

# Value Chain Analysis: Data Needs

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**UNECE Conference of European Statisticians,  
Group of Experts on National Accounts**

July 7-9, 2015

Geneva, Switzerland

# Overview

**KEY CHALLENGE:** How to integrate GVC analysis into trade and development

## DATA NEEDS:

- Detailed trade data (components and end product market segments)
- Firm-level data (nationality, size and export orientation of firms)
- Employment and income data

## CASE STUDIES:

- Costa Rica medical devices GVC
- Value Chains at a regional level: North America's aerospace and auto industries
- Aid for Trade: combining analysis at the border and inside the border

# Why Firm-Level Data Matters

- What is happening: Production patterns and trade flows
  - Firms trade, not countries
  - Heterogeneity within sector
- Consequences of GVCs for
  - Development
  - Inclusion
  - Sustainability
  - Inequality
- Data on
  - Profits
  - Wages
  - Social and Environmental Impacts

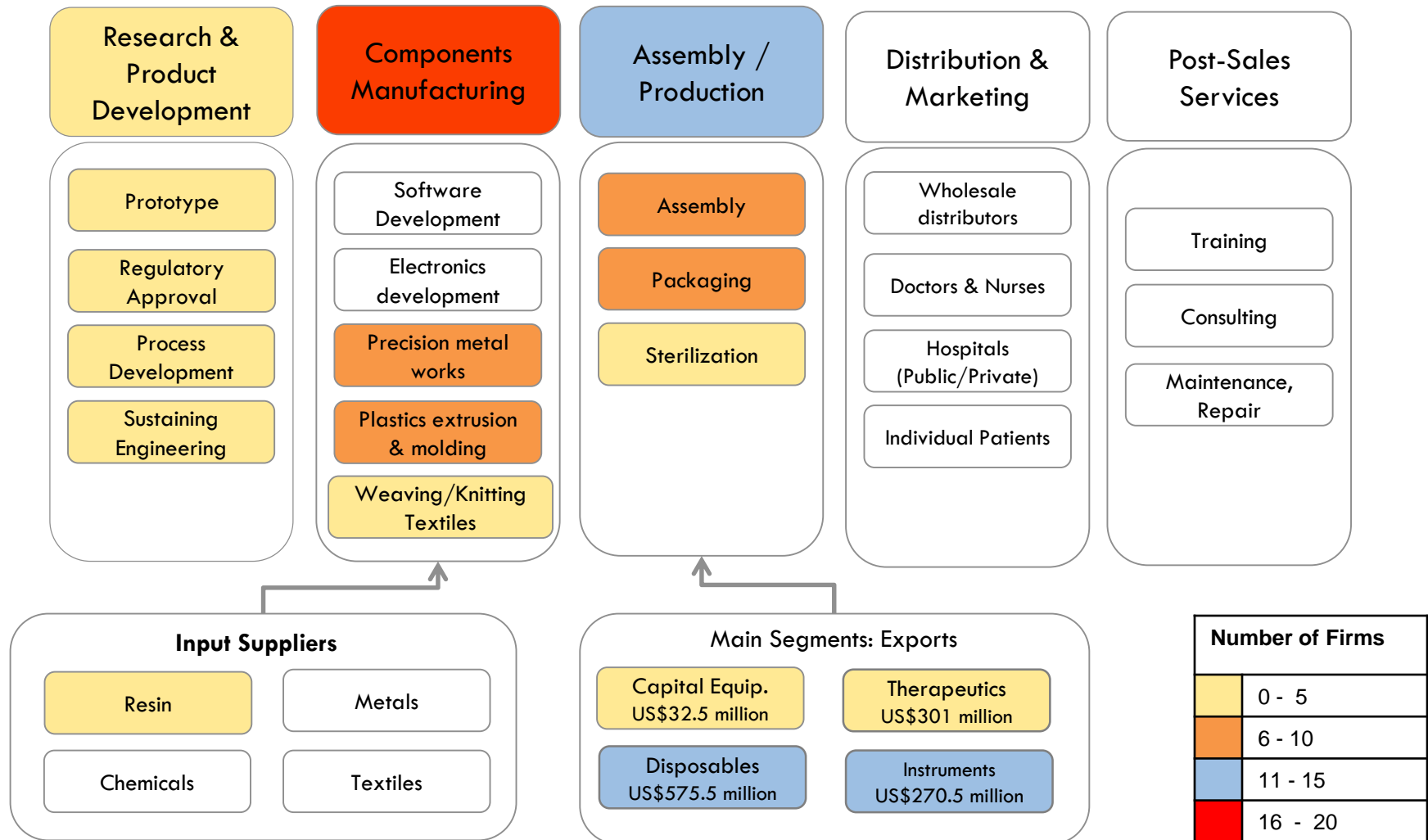
# Duke

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## **COSTA RICA'S MEDICAL DEVICES GVC**

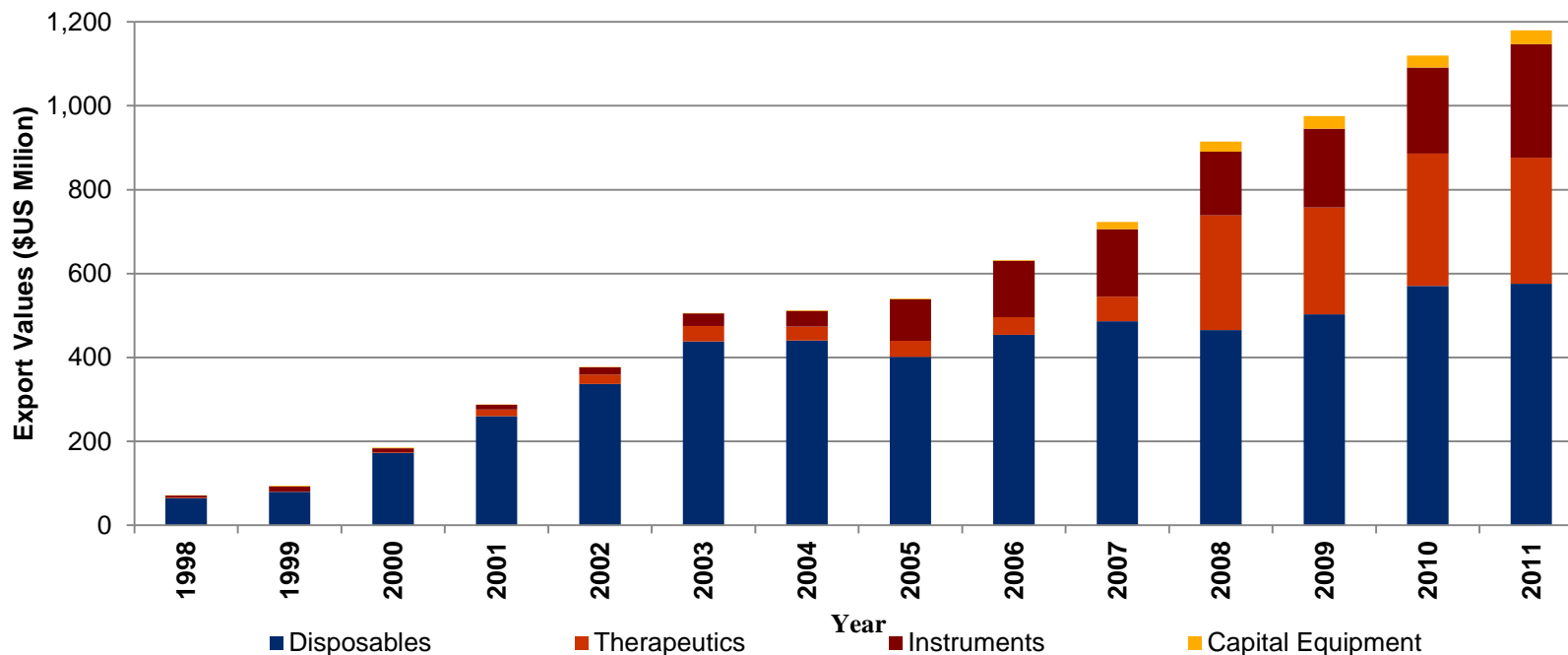
# COSTA RICA IN THE MEDICAL DEVICES GVC



**Local firms are mainly in packaging & support services (12 of 19) versus 4 in limited role in plastics molding & metal finishing and 1 OEM with exports under \$2 million.**

# EVOLUTION OF COSTA RICAN MEDICAL DEVICE EXPORTS

Costa Rica's Medical Exports by Product Category: 1998-2011

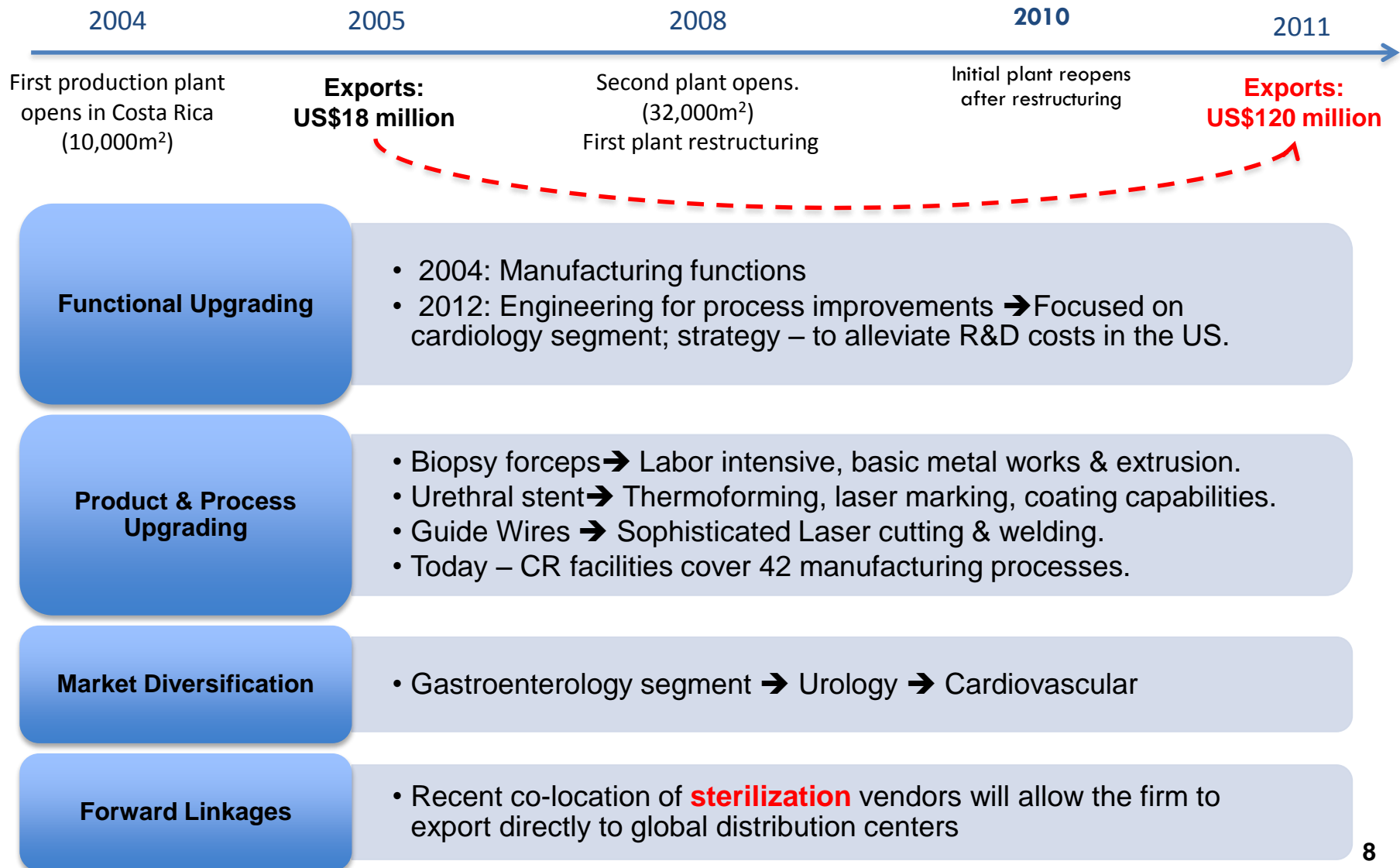


- **Disposables** still the largest product category exported, but no longer a strong growth area.
- Exports in **surgical instruments** have grown steadily since 2005.
- **Therapeutics** has become 2<sup>nd</sup> largest category since 2008; likely to increase as newly established firms complete transfer of new product lines.
- Limited export of highest value **capital equipment** (eg. Electronic/software devices)

# FIRMS IN COSTA RICA MEDICAL DEVICES SECTOR

Entry Year	Firm Characteristics	Main Product Export Category	Core Market Segments	Product Examples	Select Firms
<b>Up to 2000</b> 24 firms: 8 US 15 CR 1 German	4 OEMs 8 Components 1 Input distributor 7 Packaging 1 Finishing 3 Support services	Disposables	Drug delivery; Women's health	Intravenous tubing (I) Mastectomy bra (I)	Hospira; Baxter; Amoena; Corbel
<b>2001–2004</b> 13 firms: 9 US 3 CR 1 Colombian	3 OEMs 6 Components 1 Finishing 1 Logistics provider 2 Support services	Instruments	Endoscopic surgery	Biopsy forceps (II)	Arthrocare; Boston Scientific; Ober Industries
<b>2005–2008</b> 8 firms: 7 US 1 Puerto Rico	2 OEM 4 Components 1 Packaging 1 Finishing	Therapeutics	Cosmetic surgery; Women's health & urology	Breast implants (III) Minimally invasive devices for uterine surgery (II)	Allergan; Tegra Medical; Specialty Coating Systems
<b>2009–2012</b> 21 firms: 16 US 1 CR 1 Ireland 1 Japan 2 Joint ventures (US-CR)	5 OEMs 7 Components 2 Non-OEM assemblers 1 Input Distributor 2 Sterilization 2 Packaging	Therapeutics Disposables Instruments	Cardiovascular Drug delivery	Heart valves (III) Dialysis catheters (III) Guide wires (III) Compression socks (I)	Abbott Vascular St. Jude Medical Covidien Moog Synergy Health Volcano Corp.

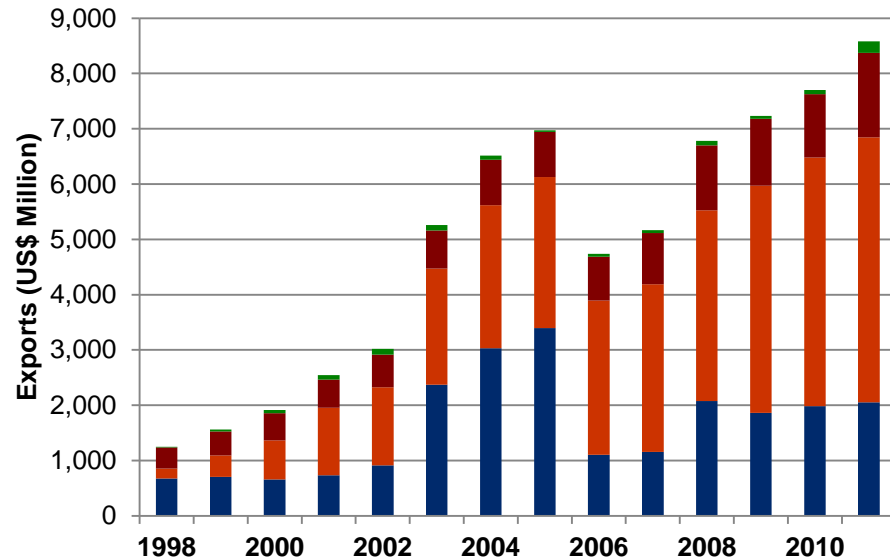
# UPGRADING SUCCESS: A LEADING MEDICAL DEVICES MNC IN COSTA RICA



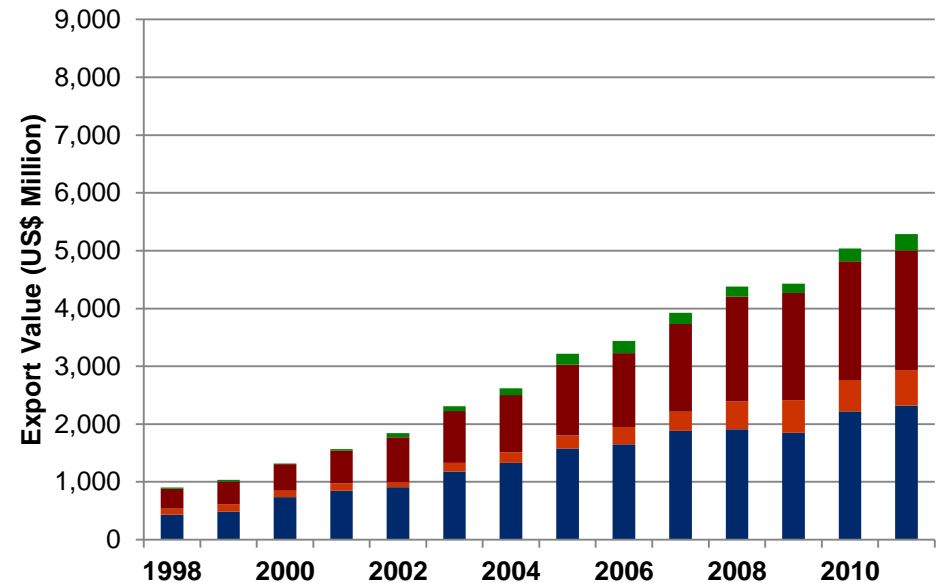


# IRELAND AND MEXICO: MEDICAL DEVICE EXPORTS 1998-2011

## IRELAND



## MEXICO



- Most mature of the three locations
- 2005 shock forced upgrading strategy
- Significant growth in **therapeutics** & entry into **capital equipment** production

- Stabilizing **disposables** exports
- Strong focus in **instruments**
- Growing gains in **capital equipment** → participation in electronics value chains

## **LINKING NATIONAL, CLUSTER AND FIRM- LEVEL DATA IN MACRO REGIONS**

# Linking Clusters & GVCs in Mexico to Regional and Global Contexts

Mapping of GVCs across four dimensions for each industry...

Local

- Local clusters

National

- Links to other states and clusters in Mexico

North America

- Links to United States and Canada

Global

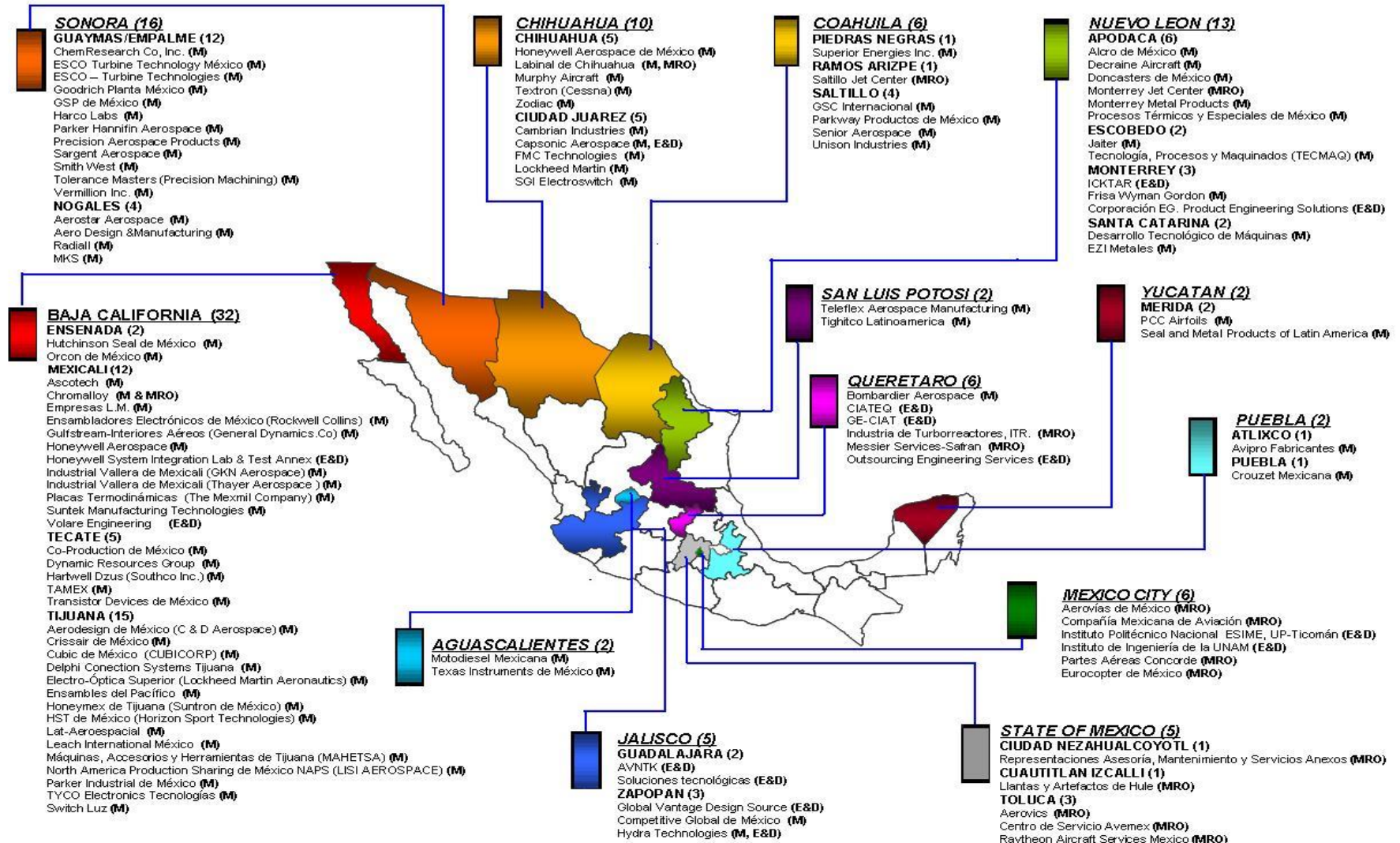
- Other International linkages

# MEXICAN AERONAUTIC INDUSTRY

**(M)** Manufacturing

**(MRO)** Maintenance, Repair and Overhaul

**(E&D)** Engineering and Design

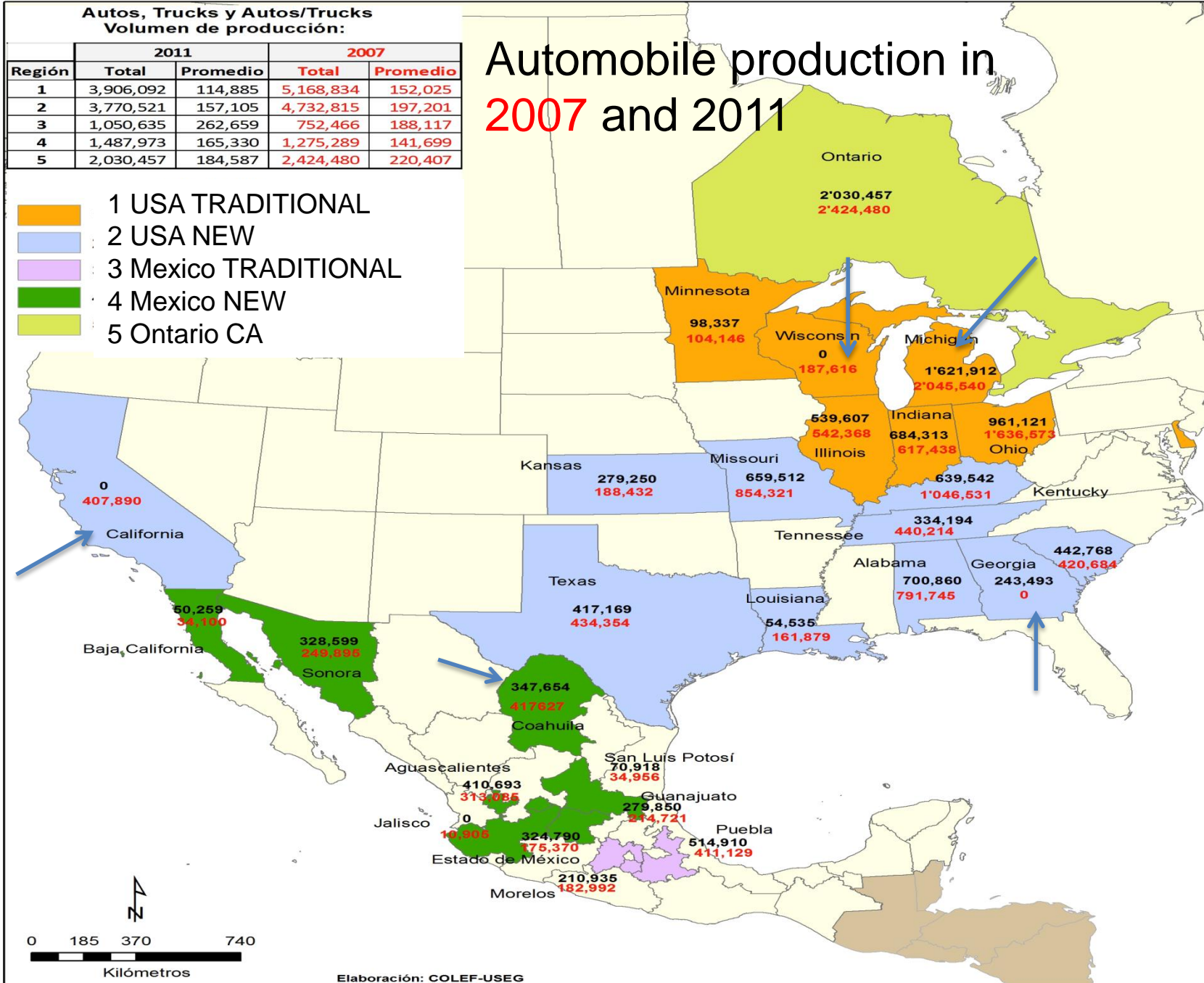


**Autos, Trucks y Autos/Trucks  
Volumen de producción:**

Región	2011		2007	
	Total	Promedio	Total	Promedio
1	3,906,092	114,885	5,168,834	152,025
2	3,770,521	157,105	4,732,815	197,201
3	1,050,635	262,659	752,466	188,117
4	1,487,973	165,330	1,275,289	141,699
5	2,030,457	184,587	2,424,480	220,407

- 1 USA TRADITIONAL
- 2 USA NEW
- 3 Mexico TRADITIONAL
- 4 Mexico NEW
- 5 Ontario CA

# Automobile production in 2007 and 2011



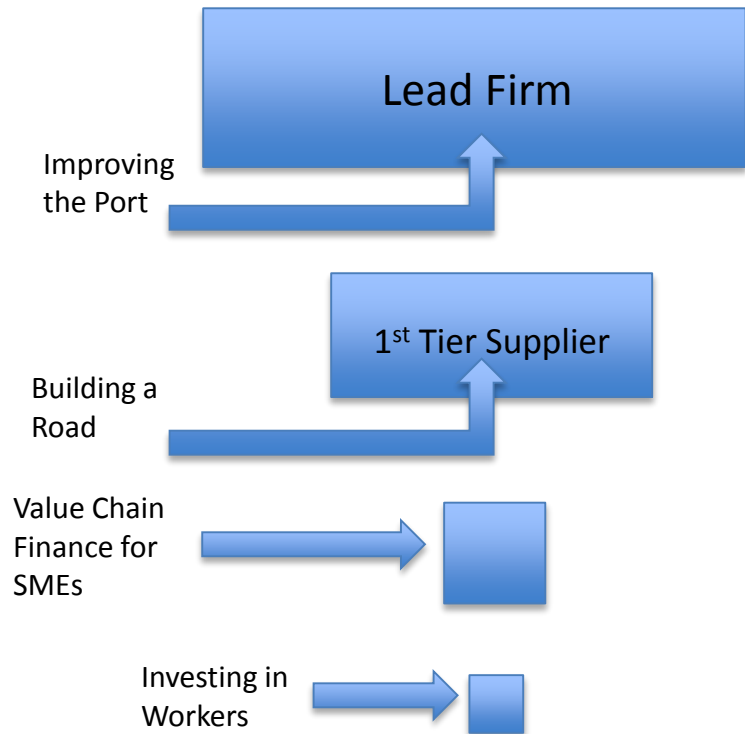
# Data for Policy

- Trade policy
- National development strategies
- Aid for Trade

# GVC-Informed Aid for Trade

(with Will Milberg, UNCTAD *World Investment Report 2013*)

- AfT reduces costs, increases GVC competitiveness
- Benefits tend to flow to the powerful
- It matters where AfT enters the value chain
  - At the border
  - Behind the border







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THANK  
YOU



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Questions?