



Armoured Vehicles India 2015

- Ashwani Sharma

“Mechanised Forces target the will of the enemy” said Lt Gen AB Shivane, VSM, Director General Mechanised Forces in his Keynote Address at the 6th edition of ‘Armoured Vehicles India’ symposium, organized jointly by the ‘Centre for Joint Warfare Studies’ and Defstrat.com on 18-19 Nov at IDSA, New Delhi. Addressing the audience comprising various stakeholders and luminaries in the Armoured Vehicles domain, the DG Mech Forces spoke eloquently about the varied challenges and 4G threats in the region and stressed on the need to work out a comprehensive investment strategy to achieve our long term objectives including ‘Make in India’. Gen Shivane also spoke about augmenting the mechanised forces through harmonizing effects of other weapon platforms such as UAVs and attack helicopters etc.

Lt Gen Philip Campose, former Vice Chief of the Army Staff, chaired the Inaugural Session and in his opening remarks spoke about the transformation in terrain characteristics and resultant consistent requirement of MBTs of various types and protected mobility for troops. He opined that a medium tank in the weight category of approx. 55 tons, a light wheeled tank of 30 ton category, FICV, and protected mobility for troops are imperative for the future inventory of Armoured Vehicles.

Earlier, Maj Gen KB Kapoor (Retd), Director CENJOWS welcomed the speakers and delegates to the two day event and set out the aim of the symposium. Lt Gen CA Krishnan, former Deputy Chief of the Army Staff, in his Opening Address was of the view that conventional threats remain strong in our context, even though it may be diminishing elsewhere in the world. India’s mechanised forces therefore will continue to face hybrid threat in the years to come and thus, should remain prepared for it. Indian industry’s contribution was covered in detail by Mr SK Sharma, CMD, BEL who enumerated various initiatives taken by six different entities of BEL, each one specializing in a particular segment of Armoured Fighting Vehicles. He spoke of BEL’s involvement in all the current Armoured Vehicles programmes and how BEL is constantly encouraging MSMEs to create a complete ecosystem for sustained support.

Other than the Inaugural session which set the tone for the

symposium, there were 04 major sessions based on issues in this domain.

Capability Development and Modern Technologies

Chaired by Lt Gen SH Kulkarni, former DG Mechanised Forces, the session included experts representing the user- Brig Ashis Bhattacharya, DDG (Plans) and Brig Gen P Matlock, Dy Commanding General 25 Inf Div, US Army. Industry representatives included Mr Rahul Chaudhry, CEO TATA Power SED, Michel Lautier, NEXTER Systems, Laurent DEUR, Assistant Director, Land Optronics, SAGEM and George Koilpillai from Honeywell. Rahul in his unique style made a passionate appeal for creating the right environment to facilitate private sector’s participation in AV projects. Addressing the users he urged them to have a clear vision of operational requirements. He also emphasized the need for system engineering rather than integration. TATA Power SED, incidentally is a leading Indian industrial house contributing to India’s defence preparedness through indigenous solutions. With all eyes on India’s FICV and FMBT programmes, there was considerable speculation about their design parameters and capabilities. Brig Bhattacharya, DDG (Plans) informed the audience that FICV and FRCV will not be mere upgrades of existing systems. In fact these two will be new designs forming the basis for a family of vehicles. Brig Matlock spoke of relevance of protected mobility in asymmetric and conventional warfare, citing examples from the US Army experience in recent operations. Laurent Deur from SAGEM and George Koilpillai from Honeywell made presentations on cutting edge technologies for navigation systems in AFVs.

Harnessing Technologies for Design Parameters of Armoured Vehicles

As the topic suggests, the post lunch session was aimed at analyzing technologies and methods discussed earlier and ways to harness them for designing armoured vehicles for the region. General Chait, former CISC and a cavalry officer of renown, chaired the session which included Maj Pritchard from the British Army and Arnaud De Villermont from SAGEM. Arnaud spoke of Inertial Navigation technologies for armoured vehicles



Lt Gen AB Shivane, DGMF



*Lt Gen Philip Campose
Former VCOAS*



SK Sharma CMD, BEL



*Maj Gen Praveen Dixit
Commandant, ACC&S*

and in particular highlighted the significance of Hemispheric Resonator Gyroscopes which SAGEM has developed for use in Armoured Vehicles and various other applications. Major Pritchard spoke of the philosophy adopted by the British Army in designing armoured vehicles for a variety of roles and scenarios. He also spoke about the efficacy and economy in modernising existing platforms for meeting the challenges in modern day hybrid warfare. General Chait while moderating the discussions spoke of the need for modern modular designs for armoured vehicles which are capable of performing multiple roles including fire support in direct and indirect fire.

Modern Trends in Battlefield Transparency & Protection Systems

The first session on Day2 was full of interactive enthusiasm highlighting the importance of the topic. Maj Gen Dixit, Commandant, Armoured Corps Centre and School Ahmednagar was in chair and the set the tone with his opening remarks that ‘future battlefield would be a non-conventional domain’ and exhorted the learned audience to enlarge the envelope.

Maj Gen Arup Sen, who was in charge of Indian Army’s Battlefield Management System till recently as the ADG IS made a presentation on battlefield transparency and how it is likely to affect operations in the future. Mechanised forces will be most affected by the advent of technology in this field and this calls for adapting our tactical drills to the changing scenario which alludes to real time information leading to increased transparency and thus lack of surprise with conventional methods. Arup’s message was clear- ‘embrace technology’.

Mr Rajesh Gupta of MKU made a presentation on contemporary lightweight armouring solutions and composite materials developed indigenously by MKU. MKU incidentally is a leading Indian company that has won laurels for the country by designing and developing protection systems for soldiers as well as platforms operating on land, air and sea. Rajesh informed the audience about the advantages that composites offer by way of reduction in weight and signatures. Dealing with the first layers and principles of survivability, Mr Naresh Ummat, Director Barracuda, emphasised the need to remain undetected in battle and the advantage of ‘first strike’. Calling signature management ‘the art of minimising signatures physically and across the EM spectrum’, Ummat went on to showcase

Barracuda’s technologies including mobile camouflage nets and the world leader’s resolve to bring the camouflage and protection technologies and products to India. Barracuda possesses a wide range of solutions for protecting strategic assets, vehicles and personnel.

Brig Sanghera, Commander Technical Training at Armoured School made a brief, high impact presentation on threats facing a tank and implications on protection, while Brig Matlock, British Army spoke of load points and storage solutions to enhance survivability.

Fleet Management

The last session of the symposium witnessed unprecedented enthusiasm. As it was a panel discussion involving various stakeholders, divergent views and suggestions emerged from the discussion. The delegates were highly participative during the interactive session. Prior to the panel discussion, Maj Gen Bhinder, the then DDG Equipment, lamented the fact that contradictions and anomalies exist as the process for acquisitions and upgrades remains the same. His message was to enable the industry through reforms in the DPP. Rajinder Bhatia, Bharat Forge’s heavyweight in the Indian Defence Industry emphasised the need to develop suitable infrastructure in the country and the need to develop ‘Knowhow’ and not ‘Know why’. Lt Gen NP Singh, former DG EME, chaired the session and after rounding up the two presentations set the stage for the final round of debate on ‘Fleet Management within the constraints of budget’.

Opening the debate Maj Gen Bhattacharya, who heads the Army’s Indigenisation cell, stated that the Army realises the need to engage the industry and is looking for ways to collaborate more efficiently. Maj Gen Sengar, ADG Mechanised Forces, called upon the public and private sector to improve upon the work culture and efficiency. Brig Goldsack, DA, British High Commission articulated his perspective and added that money was not a constraint and urged the decision makers to modernise processes involved in military acquisitions. Brig Kukreja from OIS, spoke on behalf of MSMEs and expressed their firm resolve in contributing towards capability development and indigenisation. As the discussion raged, there was general consensus that a paradigm shift in procedures and engagement with the industry is the need of the hour and is fortunately taking place.



*Naresh Ummat
MD Barracuda*



*Lt Gen Anil Chait
Former CISC*



*Rahul Chaudhary
CEO Tata Power SED*



*Arnaud De Villermont
Sagem*

Maj Gen KB Kapoor, Director CENJOWS, summed up the two day proceedings rather brilliantly in his valedictory address and curtains were drawn on the 2015 edition of the symposium.

Takeaways

Some of the major takeaways:-

Threat Scenario and Role of Mechanised Forces.

There was near unanimity on the aspect of threats that face the country and the multiplicity of the spectrum. As hybrid and 4G threats evolve and the conventional conflict scenario becomes more intense yet transparent, mechanised forces will have to modernize and adapt to the changing environment. Fire Power and Protected Mobility acquire greater significance and synergy with aerial platforms and force multipliers like UAVs and Attack Helicopters is an absolute must for operational success.

Futuristic Vehicles. With all eyes on India's FICV and FRCV programmes, there was considerable speculation about their design and capabilities. Brig Bhattacharya, DDG (Plans) informed the audience that FICV and FRCV will not be mere upgrades of existing systems. In all probability these two will be contemporary designs and form the basis for a family of vehicles. There was complete consensus for the need to ensure success of these projects.

Modular Designs. For a variety of reasons, modular designs seem to find favour with most experts. This was suggested by a large number of speakers, and delegates during informal discussions. Modular design offer multiple roles and operational options at a considerably lower cost. Modular designs are not restricted to platforms alone but also must be extended to weapon systems and electronic suites.

Fleet Management. All the speakers stressed the need for maintaining and upgrading the current fleet of vehicles and made a strong pitch for a de-novo approach. Current procedures for upgrades faced criticism on account of inflexibility, red tape and a time consuming process. Experts advocated holistic upgrades of complete systems and that they should be conducted by Indian industry. Lt Gen NB Singh (Retd), former DG EME, while chairing the session on upgrades reinforced this idea and made a strong case

for well planned and well executed upgrades as against the prevailing policy of piecemeal upgrades.

Indigenisation and MSMEs. Gen Shivane spoke of the need for enabling mechanisation for 'Make in India' and advocated 'Design, Develop and Produce in India' which currently appears to be the most favoured category. There has to be a paradigm shift in collaborating with the industry as partners in achieving self-reliance in defence. MSMEs need to be encouraged as 'If India lives in villages, Industry lives in MSMEs'. Speakers from MNCs also expressed their willingness to participate in the process and bring in technologies and manufacturing practices and skills.

Battlefield Transparency and Survivability. In war seeing is not believing.

Correct interpretation of what one sees is important as war is also the realm of deception. If that sums up 'Battlefield Transparency' rather succinctly, experts in the field advocated use of technology and tactical drills to enhance survivability and protection.

As lethality and accuracy of weapon systems increases exponentially, new concepts will help protect man and machine and survive in the battlefield. Protected mobility is imperative for survival.

Modern Technologies. A number of presentations made by industry leaders assured the house of hectic R&D in the domain of Armoured Vehicles. Development of new sensors promise to enhance accuracy and precision, new composites offer better protection with less weight and diminishing signature and electronic suites can provide seamless connectivity for greater transparency and real time information. Technology thus is not only transforming platforms and systems, operational doctrines and tactics too must be revised continuously to keep pace with the ever evolving technologies. SA

Fire Power and Protected Mobility acquire greater significance, and synergy with aerial platforms and force multipliers like UAVs and Attack Helicopters is an absolute must for operational success