

MECHBUZZ!!!

DEPARTMENT OF MECHANICAL ENGINEERING, VASAVI COLLEGE OF ENGINEERING, HYD.

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How eco-friendly are electric cars?

E-cars don't emit climate damaging greenhouse gases or health harming nitrogen gases, quiet and easy to operate. It does seem like E-cars have a lot of advantages over conventional cars, but are E-cars really a solution? There are many ways electric cars harm the environment.

Shifting emission of roads- and onto power plants:

Conclusion of a 2011 study by the IFEU mentioned that the carbon footprint of a battery powered car is similar to that of the conventional car with a combustion engine, regardless of its size.

CO₂ is not only emitted from conventional cars but also from power plants. For example, in Germany, when supplied, it would need to drive 100,000 kilometres in order to "pay off" eco-debt and to produce overall less CO₂ than driving a gasoline- driven cars.

There is general consensus that while E-cars may not be truly "zero-emission" vehicles, they are still better for environment and for the climate than the conventional vehicles. The key holds on how these vehicles can be eco-friendlier.

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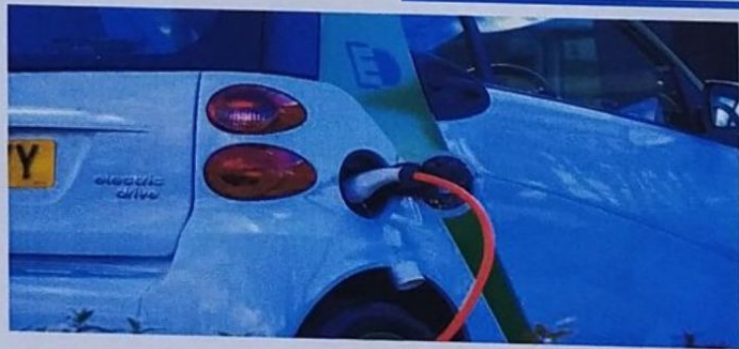
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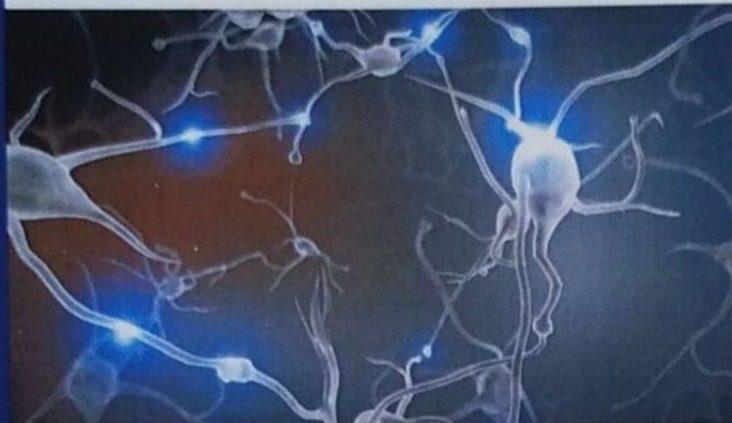
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Battery disposal:

Concerns have also been raised about happens to the complex batteries, which contain toxic chemicals, at the end of an electric vehicle's life. Would this create a new environmental crisis? The longer the battery can be used after the life of a vehicle, the lower that vehicle's environmental impact will be over its lifespan. Scientists are developing ways to recycle electric vehicle batteries- for industries for instance, making batteries more efficient while they are in vehicle and also looking for a way to make electric cars as storage devices in the overall energy grid so as to use at times lower renewable energy generation.

Life with Automated Neuro Connector



Now, imagine a world without such limitations. Let's say we can download our thoughts in a computer and live forever as a limitless entity. If the concept of Automated Neuro Connector works, you could gain endless possibilities to explore not just your brain, but all the others that are connected to it.

Have you ever wondered if the range of thought limited? Will there be no thoughts after a certain point of time? Does the physical state of humans affect the thinking process? After all, an old saying goes: "If we run out of thoughts, we run out of life".

However, science says otherwise. There have been quite a few claims of products to read the mind or "inner thoughts". The processes in the brain are much too complex that every bit of information be read.



ANC reads your thoughts, puts them in a digital mode where nothing dies, and uploads it on a database. Later we can create another you that experienced everything as your own physical body did. Every emotion can be digitized and recreated just the way it happened.

Not just that, with ANC, you can connect to the virtual world of reality, the internet, making way to the era of Cyborgs. But is it possible to build a machine of such kind? Absolutely! All we need is a ton of virtual particles, quantum computers, and a time crystal. And, for good measure, a completely theoretical force to do this experiment called the lifeforce.

Lifeforce might've been used a lot of times on the internet to describe it as a force that makes life as what we know today; how is it that only a few carbon atoms made life, and the other atoms are just roaming in space. What happened to the Antimatter after the big bang? Life force could solve all these questions, according to some theories.

But even if we invented some the machine like this, it would kill the human in the process — a small price to pay for salvation.

Industry 4.0



Being a Mechanical Engineer in the process, you might already know that this term is viral and is seeing more applications than ever before. Industry 4.0 isn't just about investing in new technology and tools to improve manufacturing efficiency—it's about revolutionizing the way an entire business operates and grows. To survive and catch up with the present industry now, you have to be willing to know about it before you invest in Industry 4.0.

The first industrial Revolution

The first industrial Revolution happened between the late 1700s and early 1800s. During this period of time manufacturing in award from focusing on manual trip performed by people added by work animals to a more optimised form of labour performed by people through the use of water and steam powered engines and other types of machine tools

The Second industrial Revolution

In the early part of the 20th century the world in today second industrial Revolution with introduction of steel and the use of electricity in factories. Introduction of electricity in April manufacturers to increase efficiency and help make factory machinery more movable.

The Third industrial Revolution

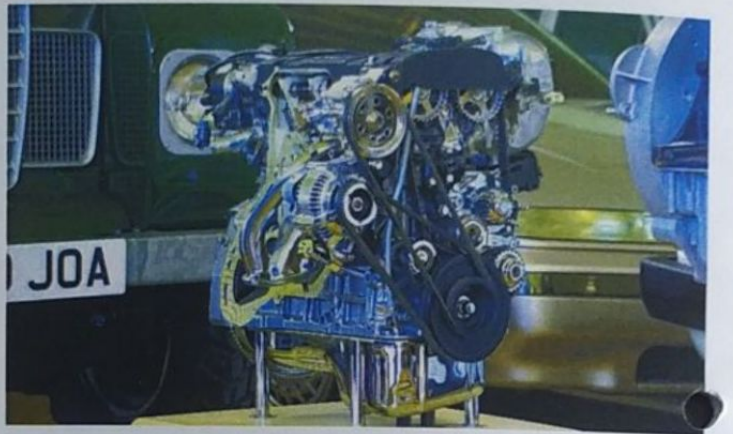
Starting in the late 1950 third industrial Revolution slowly began to emerge. During this period manufacturers we can experience in the shift that put less emphasis and analogue and mechanical technology and more on digital technology and automation software.

In the past few decades, a fourth industrial revolution has emerged, known as Industry 4.0. Industry 4.0 takes the emphasis on its digital technology from recent tickets to a whole new level with the help of interconnectivity through the Internet of Things (IOT), access to real time data, and introduction to cyber physical systems. It connects physical and digital and allows for better collaboration and access across departments, partners, vendors, products, and people. To build a sustainable,scalable enterprise in today's business environment. It aims to use tools that helps in streamlining tasks, boost productivity, and collaboration, and leverage data in real-time.



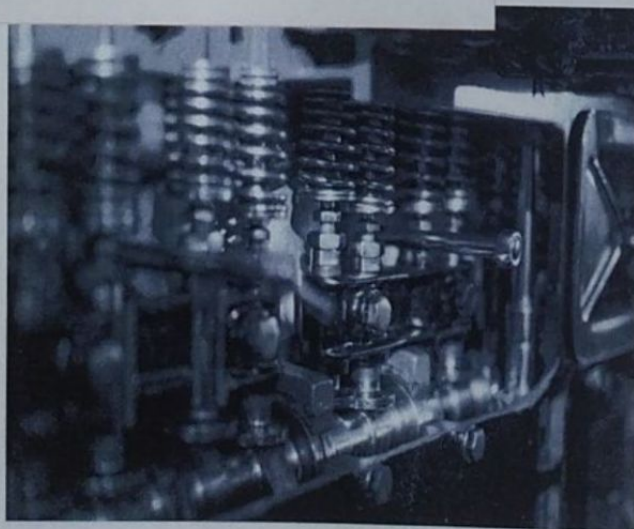
smallest engine

Work performed by Professor John Goold's QuSys group in Trinity's School of Physics describes the science behind the world's smallest engine, which as a single calcium ion is approximately ten billion times smaller than a car engine.



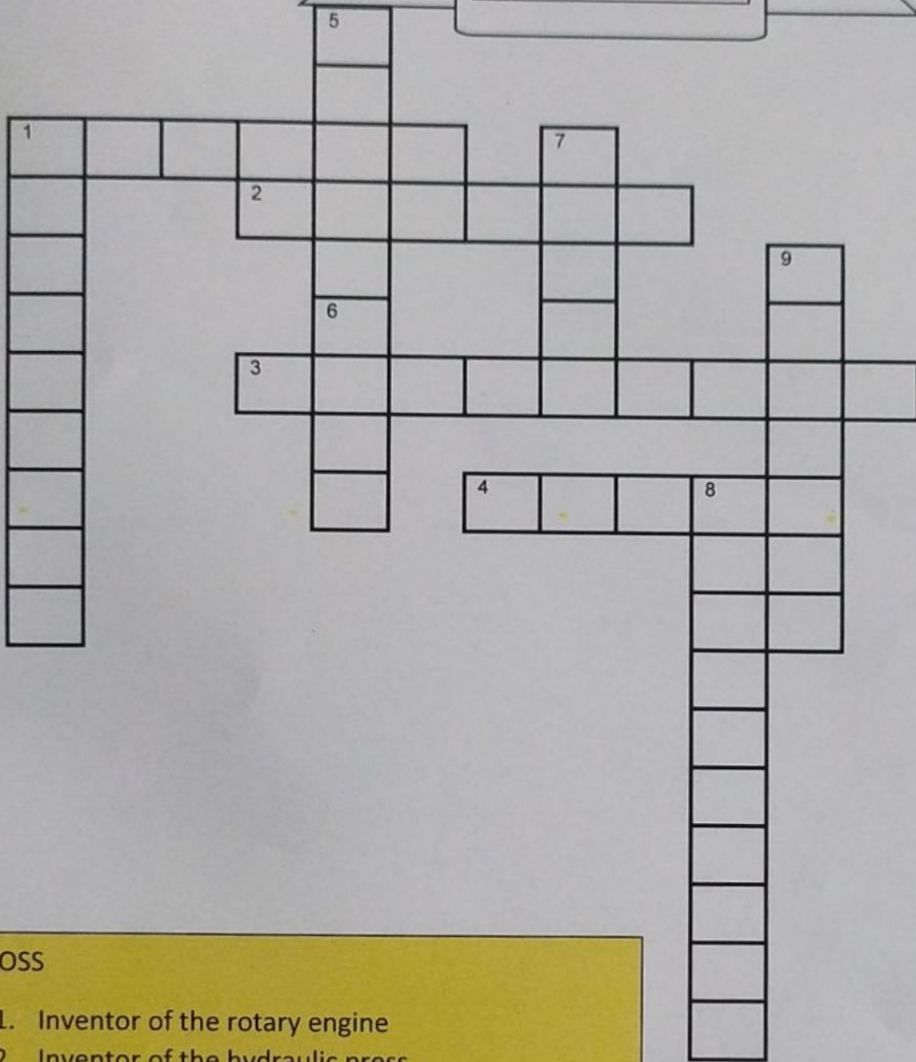
The engine itself is electrically charged, which makes it easy to trap using electric fields. The working substance of the engine is the ion's "intrinsic spin" (its angular momentum). This spin is used to convert heat absorbed from laser beams into oscillations, or vibrations, of the trapped ion. These vibrations act like a "flywheel," which captures the useful energy generated by the engine and store it in discrete units called "quanta," as predicted by quantum mechanics.

Assistant Professor in Physics at Trinity, John Goold said: "This experiment and theory ushers in a new era for the investigation of the energetics of technologies based on quantum theory, which is a topic at the core of our group's research. Heat management at the nanoscale is one of the fundamental bottlenecks for faster and more efficient computing. Understanding how thermodynamics can be applied in such microscopic settings is of paramount importance for future technologies."



In the future, such devices could be incorporated into other technologies in order to recycle waste heat and thus improve energy efficiency.

CROSS WORD PUZZLE

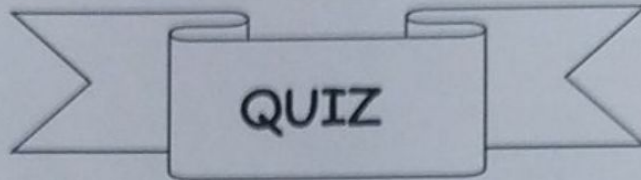


ACROSS

1. Inventor of the rotary engine
2. Inventor of the hydraulic press
3. Inventor of the printing press
4. Inventor of automatic transmission

DOWN

1. Father of machine tool technology
5. Inventor of the 2-stroke engine
6. Inventor of the 3D printer



QUIZ

1. A train is running at the speed of 60kmph crosses a pole in 9 seconds. What is the length of the train?
A. 120m
B. 180m
C. 324m
D. 150m
2. The angle of elevation of a ladder leaning against the wall is 60 degrees and the foot is 4.6 m away from the wall. The length of the ladder is?
A. 2.3m
B. 4.6m
C. 7.8m
D. 9.2m
3. A clock is started at noon. By 10 mins past 5, the hour hand turned through? (in degrees)
A. 145
B. 150
C. 155
D. 160
4. Find the odd one out. 8,27,64,100,125,216,343
A. 27
B. 100
C. 125
D. 343
5. Two numbers are respectively 20% and 50% more than the third number. The ratio of the two numbers is?
A. 2:5
B. 3:5
C. 4:5
D. 6:7

What is the melting point of iron?

- A. 1530 °C
- B. 1438 °C
- C. 1538 °C
- D. 1533 °C

The velocity corresponding to a Reynold's number of 2800, is called ____

- A. sub-sonic velocity
- B. super-sonic velocity
- C. lower critical velocity
- D. higher critical velocity

What does a Gantt chart illustrate?

- A. inventory control
- B. material handling
- C. production schedule
- D. machine repair schedules

What is the nature of the stress developed in a metal bar when it is cooled to - 5°C?

- A. shear
- B. tensile
- C. compressive
- D. none

Which instrument can be used to check the accuracy of micrometres, callipers & dial indicators?

- A. feeler gauge
- B. slip gauge
- C. ring gauge
- D. plug gauge