# Control and Enforcement Systems: Implementation and Issues

**Sustainable Fishery Management**
**Through Information Management (FLUX)**

**27 Apr 2016 UN/CEFACT XXVII Forum**

**Geneva, Switzerland**

**Technical Team**

**Command Center for Combating Illegal Fishing (CCCIF) Thailand**

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Thank you for an invitation for CCCIF to share in this conference.

I am going to tell you two things.

# 2

# What have we done in terms of system implementation to combat IUU?

# What issues did we encounter and how we plan to proceed?

# … but before we begin …

We are a pure “**technical**” team looking for possible “**solutions and collaboration opportunities**” to make solid and reliable advancement.

**We can not make any comments on policies.**

# Our objectives

"LEARN" more about FLUX.

"EVALUATE" its implication.

"APPLY" it to our use case.

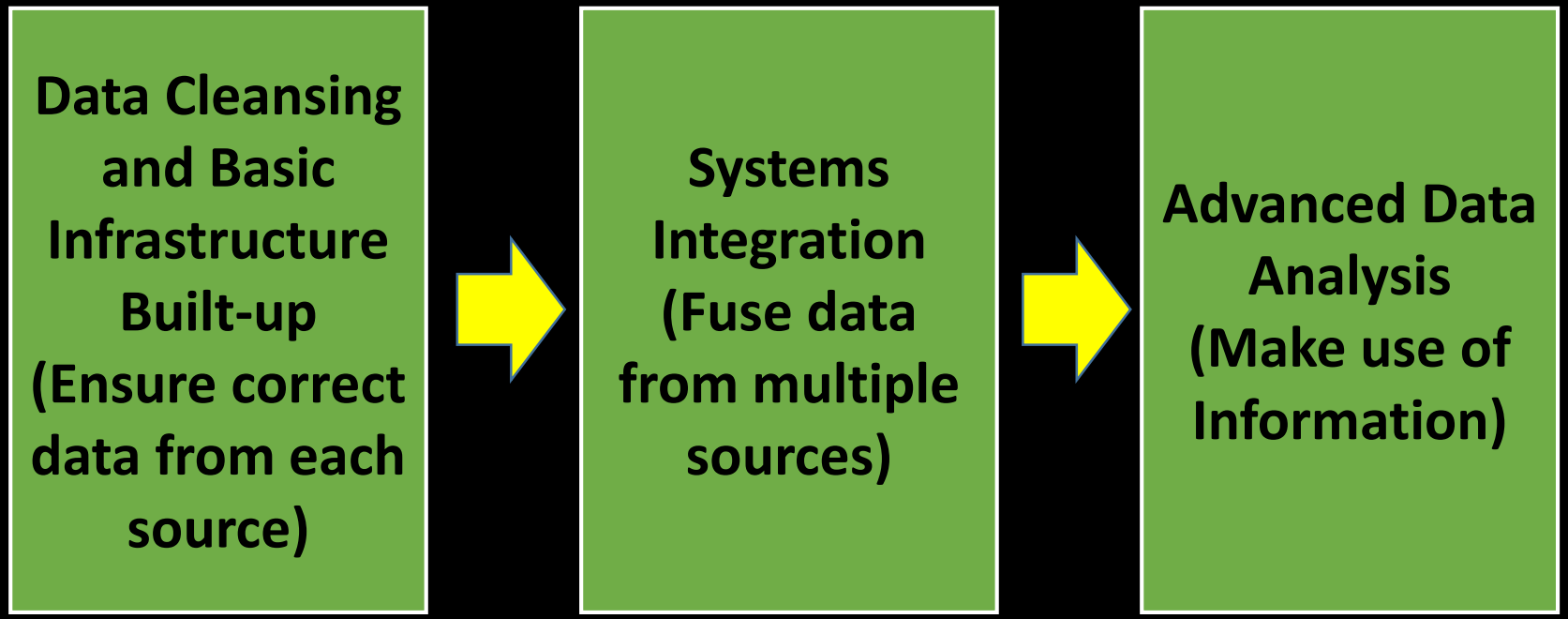
# About
# Command Center for Combating Illegal Fishing (CCCIF)

# CCCIF is comprised of several working groups, e.g.:

- Vessel and fishing license registration
- Vessel Monitoring Systems (VMS)
- Labor control and monitoring
- Traceability systems
- Law enforcement

# Overall System Implementation Plan

## "Three Phases"



# Prior to CCCIF

**Marine Department**
**Database:**
**- Vessel Registration**

**Department of Fisheries**
**Database:**
- **Fishing Licenses**
- **VMS**
- **MCPD**
- **MCTD**
- **PIPO**
- **Logbook**

**Department of Employment**
**Database:**
- **Labors**

**Custom Department**
**Database:**
- **Import/Export**

**Causes**

- Several Organizations
- Separate Databases
- Not linked
- Some Manual Inputs

**Effects**

- Slow
- Discrepancies
- Misunderstanding
- Cannot make decision effectively

# Phase 1 Data Cleansing & Basic Infrastructure Built-up

1

**Cleanse Data**

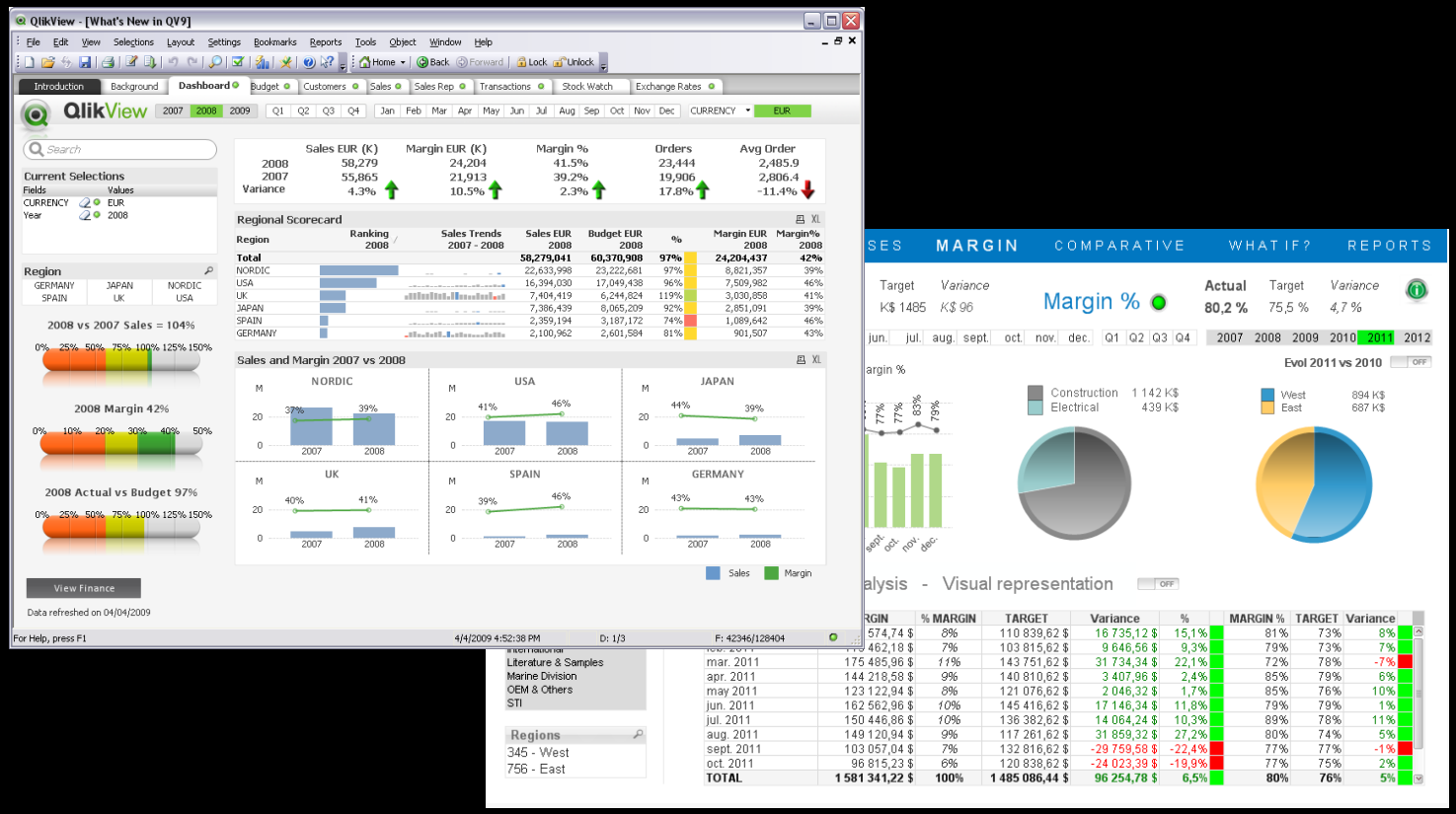
- Vessel Registration / Fishing Licenses / VMS / PIPO
- Checking original documents (papers)
- Cross reference Marine Department and Department of Fisheries Databases
- Although time consuming, but we did it.

2

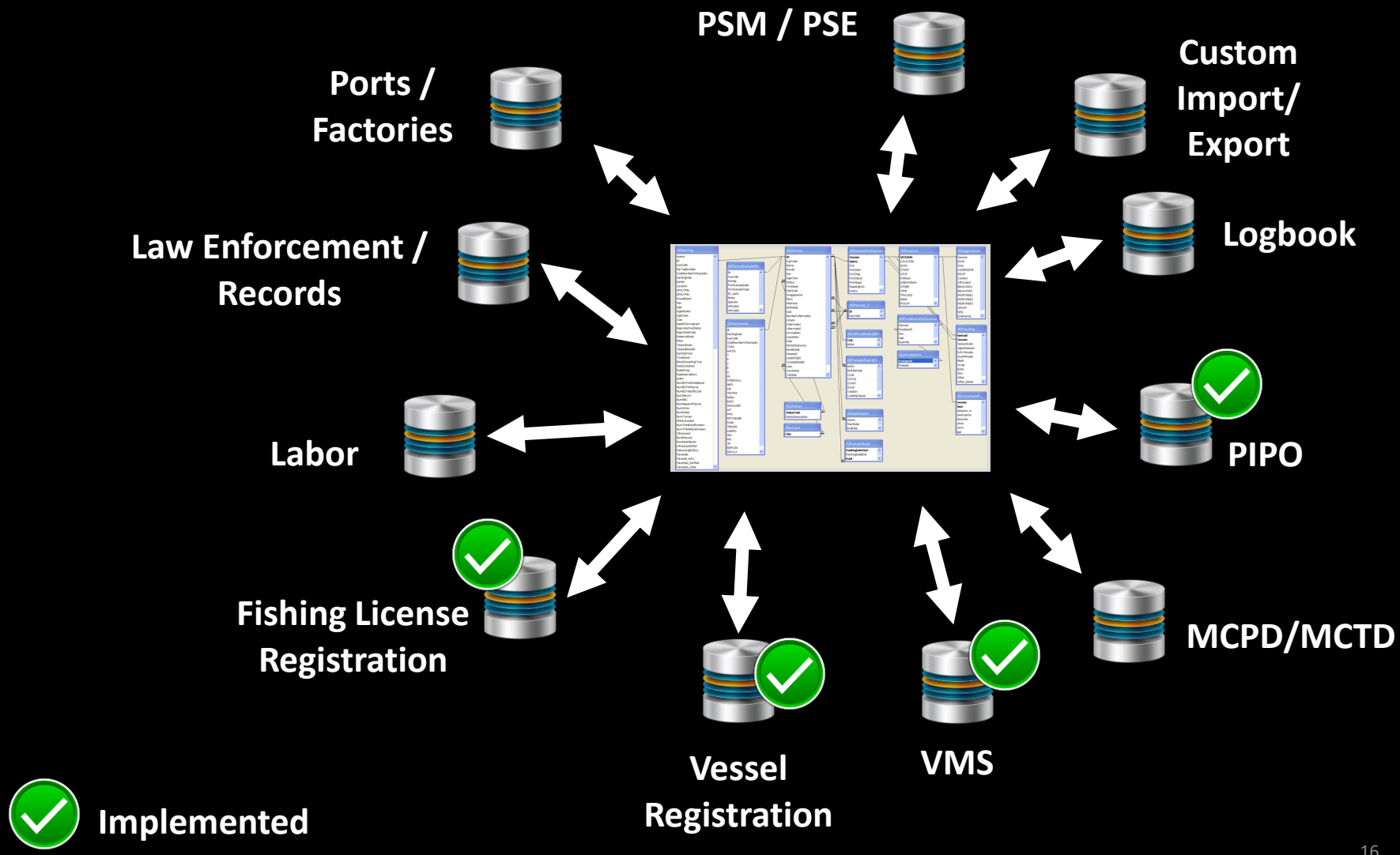
**Basic Infrastructure**

- Link Vessel Registration, Fishing Licenses, VMS, PIPO databases using Web services.
- Combination of commercial & open source tools (Python Framework + Postgres, OpenRefine)

# We use Business Intelligence Tool (Qlikview) for Rapid Prototyping of Data Visualization and Exploration.



# Phase 2 System Integration (WIP)

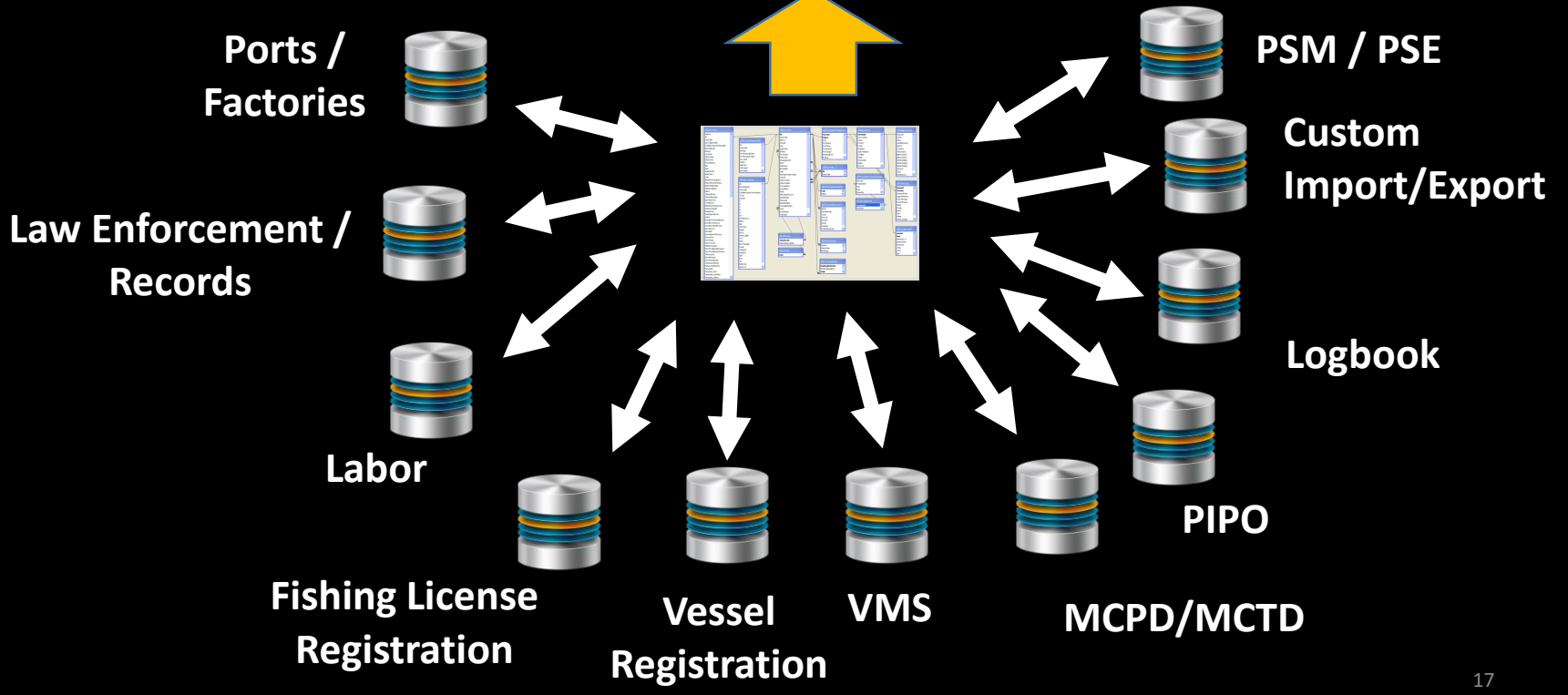


# Ultimately (Phase 3)

**Fishery Management**

Accurate Timely Data

**Advanced Data Analysis**
**(Automate Data Input & Cross Reference Checking)**



# Automate Information Cross Checking

Vessel Registration ✓

Fishing License Registration ✓

Labor ✓

Law Enforcement / Records ✓

PIPO ✓

Ports / Factories ✓

VMS ✓

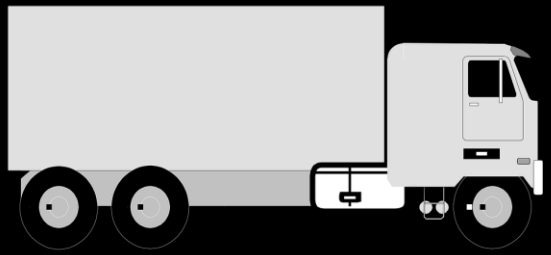
MCPD/MCTD ✓

Logbook ✓

?

**Right: Time, Place, Gear, Vessel, People, Fish, Process???**

# Traceability (Domestic) System Design Use Case.



Vessel Owner

Middle Man

Factory

Accurate records common to 3 parties already exist.
Question: How to set up a system
to obtain this information, quickly and reliably?

# The point is …

**We need a common and reliable language or template to communicate/exchange information across the board.**

**We hope FLUX can help set a solid and reliable foundation for long-term success, preventing us from reinventing the wheel, and shorten development time.**