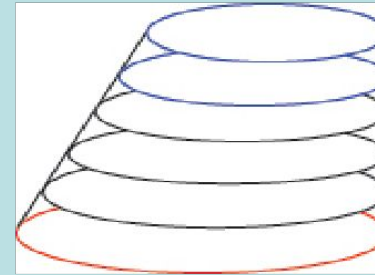
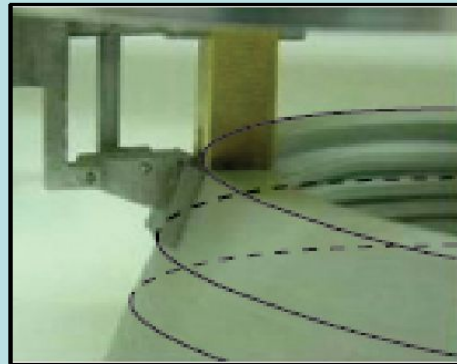
Nozzle path planning



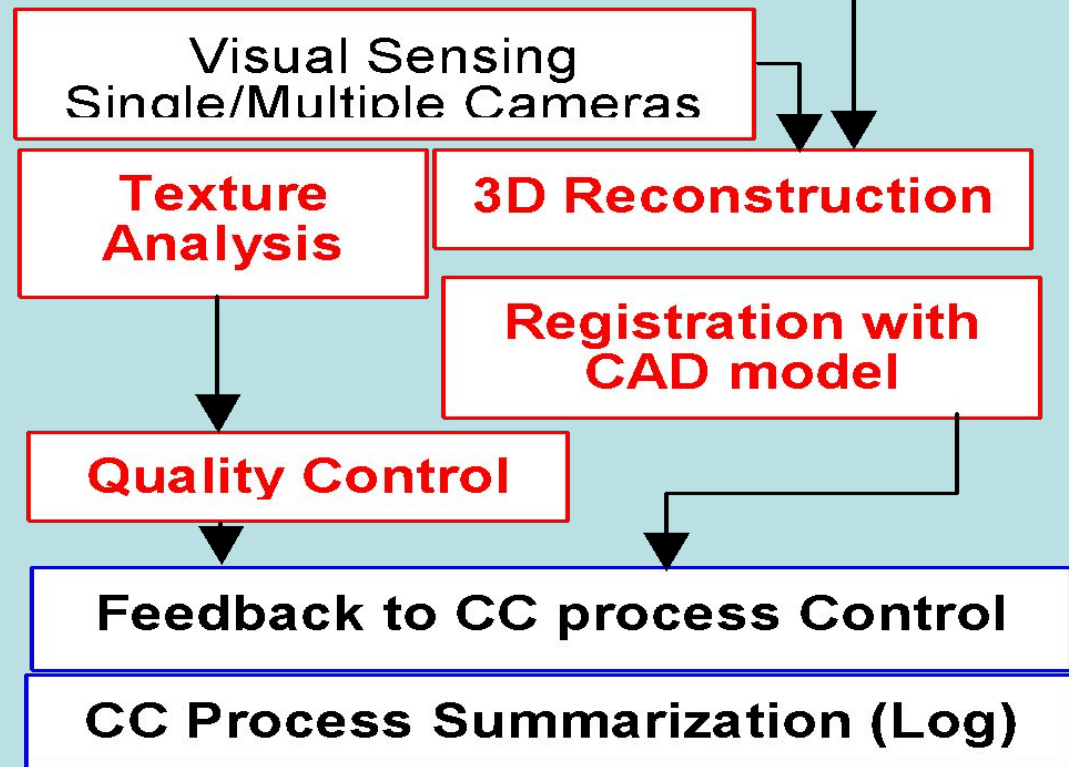
Dynamic Control



Visual inspection Contour Crafting

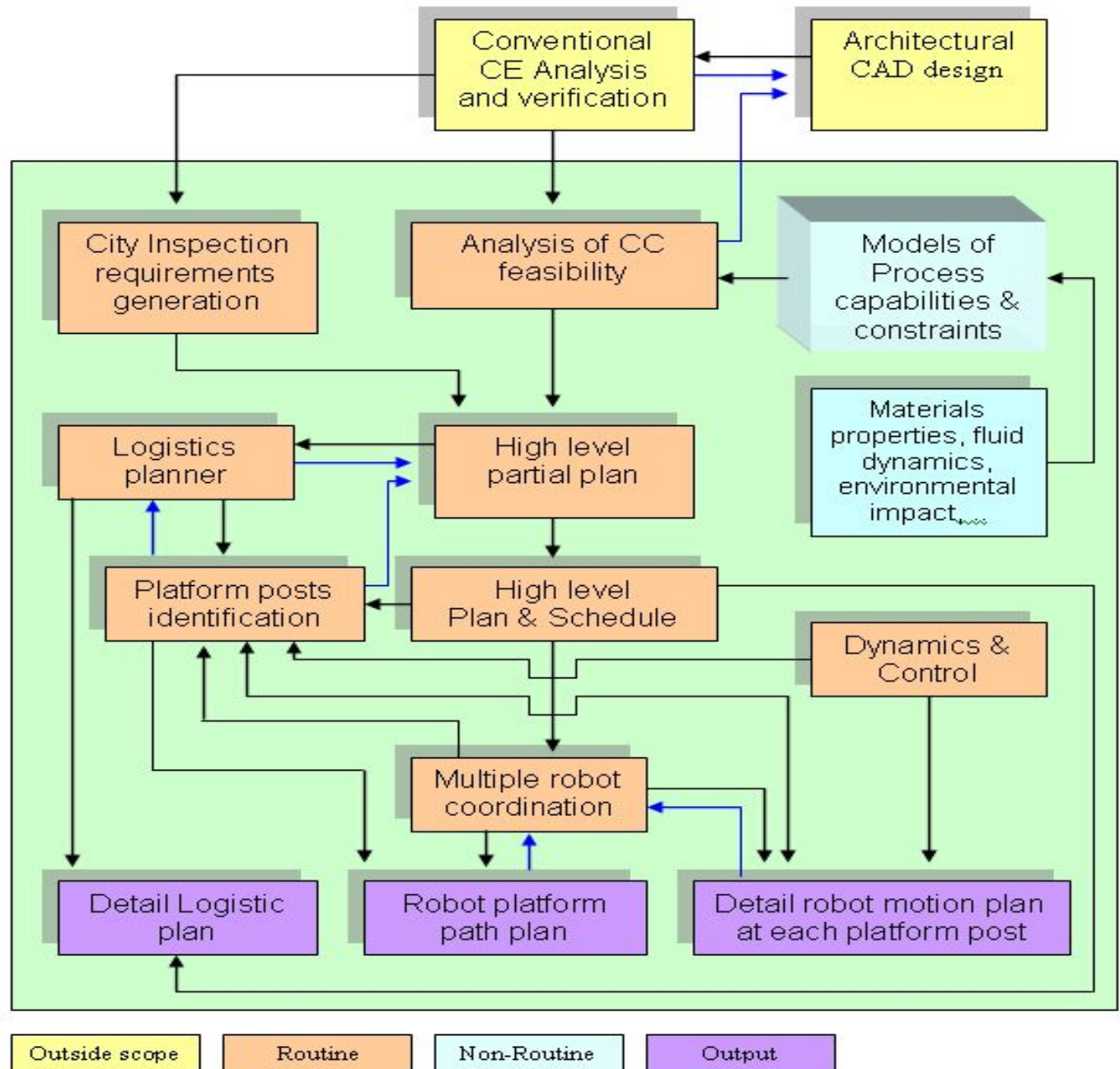


CAD Model





The Integrated IT System



Interrelationships among the three research thrusts

