Driveline

Case Study

Effective separation of lubricant and air, whilst allowing air transfer from rotary to static

Effective sealing during full vacuum conditions during deflate cycle

About CTIS

Central Tyre Inflation Systems (CTIS) maximise vehicle mobility by making adjustments to the tyre pressures of a vehicle in line with changeable ground conditions.

FTL Technology's range of CTI sealing components and driveline solutions have a proven pedigree on wheeled military vehicles, including:

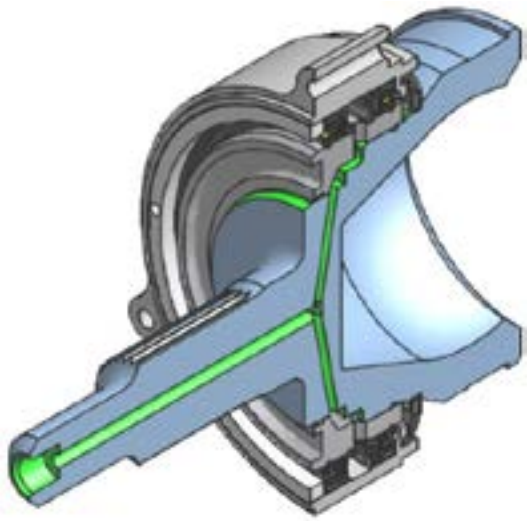
- Infantry Fighting Vehicles
- Utility Vehicles
- Logistics Vehicles
- Support Vehicles

The key benefits of CTIS in military applications are:

- **Increased vehicle and mobility safety**
- **Reduced tyre wear**
- **Reduced fuel consumption**
- **Improved driver comfort**

The Client

A leading European military vehicle OEM, seeking to enhance vehicle mobility, improve reliability and functionality of the required CTI sealing system, for a range of wheeled military vehicle applications.



High performance CTI sealing system

FTL sealing solution tested and validated in-house

The Challenge

It is essential that military vehicles maintain mobility across all terrains and ground conditions. A key element of this is a central tyre inflation system, with its associated componentry and high performance sealing elements.

In CTI sealing applications, the critical function of the sealing element is to ensure reliable and predictable separation of two media — lubricating fluid and air. The air side lip is required to operate under pressure during certain operational conditions and in a dry and unlubricated environment.

Dependent upon the specification of the control system, the sealing solution needs to resist the near full vacuum conditions experienced during a deflate cycle.

The military vehicle OEM in this case was keen to identify a sealing partner able to provide this combination of responsiveness and flexibility.

The Solution

FTL Technology took the time to understand all of the client's application details, before using a combination of responsive service and technical expertise to develop a CTI mobility solution to address each specific requirement.

The CTI sealing solution developed by FTL Technology ensures effective media separation of lubrication and air, whilst allowing air transfer from static to rotating components within the wheel hub.

FTL Technology developed a bespoke CTI sealing solution incorporating appropriate seal design, material selection and lip geometries—all tested and validated in-house by FTL Technology.

Improved mobility and reliability across all terrains and conditions

The Benefit

The key outcome for this military customer was that mobility could be managed more effectively and reliably after the adoption of FTL Technology's bespoke CTIS sealing solutions.

This demonstrable improvement in mobility across all terrains and environmental conditions has had a direct impact on enhancements in both operational efficiency and vehicle mobility.

"Proven performance of these CTI seals in the field has resulted in specification across a broad range of vehicle platforms across the globe."

Military OEM spokesperson

In-depth Solutions

For more in-depth solutions

T: 0113 252 1061
E: sales@ftl.technology
W: ftl.technology