

Automated tool inspection system

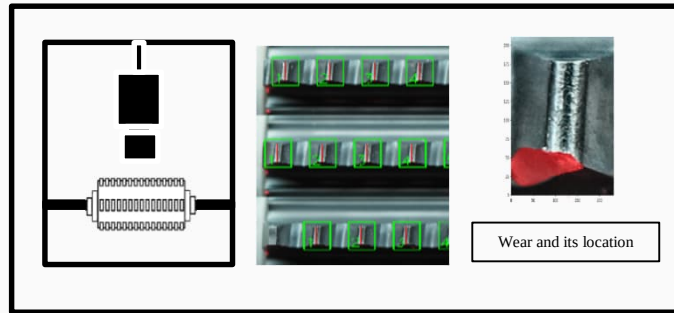
Reduce tool cost through automated wear measurement.

STATUS QUO

Before a tool can be reconditioned, it must be manually inspected. This process costs both time and money. Furthermore, inspection results are often subjective. This can make regrinding unnecessarily expensive or prone to errors, ultimately reducing the tool's service life.

OUR TECHNOLOGY

We automate tool condition monitoring using a camera-based 360-degree inspection system and corresponding AI software. The system is particularly suitable for multi-edged tools that otherwise require extensive manual inspection. Once calibrated, the system captures images and identifies cutting edges and wear using a multi-stage process.



BENEFITS

- ▶ Reduce Cost for tool inspection
- ▶ Reproducible results
- ▶ 100% digital

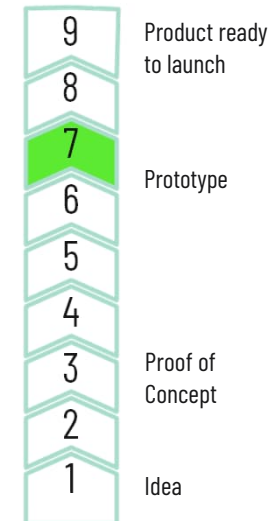
APPLICATION POSSIBILITIES

Designed for tool regrinding services, this system streamlines the initial condition assessment. It automatically measures the wear mark width and visualizes the defect's location in a user-friendly overview.

COMMERCIALIZATION OPPORTUNITIES

There are various possibilities for cooperation between the industrial partner and TU Darmstadt: from an exchange with the know-how carriers of the technology up to a close cooperation in case of further development needs. The technology is protected by intellectual property rights and can be used by the industry partner after a sale or licensing agreement.

CURRENT STAGE OF DEVELOPMENT TECHNOLOGY READINESS LEVEL (TRL)



The technology development is at Level 7: A prototype was built and validated in near-production conditions.

YOUR CONTACT PARTNERS AT TU DARMSTADT



IP- and Innovation Management
☎ +49 6151 16-57203
✉ innovation@tu-darmstadt.de



Alexander Moltschanov M.Sc.
Institute for Production Management,
Technology and Machine Tools
☎ +49 6151 8229 631
✉ a.moltschanov@ptw.tu-darmstadt.de