



Athens, November 2020

Dear Readers,

Five years ago, the arrival of the new Russian T-14 tank surprised western armies and triggered the acceleration of the development of the future main battle tank (MBT). Nowadays, being on the same concept-path, the outlook for the western MBT concerns an improvement (not a revolution) of the conventional tank configuration. This means continuing the same race for 'gigantism' (i.e. bigger, heavier, stronger and very costly tanks), as the most appropriate choice for a typical 'smooth and flat' battlefield. When a given specific (mountainous) environment reveals the above standard tank model as 'inefficient', then a different specific approach is required for a highland armoured fighting vehicle. Of course, the beginning of such research demands clear answers to some simple basic questions:

What kind of threats are we facing (now or in the future)? Do we really need any kind of tanks? Which operational priority is desirable (mobility-agility-firepower-survivability)? Which operational characteristics are preferable (low weight - small size and crew or high speed and autonomy)?

Every manufacturer probably assumes his product is much better in comparison with any potential competitor. But the reality is that a specific job needs specific tools. In this case, the 'job' is to move (rolling-climbing-fording-surpassing) at high speed while at the same time striking the targets and outlasting the threats in the given environment. Therefore, the 'tool' must be locally oriented, offering abilities and characteristics adapted to the country's terrain. An out-of-the-box study and concept design, now in progress in a south-east European country, seems to provide the right

cocktail of features as follows:

- ARRANGEMENT: Capsule-shaped hull/ 4 sealed compartments/2 crew members
 - MACHINERY: Hybrid main power system (mini gas-turbines/E-generators/E-batteries)
 - DRIVE: Unconventional, wide-diameter, 8 double T-wheels (airless)/adjustable suspension
 - TRANSMISSION: Drive by Wire/E hub-motors (8x8 high-torque)/equal FWD-RWD speed
 - SIZE: Drastically reduced dimensions/weights (less than 6 x 1.7 x 1m/20 Tn)
 - WEAPONRY: External gun mount/variable weapon load Configuration/Unmanned Turret (launchers or low-recoil guns, up to 120 mm)
 - Tactical MOBILITY: High performance, on dynamic and terrain factors (ratio: 35+hp/Tn)
 - Tactical FLEXIBILITY: Multi-role/multi-mission capability (un-aerobic/silent-mode & DRONE)
 - LETHALITY: (apart from fire power and accuracy) due to improved first hit probability
 - SURVIVABILITY: (apart from ADS and armour) due to low revealability/low-vulnerability (minimizing profile and cross-section/reducing VS-IR-EM-AC traces)
- Due to the simple/low technology approach, structural simplicity (-50% parts) and special parts availability in the commercial market, the development of such a project is feasible within a framework of a joint venture, where the main stakeholders are sufficiently experienced and have the relevant technical ability (for example: RUAG & MOWAG).

Kind regards

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Epilogue

Some years ago, when I first met Apostolos Kourtis in Switzerland, I discovered an engineer with a bright understanding of ship and vehicle design. He showed me a vintage trireme built in accordance with antique technology and a very modern, perhaps futuristic, concept for an armoured vehicle. In this Newsletter I gave Apostolos the floor to briefly present the DFS-LT (direct fire support – light tank), which may interest the readers of my newsletters.

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