



## Presentation to the World Materials Forum

Selected Slides

June 13, 2019





The information contained in this Presentation (the “Presentation”) is being provided solely for information relating to MP Mine Operations LLC (“MP Materials”) and/or Secure Natural Resources LLC (“SNR”). This Presentation is not intended to constitute an offer or commitment in relation to any such opportunity.

This Presentation does not purport to contain all of the information that may be required to evaluate all of the factors that would be relevant to a recipient considering an investment opportunity, and any recipient hereof should conduct its own investigation and analysis. Moreover, the information contained in this Presentation is subject to change without notice. This Presentation does not constitute investment, legal, tax or other advice, and does not take into consideration the investment objectives, financial situation or particular needs of any particular investor.

None of MP Materials, SNR, or any of their respective affiliates, members, directors, officers or representatives makes any representation or warranty, express or implied, as to the accuracy or completeness of the information contained in this Presentation or any other written or oral communication transmitted or made available to any recipient. MP Materials, SNR, and their respective affiliates, members, directors, officers and representatives expressly disclaim any and all liability based, in whole or in part, on such information, errors therein or omissions therefrom.

In addition, this Presentation includes certain projections and forward-looking statements provided by MP Materials and/or SNR with respect to future events and the anticipated future performance of MP Materials and/or SNR. Such projections and forward-looking statements reflect various assumptions, which may or may not prove to be correct. The actual results may vary from the anticipated results and such variations may be material. No representation or warranty is made as to the accuracy or reasonableness of such assumptions or the projections or forward-looking statements based thereon.

PRODUCTION BEGINS AT  
MOUNTAIN PASS

1952

MP MATERIALS ACQUIRES  
MOUNTAIN PASS MINE

Q3 2017

TOTAL CAPITAL  
INVESTED

\$1.7bn+

RECOVERABLE TREO

~730 KMT

AVERAGE FEED GRADE

~8%

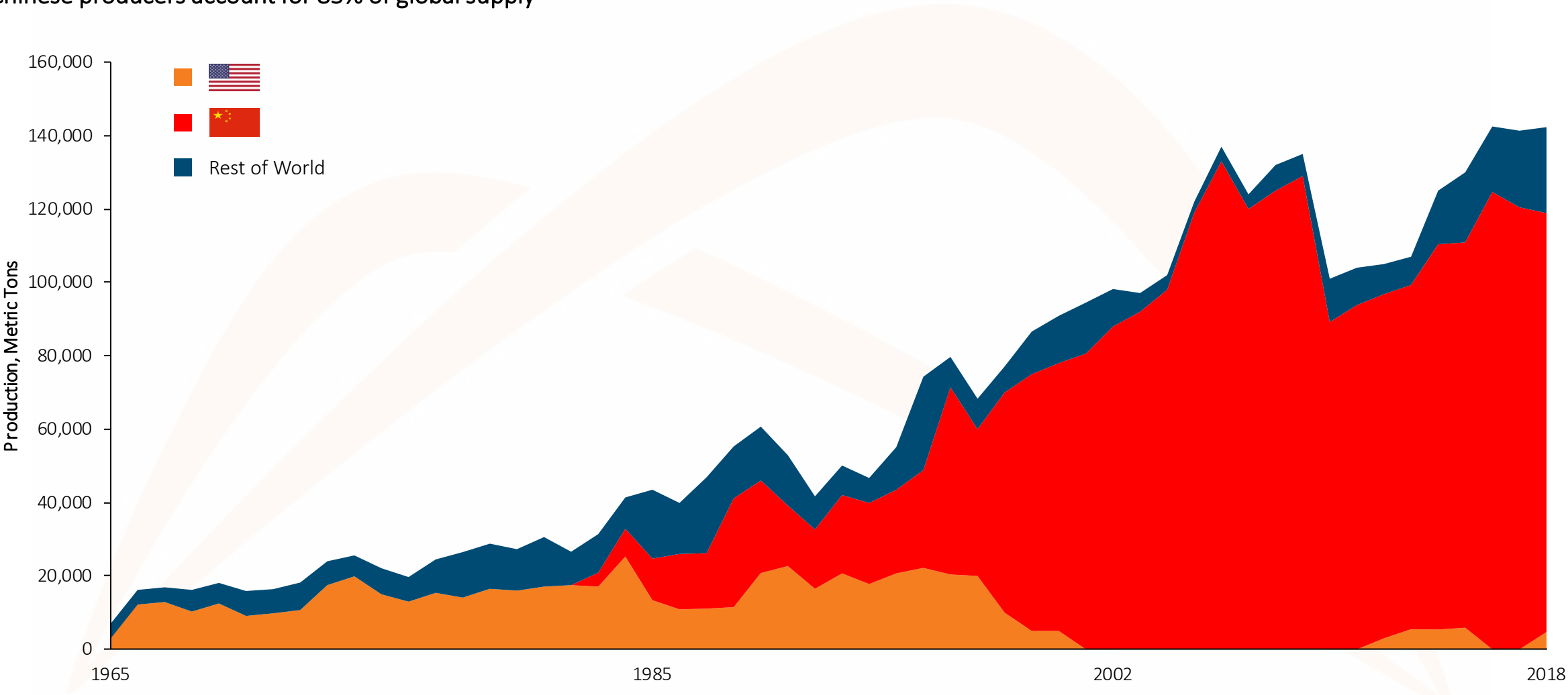
NUMBER OF EMPLOYEES

174



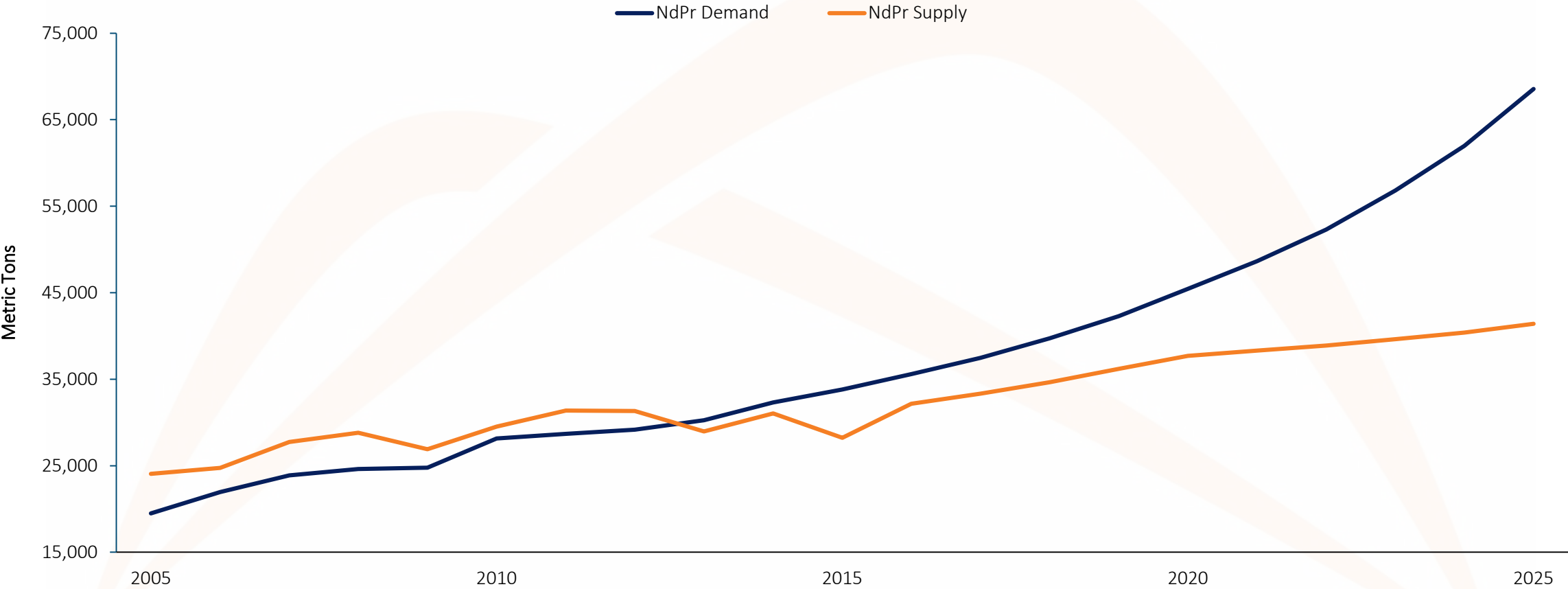
# China has Become the Dominant Producer of Rare Earths to the World

Chinese producers account for 85% of global supply



Source: 2017 Rare Earths U.S. Geological Survey, Roskill Rare Earths: Global Industry, Markets and Outlook, 2018

# Limited Sources of New NdPr Supply are Set to Meet Parabolic Demand Growth

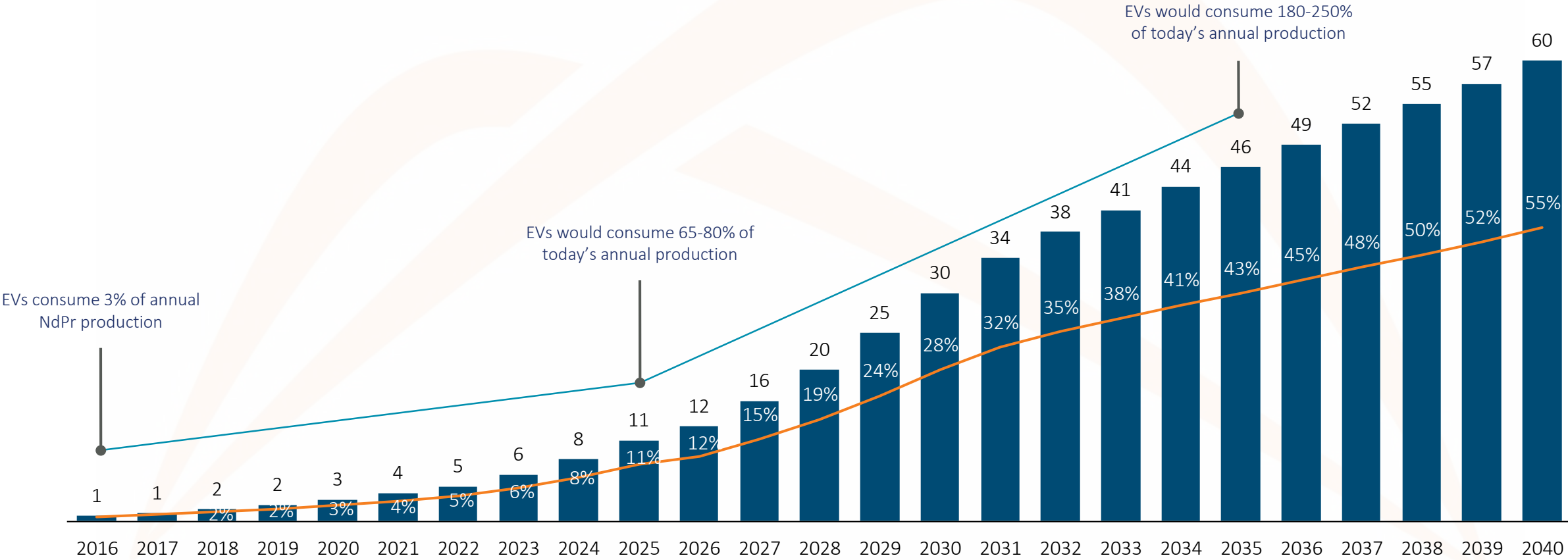


Source: Adamas Intelligence Rare Earth Market Outlook, 2016-2025; adjusted Adamas Intelligence Base Case growth forecast (excluding impl. new mines, incl. illegal production)

# Electric Vehicles Are a Significant Catalyst of NdPr Demand

Projected growth in electric vehicles would consume 65-80% of current annual NdPr production by 2025

Global Electric Vehicle Unit Sales (in millions) / % of Global Total Vehicle Unit Sales



Source: Bloomberg 2018 Electric Vehicle Outlook, Roskill 2019

The Department of Defense (“DoD”) supports U.S. rare earth production growth due in part to China’s production dominance of materials that the U.S. government has deemed strategically significant for national defense

- The National Defense and Authorization Act of 2019 requires that NdPr magnets (and the relevant supply chain) be sourced from Allied Nations
- The Act identifies that rare earth elements and permanent magnets are critical to the defense and industrial security of the United States
- The DoD recommends diversifying away from complete dependency on sources of supply in politically unstable countries that may cut off U.S. access
  - Potential strategies may include expanded use of the National Defense Stockpile program or qualification of new suppliers
- NdPr magnets are used in key advanced military technologies, including drones, satellites and rail guns
  - Many of these programs are in their initial launch phases with high growth potential over time

# A Rich Rare Earth History

Molybdenum Corporation of America (“Molycorp”) begins production at Mountain Pass after purchasing the recently discovered Sulphide Queen carbonatite and Birthday claims

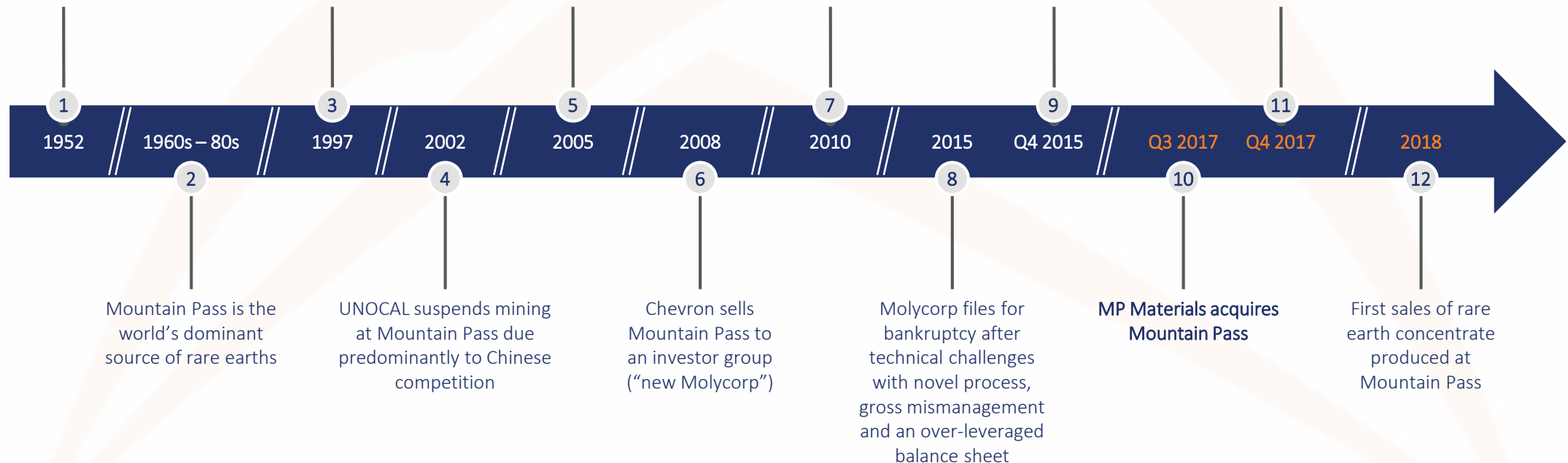
UNOCAL acquires Molycorp

Chevron acquires UNOCAL

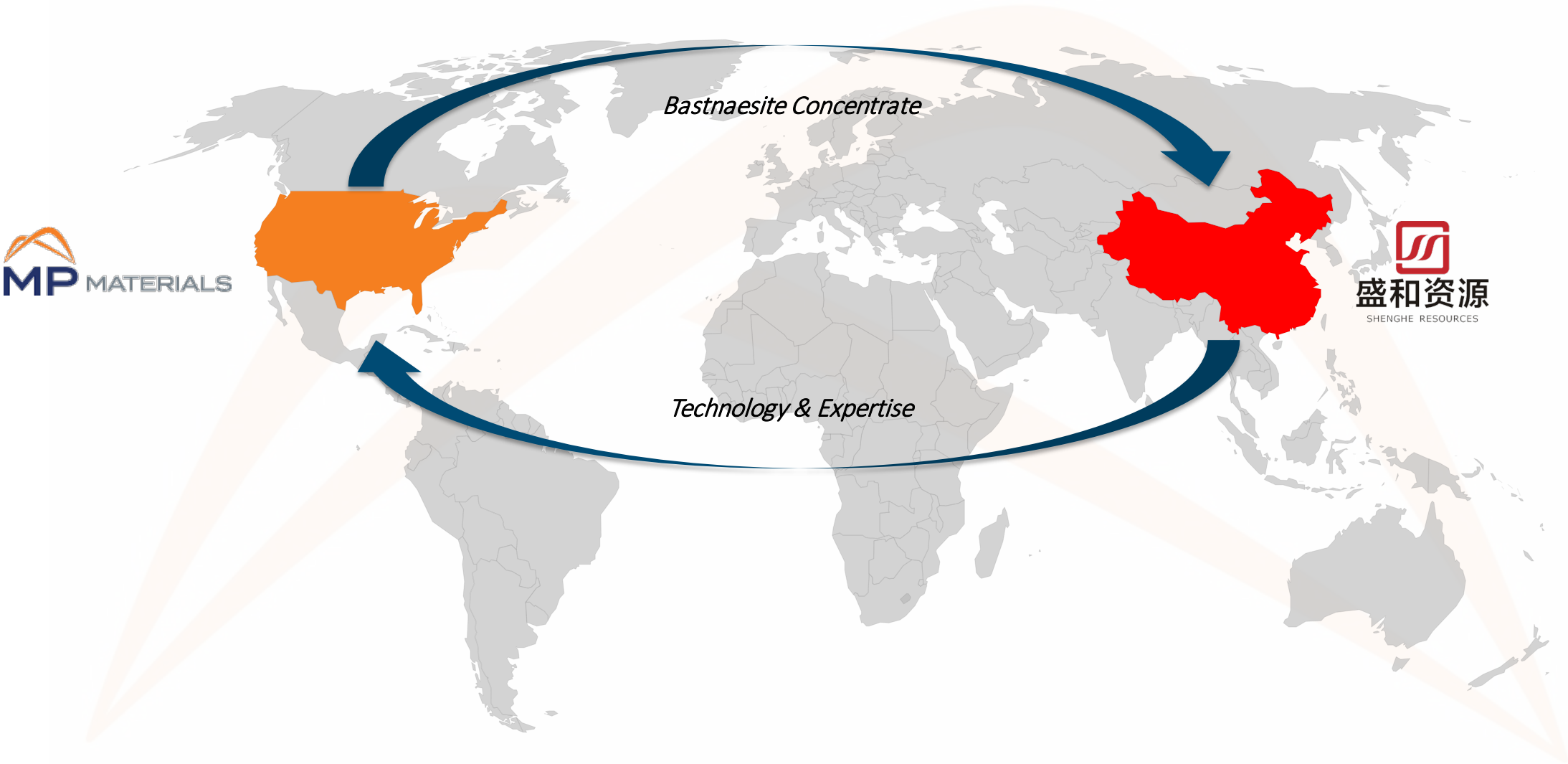
Molycorp completes IPO and launches Project Phoenix to rebuild processing facilities to focus on the Cerium supply chain

Mountain Pass is placed into cold-idle status

Mining operations are restarted at Mountain Pass







*PRODUCTS*



NdPr Oxide



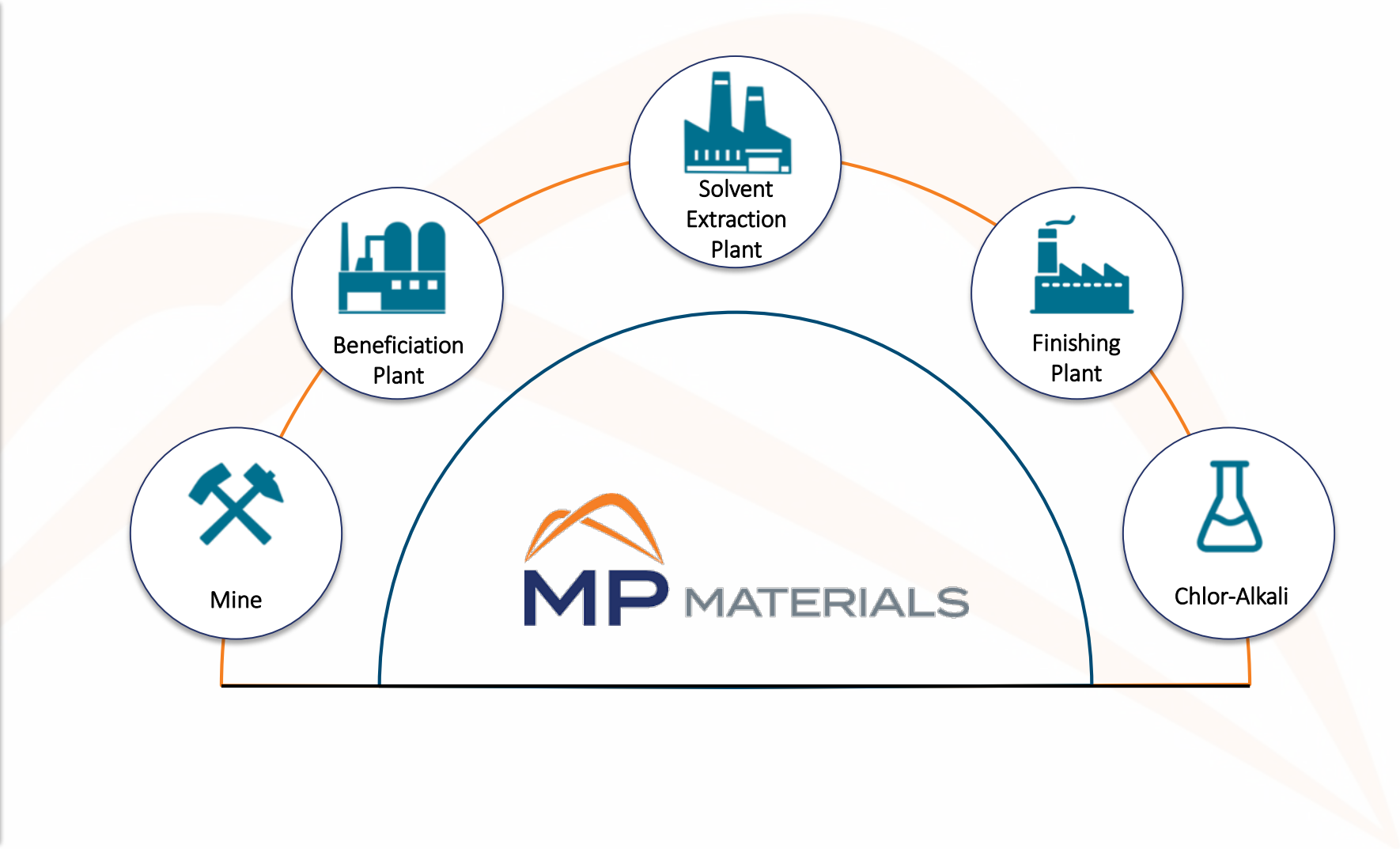
SEG / Heavies Concentrate



Lanthanum / Cerium Chloride



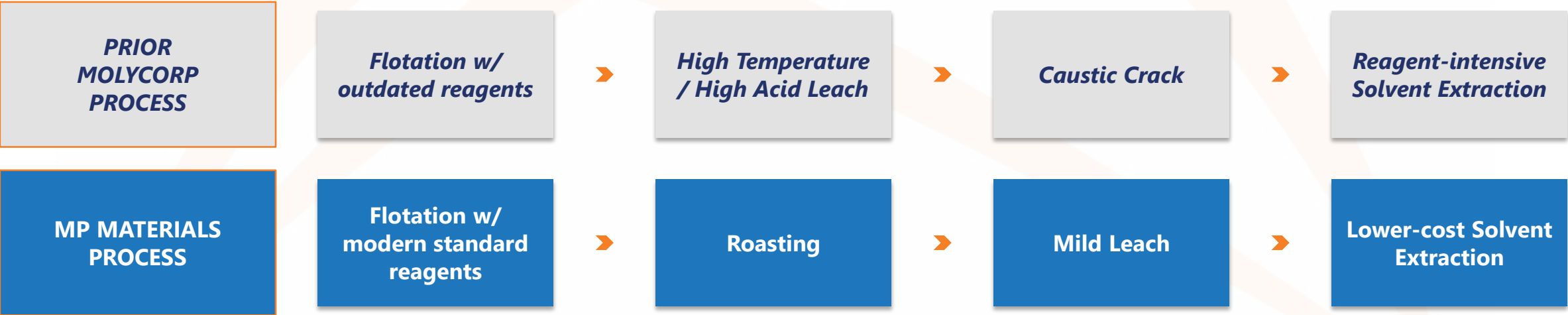
Hydrochloric Acid,  
Caustic Soda, Bleach



# Re-scoped and Simplified Process vs. Prior Ownership



- Leveraging \$1.7 billion of world-class processing and separation equipment, while returning to proven methodologies
- Strategic relationship with Shenghe contributing best practices for Stage II plant optimization – expected to be lowest cost producer
  - Change in process flow versus prior ownership projected to reduce cost per ton of REO by ~50%
- Since 2017, advanced facility from cold-idle to mining, processing and concentrate sales with 174 people; EBITDA positive in 2018 growing to several hundred million over time



Source: Company Management  
1. Difference between net and gross cost is the benefit from the excess products from the chlor-alkali facility sold to the merchant market



*The quality (~8% TREO) and type (Bastnaesite) of the Mountain Pass ore body creates significant cost advantages versus peers*



*IP exchange with Shenghe Resources combines the best-practices of Chinese producers with the advantages of Mountain Pass geology and infrastructure*



*On-site, low-cost power generation and reagent production facilities further reduce processing costs*

Source: Company Management

1. Adjusted operating costs calculated as total operating costs excluding D&A and SNR royalty less excess Chlor-Alkali revenue





Environmental Issue	Potential Environmental Impact	MP Materials’ Environmental Solution
Water	Rare earth processing consumes large amounts of water and creates waste water discharge	<ul style="list-style-type: none"><li>MP Materials uses reclaimed water in a closed-loop from its dry tailings facility for milling and flotation</li><li>Waste water brine is consumed to create reagents on-site at the Chlor-alkali facility</li></ul>
Radioactivity	Rare earth mining can commonly result in radioactive byproducts	<ul style="list-style-type: none"><li>Mountain Pass’ ore body starts with lower levels of radioactive materials compared to many other rare earth deposits</li><li>The unique dry tailings are mixed with potentially radioactive materials to dilute their emission to benign levels</li></ul>
Energy	Rare earth processing is an energy intensive activity that can require large amounts of electricity and fossil fuels	<ul style="list-style-type: none"><li>To be powered by the Combined Heat and Power facility that will utilize clean natural gas to provide reliable, low cost power and steam</li><li>Mild leach facility has been repurposed to run at lower temperatures, significantly improving energy efficiency and reagent consumption</li></ul>