



ASX: AZI

# GEOHERMAL LITHIUM PROJECT

ALTAMIN LIMITED ACN: 078 510 988

Lazio Project Update | October 2023

---

# Cautionary Statement

This presentation contains summary information about Altamin Limited (Altamin or the Company).

**Summary of information:** This presentation contains general and background information about the Company's activities current as at the date of the presentation, and (i) does not purport to be complete; and (ii) should not be considered to be comprehensive or to comprise all the information that an investor should consider when making an investment decision. The information is provided in summary form, has not been independently verified, and should not be considered to be comprehensive or complete. The Company is not responsible for providing updated information and assumes no responsibility to do so.

**Disclaimer:** The Company and its related bodies corporate and each of their respective directors, agents, officers, employees and advisers expressly disclaim, to the maximum extent permitted by law, all liabilities (however caused, including negligence) in respect of, make no representations regarding, and take no responsibility for, any part of this presentation and make no representation or warranty as to the currency, accuracy, reliability or completeness of any information, statements, opinions, conclusions or representations contained in this presentation. In particular, this presentation does not constitute, and shall not be relied upon as, a promise, representation, warranty or guarantee as to the past, present or the future performance of the Company.

**Forward looking statements:** This presentation may contain certain forward-looking statements and opinions including projections, forecasts and estimates (together forward-looking statements) which may not have been based solely on historical facts, but rather may be based on the Company's current expectations about future events and results. Where the Company expresses or implies an expectation or belief as to future events or results, such expectation or belief is expressed in good faith and believed to have a reasonable basis. However, forward looking statements are subject to risks, uncertainties, contingencies, assumptions and other factors, many of which are outside the control of the Company all which could cause actual results to differ materially from future results expressed, projected or implied by such forward-looking statements. Forward looking statements are inherently uncertain and may therefore differ materially from results ultimately achieved. Altamin does not make any representations and provides no warranties concerning the accuracy of any forward-looking statements or likelihood of achievement or reasonableness of any forward-looking statements.

# Altamin – EU Critical Minerals Portfolio

Diversified brownfield projects in key commodities



	Zinc (30)	Cobalt (27)	Nickel (28)	Copper (29)	Manganese (25)	Lithium (3)	Graphite (6)
<b>CRM*</b>	(USA) ✓	✓	✓	✓	✓	✓	✓
<b>SRM**</b>	—	(Battery grade) ✓	(Battery grade) ✓	✓	(Battery grade) ✓	(Battery grade) ✓	(Battery grade) ✓
<b>Altamin</b>	✓	✓	✓	✓	✓	✓	✓

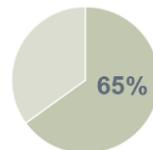
## \*Critical Raw Materials (CRM)

Essential to EU economy, face serious risk of supply disruption

## \*\*Strategic Raw Materials (SRM)

Key for specific sectors, that may face global market imbalance

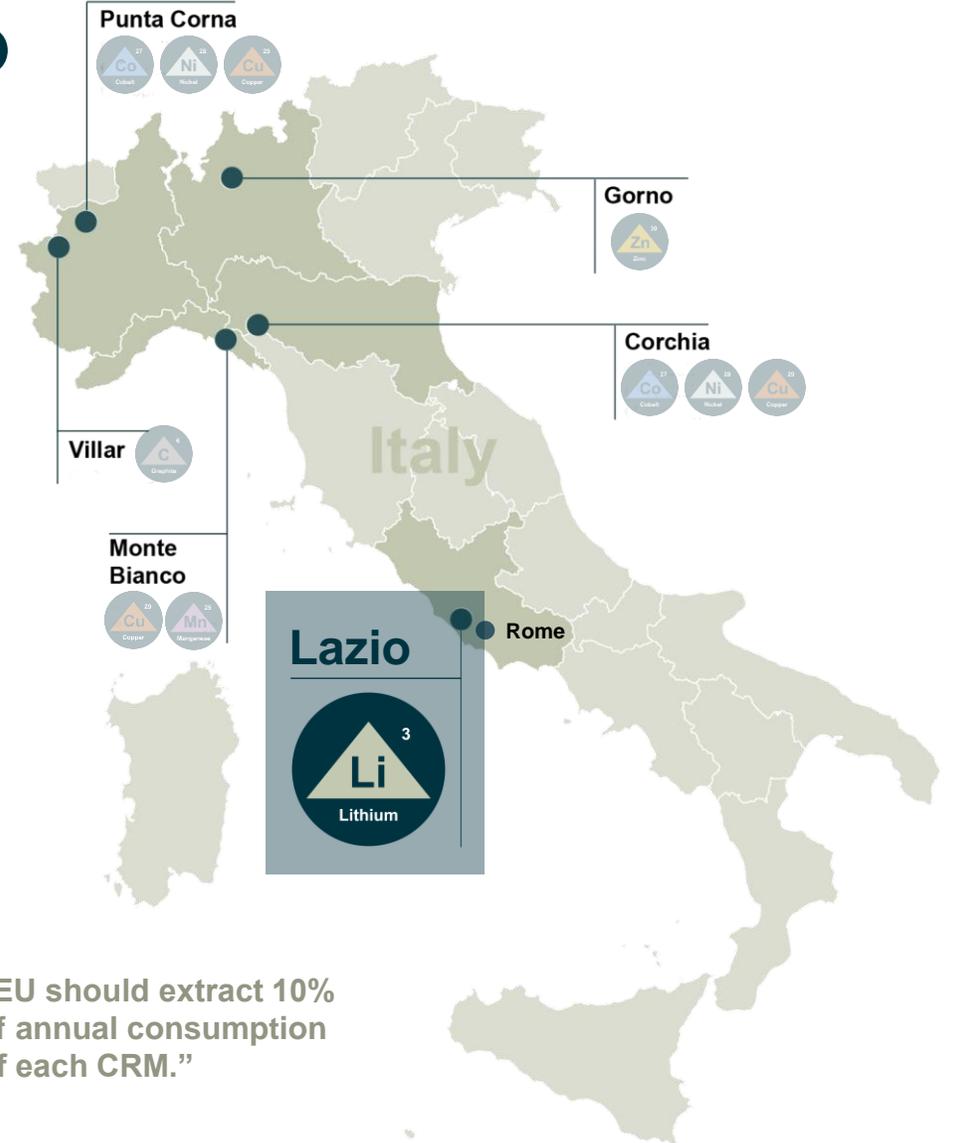
EU Critical Raw Materials Act targets by 2030



“EU must not be dependant for >65% of each SRM.”



“EU should extract 10% of annual consumption of each CRM.”



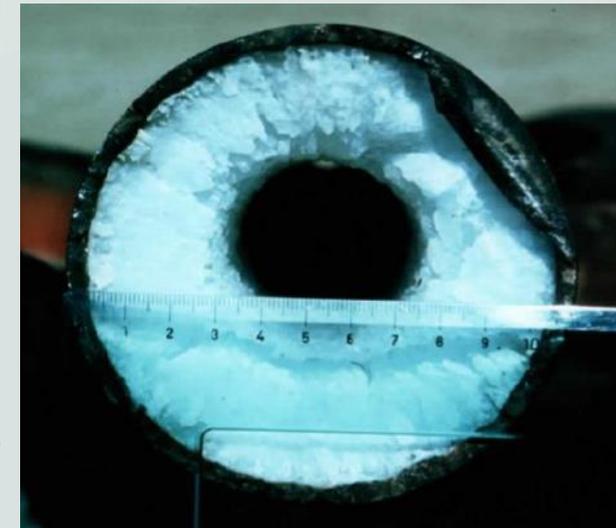
# Lazio Geothermal Lithium Project

- ENEL has operated geothermal power plants nearby in Tuscany since 1904
- Well understood “Caldera” geological setting with underlying deep reservoir
- Geologically de-risked due to ENEL’s extensive 1970s exploration
- Invested value: geophysics, 16x deep wells data and pilot plant trials
- Geothermal fluid reservoir defined by drilling: 150-200°C at 1500m depth
- Reservoir assessment in 2023 by STEAM (ex. ENEL project engineers)
- 2361 ha ELs granted & 8725 ha ELs under application (enviro. granted)
- Dominant land position containing historical wells (adjacent to Vulcan)
- Simple brine chemistry: Li precipitation demonstrated by BRGM\* in 1990

*\*Source: Lithium Recovery from Geothermal Waters of Cesano (Italy) and Cronembourg (Alsace, France). Helene Pauwels Brach Christian Fouillac, IMRG BRGM.*

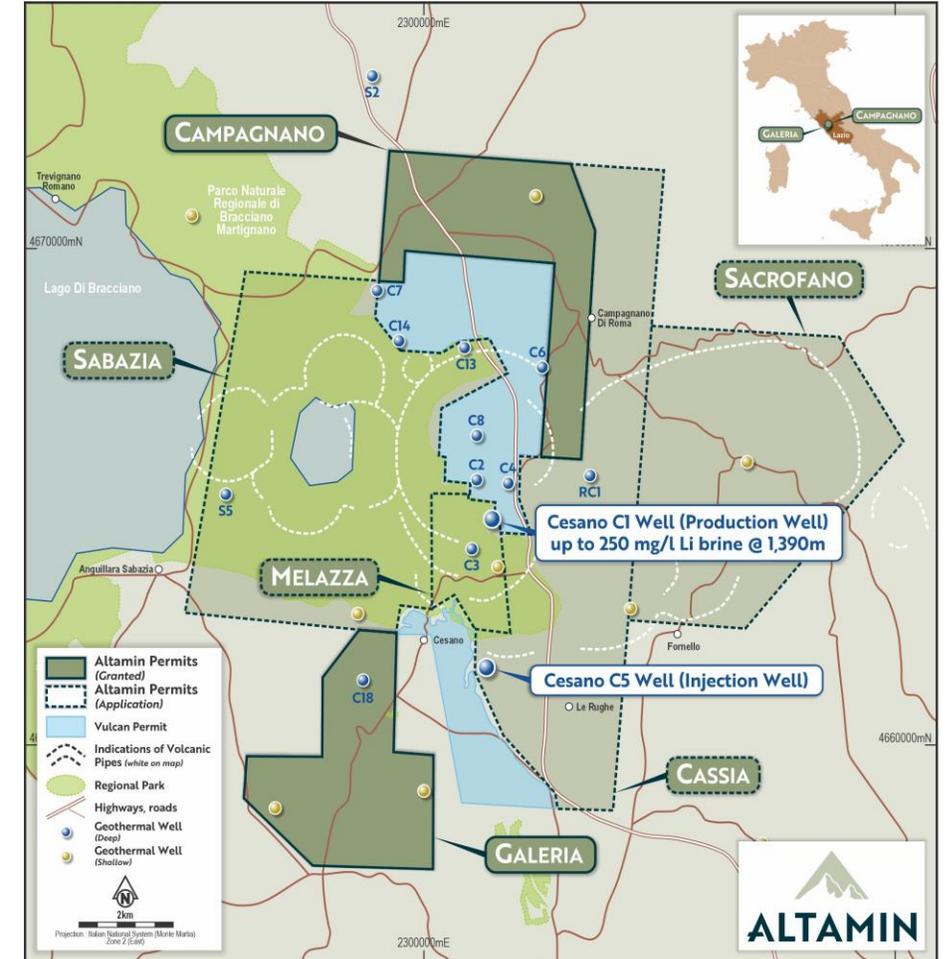


*Top: Geothermal pilot plant production test C1 well (1981-82) [Source: STEAM 2023]  
Bottom: Some of the C1 pipe work showing natural precipitation of minerals (scale) from brine [Source: STEAM June 2023]*



# Project Update

- Independent Italian geothermal consultant STEAM Srl (STEAM) confirms the potential for both power production and lithium extraction for Altamin's two initial licence areas in the Lazio Region near Rome.
- Altamin's four new Exploration Licence (EL) applications will increase the project area by over 500%, extending cover over reservoirs considered highly prospective for geothermal energy and lithium from brines.
- The new EL application areas contain historical test wells drilled by ENEL in the 1970s, including the important extraction and injection wells Cesano 1 (C1) and Cesano 5 (C5) respectively.
- STEAM has now been commissioned to prepare a reservoir assessment over the full extent of Altamin's increased area of interest.
- Watercycle Technologies Ltd (Watercycle) is now doing testwork on synthetic brines using their proprietary direct lithium extraction and crystallisation (DLEC™) process.



# Positive STEAM Reservoir Assessment

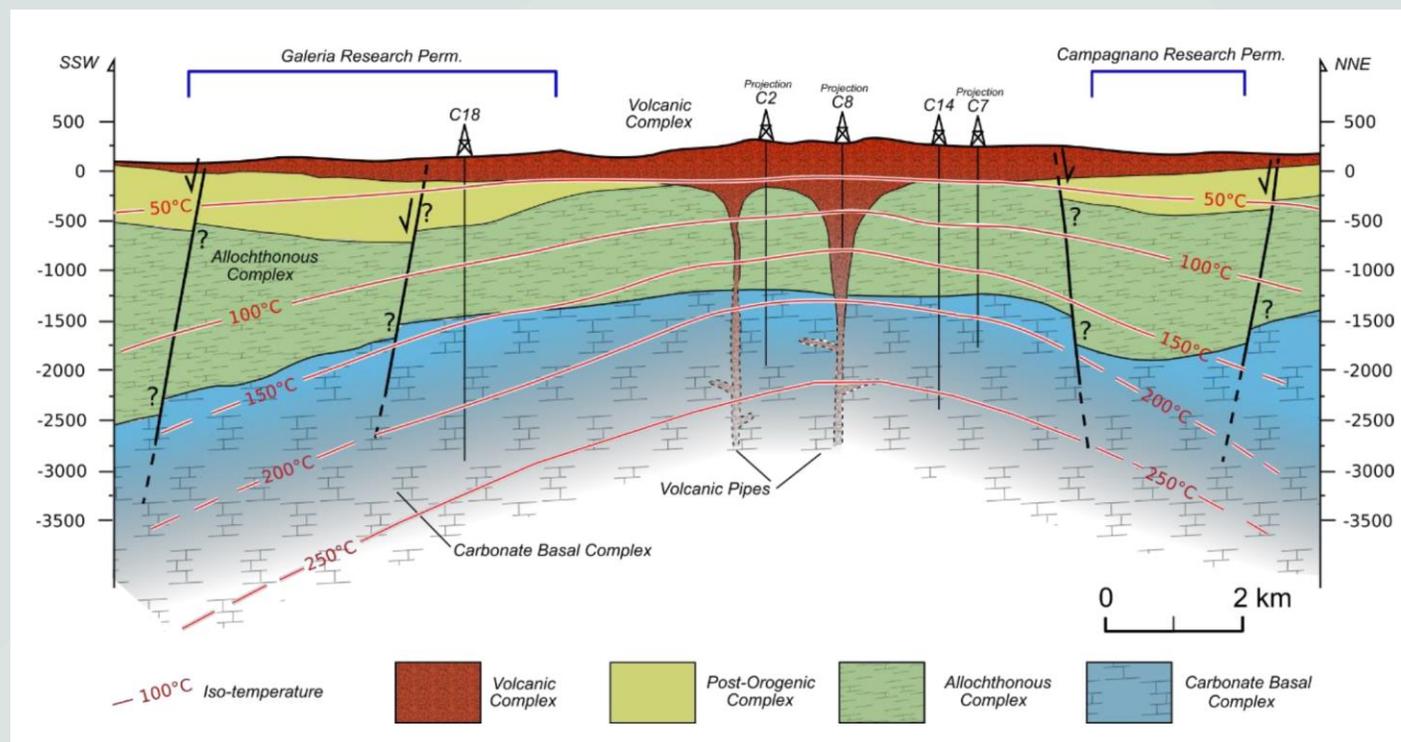
## Continuous Geothermal Reservoir with Anomalous Lithium Values

...Cesano 1 well returned Li values in the brine up to 250 mg/L



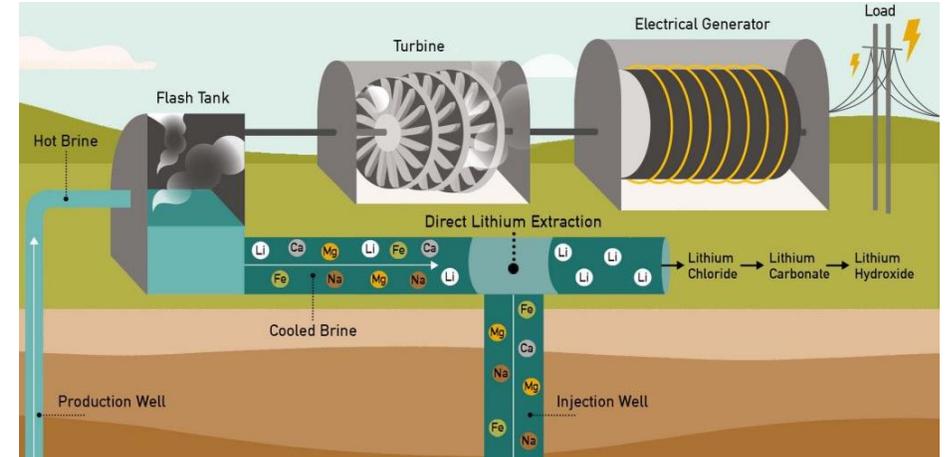
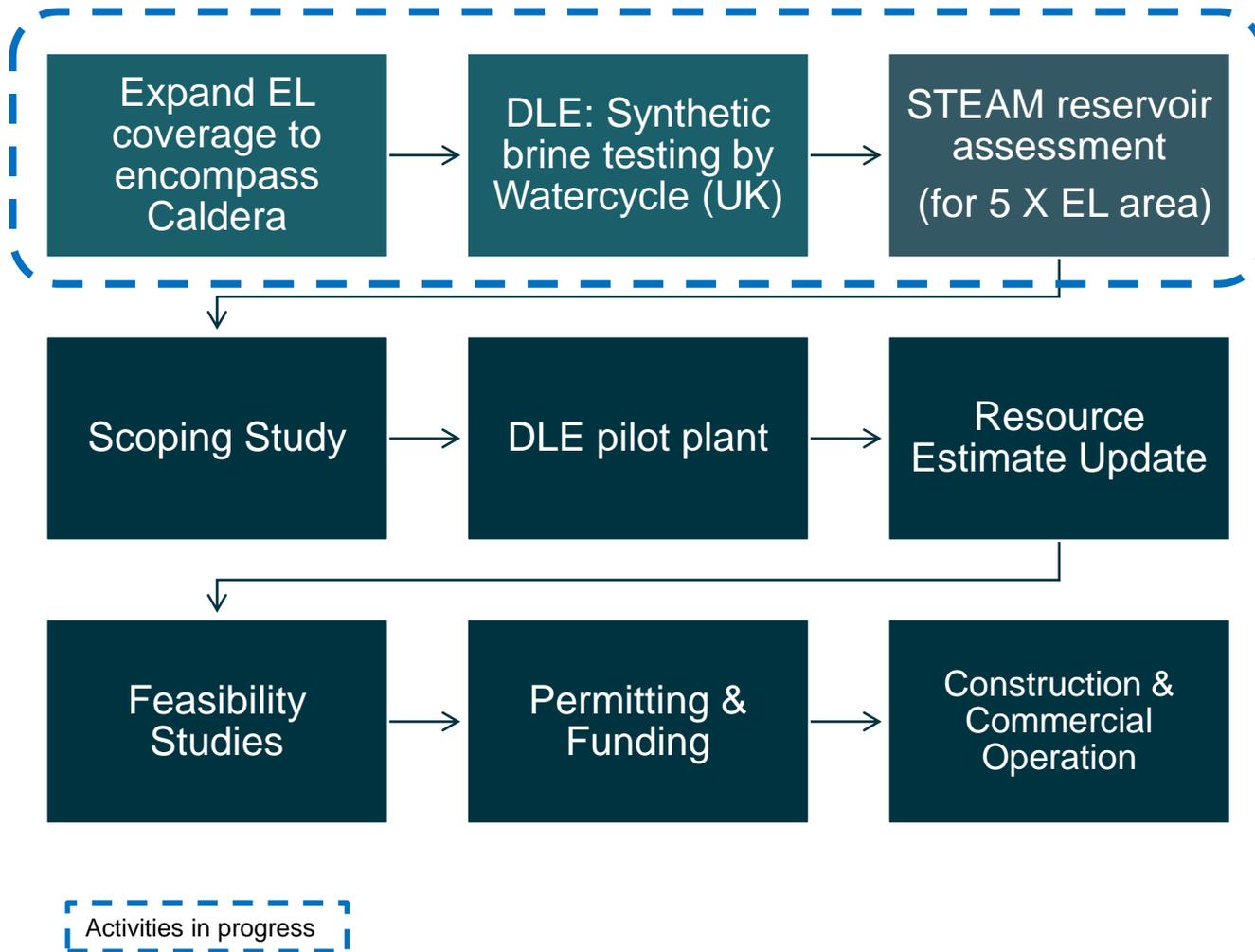
Well	Temp.	Li	Na	K	Rb	Mg	Cl	SO4	B
	T°C	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
C-1	212	196	49,386	76,823	384	54.1	21,165	156,625	1,121
C-1	212	163	54,800	78,340	285	6.9	22,100	151,600	1,084
C-1	212	158	53,800	79,400	296	6.4	22,100	147,400	1,075
C-1	212	165	51,000	64,000	280	27.1	20,000	140,000	-
C-1	212	196	47,921	69,132	-	11	21,997	151,030	1,187
C-1	212	173	47,136	62,848	314	23.6	21,604	146,121	1,030
C-1	212	141	44,779	60,491	275	11.8	21,211	141,407	961
C-5	141	75	20,544	14,754	108	5.6	24,774	22,832	1,839
C-7	221	96	19,200	11,000	45	-	21,000	7,800	1,661
C-7	221	-	13,500	12,000	95	-	20,980	7,796	1,661

Table: Concentrations of dissolved elements in the Cesano reservoir brines [Source: STEAM 2023]



Interpreted N-S cross section of the geological model showing the deep reservoir (Carbonate Basal Complex) and volcanic pipes [Source: STEAM 2023]

# Project Pathway



Pico Alto Geothermal Plant, Azores. Courtesy of Exergy International Srl

# Li-Brine Projects (DLE) Peer Group Comparison<sup>1</sup>

Company	Anson Resources	Standard Lithium <sup>3</sup>	Controlled Thermal <sup>4</sup>	E3 Lithium	Lake Resources <sup>5</sup>	Galan Lithium <sup>6</sup>	Argentina Lithium <sup>7</sup>	Vulcan Energy <sup>8</sup>
<b>Market Cap<sup>2</sup></b>	AUD178m	CAD641m	N/A – Private	CAD270m	AUD249m	AUD234m	CAD52m	AUD481m
<b>Project</b>	Paradox Lithium	LANXESS	Hells Kitchen	Clearwater	Kachi	HMW	Rincon West	Zero Carbon Lithium
<b>Location</b>	USA	USA	USA	Canada	Argentina	Argentina	Argentina	Germany (EU)
<b>Study or Stage</b>	DFS/Feed	Demonstration	Pre-Construction	Pilot	Offsite Pilot	DFS/Pilot	Exploration	Demonstration
<b>Total Resource (Mt LCE)</b>	1	4.3	N/A – Private	16	8.1	6.6	N/A	27.7
<b>Target Prod'n (ktpa)</b>	13	5.4	65	20	25	21	N/A	24
<b>NPV<sub>8</sub> (pre-tax)</b>		CAD0.8Bn	N/A Private	USD1.1Bn	USD1.05Bn	USD3.1Bn	N/A	EUR2.6Bn
<b>Partners &amp; Offtakers</b>		LANXESS/Koch Minerals & Trading	Stellantis	Imperial – Exxon Pure Lithium	Ford/Hanwa		Stellantis	Stellantis/Umicore /LG Energy Solution/VW/ Renault Group

Note: Refer to Appendix for sources.

# Governmental, Municipal and EU Support

## Lazio Regional Council Motion (6 September 2023)

Regional Government Resolution No. 177/2019, the extractive sector represents "a sector of great importance for the regional economy – both economically and environmentally – and requires extraordinary modernization efforts."

The President of the Region, Hon. Francesco Rocca, and the Regional Council are instructed to prepare all the necessary documents to update the Regional Plan for Economic Activities and its related environmental impact

## Minister of Enterprise and Made in Italy, Adolfo Urso (13 July 2023)

In the Critical Raw Materials Act, which seeks to boost the EU's in-house production and de-risk from monopolistic suppliers (namely, China), the European Commission identified 34 critical raw materials. As Minister Urso underscored, 16 can be found in Italian underground mines "that were closed 30 years ago" and that the country must now re-open and invest in to "re-activate their potential."



*Geraint Harris & Minister Urso*

# Summary



EU has mandated local sourcing of Critical Minerals as part of EU CRMA.

Potential to obtain regulatory & future funding support.



Altamin operating in Italy since 2015.

Italian Government highly supportive.

Geothermal is a well-established renewable energy source.



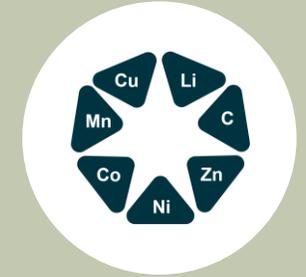
De-risked Project due to extensive drilling, analysis & pilot plant testing.

Demonstrated brine extraction & re-injection.



Satisfies EU criteria for locally produced Lithium & renewable energy.

Near-term value catalysts based on STEAM/DLE work & EL approvals.



Altamin is incubating multiple Critical Minerals Projects.

Lazio Geothermal Lithium Project is rapidly becoming market ready.

## **Altamin Limited**

Level 3, Suite 3.5  
9 Bowman Street  
South Perth, WA 6151  
Australia

T: +61 (0)8 9321 5000

E: [info@altamin.com.au](mailto:info@altamin.com.au)



[www.altamin.com.au](http://www.altamin.com.au)

ACN: 078 510 988



# Appendix – Peer Table References

Reference	Source
1	Information sourced from company websites including: <a href="https://wcsecure.weblink.com.au/pdf/ASN/02715024.pdf">https://wcsecure.weblink.com.au/pdf/ASN/02715024.pdf</a> , <a href="https://www.e3lithium.ca/_resources/presentations/corporate-presentation.pdf?v=0.343">https://www.e3lithium.ca/_resources/presentations/corporate-presentation.pdf?v=0.343</a>
2	All data as at 3 October 2023.
3	<a href="https://www.standardlithium.com/investors/news-events/press-releases/detail/150/standard-lithium-announces-positive-results-of-definitive">https://www.standardlithium.com/investors/news-events/press-releases/detail/150/standard-lithium-announces-positive-results-of-definitive</a>
4	<a href="https://www.cthermal.com/latest-news/stellantis-invests-in-ctr-to-strengthen-low-emissions-us-lithium-production">https://www.cthermal.com/latest-news/stellantis-invests-in-ctr-to-strengthen-low-emissions-us-lithium-production</a>
5	<a href="https://lakeresources.com.au/wp-content/uploads/2023/09/lke_presentation_20-sep-23.pdf">https://lakeresources.com.au/wp-content/uploads/2023/09/lke_presentation_20-sep-23.pdf</a>
6	<a href="https://wcsecure.weblink.com.au/pdf/GLN/02720109.pdf">https://wcsecure.weblink.com.au/pdf/GLN/02720109.pdf</a>
7	<a href="https://argentinialithium.com/news/argentina-lithium-announces-us-90-million-investment-by-stellantis-in-ars-equivalent/">https://argentinialithium.com/news/argentina-lithium-announces-us-90-million-investment-by-stellantis-in-ars-equivalent/</a>
8	<a href="https://www.investi.com.au/api/announcements/vul/b3559a91-add.pdf">https://www.investi.com.au/api/announcements/vul/b3559a91-add.pdf</a> and <a href="https://v-er.eu/announcements/">https://v-er.eu/announcements/</a>