

# Incorporating effects of flexible wirings into the kinematic simulation of industrial robots

## Project Characteristics

Modeling: ★★★★★

Mathematics: ★★★★★

Programming: ★★★★★

### Setting:

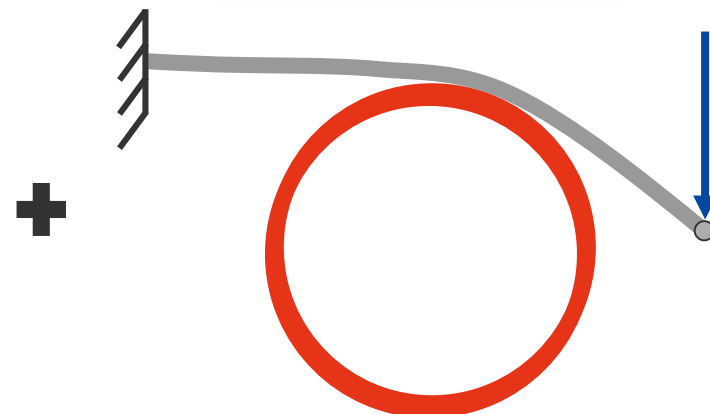
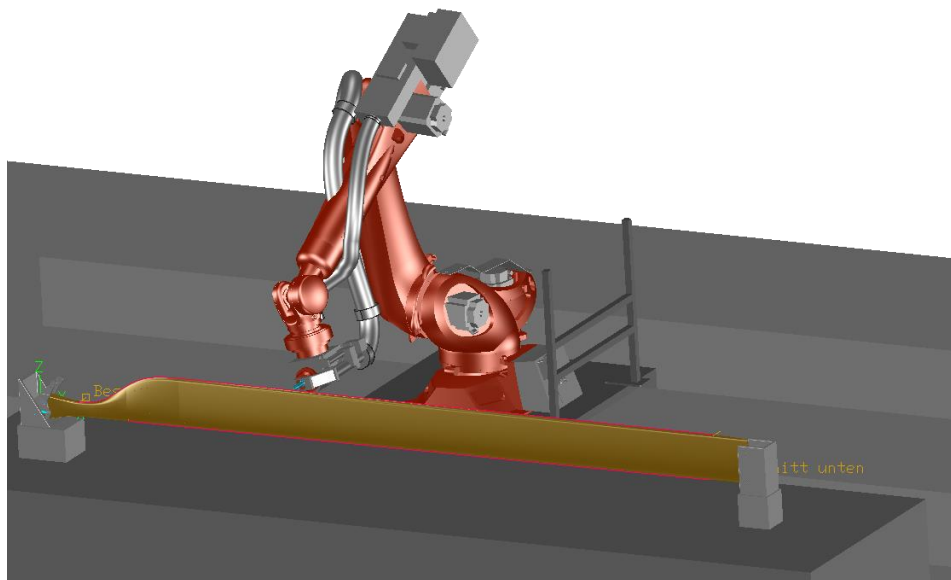
- Tebis allows to model the whole manufacturing process and generates the correct programs for machines involved
- Support also available for industrial robots
- Industrial robots can cover a large kinematic range with high speed and large precision
- Kinematic range should be limited by attached wirings



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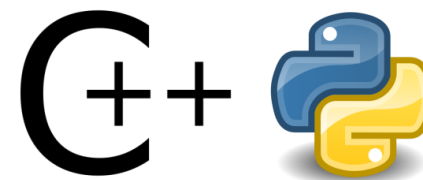
## Project Characteristics

Modeling: ★★☆☆☆  
Mathematics: ★★★★★  
Programming: ★★★★★



## Your Tasks:

- Develop a simple geometric and kinematic model of the robot arm
- Carry out a literature study on large strain beam theory and contact mechanics
- Implement a large strain beam finite element code, including contact, to simulate the wiring
- Visualize your results



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