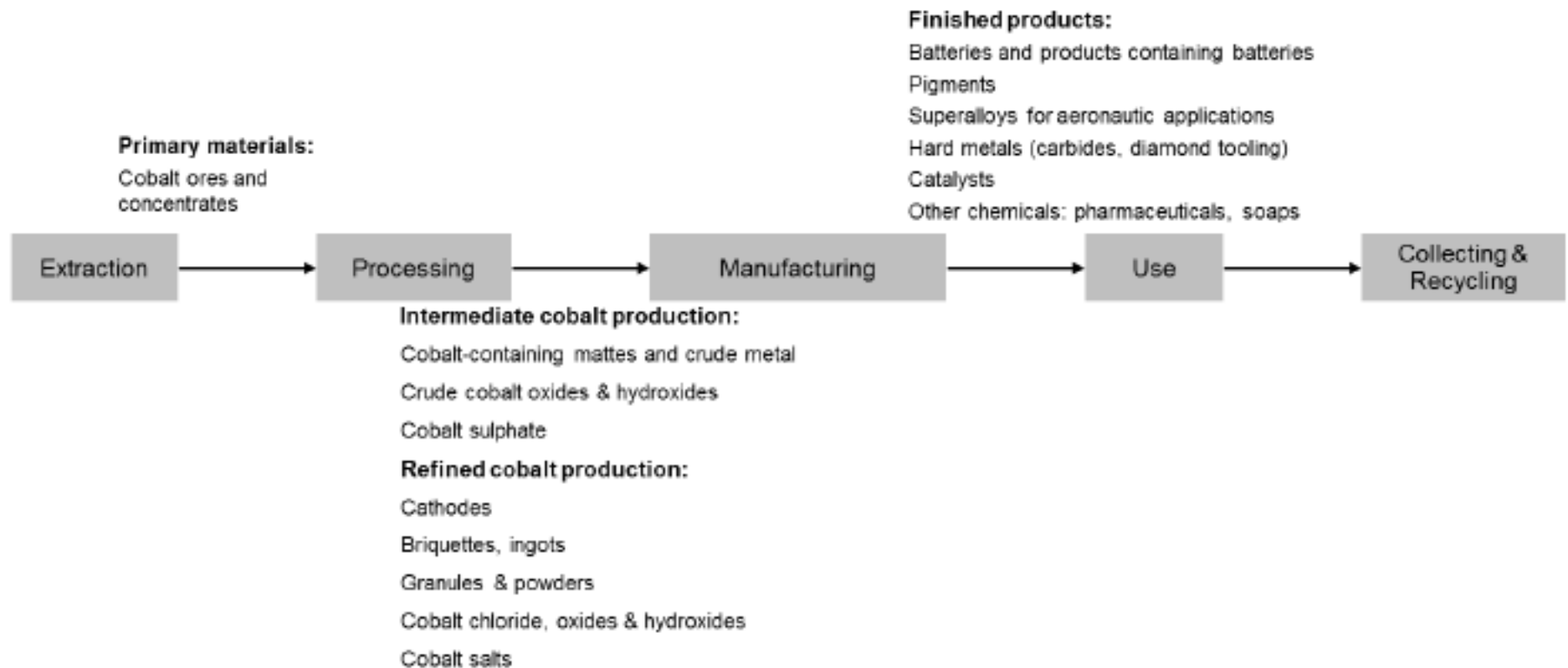


Cobalt

Cobalt is a transition metal not abundant in the Earth's crust. Cobalt is obtained from mineral ores, often as a by-product of nickel and copper, and it is usually concentrated at the extraction site before being traded. According to the Cobalt Development Institute (CDI), about 50% of cobalt production originates from nickel ores, 44% from copper ores and 6% from primary cobalt production. The main ores of cobalt are cobaltite, erythrite, glaucodot, and skutterudite. The concentrated ores of cobalt are refined through various processes into a variety of forms: intermediate cobalt production (e.g. cobalt-containing mattes and crude metal, cobalt hydroxide, crude cobalt oxide, cobalt sulphate); and refined cobalt production (e.g. cathodes, briquettes, ingots, granules, and powder) and cobalt chemicals (e.g. cobalt chloride, cobalt oxide, cobalt hydroxide, cobalt salts). The present analysis includes all cobalt substances used in the EU economy. Cobalt is used in chemical compounds in rechargeable batteries for electric vehicles, laptops, phones, medical devices, cordless tools, in pharmaceutical applications and biogas refining, among others. Metallurgical applications of cobalt are such as superalloys for aeronautic applications, wear/corrosion resistant alloys, prosthetics, medical, dental alloys, high speed steels, hard metals for metal tooling (e.g. diamond tools, drills and cutting tools, grinding tools, hot rolls, rotary cutters, can tooling, metal forming tools), and magnets. Cobalt is also used in catalysts for petroleum refining or polyester precursors. Specific cobalt substances are deliberately used for specific end-uses in order to provide very specific performance and end-user product characteristics. The figure below presents the value chain of cobalt and its main uses.



โซ่คุณค่าของ Cobalt