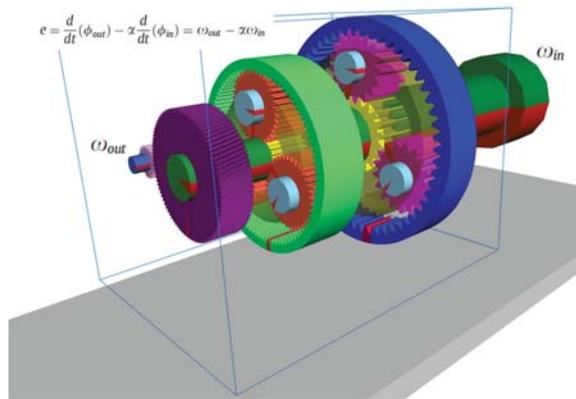


# Drivetrain Fault Detection Method

## Innovation description

- A model-based gearbox fault detection method was developed by a NTNU PhD candidate in collaboration with Aalborg university.
- The idea of this method is to detect the gearbox faults before failure and with the minimum additional costs for the monitoring system.



## Impact

- This method can be implemented within the existing control system which reduces the cost of additional condition monitoring system.
- It can be used for early fault detection to avoid total collapse of the drivetrain.
- Positive feedback was received from the industry and further research on this method is on going.

## Further development

- Further plan is to test the method with real data.
- More simulation and model evaluation is in progress.

## References

- Nejad A.R., Odgaard P.F., Gao Z., Moan T. (2014). A prognostic method for fault detection in wind turbine drivetrains. *Engineering Failure Analysis*, 42, 324-336.
- Odgaard P.F., Nejad A.R. (2014). A Frequency based wind turbine gearbox fault detection applied to a 750 kW wind turbine. *Proceeding of 2014 IEEE Conference on Control Applications (CCA)*, Juan Les Antibes, 2014, pp. 1383-1388.

