



MOON MEN

The people and their imaginations that took us to the Moon



Astro Media
International Television Productions



Moon Men is a 5-part documentary series about the people and their imaginations that sent humans to the Moon and will soon return to stay.

The Episodes:

1. Dreamers and Theorists
2. The Tinkerers
3. The War Machines
4. Politics and Pilots
5. Forward Thinkers

Each episode will document the groups of people and their involvement in furthering the technology, science and the engineering that delivered Neil Armstrong to the Moon and now in the 21st century, the return to the Lunar surface.

Like Neil Armstrong, some names are well known; Buzz Aldrin and Wernher von Braun; others

more obscure, like: Willy Ley, Pedro Paulet, Konstantin Tsiolkovsky, Friedrich Zander, Sir William Congreve, Gaetano Crocco, Robert H. Goddard, Annie Easley, Klaus Riedel, Mary Sherman Morgan, Johannes Winkler, Walter Dornberger and Valentin Glushko to name just a few.

They all did their part in the great adventure of lunar space travel.

Moon Men is an archive driven series re-imagined with the latest mesmerizing imagery from NASA, ESA and other space agencies, combined with music and effects to drive the narrative of this classic story of exploration.



A black and white photograph of an astronaut in a spacesuit holding a camera, with a large, cratered moon in the background. The astronaut is positioned in the lower center, looking directly at the camera. The moon is a large, dark, cratered sphere that dominates the upper half of the frame. The text "EPISODE SYNOPSIS" is centered in the middle of the image, overlaid on the dark background of the moon and space.

EPISODE SYNOPSIS

1 DREAMERS & THEORISTS

The dream of exploring space and travelling outside the earth's sphere of influence is a long and admirable one.

Conrad Haas: a 16th century military engineer. He envisaged multi-stage rockets, liquid fuels and delta wings. Influenced by Haas's ideas **Johann Schmidlap** developed and flew multi-stage pyrotechnics. Another 17th century military expert **Kazimierz Siemienowicz** wrote '*Artis Magnae Artilleriae*' which also theorized similar rocket designs for non-military purposes.

In 1783, France, the ambition of flight became a reality: A hot air balloon, '*Aerostat Reveillon*,' was launched. The dream of leaving Earth in search of adventure amongst the stars came one step closer.

Novelist **Jules Verne**, wrote '*From the Earth to the Moon*' in 1865, one of a series of adventure novels. Many scientists and engineers note his influence on them from an early age. **Georges Melies**, film maker extraordinaire took Verne's and H.G. Wells '*First men in the Moon*' to produce one of the masterpieces of early cinema; '*Le Voyage dans La Lune*'.

At the closing of the 19th century, technology and engineering was booming, the industrial empires flourishing, ideas of space flight begun to come into sharper focus.

Konstantin Tsiolkovsky stood out, he wrote numerous books and works on space flight, living and working in the vacuum of space, steering thrusters and space colonies, solid theoretical work that was to spur many like-minded people.

Willy Ley, writer and theorist, wrote many popular articles and also aided **Fritz Lang** in his film "*Woman in the Moon*," where they inadvertently created the rocket countdown.

Robert Esnault-Pelterie was a French aircraft designer and spaceflight theorist. He is referred to as being one of the founders of modern rocketry and astronautics.

Hermann Oberth wrote many works including the book '*Wege zur Raumschiffahrt*' ('*Ways to Spaceflight*'). He also progressed from theoretical work to hands on engineering and developed a rocket engine with **Klaus Riedel** and **Wernher Von Braun**, who was involved in the VfR and the United States rocket program.



2 THE TINKERERS

Those hands-on engineers and scientists that took theory and made it functional.

Pedro Paulet designed reaction motors in 1895 and complete propulsion systems in 1900. He went on to develop an airplane using thermoelectric batteries and rocket engines in 1902, and theorized using nuclear propelled rockets for flights to the Moon.

Gaetano Crocco, an Italian pioneer in both aeronautics and astronautics, developed a liquid fuel rocket engine.

Robert H. Goddard worked both as a theorist and an engineer and anticipated many of the developments that were to make space flight possible. He built and flew several liquid fuel rockets and conversed with many German rocket enthusiasts. Goddard has been called the man who ushered in the Space Age.

Clarence N. Hickman was an influential physicist who collaborated on rockets with Goddard

Max Valier, another rocket pioneer, assisted in forming the German VfR or Space Flight Society, which brought together many great engineers and ushered in the rocket age. Tragically, Valier died from a rocket engine explosion.

Rudolf Nebel worked with Hermann Oberth and Wernher Von Braun through the VfR during the 1930's. He foresaw the use of rocket for dire military purposes.

Friedrich Zander designed the first liquid-fueled rocket, the GIRD-X, launched in the Soviet Union, and made many important theoretical contributions to the road to space.



3 THE WAR MACHINE

The Nazi war machine took great interest in new weapons technology and seconded the VfR into various working groups. The result was the Vengeance Weapons and the first reliable rocket to reach space, the A4 or V2.

At the close of World War II, these weapons and their scientists were of extreme interest to the Allies. The United States, Soviet Union and others raced to secure them for their own weapons research.

Many Germans went to the USA, including **Oberth** and **Von Braun**, and would go on to drive the US missile race.

Home grown engineers like **Jack Parsons**, **Frank Malina** and **Theodore Von Karmen**, would evolve the Jet Propulsion Laboratory.

Both US and Soviets tested the V2 rocket and made early improvements. The missile race was on in earnest. Ballistic rockets tipped with nuclear warheads was the driving force until a tiny silver ball was launched into orbit.

One man pushed the boundaries of space flight **Sergi Korolyov**, a Soviet engineer who put a man into space and changed the world forever.



4 P O L I T I C S & P I L O T S

The Cold War, Kennedy and the race for the Moon.

The Space Programs:

The Soviets begin a series of manned space flights, pushing the boundaries of engineering and safety. Several disastrous events kill astronauts and ground crews in the rush to stay ahead of their political rivals, the United States

NASA is tasked to put a man on the Moon and return him safely to Earth by the end of the decade, a feat never before considered or perhaps possible.

The Mercury, Gemini and Apollo programs, the Vostok and Soyuz programs of the Soviets.

We look at the people that gave their life in the pursuit of space exploration to the Moon.

Mitrofan Ivanovich Nedelin, Vladimir Komarov, Michael Adams, Valentin Bondarenko, Elliot See and **Charles Bassett**, the crew of Apollo 1, **Sergei Vozovkov** and others.

Their efforts culminating in the landing of Apollo 11 on the Moon in July 1969.



5 FORWARD THINKERS

Today we are preparing for a return to the Moon.

This time it is not politics but science and exploration, establishing a permanent human presence on the Moon and developing a wealth of minerals, water and oxygen to help us explore the rest of the solar system.

We explore the designers and engineers' vision for this next phase.

New designs: Gateway, Orion and the SLS, to address old problems of reaching the Lunar surface and returning economically and safely.

The engineering is complex, but with today's technology in materials and processes, with international assistance and the private sector, the way is clear for a sustained access to the Moon and all its secrets.





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