Fri, 27 Sep 2019

IIT Delhi successfully produces diesel from single-use plastic

Amid Prime Minister Narendra Modi's mission to eradicate plastic use, Nagpur's Uma Diwedi has successfully converted single-use plastics and other such junks into diesel

By Saurabh Srivastava

New Delhi: Amid Prime Minister Narendra Modi's mission to eradicate plastic use, Nagpur's Uma Diwedi has successfully converted single-use plastics and other such junks into diesel.

The research team of IIT Delhi's Chemical and engineering department after tremendous efforts is successful in producing diesel from single-use plastics.

Currently, the team is able to produce 750 ml of diesel from 1 kg non-biodegradable garbage.

This research was done and funded under the 'Make in India' project of IIT Delhi and Defence Research and Development Organisation (DRDO). The team has been funded with Rs. 35 lacs for the project.

As the current price for a litre of diesel is Rs. 65, this scientifically produced diesel will cost around Rs. 45. This research team guided by Professor KK Pant and S N Naya, also claims that now they will try to produce petrol with the same process.

https://www.indiatvnews.com/science/iit-delhi-single-use-plastic-diesel-environment-552564

Fri, 27 Sep 2019

DRDO, CUJ ink pact to set up Kalam Centre

Jammu: The Defence Research and Development Organisation (DRDO), Ministry of Defence and Central University of Jammu (CUJ) today signed a memorandum of understanding (MoU) for the establishment of Kalam Centre for Science and Technology (KCST) at the university.

The MoU signing ceremony was held in the presence of Defence Minister Rajnath Singh in New Delhi today. According to an official spokesperson, the main objective of the MoU is to undertake and facilitate multi-disciplinary-directed basic and applied research and technology development in the identified research verticals, namely computational system security and sensors.

The Centre will be equipped with the state-of-the-art facilities and equipment leading to increase in research scholars in these areas. The Defence Minister conveyed his wishes and said the Centre would be a national asset and contribute in making India stronger and prosperous.

The DRDO Chairman, Dr G Satheesh Reddy, hoped that in a very short time a world-class centre would come up in CUJ and develop the state-of-the-art systems.

https://www.tribuneindia.com/news/jammu-kashmir/drdo-cuj-ink-pact-to--set-up-kalam-centre/838643.html

FlightGlobal

Fri, 27 Sep 2019

MALE UAV loss a setback for New Delhi

The recent loss of a 'Rustom II' medium-altitude, long-endurance (MALE) unmanned air vehicle (UAV) during experimental flight trials is a setback for an ambitious programme of India's Defence Research & Development Organisation (DRDO)

By Mike Rajkumar

Bangalore: A developmental prototype of the formally named Tactical Advanced Platform for Aerial Surveillance Beyond Horizon-201 (TAPAS-BH-201, or TAPAS 201), crashed soon after it took off from the DRDO's Aeronautical Testing Range located at Chitradurga, approximately 135nm (250km) northwest of Bengaluru.

According to the DRDO, a new configuration of TAPAS 201 was being flight tested when the crash took place. Flight data is being analysed to ascertain the causes of the loss.

Images circulated in local media of the crash site showed a badly damaged UAV with 'TAPAS-04-19' markings.

India's development of a MALE type to meet a tri-service requirement is an ambitious undertaking, considering that the DRDO's earlier efforts at UAV development have been less than stellar.

New Delhi's Rustom II represents great ambitions

TAPAS 201 features lofty specifications, such as an operating altitude of 30,000ft, a service ceiling 32,000ft and the ability to take off from runways as high as 11,000ft. The 2t-class MALE UAV will be able to carry a payload of 350kg (770lb) and undertake intelligence, surveillance and reconnaissance missions for the Indian army, air force and navy.

As part of developmental trials, TAPAS 201 prototypes have demonstrated a maximum endurance of 1.25h, a range of 21nm and an altitude of 14,200ft. Testing of a higher powered engine commenced in February 2018, as user configuration flight trials started.

There are thought to be a total of six TAPAS 201 prototypes flying. The last of these, AF6, made its flight debut in January. A first research and development prototype made its maiden flight in November 2016.

https://www.flightglobal.com/news/articles/male-uav-loss-a-setback-for-new-delhi-461092/

THEWEEK

Fri, 27 Sep 2019

Russia upgrades BrahMos missile's 'ancestor' to have 800km range

Russia is deploying the Oniks missile on its surface ships and submarines

Russia's state-run *TASS* news agency reported on Wednesday that the country has developed a variant of the Oniks supersonic cruise missile with a range of 800km. The Indo-Russian BrahMos cruise missile was developed on the basis of the Oniks.

TASS quoted sources from the Research and Production Association of Machine-Building (known as NPO Mashinostroyeniya) that had developed the Oniks-M sea-launched missile. The new weapons can hit both naval and land targets. Tests of the Oniks-M will begin in the coming months. The original Oniks missile is thought to have a range of around 300km and could travel at a speed of over Mach 2.5 (2.5 times the speed of sound). The missile uses a radar seeker and satellite navigation for guidance.

TASS reported “The missile is outfitted with the improved control system and will be capable of striking both naval and ground targets with greater accuracy." The new missile also has improved protection against electronic countermeasures that seek to hinder its seeker from locking on to a target.

Work on the Oniks missile started in 1982 in the former Soviet Union and the missile became operational in 2002. Russia is deploying the Oniks missile on its surface ships and submarines, replacing older cruise missiles. An export variant of the Oniks, called the Yakhont, has been sold to Syria, Indonesia and Vietnam. The Russian military revealed the first combat use of the Oniks missile in November 2016, broadcasting footage of the weapons being launched from a land-based launcher at ISIS targets in Syria.

The first test of the BrahMos missile, which is operational with the Indian Navy and Army, was conducted in 2001. BrahMos Aerospace was formed as a JV between DRDO and NPO Mashinostroyeniya through an agreement on February 12, 1998.

The BrahMos has a guidance system developed in India. BrahMos was originally advertised as having a range of 290km. However, company officials and experts had repeatedly said it was possible to extend it range.

Interestingly, Mishra had spoken of the possibility of extending the system's range to 800km last month. Interacting with *TASS* at the MAKS air show in Moscow in August, Mishra had said, “We already fired [BrahMos cruise missiles] to a range of 400 km. Very soon, we will confirm that we can fire to a range of 500 km. This will be a sea, ground or air-launched version. Even to an extended range of 800 km is possible.”

https://www.theweek.in/news/sci-tech/2019/09/26/russia-upgrades-brahmos-missile-ancestor-to-have-km-range.html

INDIA TV

Fri, 27 Sep 2019

We never say no to requests, but multiplicity of challenges worrying: NDRF Chief

The "multiplicity" of challenges faced by the National Disaster Response Force (NDRF) is a cause for concern, its director-general S N Pradhan has said, calling for a "clear" policy that will put the primary onus to deal with disasters of certain categories on states

New Delhi: The "multiplicity" of challenges faced by the National Disaster Response Force (NDRF) is a cause for concern, its director general S N Pradhan has said, calling for a "clear" policy that will put the primary onus to deal with disasters of certain categories on states.

Pradhan said state governments are requisitioning for the specialised force, even to be on "standby", without assessing their capabilities to respond to calamities.

"We never say no to any request, but the range is increased by the day. While we are helping a child in a pit, at the same time, NDRF personnel are engaged in rescue work in a flood or cyclone situation somewhere else. We are worried about the multiplicity of challenges," he told PTI in an interview.

Pradhan also said the NDRF is essentially a force in assistance of the state governments, as the disaster response mandate is with them by constitutional authority.

"My suggestion would be that once disasters are categorised, say as A, B or C, there should be a clear policy that for certain categories, the first call will rest with the state. We would be happier to be called in as the second or third option. If states don't have the capability, they should build it," the Odisha-born IPS officer said.

Pradhan, who assumed charge as director general of the force in January this year, said the NDRF is ready to provide all possible assistance to state governments in training and procuring necessary equipment for boosting capacity.

As part of community strengthening measures, the specialised force has already begun training 9,000 volunteers of the Nehru Yuva Kendra Sangathan (NYKS).

"We will work on the principle that community is the first responder during a disaster, and more lives and property can be saved through community training. These volunteers will be registered with us and called 'NDRF Friends'. We will also create a database of them," he said.

Pradhan said the central government is considering putting a cap on the number of NDRF battalions. The force has 12 battalions (each has around 1,150 personnel) across the country, and is set to add four more in Jammu and Kashmir, Himachal Pradesh, Uttarakhand and the National Capital Region.

"If we go on adding battalions, states will not increase their capacity, and that is not in the interest of the nation. Too much dependency on the NDRF is not good for India," he said. The Centre, Pradhan said, is keen to focus on some of the 'mega policies' such as disaster-resilient infrastructure (DRI) -- roads, power grids, water lines, telecommunication -- which can withstand earthquakes, cyclones and floods. "The emphasis should be on preventive action rather than responsive action."

Talking about inducting advanced equipment and technology exchange, the senior Indian Police Service (IPS) officer said a number of countries has evinced interest to forge partnerships for disaster management.

He said in the last one year, eight countries have issued expressions of interest (EOIs) towards that end. "We recently organised a workshop in Japan and learnt about thousands of advanced sensors it had installed under the seas. These give a lead time on tsunami and earthquake. We have requested

them to help us with this technology, and the authorities there have promised to do so through Japan International Cooperation Agency (JICA)," Pradhan said.

"Israel is informally offering us technologies that can help survive in situations where everything has been blanked out for example, water can be made out of thin air using the moisture," he added.

Senior NDRF officials will also make a trip to France in October for a demonstration on Chemical, Biological, Radiological and Nuclear (CBRN) disasters.

Back home, the disaster response force has recently initiated collaborative research with the Council of Scientific and Industrial Research (CSIR) and the Defence Research and Development Organisation (DRDO) for technology and allied assistance. The NDRF was raised in 2006 for specific tasks of relief and rescue during natural and man-made disasters or threatening situations.

https://www.indiatvnews.com/news/india/ndrf-chief-disaster-management-natural-calamities-drdo-552471

THE ECONOMIC TIMES
WWW.ECONOMICTIMES.COM

Fri, 27 Sep 2019

Defence orders, sticky margins to keep D-St interested in BEL

The outstanding order book is Rs 57,600 crore, equivalent to four times FY19 revenue

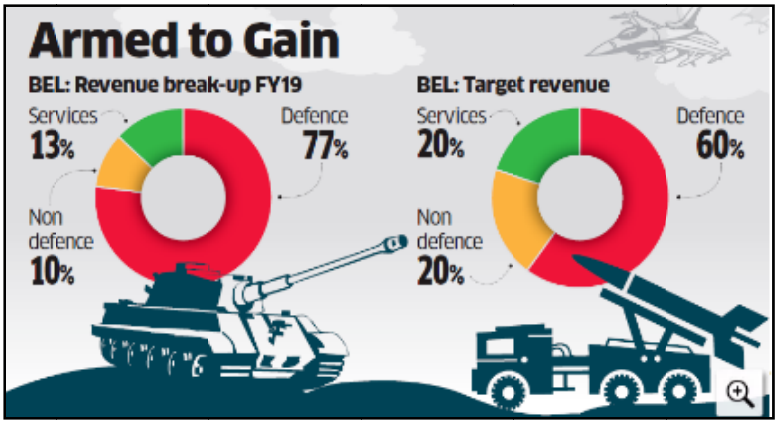
By Ashutosh Shyam

ET Intelligence Group: Bharat Electronics (BEL), which makes radars, avionics, and naval systems for the Indian armed forces, has climbed about a fifth in just one month, and the reasons aren't that hard to find. Healthy order prospects for missiles and margin protection will likely keep investors interested in BEL, which expects FY20 revenue to climb about 12 per cent.

The outstanding order book is Rs 57,600 crore, equivalent to four times FY19 revenue.

In FY20, BEL has grabbed orders worth Rs 9,000 crore, with Akash missiles accounting for three-fifths of the total order inflow. The company expects order intake of Rs 15,000 crore in FY20.

Execution of the new long-range surface-to-air missile platform would be the next trigger for an upgrade. However, it entails significant spending and trials. Historically, BEL has been investing nearly 8.8-9 per cent of its revenue on R&D.



In the medium term, BEL could benefit from sizeable prospective orders of medium range and Quick Reaction Surface-to-Air Missiles (QRSAM).

The size of the QRSAM order could be in the range of Rs 30,000-40,000 crore. In addition, orders for electronic warfare systems Himshakti, coastal surveillance systems and shallow-water craft for anti-submarine warfare could add Rs 5,000 crore to the pipeline.

BEL is taking steps to increase value addition in the scope for work. For instance, to make missiles future ready, it is offering solutions for on-board electronic device at Akash compared with ground-based radar technology used currently.

The new technology offering will increase value addition to more than 60 per cent compared with 30 per cent in the current Akash order.

BEL maintains average annual base order inflow of about Rs 8,000 crore. This helps lower volatility in revenue and margin due to large orders such as Akash. In addition, the company plans a more favourable mix of orders to enhance margins.

BEL stock had fallen after the government cut mark-up margins for the nomination order from Defence Research and Development Organization (DRDO) to 7.5 per cent from 12.5 per cent. However, BEL believes the compression in margins will be limited to 200 basis points, and will remain in the range of 20-21 per cent due to efficiency gains.

BEL has EBITDA margin in the 16.7-23.6 per cent range over the past five fiscal years. It is trading at 13 times one-year forward earnings, a valuation level in line with global defense electronics companies. BEL would trade at a premium to global peers due to better revenue visibility.

https://economictimes.indiatimes.com/markets/stocks/news/defence-orders-sticky-margins-to-keep-dst-interested-in-bel/articleshow/71322992.cms