

SCIENCE . TECHNOLOGY

# COLOSSAL MACHINES

6 × 45' (ENG, GER)

**Massive machines require engineering extremes.**

The massive man-made satellite, commonly known as the International Space Station, hurtling around the Earth at 27,600 km an hour, has been a temporary home for humans for the last 20 years. The biggest land vehicle on earth, a bucket excavator titled Bagger 293, that can move 240,000 cubic meters of dirt each day. Innovation has always meant building bigger, faster, taller, longer and stronger than anything that came before. We've seen them in dramatic visual fashion. But how do these actually work? What sets each machine apart. What big ideas drove its evolution and what limitations did this machine overcome? What forces was it built to withstand and where is the breaking point? Using CGI and expert insights, we 'strip down' the design of some of the world's unique colossal machines and reveal mechanical secrets that not only made them work, but also changed the world in a big way!

Each episode explores four incredible machines, linked thematically. From sea and space faring designs, to mega airborne, mining and industrial machines, we'll break down what they can do as well as key inner mechanics and materials that make it all possible. Dynamic archival footage featuring; slow motion, aeriels, and time-lapses get us past the 'caution' tape and up close and personal with these compound monsters. CGI provides breakouts and blueprints and a look at hidden mechanisms. Adding expertise of structural, mechanical, chemical and forensic engineers to help reveal what's at stake when these colossal constructions are put work, and how all the pieces come together to make a big impact.



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Produced by: Go Button Media with Autentic

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## 1. Sea Monsters

Since the dawn of time humans have braved the tides and wave, navigating one of the most powerful forces on earth. But with cutting edge technology the barriers to extreme water travel have been broken. Now, take a look inside these engineering marvels to unlock their secrets. This episode strips down the design of the Aasta Hansteen, the USS Nimitz, and the Ohio-class submarine.

## 2. Astronomical Engineering

Unlocking the secrets of the cosmos requires amazing machines and what's under the hood of these technical wonders is nothing short of rocket science. This episode strips down the design of the Space Shuttle, the NASA Crawler, the ISS, and the Very Large Telescope.

## 3. There Be Dragons

Since the beginning of humankind, we've looked to the sky and envied the flight of birds. Now, since the explosion of air travel, we dare to push the boundaries of science, going faster, farther and with bigger cargo. This episode strips down the design of the C5 Galaxy, the Airbus Tanker Craft, the CH53 Stallion King, and the Airlander 10.

## 4. Sub-Zero Supermachines

It's hard to imagine a more inhospitable environment than the sub-freezing temperatures of the arctic regions. Yet humans have lived, explored, and worked here for centuries. This episode strips down the design of a massive plane that can carry cargo to and from the polar region, the next generation of super Ice Breakers, a snow plough, and two wonderfully versatile all-terrain vehicles that can move through snow where everything else sinks to a halt.

## 5. Earth Biters

They are every kid's dream – massive digging toys on a scale nearly impossible to visualize. And yet, these monstrous earth biters are not only real, they are super machines. This episode strips down the design of the Bagger dragline excavator, and the Big Red oil pump.

## 6. Mammoth Manufacturing

Since the moment humans picked up tools, we've been a building species. Constantly pushing the boundaries of materials and equipment, we strive to perfect machines and other creations. Now, the machines that create machines are even bigger, better, and require quite literally cutting-edge technology. This episode strips down the design of the world's largest 3D printer, a tunnel boring machine and CNC machines.