MORPHOLOGICAL ANALYSIS

AN EASY TECHNIQUE
FOR CREATIVE PROCESS
**Tools**

**Phases**
1. **Predisposition**
   - Creative training
2. **External Mapping**
   - Attributes Value chain
3. **Internal Mapping**
   - SWOT Analysis
4. **Creative process**
   - Creativity Template
   - Morphological Analysis
   - Provocation & Movement
5. **Evaluation**
   - Six hats

**Techniques**
- Attributes Value chain
- SWOT Analysis
- Creativity Template
- Morphological Analysis
- Provocation & Movement

**Sections**
- **Education**
- **Questionary Session**
- **Group Session**

**Create Project**

**We are here!**

**Creative training**
...LIMITLESS COMBINATIONS

“In the battle there are only the normal and the extraordinary forces, but their combinations are limitless; no one can comprehend them all”

SUN TZU

= to create
Origin and field of application

- Defined in 1942-43 by Fritz Zwicky, an American astrophysicist
- Invented to look for new military means of jet propulsion
- It allows to find possible solutions to complex problems characterized by several parameters
- It can be effectively applied in:
  - new product development
  - services
  - patents
Solving complex problems

Parameters: \( X \quad Y \quad Z \quad \ldots \)

Solutions for each parameter: \( m \quad n \quad p \quad \ldots \)

Possible answers to the complex challenge:

\( m \times n \times p \times \ldots \)

...limitless combinations
Possible sequence

1) Specify your challenge
2) Select the corresponding parameters
3) List variations
4) Research all the possible solutions to the problem
5) Try different combinations
6) Increase the examined solutions
1. **Objective:** “Improving existing models of cars”

2. Analyze cars and **list** some of their **parameters**:
   - improving elements
   - optional equipment
   - internal processes
   - temporary properties

3. Generate the **variations** for each parameter:
   - Which *improving elements* can be found?
   - Which *optional equipment* can be offered to customers?
   - Which are the different kinds of *internal processes* in a car?
   - Which *temporary properties* can make a car special in its early phases of life?
**Variation for each parameter**

4. Research **all the possible solutions** to the problem:

<table>
<thead>
<tr>
<th>IMPROVE EXISTING MODELS OF CARS</th>
<th>IMPROVING ELEMENTS</th>
<th>OPTIONAL EQUIPMENT</th>
<th>INTERNAL PROCESSES</th>
<th>TEMPORARY PROPERTIES</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>fuel consumption</td>
<td>ABS</td>
<td>automatic</td>
<td>powerful engine</td>
</tr>
<tr>
<td>2</td>
<td>breakdowns</td>
<td>air-conditioning</td>
<td>operator-controlled</td>
<td>perfect tyre</td>
</tr>
<tr>
<td>3</td>
<td>vibrations</td>
<td>heated seats</td>
<td>random</td>
<td>absence of dust</td>
</tr>
<tr>
<td>4</td>
<td>noise</td>
<td>CD player</td>
<td>continuous</td>
<td>cleanness</td>
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<td>odor</td>
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5. Try **different combinations (randomly)**:

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Morphological analysis

- Random combination:  
  - odor  
  - air-conditioning  
  - operator-controlled  
  - new car smell

- Result: Fragrance-control system for cars

- Advantages: **With a touch of button**, drivers can choose from jasmine, mint, a fresh leather smell, or perfume scents, all blowing through the air-conditioning system
Application to Derbi’s products

- The “hidden silencer”: looking for a more winning aesthetics

- The “top gun undercarriage”: adding an optional to increase passenger’s comfort
## “Hidden silencer”

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<td>seat</td>
<td>manual</td>
<td>imposing</td>
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<tr>
<td>silencer</td>
<td>posterior aileron</td>
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Result

IDEA:

Hidding scooter silencer by inserting the wastepipe in the tail
“Top Gun undercarriage”

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“Result”

IDEA:

Authomatic undercarriage with little wheels to maintain the scooter into balance when it stops
PODREBBE ESISTERE DI ATTIVATO TRAMITE UN PULSANTE

A DISCESA AUTOMATICA SOTTO 5 KM/H
+ STABILITÀ
+ SICUREZZA
+ FACILITÀ NEL PORTARE LO SCOOTER

A RITORSO E NASCOSTO
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