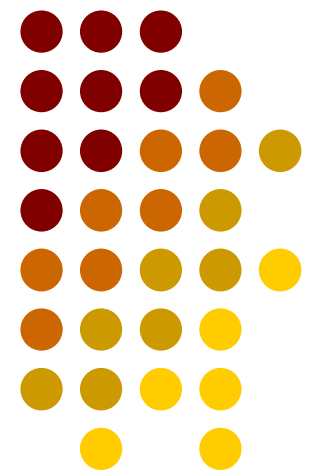# Inovação e Geração de Produtos

## Modelos e Reflexões sobre Oportunidades de Mercado

# Initial Considerations

- Innovation starts from a market perspective, and not from a Science & Technology one.

- Necessary ingredients for innovation are:
  - Market needs (known or yet to be uncovered)
  - Skills and Creativity (in S&T and Market and Sales)
  - An environment for divergent thinking (where "aliens can succeed")
  - Urgent patience (to evaluate options)
  - Convergent thinking (to implement chosen alternatives)

# Starting Point



THE CHAIN-LINKED MODEL
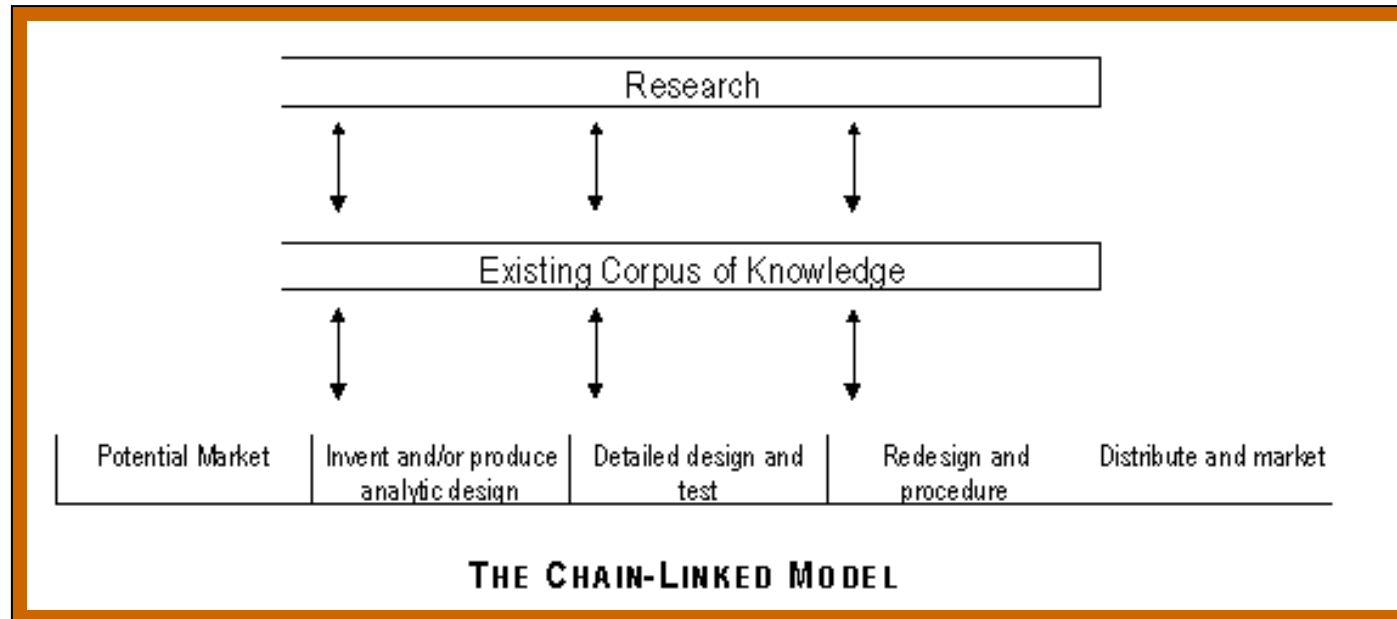
© **Darius Mahdjoubi**, 1997 http://www.gslis.utexas.edu/~darius/non_mdl/non_mdl.html

Proposed by the first time in 1985, by Stephen Kline (Stanford University), the chain-linked innovation model emphasizes the market focus and the multiple interactive process between Market and Research (enterprise and academia).

# Divergence and Convergence in the Creativity Process

Creativity, an essential ingredient in the innovation process, happens or ignites in environments in which divergent thinking (idea and options generation) is well balanced with convergent thinking (options selection).

Too much or too little of either process can lead to failures in the innovation or development processes.
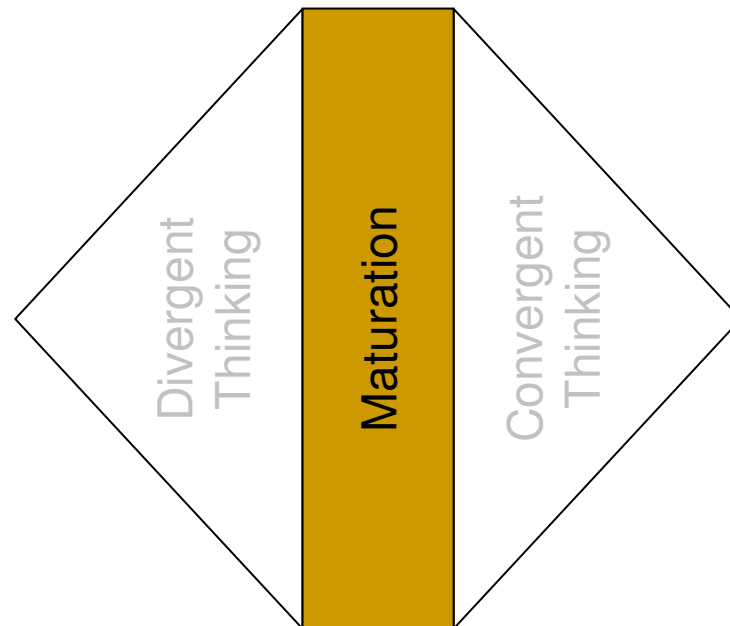
Management of innovation is the management of divergence and convergence in the creativity process.

Divergent Thinking | Convergent Thinking
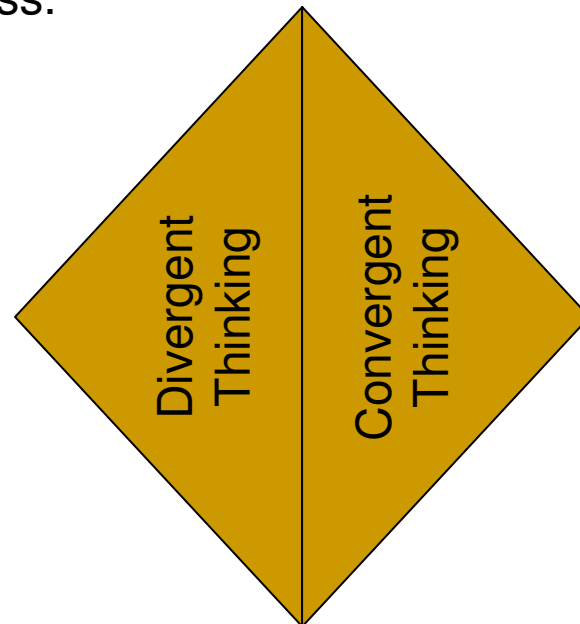
# Time to Mature

Reaching convergence towards the choice of alternative courses of action in innovation is a trick process. Innovation teams require a time to think over, analyze, and mature ideas developed in the divergent thinking process, before they can select alternatives in the convergent process.

Successful innovation management creates necessary and sufficient space and time for (urgent) maturation to happen, before convergence is produced.

Divergent Thinking | Maturation | Convergent Thinking

# From the Market to the Market

Innovation starts from a market opportunity and must produce a product or service to the market. Thus, the Market is the start and end point of the innovation process.
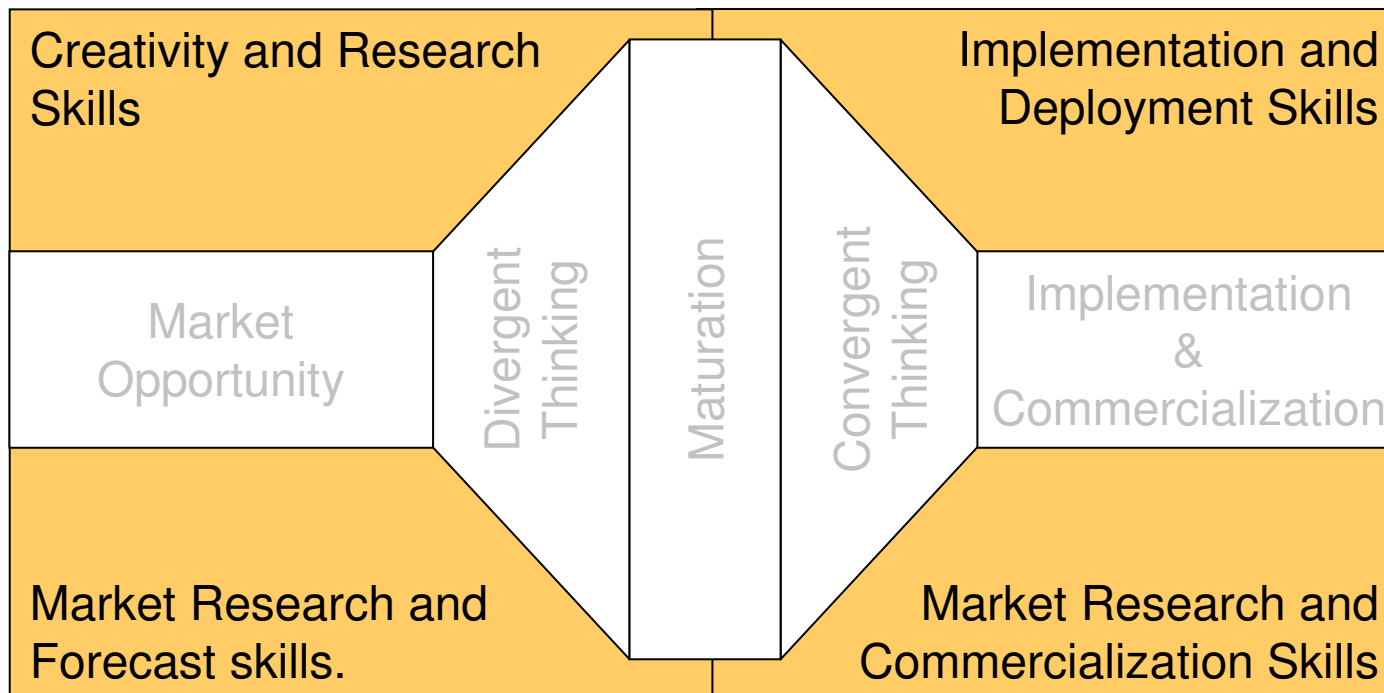
Innovation management requires finding out market opportunities, from known or yet to be uncovered needs and demands. It is also about producing the commercialization strategies to take the innovation to the market.

| Market Opportunity | Divergent Thinking | Maturation | Convergent Thinking | Implementation & Commercialization |
|---|---|---|---|---|
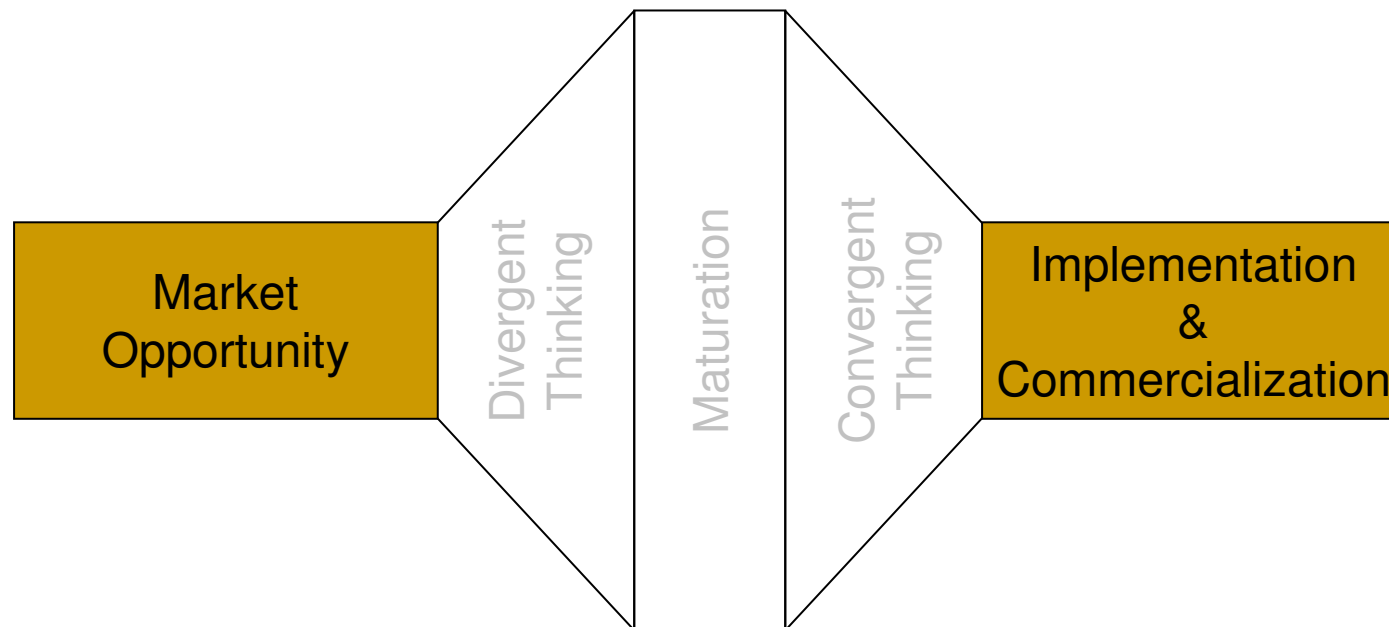
# Skills

Innovation requires a constant adequate supply of skills. Human capital is the primary source of necessary skills in all phases of the innovation process.

Innovation management must guarantee this supply and training programs are necessary to make than adequate to the specific needs of the enterprise.

| Creativity and Research Skills | | Implementation and Deployment Skills |
|---|---|---|
| Market Opportunity | Divergent Thinking / Maturation / Convergent Thinking | Implementation & Commercialization |
| Market Research and Forecast skills. | | Market Research and Commercialization Skills |

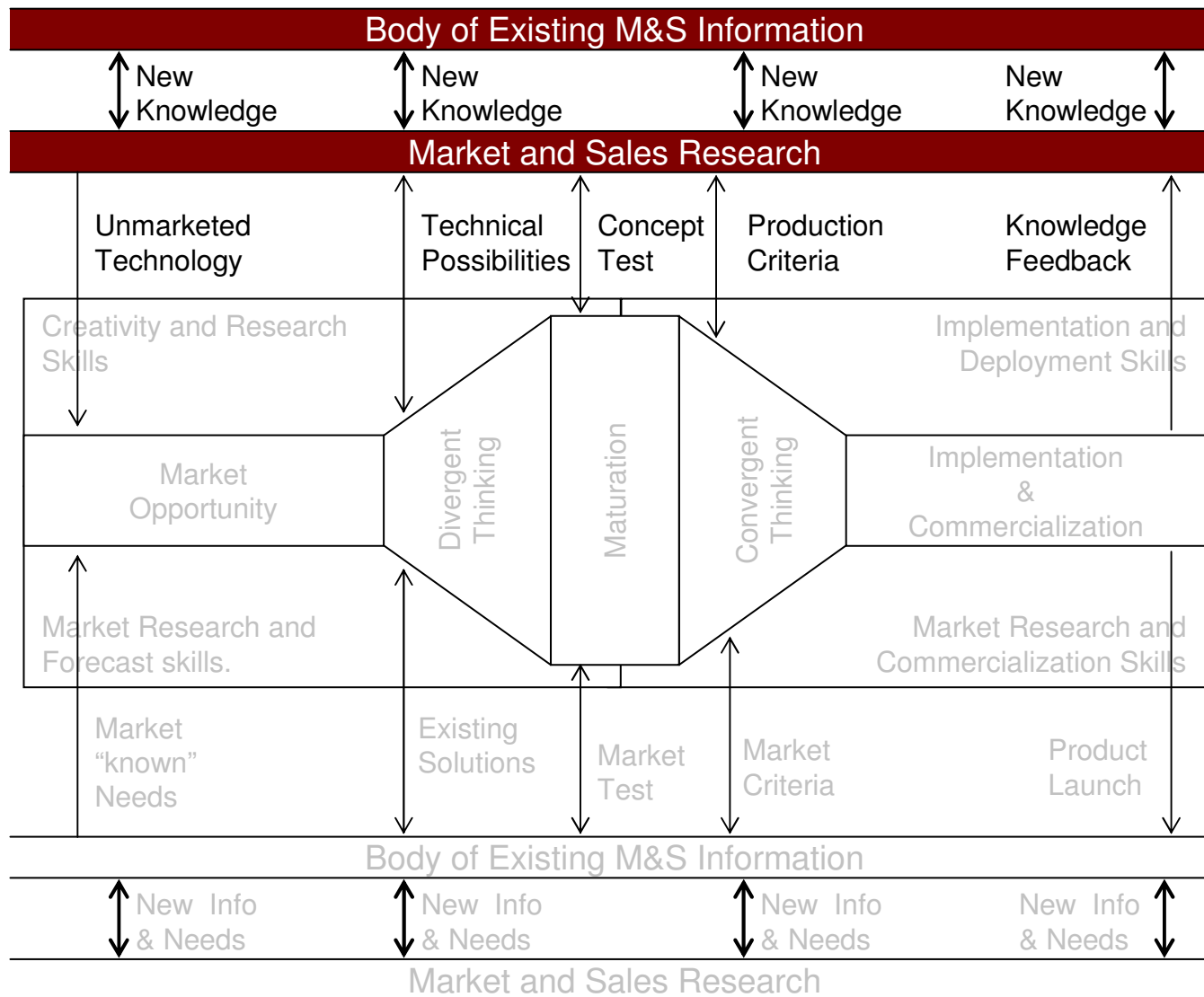# Linking with the Market

The body of existing market information is, often, the initial source of information. This "secondary source" information can have public access or must be acquired from market and research organizations.

Information from primary sources, the market players, must be acquired through market researches and surveys, and usually requires qualitative and quantitative analysis.

# Linking with Science and Technology



**Body of Existing M&S Information**

↑↓ New Knowledge          ↑↓ New Knowledge          ↑↓ New Knowledge          New Knowledge ↑↓

**Market and Sales Research**

Unmarketed Technology | Technical Possibilities | Concept Test | Production Criteria | Knowledge Feedback

Creativity and Research Skills | Implementation and Deployment Skills

Market Opportunity | Divergent Thinking | Maturation | Convergent Thinking | Implementation & Commercialization

Market Research and Forecast skills. | Market Research and Commercialization Skills

Market "known" Needs | Existing Solutions | Market Test | Market Criteria | Product Launch

Body of Existing M&S Information

↑↓ New Info & Needs          ↑↓ New Info & Needs          ↑↓ New Info & Needs          New Info & Needs ↑↓
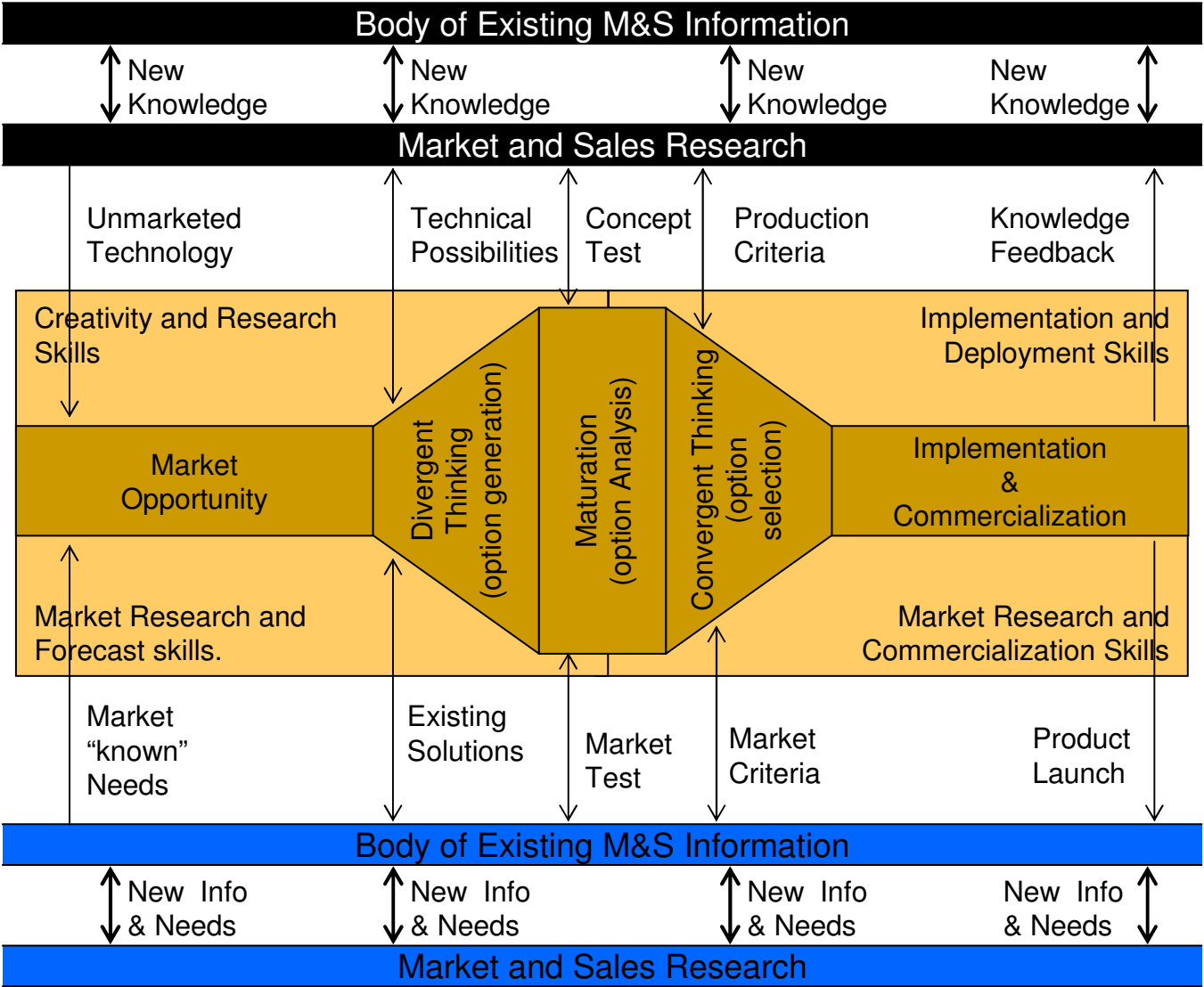
Market and Sales Research

# Linking with Science and Technology

The link of the innovation process and Science and Technology development often starts first from known science and technology. Only when those sources of knowledge prove inadequate (or inexistent) does a need arise for research.
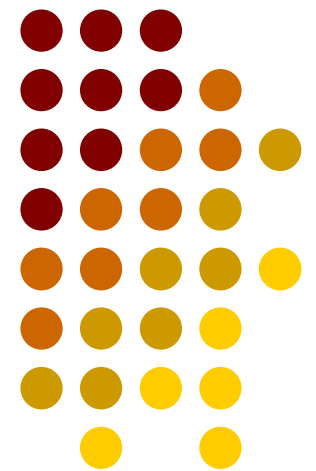
New, unmarketd technology, can be used from the beginning of the innovation process, provided it matches an actual market need or opportunity.

Innovation management comprises the management of the links between the innovation and implementation process, with the search, research, and development of knowledge about the technical aspects of the product, service, or production process.

# A Double-Chain Linked Model



Body of Existing M&S Information

New Knowledge    New Knowledge    New Knowledge    New Knowledge

Market and Sales Research

Unmarketed Technology    Technical Possibilities    Concept Test    Production Criteria    Knowledge Feedback

Creativity and Research Skills

Implementation and Deployment Skills

Market Opportunity

Divergent Thinking (option generation)

Maturation (option Analysis)

Convergent Thinking (option selection)

Implementation & Commercialization

Market Research and Forecast skills.

Market Research and Commercialization Skills

Market "known" Needs    Existing Solutions    Market Test    Market Criteria    Product Launch

Body of Existing M&S Information

New Info & Needs    New Info & Needs    New Info & Needs    New Info & Needs

Market and Sales Research

# Alguns "drivers" de Mercado

# cinco gerações da informática

(by Silvio Meira)

primeira

atrás do
balcão

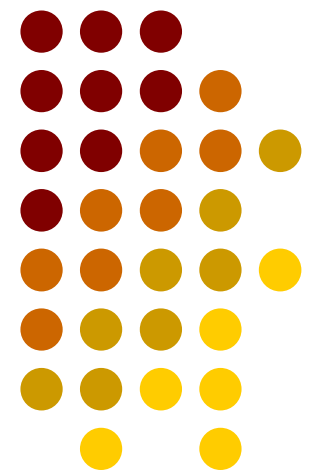segunda

no balcão

terceira

depois do balcão

quarta

em você

quinta ...

em tudo,
em todos,
em todo lugar.

# The ideal wireless application should

- Be entertaining and easy to use

- Accommodate the device

- Support spontaneity

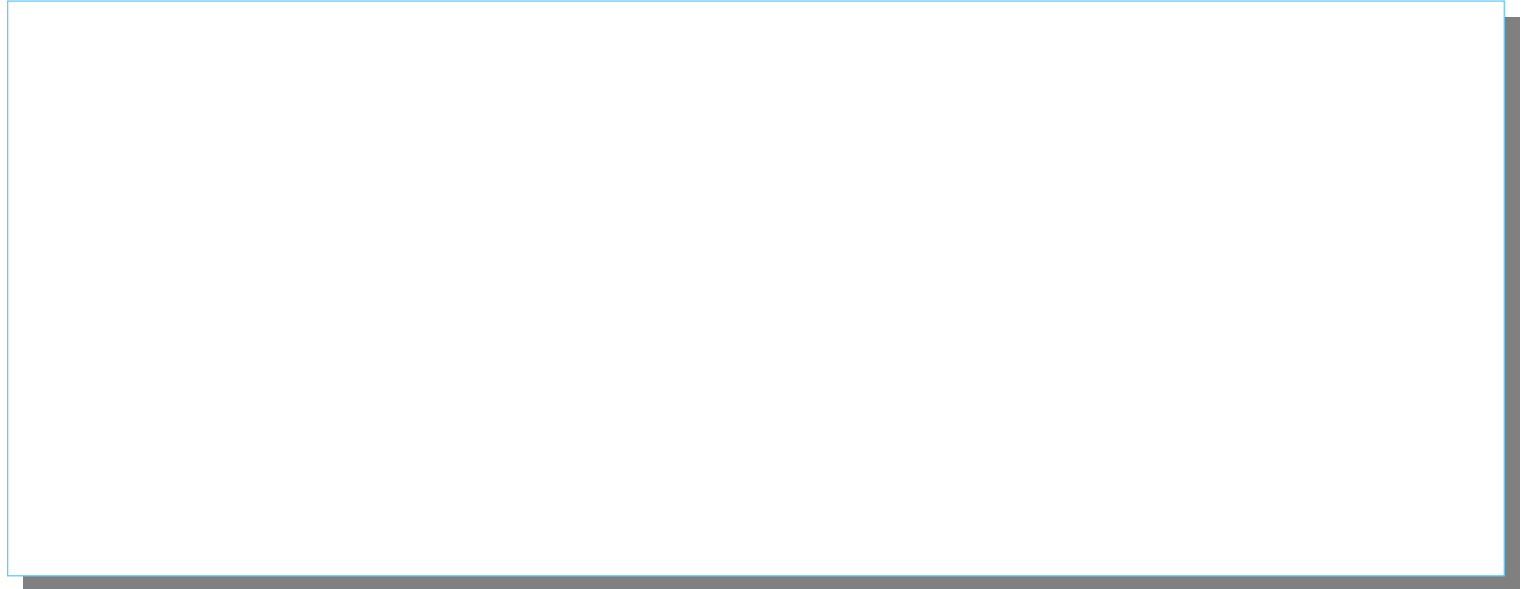- Be easy to obtain

# Processo e Template

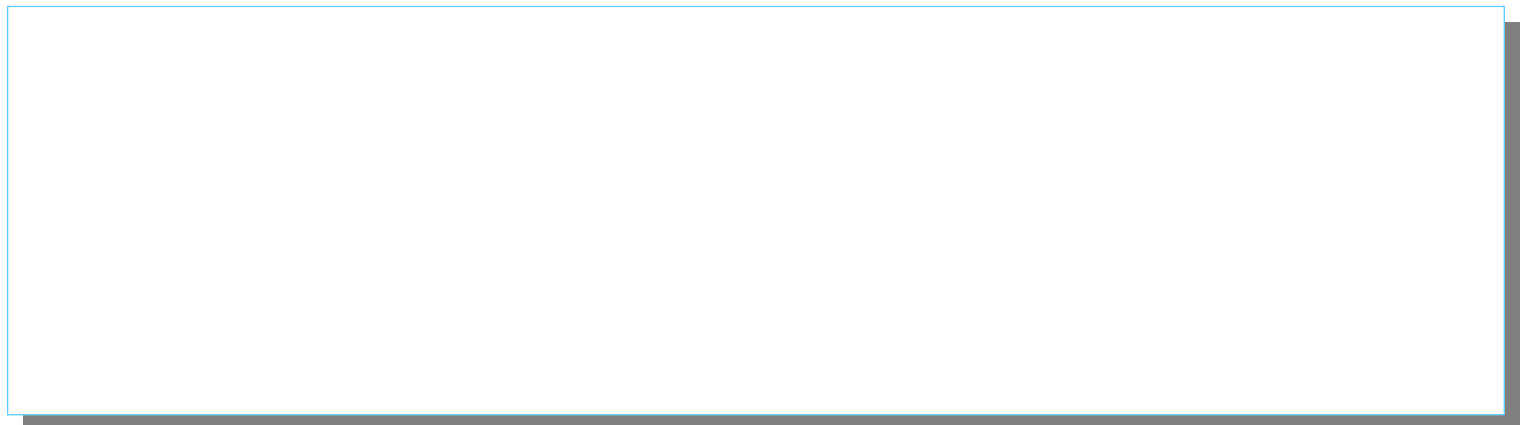# Project Charter

**Nome do Produto**

**Descrição do Produto**

Objetivos

# Objetivos

**Objetivos**

**Resultados**

# Descrição do produto

| Características Básicas | Usabilidade | Técnicas |
| --- | --- | --- |
| | | |

# Dinâmica do Produto

- Atores
- Cenários de uso
- Esquemas e diagramas de fluxo de informação entre atores

# Arquitetura da Solução

- Componentes
- Ligações
- Fluxos

# Premissas e Restrições

**Premissas**

**Restrições**

# Protótipo