



### Business Intelligence for Business Intelligence (BI4BI): A case study at STMicroelectronics

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We can not manage what we do not measure!!



### Introduction

The context at STMicroelectronics

### Business Intelligence for Business Intelligence (BI4BI)

- Objects identification
- DataWarehouse modeling
- Technical architecture
- Discussion

Conclusion and perspectives

## Introduction



### Business Intelligence (BI):

 to transform data from different sources into relevant information for decision making



### **Exemple:** The work in progress of wafers per equipment and month



### **Crolles300 site in Grenoble**





#### Datawarehouse

Collect, simplify, and to store production and manufacturing data, with indicators to monitor its activity.

#### **Business Objects (BO)**

querying, reporting and monitoring data about the production activity with accessible reports of different types

#### **Crolles300 site in Grenoble**





A notification platform by email for each new creation or update of a report with a brief description. The platform for reports sharing publishing created reports. Functionalities: favorite reports, sharing with colleagues accessing to their documentation A WIKI for knowledge sharing to cover the support, technical, business and project documentation





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Research question: How to align BI with business needs

A solution for evaluating, analyzing and making decisions about the BI system

Our solution: Business Intelligence for Business Intelligence BI4BI







To develop a BI system for **evaluating, analyzing** and **making decisions** about the system itself in order to ensure **its evolution** 

- To define evaluation criteria and associated indicators for assessing a BI system
- To **measure** and integrate them in the BI system
- To ensure an evolutionary solution of the BI system, while involving users

## **Our proposal: BI4BI**







1- To define BI evaluation criteria

2- To define indicators and dimensions

3- To model the dimensional database

4- To develop the model in the BI system

**5- Reporting results** 

### 1. BI evaluation criteria identification: iso 25000



### 2. Indicators analysis and measures identification:



BO: Functional suitability criterion			
Sub-criterion: Functional completeness			
Indicators	Measures	Types of measures	Dimensions
Objects coverage	Number of BI objects uses	Objective	time, domain, BO objects, user
	Number of covered domains by BI in the organization	Objective	domain
	Number of available reports in BO	Objective	time
	Number of duplicated or similar BI objects	Objective	domain, BO objects
	Number of reports created after BI modelling	Objective	time, domain, report, user
Activity evolution	Number of requests for creating objects	Objective	time, domain, BO objects, user
	Cycle time of reports creation	Objective	time, domain, report, user
	Number of requests for correcting BI objects	Objective	time, domain, BO objects, user
	Number of participants in creating a report	Objective	time, domain, report, user





### 4. DWH modeling: Snowflake Schema





### **Discussion**







### Contributions:

- A BI4BI system
  - Co-construction
  - Feasible
  - Innovative
- Perspectives:
  - To complete the BI4BI system development with its objects, models and datawarehouse
  - To generalize our solution: From BI4BI to BI4IS



# Thank you