

Conception of a Predictive Maintenance System for Forest Harvesters from Multiple Data Sources

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Abstract : For cost-effective use of harvesters, expensive repairs and unplanned downtimes must be reduced as far as possible. The predictive detection of failing systems and the calculation of intelligent service intervals, necessary to avoid these factors, require in-depth knowledge of the machines' behavior. Such know-how needs permanent monitoring of the machine state from different technical perspectives. In this paper, three approaches will be presented as they are currently pursued in the publicly funded project PreForst at Ostfalia University of Applied Sciences. These include the intelligent linking of workshop and service data, sensors on the harvester, and a special online hydraulic oil condition monitoring system. Furthermore the paper shows potentials as well as challenges for the use of these data in the conception of a predictive maintenance system.

Keywords : predictive maintenance, condition monitoring, forest harvesting, forest engineering, oil data, hydraulic data

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