

Partnering Opportunity

Profile status : Published

Technology Offer

Fixture for setting precise position of telemetry sensor

Summary

New innovation related to rotary dynamometers has been developed by an R&D institution in Trnava region. The innovation consists of a fixture for setting precise position of telemetry sensor of rotary dynamometer clamped in the spindle of a machine tool. The preferred cooperation type is license agreement. The team is looking for licensing the mentioned technology.

Details

Description

Established Slovak R&D institution has developed a new device used in machinery industry. Dynamometers are devices used for measuring cutting forces when machining, which is very useful for research and optimization of the cutting process. There are two main types of dynamometers – static and rotary. Static ones are easier to use but less precise, and while rotary ones are more precise, they often require a fixture that's tailored for the specific machine tool. However, the manufacturer of the dynamometer does not provide fixtures for the telemetry sensor. Because the rotary dynamometer at the Center of Excellence of 5-axis machining at one of the Slovak research institute couldn't be used for the research of metal cutting without the telemetry sensor fixture, it had to be designed and manufactured first. Therefore a team of researchers involved in the research project regarding machining of difficult-to-cut materials has reverse-engineered the outer shape of the machine tool spindle utilizing an optical 3D scanner. Afterward, the fixture was modeled, manufactured, and successfully tested. The R&D institution is seeking an industrial partner for licensing for the further development and commercialization of this technology.

Advantages and innovations

The main advantages of the fixture are:

- precise setting of the position of the telemetry sensor as required by the dynamometer manufacturer, resulting in reliable data transmission
- design can be used for measuring cutting forces even when the spindle is tilted
- fixture design dampens the vibrations
- data transmission interference is minimized by the use of polymer material for the part that's in contact with the

telemetry sensor

Stage of development

Available for demonstration

IPR Status

Patent(s) applied for but not yet granted

Keywords

Technology

02002009

Machine Tools

02002010

Machining (turning, drilling, moulding, planing, cutting)

Market

08003001

Machine tools, other metal working equipment (excl. numeric control)

08003007

Other industrial equipment and machinery

Network Contact

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Client

Type and Size of Organisation Behind the Profile

R&D Institution