

Nanotechnology landscape in Brazil: a value chain framework analysis

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Research Objective

- Objective: evaluate the patenting in nanotechnology in Brazil based on a value chain framework analysis of four stages: nanomaterials, nanointermediates, nano-enabled products and nanotools;
 - Database: Derwent Innovations Index
 - Period: 2004 to 2013
 - Search strategy: Modular keyword search strategy combined with the IPC classification

Key elements

- The length of time between the filing and publication of PCT applications in Brazil is a complicating factor for any effort of analysis
- 1841 nanotechnology patents were identified from 2004 to 2013 in Brazil
- Brazilian organizations were responsible for only 26% of the nanotechnology patents filed in the period
- Universities were responsible for more than 60% of all the nanotechnology patents filed by Brazilian organizations
- Non-residents patents are concentrated in the nanointermediates (70%) and nano-enabled products (22%) stages of the nanotechnology value chain
- Residents patents are concentrated in nanointermediates (58%), followed by nanomaterials (21%) and nano-enabled products (20%)

Conclusions

- Notwithstanding strong Brazilian scientific capabilities in nanotechnology, the country has a low level of patenting activity;
- Non-residents were responsible for almost 70% of the nanotechnology patent filings in Brazil creating a fragile position for national technology development;
- The distribution of patents along the value chain shows that Brazil has a low level of specialization;
- In terms of nano-enabled products, it was observed that a strong concentration of patents related to the health sector were filed by Brazilian universities

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