Table S2. Materials used for the production/construction of complex technical devices

Type of complex technically device	Source	Number of materials used, units	Metals				Non-metallic materials			
			Iron, steel, cast iron	Aluminum and its alloys	Copper and its alloys	Other metals	Poly-mers	Composites (fiberglass, carbon fiber)	Concrete, gravel	Other
Offshore wind turbine (Brazil, 2022)	**[20]**	5	+	+	+	-	-	+	+	-
Offshore wind turbine (USA, 2014)	**[21]**	6	+	+	+	-	-	+	-	-
Onshore wind turbine (USA, 2014)	**[22]**	7	+	+	+	-	-	+	+	-
Onshore wind turbine (USA, 2019)	**[23]**	12	+	+	+, brass	-	+	+	+	-
Onshore wind turbine (USA, 2022)	**[24]**	9	+	+	+	Neodymium, dysprosium	+	+	+	Epoxy resin
Wind power plant (Jordan, 2019)	**[25]**	15	+	+	+	Zinc	+	+	+	Durometers, ceramics, glass, magnet
Onshore wind turbine (Iran, 2018)	**[26]**	8	+	+	+	Zinc	+	+	+	Rubber
Onshore wind turbine (Germany, 2010)	**[13]**	13	+	+	+	-	+	+	+	Epoxy resin
Onshore wind turbine (France, 2003)	**[13]**	13	+	+	+	-	+	+	+	Epoxy resin
Onshore wind turbine (Denmark, 2004)	**[13]**	12	+	+	+	Zinc	+	+	+	Epoxy resin
Onshore wind turbine (World, 2014)	**[27]**	7	+	+	+	-	+	+	-	-
Onshore wind turbine (EU, 2020)	**[28]**	12	+	+	+	Chromium, cobalt, lead, manganese, molybdenum, rare earth metals	-	-	+	Bor
Electric motor for electric vehicle (Switzerland, 2015)	**[13]**	10	+	+	+, brass	Nickel	+	-	-	Polyester resin, nylon

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Electric vehicle (Canada, 2018)	**[29]**	11	+	+	+	Nickel, zinc, magnesium, lead	+	-	-	Rubber, glass, wood
Electric vehicle (EU, 2022)	**[30]**	11	+	+	+	Nickel, magnesium, lead, manganese, cobalt	+	-	-	Rubber, glass, wood
Hydrogen fuel cell power plant for a bus (Russian Federation, 2021)	**[31]**	8	+	+	+	-	+	-	-	Graphite, lithium pentatitanate (LTO)
Hydrogen fuel cell propulsion system for bus (Russian Federation, 2021)	**[31]**	9	+	+	+	-	+	-	-	Graphite, lithium pentatitanate (LTO), ethylene carbonate, dimethyl carbonate
Passenger plane (World, 2019)	**[13]**	5	+	+	-	Nickel, titanium	-	+	-	-
Passenger plane (Switzerland, 2015)	**[32]**	5	+	+	-	Titanium	-	+	-	+
Passenger plane (UK, 2013)	**[33]**	5	+	+	-	Titanium	-	+	-	+
Aircraft engine (USA, 2015)	**[34]**	5	+	+	-	Nickel, titanium	-	+	-	-
Marine engine (Peru,2018)	**[13]**	5	+	+	-	-	-	-	-	-
Bus (Germany, 2004)	**[13]**	13	+	+	+, brass	-	+	-	-	Resin, mineral wool, synthetic rubber
Gas turbine power plant (Brazil, 2003)	**[14]**	4	+	+	-	-	-	-	+	-
Gas turbine installation (EU, 2007)	**[13]**	5	+	-	+	-	+	-	+	-
Gas turbine installation (Norway, 2021)	**[13]**	8	+	+	+	-	+	-	-	-

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Micro gas turbine installation (EU, 2007)	**[13]**	7	+	+	+	Iron-nickel-chrome alloy	+	-	-	-
Combined cycle steam power plant (EU, 2007)	**[13]**	12	+	+	+	Nickel, cobalt, chromium	+	-	+	Mineral wool
Combined cycle steam power plant (China, 2023)	**[17]**	2	+	-	-	-	-	-	+	-
Combined cycle power plant (Italy, 2019)	**[18]**	15	+	+	+	Nickel, zinc, chromium, magnesium, uranium, zirconium	-	-	+	Calcite, barite, fluorite, kaolinite, wood
Thermal power plant (Russian Federation, 2021)	**[19]**	4	+	+	+	-	-	-	-	-