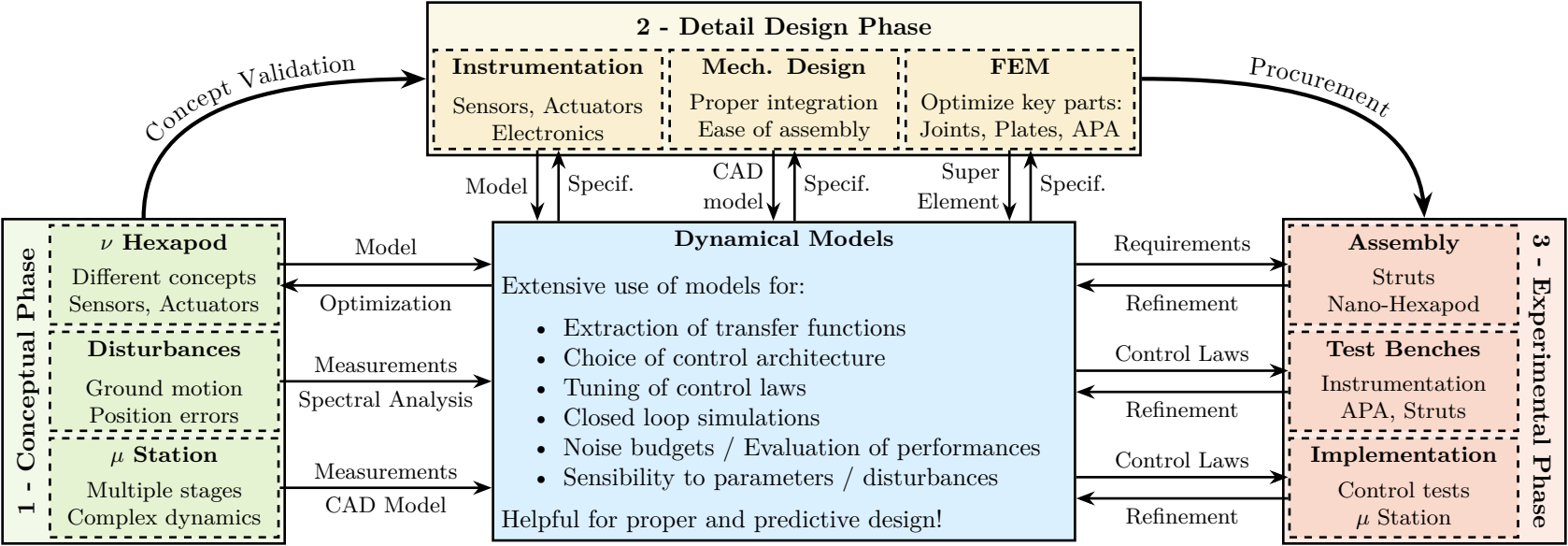
2 - Detail Design Phase
Instrumentation
Sensors, Actuators
Electronics
Mech. Design
Proper integration
Ease of assembly
FEM
Optimize key parts:
Joints, Plates, APA
Concept Validation
Procurement
Model
Specif.
CAD model
Specif.
Super Element
Specif.
1 - Conceptual Phase
ν Hexapod
Different concepts
Sensors, Actuators
Disturbances
Ground motion
Position errors
μ Station
Multiple stages
Complex dynamics
Model
Optimization
Measurements
Spectral Analysis
Measurements
CAD Model
Dynamical Models
Extensive use of models for:
• Extraction of transfer functions
• Choice of control architecture
• Tuning of control laws
• Closed loop simulations
• Noise budgets / Evaluation of performances
• Sensibility to parameters / disturbances
Helpful for proper and predictive design!
Requirements
Refinement
Control Laws
Refinement
Control Laws
Refinement
3 - Experimental Phase
Assembly
Struts
Nano-Hexapod
Test Benches
Instrumentation
APA, Struts
Implementation
Control tests
μ Station