

DOCUMENT FOR CYRIL - BOM EXPERIMENT CHALLENGE

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Subject: Answers + Multi-level BOM Challenge

ANSWERS TO YOUR QUESTIONS

1. Can multiple people be responsible for a single process?

Answer: Let's distinguish clear roles:

- **EXECUTOR:** who performs the action (Marco assembles)
- **CONTROLLER:** who verifies the result (Simona checks quality)
- **RESPONSIBLE:** who coordinates the process (Luca approves)

2. What modules to implement?

Answer: Interfaces for each macro-process from the Process List. **IMPORTANT:** Muhammad's work on interfaces is excellent - continue on that foundation.

3. DNA length?

Answer: Standard already defined:

- **Format:** 3 letters + YEAR + progressive number
- **Example:** OFC25124, TSK25501, PRJ35987
- **Complete DNA:** PRJ35987/OFC25124/TSK25501

4. The 16 specialized system tables?

Answer: The 13-15 macro-processes from your Process List.

5. The 3 product management tables?

Answer: Not 3 tables for products, but **3 universal tables:**

- **ETY** = orchestrators that coordinate
 - **LOG** = registration of every action
 - **RES** = everything that exists (for now your specialized tables)
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KEY QUESTIONS FOR CYRIL

QUESTION 1: THE MISSING COORDINATOR

When a customer orders CARTELLA_4ANTE, multiple activities are born:

- TSK25501 (confirmation phone call)
- PRJ35987 (main project)
- TEC25200 (technical sheet)
- PRD25150 (production)
- OCL25300 (order management)

WHO COORDINATES that all these activities belong to the same customer order? How do you guarantee complete traceability?

QUESTION 2: MATTER AND PROCESS TOGETHER

A PRODUCT is simultaneously:

- **WHAT IT IS:** materials, weight, color, price (physical aspect)
- **HOW IT'S MADE:** sequence of operations, times, resources (process)

In your ENTITIES tables you have Products, but **where do you record the processes** to create that product? How do you unite MATTER and ACTION?

QUESTION 3: THE BOM PROBLEM

When you create BOM for COPERTINA_4ANTE:

- You need PLANCIA (material in warehouse)
- You need FASE200_ASSEMBLY (production process)
- Result is COPERTINA_FINITA (new material)

In which table do you put processes and materials together? How do you manage that the result of one process becomes material for the next process?

QUESTION 4: HIERARCHICAL DNA

If FASE200 has 5 elementary operations (OE01, OE02, OE03, OE04, OE05), each OE creates a semi-finished product that becomes input for the next one.

How do you trace that OE03 uses the output of OE02? Do you need a structure that **orchestrates** this sequence?

QUESTION 5: ORCHESTRATOR TABLE

Imagine an **ETY_COORDINATORS** table that says: *"For COPERTINA_4ANTE you need: PLANCIA + COLLA + ONDULATI + FASE200(OE01→OE02→OE03→OE04→OE05) = COPERTINA_FINITA"*

This table **unites** matter and process. Does it make sense to you?

CHALLENGE: BOM EXPERIMENT

CONCRETE PROPOSAL

Develop **simplified database** only for BOM management that demonstrates:

OBJECTIVE: Manage COPERTINA_4ANTE with:

- **Materials:** PLANCIA, COLLA, ONDULATI
- **Process:** FASE200 (5 elementary operations)
- **Traceability:** Complete DNA of every movement
- **Result:** COPERTINA_FINITA registered as new resource

3 EXPERIMENT TABLES

ETY_ORCHESTRATORS

DNA_Entity: COPERT25001
Type: BOM_PRODUTTIVO
Recipe: [PLANCIA+COLLA+ONDULATI] → FASE200 → COPERTINA_FINITA
Rules: OE01→OE02→OE03→OE04→OE05 (mandatory sequence)

LOG_ACTIONS

DNA_Action: COPERT25001/FASE200/OE01/001
Process: OE01_POSITION_PLANCIA
Executor: Marco
Input_Materials: PLANCIA_001
Result: PLANCIA_POSITIONED
Status: DONE

RES_UNIVERSAL

Entity_Type: MATERIAL | PROCESS | PERSON | RESULT
DNA: unique for each instance
Specific_Attributes: [weight, color] for materials | [time, sequence] for processes

FINAL TEST

If we can:

1. **Create** COPERTINA_4ANTE from recipe

2. **Trace** every single elementary operation
3. **Register** result as new available resource
4. **Replicate** the logic for any other product

Then we have the foundation to manage all business processes with the same logic!

WHY THIS EXPERIMENT IS CRUCIAL

THEORY VALIDATION

- If it works for BOM → it works for everything
- **Same pattern** for TSK, PRJ, TEC, PRD
- **Scalability demonstrated** on real case

IMMEDIATE BENEFITS

- **Automatic multi-level BOM**
- **Complete traceability** materials→product
- **Production times** calculated automatically
- **Solid foundation** for system expansion

STRATEGIC VALUE

- **Proof of concept** 3P3 methodology
 - **Demonstrable patentability**
 - **Competitive advantage** differentiation
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NEXT STEPS

1. **Phone discussion:** Clarifications and alignment
2. **Database design:** 3-table structures for BOM
3. **Rapid prototype:** FileMaker implementation
4. **Validation test:** Complete COPERTINA_4ANTE
5. **Documentation:** Replicable pattern

Objective: Demonstrate that **3 universal tables** manage any complexity better than 20 specialized tables.

THE CHALLENGE IS LAUNCHED! *Can we create a BOM that unites matter and process so elegantly that it revolutionizes business management?*