

# Development of Industry- Wide BunkerNet System

## CFC Briefing

**Goh Kwong Heng**  
**Deputy Director**  
**Research & Technology Development**  
**MPA**

# Outline

- **The Singapore Bunker Industry**
- **BunkerNet**
  - Objective
  - Scope
  - Functionalities and Platform
  - Design requirements
- **CFC**
  - Eligibility
  - Support from the Government
  - Selection Process
  - Submission format
  - Timeline

# The Singapore Bunkering Industry

<b>Year</b>	<b>Bunker volume (tonnes)</b>
2005	<b>25.5 million</b>
2006	<b>28.4 million</b>
2007	<b>31.5 million</b>

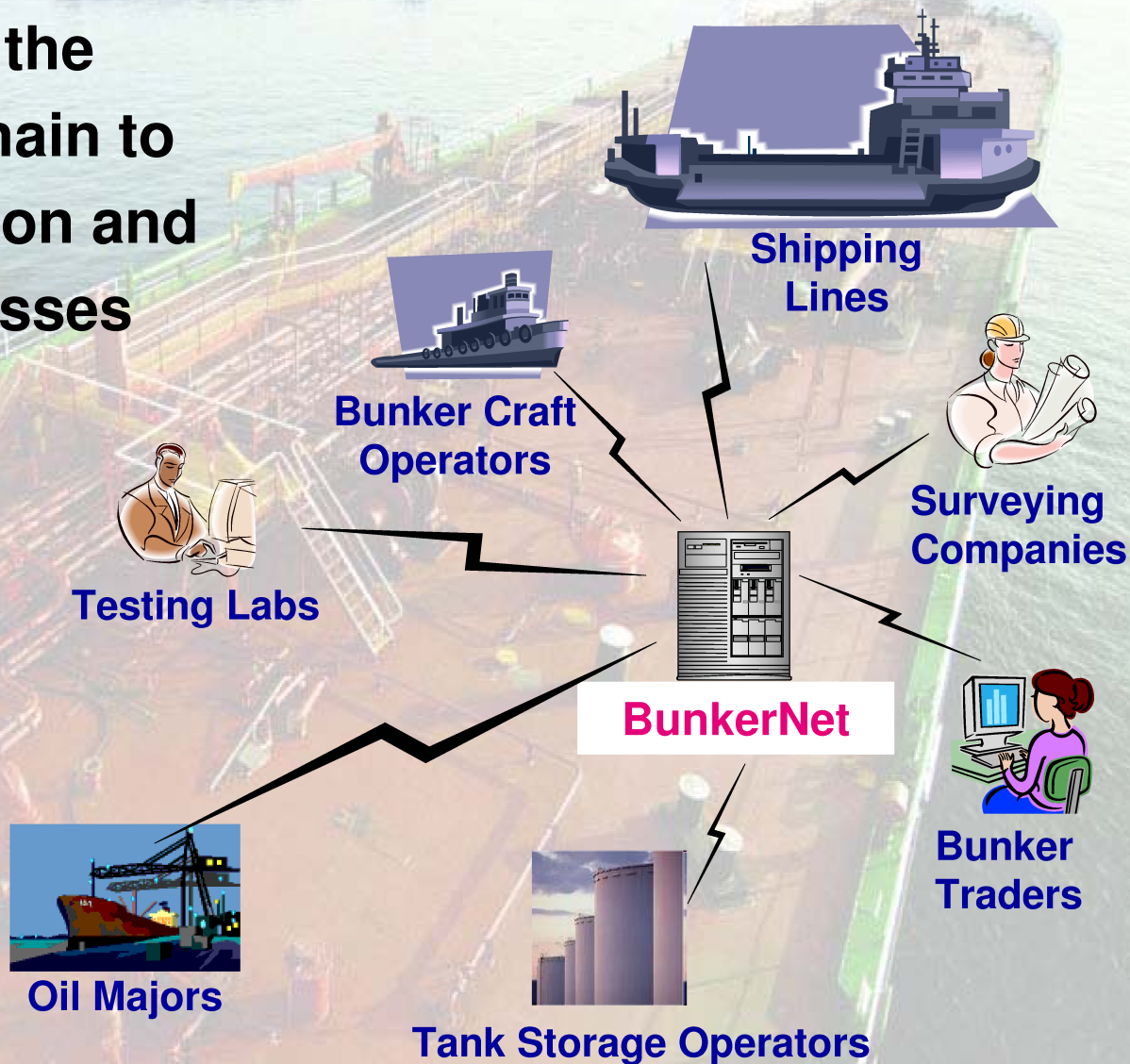
- 3rd largest refinery centre
- 75 licensed bunker suppliers in Singapore
- 150 Bunker Tankers
- 3,000 bunker deliveries per month

# The BunkerNet



# Vision of BunkerNet

- Create a network linking all parties within the bunker supply chain to provide automation and streamline processes



# Objectives of BunkerNet System

- Further enhance the efficiency, safety and security of **Bunker Delivery operations** through the use of ICT
- Encourage the early development of applications to drive up WISEPORT Network adoption rates

# The Singapore Standard Code of Practice for Bunkering (SS CP60)

- **All Bunker Suppliers and Bunker Craft Operators in Singapore are licenced by MPA and must comply with SS CP60**
  
- **SS CP60**
  - lays down the minimum documentation and equipment requirements and, verification procedures during a bunkering operation
  - covers pre-delivery, actual delivery and post-delivery checks and documentation
  - Every bunkering operation carried out by bunker tankers to ships in the Port of Singapore shall follow the SS CP 60
  - By carrying out the bunker delivery process systematically in accordance to SS CP 60, the likelihood of a bunkering dispute should be minimised

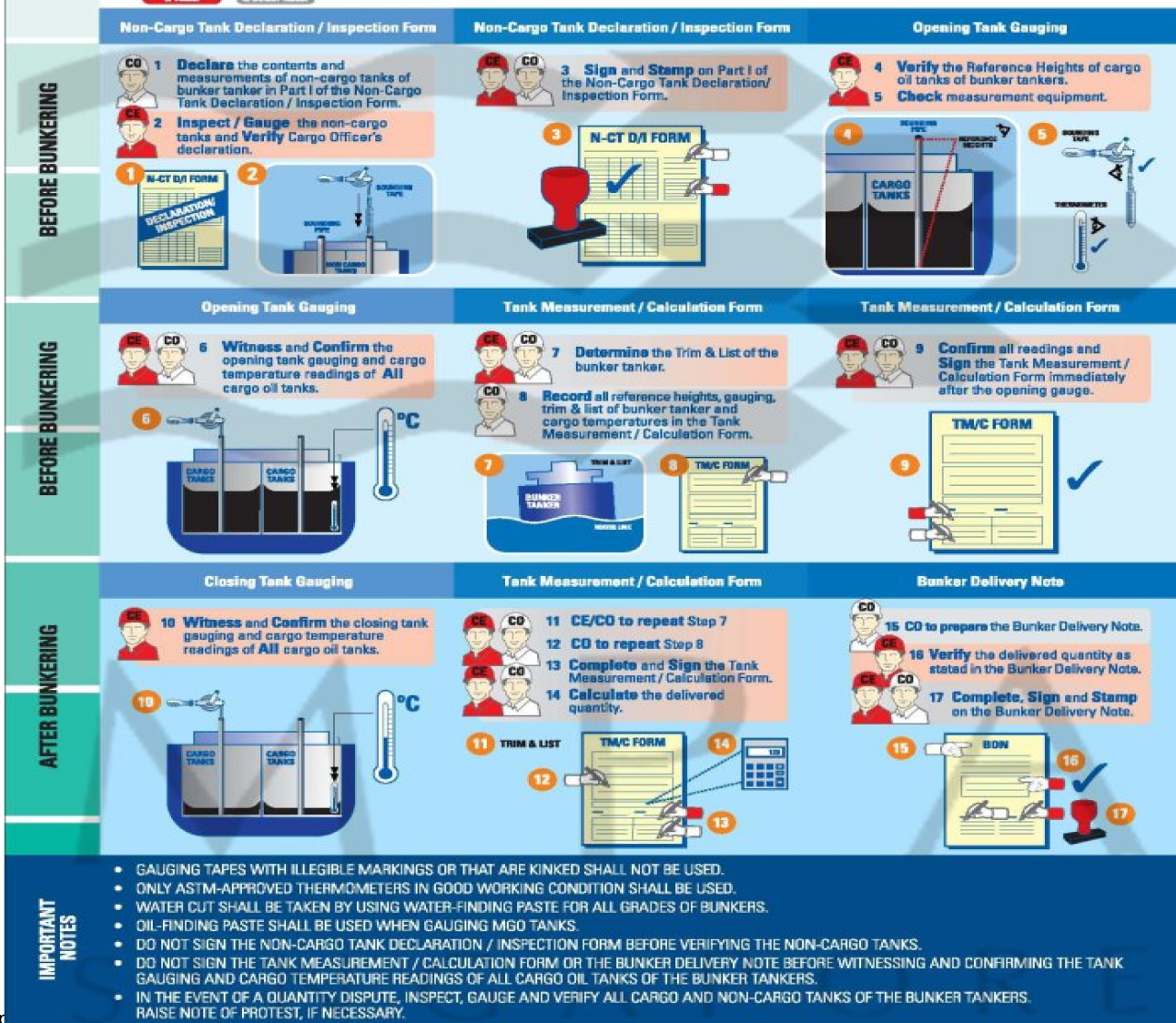
(SS CP 60 can be purchased at SNP Corporation Ltd)



## LEGEND



**Chief Engineer** should check and ensure that SS CP60's pre-delivery conference and documentation procedures are carried out.



## IMPORTANT NOTES

- GAUGING TAPES WITH ILLEGIBLE MARKINGS OR THAT ARE KINKED SHALL NOT BE USED.
- ONLY ASTM-APPROVED THERMOMETERS IN GOOD WORKING CONDITION SHALL BE USED.
- WATER CUT SHALL BE TAKEN BY USING WATER-FINDING PASTE FOR ALL GRADES OF BUNKERS.
- OIL-FINDING PASTE SHALL BE USED WHEN GAUGING MGO TANKS.
- DO NOT SIGN THE NON-CARGO TANK DECLARATION / INSPECTION FORM BEFORE VERIFYING THE NON-CARGO TANKS.
- DO NOT SIGN THE TANK MEASUREMENT / CALCULATION FORM OR THE BUNKER DELIVERY NOTE BEFORE WITNESSING AND CONFIRMING THE TANK GAUGING AND CARGO TEMPERATURE READINGS OF ALL CARGO OIL TANKS OF THE BUNKER TANKERS.
- IN THE EVENT OF A QUANTITY DISPUTE, INSPECT, GAUGE AND VERIFY ALL CARGO AND NON-CARGO TANKS OF THE BUNKER TANKERS. RAISE NOTE OF PROTEST, IF NECESSARY.

# Current Bunker Delivery Process

## Pre Bunkering:

- Get delivery details from back office (SMS/phone, Bunker requisition form)
- Load product from terminals

## Barge Alongside:

- Record barge alongside time on BDN
- Chief Engineer to acknowledge on Bunker Requisition form
- Prepare pre-delivery documents (Non-Cargo Tank Declaration Inspection Form, Tank Measurement Calculation Form, Safety checklist)
- Check quantity of fuel and record in stock movement log book

## Start Bunkering:

- Record pumping start time
- Collect samples

## After Bunkering:

- Seal samples and record number on BDN
- Record pumping end time on BDN
- Measure tanks (record on TMC) and manually calculate actual quantity on BDN
- Update Stock Movement logbook
- Print 4 or 5 copies of BDN to be signed and stamped by Chief Engineer (Vessel), Barge Crew & Surveyor
- Inform office of job completion through SMS or voice
- Return original copy of BDN to office during change of shift
- Submit KPIs to MPA for assessment
- Report barge movement to MPA

# Functionalities of BunkerNet – Phase 1

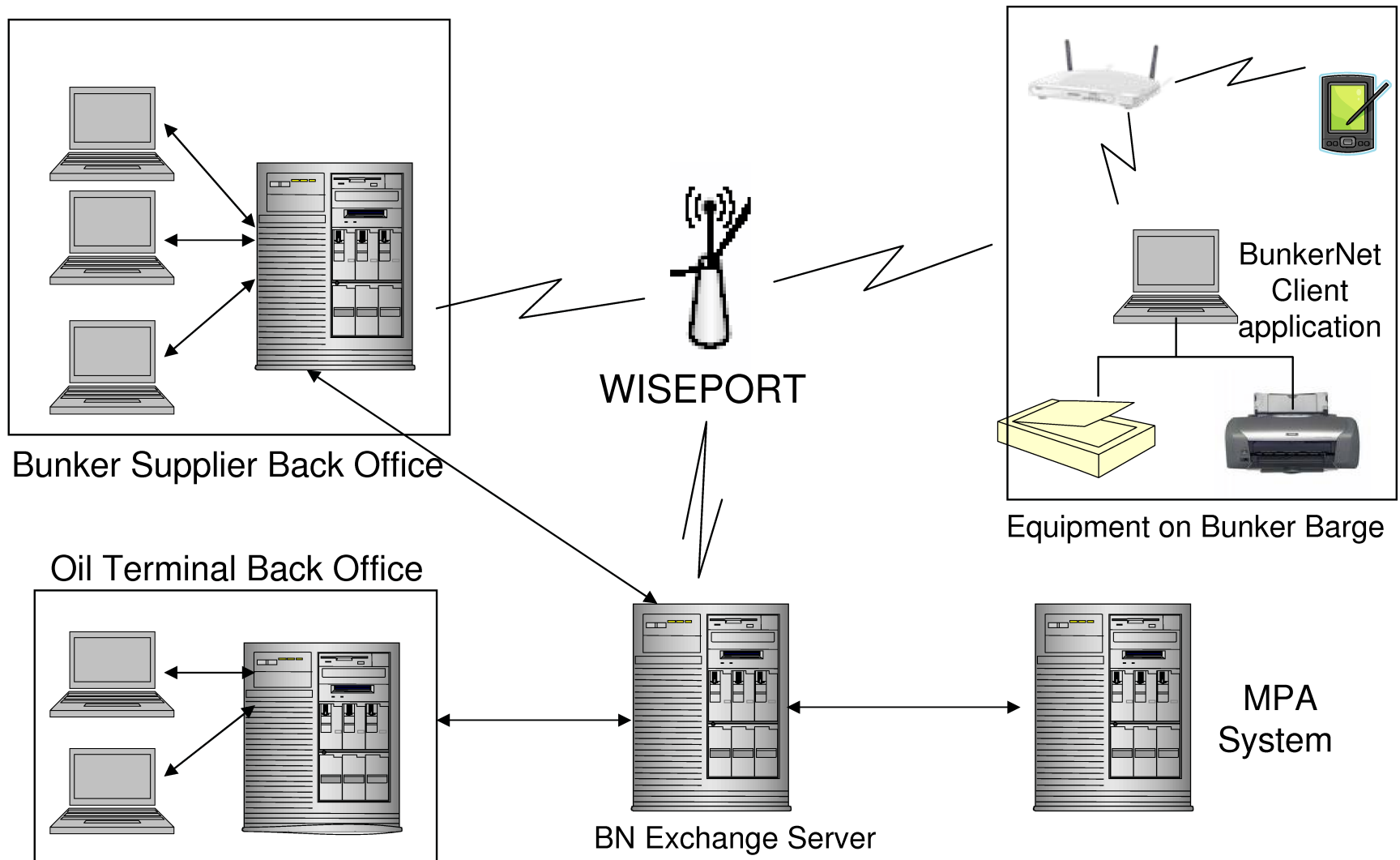
<p><b>Improve Supply Chain Visibility</b></p>	<p><b>Automate Workflow based on SS CP 60</b></p>	<p><b>Enhance Safety &amp; Security</b></p>
<ol style="list-style-type: none"> <li>1. 2 way data-comm btw barge &amp; office</li> <li>2. Real time barge tracking at back office (to be provided by MPA)</li> <li>3. Receipt of ops schedule and vsl position by bunker barge from office &amp; MPA respectively</li> </ol> <p>(Vsl position info from MPA is chargeable)</p>	<ol style="list-style-type: none"> <li>1. Electronic capturing &amp; printing BDN on barge &amp; routing to office</li> <li>2. Scanning &amp; faxing/e-mailing of documents from barge to office</li> <li>3. Electronic capturing of stock movement</li> <li>4. Auto Tank calculation</li> <li>5. Reporting of barge movements to MPA</li> <li>6. Electronic capturing of non-cargo tank declaration &amp; tank measurement forms</li> </ol>	<ol style="list-style-type: none"> <li>1. E-submission of safety reports from barge to bunker supplier</li> <li>2. <b>Remote surveillance of bunker ops by CCTV / webcams</b></li> </ol>

# Functionalities of BunkerNet – Phase 2

<b>Supply Chain Visibility</b>	<b>Automate Workflow</b>	<b>Safety &amp; Security</b>
1. Posting of berthing schedules by oil terminals and storage operators	1. Electronic issuing of Certificate of Quality and Bill of Lading by oil terminals  2. Digital signature for BDN	1. Electronic authentication of bunker surveyors

➤ Need for phase 2 will be reviewed after the implementation of phase 1

# Concept of BunkerNet Platform





# BunkerNet Design Considerations

- **Easily up-scaled and upgraded to**
  - Support additional users
  - Phase 2 workflow and functionalities
  - Other new applications and requirements
- **Data reliability, integrity and security**
- **Data confidentiality**
  - no user info to be stored in BunkerNet
- **Open standards and protocols**
- **Use of low-cost shared national platform. E.g. TradeXchange**
- **Ease of maintenance and systems upgrade**

# The BunkerNet CFC

# BunkerNet Call-for-Collabroation (BN CFC)

- **Invite ICT Service Providers to**
  - Design and develop BunkerNet
  - Conduct pilot trials on system
  - Operate the system

# BunkerNet CFC - Eligibility

## For Individual Company :

- **Registered in Singapore with the Accounting & Corporate Regulatory Authority (ACRA)**

## For Consortium

- **At least the Consortium Leader be registered in Singapore with ACRA**

# BunkerNet CFC - Support from Government (if required)

## ➤ **Co-fund the costs of :**

- Systems development
- Test-bedding
- Commercialisation of BunkerNet

## ➤ **Components can be co-funded :**

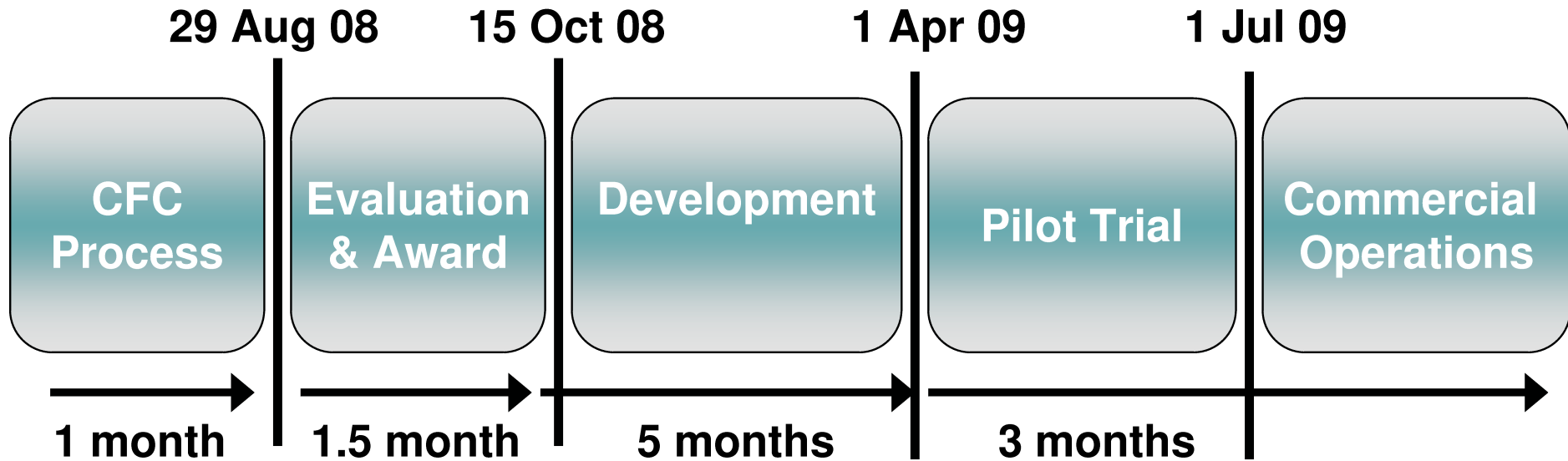
- Manpower
- Hardware
- Software
- Professional Services; and
- Materials, ICT Services & Intellectual Property Rights

## ➤ **Note – Support is not a Grant**

# BunkerNet CFC – Selection Process

- **Qualification of ICT Service Providers**
- **Attractiveness of Business Plan**
- **Amount of funds requested and payback period**
- **Ability to deliver – based on track record & domain knowledge, time frame of system development**
- **Ability to provide a commercial service and competitive prices of the services**

# BunkerNet CFC – Timeline



## ➤ Milestones

- 8 Aug 08 – Industry Briefing
- 29 Aug 08, 1600hrs – Close of BN CFC
- Aug – Oct 08 – Evaluation & Award BN CFC
- Oct 08 – Mar 09 – Development
- Apr 09 – Jun 09 – Pilot trial
- Jul 09 – Commercialisation of Services

# BunkerNet CFC – Proposal Submission

## To Include:

### ➤ **ICT Service Providers'**

- Capital resources
- Manpower resources
- Assets
- Production capacity
- Other relevant information

### ➤ **Summary of Proposal (Annex C)**

### ➤ **Proposal together with covering document (Annex D)**

### ➤ **System Implementation Plan**

### ➤ **Business Plan**



# BunkerNet CFC – Proposal Submission

## Proposal

3 hard copies

1 soft copy in CD-ROM

## Submitted to

Tender Box 4 at

460 Alexandra Road #18-00

PSA Building

Singapore 119963

**Deadline for submission – 29 Aug 09, 4pm**

# Thank You

**Email: [wendytoh@mpa.gov.sg](mailto:wendytoh@mpa.gov.sg)**

# WISEPORT Broadband Coverage Areas

