A SUCCESS STORY OF TRISAKTI PORT, BANJARMASIN
TRISAKTI Port, located 20 miles from Barito River estuary, Banjarmasin, South Kalimantan, Indonesia.

- Geographic position at 03°43’00” N - 114°41’00” E
- Main gate of goods and commodities distribution of South and Central Kalimantan
Old Channel

- Managed by Indonesian’s government
- Ships only can pass the channel 6 hours / day, depending on tidal window
- One way access channel
- High siltation rate (Maintenance dredging volume 2 – 3 million m3 / year)
- Sharp bend channel near the river mouth

Old Access Channel
- Alignment : SSW
- Side slope : 1 : 65
- Dimension : W = 70 - 80 m
  D = - 3,5 M LWS
  L = 14 Km
Problems in the old channel

- High Maintenance cost of the channel being government burden
  - High number of vessel on queue ➔ High congestion at outer bar

- Depending on tidal window ➔ Traffic not continuously for 24 hours
  - High potential risk for ship collisions and grounding

- Longer approaching time

High Cost for Port Services
DETEC Studies

- Based on access channel final report studies at Banjarmasin Port by DETEC, 27 Feb 1998 that Old Channel was ineffective as mentioned below:
  - High Sedimentation (4.5 million m³/yr).
  - Not straight alignment;
  - High maintenance cost.

Recommended by DETEC to develop a new channel with the advantages:
- Low sedimentation (2.5 million m³/yr);
- Straight alignment;
- Lower maintenance cost.
(To optimize maintenance dredging)
Improvement Concept

Based on: The Study to The Access Channel To The Port of Banjarmasin by MH. DETEC; 1997 & 1998

**IMPROVEMENT CONCEPT**
- 24 hours access channel operation
- 2 way traffic
- Minimized siltation in Access Channel
- Significant improvement on Navigational safety

**ALTERNATIVE 1**
Improve Access Channel at Present Position

**ALTERNATIVE 2**
New Alignment Access Channel

**ALTERNATIVE 3**
Submerged Wall & Improve Access Channel at Present Position

- Shorter Execution Time due to Limited traffic hindrance
- Flow direction parallel to Access Channel alignment → improve navigation safety & reduce siltation
- Lower siltation rate → reduce maintenance cost
New Access Channel Alternatives

Existing Alignment Alternative 1 & 3

Sharp Bend

New Alignment Alternative 2 (Choosen)
New Access Channel Selection
New Access Channel

- Managed and maintained by Private Company (JO) → Start operation: January 1st 2009.
- Indonesian government not incurred maintenance cost
- Navigable 24 hour / day
- Two way access channel
- Straight Channel

New Access Channel
- Alignment: S
- Side slope: 1 : 15
- Dimension:
  * W = 138 m
  * D = -5.5 M LWS
  * L = 14 Km
- Geographic Position: 03°39.659” S - 114°28’609” E
## Comparison Old and New Access Channel
### Operational & Technical Condition

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Old Channel</th>
<th>New Channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Physical Condition:</strong></td>
<td>8.6 Nm, 70-80 m 3.5 M LWS 03°40',700&quot; S - 114°45',00&quot; E</td>
<td>8.1 Nm, 138 m 5.5 M LWS 03°39',659&quot; S - 114°28',609&quot; E</td>
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<tr>
<td></td>
<td>Length</td>
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<td>Width</td>
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<tr>
<td></td>
<td>Location</td>
<td></td>
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<tr>
<td>2</td>
<td><strong>Accidents:</strong></td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Collisions</td>
<td>53</td>
<td>3</td>
</tr>
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<td></td>
<td>Grounded</td>
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<tr>
<td>3</td>
<td><strong>Service availability:</strong></td>
<td>6 Hours/day One way</td>
<td>24 Hours/day Two ways</td>
</tr>
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<td></td>
<td>Working Hour</td>
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<td></td>
<td>Traffic Scheme</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td><strong>Maintenance Dredging</strong></td>
<td>4.5 Million M3/Yr</td>
<td>2.5 Million M3/Yr</td>
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</table>
## Comparison Old and New Access Channel Management & Financing Scheme

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<tr>
<td>1</td>
<td><strong>Management Model</strong></td>
<td>- By Government</td>
<td>- By Private Company</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- No Channel fee</td>
<td>- Channel fee</td>
</tr>
<tr>
<td>2</td>
<td><strong>Maintenance Cost</strong></td>
<td>Government burden</td>
<td>Not a Government burden</td>
</tr>
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<td></td>
<td>Financed by channel users (User Pay Concept)</td>
</tr>
</tbody>
</table>
New Management & Financing Scheme

An alternative funding source is needed to accelerate Barito River navigation channel improvement in order to anticipate the occurrence of service deceleration that can cause economic loss. 

**Public Private Partnership (PPP)**

**Financing**
- **Investor**
  - PT, SARANA DAYA MANDIRI
  - Owner: Coal mining company PT. Adaro Energy (51%) & 3 others small mining company (49%)
  - Selected based on the cooperation partners selection / bidding conducted July to August 2007

**Management**
- State Owned Company Ministry
- South Kalimantan Local Government
- Indonesia Port Corporation III
  - Share: 40%
- Local Government – Owned Company PD. Bangun Banua
  - Share: 60%
- JVC Access Channel Management PT. AMBAPERS (Ambang Persada Nusatara)
  - Base on local Government Regulation No. 18 / 2006

**Joint Operation**
- By: Revenue Sharing
- On: User Pays Concept
“USER PAYS” Concept

**Ships carrying mining goods and forest products** have to pay **Channel Fee 0.3 US$ / ton**

This regulation is being enforced since January 1st, 2009 under the Decree of South Kalimantan Governor No. 188.44/0463/KUM/2008, December 24th, 2008

**Access Channel Manager**: PT. AMBAPERS (PT. Ambang Barito Nusa Persada)

Responsibility:
- Access channel management
- Collecting channel fee from channel users

**Channel Fee 0.3 US$ / ton**
**Only for ships carrying mining goods and forest products** (They are main user of the Barito Access Channel) while the others are free of charge

**Investor**: PT. SARANA DAYA MANDIRI

Responsibility:
- Provides Navigation Aids
- Conducting capital and maintenance dredging to assure channel navigability (depth: -5.5 m LWS, width 138 m)

**Revenue Sharing Contract for 15 years**
Revenue sharing after the gross revenue being deducted 6% (in year 11th becoming 10%) for local government royalties

**Share**:
- **Investor (PT. Sarana Daya Mandiri)** 87.5%
- **Access Channel Manager (PT. AMBAPERS)**
  - Year 1 – 5: 12.5%
  - Year 6 – 10: 13%
  - Year 11 – 15: 13.5%
Dredging Implementation

Capital / Maintenance dredging carried out by contractor s hired by Investor : PT. Sarana Daya Mandiri

**Contractor for Capital Dredging :**
PT. PENKONINDO  
( Van Oord's Netherlands Representative in Indonesia )

- Conducted : June 2008 – December 2008
- Cost : 44 million US$ ( Rp. 450 billion)
- Dredged volume : ± 6 million m3
- Dredging Equipment :
  * Cutter Suction Dredger (CSD) / HAM 291
  * Trailer Hopper Suction Dredger (THSD) / HAM 312
  * Water Injection Dredger (WID) / HAM 922
  * Motor Launch (ML) / HAM 814

**Maintenance dredging : by other contractor**

- Conducted : August - December 2009
- Cost : Rp. 100 billion
- Dredged volume : ± 3 million m3 ( silt ing ± 30 cm for 15 km)
- Dredging Equipment :
  Mesuun Ship ; Honduras flagship  
  ( TSHD / Trailer Hopper Suction Dredger )
Impact of New Channel

- **Increase Access Channel Navigation Safety**
- **Increased Ship & barge Dimension with draft up to – 5,5 m Lws**
  
  Coal barge:
  - 2008 : capacity 6.000 – 7.000 ton
  - 2009 : capacity 12.000 – 14.000 ton
  
  Container ship:
  - 2008 : capacity 200 containers
  - 2009 : capacity 500 containers

- **Increased Ship & barge Traffic**
  
  Container Ship Traffic per day
  - 2008 : average 10 ships / month
  - 2009 : average 15 ships / month

  Coal Barge Traffic per month
  - 2008 : average 347 units / month
  - 2009 : average 480 units / month
Impact of New Channel

Increased Cargo Traffic

Container

In 2010 forecasted to reached 300,000 Teu’s
Impact of New Channel

Coal

Increased 41%
Impact of New Channel

飲み水

Additional Revenue from channel fee

Part of the revenue is use to financed the maintenance dredging cost

Channel Fee Revenue :
Target in 2009 (commodity : coal) : Rp. 150 Billion
Realization in 2009 (commodity : coal) : Rp. 162 Billion

Target in 2010 (commodity : coal) : Rp. 180 Billion
(Optimistic about the increasing market demand for coal prices and the world)

Stimulate economic growth and accelerate local / national development
THANK YOU