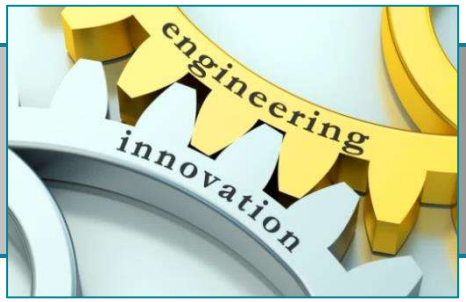
TECHNO OFFER

New robotic wrist parallel with 4 degrees of freedom

Keywords : robotic wrist / parallel robot / machine tool / automation / degree of freedom



CONTEXT

Currently, most industrial robots use a serial 3 Degree of Freedom (DDL) wrist carrying a gripping or cutting tool.

In this configuration, the orientation of the wrist and the actuation of the tool are performed by two separate devices.

This configuration has drawbacks because it is bulky and greatly limits the rate of work.

DESCRIPTION

The proposed invention consists of a parallel robotic wrist with 4 degrees of freedom allowing the orientation of a gripping or cutting tool (rotating 3DDL) and its simultaneous actuation in the same structure (4th DDL).

This configuration makes it possible to reduce the volumes and masses in motion for applications requiring high speeds.

This structure is controlled by four actuators which can be placed away from the tool thus limiting the bulk.

COMPETITIVE ADVANTAGES

- **Gripping / cutting and spatial orientation functions integrated in the same system**
- **Work at higher rates than with current robotic wrists**
- **Handle and cut in confined and crowded environments**

Markets & applications

Manufacturing industry

- Gripper robot
- Caliber controller
- Hydraulic clamp

Medical - minimally invasive surgery

- Cutting / gripping tool

Development stage

Functional laboratory prototype (TRL 4)

Research team

FEMTO Science & Technologies Institute

Intellectual property

Patent filed on October 6, 2016

Target partnership

Patent licensing

CONTACT-US

Abdelkader GUELLIL
Business Development Manager
+33 (0)6 26 61 89 06
abdelkader.guellil@sayens.fr