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Cautionary Note to US Investors Concerning Reserve and Resource Estimates

National Instrument 43-101 *Standards of Disclosure of Mineral Projects* ("NI 43-101") is a rule developed by the Canadian Securities Administrators which establishes standards for all public disclosure an issuer makes of scientific and technical information concerning mineral projects. Unless otherwise indicated, all reserve and resource estimates contained in or incorporated by reference in this presentation have been prepared in accordance with NI 43-101 and the guidelines set out in the Canadian Institute of Mining, Metallurgy and Petroleum (the "CIM") Standards on Mineral Resource and Mineral Reserves, adopted by the CIM Council (the "CIM Standards") as amended.

What is Cobalt?

- Cobalt (Co) is a hard, lustrous, silver-grey metal that based on its unique properties has many applications
- The majority of global cobalt production originates in the African Copper Belt region as a byproduct of Copper and Nickel mining
- Applications vary and the element has played a significant role in industrial uses, the hi-tech industry, medical uses, environmental operations and strategic purposes
- Cobalt is an element with growing importance in the future energy economy due to its pivotal role in the rechargeable battery sector
- Cobalt is considered a strategic metal and as such is essential to the function of modern society



Cobalt at a Glance

Cobalt's Unique Properties

- High melting point (1493°C) and retains its strength to a high temperature
 - ✓ Applications: Cutting tools, superalloys, surface coating, high speed steels, cemented carbides, diamond tooling
- Ferromagnetic and retains this property up to 1100°C, a higher temperature (Curie Point) than any other material
 - ✓ Applications: Alnico magnets, recording tape, soft magnetic materials, samarium cobalt NdFe+Co
- Produces intense blue colours when associated with silica
 - ✓ Applications: Cobalt Blue in paints, glazes, enamels, etc.
- Multivalent
 - ✓ Applications: Catalytic action is enhanced OXO reaction Fischer-Tropsch, oil desulphurization, paint and ink drier, tire adhesives



Symbol: Co

Atomic Number: 27

Description: Transition Metal

Properties: Shiny, Grey, Brittle Metal

Atomic Weight: 58.9332

Density (g/cm³): 8.90

Melting Point (K): 1768

Boiling Point (K): 3201

Avg. Abundance: 25ppm

Historical Cobalt Metal Prices



Cobalt: A Strategic Metal

- A *Strategic Metal* is defined as a commodity that is integral to the national defense, aerospace or energy industry, but is threatened by supply disruptions due to limited domestic production
- The United States, European Union, Netherlands and Japan have all declared cobalt a strategic metal and it is required for stockpile
- Currently there is no domestic primary production of cobalt in those jurisdictions that declare the metal strategic
- The majority of the cobalt supply chain derives from the politically and socio-economically unstable West African countries of the Democratic Republic of Congo (DRC) and Zambia
- Recently passed legislature in the U.S. (Dodd-Frank Act) and E.U. requires labeling of all electronics that contain metals sourced from areas of conflict

Cobalt is Essential in a Wide Array of Applications

Environmental & Renewable Energy

- Hybrid Electric Vehicle and Electric Vehicle Batteries
- Fuel Cell Technologies
- Solar Panel and Wind Turbine Generators
- Solar Energy Conversion
- Coal to Liquid Technology
- Gas to Liquid Technology
- Oil Desulphurization

Technological

- Mobile Phones and PDAs
- Laptops and Tablets
- Hard Disk Drives
- Memory Chips and Integrated Circuits
- Satellites

Industrial

- Drill Bits and Cutting Steels
- Paints and Inks
- Ball Bearings
- Radial Tires

Medical

- Orthopedic Implants and Prosthetics
- Wear Resistant Alloys
- Vitamin B12
- Food Preservation
- Feed Supplements

Strategic

- Military and Commercial Jet Engines
- Turbine Blades
- Propulsion Systems
- Magnets



Growth in Demand for Applications Containing Cobalt

Driven by:

- Hybrid Electric Vehicles (HEV) and Electric Vehicles (EV)
- Gas and coal fueled turbines to produce electricity
- Use of cobalt in rechargeable batteries has grown enormously from 700tpa in 1995 to 14,000tpa in 2009
- A growing middle class in developing nations are feeding the demand for electronics powered by cobalt batteries
- Super-alloy demand from new commercial/military aircraft applications
- New energy sources requiring cobalt batteries such as wind turbines and solar panels



Cobalt and the Electric Vehicle Effect

- In the Li-ion battery the cathode active material contains 60% cobalt and accounts for about 50% of the weight of the cathode
- Li-ion batteries are expected to claim 43% of the total vehicle market in the next five years
 - In context, in 2009 the use of Li-ion batteries manufactured for cars was very limited accounting for just 1.6% of the market
- Increase in popularity for hybrid vehicles is expected to substantially increase demand for cobalt in rechargeable batteries
- Electric cars will make up 20% of U.K. auto sales by 2016 as drivers take advantage of government subsidies and lower fuel costs
- Mercedes-Benz believes that cars powered solely by petrol and diesel engines will have virtually ceased to exist by 2050
- In Japan, 1 in 5 Honda sales will be hybrids by 2011

Cobalt and the Digital Revolution

- Mobile phones and laptops represent 81% of lithium-ion battery demand
- Use of cobalt in rechargeable batteries has grown enormously from 700tpa in 1995 to 14,000tpa in 2009
- Increased growth in demand for mobile phones accounted for nearly 25% of worldwide cobalt demand in 2009
- It is estimated that laptop unit sales and mobile device sales can grow by approximately 10% per annum resulting in the need for lithium battery storage capacity to increase by 10% per annum as well
 - Although some growth will be filled by lower cobalt content batteries, cobalt will be a major component and result in increased demand
 - Projected increase in demand for mobile phones and other electronic gadgets will ensure a steady increase in demand for cobalt in rechargeable batteries

Estimated Lithium-Ion Battery Consumption of Cobalt

Cathode	2008		2010	
	Tonnes	Tonnes Cobalt	Tonnes	Tonnes Cobalt
Lithium Co Oxide	25,550	12,775	24,000	12,000
Lithium Ni-Co-Mn Oxide	4,900	686	16,000	2,240
Lithium Ni-Co-Al Oxide	1,400	140	2,000	200
Lithium Mn Oxide	2,450	-	2,000	-
Lithium FePO ₄ Oxide	700	-	1,000	-
TOTAL:		13,601		14,440

Battery Growth from Existing Markets

Cathode	2010	2011	2012	2013	2014	2025	2016
Lithium Co Oxide	12,000	11,520	11,059	10,617	10,192	9,784	9,393
Lithium Ni-Co-Mn Oxide	2,400	2,952	3,542	4,074	4,481	4,929	5,669
Lithium Ni-Co-Al Oxide	180	243	304	398	537	677	812
Lithium Mn Oxide	-	-	-	-	-	-	-
Lithium FePO ₄ Oxide	-	-	-	-	-	-	-
NiMH	121	118	118	117	117	115	107
Total Annual Production (Tonnes):	14,701	14,833	15,023	15,206	15,328	15,505	15,981
Growth Rate:		0.90%	1.30%	1.20%	0.80%	1.10%	3.00%

Cobalt: Putting the “Super” in Super Alloys

- Super alloys with cobalt are used in applications where corrosion resistance and high operating temperatures are necessary
- An increase in cobalt content significantly raises the solution temperature of that alloy
 - For example, an increase in cobalt content to 19% from 5% in a nickel-based super alloy will raise the solution temperature of that alloy by 100°Celsius
- These properties are required in many aerospace applications where a higher operating temperature improves engine fuel efficiency
- There is a lack of substitution for this select class of material and over the past six years there has been a 29% growth in demand
 - 64% of demand coming from aerospace applications
 - 26% of demand from land-based turbines
- Demand for high-grade cobalt should increase over the next few years due to the expansion and update of commercial, cargo and military airline fleets
- With only a limited number of producers within this cobalt subsector, the ability to increase supply to meet demand growth is very limited

Information quoted has been sourced from Byron Capital Markets.

Super Alloy Demand

Super Alloy Demand

Market	2003	2004	2005	2006	2007	2008	2009
Superalloy Demand	9,200	10,280	10,800	11,734	11,669	10,721	11,910

Estimated Super Alloy Demand

Market	2011	2012	2013	2014	2015	2016
Superalloy Demand	13,021	13,615	14,236	14,885	15,563	16,273

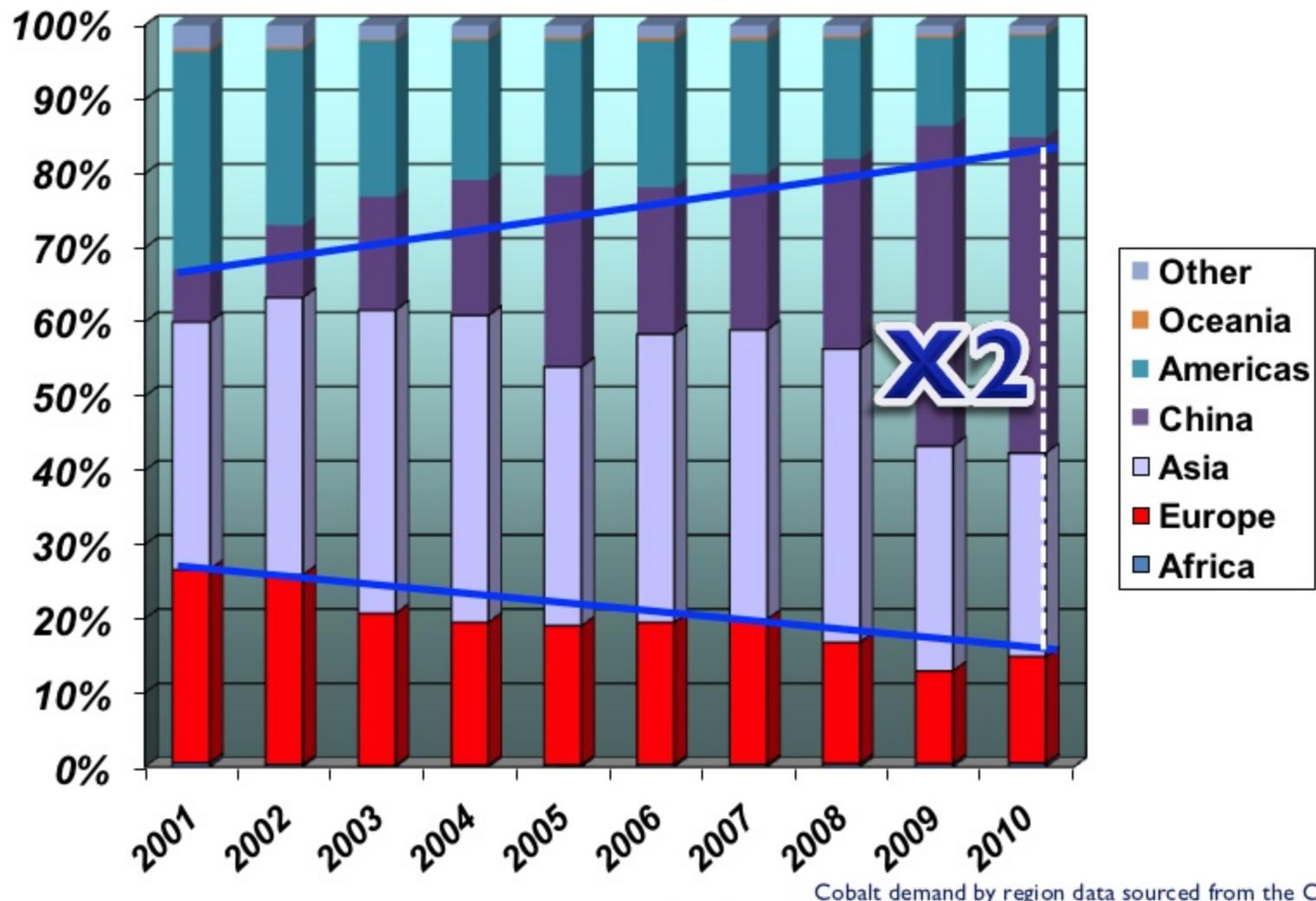
- As previously mentioned, some types of deposit cannot make this high-grade cobalt material economically, namely many of the deposit in the DRC
- Xstrata and Vale-Inco are currently the only major producers of high-grade cobalt
- At a growth rate of approximately 4.5% in high-purity cobalt demand the upgrade in demand is significant
 - An additional 5,000 tonnes of high-purity cobalt is approximately equal to Xstrata's capacity, the largest producer of high purity cobalt

Dramatic Shift in Demand Dynamics Over Past 10 Years

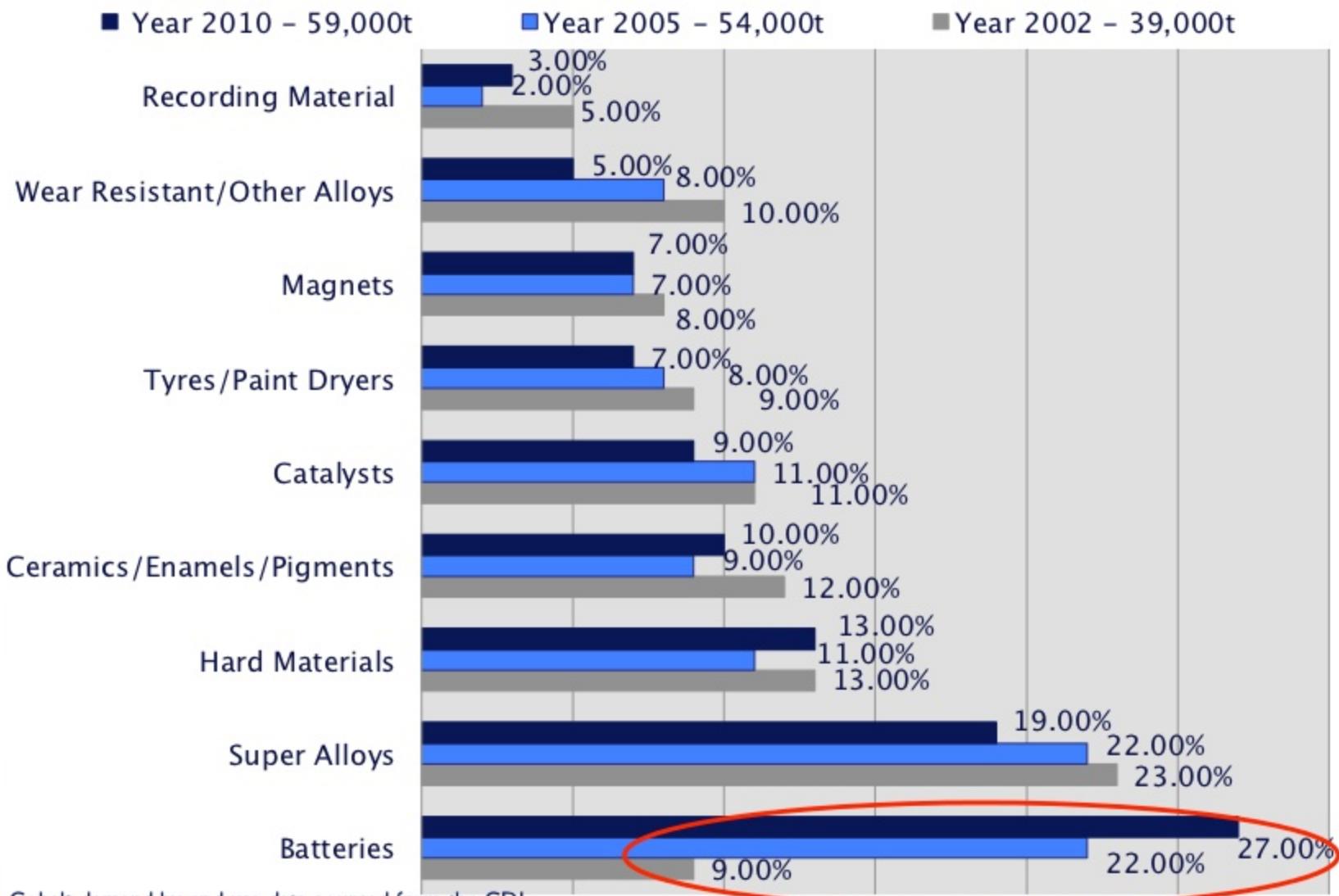
- Transition of demand from the USA and Western Europe to Asia, particularly China
 - Demand increase by the Asian markets nearing 80%.
 - CHINA:
 - Majority of imports come from DRC
 - Largest cobalt chemical refiner in the world and in 2005 became the world's largest refined cobalt producing country
 - Largest consumer of cobalt in the world
- Increase in cobalt used in chemical applications
 - Notable use in Battery and Catalyst sectors
 - Role in LiCoO₂ batteries powering electronics such as mobile phones, laptops and tablets
 - Major additive to batteries used in Hybrid and Electric Vehicles

Cobalt Demand Shifting to Asia

- Growth in Asian Market has more than doubled in ten years



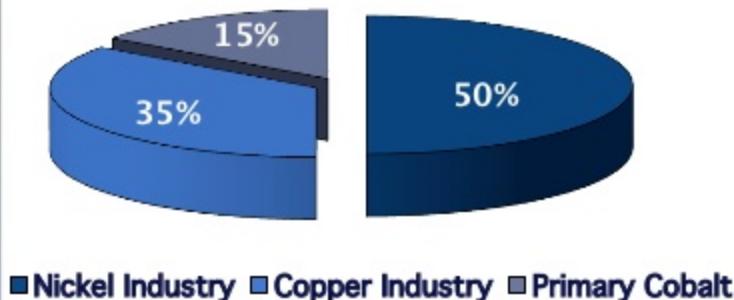
Growth in Battery Sector Fuels Cobalt Demand



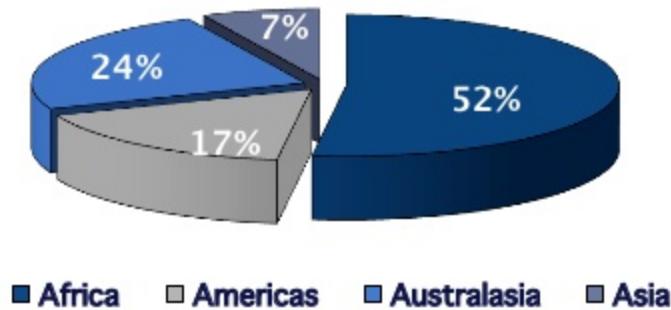
Cobalt demand by end use data sourced from the CDI

Growing Concern Over Supply of Cobalt

Sourcing of Cobalt



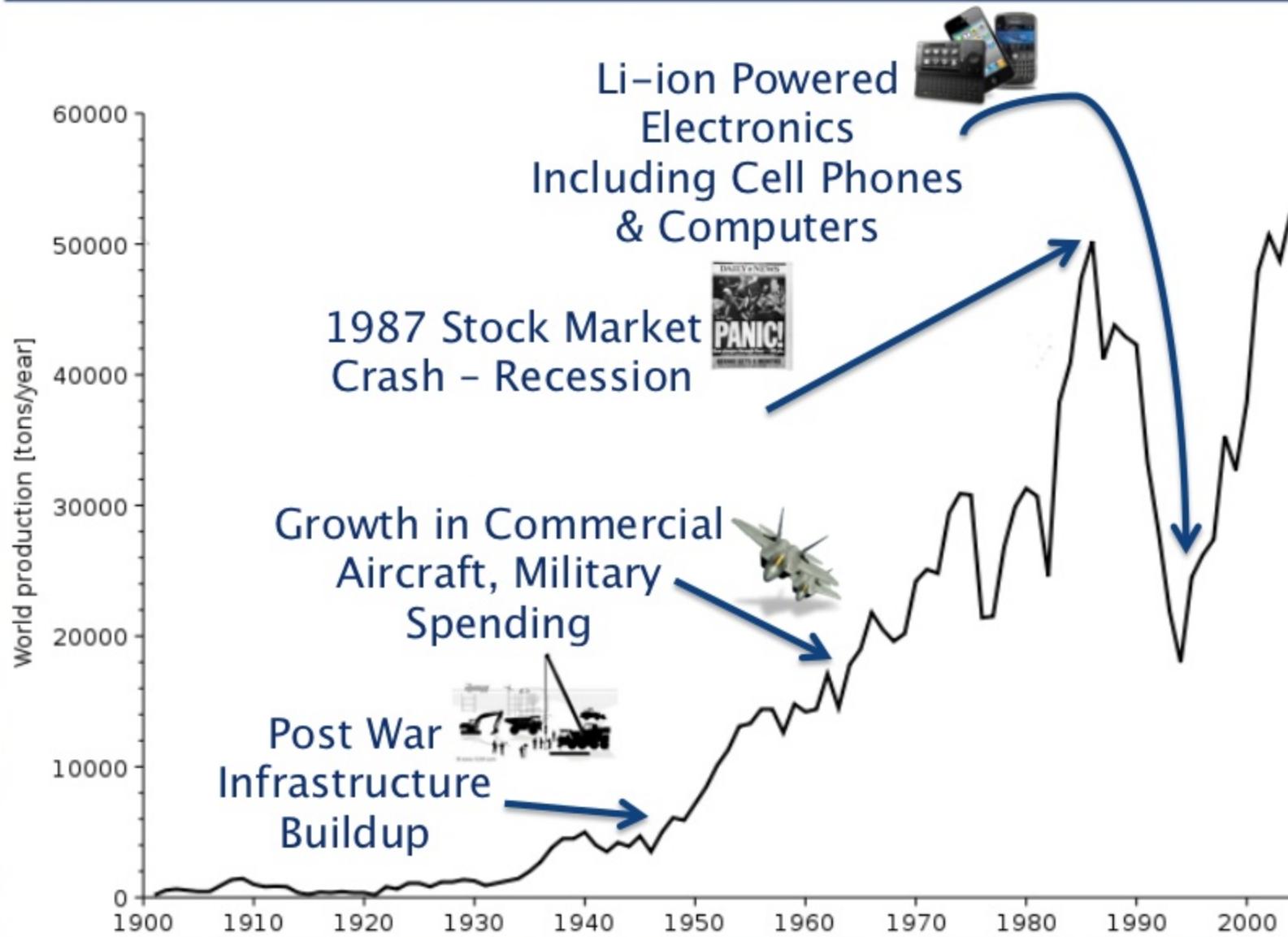
Supply Chain of Cobalt



Cobalt demand by region data sourced from the CDI

- Low concentration usually means that cobalt is produced as a **by-product** of other metals (eg. nickel & copper)
- World supply predominantly African from the Copper Belt of the DRC and Zambia - **significant political risk**
- Disruptions in these conflict areas mining cobalt create growing **concern over supply chain**
- Cobalt is considered a **“strategic metal”** and is stockpiled by the largest consuming countries

World Cobalt Production Over The Past 100+ Years



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