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## INNOVATION AS A KEY DETERMINANT TOWARDS MODERN CAPABILITY BUILDING BY

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Innovation has become the cornerstone of modern defence preparedness, and India stands at a crucial juncture where it must leverage technological advancements to secure strategic autonomy.

The lecture emphasised the urgent need to foster a strong, self-reliant indigenous defence ecosystem. Innovation was not presented as a narrow concept limited to high-tech products, but rather as a broad and dynamic force that includes incremental improvements, disruptive technologies, and strategic rethinking of processes and systems. This comprehensive approach to innovation is essential to keep pace with rapidly evolving global threats and technological change.

A historical perspective traced how India's defence innovation policy has matured since its inception in 1958, shifting from basic import substitution to a more ambitious goal of strategic self-sufficiency. The expert noted that the current policy environment is more conducive than ever to indigenous development, thanks to government reforms, the rise of start-ups in defence tech, and increased collaboration between the military, industry, and academia.

Particular attention was given to the concept of "hard innovation"—where military technologies are judged not by their aesthetics but by their battlefield performance, resilience, and mission-critical functionality. In this context, innovation spans multiple domains: product development, process improvement, new business models, and sustainable technologies suited for long-term strategic use.

The lecture also mapped the defence innovation ecosystem, identifying key roles such as creators, solution builders, early adopters, deployers, and technical specialists. Each plays an integral role in ensuring innovations are not only conceptualised but also tested, deployed, and integrated effectively into the armed forces.

One of the most pressing areas discussed was cyberspace, where both offensive and defensive innovations are rapidly evolving. Enhancing capabilities in this domain is vital as cyber warfare becomes an increasingly central element of modern military strategy.

In conclusion, the lecture stressed that defense innovation must be seen as a national mission. It requires not only policy support but also cultural change within institutions, sustained funding, and a long-term commitment to research, experimentation, and collaboration. Only through such holistic engagement can India achieve the level of defense readiness and technological leadership required in the coming decades.