

Balancing **safety** and **performance**



Machines today are expected to do more with less. The world's population continues to grow and its needs continue to increase — needs for healthier food, better connected cities and towns, and more comfortable homes. At the same time, preserving resources remains a top concern.

Operating at higher levels of productivity with fewer resources can be challenging enough before even considering safety regulations and relevant safety standards. Safety demands can be difficult to keep up with, especially as they become increasingly complex, making the task of building machines at the next level an entirely new challenge.

In the balance between dependable machines and efficient ones, Danfoss can help maximize machine performance and operator safety while reducing costs and time to market. Together, OEMs and Danfoss can address these challenges today by engineering for tomorrow.

Integrate safety on a smaller scale

Integrating safety while improving machine performance don't necessarily have to be separate processes. Danfoss is continually developing and testing

system solutions designed to make machines operate more efficiently and increase productivity — including solutions with pre-certified safety components.

During the past decade, Danfoss has developed solutions with specific functional safety characteristics, many of which are certified by third-party companies. This makes application in off-highway machines easy. Products with pre-certified safety solutions include hydrostatic transmissions, electrohydraulic steering components, controllers and the PLUS+1® GUIDE programming environment.

Every component developed by Danfoss is designed with machine productivity in mind. Integrating pre-certified safety components into existing applications serves a dual purpose — ensuring safety and, in some cases, streamlining work functions — saving time and resources.

Total system safety solutions

Danfoss offers comprehensive functional safety solutions that integrate risk assessment, system design, application programming and system validation. A total system solution combines Danfoss components, software, processes and training, allowing OEMs to customize the solution to fit their exact needs. During this process, you will be able to integrate products that ensure safety while increasing machine efficiency.

The electrohydraulic steering subsystem from Danfoss has 20 configurable safety functions. All safety functions are

certified at the SIL 2 level, meeting the highest safety standards, and are integrated into all the features of the solution, including GPS auto guidance, quick steering, and joystick and mini-wheel steering. Finding the right electrohydraulic steering configuration for your machine not only ensures safety but also allows for maximum efficiency and effectiveness, as the system solution is tailored to your exact application needs.

The Danfoss difference

Simple solutions that can boost machine performance while automatically complying to safety standards can make a significant impact on the bottom line for OEMs. Integrating proven solutions allows machines to be produced at a faster rate, as it saves time in engineering processes, paperwork and the supply chain.

Danfoss is committed to providing full system support for OEMs, whether that includes a total safety solution or boosting machine performance and productivity.

