

A world map with a light green and yellow color scheme. Several curved arrows originate from the South American continent (colored orange) and point towards North America, Europe, Africa, and Australia. The text is centered over the map.

# Internacionalização da P&D de MNC Brasileiras

Resultados de pesquisa oriundos do projeto GINEBRA  
(Temático Fapesp – 2006-2009)

# *Localização das unidades das empresas selecionadas - panorama em março/2007*

Nome	Número de unidades no exterior	Localização das unidades
Embraco	3	Itália, China e Eslováquia
Gerdau	20 usinas siderúrgicas; 18 unidades de transformação e 4 unidades de corte e dobra de aço	Uruguai, Canadá, Argentina, Chile, Estados Unidos, Colômbia, Peru e Espanha
Marcopolo	5 (uma desativada)	Portugal, Colômbia, México, África do Sul e Argentina (atualmente desativada)
Smar	2	EUA (Nova York e Houston)
Tubos Tigre	6	Paraguai, Chile, Argentina e Bolívia
WEG	7	Argentina (3), México (2), Portugal e China.
Santista/ Tavex	5	Argentina, Chile, Spain, Morocco, Mexico,

<b>EMPRESA</b>	<b>O processo de internacionalização das MNB motivou a internacionalização de suas atividades de desenvolvimento de produtos?</b>
<b>TIGRE</b>	<b>Não.</b>
<b>MARCOPOLO</b>	<b>Sim, mas só onde já existia desenvolvimento.</b>
<b>WEG</b>	<b>Sim, mas só onde já existia desenvolvimento.</b>
<b>GERDAU</b>	<b>Sim, mas só onde já existia desenvolvimento.</b>
<b>EMBRACO</b>	<b>Sim, mas somente para as tecnologias já dominadas.</b>
<b>SMAR</b>	<b>Sim.</b>

# R&D Offshoring

- The cases studied show that:
  - research is conducted by the headquarters in most cases,
  - development is internationalized, albeit not on a large scale due to commercial and production issues.
- Offshoring occurred:
  - in new plants (Embraco, Smar),
  - in acquired plants (Embraco, WEG, Marcopolo, Gerdau)
  - in plants resulting from joint ventures (Marcopolo, Santista).
- The internationalized portion of their R&D activities is still small in most of the cases.

# Motivation for R&D internationalization

- To adapt products to regional/local market needs or to regulations requirements (WEG, Marcopolo, Embraco, Gerdau, Smar),
- To gain rapid access to specific resources (Smar).
- Embraco and WEG: acquire technology for developing products of higher quality (these companies attempted, from the very beginning, to monitor the overseas technology environment and internalize it until they were able to develop their own).
- Thus, one might speculate that initially these companies expanded internationally in order to acquire a body of required technical knowledge, and subsequently internalized the said competencies in their home countries.

# International R&D Characteristics

- International R&D in BMNCs have similar **characteristics** of what we find in existent literature, i.e. it is similar to international R&D in MNCs in DC.
- We found out that R&D subsidiaries of BMNCs are **located in both developing and developed countries**, as affirmed by von Zedtwitz (2005) for EMNCs.
  - although subsidiaries located in developed economies (mostly Western Europe) have a higher added value unit, there are some R&D structures in developing countries as technology income post (ex: China and Colombia).

# International R&D Characteristics

- **Most R&D centralized** in the headquarters and having a few (or none) development units abroad.
- In the case of Embraco: **differences between dominated-technology** (centralized) **and non-dominated-technology** (disseminated throughout subsidiaries enabling further developments also abroad)