**2**

At the end of January, scientists created metallic hydrogen by pressurizing a hydrogen sample to more pounds per square inch than exists at the center of the Earth.

This broke the molecule down from its solid molecular state and allowed the particles to dissociate into solid satomic hydrogen which is metallic.

**3**

So what is Hydrogen? The atom Hydrogen is an element, and consists of one proton and one electron. It is the most abundant element in the universe.

Though often placed at the top of the [alkali metal](https://en.wikipedia.org/wiki/Alkali_metal) column in the [periodic table](https://en.wikipedia.org/wiki/Periodic_table), it does not, under ordinary conditions, exhibit the properties of an alkali metal. Hydrogen does not reflect light nor does it conduct electricity. Instead, it forms diatomic H2 molecules; commonly known as Hydrogen Gas.

**4**

The Harvard-educated scientists squeezed hydrogen atoms together by using a press with two diamonds. As the sample turned dark, the scientists knew that the sample was getting solid. But as soon as the pressure reached 25 million pascal, the sample became shiny. It reflected about 90% of the light that hit it, just like a metal.

**5**

1. **It could revolutionize space exploration** metallic hydrogen is predicted to be “metastable” — meaning if you make it at a very high pressure then release it, it’ll stay at that pressure. A diamond, for example, is a metastable form of graphite. If you take graphite, pressurize it, then heat it, it becomes a diamond; if you take the pressure off, it’s still a diamond. By then reheating the solid hydrogen into molecular state, a tremendous amount of energy releases, which can be used as fuel.
2. **Metallic hydrogen has also been predicted to be a high- or possibly room-temperature superconductor.**There are no other known room-temperature superconductors in existence, meaning the applications are immense — particularly for the electric grid, for approximately 15 percent of energy is lost to dissipation during transmission. MRI scans e.g. have to be cooled down by liquefied helium because of dissipation, which makes the scans expensive.

Having metallic hydrogen would reduce the costs immensely.

**6**

Though this discovery might not look as impressive as scientists made it look; Isaac. F. Silvera had told the press that:

*“This is the Holy Grail of high-pressure physics. It’s the first-ever sample of metallic hydrogen on Earth, so when you’re looking at it, you’re looking at something that’s never existed before.”* – Isaac. F. Silvera

And that, ladies and gentlemen, is what makes this discovery so special