



Lean Manufacturing + Digitalization

*An agenda to improve the productivity of
the Brazilian industry*

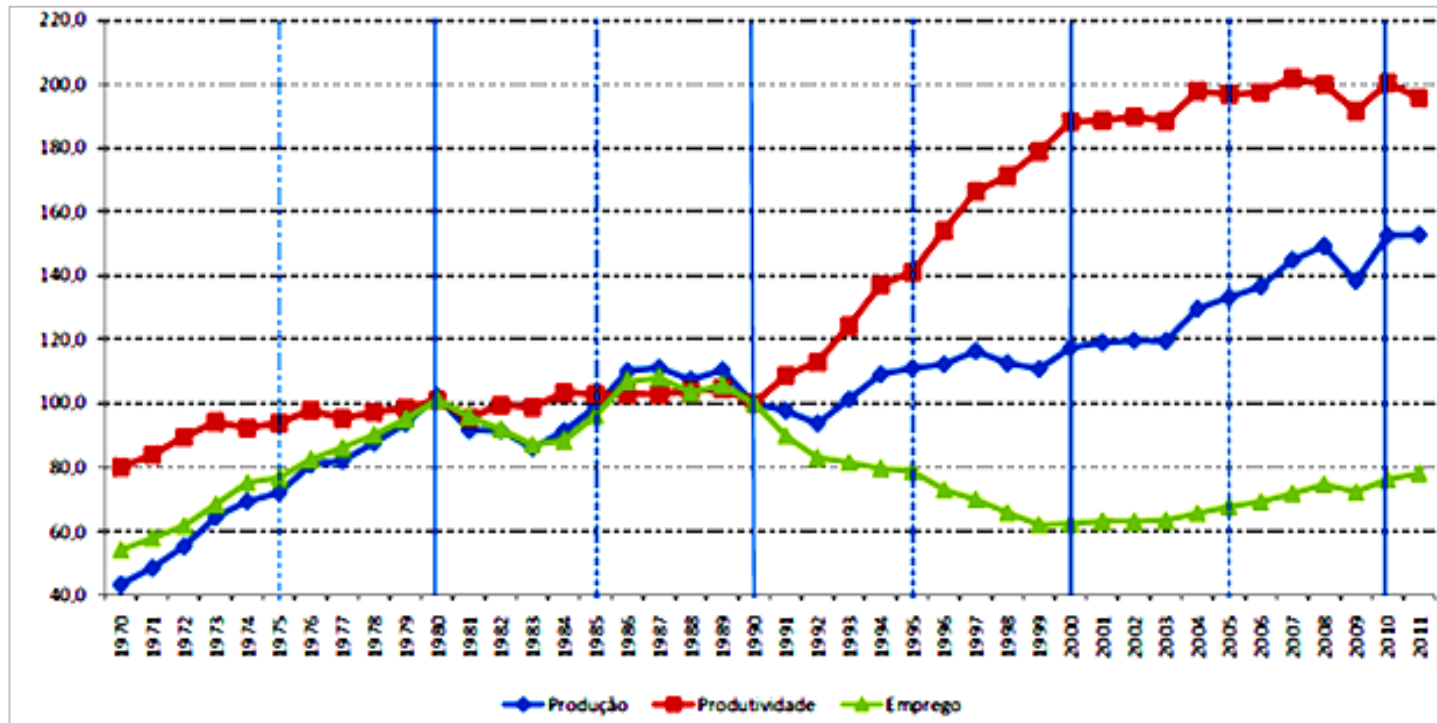


Confederação Nacional da Indústria

CNI. A FORÇA DO BRASIL INDÚSTRIA

- **Productivity in Brazil**
- **Indústria + Produtiva**
- **Agenda 4.0**

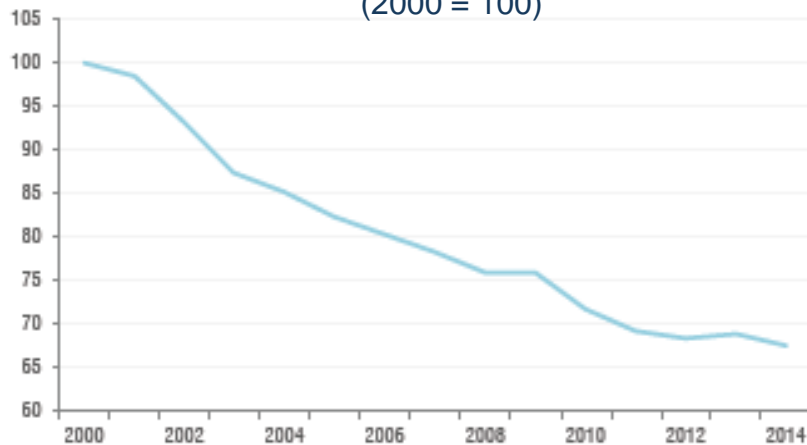
The challenge of increasing productivity



The challenge of increasing productivity

Productivity

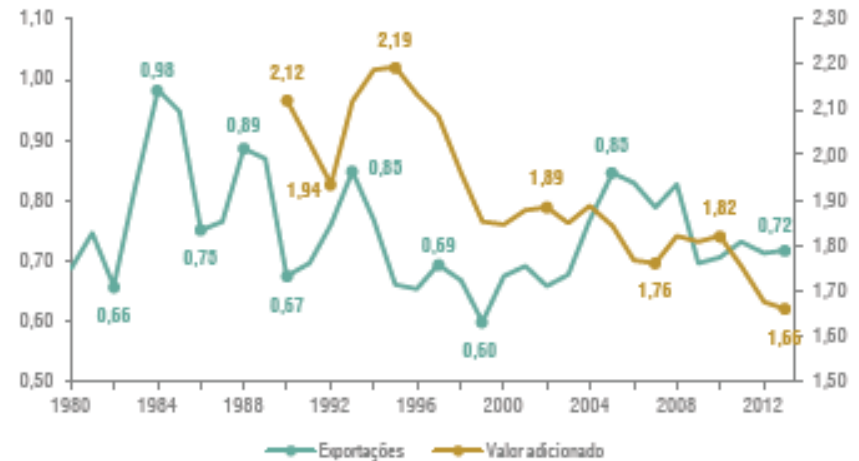
**Labor Productivity
2000-2014 – Manufacturing**
(Their output and their working hours)
(2000 = 100)



Fonte: Elaborado pela CNI, com base em estatísticas do IBGE, INDEC, INEGI, FUNCEX, The Conference Board e da CNI.

Global Value Chains

**share of global manufacturing
exports and value added (%)**



Fonte: Elaborado pela CNI, com base em estatísticas da WTO e da UNIDO.

Source: ESTUDOS ECONÔMICOS NÚMERO 1. Indústria brasileira: da perda de competitividade à recuperação?. Novembro/2015

Indústria + Produtiva

Programa de apoio à Indústria Brasileira
para o aumento da Produtividade

KEY CONCEPTS

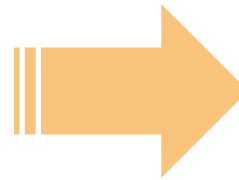
- 100/120h of technology consulting services (lean manufacturing principles)
- Target: attain productivity gains of at least 30% in each process
- No demand for investments in new machinery or additional workforce
- Low cost and short term basis alternative
- Companies of any size operating in any industrial sector
- Expressive and visible improvements in production efficiency
- Total investment per company: R\$ 18.000,00

GENERAL RESULTS

Indicators	Lowest	Highest	Average
Productivity growth	7%	133%	40%
Excess of motions	55%	98%	80%
Quality improvement	73%	80%	73%
Production cost reduction	14%	34%	21%
ROI (12mths forecast)	2x	108x	45 X

Scaling Up

- Pilot Program 2014 - 2016
- 39 industrial firms (7 sectors)
- 7 States (CE, MG, GO, MT, PR, SC, RS)
- SMEs and Large firms



- 3000 firms up to Dec 2017
- Textile, food & beverage, furniture and metalworking
- SMEs countrywide

Indústria + Produtiva

Programa de apoio à Indústria Brasileira para o aumento da Produtividade



BRASIL MAIS PRODUTIVO



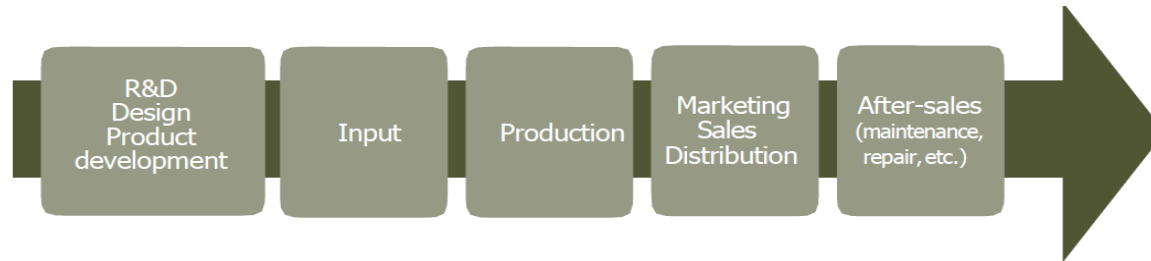
- ✓ Indústria + Avançada
- ✓ Indústria + Exportadora



Industry 4.0 – the next step towards competitiveness

New paradigms

Digital Integration – vertical and horizontal



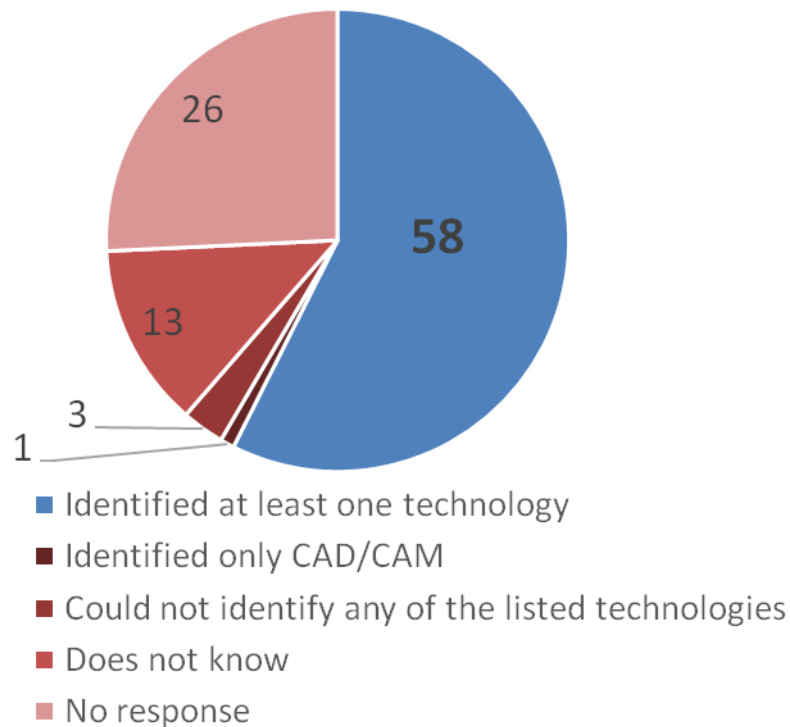
Flexibility / mass customization



Digitization in the Brazilian Industry

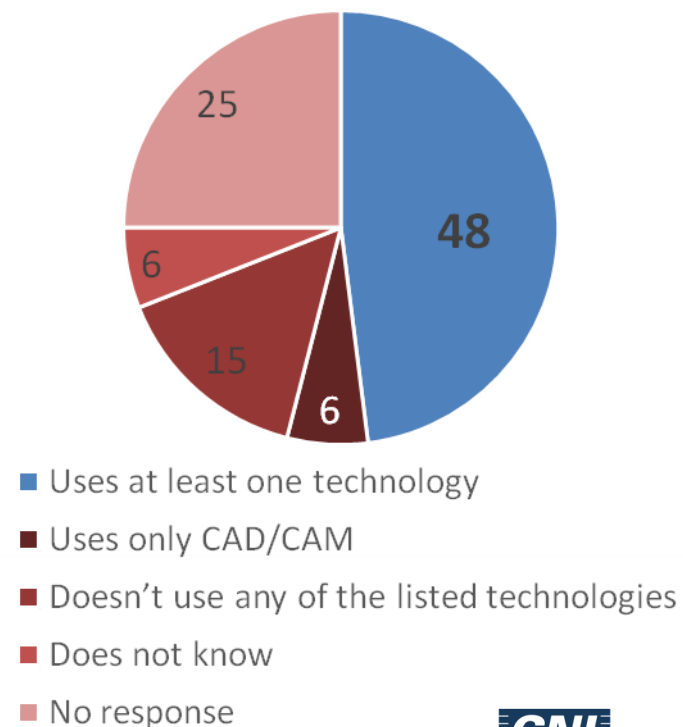
knowledge (importance)

Identification of at least one of the 10 digital technologies listed as important for industry competitiveness
Percentage of responses (%)



USE

Use of at least one of the 10 listed digital technologies
Percentage of responses (%)



52% reported that they do not use any of the digital technologies included in a list of 10 options

Scarce knowledge about the benefits of digitization

CNI's Agenda

CHALLENGES FOR INCORPORATION AND DEVELOPMENT OF INDUSTRY 4.0 IN BRAZIL

APPLICATIONS IN PRODUCTIVE CHAINS
AND DEVELOPMENT OF SUPPLIERS

Technological
development

Human
resources

Mechanisms for
the adoption of
Industry 4.0
technologies

Infrastructure




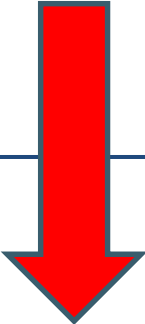

Regulation

INSTITUTIONAL COORDINATION



Source: CNI, 2016.

Opportunities in the short term

		Output	
		Traditional	Innovative/Disruptive
Manufacturing Process	Conventional		
	4.0	 	

Opportunities for cooperation

- Lean Manufacturing partnership
(e.g. automotive sector)
- Support to promote the digitization of suppliers



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