

TARDID TECHNOLOGIES:

Autonomous Structural and Machine
Health Management

“
*Our solutions make the machines
smarter to detect and predict high
risk situations proactively and provide
high precision decision support*
”

Aastha Verma
COO & Co-founder





Niladri Dutta
CEO & Founder

Aastha Verma,
COO & Co-founder

Advancement in artificial intelligence is real and ongoing, with the technology finding widespread application in almost every sector. In industries, machine and appliances are getting smarter day by day. Businesses in the manufacturing space are looking at ways to optimize processes, both in terms of efficiency and costs. The use of data-backed “intelligent” algorithms is a great way to make that happen. As a result, businesses are turning to AI applications rapidly.

An illustrious product development organization, **TARDID Technologies** provides a predictive maintenance solution for structural & machine health management to help heavy industries like Shipping, Oil & Gas, Aviation, Manufacturing and Railways for preempting structural & machine component failures before it happens. It is the prime organization in delivering a productive tool that specifies where your plant, machineries or structures interact with key stakeholders and provides an operative and efficient result with human like thinking. It is the only company which enjoys 50:50 Technology Joint Venture with Blockchain.

BRAINBOX - A Super Intelligent Tool

Being a product development organization, TARDID has a Cognitive Analytics tool which is named as “BRAINBOX.” It is an Augmented Intelligence Platform which has a capability of minimizing efforts between Man & Machine and delivers advanced efficient and real-time predictions with high precision decision support. TARDID

Technologies supports its end users through all levels of digital value creation with embodied Cognition. Its modular design leverages customized frames and solutions that can identify smallest of the small requirements.

BRAINBOX Solutions makes maintenance easy and attains desired performance levels efficiently. It brings a full-featured predictive and proactive maintenance program and applies its benefits to structural components, engines, motors, alternators, pumps, compressors, fans, valves, gearboxes, energy synchronization and optimization or to any other equipment

“BRAINBOX ENSURES CONTINUITY & SUSTAINABILITY AGAINST DISRUPTIONS & STAGNATIONS, while simultaneously reducing risks - Niladri Dutta, CEO & Founder”

“Brainbox-AIP, at every moment during the life of a structure or machine, provides a diagnosis of the “state” of the constituent materials, of the different components, or the full assembly of these constituting the structure and machine as a whole.”

“THINK UP, It’s the immune system that your machines deserve!”- Aastha asserts.

Thus, BRAINBOX is the core of manufacturing innovation that rethinks and optimizes the entire maintenance strategy as a whole from top to bottom.

Inspiring Leaders of TARDID Technologies

The COO & Co-Founder of TARDID Technologies, **Aastha Verma**, responsibly handles all the operations & sales and strategic alliances in the organization. As in case of any young company, she is responsible for anything and everything which is not related to technology development. Technology & Product Development is spearheaded by the CEO, **Mr Niladri Dutta**.

Advanced Innovations with Reputed Standards

TARDID has drawn a line between make-believe and reality, without limiting their creativity. They have formed unimaginable things which makes them Distinct and exclusive from their competitors.

At present, TARDID is working with the Defense industry to provide Autonomous Structural Health Management system to estimate expected Lifespan of the vessels along with the details that help the naval systems to distinguish the limits to which the vessel can be used in various sea states. TARDID is helping them to recognize the comprehensive structural health of their hull. This empowers the client to plan their fleet in the most suitable manner for the calmer seas or high alert situations.

The new onboard feature immediately alerts the crews to the state of structural damage like fractures, bending, buckling etc., and its determination as and when they occur, providing the crew ample time for corrective actions before any major failure happens. TARDID is doing this by using multiple combinations of networked sensors to capture information and further deep learn it for logical reasoning and prediction.

“VISUALIZE- PREDICT- ANALYZE- OPTIMIZE”

TARDID’s BRAINBOX has the capability to deliver different aspects depending on the customer’s requirement. Its SHM, MHM & Cognitive solutions offer one-click visualization to understand the problem (anomalies related

deemed critical to operational excellence. This solution has the power to collect, process and analyze good and dark data in real-time for predicting equipment conditions and empowers end users during the decision making process. It also provides reports & alerts to Greenfield and Brownfield operations competently.

With self-managing & self-defending operation, BRAINBOX platform detects errors in the structures and machine by keeping one step ahead than beings. It also anticipates possibilities of machine’s failures and supports to improve the functioning of the structure. It calculates analyses, suggests options, detects failure and life expectancy and eliminates systematic casual analysis through autonomous & automatic models. Interestingly, it makes the machine interact proactively before the breakdown arises.

Aastha Verma describes the features of BRAINBOX by asserting, “BRAINBOX is more about sensing faults, faultlessly. It is like a machine “supervisor”. It overlooks the entire “team” of machines to ensure that all parts and wholes are functioning effectively, and detects or predicts any issue in the entire structure.”



“Brainbox is a mechanical doctor that predicts the best possible diagnosis for your machines ,,

to structural components, machine component failures, pressure & humidity variations, temperatures variations, multi- body interaction effect, etc.) regions in a predictive mode after conducting in depth predictive analytics to safeguard augmented usage of the assets.

Future Expansions to Rule the AI Sector

TARDID’s key to business efficiency lies in not just monitoring the output of various technologies, but also in taking the next step and employing advanced algorithms and machine learning to take action from real-time insights. Future goals of TARDID are on a full throttle at the moment. They are currently engaged in working on different industries, such as-

Shipping – An Advanced Autonomous Structural Health Management System which delivers real-time health condition of ship structural components and assists key decision makers that are onboard and on shore during the decision making process.

Refinery (Oil & Gas)- Where the company provides predictive analytics based solutions for refinery system

maintenance and asset management to develop refinery utilization (maximize asset performance and uptime) by monitoring the accessible and remote locations system in real-time.

Manufacturing-TARDID provides real-time predictive maintenance solution for structural health management and machine health management and assists key decision makers that are on-board and on-ground during the decision-making process.

Railways- They provide Advanced & Autonomous Smart Rail System, a systematic approach to predict rail derailment phenomena before it is going to occur and provide the necessary information to the key decision makers for ceasing rail derailment.

Henceforth, TARDID is delivering all this with the help of a highly skilled team of specialist & experts from the respective areas that are powered by the industry and through partnerships with the customers and premium research institutes in India. [■](#)