

## MIDHANI, NAL INK TRANSFER OF TECHNOLOGY PACT



DK Likhi, Managing Director, MIDHANI

The agreement focusses on shape memory alloy applications in engineering and bio-medicine

Hyderabad, March 6:

Metal alloy manufacturer Mishra Dhatu Nigam (MIDHANI) and the National Aerospace Laboratories (NAL) have signed a deal that will enable the transfer of processing technology of nickel-titanium shape memory alloys (NiTi) to MIDHANI.

The Hyderabad-based indigenous strategic materials-maker plans to manufacture these alloys in the form of wires, strips, rods, springs and plates to meet the demands of the domestic industry. In the bio-medical sector, it will look at the stent market.

Currently, no alloy manufacturer in India makes the NiTi shape memory alloys commercially and they have to be imported.

The exclusive agreement was signed by DK Likhi, Chairman and Managing Director of MIDHANI, and Jitendra J Jadhav, Director, CSIR -NAL (National Aerospace Laboratories, Bengaluru).

The research and development work on the shape memory alloys was led by SK Bhumik of the Bengaluru lab, according to a press release from MIDHANI. NiTi shape memory alloys belong to a class of shape memory materials, which have the ability to 'memorise' or retain their previous form when subjected to certain stimulus such as thermo-mechanical or magnetic variations. Known by various other names such as smart metal, memory metal, muscle wire and intelligent material, they are fast-gaining acceptance in various sectors.

SMA's have caught the attention of aerospace industry with different computer engineering applications (actuators/sensors, smart coupling etc) and bio-medical applications (orthodontic wire, bone plate, stents etc) due to their special functional behaviour. Other sectors where their utility is growing are automotive, aerospace and robotics.

With this deal, the company will be entering the commercial market for 'smart' materials in the country.

(This article was published on March 6, 2017)

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WEDNESDAY, MARCH 08, 2017 BY INDIANDEFENSE NEWS



**NAL is getting ready to re-test SARAS Multi-Purpose Regional light Transport Aircraft (RTA)**

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With this deal, the company will be entering the commercial market for 'smart' materials in the country.

## DEFENCE PSU IN TECHNOLOGY TRANSFER PACT WITH R&D LABORATORY

March 6, 2017 | UPDATED 22:25 IST

Hyderabad, Mar 6 (PTI) Mishra Dhatu Nigam (MIDHANI), a city-based defence PSU, has signed a transfer of technology agreement with CSIR-National Aerospace Laboratories (NAL).

Under the agreement with the Bengaluru-based R&D laboratory, MIDHANI will process nickel-titanium shape memory alloys (NiTi-SMAs) on exclusive basis for engineering and bio-medical applications, a release said here today.

D K Likhi, Chairman and Managing Director of MIDHANI, and Jitendra J Jadhav, Director of CSIR-NAL, inked the agreement here on March 4.

To tap the emerging potential of NiTi-SMAs in bio- medical sector (medical devices), especially the stent market, the company will manufacture shape memory alloys and market the products for the first time in India with the process technology from CSIR-NAL, the release said.

MIDHANI plans to manufacture NiTi-SMAs in wires, strips, rods, springs and plates form. At present, no alloy manufacturer in India is making NiTi shape memory alloys on commercial scale, and their demand is met through import, it added.

The indigenous production of shape memory alloys will result in import substitution and help the country become self-reliant in critical raw materials. It will also bring down the market price of SMA bio-medical products/devices, the release said. PTI VVK RSY

## MIDHANI SIGNS TECH TRANSFER PACT WITH NAL

By Express News Service | Published: 07th March 2017 03:40 AM |

HYDERABAD: Mishra Dhatu Nigam Limited (MIDHANI), a Hyderabad-based Defence Public Sector Alloy Manufacturing Unit (DPSU), has signed a Transfer of Technology (ToT) agreement with National Aerospace Laboratories (CSIR-NAL), a Bangalore-based premier R&D Laboratory for processing of Nickel -Titanium Shape Memory Alloys (NiTi-SMAs) on exclusive basis for engineering and bio-medical applications.

Dr D K Likhi, chairman & MD of Midhani and Jitendra J Jadhav, director, CSIR-NAL inked the agreement, a release by Midhani said.

NiTi Shape Memory Alloys belong to a class of Shape Memorial Materials (SMMs), which has the ability to 'memorise' or retain their previous form when subjected to certain stimulus such as thermo-mechanical or magnetic variations.

Known by various other names such as smart metal, memory metal, muscle wire, intelligent material, NiTi-SMAs are one of the most prominent functional metallic materials which have the unique capability of restoring their initial physical shape when subjected to heating after undergoing deformation. Bent and twisted into any orientation SMA wire, when heated to a threshold temperature, springs back to its original shape.

Midhani has been manufacturing special grades of steels, stainless steels, titanium alloys and other special-purpose alloys to meet material requirement of various strategic programs of the country.

To provide quality healthcare system within the reach of common man, Midhani has already ventured into development and manufacturing of world class Titanium Implants using the spin off technologies for defence applications, and now to tap the huge emerging potential of Nickel-Titanium (NiTi) shape memory alloys in Bio-Medical Sector (medical devices), especially the stent market, the company will manufacture shape memory alloys and market the products for the first time in India with the process technology from CSIR-NAL.

## DEFENCE PSU IN TECHNOLOGY TRANSFER PACT WITH R&D LABORATORY

Press Trust of India | Hyderabad March 6, 2017 Last Updated at 22:22 IST

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