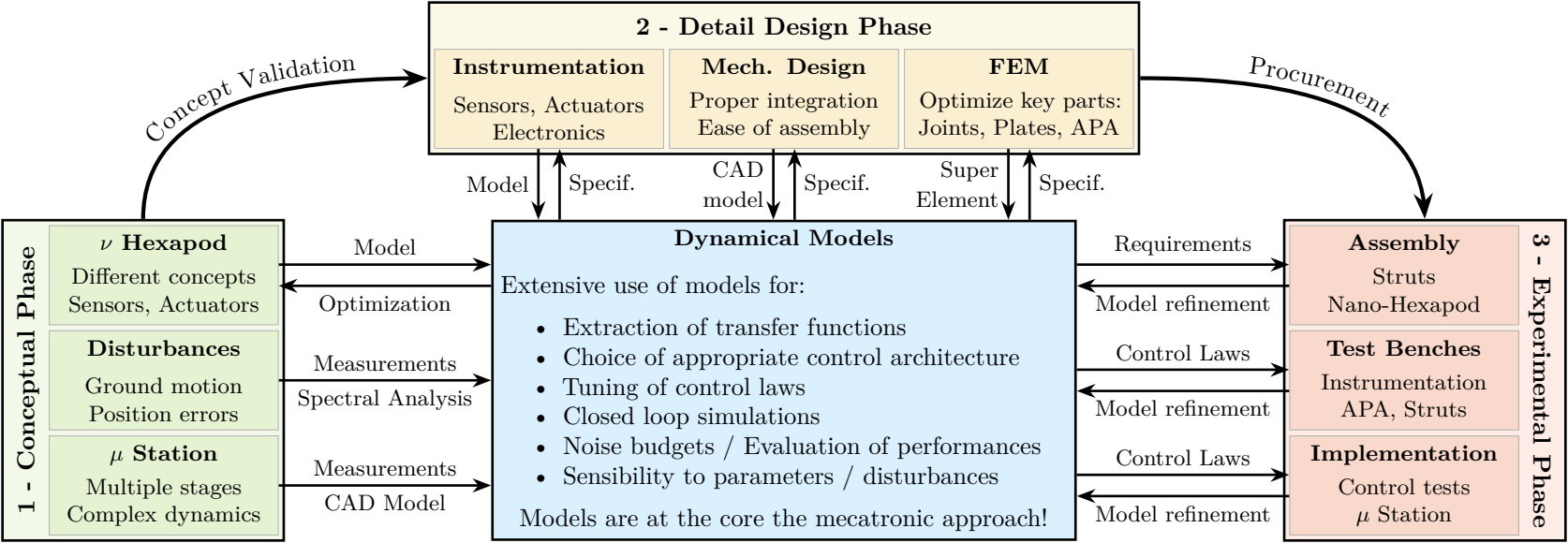
2 - Detail Design Phase
Instrumentation
Sensors, Actuators
Electronics
Mech. Design
Proper integration
Ease of assembly
FEM
Optimize key parts:
Joints, Plates, APA
Concept Validation
Procurement
Model
Specif.
CAD model
Specif.
Super Element
Specif.
1 - Conceptual Phase
ν Hexapod
Different concepts
Sensors, 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 appropriate control architecture
Tuning of control laws
Closed loop simulations
Noise budgets / Evaluation of performances
Sensibility to parameters / disturbances
Models are at the core the mecatronic approach!
Requirements
Model refinement
Control Laws
Model refinement
Control Laws
Model refinement
3 - Experimental Phase
Assembly
Struts
Nano-Hexapod
Test Benches
Instrumentation
APA, Struts
Implementation
Control tests
μ Station