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## **ADVANCED PROPELLING SOLUTIONS COMPLYING WITH FUTURE DEMANDS (FCS)**

**MOHAMED SAMMOUR\***

### **ABSTRACT**

During the last decade, requirements on ammunition and their components have changed considerably. New emphases are laid in the fields of safety, vulnerability and toxicity / environmental impact. Most conventional introduced gun propellants originate from the WWII era and show considerable shortcomings in particular regarding these new requirements.

The new requirement for propellants: i) increased performance, ii) reduced system weight at same performance, iii) low price (cheap), iv) reduced toxicity / environmental impact (green propellant), v) reduced sensitiveness IM / LOVA (less sensitive propellant), and vi) good system compatibility (ignitability, barrel erosion, muzzle flash,..).

Three examples for the new propellants were presented: i) example 1: new artillery propellants, ii) Example 2: new tank gun propellants, and example 3: new small caliber propellants.

Thanks to decades of intensive R&D, a variety of propellants with improved properties were developed, many of them being already NATO qualified and in service.

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\* Ministry of military production, F81