# Innovation Management and New Product Development - Innovazione e sviluppo prodotto



## New Product Development: New concept generation and the use of TRIZ

## **Implementing TRIZ** a proposed framework



## UNDERSTAND THE «HEARTH» OF THE PROBLEM

• PHYSICAL / TECHNICAL CONTRADICTIONS



## PROBLEM ABSTRACTION (building a model)

**•SU-FIELD ANALYSIS** 



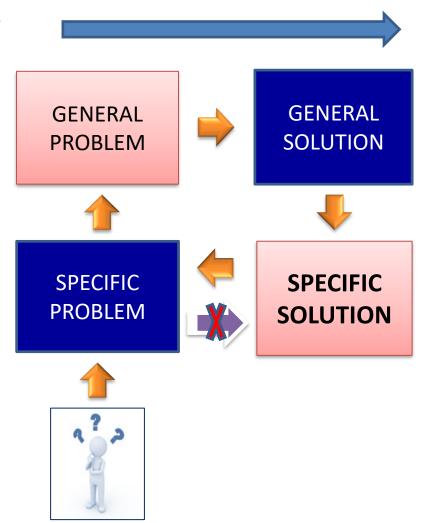
#### **HOW «MATURE» IS MY SYSTEM?**

- Distance from IFR
- ITEMS



#### **HOW DOES MY SYSTEM WORK?**

- Describe your system/ products in the most objective way as possible ("film maker")
- Describe functions, value proposition, tangible and intangible features (product specifications)



#### FINDING A SOLUTION

- •40 PRINCIPLES
- SEPARATION PRINCIPLE



## APPLYING THE SOLUTION TO THE SPECIFIC PROBLEM

- •PATENT ANALYSIS
- Understanding evolutionary trends

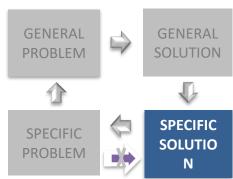
## **Specific solution**

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\* LIUC

Università Cattaneo

Implementing the general solution to the specific problem, generating the specific solution





«The analysis of patents necessary for gathering the data to be used for the previsional activity is very cumbersome and sometimes unworthy due to the intrinsic low reliability of forecasting tasks»

## **Patent analysis**



- Using the 40 principles and/or the separation principles allows finding an idea for solving a general problem
- Patent analysis should then be used to verify if the idea has already been protected and to find suggestions for implementing the idea
- In particular, patent analysis by text mining could be useful

## **Search for prior art assessment**



- Find closest prior art documents to evaluate
  - NOVELTY
  - INVENTIVE STEP

of the SPECIFIC SOLUTION



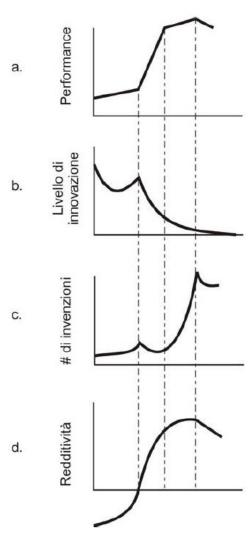
See slides Intellectual Property Lesson 5





## Appraising the specific solution

- S-Curves
- Evolutionary trends



### References



 Kaplan, Stan. Inventive Problem Solving: Critical thinking for problem solving using TRIZ. Ideation International Inc.,

- Savransky, Semyon D. Engineering of creativity: Introduction to TRIZ methodology of inventive problem solving. CRC Press, 2002
- Altshuller, Genrich; Clarke, Dana W. 40 Principles: TRIZ Keys to Innovation [Extended Edition]