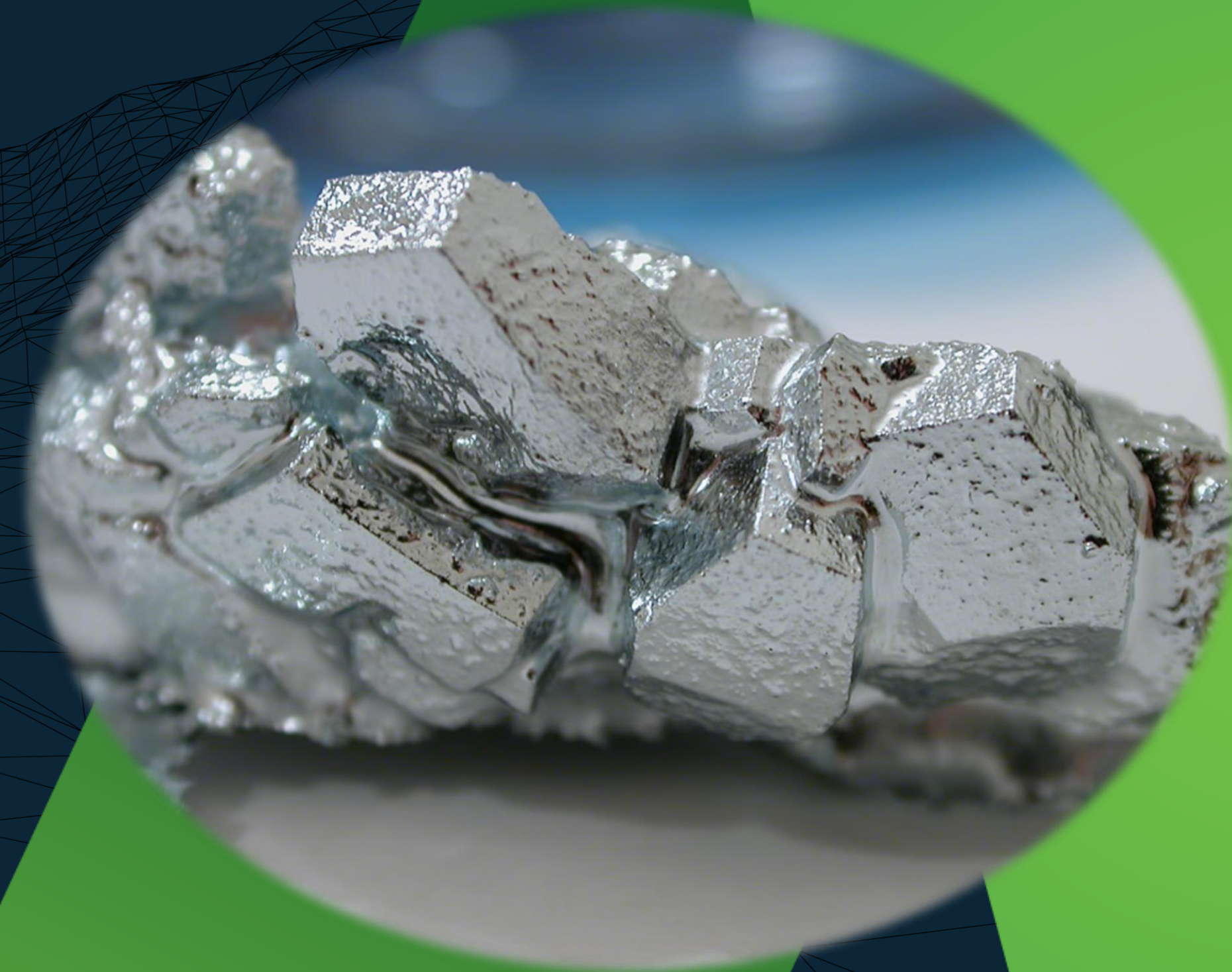


January 2025 | ASX:NIM

# Gallium

In Demand and  
Critical for Evolving Technologies





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The information in this announcement that relates to Exploration Results and other technical information complies with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code) and has been compiled and assessed under the supervision of Fergus Jockel, a full-time employee of Fergus Jockel Geological Services Pty Ltd. Mr. Jockel is a Member of the Australasian Institute of Mining and Metallurgy (1987) Limited and has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC Code. Fergus consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

## MONETARY VALUES

Unless otherwise stated, all dollar values are in Australian Dollars (A\$). The information in this presentation remains subject to change without notice.



## Nimy an early mover – pathway to production

- ✓ Nimy drilling has returned the highest-grade gallium intervals in Australia – (our research to date has shown no comparative grade and intervals located across the world).
- ✓ Multiple intervals of >100ppm gallium, including 72m at 117ppm  $\text{Ga}_2\text{O}_3$  intersected in Nimy drilling.
- ✓ Total gallium market predicted to increase from **USD2.45 billion in 2024 to USD 21.53 billion** by 2034. *(\*Source: researchandmarkets.com - Gallium Global Market Report 2024 – January 2024)*
- ✓ Nimy aiming to be a key supplier into the rapidly expanding gallium market.
- ✓ Exploration target estimate as per JORC guidelines (2012), due January 2025.
- ✓ Discussions with 3<sup>rd</sup> parties to identify and secure demand chain pathways to market.

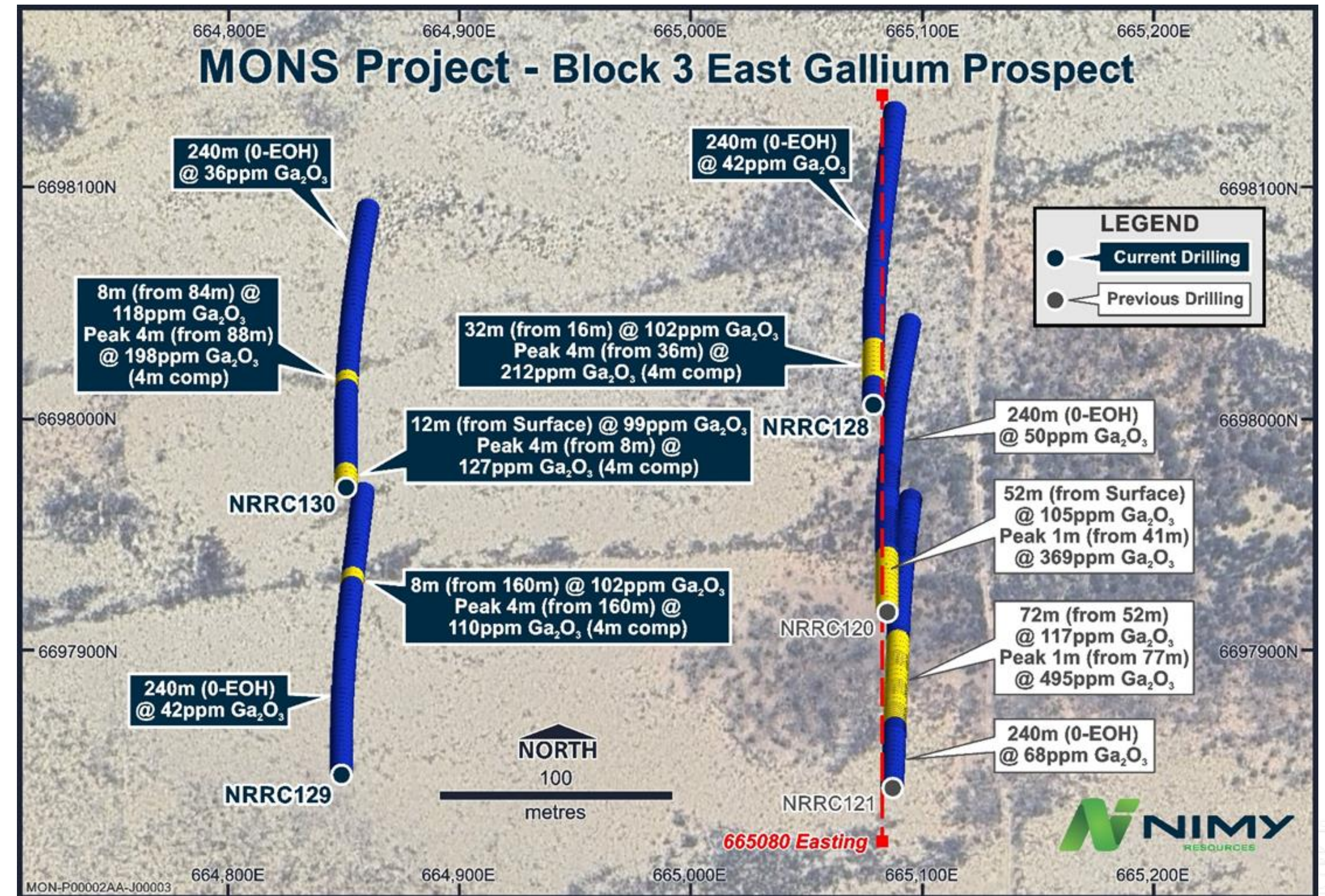




# NIMY Resources — Our Gallium discovery

## Block 3 East - Drill Results 2024

- RC hole NRRC0120 returned highly anomalous gallium with 240 metres (0-240m eoh) @ 50ppm  $\text{Ga}_2\text{O}_3$  including 52m @ 105ppm  $\text{Ga}_2\text{O}_3$ , peak value 1m @ 369ppm  $\text{Ga}_2\text{O}_3$ .
- RC hole NRRC0121 returned highly anomalous gallium with 240 metres (0-240m eoh) @ 68ppm  $\text{Ga}_2\text{O}_3$  including 72m @ 117ppm  $\text{Ga}_2\text{O}_3$ , peak value 1m @ 495ppm  $\text{Ga}_2\text{O}_3$ .
- Hole 24NRRC0128 returned 32m @ 102ppm  $\text{Ga}_2\text{O}_3$  from 16-48m, peak value 4m @ 212ppm  $\text{Ga}_2\text{O}_3$  (4m composite) from 32m.
- Hole 24NRRC0129 returned 8m @ 102ppm  $\text{Ga}_2\text{O}_3$  from 160m, peak value 4m @ 110ppm  $\text{Ga}_2\text{O}_3$  (4m composite) from 160m.
- Hole 24NRRC0130 returned 12m @ 99ppm  $\text{Ga}_2\text{O}_3$  from surface, peak value 4m @ 127ppm  $\text{Ga}_2\text{O}_3$  (4m composite) from 8m, and 8m @ 118ppm  $\text{Ga}_2\text{O}_3$  from 84m peak value 4m @ 198ppm  $\text{Ga}_2\text{O}_3$  (4m composite) from 88m.



Schematic view of latest drill holes at Block 3 East gallium prospect

Refer announcements NIM:ASX

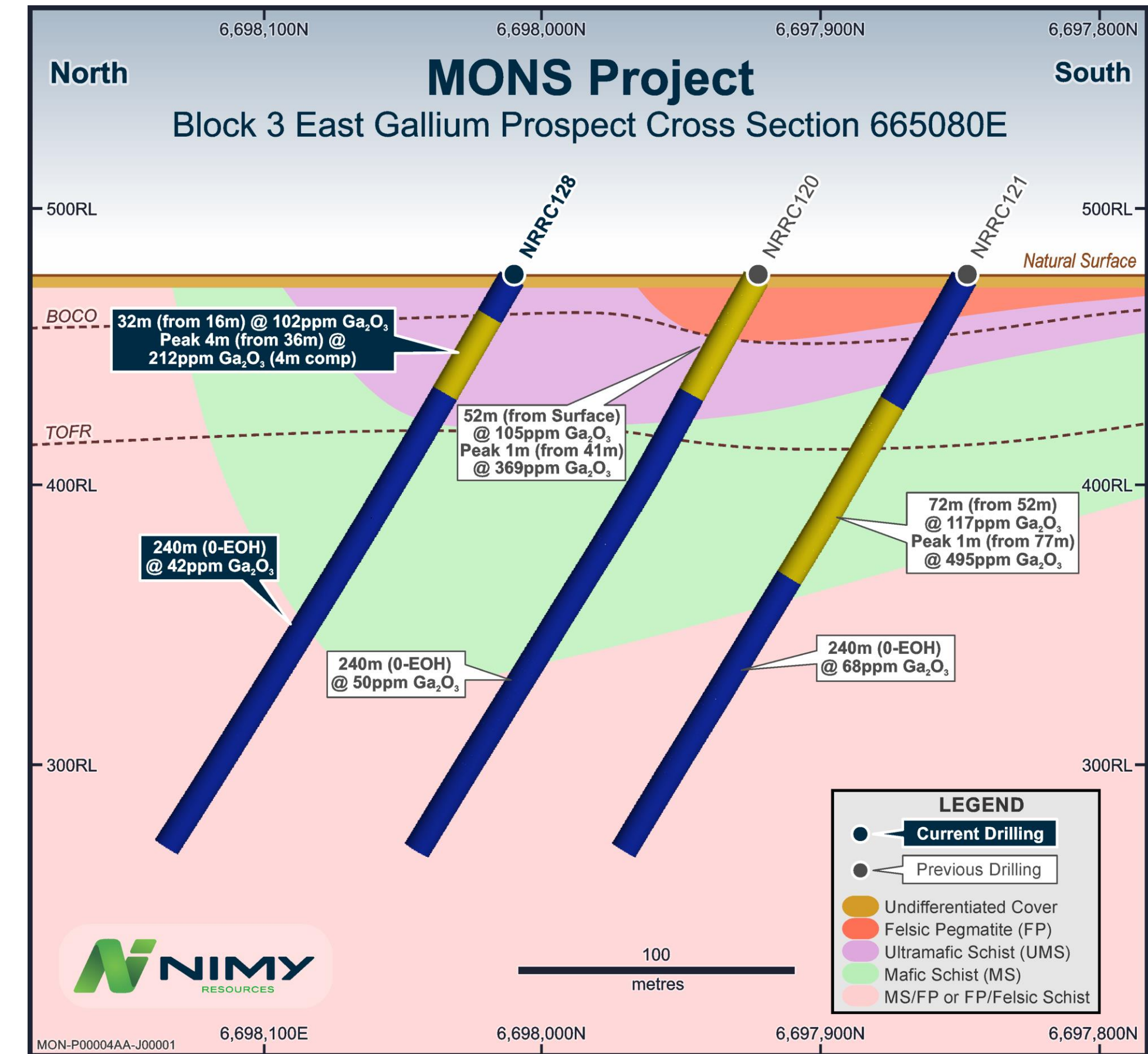
Gallium soil anomaly extends high grade potential - 27/11/2024

High Grade Gallium extended at Block 3 - 9/10/2024



# NIMY Resources — Building scale and grade

- ✓ Substantial intervals of high-grade gallium discovered within the Nimy drill holes at Block 3.
- ✓ Large area of anomalous gallium in soil returned from 350 samples program with a mean of 22.38ppm, and a highest value of 35.5ppm.
- ✓ Approximately 3km x 1.5km target area delineated.
- ✓ First JORC exploration target study underway report due late January 2025.
- ✓ Offtake discussions underway with 3<sup>rd</sup> parties to establish market demand chain linkage.



Schematic cross section view of Block 3 East Gallium Prospect looking east

Refer announcements NIM:ASX

Gallium soil anomaly extends high grade potential - 27/11/2024

High Grade Gallium extended at Block 3 - 9/10/2024

Copper Rare Earths and Gallium at Block 3 - 18/04/2024

# Gallium — Rapidly growing demand

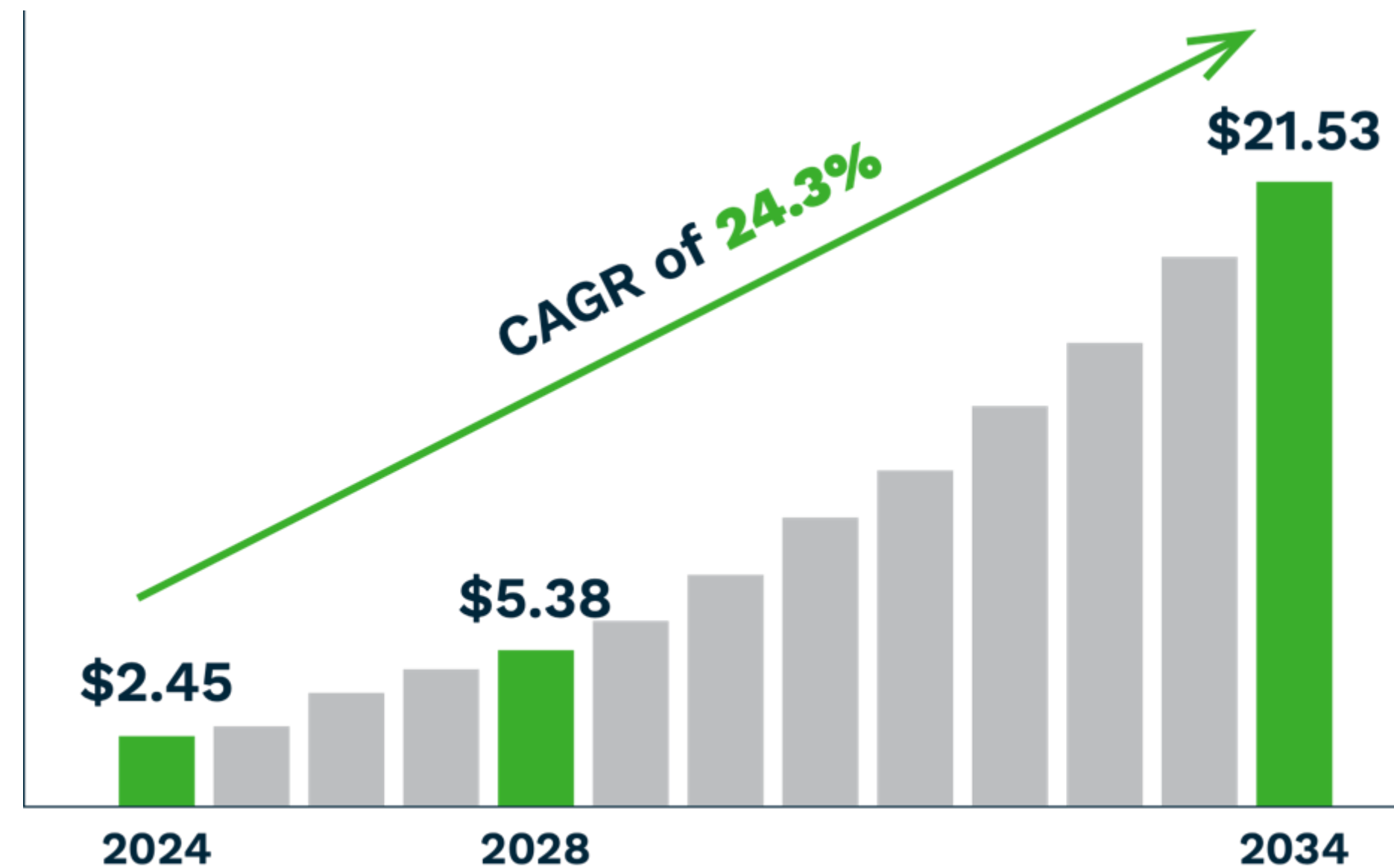
## A critical metal

- Gallium is currently listed on the critical metals list in Australia, USA, EU, India, Japan, Republic of Korea and UK.

## Limited availability

- With the recent Chinese (98% of world supply) ban on Gallium export to the US, availability to one of the largest end users is limited, if not closed, as demonstrated in recent pricing spikes and scarcity of supply.

## Global Gallium market size projection (in USD Billion)



\*Source: researchandmarkets.com

Gallium Global Market Report 2024 – January 2024

## 2025 and beyond demand

- Increased demand for new generation semi-conductors used in AI, supercomputers, data centres.
- Multiple defence force applications.
- Used in production of blue and violet light-emitting diodes and diode lasers.
- Extensive use in automotive and optoelectronic sectors.
- Healthcare uses gallium in medications, gallium nitrate for instance in treating hypercalcemia.
- Increased demand via the rising application in electronic products.
- Used in photovoltaic cells in the generation of solar electricity.



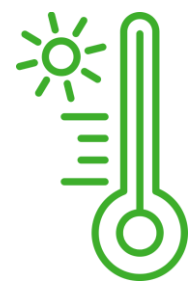
# Gallium — Why it is essential for evolving technologies

## Uses & Applications

Gallium's properties make it indispensable in modern technology:

- Semiconductors
- 5G Technology
- Power Charging
- Green Technologies
- Telecommunications
- Medical Uses
- Radar Systems
- Military Applications

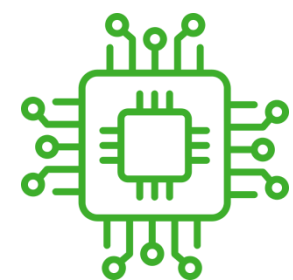
## Unique Characteristics



Low melting point: (29.76°C) and ability to remain in liquid state near room temperature makes it ideal for specialised applications in electronics and semiconductors.

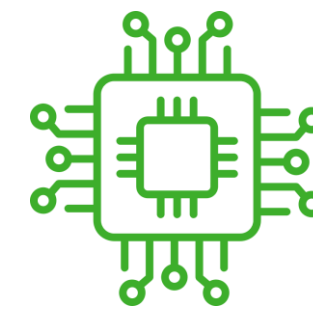


Non-Toxic and Biocompatible: non-toxic, allowing use in medical applications, including radio pharmaceuticals for imaging and targeted cancer therapies.



Wide Bandgap Semiconductor: when combined with other materials, can produce wide bandgap semiconductors chips, can handle higher temperatures, voltages, and frequencies than conventional silicon chips. These smaller, faster, and more efficient chips are essential for advanced electronics and applications in the transition to green energy.

## Current demand



Semiconductors: 40-45% of global gallium demand is driven by the semiconductor industry, particularly for the production of gallium arsenide (GaAs) and gallium nitride (GaN) semiconductors used in smartphones, LED lights, and solar panels.



Telecommunications: 20-25% of demand comes from telecommunications, where GaN transistors are essential in 5G base station hardware and satellite communications, requiring high efficiency and thermal stability.



Power Devices and Consumer Electronics: 15-20% of demand is attributed to gallium's use in power devices and consumer electronics, such as chargers for smartphones, laptops, and electric vehicles, where GaN's efficiency and power density are critical.



Green Technologies: 10-15% of demand is associated with gallium's use in green technologies, including high-efficiency solar cells and electric vehicles, contributing to renewable energy solutions.



Radar and Aerospace Technologies: The remaining 5-10% of demand is driven by aerospace applications, where GaN-based radar systems and other electronics rely on gallium's high-performance characteristics.

# Gallium — Global supply and market factors

## Primary sources





- Gallium is largely a by-product of processing bauxite, the main feed stock for aluminum. Approximately 95% of the world's gallium supply comes from aluminum refining.
- The remaining 5% is recovered from sources such as zinc ore processing, coal fly ash, and recycling.

## Strategic importance and Outlook

- Holding an essential role in an expanding number of technologies including semiconductors, 5G technology and military applications.
- Listed critical metal in Australia, USA, EU, UK, India, Republic of Korea and Japan.
- A restriction of supply, already enacted has increased the strategic importance of a reliable source.

## Gallium production and refining

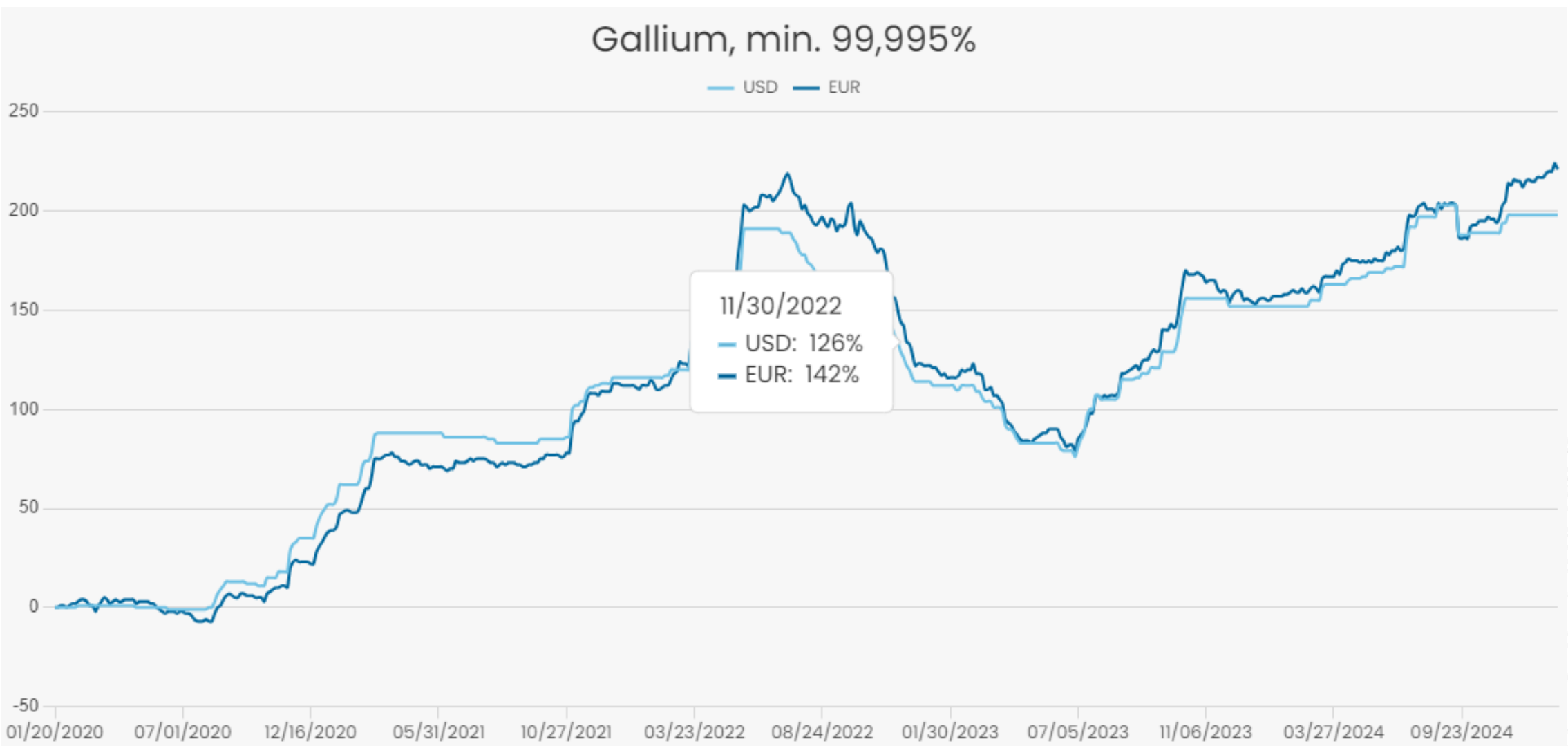
- Existing production and refining is overwhelmingly from China.

	Russia	5,000 kg (1%)
	Japan	3,000 kg (0.5%)
	Korea	2,000 kg (0.5%)
	China	600,000 kg (98%)

*China Imposes Its Most Stringent Critical Minerals Export Restrictions Yet Amidst Escalating U.S.-China Tech War*

“Market faces uncertainty due to supply constraints from China's export controls, underscoring the metal's strategic importance in the global economy. The ongoing need to diversify supply chains and increase domestic production or recycling efforts will be critical in mitigating the risks associated with gallium's concentrated production.”

Source: csis.org December 4, 2024



Gallium Historical Price Movement 5-year chart

Source: Strategic Metals Invest



# Momentum building – Gallium in the media

## Infineon target share of GaN chip market after breakthrough.

As reported by Reuters Sept 11, 2024

*Sept 11 (Reuters) – German semiconductor maker Infineon [IFXGn.DE](#) said on Wednesday that it would take a large slice of the growing market for gallium nitride (GaN) chips, after announcing a technological breakthrough that it said would bring down costs.*

*The market for this technology will reach a volume of several billion dollars by the end of the decade, Infineon CEO Jochen Hanebeck told reporters.*

*"We want to shape the market," he added.*

*GaN is an alternative to silicon in chip manufacture, with GaN chips favoured for their efficiency, speed, light weight and ability to function under hot conditions and high voltages.*

*The chips allow for smaller chargers to be made for devices such as laptops, smartphones and electric cars.*

*"We expect that market prices for GaN chips will approach silicon prices in the coming years", Hanebeck told reporters.*

*Infineon has been able to produce GaN chips on 300 milimetre wafers, in a development hailed by the company as a world first.*

*Hanebeck said 2.3 times more GaN chips can fit on a 300mm wafer than on a 200mm wafer, bringing down the cost of production.*

*“To maximize its efficiency, Nvidia had to optimize the performance of the thermal interface between the GPU and the radiator, and this is where a liquid metal thermal interface comes into play.*

*Liquid metal TIMs are typically made of gallium alloys (such as gallium-indium-tin) with exceptional thermal conductivity.” [tomshardware.com](#) Jan 8, 2025*

PC Components > GPUs

## Nvidia's Blackwell flagship GPU uses liquid metal instead of thermal paste to reign in the 575W TGP

News By Anton Shilov published January 8, 2025

Also, the board has a double flow-through cooling system design.

[f](#) [x](#) [v](#) [p](#) [r](#) [m](#) [c](#) Comments (6)

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(Image credit: Nvidia)

Apart from performance improvements, one of the major peculiarities of the [GeForce RTX 5090 Founders Edition](#), which rivals the [best graphics cards](#), is its considerable thinness compared to its predecessor. The company had to reinvent its printed circuit board (PCB) and cooling system to achieve this. One of the notable features of the new cooler is that it uses a liquid metal thermal interface material (TIM), a rather unconventional interface for a Founders Edition graphics card.

Nvidia's GeForce RTX 5090 Founders Edition has the same length and height as its predecessor — 304 mm x 137 mm — but it is just two slots wide. To make this possible, Nvidia implemented a three-piece PCB and a double flow-through cooling system design that is more efficient than the single flow-through cooler on the [GeForce RTX 4090 Founders Edition](#). To maximize its efficiency, Nvidia had to optimize the performance of the thermal interface between the GPU and the radiator, and this is where a liquid metal thermal interface comes into play.

## NDVIA CEO Jensen Huang

January 6, 2025

“AI will be mainstream in every application for every industry. With Project DIGITS, the Grace Blackwell Superchip comes to millions of developers,” said Jensen Huang, founder and CEO of NVIDIA. “Placing an AI supercomputer on the desks of every data scientist, AI researcher and student empowers them to engage and shape the age of AI.”

## AMVEST Capital Terraden

Critical Minerals Essentials

January 10th

“The fact that gallium was a byproduct of aluminum production should not distract from the fact that China’s dominance was pre-planned. The 14th five-year plan explicitly identified gallium nitride and silicon carbide – as key areas in the race to secure leadership in the semiconductor race. Both compounds show certain advantages over silicon. China’s civilian-military complex appears to have banked on gallium replacing silicon over the longer term in high-end applications. Chinese scientists claim that their GaN-based radars can detect stealth aircraft and cruise missiles.”



# NIMY Resources — Board, Management and Technical Team



Neil Warburton

NON-EXECUTIVE  
CHAIRMAN



Luke Hampson

MANAGING DIRECTOR



Christian Price

TECHNICAL DIRECTOR



Henko Vos

JOINT COMPANY  
SECRETARY / CFO



Geraldine Holland

JOINT COMPANY  
SECRETARY



Fergus Jockel

EXPLORATION MANAGER



Dr John Simmonds

TECHNICAL ADVISOR -  
GEOLOGY



Cameron Thompson

SENIOR GEOPHYSICIST  
GEOPHYSICS —  
RESOURCE POTENTIALS



# NIMY Resources — Momentum building

## CLOSING HIGHLIGHTS:

- *First Mover in the Tier 1 mining jurisdiction of Western Australia.*
- *Reliable, proven board and technical team.*
- *According to our research, Nimy has recorded the highest-grade intervals in Australia.*
- *Exploration target estimate as per JORC guidelines, 2021 underway, due January 2025*
- *Expanded soil anomalies 3km x 1.5 km delineated.*
- *Rapidly increasing demand for gallium*
- *No stand-alone high grade mining supply*
- *Offtake discussions underway with 3<sup>rd</sup> parties to establish market demand chain linkage.*





# Thank you

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