Today’s agenda

▪ Our forecasting philosophy and approach
▪ Long term trends (>1 year)
▪ Short term trends
▪ Forecasting to lower your average costs
▪ About us
Our forecasting philosophy

The challenge is not:

➤ Predicting what a specific price will be at a specific time
➤ (If we knew that, surely none of us would be here!)

The challenge is:

➤ Knowing how to source/buy/procure with greater confidence by understanding where the market is and where it could go
➤ And knowing when to change purchasing behavior

By re-framing the challenge, we developed an approach that has been “right” since product inception
The approach

From a short-term or monthly perspective we look at:

- Trends of commodities
- Industrial metals
- The individual metal
- Price and volume

From a long-term perspective we look at:

- Trends of commodities
- Industrial metals
- Fundamentals (e.g. supply and demand)
Our track record

LME Aluminum: September, 2017

LME Copper: September, 2017

LME Zinc: September, 2017
How companies lower average purchasing costs
Broad commodity trends Sept. ‘09 to Sept. ’17

Thomson Reuters/Jefferies Index (CRB): September 15th, 2017

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Industrial metals trends Sept. ‘09 to Sept. ‘17

PowerShares DB Base Metal Fund: September 15th, 2017
The USD

USD vs. CRB: September 15th, 2017
China stock market

China FXI Shares since 2015
Oil prices
2018 non-ferrous average price forecast

**Aluminum - $2,200**

<table>
<thead>
<tr>
<th>Resistance</th>
<th>Average Price</th>
<th>Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,445</td>
<td>2,200</td>
<td>1,865</td>
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</table>

SEPTEMBER 2017-2018

**Copper - $6,800**

<table>
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<tr>
<th>Resistance</th>
<th>Average Price</th>
<th>Support</th>
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</thead>
<tbody>
<tr>
<td>7,430</td>
<td>6,800</td>
<td>6,100</td>
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SEPTEMBER 2017-2018

**Zinc - $3,300**

<table>
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<tr>
<th>Resistance</th>
<th>Average Price</th>
<th>Support</th>
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<tbody>
<tr>
<td>3,500</td>
<td>3,300</td>
<td>2,650</td>
</tr>
</tbody>
</table>

SEPTEMBER 2017-2018

**Nickel - $13,100**

<table>
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<th>Resistance</th>
<th>Average Price</th>
<th>Support</th>
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<tbody>
<tr>
<td>14,500</td>
<td>13,100</td>
<td>8,900</td>
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SEPTEMBER 2017-2018

**Lead - $2,350**

<table>
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<th>Resistance</th>
<th>Average Price</th>
<th>Support</th>
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</thead>
<tbody>
<tr>
<td>2,650</td>
<td>2,350</td>
<td>2,000</td>
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SEPTEMBER 2017-2018

**Tin - $21,500**

<table>
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<th>Resistance</th>
<th>Average Price</th>
<th>Support</th>
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</thead>
<tbody>
<tr>
<td>23,800</td>
<td>21,500</td>
<td>18,700</td>
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</table>

SEPTEMBER 2017-2018
2018 ferrous average price forecast

**HRC - $630**

- Resistance: 750
- Average Price: 630
- Support: 570

SEPTEMBER 2017-2018

**CRC - $840**

- Resistance: 860
- Average Price: 840
- Support: 685

SEPTEMBER 2017-2018

**HDG - $820**

- Resistance: 925
- Average Price: 820
- Support: 685

SEPTEMBER 2017-2018

**PLATE - $750**

- Resistance: 850
- Average Price: 750
- Support: 595

SEPTEMBER 2017-2018
Commodity CRB Index (short term)
DBB industrial metals index (short term)
Aluminum

LME Aluminum: September 1, 2017

- Resistance
- Support
Gasoline prices. Long term correlation
Gasoline prices. Short term correlation weak
Copper

LME Copper: September 1, 2017

- **Resistance**
- **Support**
Zinc

LME Zinc: September 1, 2017

- Resistance
- Support

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Steel rebar prices

China Steel Rebar Prices in USD/mt

China HDG Domestic Price in RMB/mt

China Zinc Prices in RMB/mt
Nickel
Tin

LME Tin: September 1, 2017

- Red line: Resistance
- Green line: Support

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Lead

LME Lead: September 1, 2017

- Red: Resistance
- Green: Support

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Rising raw material costs

Iron Ore

SOURCE: WWW.TRADINGECONOMICS.COM | OTC
HRC

MetalMiner IndX (SM) HRC: September, 2017

HRC US ($/st)

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China CRC price

China CRC Domestic Price in RMB/mt
MetalMiner IndX (SM) HDG: September, 2017

HDG ($/st)

HDG

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Key Sourcing Strategies for 2017

“Make your move based on the trend you are in”

Strategies for Volatile Markets

1. Know what short-term trend your underlying metal is in (e.g. rising, falling, trendless)

2. Buy on strength not on weakness

3. Don’t try and time the market for the lowest of the lows – lock some percentage of “known demand” when your margins put you “in the money” or

4. Time short-term buys when prices fall close to support

5. Lock in forward buys at the early side of trend reversal

6. Lay low on asking for cost reductions in product adders e.g. coatings, fuel surcharges
MetalMiner Services

1. Prices

2. Forecasting – Take a 2-month free trial!
   https://agmetalminer.com/metalminer-monthly-metal-buying-outlook-2-month-free-trial/

3. Benchmarking
BENCHMARK YOUR METAL SPEND
Against 31,346,352 Price Benchmarks from 1,253 Companies in 23 Industries

The world's best source for accurate industrial metal prices.

We are talking about prices actually paid or quoted, NOT catalog prices. While there are plenty of "transactional polling sites" – most of them simply scrape and compile publicly available information. The MetalMiner™ Benchmark application is completely different. The MMB database contains millions of specific price points allowing for detailed analysis of your metal spend by type, grade, form, and size (e.g. 3003 H14 .050 x 48" x 120' sheets). The goal is simple: to promote price transparency in the marketplace and help you source materials more effectively.
MetalMiner℠ Benchmark

Self-service and full-service capability:

- Anonymously enter a metals price and compare it to the prices others are paying in the aggregate
- Application normalizes data against size and quantity parameters; rationalizes elemental prices
- Analyze pricing based on a variety of filters and reports
- Identify alternative sources of supply