Over 25 Years of industry experience...

Specialized consulting for infrastructure with an emphasis on ports and harbors.

Processing Big Data to provide international trade business intelligence to increase your market share, with two successful products, DuPort Data for ports DuTrade Data for enterprises

Outsourcing of labor intensive engineering services at hourly rates 45% - 65% lower than U.S commercial rates – including CAD services.
Clients & Collaborators

- Sociedad Portuaria Buenaventura
- JHConsultants
- Commonwealth Trading Partners
- SAAB
- Cifro
- UPME
- ALCOA
- United Nations
- Caacupe-mí
Agenda

• What are we so uncertain about?
• The current economic and trade outlook
• How to treat past history
• Rules of the forecasting game
Who would have thought?

WORLD’S BIGGEST SHIPPING LINES

Maersk + Hamburg Sud - 44%
MSC
CMA CGM + APL
COSCO + China Shipping
Hapag Lloyd + UASC
NYK + Mitsui OSK + Kawasaki
Evergreen
Yang Ming
OOCL
Hyundai
Who would have thought?

That **437,363** people would be murdered in Syria since 2011?

11 million without homes
Who would have thought?

We elected a new head of the free world.
D.C. Uncertainties

• Reduced trade volumes?
  • Free trade or less trade

• Port infrastructure funding?
  • Perhaps a big boost – smoother supply chains
These 8 guys have the same wealth as the bottom half of the world’s population—3.5 billion people.
Who would have thought?
The TPP was torpedoed!

Who would have thought?

Ships without crews

RADAR
SONAR
CAMERAS
GPS

= THE CREW

Uber Maritime?

Rolls-Royce
Idle capacity overhang

There are 325 ships not working = 1.5 million TEUs

- 8% of the fleet capacity
- 200 of these idle ships are >3000 TEUs (61%)
- 100 Panamax ships are idle

Effect of the opening of the expanded Canal locks

- Some bigger, younger ships are being scrapped (6500 TEUs)
- Only 12 years old

Source: Alphaliner Newsletter No 15, 2016 and more recent

NOT a repudiation of globalization
Who would have thought?

Mega ships are still being built and deployed. Cascading big ships into trades that don’t have enough volume to support them

\[ \Sigma = 1.7 \text{ million TEUs} \]
... cascading continues in 2017

Especially in the N-S trades

Growth Jan-Dec 2016
Agenda

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The outlook – big picture

• North America and Europe are slowly pulling the train
• China exports are slowing because NA + EU are slow-moving
• Hence, exports from this hemisphere to China have slowed
• Asia’s incomes are still very low and not big enough to fill the shoes of a slowing NA and EU
• And, the US Government’s new trade policies are not yet clear
In the short term, the economic outlooks are fairly positive

<table>
<thead>
<tr>
<th>Country</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colombia</td>
<td>3.1%</td>
<td>2.3%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Chile</td>
<td>2.1%</td>
<td>1.7%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>3.7%</td>
<td>3.8%</td>
<td>3.8%</td>
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<tr>
<td>Mexico</td>
<td>2.5%</td>
<td>2.1%</td>
<td>2.5%</td>
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<tr>
<td>Panamá</td>
<td>5.8%</td>
<td>5.7%</td>
<td>5.9%</td>
</tr>
<tr>
<td>Perú</td>
<td>3.3%</td>
<td>3.7%</td>
<td>4.2%</td>
</tr>
<tr>
<td><strong>USA</strong></td>
<td><strong>2.5%</strong></td>
<td><strong>1.6%</strong></td>
<td><strong>2.9%</strong></td>
</tr>
<tr>
<td>Canada</td>
<td>1.2%</td>
<td>1.3%</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

- Positive
- Weak

**Argentina** 2.1% -1.3% **+3.0%**
**Brazil** -3.8% -3.2% **+1.0%**
**Venezuela** -5.7% -10.0% **-3.0%**

Some carriers didn’t make it

**Hanjin Shipping**

**Corporate Bond Credit Rating**

*Forecasting this event should not have been difficult*

*Source: Alphaliner Monthly, May, 2016*
Some are buying port operations

Long Term Unsecured Credit Rating History

Financial restructuring was too late to buy Hanjin

Now buying 25% of Algeciras

Getting $600 million in government aid

Source: Alphaliner 2016, Issue 15
Ports & Shipping News, #47, 2016
Will the *Pacific Alliance* replace the TPP?

In the last 3 years, the Pacific Alliance has accomplished more than the other free-trade efforts in the last 30 years.

**Will the US join?**

**Probably not!**

Population = 200 million
Income/capita = $10,000
35% of LAM GDP
8th largest economy in the world

“... emerging as one of the most dynamic economic regions in the world” - IDB
Transshipment ports are now clear

Caribbean Transshipment Triangle

- PANAMA
  - MIT (SSA)
  - CRISTOBAL (PPC)
  - COLON (Evergreen)
  - BALBOA (PPC)
  - RODMAN (PSA)

- CAUCEDO

- CARTAGENA

- MOIN

- COLON/MIT

- P. CABELLO

- P. of SPAIN

- SAN JUAN

- FREEPORT

- KINGSTON

- RIO HAINA

- PULPERO
Another transshipment triangle is forming - Pacific
Transshipment benefits – whether East or West

11,634 nm

11,222 nm
Two transshipment centers – Caribbean & Canada
Two transshipment centers – Caribbean & Canada
Two transshipment centers – Caribbean & Canada

HALIFAX – Macquarie

NOVAPORT (Sydney) – Ports America

ST. JOHN – DP World

All have rail service to the rest of Canada
Transshipment in Canada

Extra distance from Rotterdam to NY if you want to transship

- Novaport Sydney: 92 nm
- Halifax: 32 nm
- St. John: 195 nm
Agenda

• What are we so uncertain about?
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How to model the past

\[ A_1X_1 + A_2X_2 \]

\[ A_1X_1 + A_2X_2 + A_3X_3 \]
Axioms for Modeling

• Don’t use $\Delta$TEU / $\Delta$GDP (was 0.2 / 3.4 in H1 2016)
• Always use independent variables that are easier to forecast than the dependent one
• Get monthly data (DUAGA)
• Use statistics to your advantage – manipulate the data to get better fits
• Test short term models by running them long term
• Don’t overload models with too many variables
• Choose a great consultant
Axioms for Forecasting

- All forecasts are wrong
- You should forecast often
- Build scenarios in the face of uncertainty
- Always include at least one macro variable over which you have no control
- Nothing runs in a straight line, except time
- Choose a great consultant
Wrap-up

• Uncertainties – very important to forecast often

• Get the models right – keep testing and adjusting

• Have a ‘best’ forecast and 2 alternatives

• Stay ahead of the changes and the implications

• Choose a great consultant