

GLOBAL SUPPLY CHAIN SECURIZATION  
AS APPLIED TO SEAPORT OPERATIONS:  
A KNOWLEDGE-BASED APPROACH

PRESENTATION AGENDA

1 - GLOBAL SUPPLY CHAIN PERFORMANCE



2 - SECURING THE SEAPORT LINK



3 - KNOWLEDGE-BASED DECISION SUPPORT SYSTEM



# 1 - GLOBAL SUPPLY CHAIN PERFORMANCE

GLOBAL SUPPLY CHAIN = NETWORK OF ACTORS

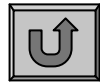


FINAL CUSTOMERS = PRESENT AND POTENTIAL



COMPETITION = MULTI BASED CONCEPT

# GLOBAL SUPPLY-CHAIN



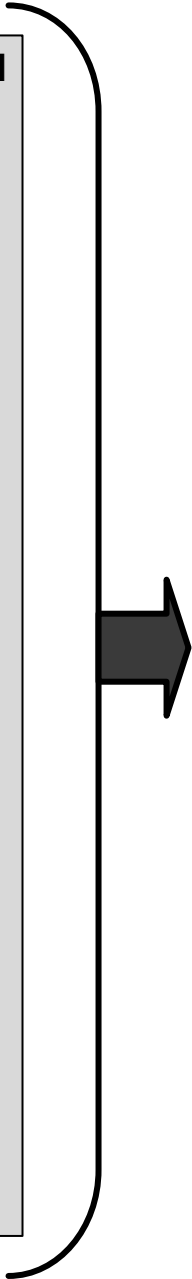
**PRODUCTION NETWORK**

Three identical icons of a factory with two smokestacks, arranged vertically within a rectangular frame.

**TRANSPORTATION NETWORK**

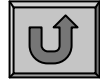
A large oval containing six icons representing different modes of transport: a train, an airplane, a globe with arrows, a truck, and a ship with a crane.

**DISTRIBUTION NETWORK**

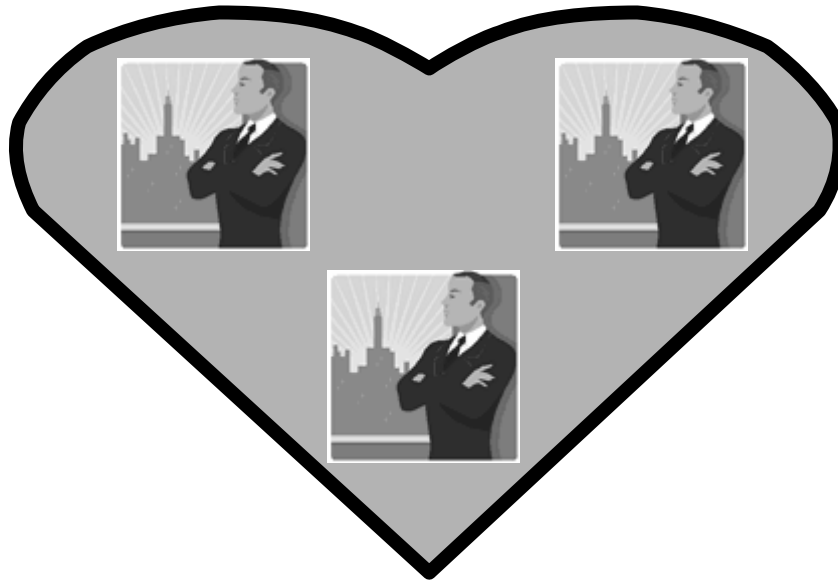
Three identical icons of a hand truck carrying a stack of boxes, arranged vertically within a rectangular frame.

**F I N A L  
C U S T O M E R S**

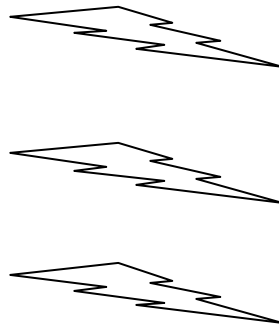
# FINAL CUSTOMERS



**PRESENT CUSTOMERS, TO KEEP FROM COMPETITORS**



**POTENTIAL CUSTOMERS, TO ATTRACT FROM COMPETITORS**



**C  
O  
M  
P  
E  
T  
I  
T  
I  
O  
N**

# COMPETITION



abc abc abc abc abc abc  
abc **COST-BASED** abc  
abc abc abc abc abc abc

+

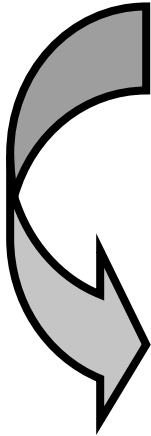
6s 6s 6s 6s 6s 6s 6s 6s  
6s **QUALITY-BASED** 6s  
6s 6s 6s 6s 6s 6s 6s 6s

+ +

e-log e-log e-log e-log e-log  
e-log **TIME-BASED** e-log  
e-log e-log e-log e-log e-log

+ + +

# SECURITY-BASED !!!



## 2 – SECURING THE SEAPORT LINK

WORLD-WIDE TRADING

+

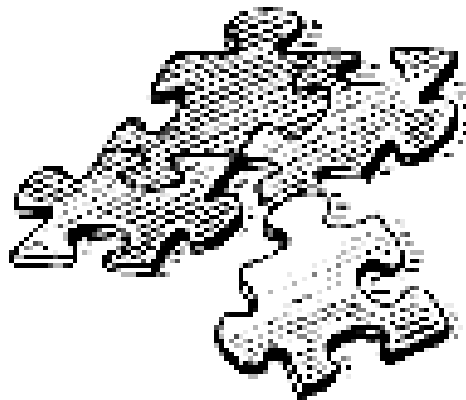
LOGISTICS NETWORKS' COMPLEXITY



SEAPORT = SECURITY-WEAK(est ?) LINK !!



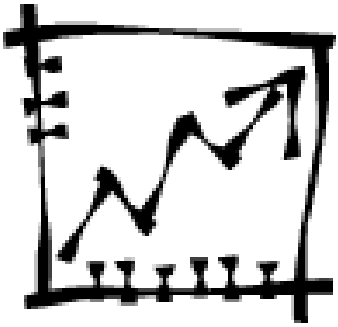
+



=

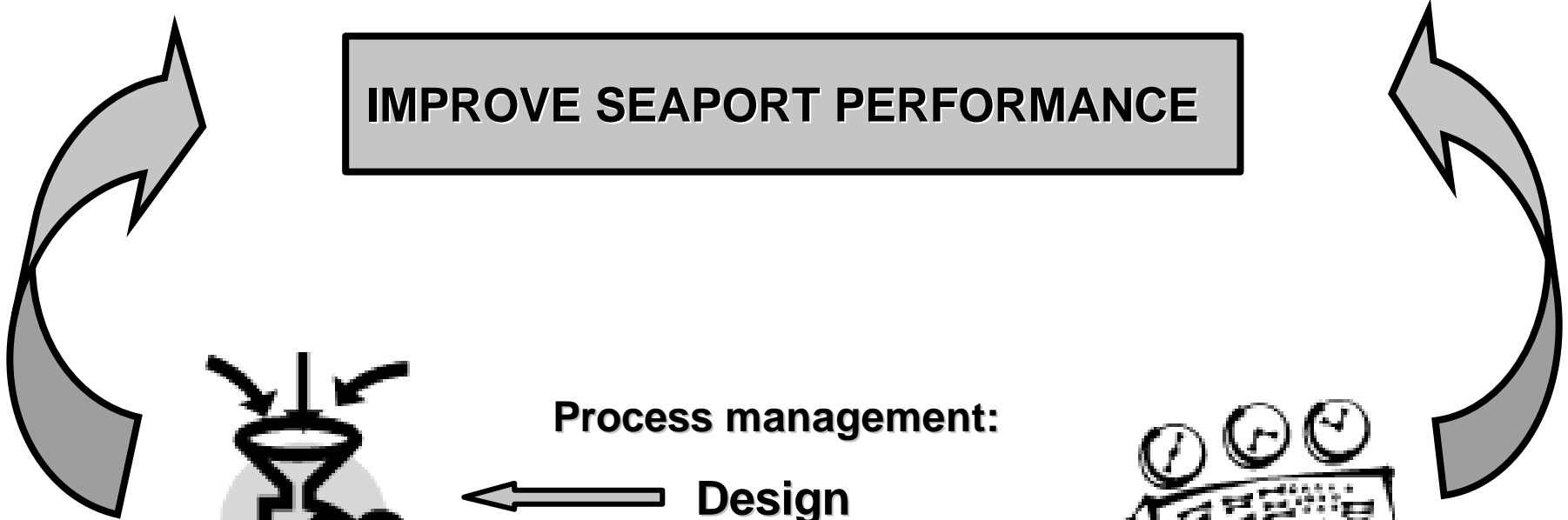


cost  
delay

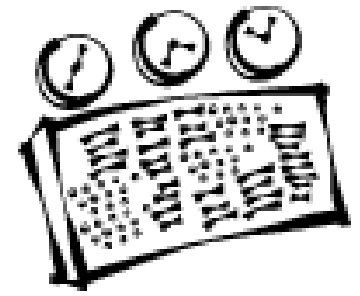


quality  
**SECURITY**

**IMPROVE SEAPORT PERFORMANCE**



Process management:



**DECISION SUPPORT SYSTEMS**

**PERFORMANCE MEASUREMENT SYSTEM**

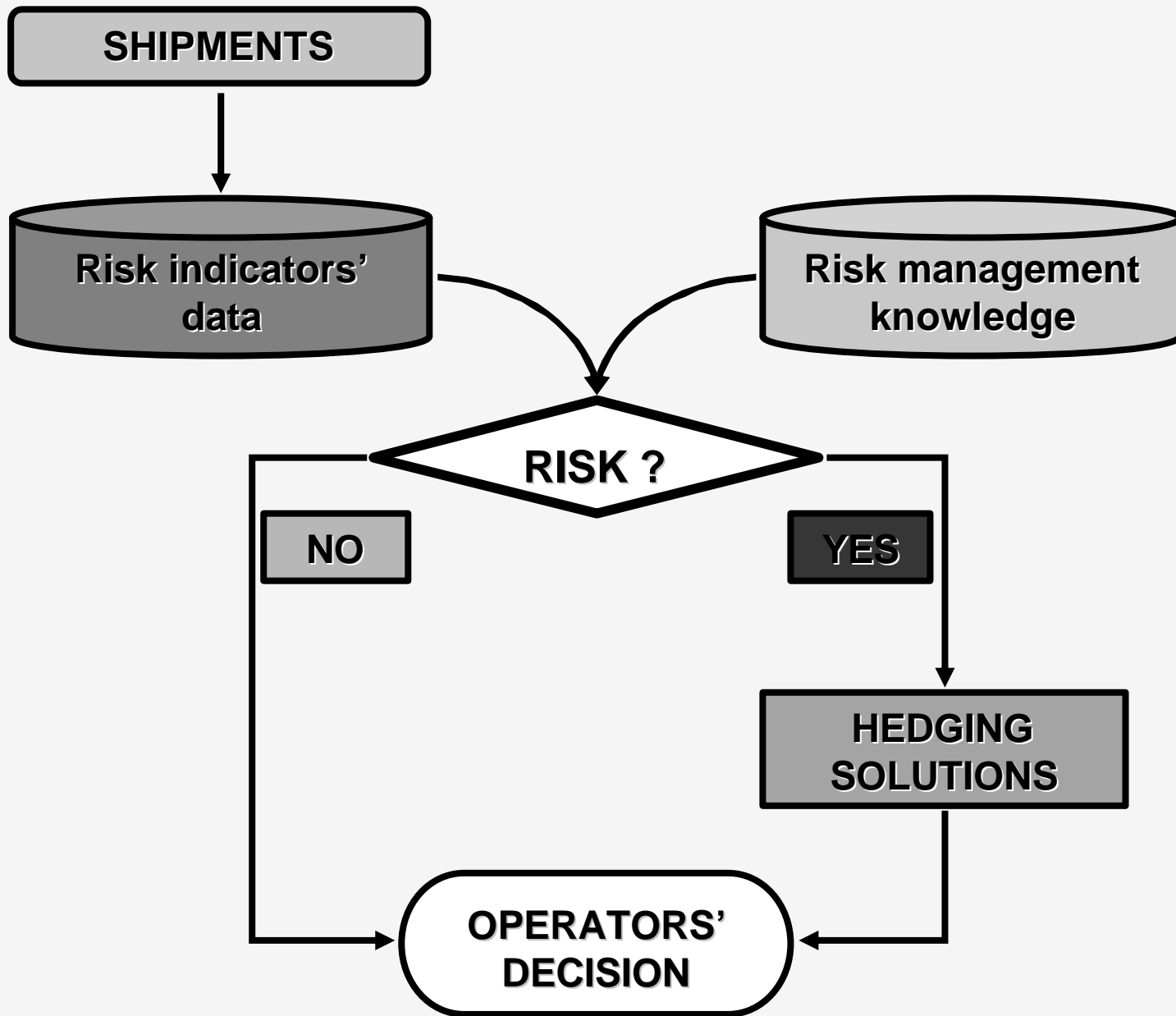
## **3 - KNOWLEDGE-BASED DECISION SUPPORT SYSTEM**

### **GENERAL PURPOSE:**

- Identify risky shipment
- Assess shipment's risk characteristics
- Decide on how to deal with shipment

### **METHODOLOGY:**

- Container shipment case studies
- Activity-resource modelling
- HACCP-like risk management
- Expert-system DSS architecture



**DATA BASE FEEDING:  
(Risk identification)**



**Collect data on risk indicators:  
EDI, RFID, ...**

**KNOWLEDGE BASE FEEDING:  
(Risk assessment, hedging)**



**Collect knowledge:  
PROTOCOL ANALYSIS,  
DATA ANALYSIS**

**KEY SUCCESS FACTORS:**



**COLLABORATIVE APPROACH  
EXPERT TEAM**



**THANK YOU FOR LISTENING ...**

**YOUR CONTRIBUTIONS  
WELCOME !!  
NOW : ???  
LATER : [chf@univ-lehavre.fr](mailto:chf@univ-lehavre.fr)  
[olivier.joly@univ-lehavre.fr](mailto:olivier.joly@univ-lehavre.fr)**

