

Technology Forecast activity in Whirlpool: Objectives and Requirements

Outline



- Whirlpool: a short presentation
- WOCE MRD: mission and goals
- TF objectives for Whirlpool
- TF requirements for Whirlpool
- Conclusion and remarks

WHIRLPOOL CORPORATION

WHO WE ARE



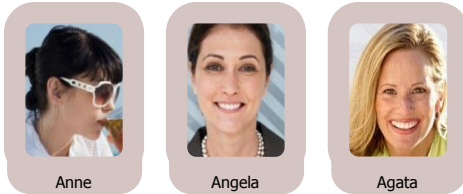
World's #1 major appliance company

\$19 billion in revenue

Products sold in more than 170 countries



THE BRAND STORIES OUR TARGET SEGMENTS



Progressive Life Achiever



Life Balancer



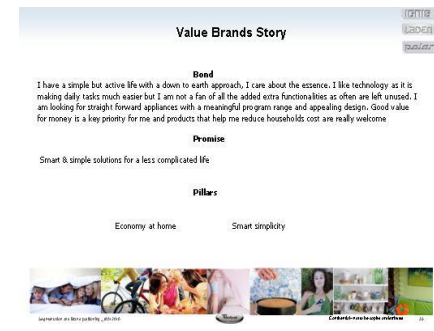
Passionate Gourmet



FOR THE WAY IT'S MADE.®



Home Practical



WHIRLPOOL EMEA



Vision:

The right process for our product; the right product for our processes

Mission:

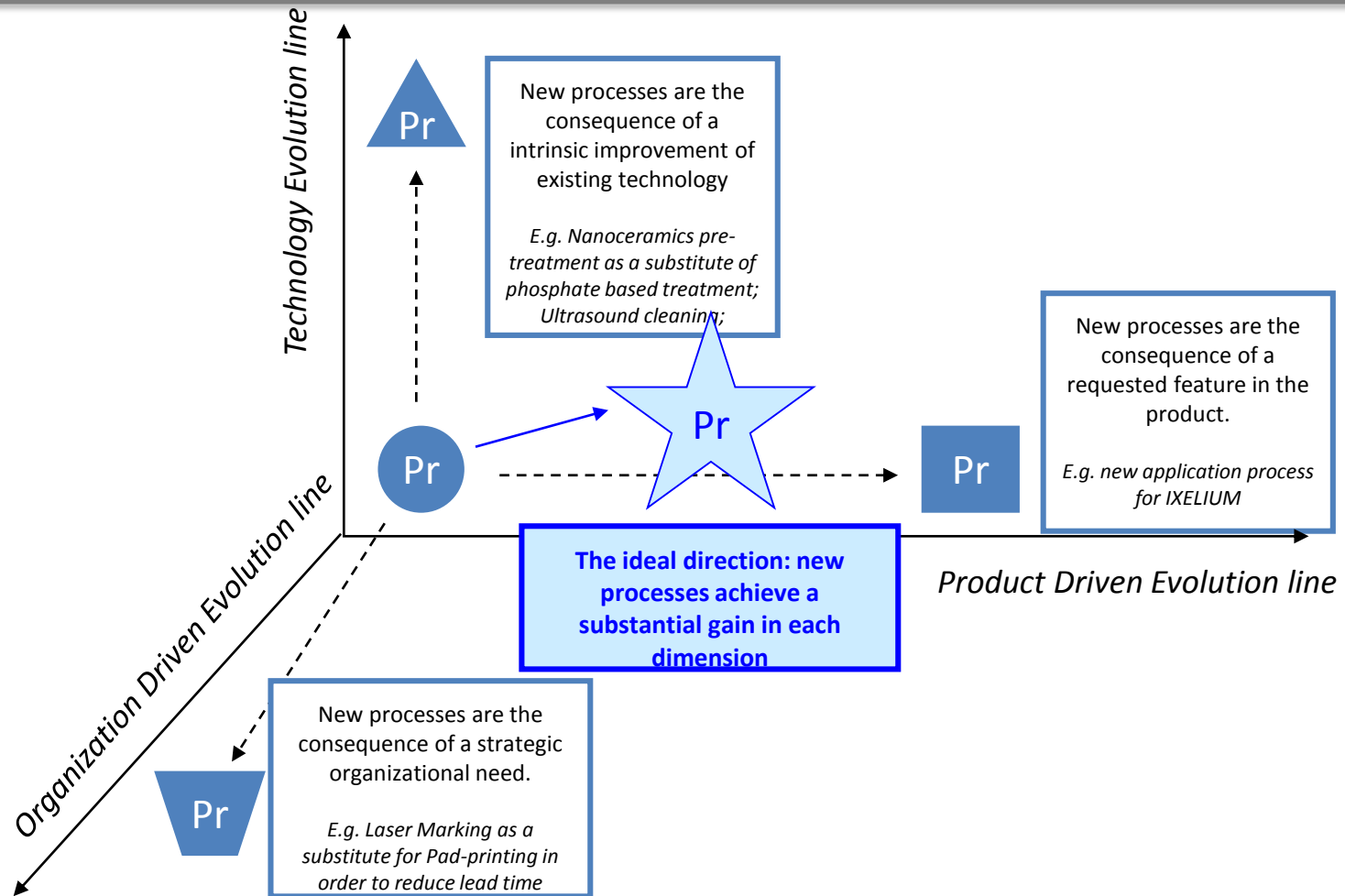
Ensure that manufacturing adopt and use the best possible combination of product/process technologies through the selection of new manufacturing process, based on a strategic roadmap derived from systematic technology scouting.

The primary goal of innovating our industrial processes must be to:

- Be ready to fulfil market/product changes
- Sustain Whirlpool Production System (WPS)
- Improve Value through cost reduction and quality increase

in order to achieve the desired Manufacturing Excellence

A TRIDIMENSIONAL SPACE OF RESEARCH



... back in 2001



- Whirlpool first acquaintance with TRIZ
- Start collaboration with University of Florence
 - Funded PATAnalyzer research
 - Started interest in technology forecast
- In 2008 Whirlpool attended a seminar on Technology Forecast lectured by Dmitry Kucharavy
- In 2010 proposed to Politechnic of Milan to apply for a Marie Curie project on Technology Forecast

Why manufacturing technologies



1. **Product technologies** are the core business for companies producing goods.
2. **Process technologies** are the core business for companies producing commodities (e.g. chemicals)
3. **Manufacturing technologies** are usually:
 1. Ways to implement product technologies at best cost and Quality
 2. Not fully owned by companies, sometime bought from the market

OBJECTIVES



- Objectives of Technology Forecast are to:
 - Drive decisions on technology investments
 - Draw the path of evolution of the technology
 - Drive research activities
(i.e. where to allocate money and resources)
 - Design new products

Taking into account a timeframe for the introduction of new technologies of:

- 3 years for manufacturing processes
- 4/5 years for product related technologies

REQUIREMENTS



To have a **process** of TF:

- easy to utilize for people involved in innovation (process & product)
- easy to communicate at each company level
- reliable
- repeatable
- resource-efficient
- adjustable

Some learning

- Importance of keep the history
 - Look back in order to look forward
- Prepare to grow data miners
 - Ability to quickly understand nature and relevance of data
- Data are not (always) for free
 - Budget for buy quantitative data from external
- Keep beneficiaries constantly aligned
 - avoid the risk to answer the unwanted question



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