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Composite Rubber Track (CRT) and Robotic Autonomous Systems (RAS)

Introduction

Militaries worldwide are increasing their Research and Development (R&D) into RAS. Within the next 10 – 15 years RAS could potentially be at Military Commanders behest and play an active part on the complex future battlefield. With the advantages of Soucys CRT already widely known on manned vehicles there is already an instilled confidence in the minds of Original Equipment Manufacturers (OEMs) globally to use our proven product on RAS. There are many reasons why CRT is an asset to RAS:

1. Maintenance.

- a. CRT has low maintenance requirements which enable Commanders to better forecast maintenance breaks into their mission analysis. With the average weight of an RAS being much lighter than current armored vehicles, the CRT durability is increased therefore in most circumstances, can operate un maintained for up to 8000 Kms.
- b. The additional hardware that accompanies CRT such as sprockets, road wheels and support rollers are also designed to complement the durability of CRT, in addition the maintenance free characteristics of CRT ensures autonomous systems stay 'on task' and are not operationally affected by wear and tear essential maintenance procedures therefore there is no requirement for scheduling maintenance breaks into the Commanders estimate.

2. On Board Electronic Sensors.

- a. RAS inevitably have a plethora of electronic sensors fitted to enable them to perform to their optimum potential. With a 70% reduction in vibration felt on armored platforms fitted with CRT, the durability of the on-board electronics is enhanced enabling them to remain combat effective longer.
- b. The unique design of CRT promotes less vehicle ground pressure which enduces a reduced dust cloud emanated from platforms. This will prolong the life of the electronic circuits boards and sensors fitted to RAS.

3. Potential RAS Uses and CRT Advantages.

- a. **Hazardous Situations:** Predominantly RAS are used to replace humans in hazardous situations, such as handling explosives, bomb disabling vehicles and where humans cannot easily go. The integration of CRT with its smooth-running profile prevents 'track slap' being transmitted to on board explosives and ammunition prolonging their effectiveness.
- b. **Reconnaissance:** Due to the rubber on rubber design of CRT there is an overwhelming noise reduction during operation. With RAS potentially being used in the reconnaissance, surveillance and target acquisition fields the decrease in emitted noise is a big advantage. The

proven acceleration enhancement of vehicles fitted with CRT would give RAS the edge in combat reconnaissance.

c. **Amphibious:** Nations are conducting R&D into amphibious RAS that will give them the ability to conduct logistical missions from sea to land. CRT has many attributes that would enhance the performance of a land/amphibious platform such as, saltwater resistance, buoyancy and reduced corrosion.

4. **Weight.**

a. RAS may require the ability to be para dropped onto the battlefield hence they are lighter in design. The addition of CRT being on average 50% lighter than conventional ST would give potential OEMs scope to develop the lethality aspects of the platform.

Conclusion

In order to preserve life, enhance capabilities and gain a tactical edge over near peer groups, Militaries are increasing their R&D into the potential integration of RAS. It's therefore inevitable that Nations will demand the most compatible products for their designs. With its proven record on manned vehicles the Soucy CRT with all the attributes it brings should be the 'track of choice' for RAS. Due to the durability that is provided by CRT the Life Cycle Costs (LCC) for any given platform would be significantly reduced allowing more resource to be focused on critical battle winning assets.