

[Front page](#)
[Politics](#)
[Sports](#)
[India](#)
[World](#)
[Business](#)
[Economy](#)
[Investing](#)
[Life](#)
[Bollywood](#)
[Tech](#)
[Blogs](#)

Budget 2013

[Real estate](#)
[New Delhi](#)
[Mumbai](#)
[Photos](#)
[Debates](#)
[Travel](#)



[Firstpost](#) >

Fwire

World's most advanced molecule maker created

by [F wire](#) Jan 11, 2013

Follow [@firstpostin](#)

[#activist](#) [#Ajax](#) [#Chrome](#) [#Firefox](#) [#Green](#) [#India](#) [#News](#) [#NewsTracker](#) [#Politics](#) [#Virus](#)

Share 400 Like 1

[Email](#) [0 Comments](#) [Print](#)

Need a New Bank Account?

Open an alternative with no credit Checks or overdraft charges. thinkmoney.co.uk/PersonalAccount

UK Export Company

Looking to export from the UK? Get free tips, support and advice. opentoexport.com

Ads by Google

London, Jan 11 (IANS) Inspired by nature, scientists have created the world's most advanced molecular machine that will revolutionise the manufacturing process.

A molecule is the smallest and most basic part of matter that can exist independently. For instance, a molecule of sugar will exhibit all the properties of sugar such as taste, colour, etc.

"The development of this machine, which uses molecules to make molecules in a synthetic process, is similar to the robotic assembly line in car plants," explains David Leigh, professor at the University of Manchester School of Chemistry, who led the team.

"Such machines could ultimately lead to the process of making molecules becoming much more efficient and cost effective," he added, according to the journal Science.

"This will benefit all sorts of manufacturing areas as many human-made products begin at a molecular level. For example, we're currently modifying our machine to make drugs such as penicillin," added Leigh, according to a Manchester statement.

The machine is just a few nanometres long (few millionths of a millimetre) and can only be seen using special instruments. Its creation was inspired by natural complex molecular factories where information from DNA is used to programme the linking of molecular building blocks in the correct order.

The most extraordinary of these factories is the ribosome, a massive molecular machine found in all living cells, which has inspired Leigh's machine.

It features a functionalised nanometre-sized ring that moves along a molecular track, picking up building blocks located on the path and connecting them together in a specific order to synthesise the desired new molecule.

Leigh says the current prototype is still far from being as efficient as the ribosome. "The ribosome can put together 20 building blocks a second until up to 150 are linked. So far we have only used our machine to link together four blocks and it takes 12 hours to connect each block."

“But you can massively parallel the assembly process: We are already using a million of these machines working in parallel in the laboratory to build molecules,” Leigh added.

“The next step is to start using the machine to make sophisticated molecules with more building blocks. The potential is for it to be able to make molecules that have never been seen before. They’re not made in nature and can’t be made synthetically because of the processes currently used,” concludes Leigh.

Chromebook Official Site.

The next generation of computers. For Everyone.

Learn more. google.co.uk/chromebox

GENEWIZ Gene Synthesis

Simply submit your target sequenc & Receive your

gene in 8 Days(<1.5Kb) www.genewiz.com

Ads by Google

Share 400 Like 1

[CLOSE X](#)

[Email 0 Comments Print](#)

Firstpost encourages open discussion and debate, but please adhere to the rules below, before posting. Comments that are found to be in violation of any one or more of the guidelines will be automatically deleted:

Personal attacks/name calling will not be tolerated. This applies to comments directed at the author, other commenters and other politicians/public figures

Please do not post comments that target a specific community, caste, nationality or religion.

While you do not have to use your real name, any commenters using any Firstpost writer's name will be deleted, and the commenter banned from participating in any future discussions.

Comments will be moderated for abusive and offensive language.

Please read our [comments and moderation policy](#) before posting

0 comments

★ 0

Comments for this thread are now closed.

Discussion

Community

Share



ALSO ON FIRSTPOST

[What's this?](#) ✕

We are fools: 6 things we need to realise about Pakistan

460 comments • 9 days ago



Swapnil — I completely agree. Unfortunately our below 80 IQ politicians and "aman ki asha" propagating media w...

Gold investment speculative, no hedge for inflation: RBI

2 comments • an hour ago



patel — I dont think you are economic student. Gold price increase due to international price increase in Go...

From LoC with fear: interview with an ordinary soldier

14 comments • an hour ago



Mallikarjuna — One of the worst farticle I had ever read:1. I know whom you are called butt-joke anchor, due to him...

Everyones favourite Mataji: Sushma Swarajs big bindi politics

324 comments • 2 days ago



Akash Mukherjee — Some things in life just don't change! :-):-) And it's great that they don't! :-) Ma'am's articles ...

Comment feed

Subscribe via email

Search Firstpost..

Submit