

# ANALYSIS PROCESS AUTOMATION WITHIN VPD BRAÅS

**Pierre Orvegren**

Volvo Construction Equipment, Sweden

**KEYWORDS –**

Automation, fatigue, weld, cast

**ABSTRACT –**

The Braås VPD department, forming a part of Volvo Construction Equipment, has 15 full time employed engineers and offers a broad range of services within the field of Virtual Product Development. Support is given to development and advanced engineering projects by means of e.g. strength & durability and NVH analyses as well as Multi Body Simulations.

Strength & durability questions at issue occupy the majority of the engineering hours and spans over a broad range of different finite element analyses and subsequent evaluations:

- Static linear- and non-linear (weld-, cut edge- , cast fatigue, max load evaluation etc.)
- Transient dynamics (weld- cut edge fatigue etc.)
- Random vibration (weld- cut edge fatigue etc.)
- Quasi-static explicit (rubber strength and fatigue, ROPS evaluation, low speed collision with objects)
- Deformation and residual stress simulations of welding processes

Automation of complete analysis processes in order to increase efficiency, minimise user errors and decrease the amount of repetitive tasks, thereby releasing engineering hours, has been set as strategic goal within the department. Some of the already implemented processes will be presented in the paper. Furthermore, the paper will mediate a brief description of experiences gained in connection to the exchange of pre- and post-processing tools within the department.

