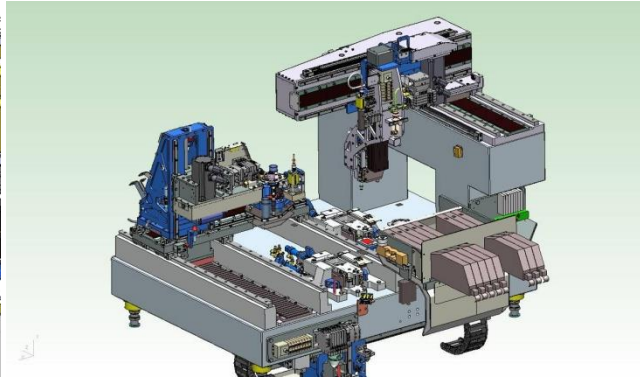
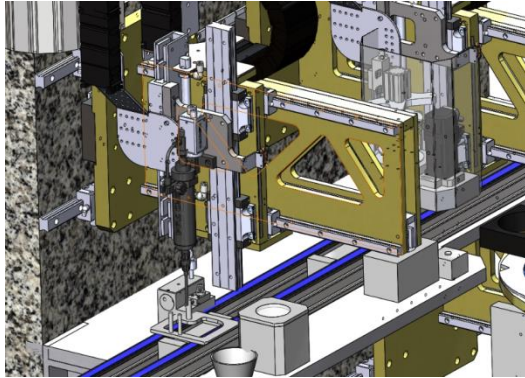


Update : 12/9/2022



1 - Design

Designed and tailor made, the Cartesian robot meet the requirement of accuracy, cadence and expected reliability by manufacturers.

Its design uses the latest proven technologies to meet these needs:

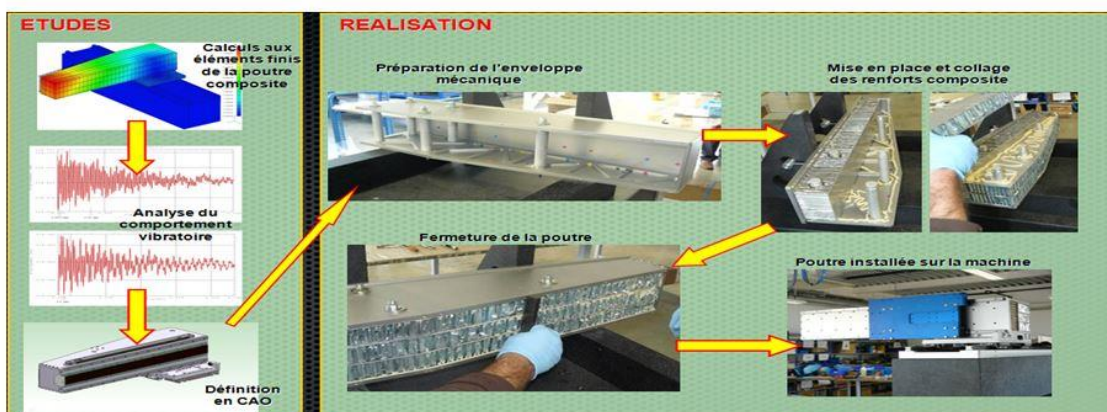
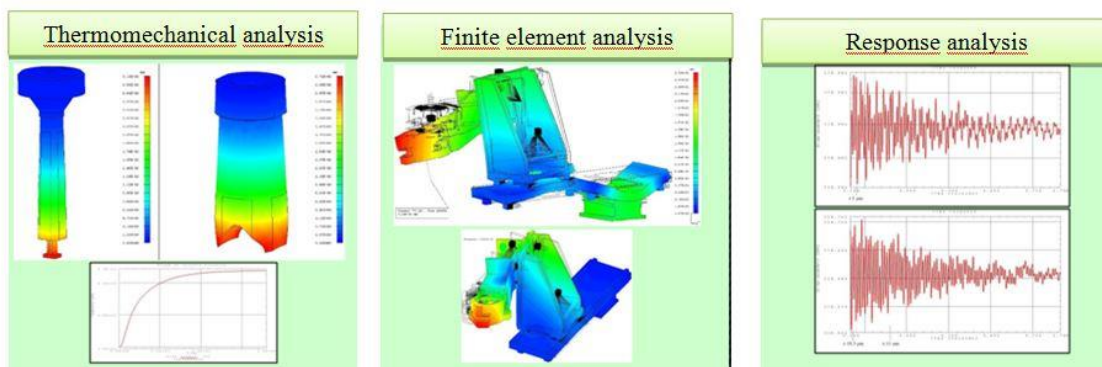
- Decoupled **granite base** of the external structure: best stability, vibration filtering
- **Same reference** (granite) for all axes, flatness 25µm
- **High precision guiding**, no backlash for XYZ displacements
- **Linear Motors**: Increased performance in dynamics, positioning; No wear: minimum maintenance
- **Absolute linear rules** of high precision: no loss of position, positions at 0.1 µm
- **Resetting of Position by vision analysis** (if required)
- **Rigid & light manipulators frames**, stable materials or construction of composite structures

For high precision Cartesian robot, the following elements must be integrated from the beginning of the project

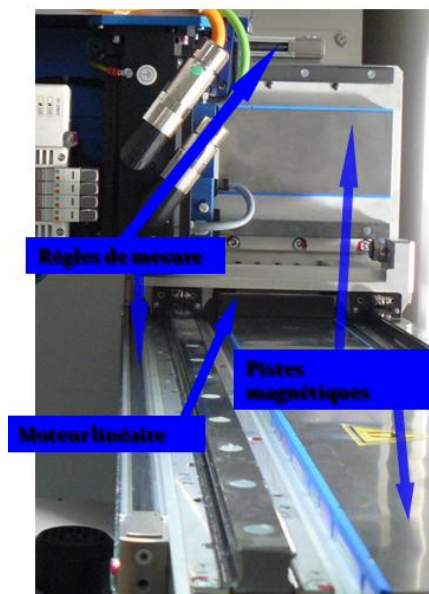
- Accuracy of the movements
- Cycle time
- Performance and process stability
- Reliability

These elements determine the choice of technologies to be integrated, as well as the methodologies to be used for the design of the robot.

To ensure performances, the following simulations are also performed



Servo-positioning by linear motors



Implantation

- The trolley is mounted on 4 linear recirculating ball bearing
- The measuring head of the linear ruler is fixed on the trolley
- The linear motor is directly attached under the trolley.
- The motor moves without contact above the magnetic track, with an air gap of around 1mm
- The actual position of the trolley is directly given by the measuring ruler: if the application requires it, the position can be slaved to 0.1 μm

