

INDIA'S NEW DEFENCE PLAYBOOK

SIMULATORS, SAVINGS, AND COMBAT READINESS

Subscribe

Quick Summary

What happened on 26th May opened endless opportunities not only for the Armed Forces but also for the Nation as a whole. This Newsletter re-visits the event and highlights its significance.

The Launch Event

On the above date, the Study Report by The Energy and Resource Institute (TERI) on **Simulators in 'Green Training'** was launched in a short and impactful function.

Attending the launch event were Dr Vibha Dhawan, Director General TERI, **Air Marshal Ashutosh Dixit, PVSM, AVSM, VM, VSM Chief of Integrated Defence Staff (CISC), Maj Gen K Narayanan, AVSM, SM, Programme Director NITI Aayog, Lt Gen (Dr) VK Saxena, PVSM, AVSM, VSM, Former Director General Corps of Army Air Defence, Mr Nitin Gokhale, Editor-in-Chief Bharat Shakti**, senior stakeholders from TERI, distinguished industry leaders, members of the think tanks and academia and friends from the media.



Why this Study is so important?

This Study Report is not only going to become a game-changer in the field of simulator-based training (SBT), but also it is fully aligned to the clarion call by our Hon PM for exercising collective austerity because it **has a potential to save 1000s of Crs at National level besides ensuring enhanced combat readiness of our Forces.**

Based on irrefutable logic

The Study is **based on an irrefutable logic.** It states that field-mode conventional training which involves burning huge quantities of fossil fuels in plying of hundreds of tanks, armoured personnel carriers, artillery pieces, air defence weapons and more and also involves firing of huge quantities of live ammunition, pollutes the atmosphere no end. If a small portion of this training can be shifted to simulators it will reduce the pollution by a huge amount.

The Measuring Matrix

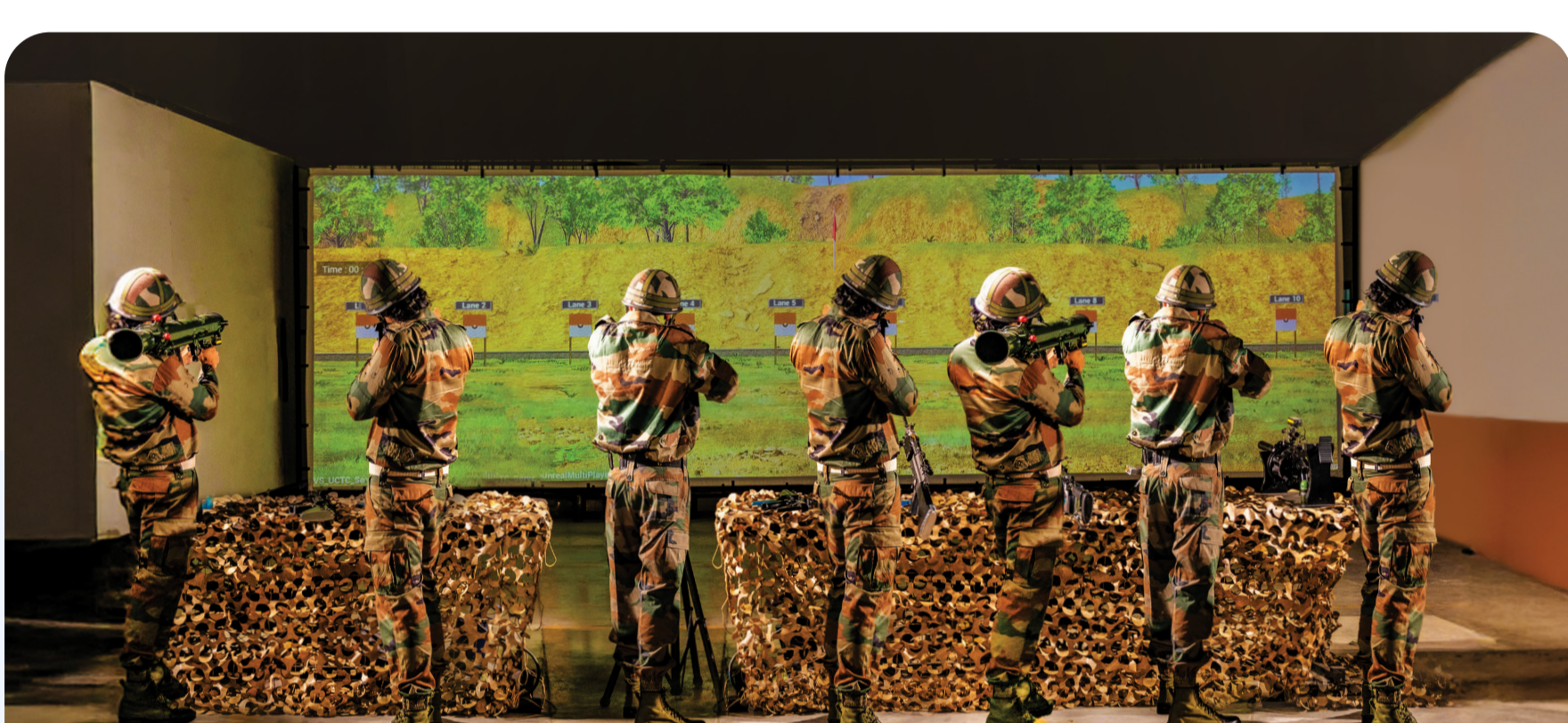
Basically, the burning of fossil fuels and firing of live ammunition emit huge quantities of toxic gases called Green House Gases (GHGs). These emissions block the earth's heat from escaping causing global warming and cause climate change. **The carbon cost such emissions, calculated in terms of Tonnes of CO2, works out to hundreds of Crs.** If emissions get reduced those many Crs are saved. Period.

Combat Proven Anti-Drone System

[Know more](#)

Enhanced Combat Effectiveness

The TERI Study showed that while the SBT saved Crs in environmental costs, **it enhanced the combat readiness of the trainees manifold** by providing realistic and cost-effective training at a drastically reduced time and cost. The AI driven combat training solutions can provide such level of 'immersive training' that blur the difference between 'real' and 'simulated' besides providing realistic battlefield experience in contested scenarios and yielding digitally-assessed Combat Readiness Scores.



What is new in this Study?

Unlike the previous TERI Study done in Dec 22 that studied only four simulator systems, the current one was based on a novel approach. It studied 13 different types of ammunition used by the Army.

For each type, it calculated the total environmental and economic cost of training at the Army level based on the number of regiments/Battalions, the soldiers in each battalion and the training scales authorized. Two vectors were considered for environmental impact – burning of fossil fuels and firing of live ammunition.

The New Methodology

The Study then calculated that if just **15% of the above field-mode training is switched to its respective simulator type**, how many tons of CO2 will be saved by way of reduced emissions and what will be Net Present Value (NPV) of the total savings at the national level.

Based on this, the Study calculated the daily cost of non-induction of a particular simulator type. The Study also calculated incremental savings if instead of 15%, 20, 30 or 40% of training gets switched to SBT.

Earth-shaking findings

The results were earth-shaking. An Infantry simulator would end up saving 12,957 tons of CO2 with an NPV saving of 461,20 crs, while the figures for an Artillery simulator were 1969 tons of CO2 and 2005 Crs, for air defence simulator, it is 77.34 tons and 2289 Crs and for the tank simulator it is 1075 tons and 1123 Crs. The total single day cost of non-induction of the 13 systems studied by TERI Study is 45.22 Crs!

Here is a glimpse of results:-

Environmental Savings of CO ₂ /year	Annual NPV Savings	Daily Cost of Non-Induction
12,957 T	₹461.20 Crore	₹1.26 Crore Per Day

Environmental Savings of CO ₂ /year	Annual NPV Savings	Daily Cost of Non-Induction
77.34 T	₹2,289.13 Crore	₹6.27 Crore Per Day

Environmental Savings of CO ₂ /year	Annual NPV Savings	Daily Cost of Non-Induction
1,075.5 T	₹1,123 Crore	₹3.08 Crore Per Day

Environmental Savings of CO ₂ /year	Annual NPV Savings	Daily Cost of Non-Induction
1,969.8 T	₹2,005.49 Crore	₹5.49 Crore Per Day

Transformational Opportunity

Armed Forces are sitting on a transformational opportunity where enhanced combat readiness can be achieved besides saving thousands of Crs for the nation. In this context it is imperative to **push forward the implementation of the Govt Policy on Framework of Simulator for Armed Forces.** The world standard of simulator penetration in the overall training package is 40-50%. We need to scale up our simulator induction to reach closer to this target. Another important issue is of simulator support for legacy equipment.

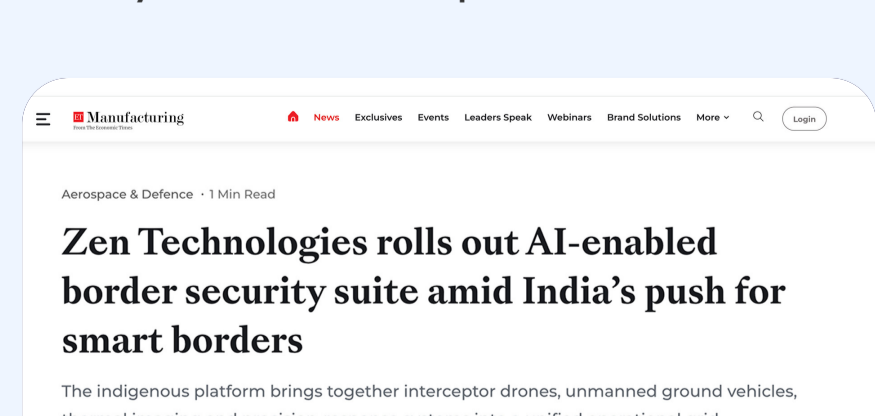
The Indian defence industry **stands fully ready** to meet every single simulator demand of the Armed Forces.

Zen in News

TERI Report: As India Tightens Its Belt, Can the Indian Army Lead the Way? Simulator-Based Training Can Save the Armed Forces Over ₹1,000* Crore Annually



Zen Technologies rolls out AI-enabled border security suite amid India's push for smart borders



Do subscribe to our monthly Newsletter

Stay connected with Zen Technologies

[Get in touch](#)

[Contact us](#)