

The background features a fiery atomic bomb explosion on the left side, with bright orange and red flames. On the right side, there are solid blue rectangular blocks. A large white rectangle is centered horizontally, containing the main title.

# THE ATOMIC BOMB

**SECRETS BEHIND THE CREATION OF THE ATOMIC BOMB**



**'Now I am become Death, the destroyer of worlds'.**

**-Robert Oppenheimer**

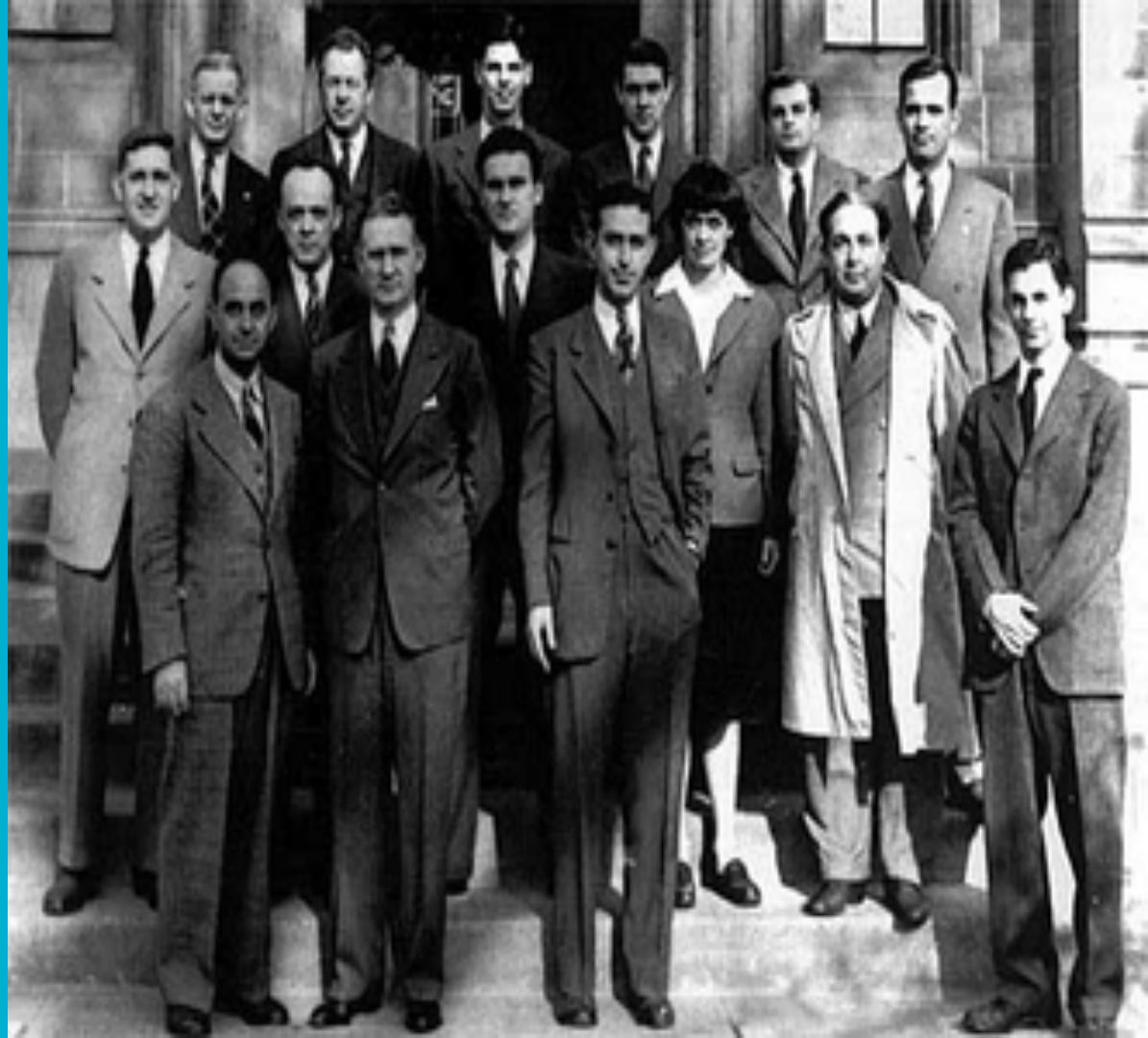
# THE STARTING POINT



In 1942, during the Second World War, the American Government gave the permission to create the so-called “Manhattan Project” in order to create in a few time laboratories that could be able to host scientists and engineer’s experiments to create the atomic bomb. the time left was too little and they had to reach results before the Nazis would have. In fact, Nazis were involved in a nuclear schedule and Americans had the fear that Germans would succeed before them. American Project was lead by the Manhattan American Corps di Manhattan in New York and it was kept secret.

THE PROJECT INVOLVED  
SCIENTISTS AND  
ENGINEERS FROM ALL  
AROUND THE WORLD;  
THEY HAD TWO THINGS  
IN COMMON: HATE  
AGAINST NAZIS AND  
FAITH IN SCIENCE.

Most well known names  
are Enrico Fermi, Robert  
Oppenheimer and Albert  
Einstein.







# HIROSHIMA AFTER THE RELEASE OF THE BOMB





ARVIN ASH

HOW DOES AN  
**ATOMIC**  
**BOMB**  
WORK?



# EINSTEIN'S EQUATION

Nuclear weapons use the bond between the mass and the energy. The mass (the quantity of matter in a body) is a form of energy itself.

If, at the end of a reaction, the total mass is less than the the initial reagents, it means that a part of it has become energy.

In other words, the lack of mass has been transformed into energy.

This conversion happens on the basis of Einstein's equation. ( $E=mc^2$ )



# FISSION AND FUSION

There are two fundamental types of atomic weapons: those that work with nuclear fission and those that work with nuclear fusion.

During the fission reaction, the atom is divided in smaller fractions, producing a deficiency of mass. This type of bomb is called “A Bomb” and it’s often indicated as the atomic bomb par excellence.

In the fission are normally used Uranium’s isotopes (Uranium 235, 233 or Plutonium 239). These are atoms that have a number of protons and neutrons extremely high, so they have also an elevated mass. This heaviness makes them very unstable and for this reason it’s easy to separate them in smaller fragments.

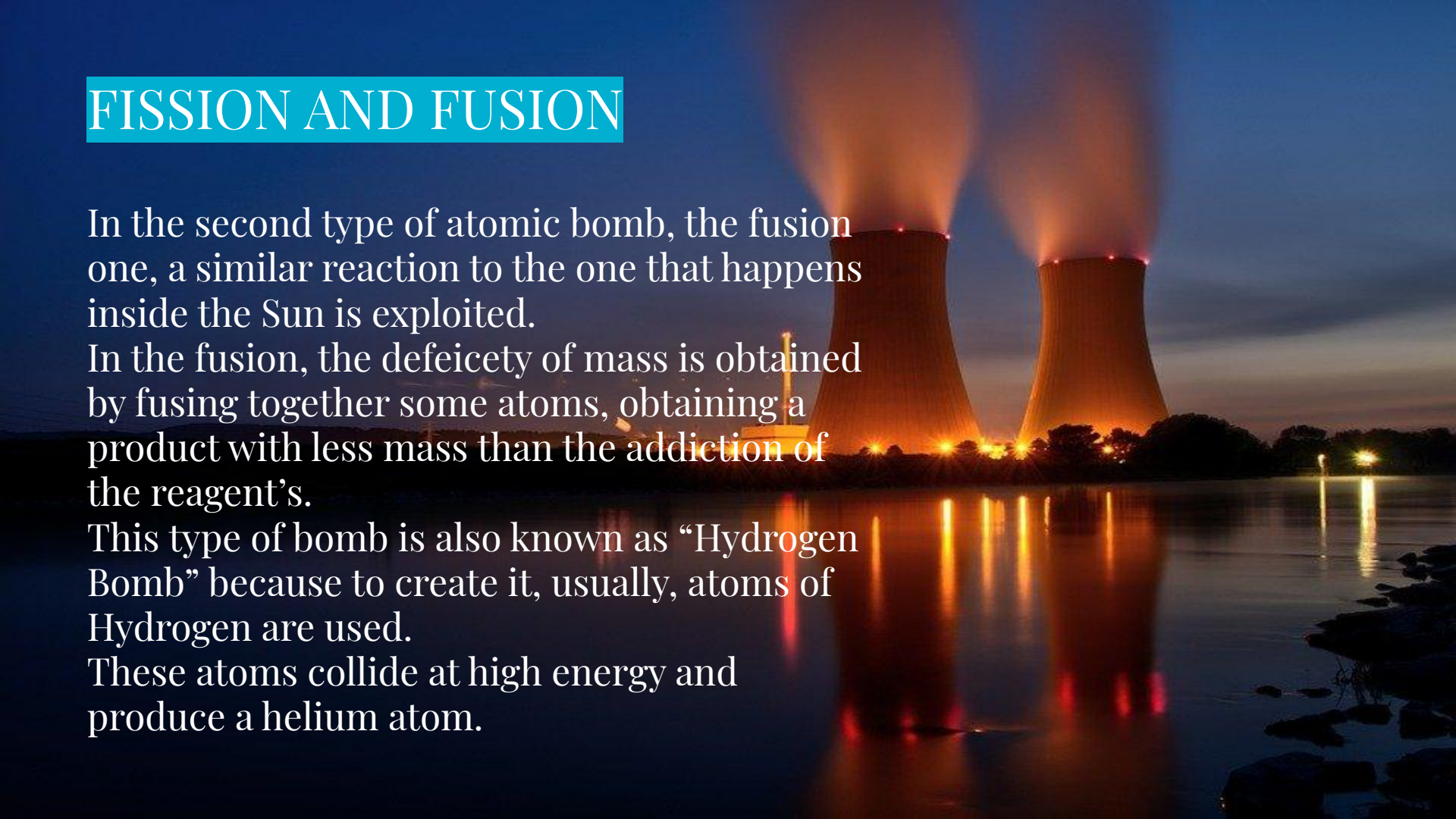
# FISSION AND FUSION

In the second type of atomic bomb, the fusion one, a similar reaction to the one that happens inside the Sun is exploited.

In the fusion, the deficiency of mass is obtained by fusing together some atoms, obtaining a product with less mass than the addition of the reagent's.

This type of bomb is also known as “Hydrogen Bomb” because to create it, usually, atoms of Hydrogen are used.

These atoms collide at high energy and produce a helium atom.



# SOURCES:

Focus.it  
Wikipedia  
YouTube  
Treccani.it

CREATED BY:

Ginevra Armigliato  
Lorenzo Caramiello  
Camilla Zoccarato

