

CSIR in Media



75 Years of
CSIR Touching Lives

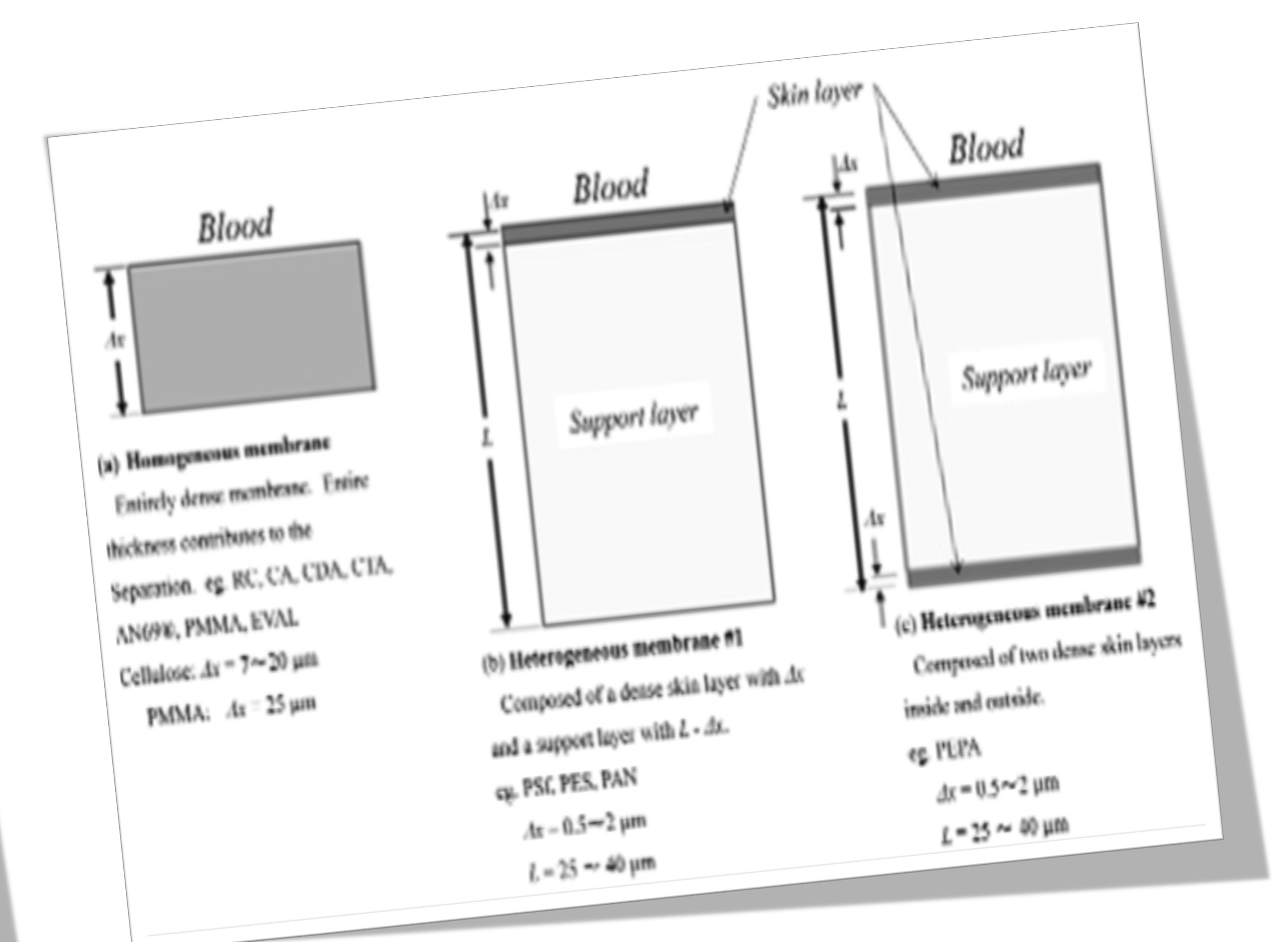
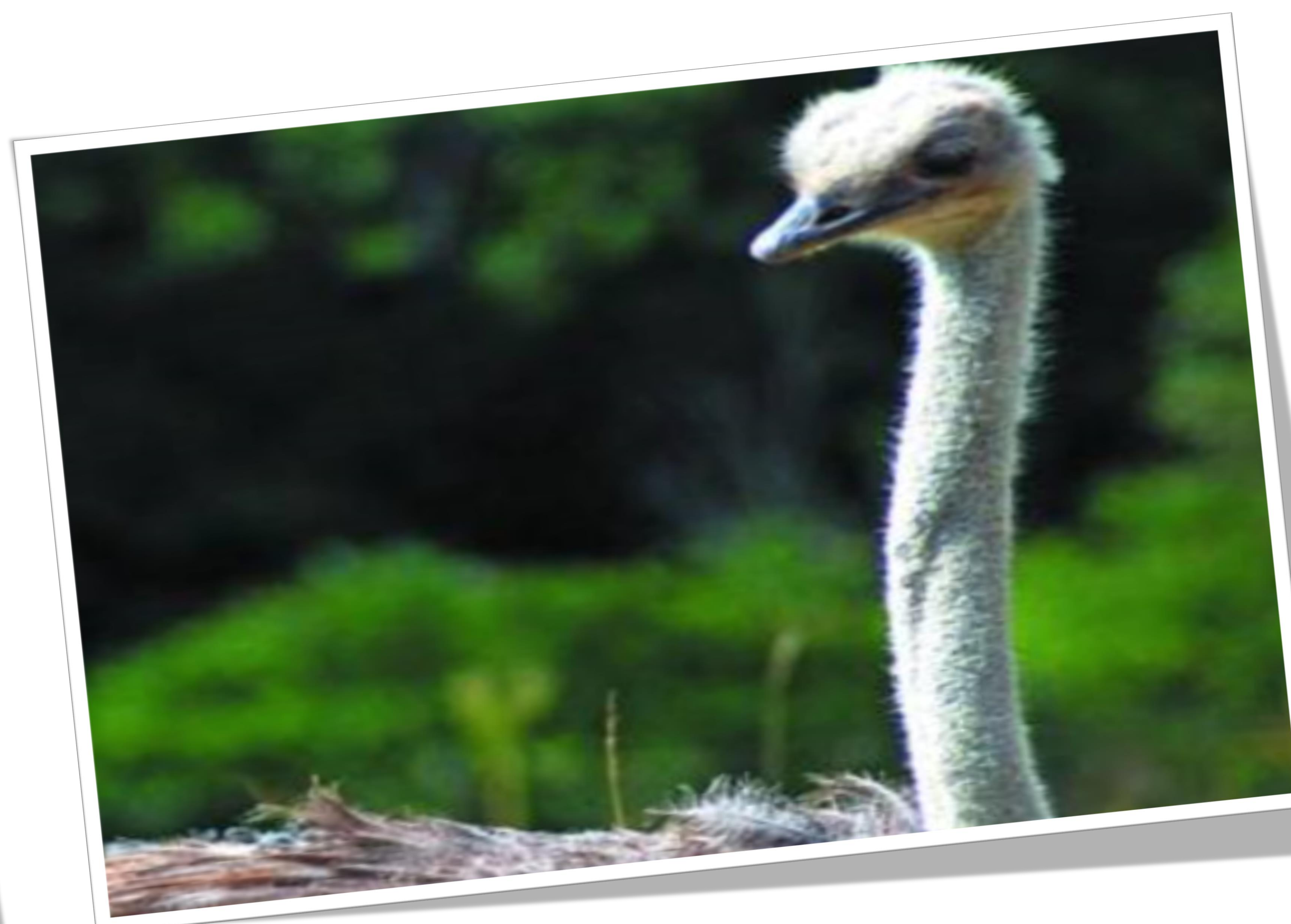
A Daily News Bulletin
15th March 2017



सारस विमान।

सारस
की
समीक्षा

सीएसआईआर ने 14 सीटों वाला सारस विमान तैयार किया था। लेकिन परीक्षण के दौरान यह विमान दुर्घटनाग्रस्त हो गया था। करीब पांच साल पूर्व इस परियोजना को बंद कर दिया था। लेकिन इसकी समीक्षा हुई है। जिसमें यह महसूस किया गया है कि देश को छोटे विमानों का निर्माण करना चाहिए। इसकी जरूरत देश में तो है ही, विदेशों को भी बेचा जा सकता है। क्योंकि अब ज्यादातर विमानन कंपनियाँ छोटे विमान नहीं बना रही हैं।



CSIR

15th March 2017

छोटे विमान बनाने की तैयारी

मेक इन इंडिया

नई दिल्ली | मदन जैड़ा

वैज्ञानिक एवं औद्योगिक अनुसंधान परिषद (सीएसआईआर) देश में छोटे वायुयानों के निर्माण की योजना को फिर शुरू करने की तैयारी में है। सीएसआईआर 20-30 सीटों वाले ऐसे छोटे विमान तैयार करेगी, जो सस्ते होने के साथ-साथ कम ईंधन की खपत करेंगे। सीएसआईआर जल्द इस बाबत एक प्रस्ताव केंद्र सरकार को सौंपने की तैयारी में है।

सीएसआईआर के महानिदेशक डॉ. गिरीश साहनी के अनुसार देश को छोटे विमानों की जरूरत है। जो छोटे शहरों को आपस में जोड़ सकें। लेकिन आज विश्व बाजार में छोटे विमानों का निर्माण तकरीबन नहीं हो रहा है। इसलिए देश को अपनी जरूरत के हिसाब से छोटे विमान खुद बनाने होंगे। दूसरे, ये विमान कम



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सारस की समीक्षा

सीएसआईआर ने 14 सीटों वाला सारस विमान तैयार किया था। लेकिन परीक्षण के दौरान यह विमान दुर्घटनाग्रस्त हो गया था। करीब पांच साल पूर्व इस परियोजना को बंद कर दिया था। लेकिन इसकी समीक्षा हुई है। जिसमें यह महसूस किया गया है कि देश को छोटे विमानों का निर्माण करना चाहिए। इसकी जरूरत देश में तो है ही, विदेशों को भी बेचा जा सकता है। क्योंकि अब ज्यादातर विमानन कंपनियां छोटे विमान नहीं बना रही हैं।

निजी क्षेत्र तैयार

इसीएसआईआर के सूत्रों के अनुसार नागरिक विमान बनाने की परियोजना में निजी क्षेत्र की कंपनियों को शामिल किया जा सकता है। टाटा और महिंद्रा दो कंपनियों ने सीएसआईआर के साथ साझीदारी में इच्छा जताई है। महिंद्रा ने खुद एक पांच सीटर विमान तैयार भी किया है, जिसका विदेश में परीक्षण चल रहा है।

लागत में बनें और उनमें जेट इंजन की बजाय टर्बो इंजन लगाए जाएं, ताकि उनमें ईंधन की खपत कम हो। इससे सस्ती हवाई सेवाएं शुरू हो सकेंगी।

दो विमान बनेंगे: सूत्रों के अनुसार

सीएसआईआर दो किस्म के विमान बनाने की तैयारी में है। एक 20-30 सीटों वाला छोटा वायुयान। दूसरा 90 सीटों की क्षमता वाला। नागरिक उड्डयन विमान परियोजना शुरू करने की दो

वजहें हैं। एक तेजस के निर्माण से वैज्ञानिकों और सरकार दोनों का आत्मविश्वास बढ़ा है। दूसरे, चीन ने हाल में सौ सीटों का नागरिक विमान बनाकर उड़ाया है।

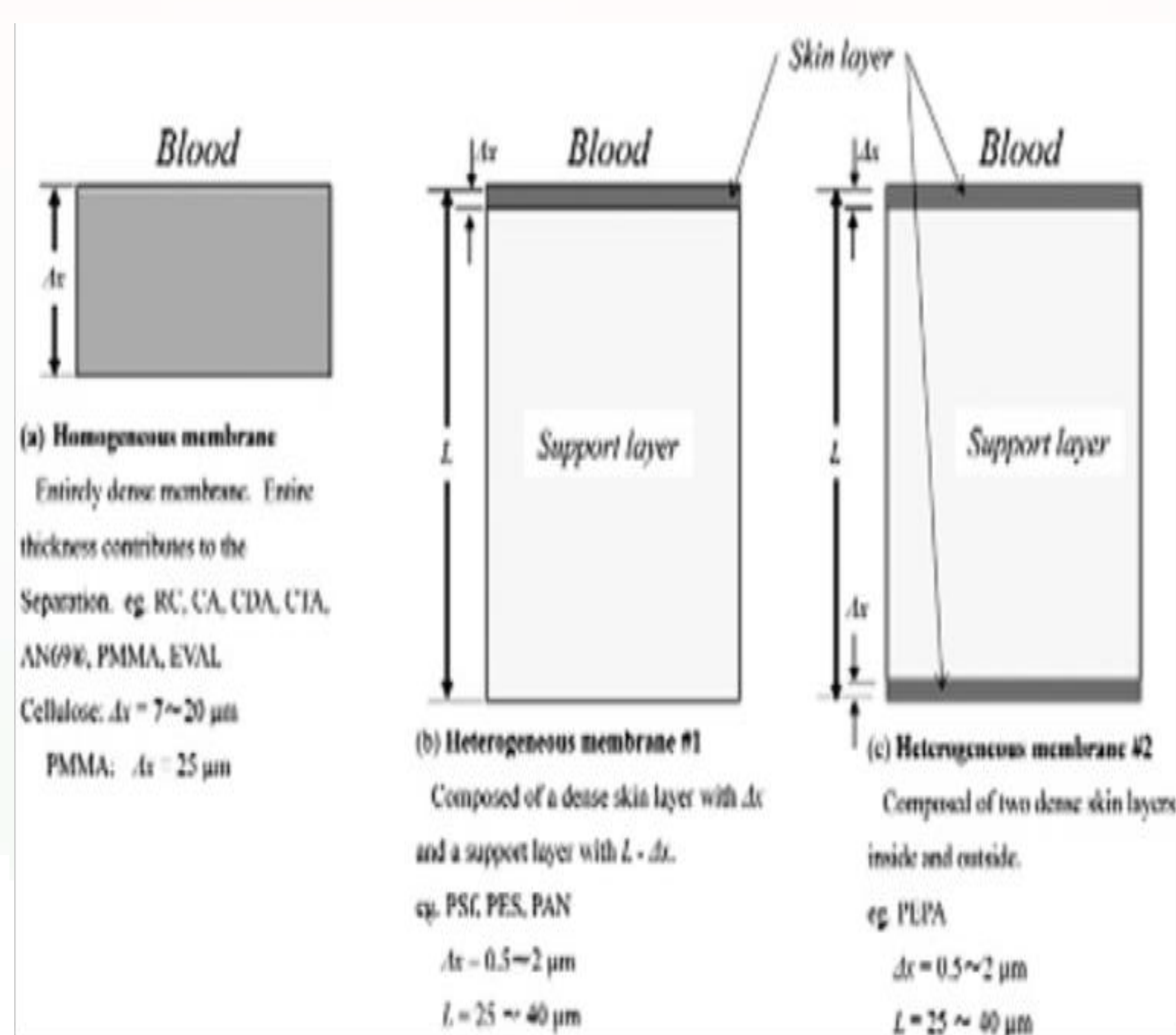
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Cost-effective dialysis a reality

CSIR-IICT

14th March 2017



Scientists at the Indian Institute of Chemical Technology (IICT) have developed a unique membrane that promises to reduce the cost of dialysis by 50 per cent. At present, the dialysis membrane modules are imported. Renal replacement therapy is too expensive to be afforded by majority of people afflicted with chronic kidney disease (CKD). The IICT scientists have developed a dialysis membrane module that comes to the aid of people to get the treatment at an affordable price.

Renal replacement therapy is too expensive to be afforded by major of people.

People with chronic kidney disease are forced to shell out money for dialysis too because imported kits are very costly.

Indian Institute of Chemical Technology scientists have developed a unique membrane which cuts down the cost by 50 per cent.

Dr S Sridhar, Principal Scientist and project leader, Membrane Separations Group, Chemical Engineering division, IICT said, “The thin hollow fibre membrane developed at IICT allows selective removal of metabolic toxins, such as urea and creatinine.” Dialysis is a process of removing waste and excess water from the blood in people suffering from CKD. Each dialysis session lasts three hours and a patient requires treatment two to three times a week.

Due to high cost, patients as well as laboratories resort to using the same kit multiple times which can be dangerous and lead to Hepatitis C. “When the cost reduces by half people will stop using the same kit repeatedly,” said Dr Laxmi Gayatri, DST scientist and member of the Membrane Separations Group.

Annually over two lakh people in the country develop kidney failure and the number is expected to reach 100 million by 2030. The imported dialysis membrane costs Rs 700 and the IICT product could be made available at between Rs 150 and Rs 200 if large scale production is taken up. IICT has applied for a patent and is looking forward to partnership with industry for large-scale production.

Ninety per cent of people with kidney failure in India, die within months due to lack of treatment and this innovation could save and prolong life of millions, said scientists. Over 600 million people cannot afford renal replacement resulting in one million deaths annually from untreated kidney failure.

Dr Sridhar said, “A spinneret was developed that excludes imported fibre. Poly (ether sulphone) material was used to develop ultra thin hollow fibres for dialysis with dimensions of 200 to 250 micron outer diameter of fibres. This does the same job and even more efficiently than the imported membrane. In addition, it can be modified by using additives and help in anti-clogging properties. Blood will not clot during dialysis.” He further added that hollow fibres are produced for water purification and not for dialysis. So the design for the spinneret had to be precise.

Published in:

[Hans India](#)

NIO robot to track oceanic processes

CSIR-NIO

14th March 2017

Goa-based National Institute of Oceanography (NIO) has designed a robotic platform called Seabed Resident Event Profiler (SREP) to track oceanic processes. It can be stationed at any depth down to 200m along the Indian coast.

This technology has been developed by scientists of the marine instrumentation group of the institute.

The SREP is particularly targeted at studies related to the monsoon, global climate and upwelling. Southwest monsoons being the backbone of this country's economy, knowing the conditions related to onset of monsoon is one of the major goals.

Upwelling is another phenomenon associated with monsoons during which migration of deep sea oxygen

minimum zone (OMZ) occurs towards the coast. Several sensors that can detect the conditions associated with upwelling such as low temperature, low oxygen, high nutrients, and changes in density patterns are placed on this platform.

This robot records the water column information regularly as programmed at every 10 to 25cm during every profile four times a day, stores the data and communicates the same to users at the institute. The robot in its final configuration will be able to sit on the seabed for days continuously.

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[TOI](#)

CSIR-CFTRI unveils 11 free-of-cost products, processes for entrepreneurs

CSIR-CFTRI

14th March 2017

CSIR-Central Food Technological Research Institute (CSIR-CFTRI), Mysuru, has unveiled a total of 11 proven and successful products and processes that are free of cost and published in its detailed technology dossiers. In order to capitalise on these releases, the institute is now wooing food entrepreneurs with a promise.

So far, 4,539 entrepreneurs have registered to download these free technologies. The institute is conducting demonstrations for these technologies throughout the year.

The 11 technologies which are being made available for free include amla candy, composite ragi bread, fruit spreads, ginger dehydration and bleaching, green chilli sauce, protein enriched buns, ready-to-use dosa batter, ready-to-use idli batter, turmeric curing

and polishing, cereal flakes rice and refining of millets.

Further, in order to create a sustainable ecosystem, the institute got in touch with all the registrants who responded to the earlier call. It was found that over 125 entrepreneurs have either started production or are in the process of launching these products.

Prof. Ram Rajasekharan, director, CSIR-CFTRI, for the first time, introduced this unique equitable model for empowering first generation entrepreneurs. According to the institute, the model has been successful and could be easily adopted by other organisations as well, in an attempt to promote Make in India and Skill India schemes.

In this regard, at a recently-concluded day-long FreeTech Entrepreneurs meet, Rajesh S Matche, head, food packaging technology, highlighted the objective to call on entrepreneurs. CSIR-CFTRI observed that a good number of enterprises across the country had taken the free technologies for commercialisation.

Later, the institute went on to felicitate many of these entrepreneurs and interacted with the participants to enable chalking out a future roadmap, according to Manilal P from the CSIR-CFTRI director's S&T Unit, who provided an overview of the Free-Tech Analytics.

It was also an opportunity for tiny and small-scale industries, striving to expand and diversify their product portfolio within the country and abroad. "The deliberations provided an ideal platform where successful entrepreneurs shared experiences, created awareness and sensitised the way forward in the core areas of food processing such as fruit and vegetable processing, bakery products, cereals, spices, food packaging and quality control," said Dr Rajasekharan.

Two new technologies which were released on the occasion included a leg operated papad making press and rice mix milk. There was a demonstration of all of these at the institute's food engineering pilot plant. The 'Free Technology Survey Report' along with opportunities and challenges was presented. "Representatives from 50 new enterprises were present at the event," summed up Satyendra Rao BV, technology transfer & business development department, CSIR-CFTRI, Mysuru.

Published in:

[FNB News](#)

Ostriches existed in India over 25,000 years ago, molecular evidence shows

CSIR-CCMB

14th March 2017



Ostrich had inhabited India about 25,000 years ago, a study conducted by the Centre for Cellular and Molecular Biology (CCMB) in Hyderabad has found. Ostrich is a flightless bird native to Africa. Well the bird is native to Africa, but its egg shell pieces have been found in Rajasthan and Madhya Pradesh by the geologists and archaeologists. Some partly fossilized ostrich egg shells were recently studied upon in a DNA study conducted at CCMB.

"We have successfully analysed the ostrich egg shells in our 'ancient DNA' facility and established that the egg shells (found in India) are genetically similar to the African ostrich," CCMB's senior principal scientist Kumarasamy Thangaraj had said recently.

"The carbon dating (of the ostrich egg shells) to determine the age shows that they are at least 25,000 years old," Thangaraj had said. The study was

conducted jointly by the scientists of CCMB, Indian Institute of Technology (Roorkee) and others.

The findings of the research have been published in the March 9, 2017, issue of science journal PLOS ONE. The continental drifting of Gondwanaland or Gondwana has been known for the reason behind the origin and evolution of the Ostrich.

Gondwana was a super-continent comprising South America, Arabia, Africa, Australia, Antarctica, India and Madagascar of the present times, around some 150 million years ago. During the Early Cretaceous period - 130 to 100 million years ago, an initial break-up of this super-continent, separated Africa and Indo- Madagascar.

This bio-geographical dispersion led to the hopping of ostriches in Africa through Eurasia through the land route around 20 million years ago. According to the official release, the continental drift theory for the existence of ostriches in India was not scientifically proven.

Further, only morphological pattern of the fragile egg shell pieces is not sufficient to prove the ostrich existence in India. The researchers thus analysed the mitochondrial DNA to come to the conclusion about the existence of ostriches in India, the release added.

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Rashtriya Sahara, Page 16, 11th March

Amar Ujala, Page 16, 13th March