



MIT Industrial Performance Center
Innovation. Productivity. Competitiveness.



ACCELERATING INNOVATION
in **BRAZIL**

MEI Leadership Committee Meeting

CNI, São Paulo, SP

March 2nd, 2018

Accelerating Innovation in Brazil:

Addressing the larger questions

- *What are the principal challenges to creating an environment that is conducive to innovation in Brazil? How can they be overcome?*
- *How do the SENAI innovation institutes fit within the larger innovation ecosystem in Brazil, and how can they foster greater innovation at the regional and national level?*
- *What can MIT do in collaboration with its Brazilian partners to support the emergence of a forward looking innovation agenda in 2018 and beyond?*

Accelerating Innovation in Brazil:

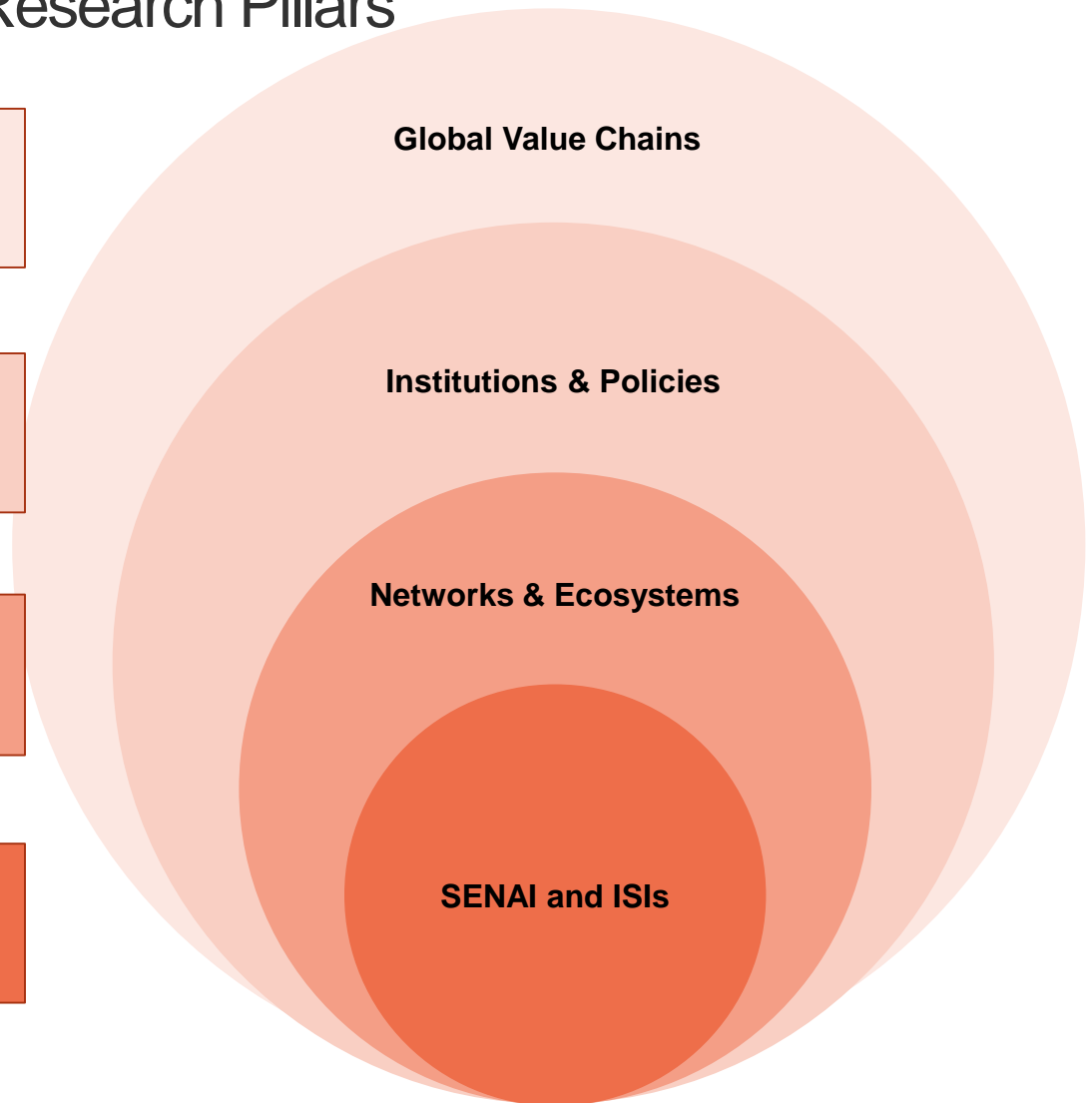
MIT IPC-SENAI Project Research Pillars

- Key firms and industries
- GVC insertion and upgrading
- Carving out role in R&D networks

- Institutional fragmentation
- Industrial and innovation policies
- Emerging innovation agenda

- Institutional innovation
- Universities as engines of innovation
- RTOs and innovation intermediaries

- Organizational transformation
- Organizational dynamics
- SENAI/SESI call for projects



Brazil's Innovation Agenda: Progress, challenges and diagnoses

- Despite significant progress, the **gains associated with Brazil's innovation policies and programs have been limited**. Many factors contribute to this, but three primary reasons are:

Global integration: Brazil needs to be better integrated in the global economy to benefit from the global flow of goods, services, and ideas

Costs and risk: the cost of knowledge-intensive inputs and the risks associated with investing in innovation are too high

Specialization: programs and incentives are spread too broadly, and should be more focused on Brazil's areas of comparative advantage to support specialization

MEI is uniquely placed to drive this agenda forward

1. Ensure that industrial policies support innovation

PPB: Selected Local Content Requirements for Tablets

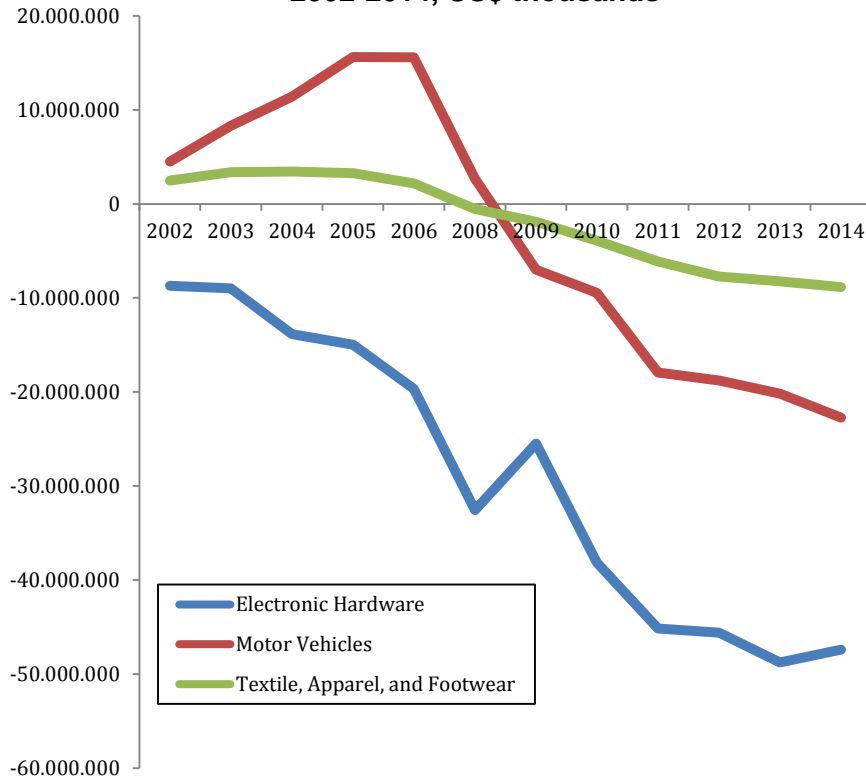
Component	Local Content (%)			
	2011	2012	2013	2014
PCBs (processing)	50%	80%	95%	95%
PCBs (communications)	0%	0%	50%	80%
Mobile Chipsets	0%	0%	20%	30%
Chargers	0%	50%	80%	80%

Informatics Law R&D Spending and Outsourcing Requirements

Internal Expenditures (Can also be spent via third parties)			2.16%	4.00%
External Expenditures	Certified institutes anywhere in Brazil		0.80%	
	Certified institutes in North, Northeast and Center West	Public or private entities	0.45%	
		Public entities only	0.19%	
	Science and Technology Fund (FNDCT)		0.40%	

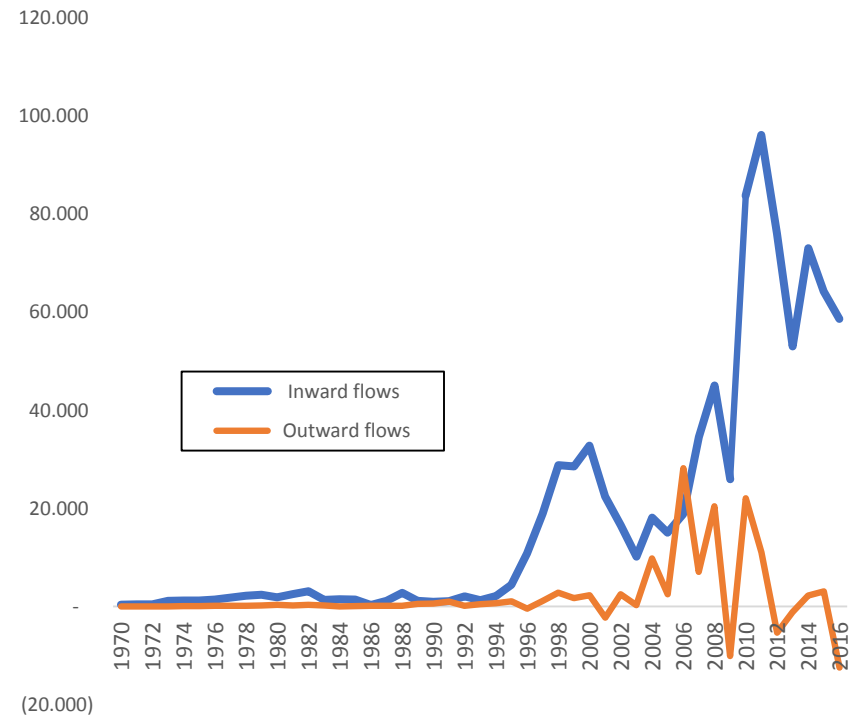
2. Foster greater global integration

Brazil's Trade Balance in Three "GVC" Industries, 2002-2014, US\$ thousands



Source: World Bank MC-GVC Database and calculations by Lara Loewenstein.

Brazil's Foreign Direct Investment Inflows and Outflows, 1970-2016 US\$ million



Note: figures are in constant dollars.
Source: UNCTAD, <http://unctad.org/en/Pages/DIAE/FDI%20Statistics/FDI-Statistics.aspx>

3. Enhance the role of universities in building Brazil's innovation capacity

- Minimize bureaucracy, create incentives, and foster the right environment to support risk-taking and streamline interactions with industry partners
- Support and reward specialization in universities that can show national and global excellence in particular disciplines or fields
- Focus technology transfer offices on translation and impact more so than revenue
 - Patenting bottleneck in Brazil is inhibiting translational impact
 - ***“A patent without a license is the worst of all worlds. You spend money and tie up technology”***

4. Support institutional innovations that enhance the innovation ecosystem



5. Encourage entrepreneurial pathways

Successful startups in Brazil:

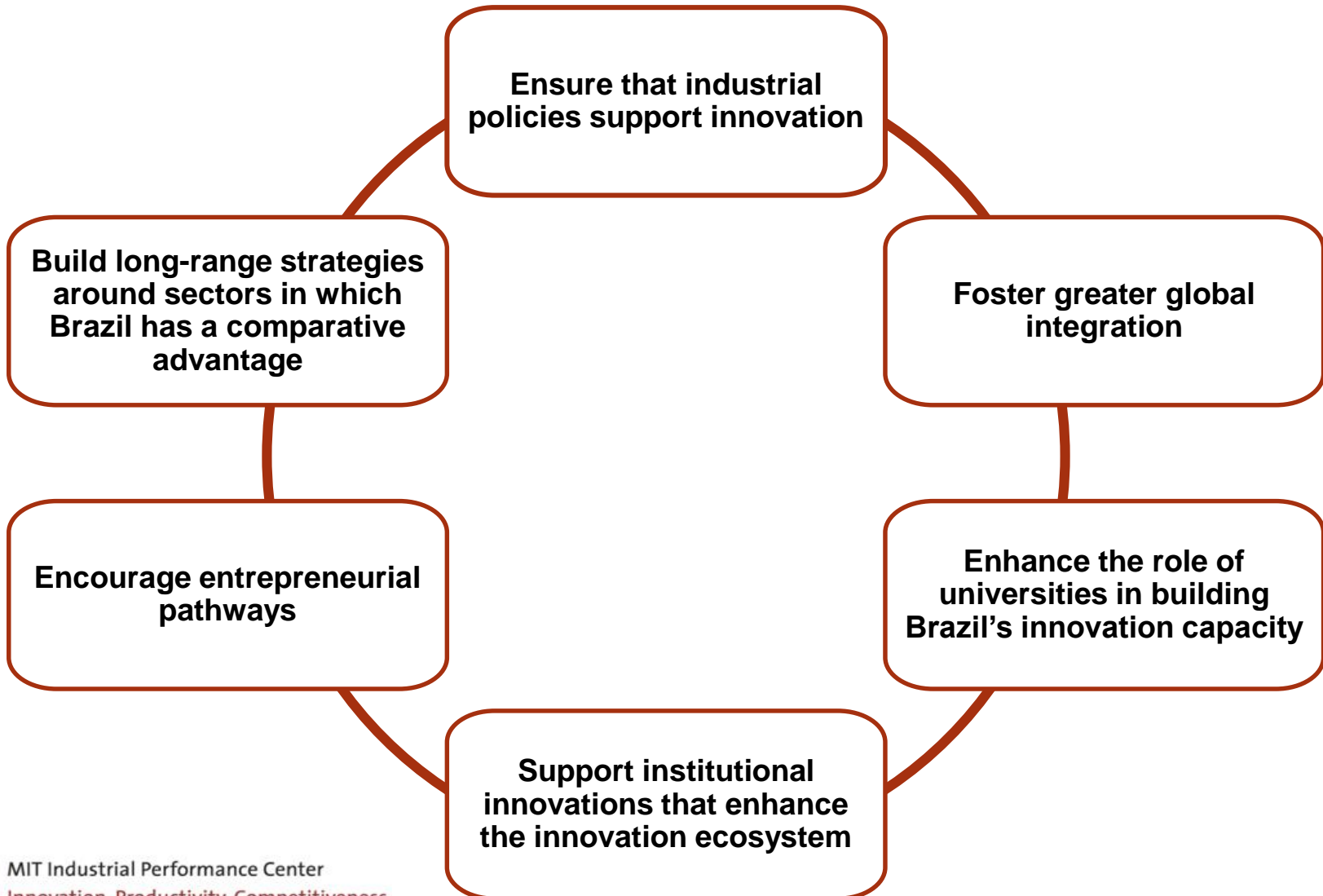
- Leverage Brazil's **innovation ecosystem** for technology, funding, and mentorship
- Seek **foreign partners** to raise capital, acquire technology, and/or develop markets overseas
- Address problems in Brazil **and** in other countries, rather than focusing on the domestic market alone



6. Build long-range strategies around sectors in which Brazil has a comparative advantage



Priorities for Brazil's Innovation Agenda in 2018 and Beyond



Building a Forward-Looking Innovation Agenda

- *There has been significant progress in the last 20 years. However, **ongoing political and economic crises** threaten to derail the country's innovation agenda*
- ***Brazil cannot afford to fall further behind** as the pace of technological change quickens and the globalization of production and innovation grows in scale and scope*
- *Brazil's **social policy agenda is tightly linked to its innovation and growth agenda**. They must be understood as two sides of the same coin. Without the latter, there is no ability to support the former*