

# RAW TO READY

HOW RAW MATERIALS ARE TRANSFORMED INTO TECHNOLOGICAL MARVELS

4 x 60 HD



PBS

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## CONTACT

Tom Koch, Vice President  
PBS International  
10 Guest Street  
Boston, MA 02135 USA

TEL: +1-617-208-0735  
FAX: +1-617-208-0783

jt Koch@pbs.org  
pbsinternational.org

Explore the science, innovation and sheer genius it takes to transform the most basic ingredients into powerhouse machines. From aircraft to big rigs to earth movers, *Raw to Ready* ventures deep inside factories to witness the hard work and craftsmanship necessary to build these incredible machines. Uncover the hidden stories of human ingenuity that have transformed the earth's most essential raw materials into monumental marvels of modern technology. Natural resources, critical moments in time, and human ingenuity forge the world's most awe-inspiring machines.

### **Komatsu**

To extract precious metals found beneath the earth requires a massive 232-ton, two-story-tall dump truck with a load capacity of 320 tons—a giant earth-mover like the Komatsu 930-E. This amazing engineering achievement is made possible by five essential raw ingredients: coal, chromium, mineral oil, latex rubber, and sulphuric acid, an electron superhighway that generates massive power.

### **Bentley**

It's a century-old obsession to find the right raw materials to build a car that is fit for both king and race car driver—perfectly luxurious and perfectly fast. The Bentley Motor Company has built common raw ingredients into their signature Mulsanne, an engineering achievement made possible by aluminum, leather, iron, wood, and pigment.

### **Mack Truck**

The highway truck—a modern workhorse, a heavy hauler vital to commerce—carries an 80,000-pound payload and must operate in every condition from sub-zero cold to triple-digit heat. To survive, it must be strong, durable, and fuel-efficient, like the Mack Pinnacle, an engineering achievement made possible by platinum, petroleum, copper, manganese and polyurethane.

### **Bombardier** (*working title*)

Around the world every single day more than four million people fly on commercial jets. Those jets come in all sizes, but the fastest growing fleets of passenger planes are vital, short-range aircraft that carry 100 passengers. These regional workhorses of the industry take off every three seconds providing transport for three out of every four American air travelers. Tempered glass, titanium, fiberglass, and leather work together to create the Bombardier CRJ-1000.

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## CREDITS

*Executive Producer:* Michael Hoff

*Supervising Producer:* Rena Ferrick

*Series Producer:* Julie Nelson

*Story Producers:* Jonathan Burhop, Jennifer Ciraldo, Gabriel Garza, Dianne Martinez, Carlos Mora, Rosie Sharkey

*Senior Editor:* Andres Alegria

*Dir. of Production Management:* Kathryn Porter

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