



"A portable system for live monitoring of leakage in a hydraulic system"

"Seeking industrial partners for co-development, production and marketing"

Preface

- *Leakage in Hydraulic Systems is termed as Silent Hydraulic System Killer.*
- *Just one drop per second is equal to 420 gallons of hydraulic fluid wasted over a 12 month period.*
- *Besides high oil consumption, the economic effects of hydraulic system leakage include inefficient machinery operation, environmental damage, safety and accident liability, premature machine component failure, poor manufacturing quality and increased capital costs.*
- *Strict due diligence in this regard is mandatory and most commonly used inspection strategy is constant visual inspections for the leakage.*
- *We are offering license for a system which is capable of detecting and monitoring leakage in hydraulic systems automatically.*

Market Size & Growth Projection

- *Automotive Hydraulics System Market size is projected to reach USD 53.60 Billion by 2026, growing at a CAGR of 5.80% from 2019 to 2026.[Source: Verified Market Research]*
- *Hydraulic Pumps Market is projected to be worth USD 14.83 Billion by 2028, registering a CAGR of 6.25% during the forecast period (2021 - 2028)., The market was valued at USD 8.17 Billion in 2020. [Global News Wire]*
- *With increasing competition in Space Tourism & Space Mining demand for hydraulic systems will increase.*
- *Morgan Stanley's Space Team estimates that the global space industry could surge to over \$1 trillion by 2040.*
- *Launch of various Performance/Production Linked Schemes by the Government of India to revive economy will boost manufacturing sector and machine tool operations.*
- *Military vehicles & equipment often operate in adverse conditions and are prone to leakage in hydraulic system even more. Preferential acquisition of technologies with Indigenous Content provided under the Defence Acquisition Procedure 2020 and Import Embargo List containing 108 defence equipment released by MOD will increase demand.*

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i-TTO, a regional tech transfer office established at FITT with support from NBM, BIRAC



The Technology

A portable system based on shape memory alloy bimorph for detection and monitoring of fluid leakage in an automotive hydraulic system.

Innovator

Indian Institute of Technology Indore

Value Proposition

- *ease of integration*
- *portability*
- *reliable*
- *quick*
- *simple construction*
- *simple components*
- *cost effective*
- *automated leak detection*
- *live automatic monitoring*
- *negates visual inspection requirement*

Industrial Utility

- *Hydraulic systems in general*
- *Machine tools*
- *Building and construction equipment*
- *Automobiles*
- *Aerospace*
- *Military*
- *Marine systems*
- *Mining equipment*
- *Amusement Park Rides*
- *Elevators*

Intellectual Property

- *Patent applied in India*

Development Status

- *Proof of concept established*

On Offer

- *Right to use, make, have made, import, export, sell, and offer to sale the system.*

Technical Support

- *Optional Technical Consultancy on payment basis*

Competition

- *System has competitive edge in terms of ease of integration, cost, time and reliability making it an ideal choice for safeguarding hydraulic systems used in various sectors.*

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