COGNIBOTICS

Productivity by Accuracy

Quick and Predictable Robot Deployment

Accurate robots are easier to integrate and deploy which **speeds up the installation and makes the process more predictable**. Accuracy is important when creating paths or sharing position information with other systems. **Use Cognibotics accuracy addon to make robots the enabler for profitable and flexible production**.

A true digital twin

Robot accuracy closes the bridge between the real and the digital world. Modern tools give great possibilities to design and test robot cells digitally, typically **using a digital representation of a nominal robot**.

For commissioning on the real setup to work smoothly, the real robot should behave like its twin, which is only the case if the robot is accurate.

With accurate robots, process programming results in generally applicable programs, which can be used on various robot individuals and cells without major touch up.

All this is possible with enhanced accuracy provided by Cognibotics Accuray Addon.

Unlock Your Production Potential

Faster commissioning

Increased production yield

Quick adaptation to new products

Improved collision avoidance

Cognibotics Robot Accuracy Addon for all major robot brands

Upgrade the accuracy of robots from major brands effortlessly with Cognibotics accuracy addon.

With built-in elasticity compensation and support for external axes, Cognibotics unlocks the full potential of your robot mechanics.

Revolutionize your operational capabilities today by using accurate robots to take your lightweight material processing and contactless applications to the next level.

Do any of these activities fall within your production scope?

Producing small batch sizes of short product cycles

Offline generated programs

Processing path segments with different robot configuration

If so, you can boost your competitiveness with Cognibotics robot accuracy addon.

Supported robot brands	Universal Robots, ABB, Yaskawa, Comau, Fanuc and Kuka

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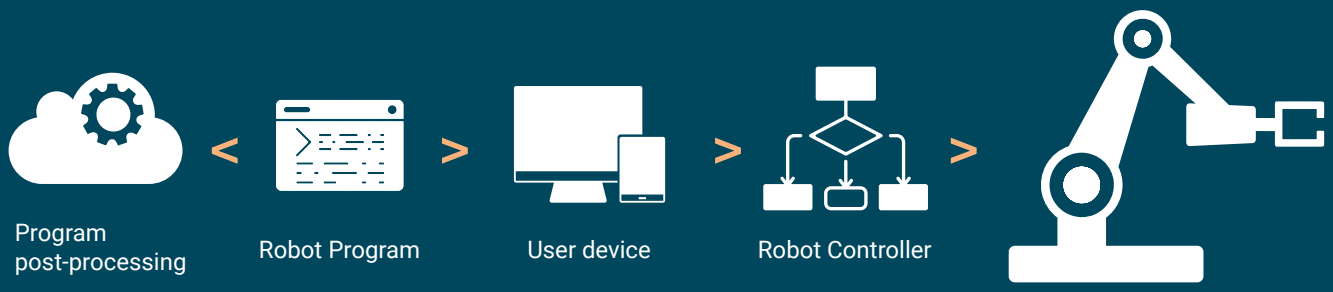
Options for optimal usability

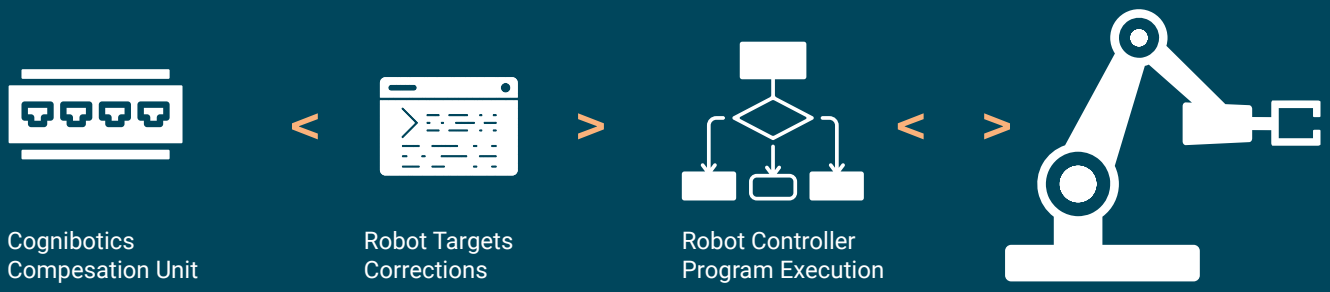
Program post-processing

Our cloud service makes predefined robot program targets accurate.



Accurate online targets with compensation in runtime

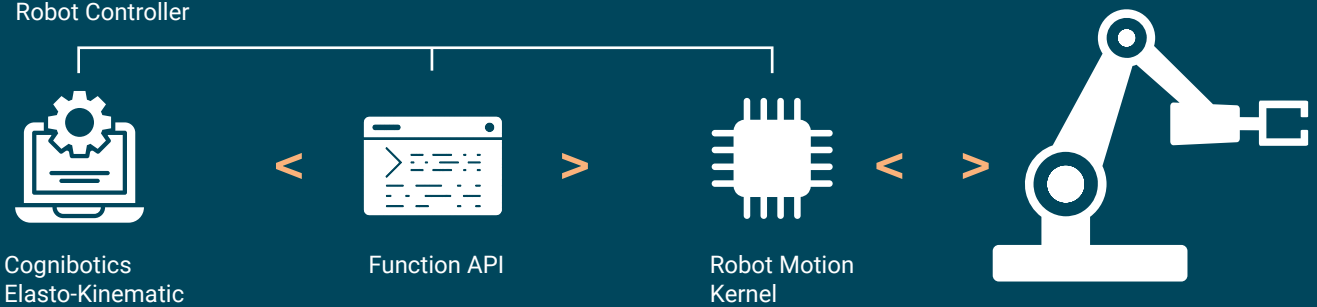
Calculation on the fly with **Cognibotics compensation unit** connected to the robot controller.



Best path accuracy with accurate trajectories

For robot manufacturers or platform providers

Cognibotics Elasto-Kinematic module embeds directly into the motion kernel for **use in real-time cycles**.



Elasto Kinematic modeling as core

Articulated robots are typically inaccurate due to mechanical imperfections combined with a structure where small errors add up, and a control system using a very simplified model of a robot as default.

The unique competence of Cognibotics lies in the ability to create superior mathematical models to describe the imperfections and deflections in robot mechanics.

Those models are a much better representation of the real robot and are usable within the real-time cycles of a robot controller.

Combined with Cognibotics patented methods to identify the necessary model parameters, this creates a baseline enabling world-class robot accuracy.

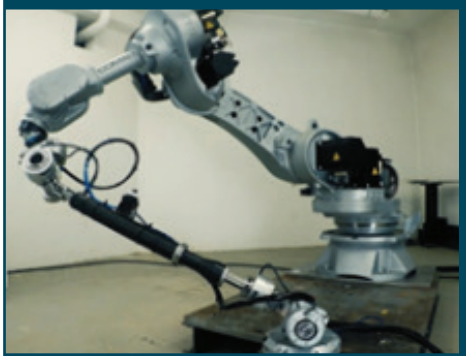
Elastic characteristics are a natural part of Cognibotics robot models. Accounting for elasticities means accuracy improvements by taking into account how the robot bends under various loads.

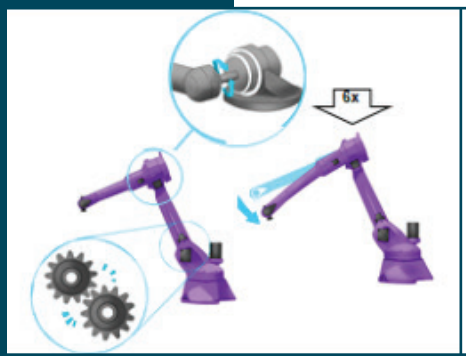
The result is load-independent accuracy even in stretched robot configurations.

By including potential servo-controlled external axes such as track motions or positioners in the modeling and motion compensation, one can enjoy the benefits of absolute accuracy also for the combined motion.

Robot Calibration as Enabler

At installation





For all robot motions

Robot Calibration → Gives parametes to → **System Models** → Used by → **Motion Compensation**

To initiate and maintain the **connection between digital representation and the physical world**, the robot, and additional **servo-controlled axes must be calibrated**. **Cognibotics calibration package** includes equipment and software to efficiently measure and identify robot parameters to capture characteristics of physical robot individuals.

Use the **sensor system of your choice**, most commonly used third-party systems are supported.

For calibration of the robot itself, we also provide cost-efficient in-house solutions. Based on provided nominal information and a short initialization cycle, **Cognibotics measurement and identification unit takes care of both the generation and execution of the measurement sequence** as well as the data collection both from the robot and the sensor.

Cognibotics identification routines automatically calculate the unique parameters for your setup.

Prepared for Cognibotics calibration equipment as well as commonly used laser trackers and optical CMM

Creaform C-track

Nikon / Krypton k600

Leica

Faro

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