

Critical raw materials: supply-chain risk review

Product line: RX-4 small reconnaissance drone. Which parts stop if supply from a single country stops, when, and what to do about it.

SAMPLE REPORT · FICTIONAL COMPANY AND PRODUCT

Client: Sample Manufacturer s.r.o. (fictional)

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Data: OreOrbit, as of 26 October 2026

The company, product, parts, stock levels and suppliers in this report are invented to show the format. Figures about minerals, countries, EU imports, sites and deadlines are real public data from OreOrbit.

Summary for management

The RX-4 line depends on China for at least one stage of six of its seven critical parts. With today's stock, **a halt of Chinese exports would stop production in week 6**, when the motors run out. Three decisions within six months would push that to beyond week 26.

<div>2 high</div> <div>parts rated high risk: motors and battery pack</div>	<div>Week 6</div> <div>production stops in the stress test, with today's stock</div>	<div>94%</div> <div>of sintered magnets made in China, the tightest link</div>
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Key findings

- Motors are the single point of failure.** Their magnets come from China (94% of world sintered magnets), stock covers 6 weeks and no second source is qualified.
- The battery pack and the thermal lens follow.** Anode graphite (95% China) and germanium (China leads; no public world total) have alternatives identified but not qualified.
- The RF amplifier and cable insulation are covered** by qualified second sources, despite China's dominance in gallium and antimony.

Decisions we recommend

- Raise motor stock to 26 weeks now, and qualify a motor built with European magnets within 6 months.
- Qualify the second battery cell supplier for the whole RX-4 line, not one variant.
- Qualify a chalcogenide-glass lens as an alternative to germanium within 9 months.
- Write origin disclosure and 90-day change notice into supplier contracts, and monitor the deadlines on page 7.

Scope and method

This review covers one product line, the RX-4, and its seven parts that contain critical raw materials. It was built in two working sessions with the client's engineering and purchasing teams, then tested against OreOrbit's live data on world production, EU imports, sites and export-control deadlines.

How each part is rated

Each part scores 0 to 9 from three questions, each worth 0 to 3:

Question	0	1	2	3
How concentrated is world supply at the tightest stage?	under 50%	50-69%	70-89%	90% or more
How long does stock last?	over 26 weeks	14-26 weeks	9-13 weeks	8 weeks or less
Is there a second source?	qualified		identified, not qualified	none

7-9 is High , 4-6 Medium , 0-3 Low . The scores are deliberately simple, so that engineers, buyers and the board can check and discuss them.

Where no public world total exists, as for germanium, concentration is scored 2 and marked with an asterisk (*) as an estimate.

Where this fits in EU law

The EU Critical Raw Materials Act (Regulation (EU) 2024/1252) asks large companies that use strategic raw materials to make technologies such as drones, aircraft, satellites, rocket launchers and advanced chips to assess the risks in their raw-material supply chains regularly, act on significant vulnerabilities and, depending on national rules, report to their board (Article 24). Amendments under discussion in 2026 would extend the mapping to components that contain strategic raw materials.

This review supports that documentation. It is not legal advice; confirm your obligations with counsel.

The register

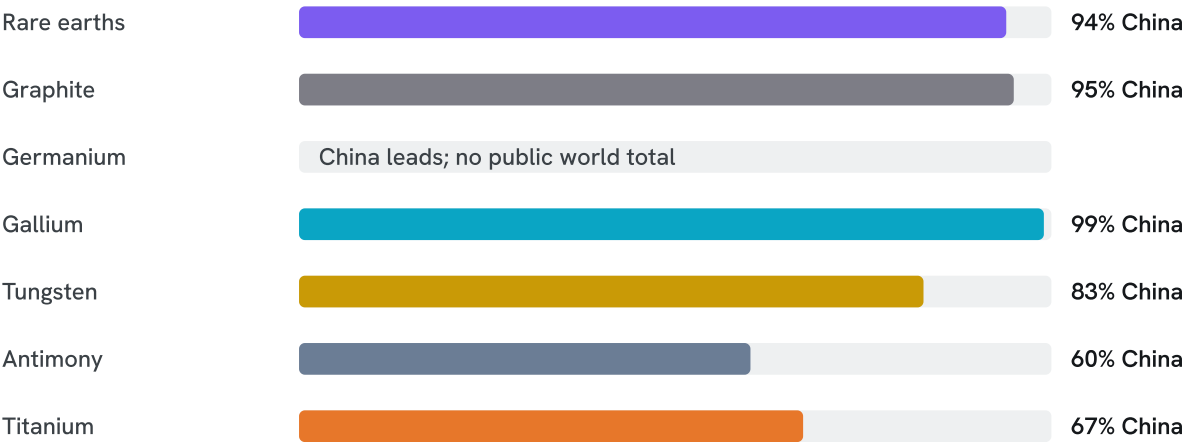
Every part with a critical raw material, where it comes from, how long stock lasts, whether a second source exists, and its score.

Part	Material	Origin chain	Stock	Second source	Score	Rating
Brushless motors, 4 per aircraft	Rare earths	Magnets from China, motors assembled in Taiwan	6 wk	None	3+3+3 = 9	High
Battery pack, Li-ion cells	Graphite	Cells from South Korea, anode graphite from China	8 wk	Identified, not qualified	3+3+2 = 8	High
Thermal camera lens	Germanium	Germanium from China, lens ground in Germany	10 wk	Identified, not qualified	2*+2+2 = 6	Medium
RF data link amplifier (GaN)	Gallium	Gallium from China, module from the United States	12 wk	Qualified	3+2+0 = 5	Medium
Gimbal counterweights, tungsten alloy	Tungsten	Tungsten from China, machined in Czechia	20 wk	Identified, not qualified	2+1+2 = 5	Medium
Cable insulation, flame retardant	Antimony	Antimony trioxide from China, cable from Poland	8 wk	Qualified	1+3+0 = 4	Medium
Airframe fasteners, titanium	Titanium	Titanium sponge from several countries, fasteners from Italy	16 wk	Qualified	1+1+0 = 2	Low

Score = concentration + stock + second source; * marks an estimate. Stock in weeks of planned production. Origin chains as reported by the client's suppliers in the working sessions.

Where the exposure sits

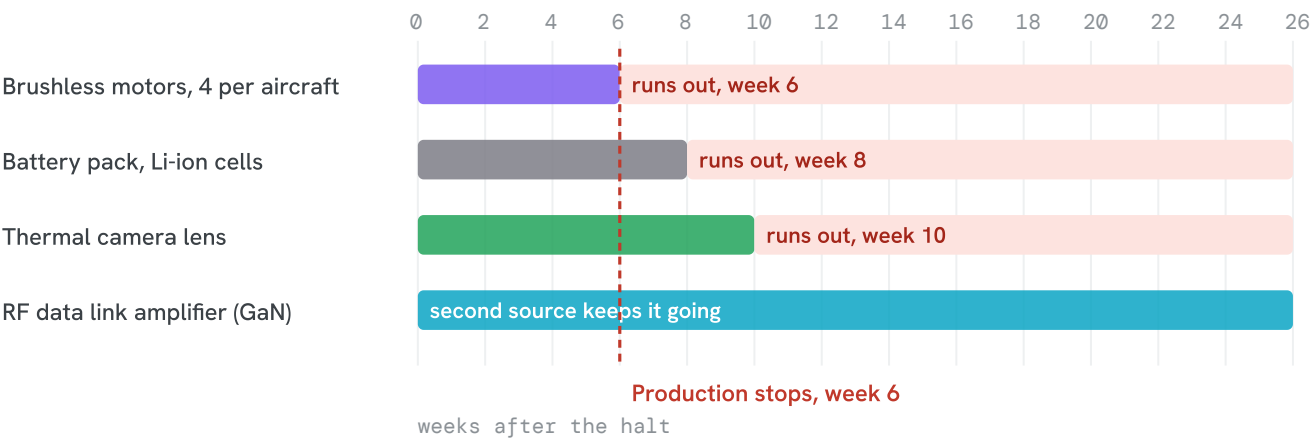
Share of world output held by the leading country at the tightest stage of each material in the register.



Sources: USGS Mineral Commodity Summaries, IEA Global Critical Minerals Outlook, via OreOrbit.

Stress test: a 26-week halt of exports from China

Scenario: China stops licensing exports of rare-earth magnets, graphite, germanium and gallium to Europe for 26 weeks. It is modelled on the licensing measures of 2023 to 2025, when European manufacturers reported delays and shortages of rare-earth magnets.



Result with today's stock: the motors run out in week 6 and production stops. The battery pack would follow in week 8 and the thermal lens in week 10. The RF amplifier keeps going thanks to its qualified second source.

Result with the recommended decisions: 26 weeks of motor stock and a qualified second battery supplier move the first stop to week 10, the thermal lens. Qualifying an alternative lens removes it. The line then gets through the full 26 weeks.

What Europe imports today

Material	Product (Eurostat)	China's share	Month
<div></div> Rare earths	Permanent magnets of metal	90%	August 2026
<div></div> Graphite	Artificial graphite	69%	August 2026
<div></div> Germanium	Unwrought germanium	59%	August 2026
<div></div> Gallium	Unwrought gallium	7%	August 2026
<div></div> Tungsten	Unwrought tungsten	44%	August 2026
<div></div> Antimony	Unwrought antimony	0%	August 2026

China's share of the value of EU imports from outside the EU. Source: Eurostat Comext, via OreOrbit. Single months can swing widely.

Options and recommendations

Action	Effect	Effort	Owner	By
Raise motor stock from 6 to 26 weeks	First stop moves from week 6 to week 8	Working capital for about 20 weeks of motors	Purchasing	Now
Qualify a motor with European magnets	Removes the single point of failure	Test campaign, 2-4 months	Engineering	6 months
Qualify the second cell supplier for all variants	Battery pack drops to Medium	Qualification tests	Engineering	6 months
Qualify a chalcogenide-glass lens	Thermal lens drops to Low	Optical and environmental tests	Engineering	9 months
Origin disclosure and 90-day change notice in contracts	Early warning of changes in the chain	Contract update	Legal, purchasing	Next renewals

European sources on the atlas

Production in Europe that could shorten the chain, tracked on OreOrbit with satellite pictures and activity signals.

For	Site	Location	Status
Rare-earth magnets	Narva magnet plant	Ida-Viru County, Estonia	Operating
Germanium	Umicore Olen	Antwerp province, Belgium	Operating
Gallium	Metlen gallium project	Agios Nikolaos, Boeotia, Greece	Q3 2027
Graphite	Vittangi	Norrbotten, Sweden	late 2027 at the earliest
Tungsten	Mittersill	Salzburg, Austria	Operating

Status and expected start dates as published by the operators; planned projects can slip.

What to watch

Dates in the next months that could change this assessment, from OreOrbit's deadline tracker.

Date	Event	Source
10 Nov 2026	China's pause on its October 2025 export controls is due to end	Pillsbury / RAWMATERIALS.net
27 Nov 2026	China's suspended ban on gallium, germanium and antimony exports to the US is due to resume	Pillsbury
1 Jan 2027	US defence sourcing rule for tungsten and magnets tightens	Crowell & Moring
10 Jan 2027	China's extended trade arrangements with the US run out	RAWMATERIALS.net

Triggers for a re-assessment

1. Any new export licensing or ban on a material in the register.
2. Stock of a High-rated part falling below 8 weeks.
3. A supplier changing the origin of a material.
4. A planned European source slipping by more than six months.

About this review. Prepared by David Madali, Bohemia Defense, Prague, with OreOrbit, a free live atlas of the critical raw materials behind Europe's defence. A review of one product line takes two to three weeks. Contact: david@madali.cz · bohemiadefense.com/atlas · madali.cz

Sample report. The company, product, parts, suppliers and stock levels are fictional. Mineral, trade, site and deadline figures are real public data as of 26 October 2026. Not investment or legal advice.