



CTX Test System

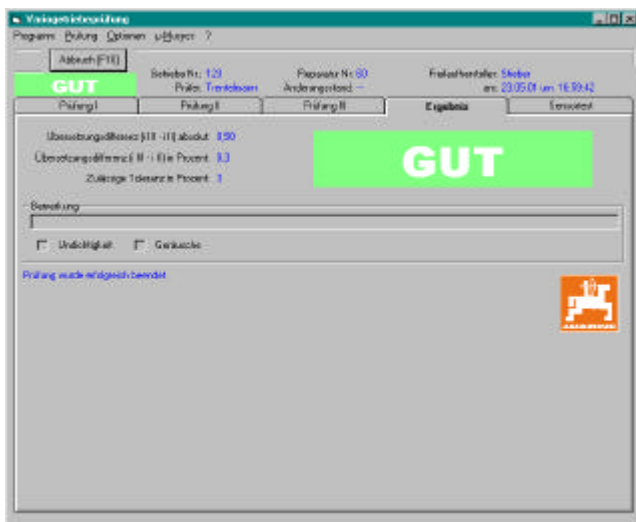
Automatic gearboxes, especially advanced CTXs (continuously variable transaxle) aren't widespread in agricultural machinery. Nevertheless, one of Germany's leading companies in that field, AMAZONEN Werke, develops and produces various types of such gearboxes.

In contrast to 'normal' gearboxes, CTXs have no discrete gears and therefore special measurements and tests have to be carried out. Engineers from AMAZONEN approached imc for a turnkey solution for CTX inspection. In response, imc has developed an automated CTX test stand and measurement system.



CTXs can be used in various types of agricultural machinery

The test stand's hardware foundation is the versatile imc measurement system μ MUSYCS. Using the imc COM-products, the test rig's user interface was mainly written in Visual BASIC. The offline data analysis and evaluation software FAMOS can be used by engineers to perform advanced, test rig-independent data evaluation.



A turn key solution makes it easy to use the entire systems

Typical signals from a CTX to be measured include the incoming and outgoing RPMs, torques, vibration, temperatures and pressures.

But not only the measurements themselves are important. Real-time analysis in addition to raw data is central.

μ MUSYCS is tailored to this kind of task. Thanks to Online FAMOS, a user interface for configuring online calculations and online evaluations, μ MUSYCS has a selection of about 100 different functions which can be calculated in real-time at its disposal. In this application, the system's main objective is to calculate the current ratio between the input and the output RPM signals. Furthermore, power calculations or the evaluation of losses and frictions can be carried out in the form of FFTs, Order-tracking spectrums or digital filters. Using its digital and analog outputs, the calculation results, the evaluations and verifications can be used to control the test rig.

Finally, specially designed printouts to document every step in the process can be made automatically.

