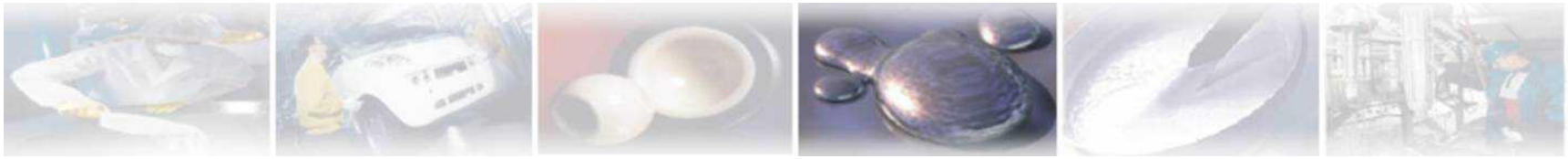
ROCKWOOD HOLDINGS, INC.

Chemetall

...the Lithium company



Dr. Thorsten Buhrmester
Global Manager Battery Materials

Material Valley, Hanau, 11th February 2010

...the Lithium company

Forward Looking Statements

This presentation may contain certain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 concerning the business, operations and financial condition of Rockwood Holdings, Inc. and its subsidiaries (“Rockwood”). Although Rockwood believes the expectations reflected in such forward-looking statements are based upon reasonable assumptions, there can be no assurance that its expectations will be realized. "Forward-looking statements" consist of all non-historical information, including the statements referring to the prospects and future performance of Rockwood. Actual results could differ materially from those projected in Rockwood’s forward-looking statements due to numerous known and unknown risks and uncertainties, including, among other things, the "Risk Factors" described in Rockwood’s 2008 Form 10-K with the Securities and Exchange Commission. Rockwood does not undertake any obligation to publicly update any forward-looking statement to reflect events or circumstances after the date on which any such statement is made or to reflect the occurrence of unanticipated events.

Group Structure (31.12.2009)

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- Rockwood is a global specialty chemicals and advanced materials company. Its shares are publicly traded at the NYSE (ROC)
- The lithium business is a major part of Rockwood's specialty chemicals business, trading under the name Chemetall

ROCKWOOD HOLDINGS, INC.

Net sales: 3,380 million $
Employees: 10,000

Chemetall Group

Net sales: 1,233 million $
Employees: 3008

Lithium Division

Chemetall GmbH Lithium Division
Chemetall Foote Corp.
Sociedad Chilena de Litio Ltda.
Chemetall Taiwan Ltd.

Chemetall Group – At a glance 2008

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ROCKWOOD HOLDINGS, INC.

Chemetall-Group

Fine Chemicals

- **Lithium**
- Special Metals
- Metal Sulphides

Surface Treatment

- **Automotive**
- Auto Components
- Coil
- Cold Forming
- General Industry
- **Aerospace**

Lithium – Selected Applications

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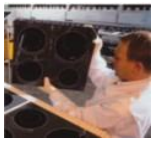
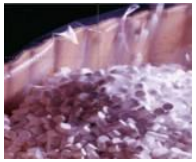
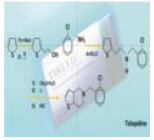
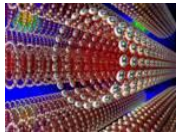
Key Products		Key Applications			
Lithium carbonate		 Li-Ion Batteries	 Glass ceramics	 Cement	 Aluminum
Lithium hydroxide		 Li-Ion Batteries	 Grease	 CO_2 Absorption	 Mining
Lithium metal		 Lithium Batteries	 Pharmaceuticals	 Al - alloys	
Butyl-lithium		 Elastomers	 Pharmaceuticals	 Agrochemicals	
Lithium specialties		 Electronic Materials	 Pharmaceuticals	 Agrochemicals	

Lithium Products for Battery Industry

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Battery Material	Battery Type	Lithium Product Supplied
Metal Oxide Cathodes	Secondary	Carbonate, Hydroxide
Li Titanate Anode	Secondary	Carbonate
Electrolyte Salts, and Additives	Secondary	Carbonate, LiBOB, Hydroxide
Li Metal Anodes	Primary, Re-chargeable	Metal and Foils
Electrolyte Salts	Primary, Secondary	Various

The “Lithium Tree”

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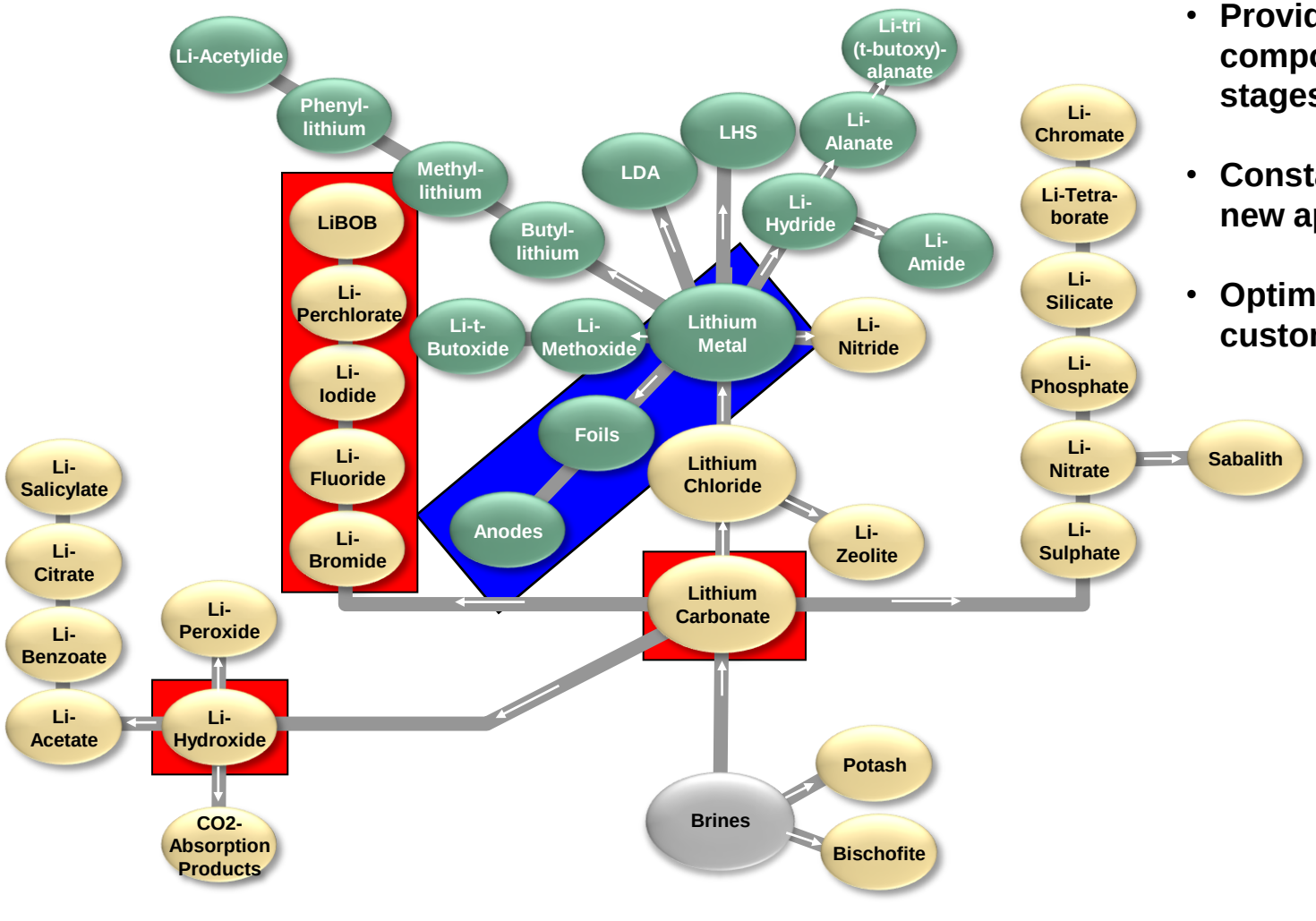

Comments

- **Providing lithium compounds throughout all stages of the value chain**
- **Constant expansion due to new applications**
- **Optimization according to customer needs**

Legend to colors

in air

inert atmosphere

Manufacturing Sites - Overview

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La Porte, TX, USA

New Johnsonville, TN, USA

Langelsheim, Germany

Silver Peak, NV, USA

Taichung, Taiwan

Antofagasta, Chile

Kings Mountain, NC, USA

Sociedad Chilena de Litio, Salar de Atakama,Chile

- **Location**:
  - Antofagasta (Headquarters/Plant)
  - 1700 km north of Santiago
  - Salar de Atacama (Brines)
  - 200 km east of Antofagasta
- **Main Products**:
  - Lithium carbonate
  - Lithium chloride
  - Potash
  - Bischofite
- **Management Systems**:
  - Quality Management System ISO 9001

Chemetall Foote Corp., Silver Peak, USA

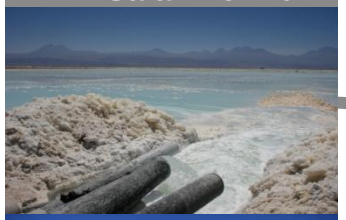
Chemetall

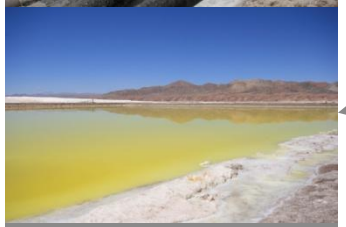
- **Location**:
  - Silver Peak, Nevada
  - 350 km north of Las Vegas
- **Main Products**:
  - Lithium carbonate
  - Lithium hydroxide
- **Management Systems**:
  - Quality Management System ISO 9001

Sociedad Chilena de Litio, Chile

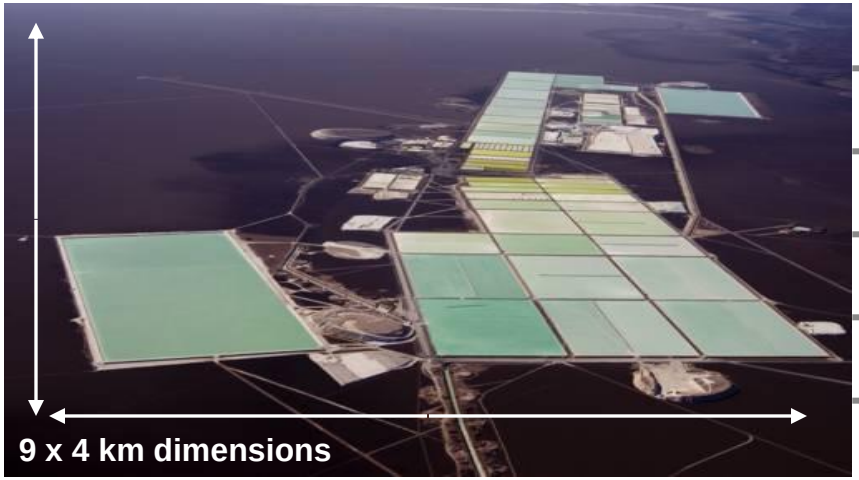
Chemetall

Natural brines from El Salar ~ 0.2% Li





END BRINE 6.0% Li



- $NaCl + CaSO_4 * H_2O$ HALITE
- $NaCl + KCl$ SYLVINITE
- $MgCl_2 * KCl * 6H_2O$ CARNALLITE
- $MgCl_2 * 6H_2O$ BISCHOFITE
- $MgCl_2 * LiCl * 7H_2O$ Li CARNALLITE

Further Purification, Processing, Crystallization

Li_2CO_3

LiCl

Chemetall Lithium Production Potential

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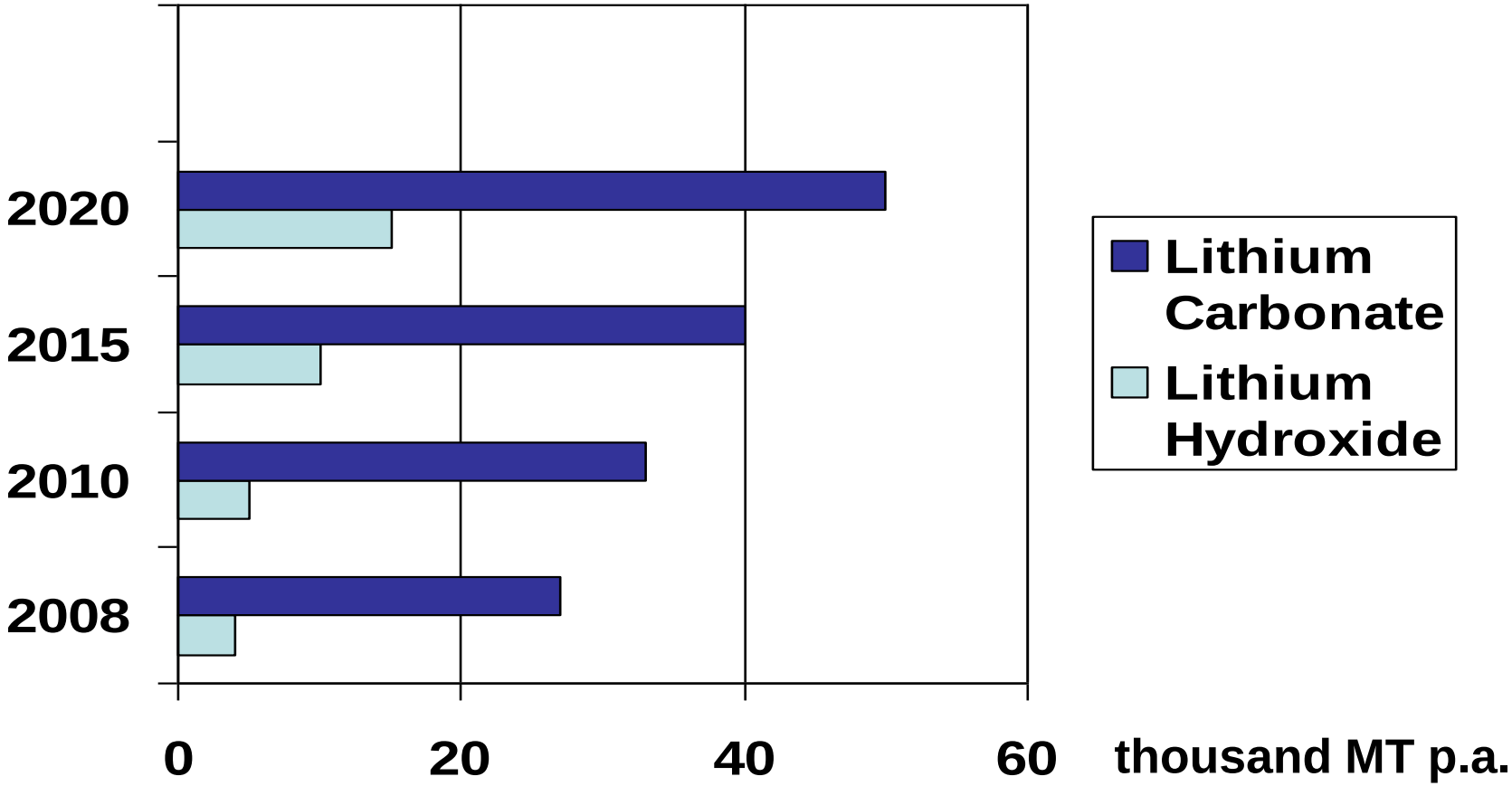
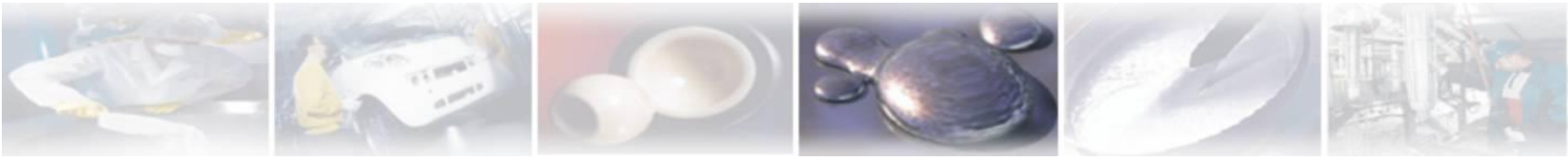
Chemetall has steadily increased production in the past and expects to continue to do so in the future to meet market needs.

Chemetall

Expansion plans based on current market estimates (Salar del Atacama; Chile, Silver Peak, USA; Langelsheim Plant, Germany)





World Resources

Worldwide Lithium Resources 2008 [MT Li]

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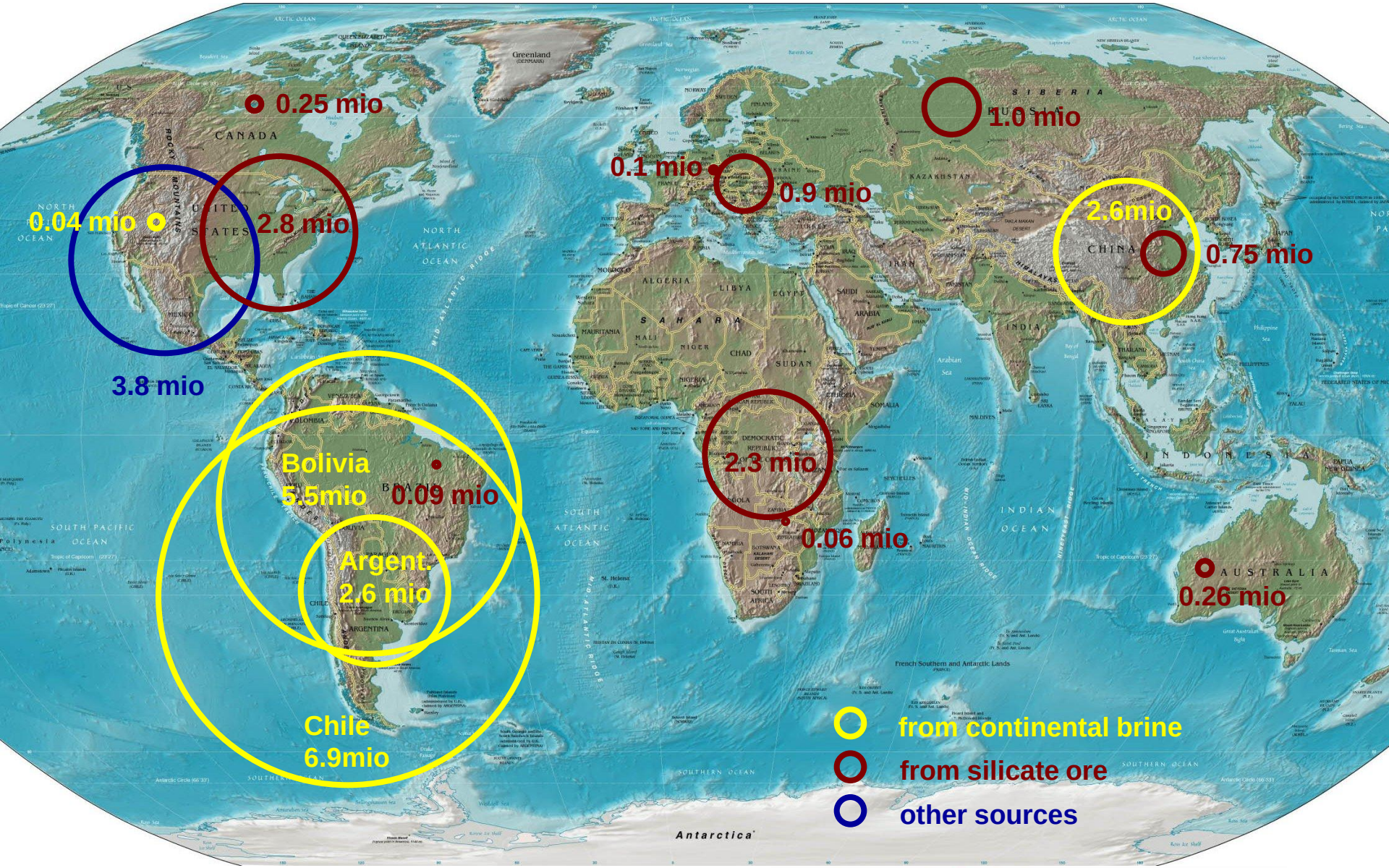

Source: R. Keith Evans, Geologist and Industrial Minerals Expert

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Worldwide Lithium Reserves 2008 [ts Li]

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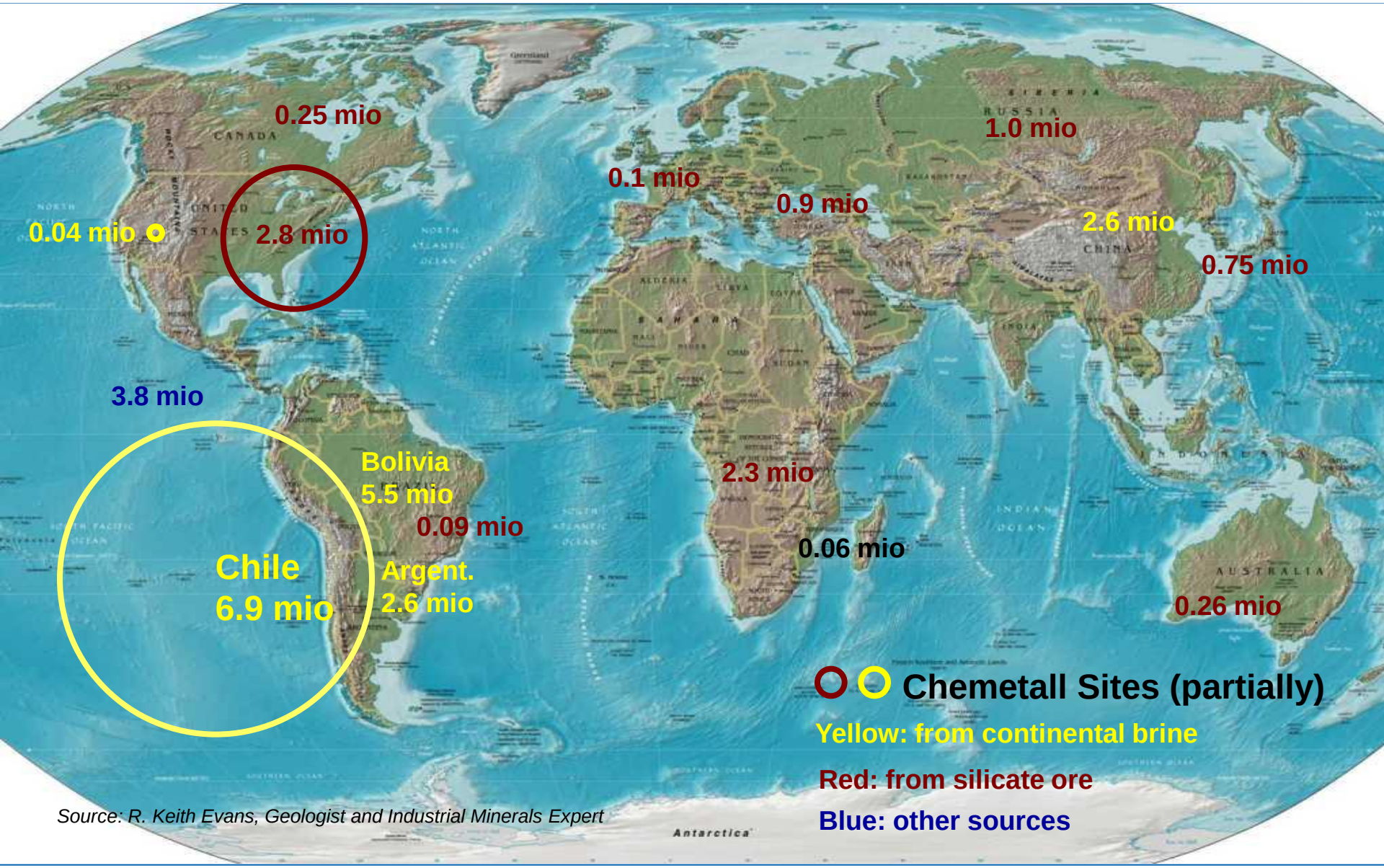


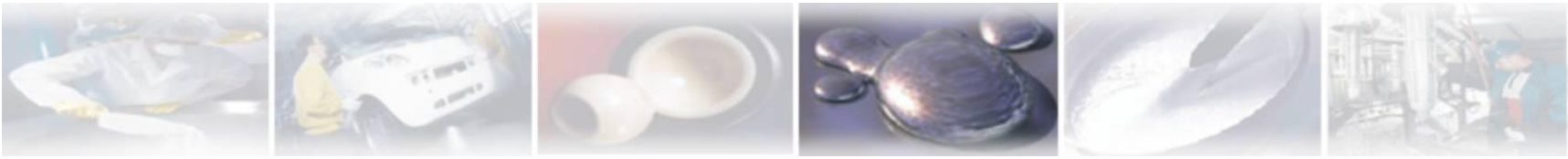
Source: R. Keith Evans, Geologist and Industrial Minerals Expert

Worldwide Lithium Resources 2009

- Current estimates of worldwide Lithium resources total approx. 28,000,000 tonnes Lithium metal.
  (or 150,000,000 tonnes LCE (***L***ithium ***C***arbonate ***E***quivalents)*

- Current worldwide demand is approx. 23,000 tonnes Lithium metal.
  (or 122,000 tonnes LCE)*

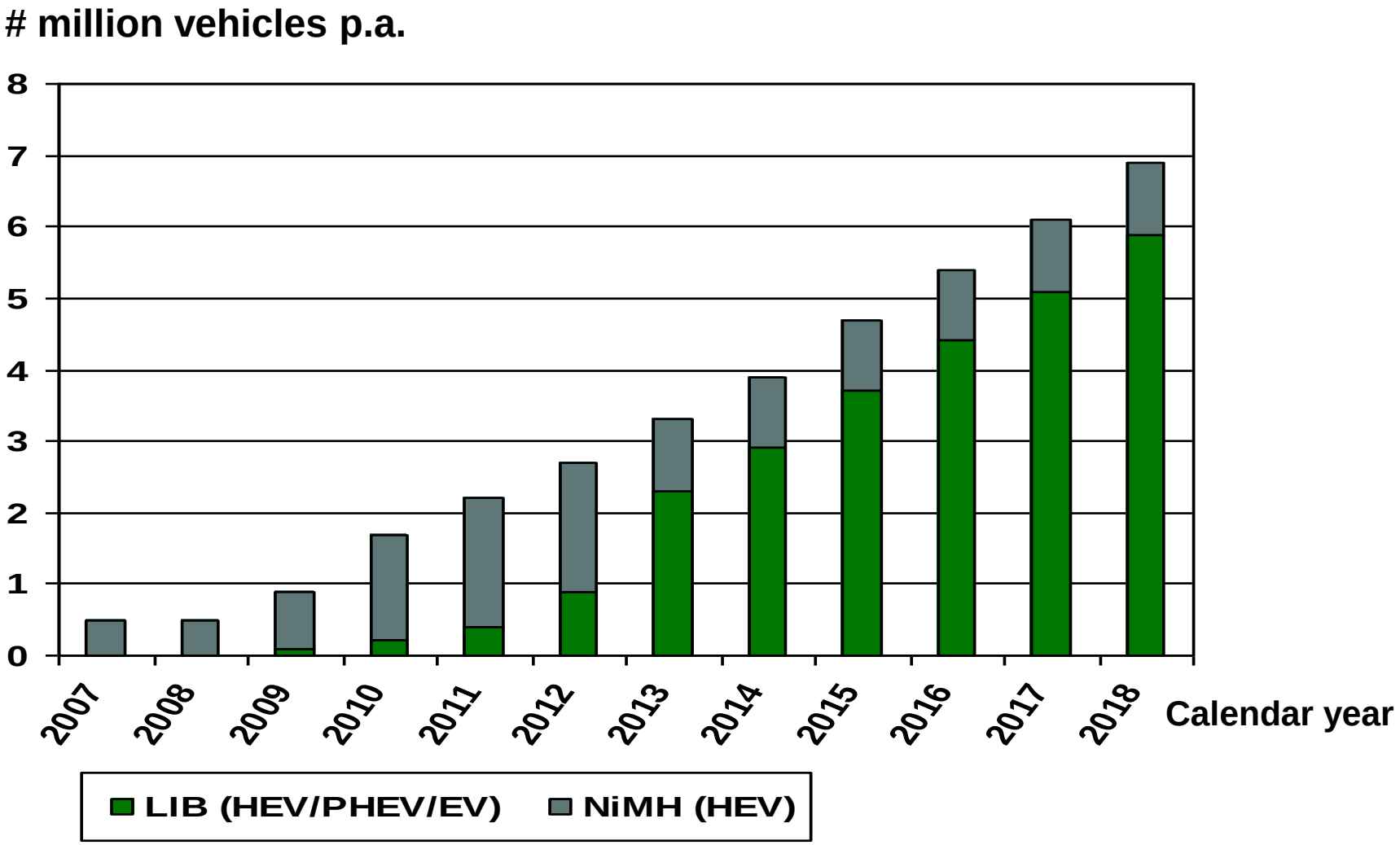
* Source: Roskill Market Reports: The Economics of Lithium, 11th edition, 2009



Development of Electromobility

HEV/PHEV/EV Market Growth – IIT Report (March 2009)

Chemetall



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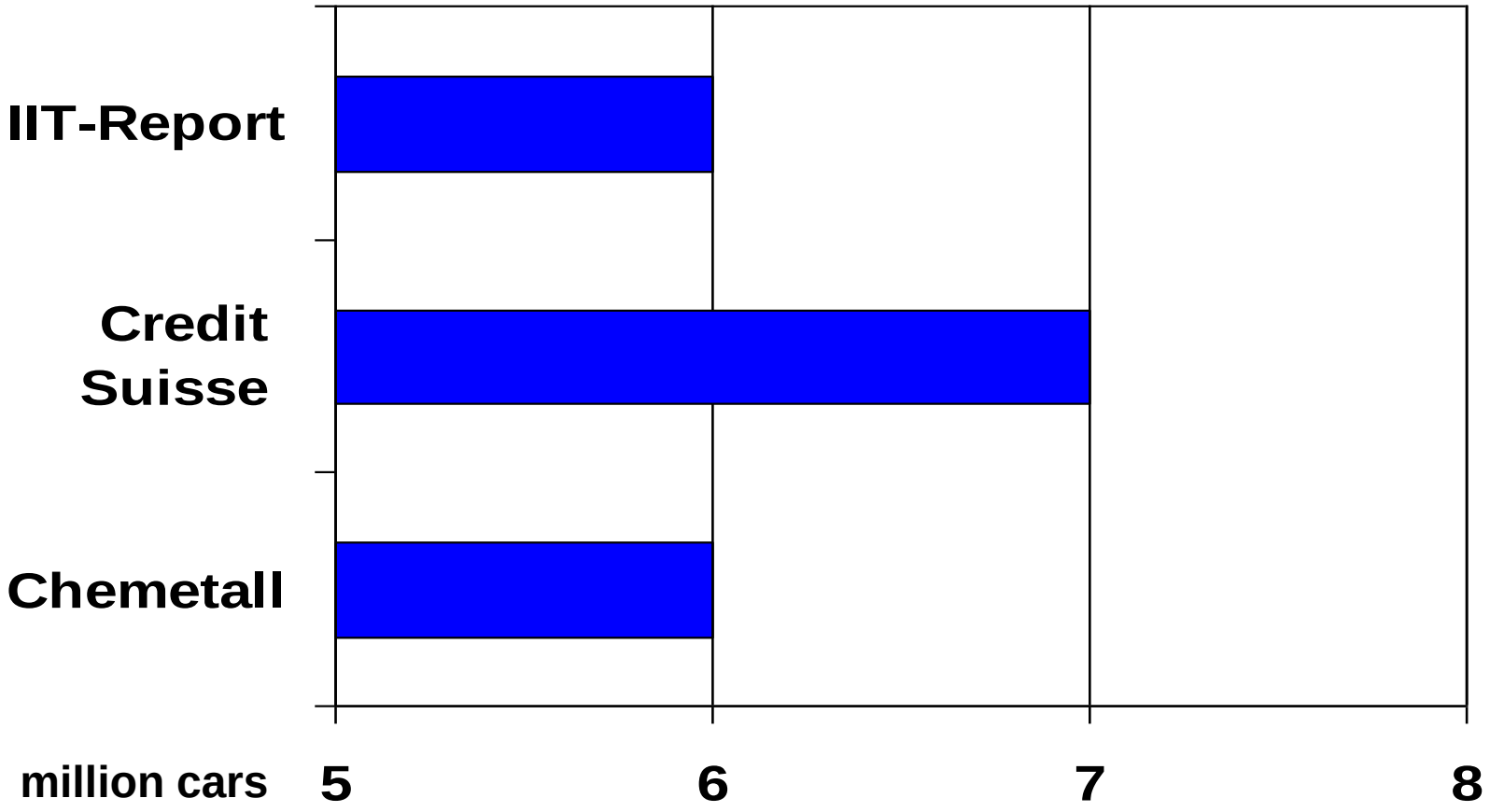
Estimation of number of eco cars produced in 2020 from different institutions:



Market Developments

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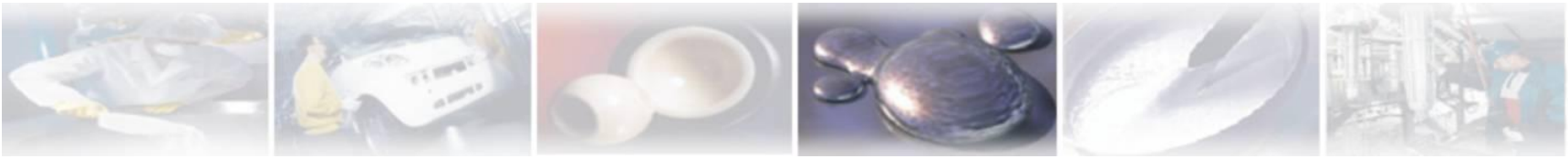
Battery makers are racing to develop lithium-ion cells to power new generations of plug-in hybrids and electric cars.

Developer	Chemistry	Expected Vehicle	When	
Compact Power (LG Chemical), A123	Manganese spinel, Doped lithium nanophosphate	•Chevy Volt (EV) •Saturn Vue (PHEV)* •Think City (EV)	2010 2009 2009	 
Compact Power (LG Chemical),NEC	Manganese spinel	•Chevy Volt (EV)* •Nissan (EV)	2010 2010	
Panasonic EV Energy Johnson Controls/Saft	Lithium nickel cobalt aluminum oxide (NCA)	•Toyota (PHEV) •Mercedes S400 (HEV)*	2010 2009	
Hitachi	Lithium manganese oxide	•Future GM (HEV)	2010	
Commercially available Li-Ion cells	Lithium cobalt oxide and others	•Tesla Roadster (EV)	2008	
Altair Nanotechnologies	Lithium titanate spinel (anode)	•Phoenix (EV)	2008	
Lishen	Lithium iron phosphate	•Miles XS500 (EV)	2009	
EnerDel	Lithium manganese titanate	•Think City (EV)	2009	

Based on Forbes article: April 7, 2008



Estimation of Lithium Carbonate Demand 2020

Assumptions for the degree of penetration of E-cars in the market

1. 60 million cars are registered as new cars world wide p.a.
2. Lithium Carbonate consumption per 1 kW/h is 0.6 kg
3. Industry expects the e-car share to reach approx. 1 - 10% in 2020

Two scenarios

	EV (Tesla)	PHEV (Saturn Vue)	HEV/Mild hybrid (S 400)
A)	60%	10%	30%
B)	20%	20%	60%

All figures are in Lithium Carbonate Equivalents (LCE)

Car specific facts

• Car types:	(B)EV	PHEV	HEV/Mild (S400)
• Battery capacity:	25 kWh	12 kWh	~2 kWh
• LCE demand:	15 kg	7.2 kg	1.2 kg

- Price per battery: ~900 $/kWh
- LCE cost share at 6,50 $/kg Li_2CO_3: less than 1%

Estimation of Lithium Carbonate Demand 2020

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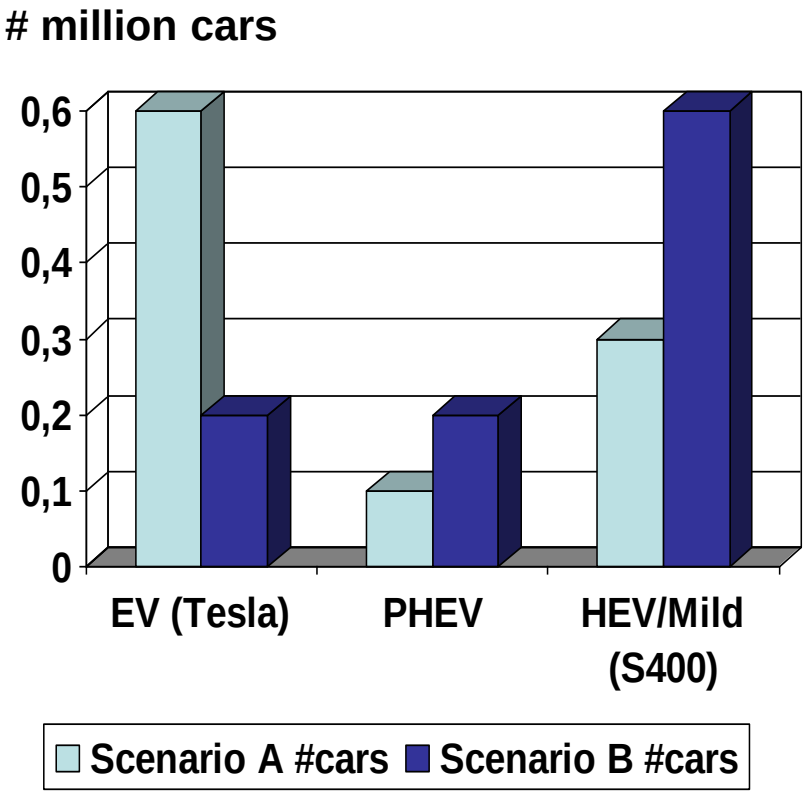
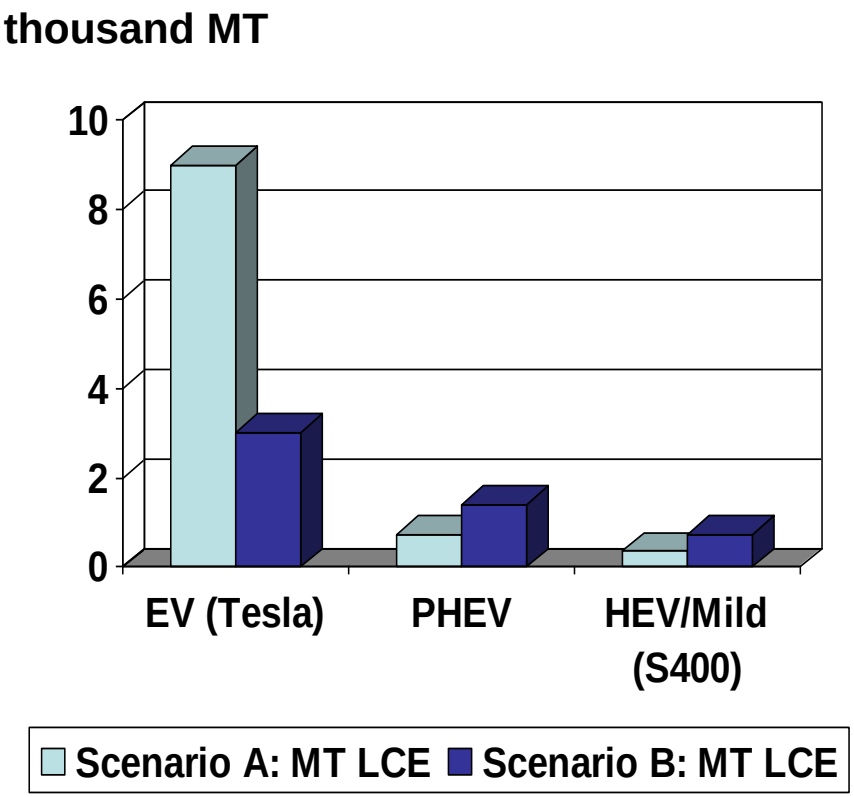
Scenario A = „many Teslas“
Scenario B = „many S400s“
} @ 1,6% market penetration





Estimation of Lithium Carbonate Demand 2020

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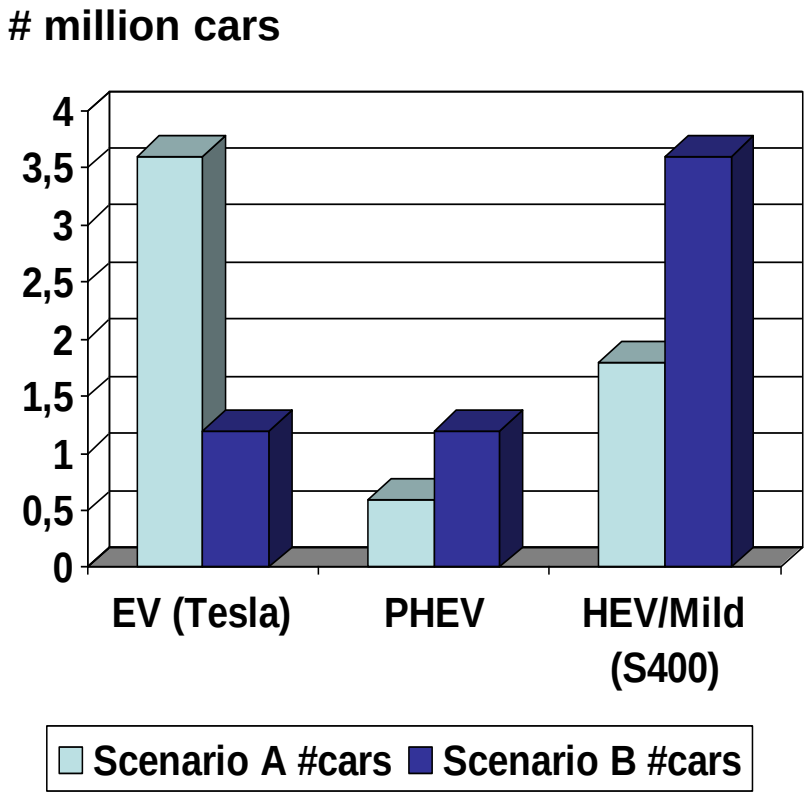
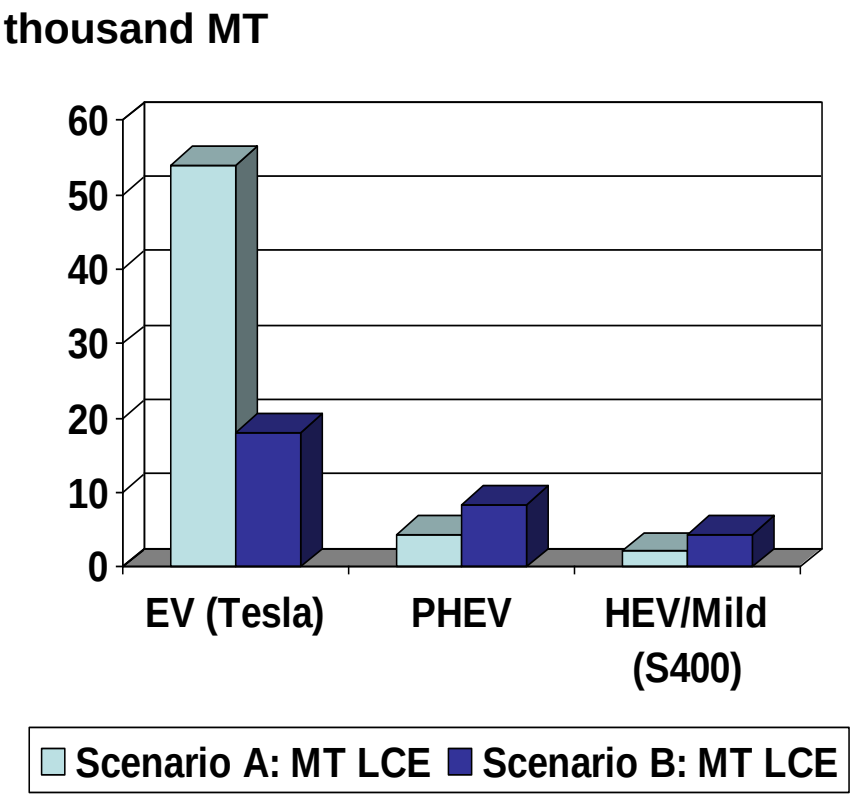
Scenario A = „many Teslas“
Scenario B = „many S400s“ } @ 10% market penetration





Estimation of Lithium Carbonate Demand 2020

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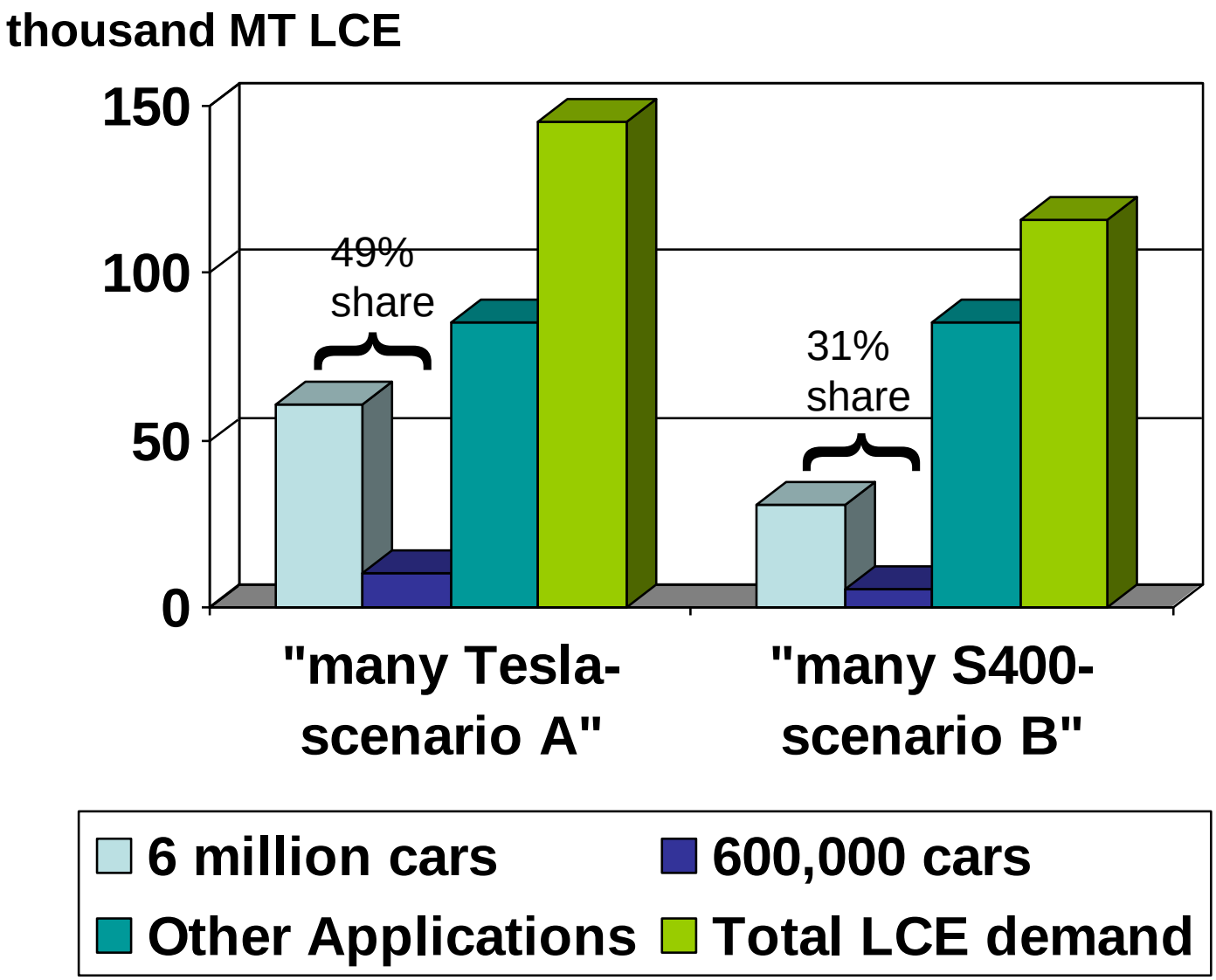

Estimation of Lithium Carbonate Demand

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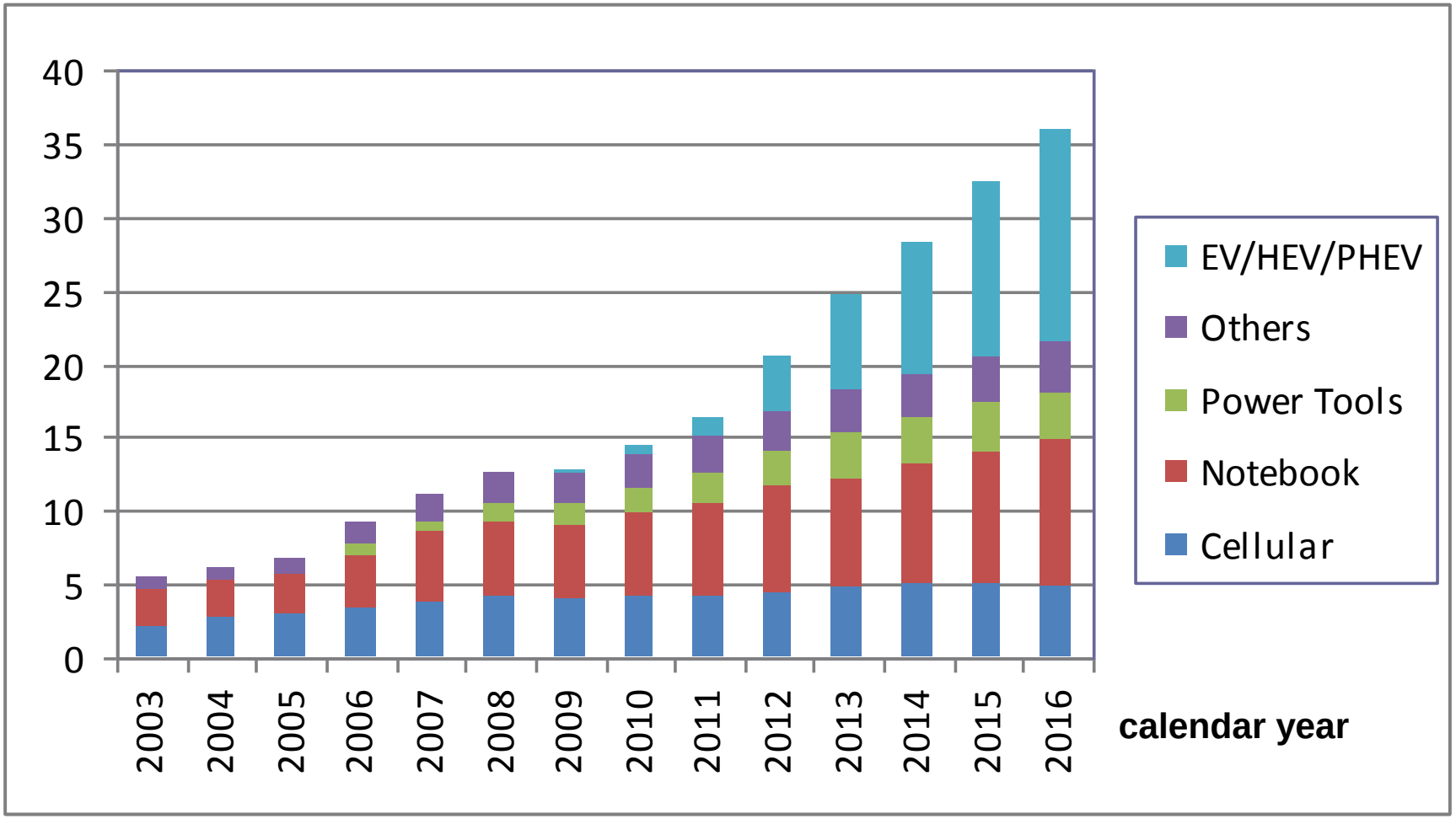
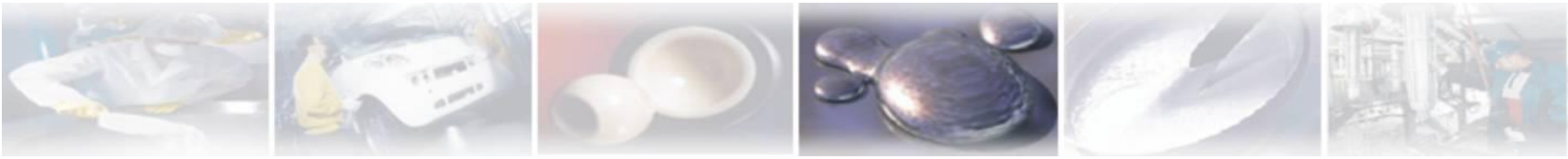
Based on IIT report March 2009



conversion factor is 0.6 kg/kWh



Recycling of LIB, another influence to consider

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Recycling will be another important source of raw materials in the future.

- Lithium will not be consumed in Lithium Ion Batteries.
- Recycling of Lithium from used batteries may exceed 50% - larger quantities will be available from 2030 onwards.
- Legislation will force the automotive industry to develop comprehensive recycling concepts.

Future Recycling Potential

- Due to an estimated life time of 10 – 15 years for a typical car battery, effects from recycling in the supply demand balance will start after 2030.

- We expect a recycling rate of approx. 50% of the incorporated Lithium. (75 - 80 % from chemical pulping plus some extra losses during battery disassembling.)

Value chain Lithium-Ion-Batteries

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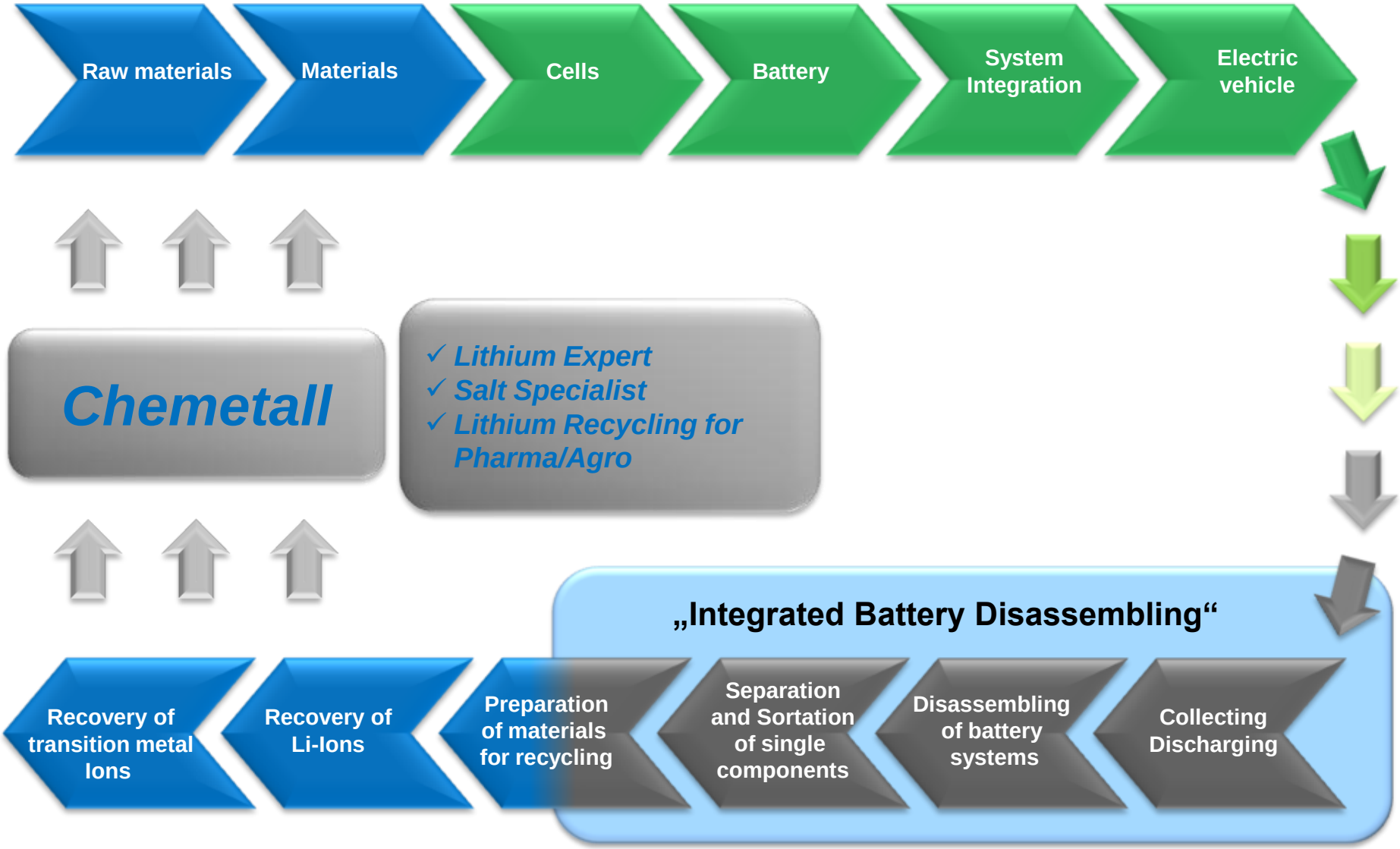

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Salar de Atacama resources will completely satisfy global market needs for at least the coming hundred years

- **Salar de Atacama** resources: 31,5 million MT LCE
- For
  - Scenario A (10% penetration): reserves will last for 216 years
  - Scenario B (10% penetration): reserves will last for 271 years

- **Worldwide** available resources: 150 million MT LCE
- For
  - Scenario A (10% penetration): reserves will last for 1030 years
  - Scenario B (10% penetration): reserves will last for 1293 years

There is enough!

Chemetall
...the Lithium company

Chemetall as the leading producer of lithium compounds is committed to expand capacities and to develop tailor-made products in order to satisfy its customer‘s demands.

We are known for our strong technical customer support.

Chemetall is known as reliable supplier globally.