Intelligence builds Intelligence

dTdI
Technology Innovation

3-7 Feb 2020

DTDI-Organised AI/ML Training for ISRO/DOS

Phase-2

Training agency: CII

Venue: ISRO HQ, Bangalore

The AI/ML training, customized for ISRO/DOS, is intended to create a pool of AI/ML experts within the organisation covering several domains of knowledge. This is for the preparedness of ISRO/DOS to catch up with the pace of technological progress.

GET IN TOUCH

dtdioffice@isro.gov.in

Four-phase training programme

1. Functional, Hands-on, ISRO/DOS-specific project allocation, panel discussion, ML model building
2. Deep-dive to AI/ML; Continuation of project work
3. Mid-course review of the projects
4. Final review of the projects

ISRO HQ, Bangalore

Date: 3-7 February, 2020 (Phase-2)

Inauguration and group photography: 03 Feb, 2020: 09:30 hours-10:00 hours

On day-1, the participants are requested to reach the venue by 09:00 AM for a special interaction session with the scientific secretary, ISRO.

Venue:

New auditorium, ISRO HQ

Programme Schedule

Session time		Day1	Day2	Day3	Day4	Day5
Forenoon	Session 1 (10 AM -11:30 AM)	Notebooks to reinforce Python	Support Vector Machines	Project Presentations & Submission of Project Plan	Tensor Flow basics	Agile Coaching
	Tea break (11:30 AM-11:45 AM)					
	Session 2 (11:45 AM - 1 PM)	Recap of Phase I sessions	Hands on Demo	Project Presentations & Submission of Project Plan	Tensor Board	Hands on
Lunch (1 PM - 2 PM)						
Afternoon	Session 3 (2 PM - 3:15 PM)	Generalized Linear Models	Dimensionality Reduction	NLP - RNN	Image Processing based Algorithm	Hands on
	Tea Break (3:15 PM-3:30 PM)					
	Session 4 (3:30 PM - 5 PM)	Use GLM on Dataset	Hands on Demo	NLP - RNN & RN Variants	Image Processing based Algorithm	Hands on
	Session 5 (5 PM - 6 PM)	ISRO Context examples & Experiences	Project Presentations & Submission of Project Plan	RNN Variants	ISRO Context examples & Experiences	Next Steps in Project - Goals & Timelines

Important phone numbers and contact details

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For General Queries On the Training Programme

For logistics-related queries

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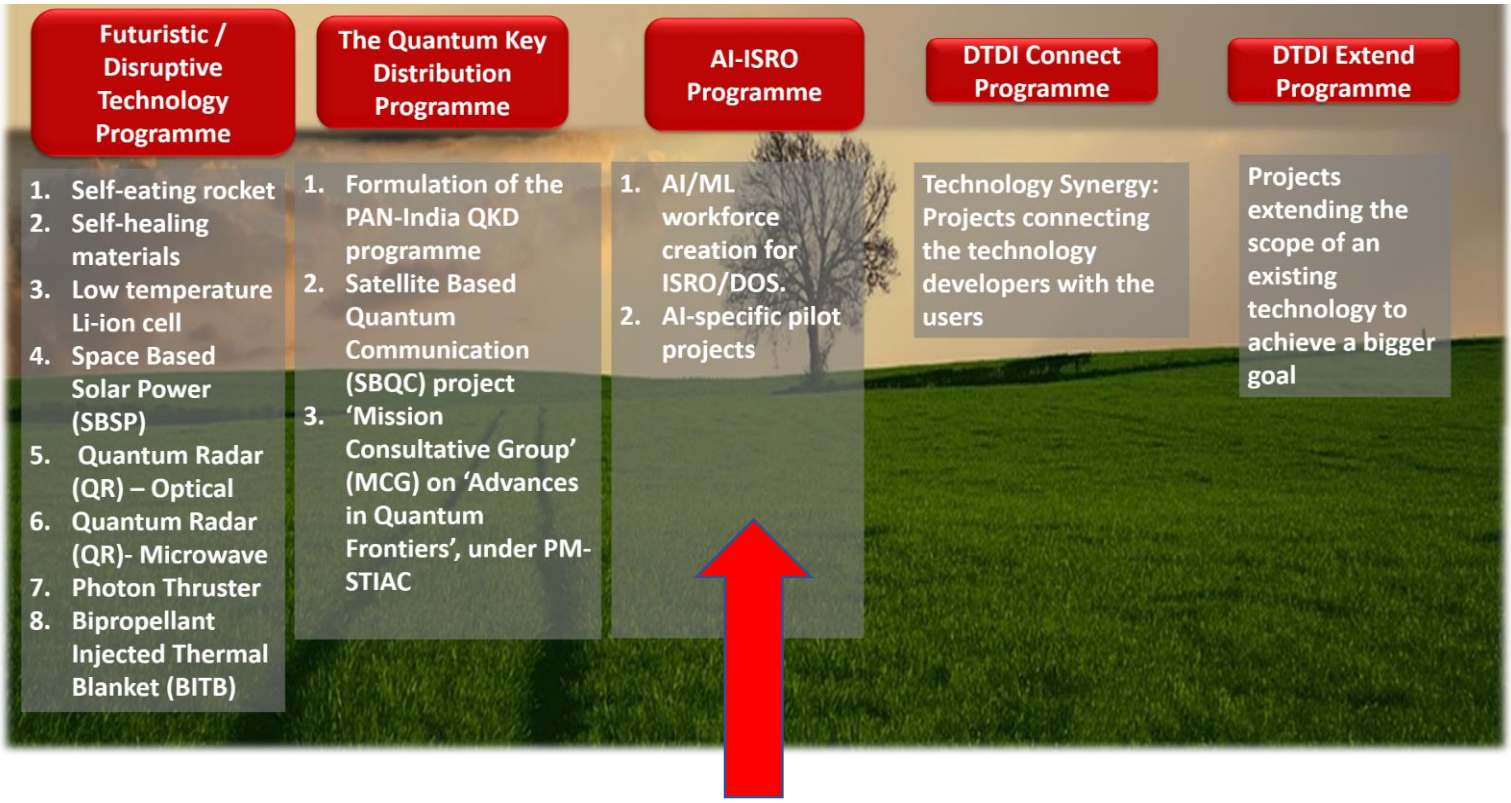
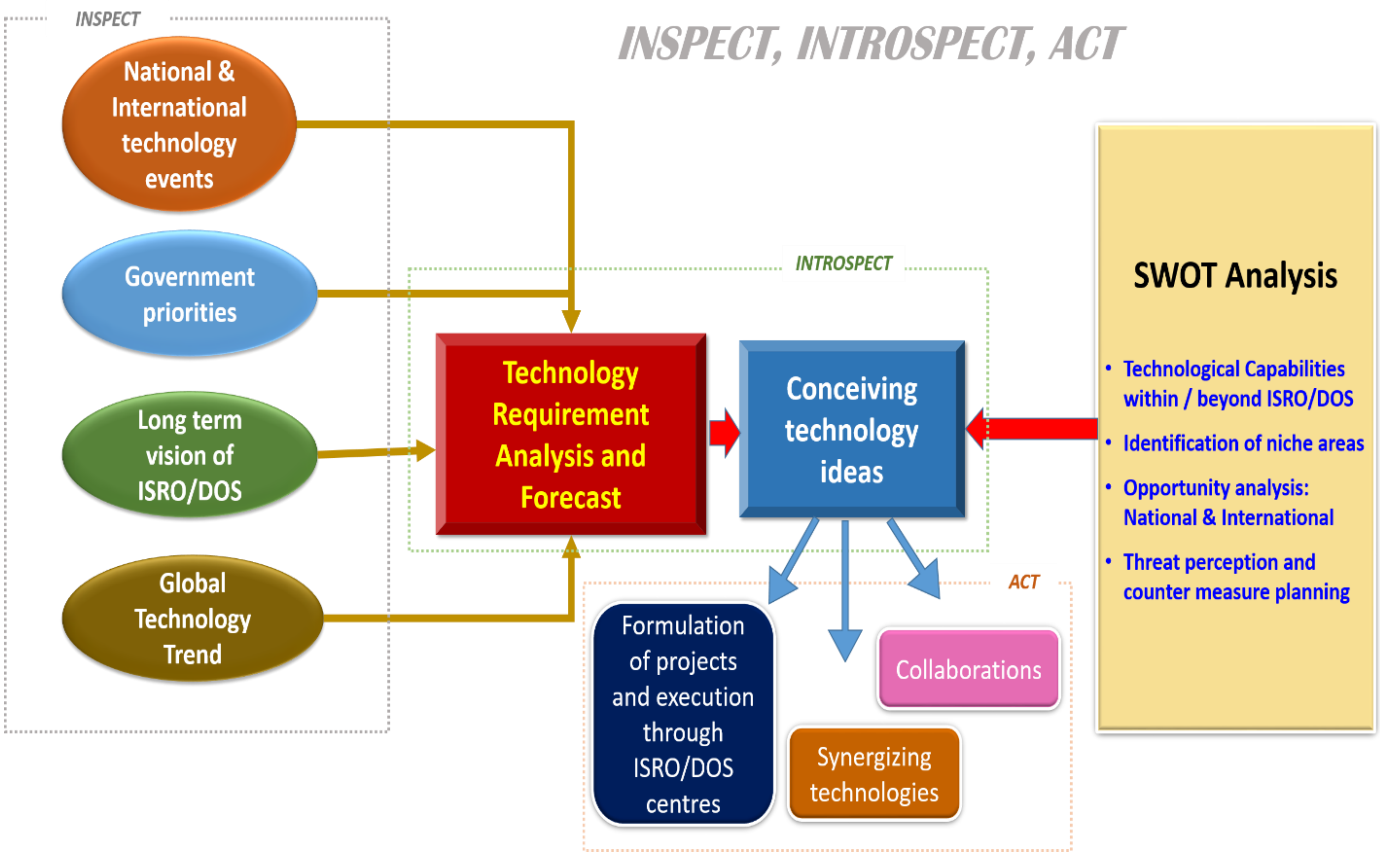
Glimpses about the activities of DTDI, ISRO HQ

DTDI Programme Canvas



This training programme fits here

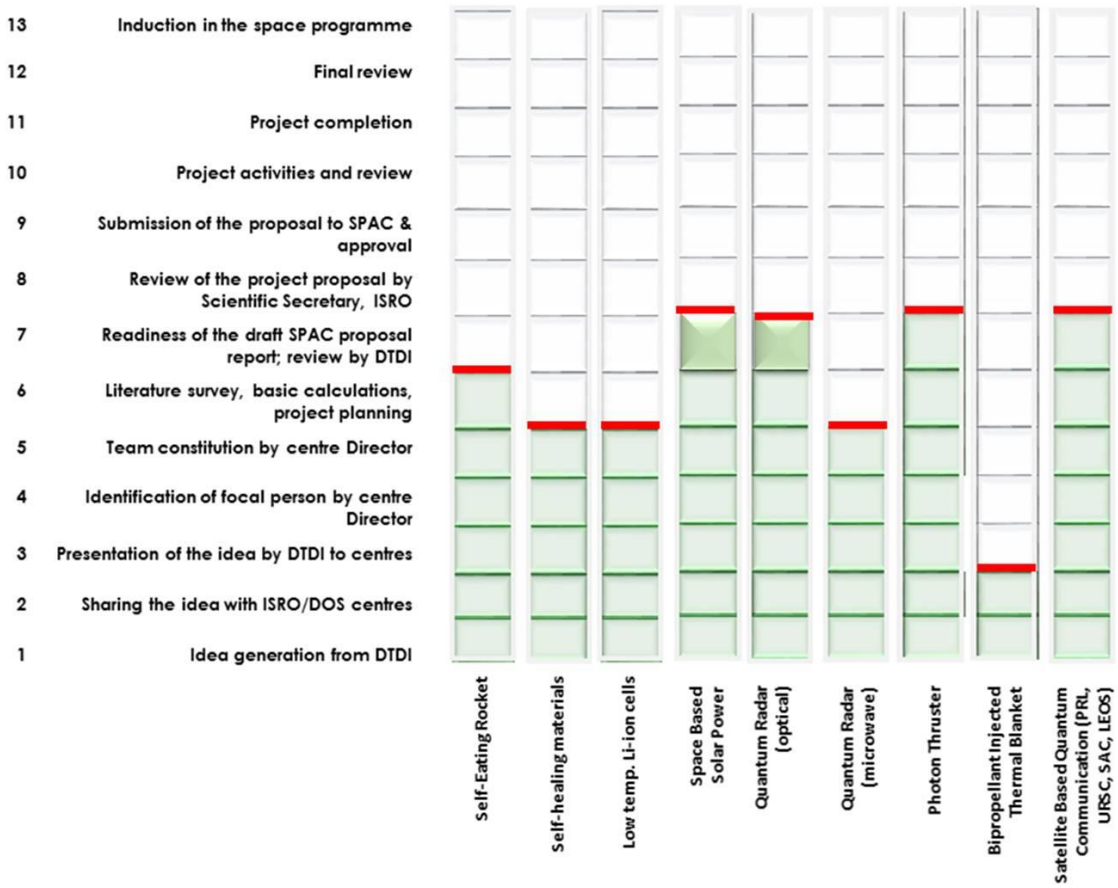
How does DTDI function



DTDI Programme Dashboard

4 Programmes, 27 Projects

Disruptive & Futuristic Technology Programme — 8 Projects



DTDI Connect Programme — 2 Projects

Articulated Platform for Scientific payloads

1. Interface between SDA and User
2. Customization of specifications
3. Development by SDA
4. Testing & Qualification
5. Induction

Low CTE MMC materials for EO payloads

DTDI Extend Programme — 1 Project

1. Identification of prospective technology for extension
2. Identification of experts
3. Interface with tech partner
4. Specification generation
5. Development of Technology
6. Testing & Qualification
7. Induction in space programme

Radioisotope Thermoelectric Generator

AI ISRO Programme — 16 Projects

1. ML based techniques to create LULC thematic maps at source and/or better resolutions (Kshiti)
2. Machine Learning model for yield management in Agriculture (Krishi)
3. Predicting water-table level using remote sensing data (Salil)
4. Use of AI for Solar flare prediction (Tej)
5. Prediction of greenhouse gases/trace constituents in Earth's near surface atmosphere (Vayu)
6. Detection and correlation of objects (GSO) in the optical images using space object catalogue (Vyom)
7. Weather prediction at SHAR using AI (Mausam)
8. Prediction of on-board anomaly in satellites (Upagraha)
9. Use of AI in VLSI manufacturing (Nirmaan)
10. AI-Based Cyber Security System (Rakshak)
11. Use of failure data to identify the failure modes/ probability of failure in a system (Nirbhar)
12. To build an AI-assistant for ISRO's human space mission (Mitra)
13. AI in rover path planning in an unknown terrain (Sondhan)
14. Human Image Interactive System (HI2S) using AI Techniques (Katha-Chitra)
15. Use of AI as Visual Inspection Assistant (VISA) for pattern recognition / anomaly detection (Nireekshan)
16. Artificial Intelligence enabled Predictive Modelling for Crop surveillance and yield estimation at local scales.