

# SPARK 2: A FRAMEWORK FOR PARTNERING WITH INNOVATIVE INDIAN AEROSPACE AND DEFENCE STARTUPS

*“Enabling Indian Imports to substitute Imports and Indigenization”*

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## **CONTEXT:**

It is intended to create a mechanism to partner with promising innovative Indian startups that have the potential of creating cutting edge equipment and armament for the Indian Armed Forces, and to widen the Indian technological and industrial base to serve Indian needs.

This guideline complements Defence Innovation Organisation’s SPARK guidelines for funding innovations from startups to serve Indian Armed Forces.

## **INVESTMENTS UNDER THE SPARK-II PROGRAM OF DIO-iDEX**

In all investments made under the SPARK II guidelines, it will be ensured that the applicant startup has **at least an equivalent amount of financial or in-kind contribution for developing the product**. The matching contribution can come from the founders of the company, venture investors, banks, or other funding partners who are acceptable to DIO-iDEX. All investments in **SPARK II shall follow the SPARK method of budget planning** under the heads of Prime, Primary Overhead, and Secondary Overheads, to ensure continued risk and cost sharing as delineated under the current SPARK guidelines.

The investments under the IDEX program can be proposed in the following amounts:

1. **Seed stage support** – up to INR 2.5 cr per startup, to be provided as **grant/convertible debt/simple debt/equity** to startups with a *working proof concept of their technology*, and with potential of developing useful products and emerging as a supplier to Indian Tri-services.
2. **Pre Series A/ Series A investments** – up to INR 10 cr per startup, to be provided to startups as **grant/convertible debt/simple debt/equity** whose technology *has already been validated by one of the Forces under the Defense Ministry* and needs the resources to scale up the solution. Additionally, these investments should be made, as far as possible, in conjunction with other investors also investing in the company, to ensure due diligence by a market-driven entity also.
3. **Follow-on investments** – iDEX-DIF should retain a provision for higher investments, without publicizing this extensively, to ensure that DIF can make specific, high requirement investments when required.

## Eligibility

The Investment Committee of SPARK II can consider a startup for support under these guidelines based on the following eligibility conditions:

1. **Interest from Indian Armed Forces** – If a company offering an innovative product/technology/process/service has received documented interest for a potential purchase/work order from a designated directorate(s) of any of three Armed Services, the Investment Committee of SPARK II shall consider the company under these guidelines.
  - a. The Tri-Services shall designate such directorates, such as Perspective Planning Directorates, Cyber Space Command, Defence Space Command, Military Intelligence, etc. DIO shall accept the designation from the Tri-Services.
2. **Direct application/Discovery by DIO-iDEX Team** - This scheme will accept interest from companies that directly apply to iDEX/DIO, or that are discovered from open challenges, pitch events, or Technology Watch of iDEX. The interested companies shall be evaluated on the Weighted Opportunity/Risk framework of SPARK 2 guidelines detailed in this document, and the relevant legal due diligence, before investments.
3. **Support from Foreign Friendly Forces/Countries** – If an Indian innovative aerospace or defence startup has received investment, work or purchase order, or an indication or intent thereof, it will be evaluated under the instant guidelines for support from DIO-iDEX, to ensure India retains access to cutting edge technologies developed here.

## INVESTMENT COMMITTEE

It is expected that this evaluation will be done, based on prior due diligence undertaken by the iDEX team, by a high powered and competent committee, which includes the following representatives/officials:

1. User representatives (Tri-services)
2. Funding agency representatives

3. Sector experts (Academia or industry)
4. VC/finance representatives

This committee should be kept small, and **be empowered to make investment decisions**, based on these guidelines. It is desirable that the **committee's recommendations be binding on the finance wing of the investing agency**, and that the finance department does not make its own independent investment decision/due diligence – this is crucial to ensure that informed investments decisions are made **keeping in mind the opportunity for the nation and risk of the technology, and not only fiduciary control**. The iDEX team shall function as the investment advisory team for this scheme.

## EVALUATION SYSTEM:

The evaluation under these guidelines shall be done on a weighted Opportunity/Risk assessment, as detailed below. Given the unique nature of the defence industry, where the market size is limited to a single or few inter-connected buyers, and the impact of new technologies can be immense, decisions to enter companies needs to be based on the opportunity offered by the technology/product/startup. This opportunity and its various aspects can be evaluated on parameters given below, to provide structure for the decision making.

## OPPORTUNITY-BASED EVALUATION –

The opportunity of investing in a company shall be evaluated on the following four parameters:

### Technology Advantage

- a. **Breakthrough potential** – Can this technology/startup create a breakthrough technology, which has the potential for increasing India's edge with its potential adversaries?
- b. **IP Potential** – Does this startup have an IP that can be created into a new product or even more advanced IP that pushes the frontier of Indian defence technology? Can this IP be harnessed by other Indian Tri-services, or DPSUs? Can this technology allow Indian military to develop preemptive advantages aligning with strategic imperatives?
- c. **Technology Leadership** – Is there a likelihood that the technology can emerge as the Dominant Standard in the future, further enriching its strategic value?

### Product advantage

- a. **Category creation or Product leadership potential** – Can this product create a new category of weapons, armament, protection, or equipment likely to be used by the Defence Forces? Can this product create a new market in India or abroad? How likely is this product to emerge as the most advanced within the exiting category in terms of performance and installed-base substitution?
- b. **Indigenous content** – Is this innovation/product/startup mostly Indian? Or is it dependent on imported components/patents?

- c. **Future proofing** – Is the underlying technology or product/system design capable of continuously aligning with emerging trends at least for the foreseeable future?

### Commercial advantage

- d. **High dual use potential** – Will this company’s products have a non-military use? Can this company leverage its technology for civilian uses and create a viable business line there?
- e. **High export potential** – Will this company/product be able to export to other friendly countries, either the military or the civilian product?
- f. **Potential for a high-growth indigenous defence enterprise** – Does this company have the potential of becoming a domestic high-growth defence enterprise, serving domestic and international customers?

### Integration advantage:

Integration in India’s Perspective Planning, and complementarity with existing platforms

- g. **Existing platforms:** Can this company’s products integrate seamlessly with and/or augment capabilities of the prominent Indian defence platforms?
- h. **Upcoming platforms:** Can this product augment the new platforms being acquired/developed by India?

Advantage Type	Description	Weight	Score out of 5 (for example)	Weighted Factor (Weight * Score)
Technology	Breakthrough potential and IP	30%	3	0.9
Product	Category creation, tech leadership potential and Indigenous content	30%	4	1.2
Commercial	Dual use possibility, export, and high-growth indigenous defence enterprise potential	20%	5	1.0
Integration	Existing or upcoming prominent platforms	20%	3	0.6
	<b>Total Opportunity Score</b>			<b>3.7</b>

## RISK-BASED EVALUATION FRAMEWORK: TYPES OF RISKS

Investing in startups is an inherently risky proposition since the investment is usually not underwritten by collaterals and has a high chance of failure. The following risks need to be assessed for every startup:

## Technology Risk

This is important for the investor to understand since, in most cases, the startup will only have the technology and/or IP, and the investment decision will hinge on these two. In case of IDEX the following questions need to be addressed by a technical committee comprising of the technology representatives from the DPSUs and the armed forces.

1. What is the technology (i.e. what is its intended function)? Is it theoretical or proven?
2. How is it better than what currently exists? What problem is it solving?
3. If it is still just theoretical, how will the startup demonstrate proof? How much time will the startup take to develop MVP of the same?
4. Is the technology in question part of a system, or is it "stand-alone"?
5. Is the technology defensible from an IP perspective? Any technical dependencies that need to be accounted for?
6. Does the company have a high likelihood of lawsuit for patent or copyright infringement?

## Market and Financial risk

Despite the IDEX startups primarily targeting the defence market, there needs to be an assessment done to understand the overall target market for the startup. A broader market will lead to better product validation and constant revenue that will increase the chance of survival for the startup.

1. How big is the total available market? How big is the overall addressable market (as a subset of the total available market)?
2. Are there active competitive players in the market? How different is competitor's product/solution? What are the significant barriers to entry in the market?
3. Is the market expanding or contracting and at what speed?
4. Is now the right time for the business? This needs to be answered from a user perspective – sometimes the user may not be equipped suitably to deal with new technology. For example, an Uber would not have succeeded in the market if everyone did not have affordable access to data and navigation.
5. How long is the typical sales cycle?

## Operational Risk

This is for IDEX to understand if the company will be able to deliver in proportion to the capital provided to them.

1. Do the unit economics seem to work? If not, what are the assumptions required to achieve profitability? Are the assumptions too aggressive or conservative?
2. Does the startup have suppliers in place? Does the startup have the necessary production capacity/ can it be quickly acquired?

## People Risk

People risk is important to an investor because mostly, a startup relies on a very small team and does not have extensive processes in place. A misunderstanding between two founders can shut down the company or hamper significantly the progress of the company.

1. Are the founders/ team capable of getting the company up and running? Do they have experience in the sector/ industry and/or possess the relevant knowledge to do what needs to be done.
2. Is the company receptive to feedback? Is the team candid about the state of the business?
3. Do the founders have a long term vision for the company? Are they working full time on this?
4. Does the company have any outstanding complaints with early employees or founders? Are there regulatory challenges involved in the sector?

Once the above risks have been identified and discussed, the same can be put into the matrix below and awarded a score between 1-5. Here, a score of 5 denotes the highest risk (low confidence), and 1 the lowest risk (high confidence). This translates into a maximum theoretical weighted score of 5 for any startup.

Risk Type	Description	Weight	Score out of 5 (Indicative)	Weighted Factor (Weight * Score)
Technology	Technology Risk	30%	3	0.9
Market	Market and Financial Risk	30%	4	1.2
Financial	Operational Risk	20%	5	1.0
People	Team strength, relevant experience	20%	2	0.4
	<b>Total Risk Score</b>			<b>3.5</b>

**DECISION MATRIX:** The committee may use the following guidelines for investment approvals:

- The Opportunity score less the Risk score can be used to determine the investibility of the startup. If the score is positive, the committee may consider moving forward on documentation due diligence for investment. If the score is neutral or negative but the committee feels there are areas of improvement for the company, it should refer the company to iDEX for further support, to possibly receive grant and incubation support to accelerate the progress to become investable in the near future.
  - a. For example, in above case:
    - i. **Opportunity score:** 3.7
    - ii. **Risk Score:** 3.5
    - iii. Overall **Investibility score:** Positive – Proceed to due diligence.
- While the above table provides a near-objective method for evaluating a company for potential investment, it should be kept in mind that **no objective criteria will ever**

**capture all the potential aspects that may determine whether the Govt of India should invest in a company.** The empowered committee/investment committee should use these parameters as guides, but make an **overall decision keeping in mind the Indian defence requirements and national security priorities.**

- Any startup receiving an overall score of four (4) or above in Opportunity Score should be eligible for investment/grant, and in case the risk score is even higher, iDEX should work to manage the risk in line with the overall needs of the Tri-services. See section on Process below
- Companies with risk scores higher than 4 should be evaluated again by the entire DIO board.
- Additionally, if any startup has received investment, or a pledge of investment, from a friendly foreign government, government arm, government-backed venture capital fund, or similar entities, they may be assessed for investment as per these guidelines on priority, in conjunction with the appropriate/relevant Indian Armed Service.

## **DUE DILIGENCE PROCESS**

Post the Investment Committee approval; the startup should undergo a detailed due diligence through an approved third party service provider (such as a law firm, CA firm, or other service outsourcing agency) to ascertain the veracity of accounts, legal and other details provided by the startup during the investment process. If the startup is unable to prove any of the claims satisfactorily, the IC approval shall be withdrawn/ put on hold until such proof is provided.

