

LOGISTECHS: PORT LAREDO'S KEY TO CONTINUED AND SUSTAINABLE GROWTH

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April 26, 2022

**Laredo Chamber of Commerce
Vision 2022 Conference**

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INTRODUCTION

The current economic environment, technological advancements, and changes in international trade policies have forced global companies to reevaluate their competitive advantages.

2020 and 2021 has been a prime example of what we define in innovation research as a VUCA environment. We live in an environment full of Volatility, Uncertainty, Complexity, and Ambiguity, and managing these fluctuations is more critical today than ever.

Previously, the formulation, implementation, and evaluation of strategic planning were enough for companies and individuals to face these challenges.

Today, we see how strategic planning moves from a planning concept to a constant adaptation concept; therefore, companies and organizations must adapt quickly and fit systematically to this new reality. Today's talk will focus on one alternative companies are exploring to further their competitiveness and efficiency: Logistechs.

ECONOMIC OUTLOOK REPORT EVOLUTION

Volume 16, Issue 1
May 2014
Chamber of Commerce
Laredo, Texas

Vision 2014 Economic Outlook Report

Formulating a Vision

The Purpose of the Vision 2014 Conference and Trade Mission

During the past two centuries, Laredo has been at the crossroads of U.S.-Mexico trade and commerce. As the metropolitan area of 262,495 inhabitants enters the second decade of the new millennium, Laredo will continue to shape the destiny of the region. Tremendous efforts are underway to maintain a competitive business environment. In this regard, extensive participation by the business community will hallmark how well we are prepared to address both the increase in growth and commerce.

The Laredo Chamber of Commerce, over 700 members strong, has a vision and goal to foster the ongoing betterment of the community and region as well as encourage and promote the maintenance of a competitive business sector. There are three prime factors that bode well for the future of Laredo: first is the growing active work force, second the continued diversification of all economic sectors, and third, a significant public-private infrastructure initiative to enhance all areas of the region's transportation corridors and support services.

The 2014 Vision Conference intends to focus on the dynamic commercial viability of the city and the traditional linkages with counterparts in Mexico and the South Texas region. The membership of the Laredo Chamber of Commerce looks forward to continued regional and transnational cooperation. Thus, this publication is a snapshot of Laredo's recent growth and trade activities.

Laredo 2013: Another Year of Recovery

by Jacqueline Benavides, Data and Information Specialist, Texas Center for Border and Economic Development, A.R. Sanchez Jr., School of Business, Texas A&M International University

As with 2012, Laredo marked another year of recovery since the great recession of 2008. Factors that provided the stimulus were mixed. In 2013, the two major factors were international trade and oil and gas exploration.

U.S. trade of goods with Mexico continued its growth—a small gain—but still building upon 2012 in the amount of goods processed at the Port of Laredo. The port continues to handle more than 40 percent of the dollar value of merchandise between the major trading partners. In the article titled, "The Port of Laredo: U.S.-Mexico and World Trade," (See page 10) trade between the U.S. and Mexico is reviewed in general, and with more detail for the Port of Laredo.

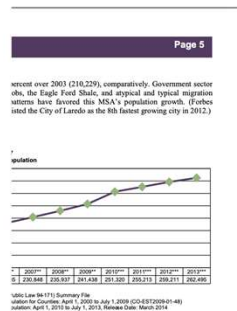
The ongoing oil and gas exploration in the Eagle Ford Shale play continued to positive effect on the local economy by creating demand for goods and services from Laredo and the surrounding area. This is covered in the featured article titled, "The Oil and Gas Industry and Laredo's Economy," by Dr. Anand Jha, Associate Professor of Finance at A.R. Sanchez, Jr. School of Business, Texas A&M International University (See page 9). With the announcement of the opening of the Mexican oil and gas industry to international entities (since 1938), the anticipation of yet another boom has fueled the speculation of increased gains in the future for the local economy, and of the possibilities of Laredo being a pivotal player in the development of the shale plays in the neighboring Mexican basins.

There are other important sectors that come into play in the Laredo economy and these are annotated in the following pages.

(Continued on page 1)

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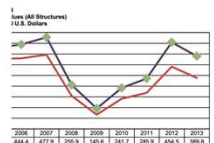
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pit construction, post-recession events pointed to purchases of enclosed homes, thereby stalling somewhat construction growth.

Recovery is coming slowly to this sector; it will undoubtedly take a healthy recovery with proposed improvements.

(Continued on page 1)



Source: City of Laredo data compiled by the Texas Center at Texas A&M International University.

projects and reports, that will enhance Laredo's ability to meet the challenges and opportunities of the future. Reach us at our Web Site: <http://www.tamui.edu>.

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April 2022

LaredoChamber VISION 2022 Economic Outlook Report

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Introduction

The Texas A&M International University (TAMU), A.R. Sanchez School of Business, Texas Center for Border Economic and Enterprise Development (TCBEED), presents the Vision 2022 edition of the Economic Outlook Report. This report presents the TCBEED's visual data analysis of local socioeconomic indicators. Its different sections give a detailed analysis of the impacts of logistechs and an overview of indicators on international trade, local demographics, and Port Laredo's international bridges.

LOGISTECHS: Port Laredo's key to continued and sustainable growth.

by Daniel Covarrubias, Ph.D., Director, Texas Center for Border Economic and Enterprise Development, A.R. Sanchez Jr., School of Business, Texas A&M International University.

The Port Laredo is the number one inland commercial port of entry at the United States and Mexico border. According to data compiled by the Texas A&M International University (TAMU), A.R. Sanchez School of Business, Texas Center for Border Economic and Enterprise Development (TCBEED), every year, more than 4.5 million trucks, representing nearly \$50 billion dollars in trade, are skillfully managed through this border crossing. Port Laredo operates 30% of the total U.S. world trade that transits through ports of entry in Texas and approximately 40% of total trade between the United States and Mexico.

(Continued on page 2)

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TEXAS CENTER
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Port of Laredo Trade Trend

by Total Import/Export Trade Value

| Year | Trade Value |
|------|-------------|
| 2000 | \$1.42B |
| 2001 | \$1.50B |
| 2002 | \$1.60B |
| 2003 | \$1.70B |
| 2004 | \$1.80B |
| 2005 | \$1.90B |
| 2006 | \$2.00B |
| 2007 | \$2.10B |
| 2008 | \$2.20B |
| 2009 | \$2.30B |
| 2010 | \$2.40B |
| 2011 | \$2.50B |
| 2012 | \$2.60B |
| 2013 | \$2.70B |
| 2014 | \$2.80B |
| 2015 | \$2.90B |
| 2016 | \$3.00B |
| 2017 | \$3.10B |
| 2018 | \$3.20B |
| 2019 | \$3.30B |
| 2020 | \$3.40B |
| 2021 | \$3.50B |
| 2022 | \$10.65B |

2021 Laredo Port of Entry

Main Mode of Transportation

| Mode of Transportation | Percentage |
|------------------------|------------|
| Truck | 81.5% |
| Train | 17.2% |
| Air | 1.3% |

2021 Laredo POE Top Imports

| Category | Value |
|-----------------------|---------|
| Trucks | \$7.0 B |
| Trains | \$5.1 B |
| Personalized Vehicles | \$4.8 B |
| Digital Machinery | \$4.5 B |

Source: U.S. Census Bureau Economic Indicators Division

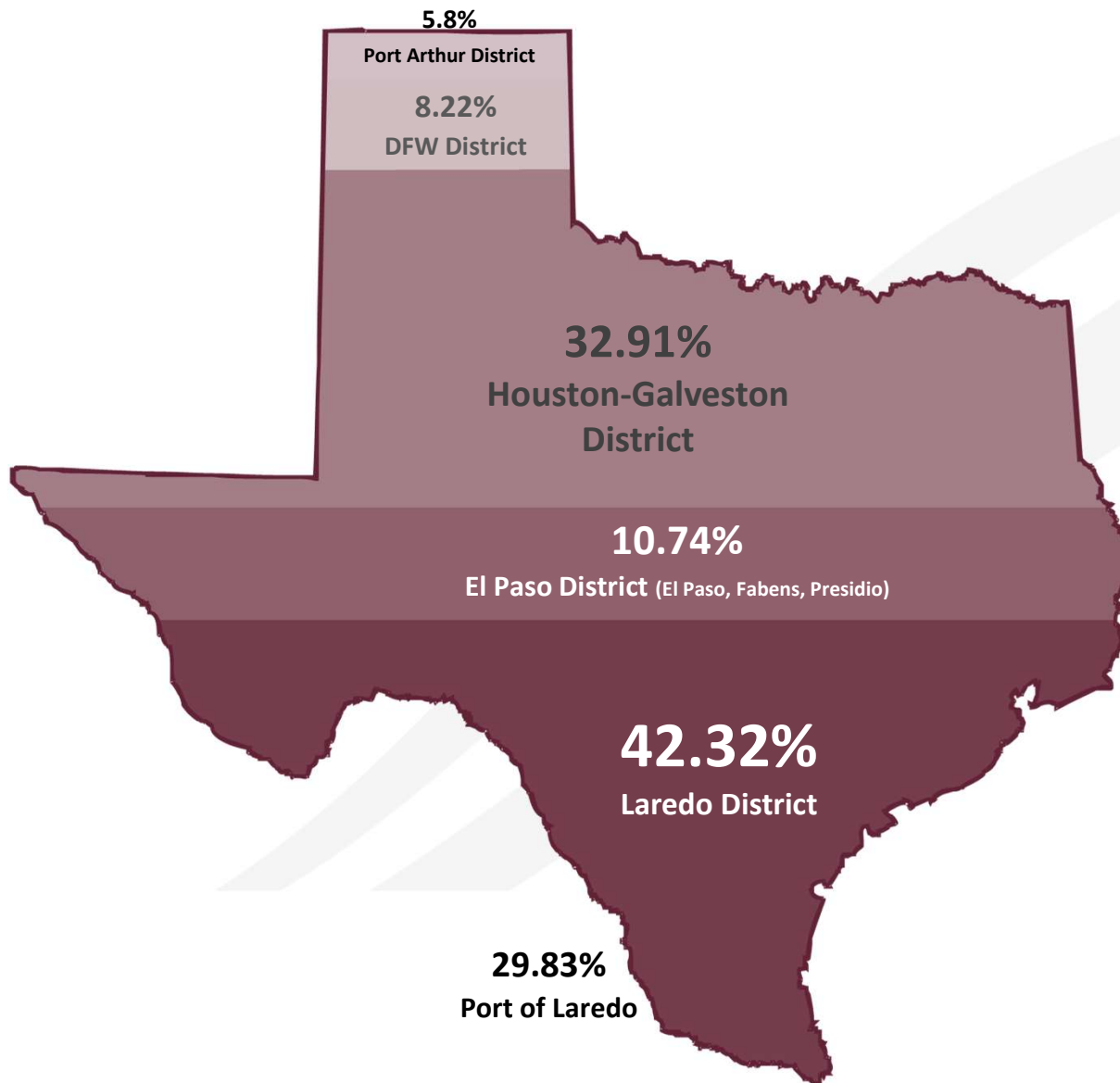
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2021 U.S. WORLD TRADE

Through Texas Ports of Entry



29.83%
Port of Laredo

\$832.97B
Total U.S. Trade
to the world
through TX POE

\$442B
53.07% through TX-MX
Border POE's

\$248.5B
29.83% through
Laredo POE

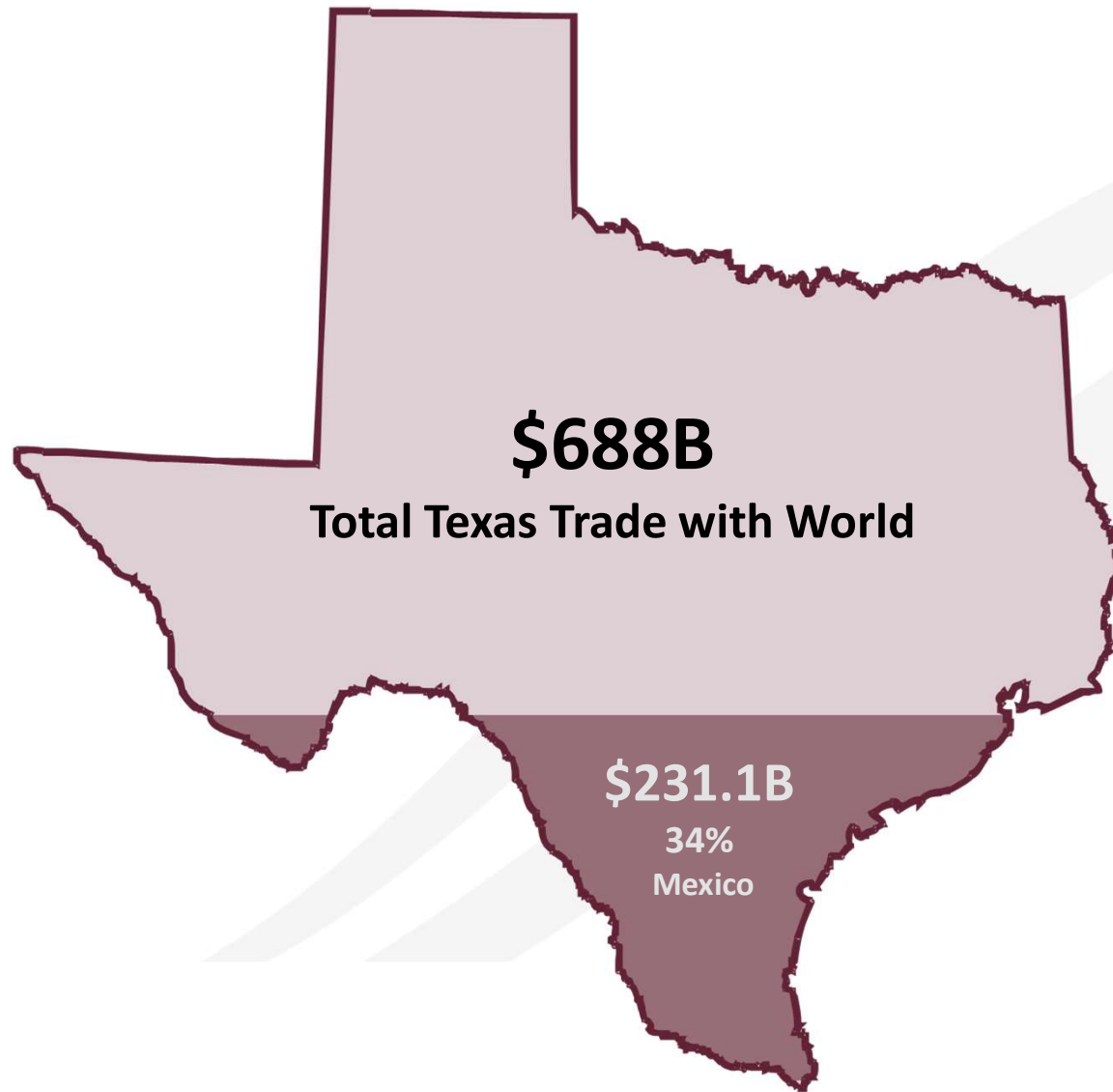
Laredo Customs District :

Laredo, Hidalgo/Pharr, Brownsville, Edinburgh Airport, Progreso, Rio Grande City, Roma, Valley International Airport (Harlingen), Eagle Pass and Del Rio

Source: U.S. Census, USA Trade

2021 Texas State Trade

Exported and Imported Goods from the State of Texas



**Mexico is Texas #1
Export and Import Market**

\$108.39B
2021 Texas Imports from Mexico

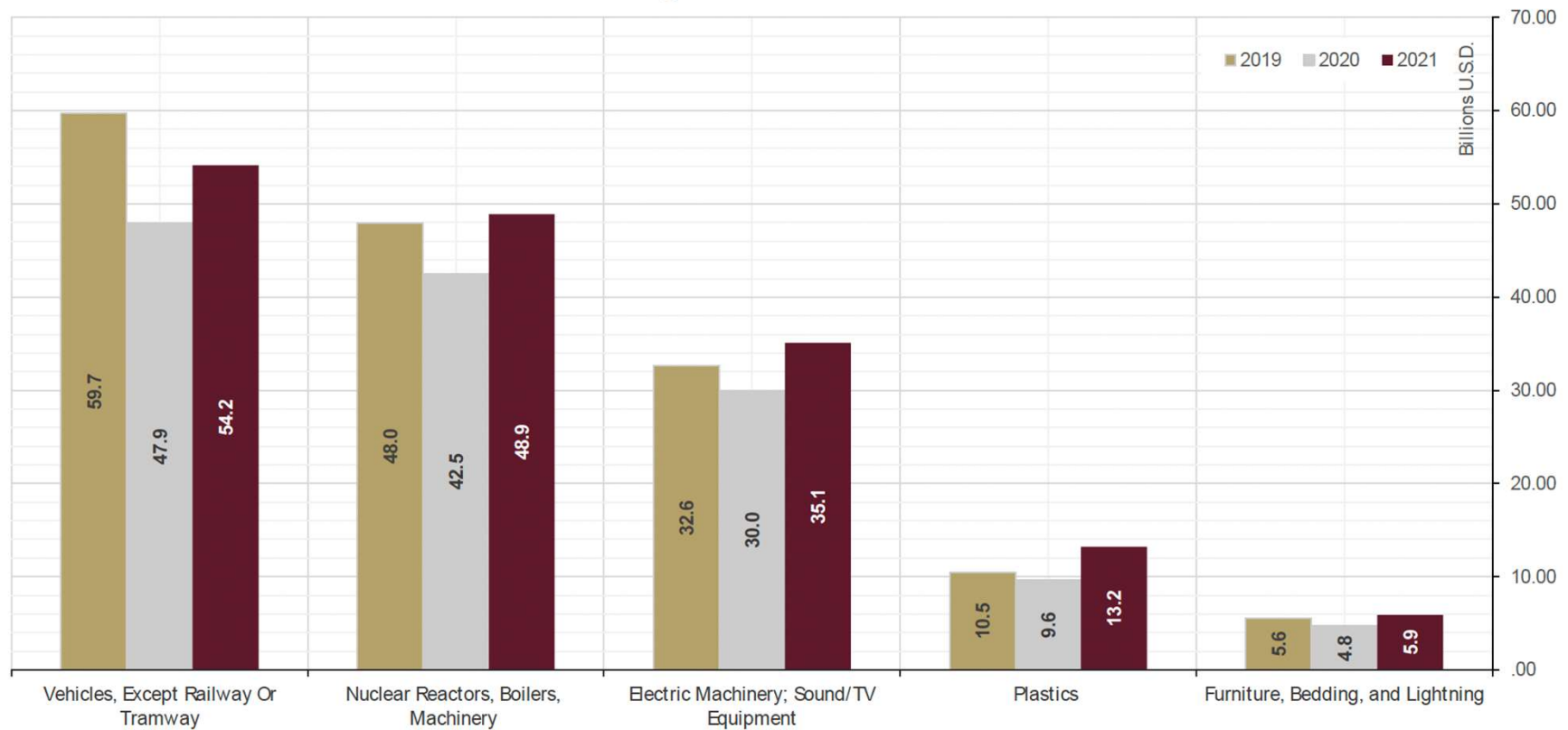
\$122.73B
2021 Texas Exports to Mexico

| Trade With Mexico | |
|-------------------|---------------------------------|
| 45.44 | Electrical Machinery |
| 45.07 | Oil, Mineral, Mineral Fuels |
| 20.9 | Vehicles except Railway/Tramway |
| 9.5 | Plastics |
| 6.7 | Optic, Photo, Medical |
| 5.1 | Organic Chemicals |

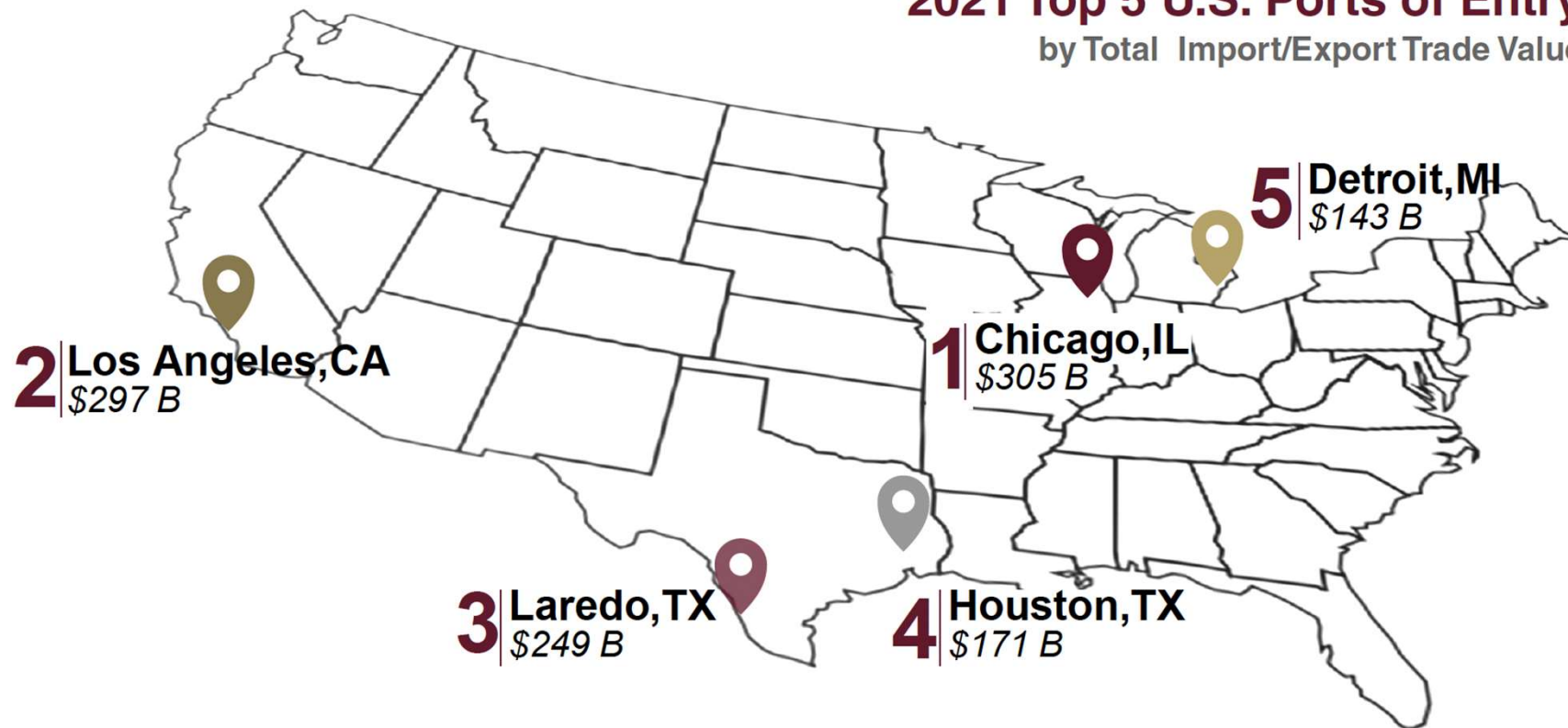
The background features a blurred image of a financial document. On the right side, there is a line chart with a fluctuating line. To the left of the chart, a table of data is visible, containing numerical values and currency symbols. The overall image has a dark red overlay.

LAREDO TRADE OUTLOOK

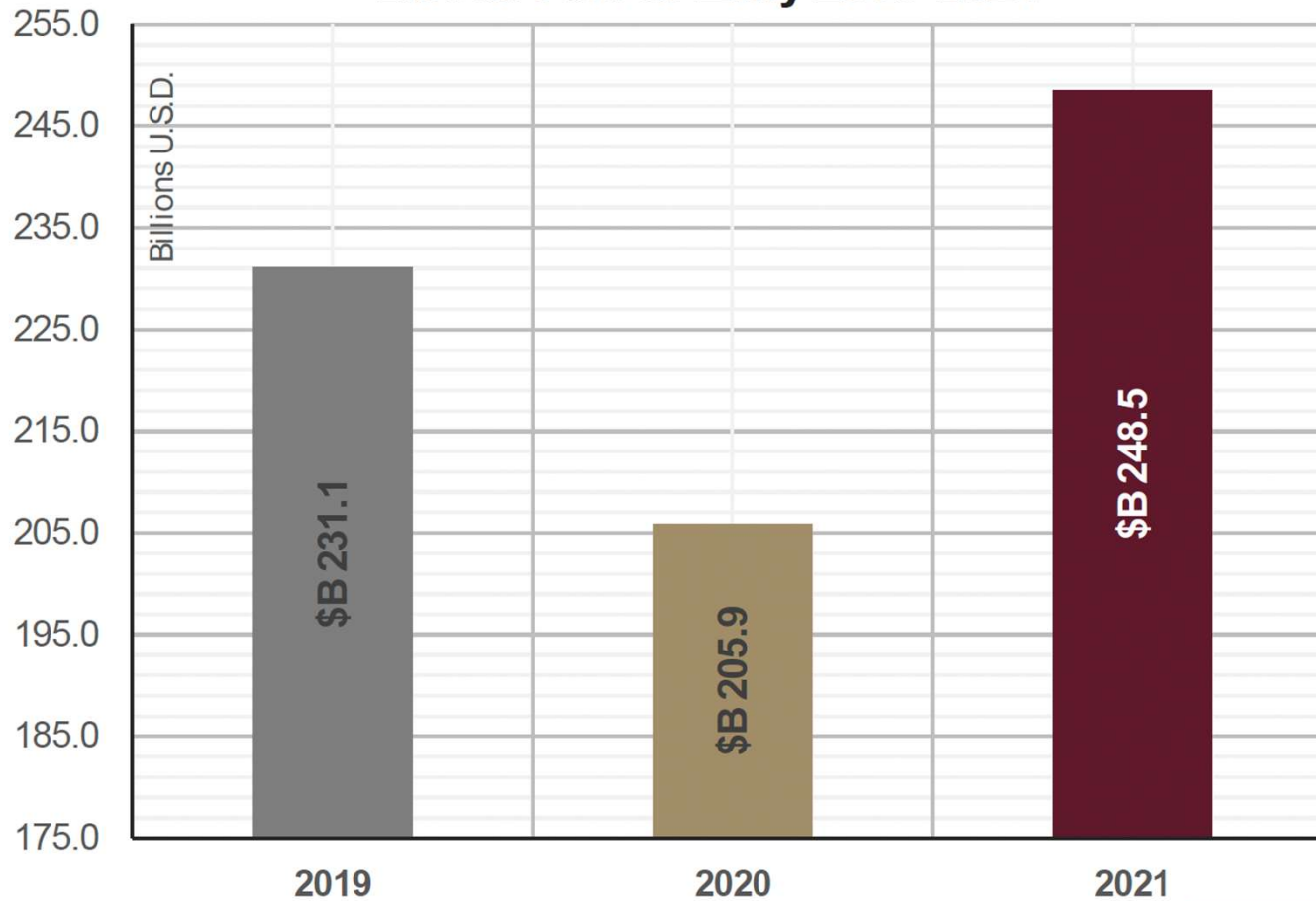
Top 5 Traded Commodities Through Laredo POE 2019-2021



2021 Top 5 U.S. Ports of Entry by Total Import/Export Trade Value

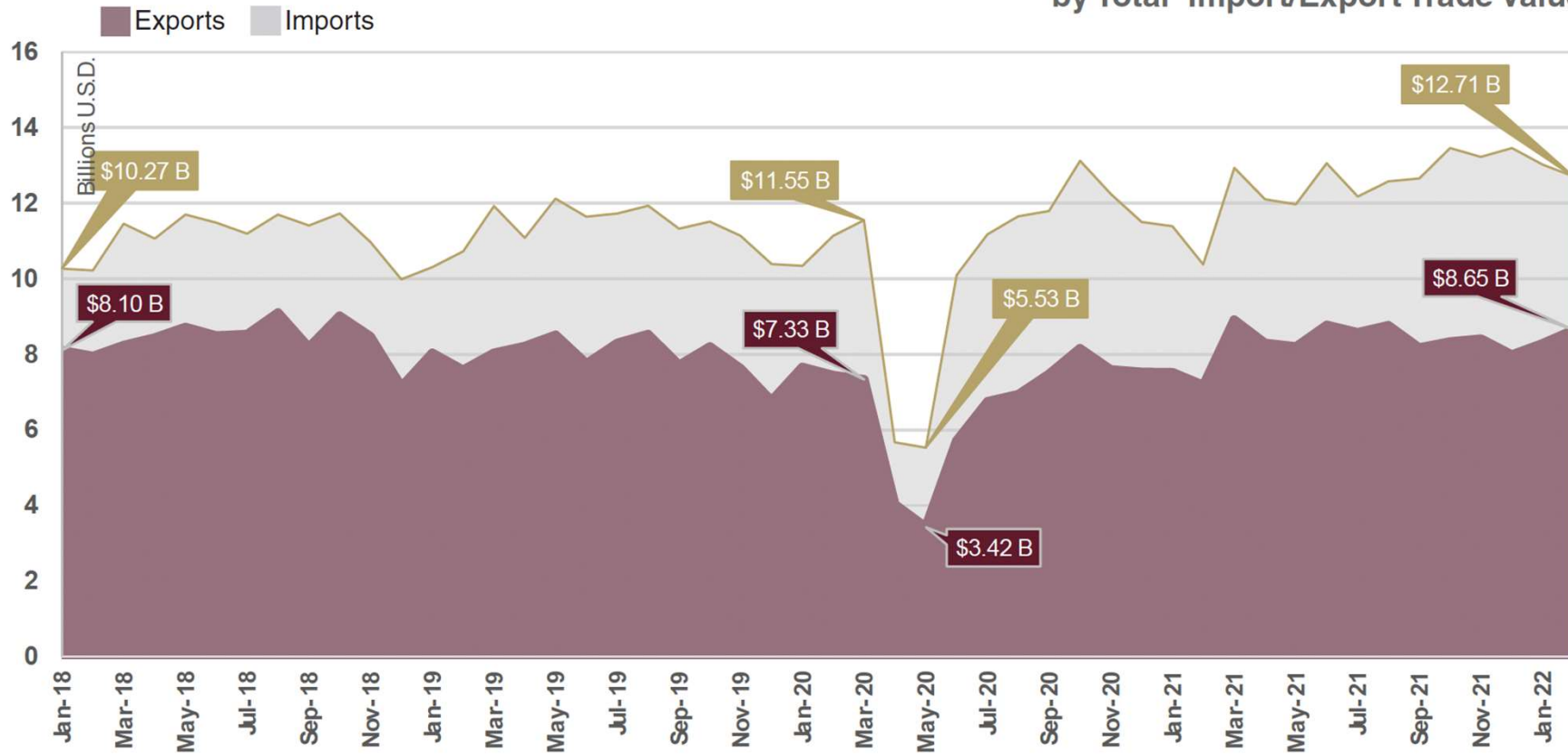


Total Trade Value Laredo Port Of Entry 2019-2021

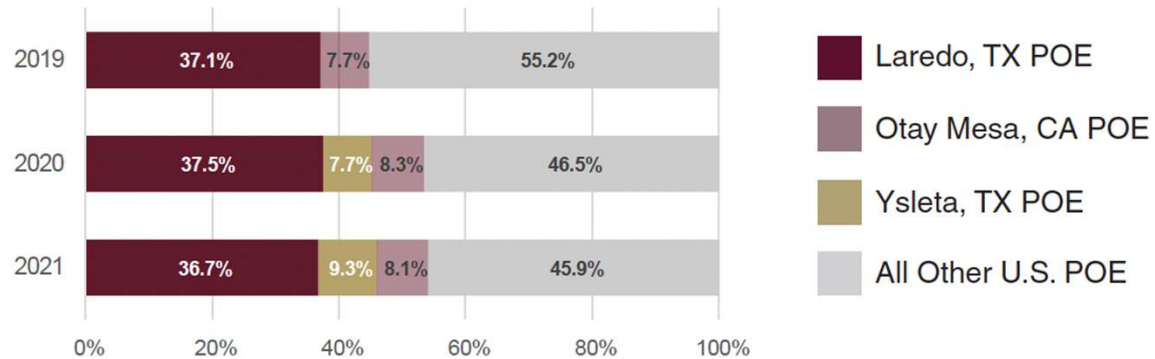


Port of Laredo Trade Trend

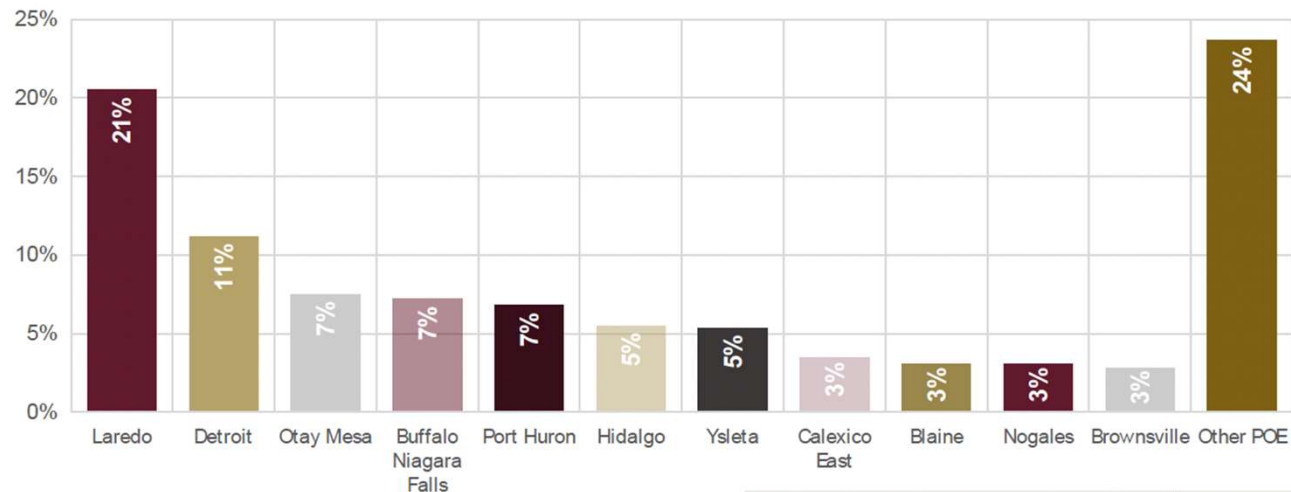
by Total Import/Export Trade Value



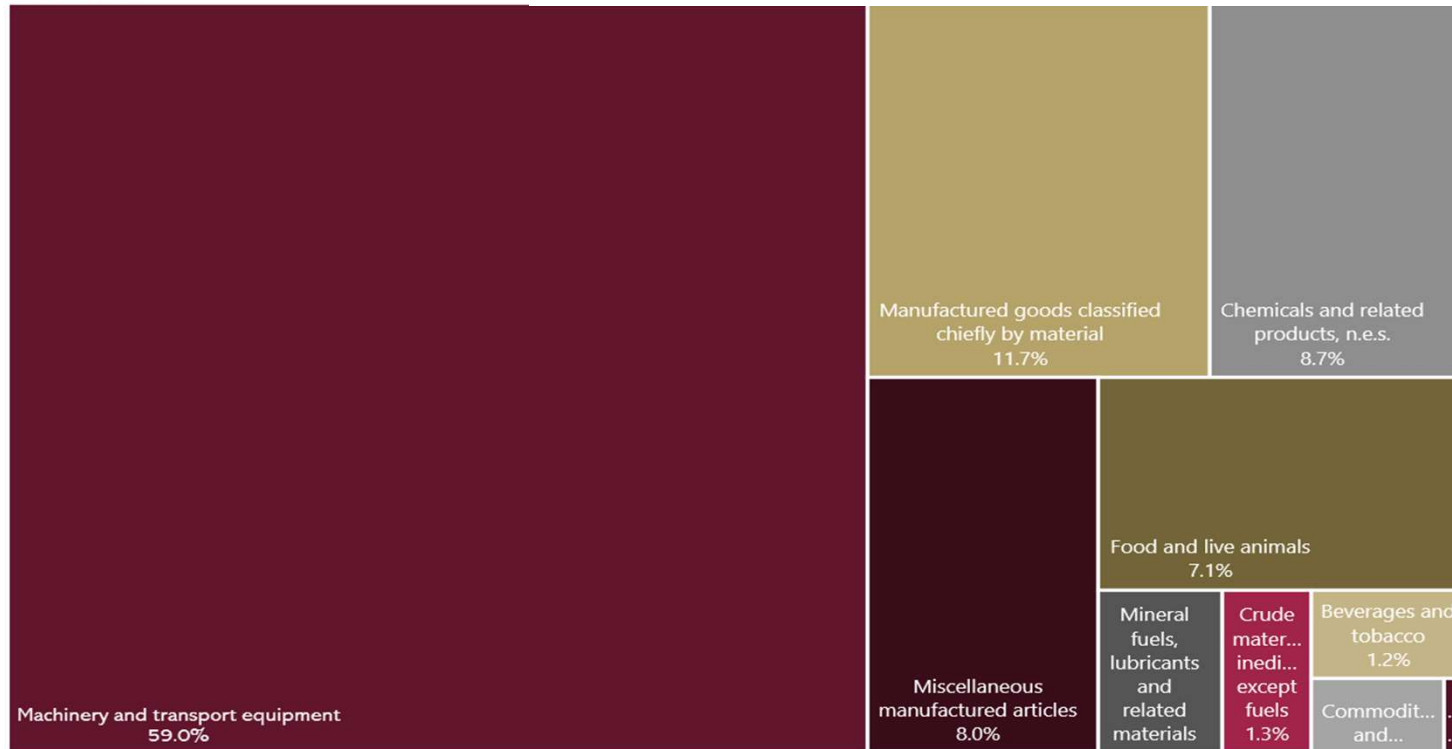
Share of Total U.S.-Mexico Trade



Share of Truck Crossings Into U.S. by POE



2021 % Share of Trade through Port of Laredo



2021 Laredo POE Top Exports

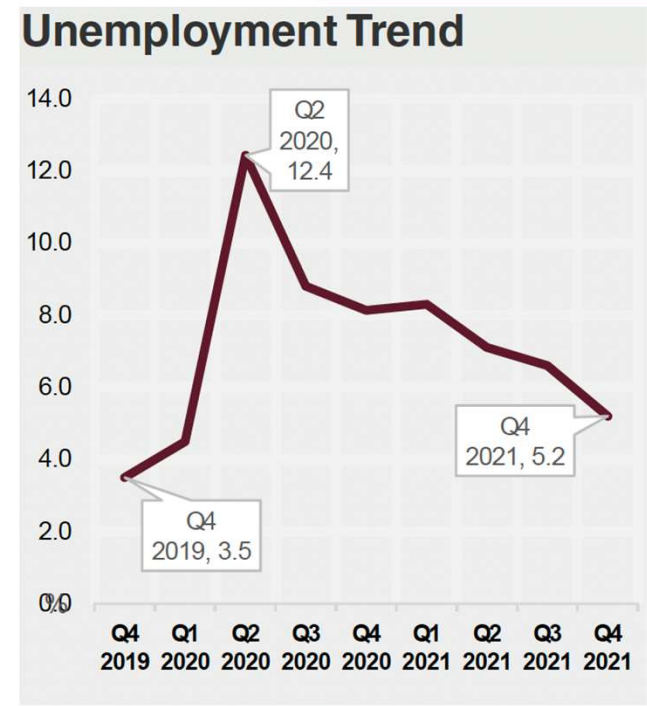
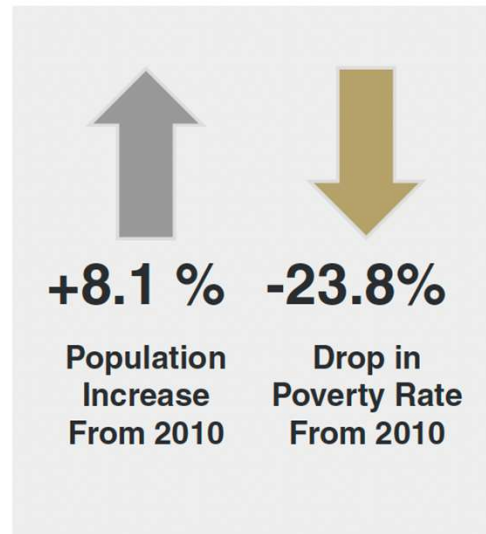
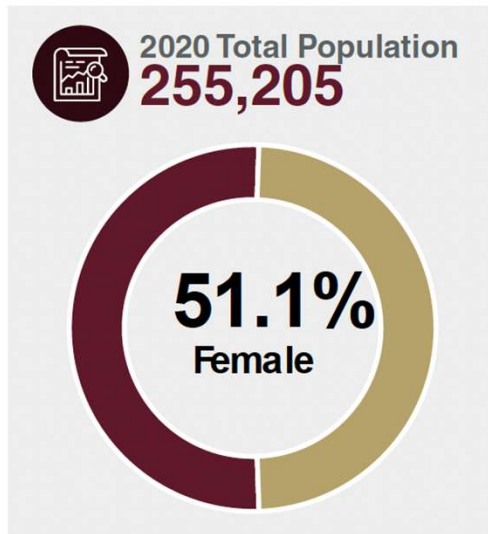
| | |
|--|---|
| Int. Combustion Engines \$ 4.4 B | Crude Oil / Biodiesel \$ 2.6 B |
| Motor Vehicle Parts \$ 2.3 B | Motor Vehicle Gear Boxes \$ 1.9 B |

2021 Laredo POE Top Imports

| | |
|---------------------------------------|--------------------------------------|
| Tractors \$ 7.0 B | Base Stations \$ 5.1 B |
| Passenger Vehicles \$ 4.8 B | Digital Machinery \$ 4.5 B |



LAREDO DEMOGRAPHIC OUTLOOK

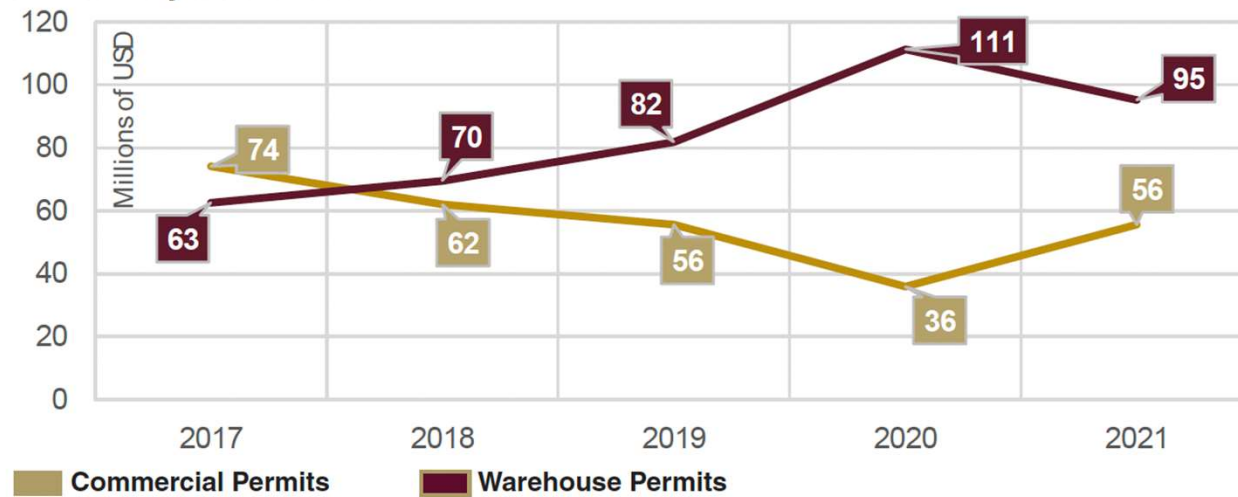


The background of the slide is a dense, overlapping pattern of US dollar bills, primarily \$100 bills, rendered in a dark red or maroon color. The bills are scattered across the entire frame, creating a textured, financial-themed background.

LAREDO ECONOMIC OUTLOOK

Warehouse & Commercial Building Permits

Permits by Dollar Value



Warehouse Permits

↓ 14 %

2021 vs 2020

Comercial Permits

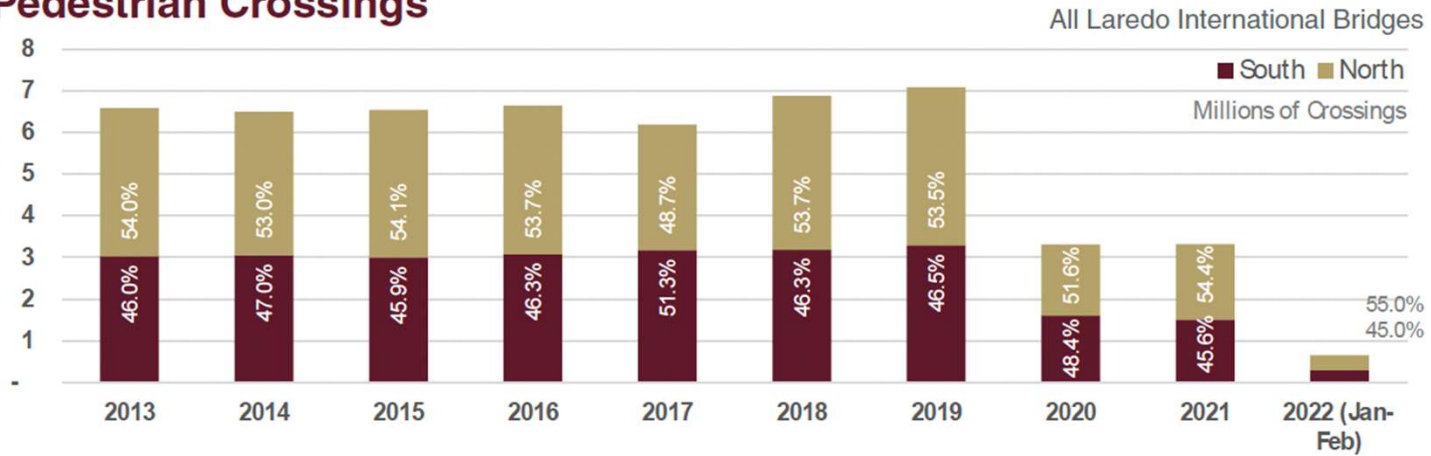
↑ 55 %

2021 vs 2020

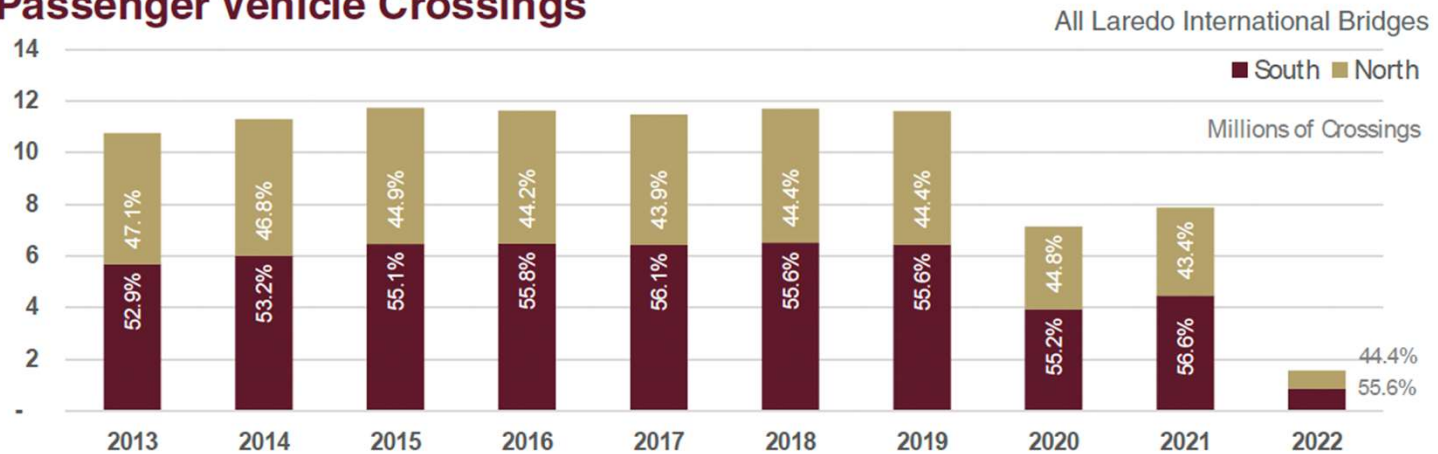
The background of the slide is a photograph of a bridge, likely the Laredo International Bridge, with a semi-transparent red overlay. The bridge's structure, including its arches and support pillars, is visible through the tint. The text is centered over the middle of the image.

LAREDO INTERNATIONAL BRIDGES OUTLOOK

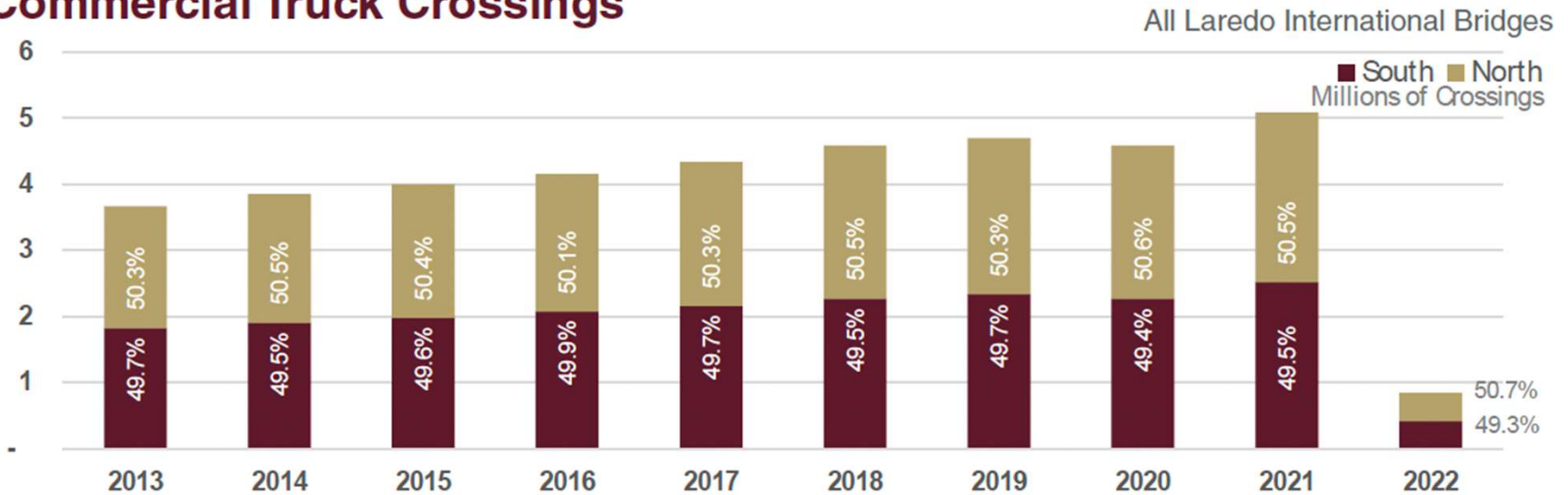
Pedestrian Crossings



Passenger Vehicle Crossings



Commercial Truck Crossings



2021 North Bound Rail Crossings

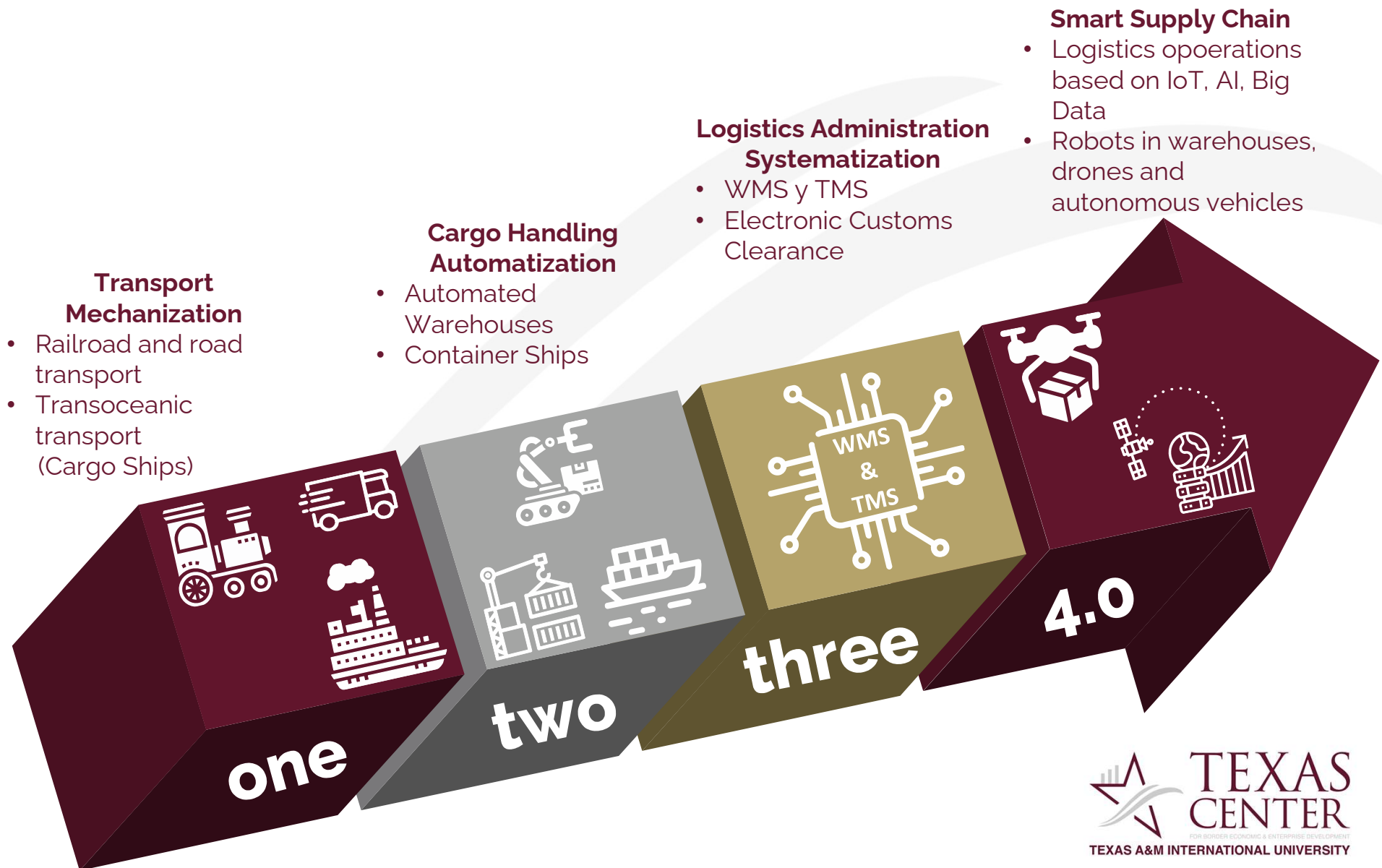
Train Crossings
4,330

Loaded Box Containers
246,516

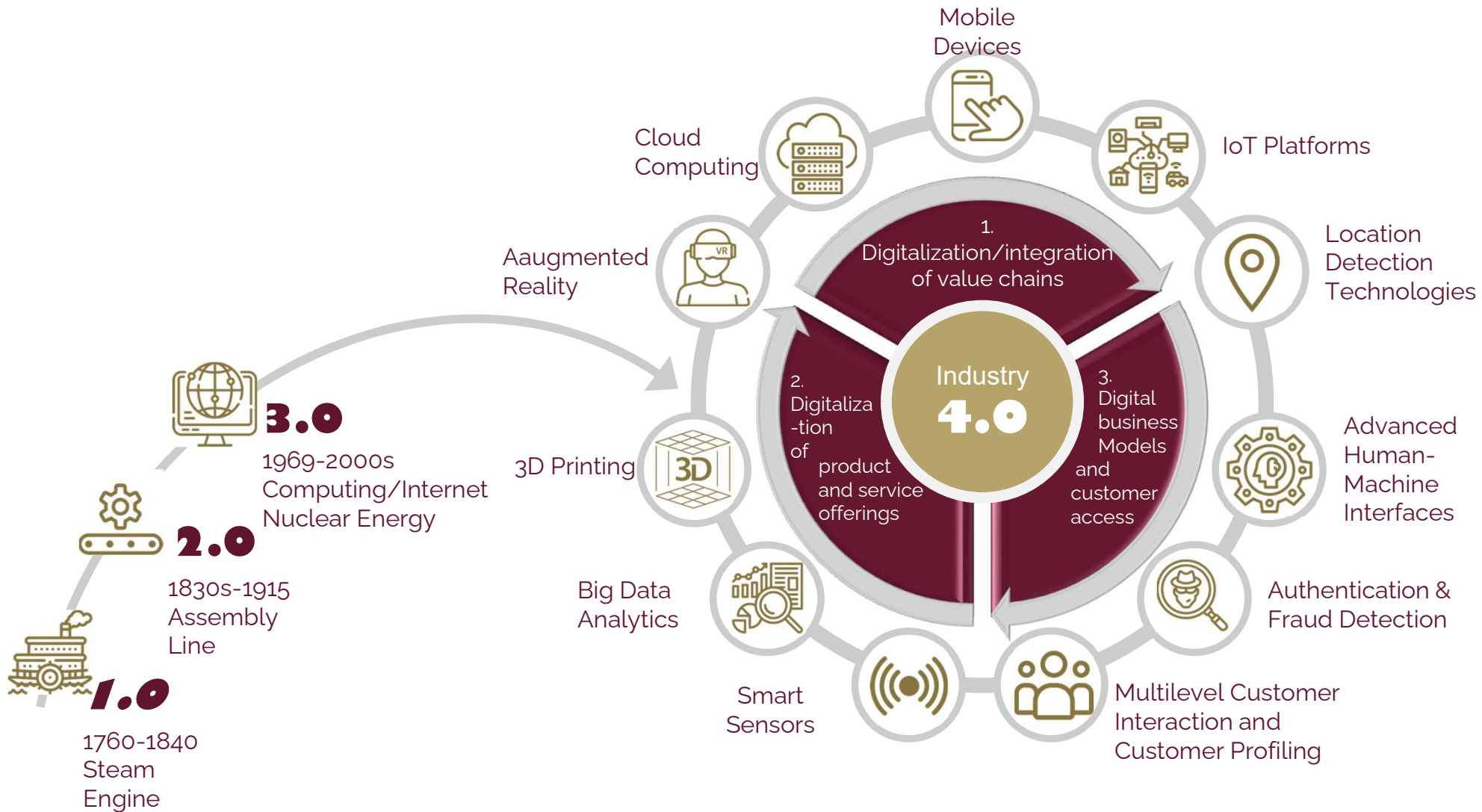
Unloaded Box Containers
261,676

All Container Crossings
↑ 7 %

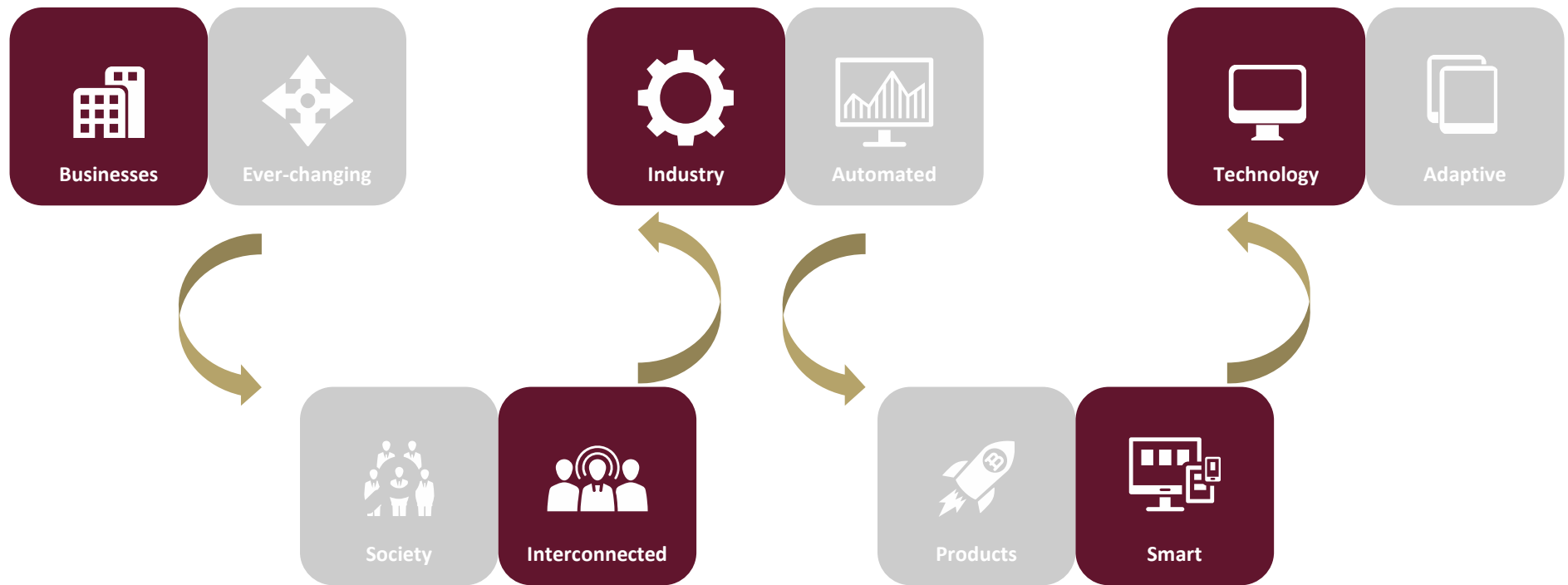
LOGISTICS 4.0



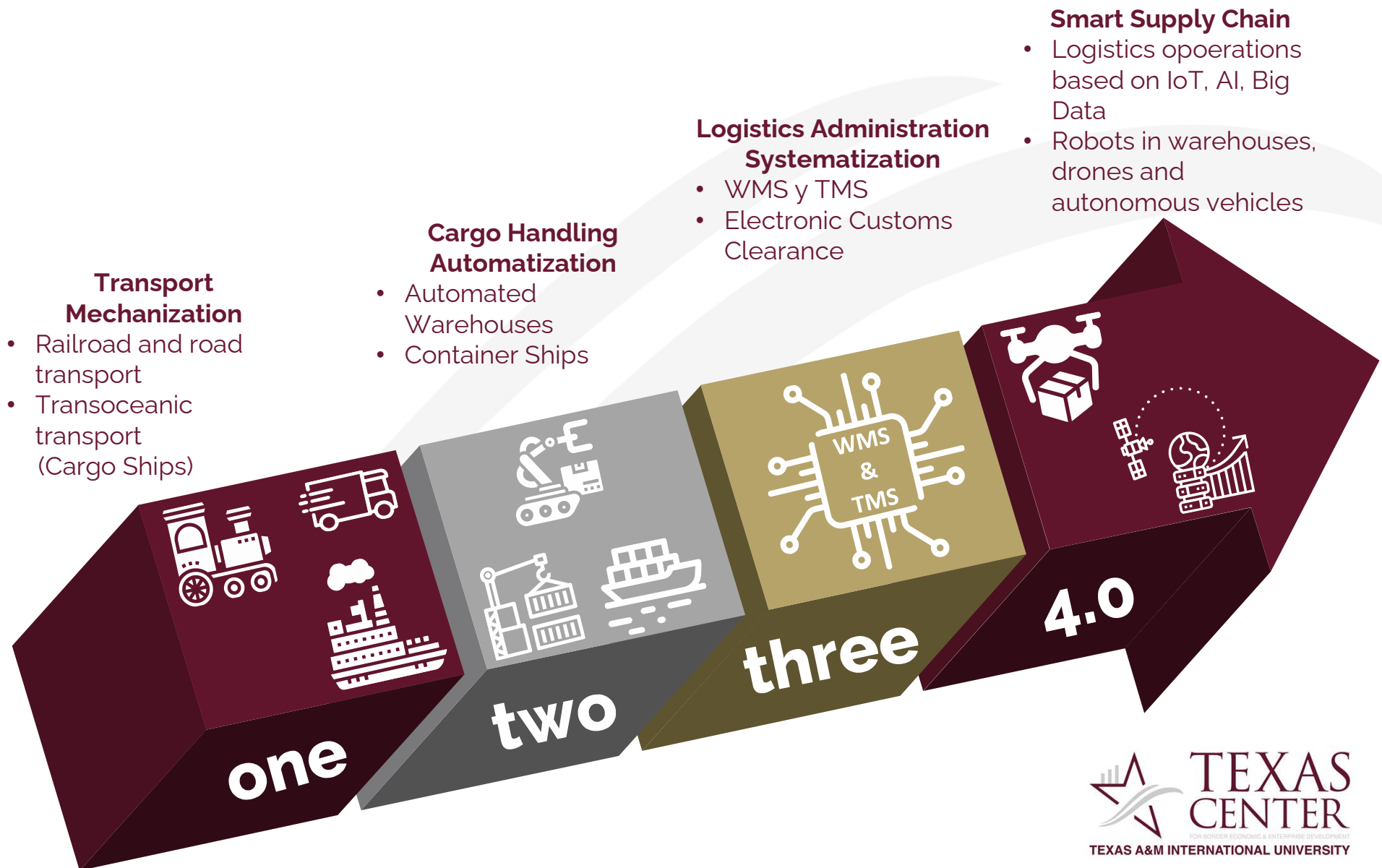
FOURTH INDUSTRIAL REVOLUTION



INDUSTRY 4.0 – CHANGE OF MODEL



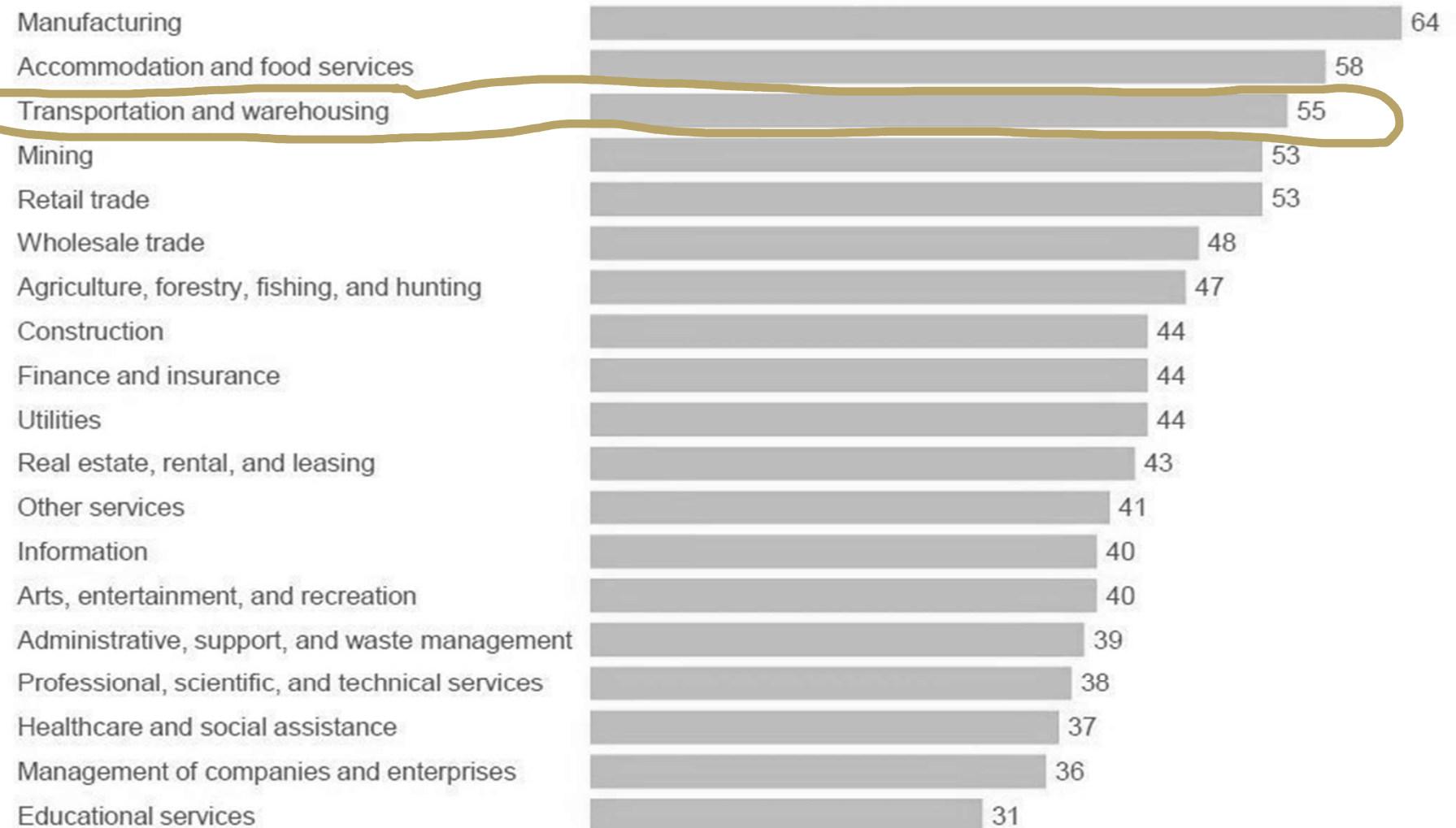
LOGISTICS 4.0



AUTOMATIZATION BY SECTORS

Impact of automation by industry in the United States

FTE weighted % of technically automatable activities by industry in the United States



1 We define automation potential by the work activities that can be automated by adapting currently demonstrated technology.

SOURCE: MGI Global Automation Impact Model; IMF; WTO; OECD; UNCTAD; McKinsey Global Institute analysis

LOGISTECHS – CHANGE IN MODEL

Today, as supply chains become increasingly complex with more and more actors participating in them, there are endless documents to verify and lengthy processes to follow. This is where exponential technologies are applied within logistics. .

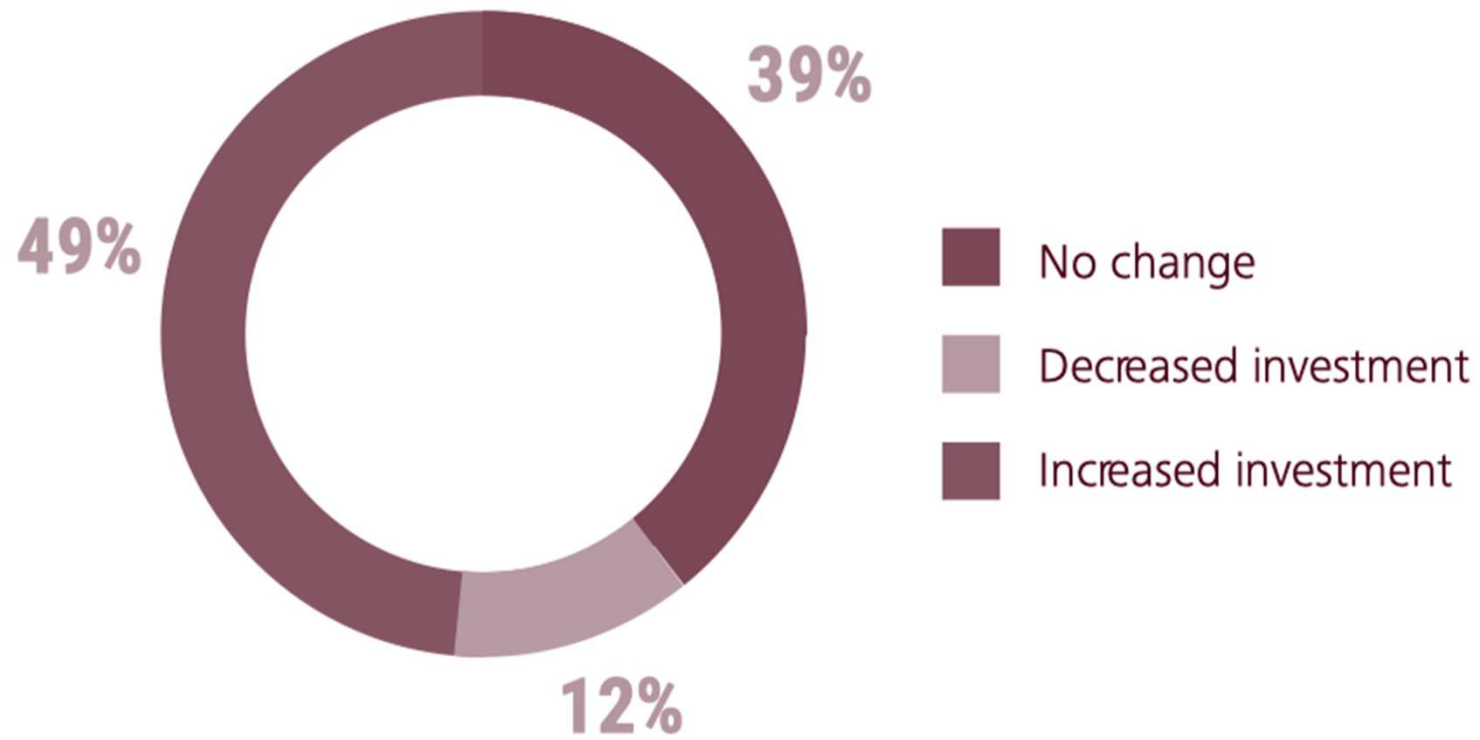
Companies are working with blockchain technology to accelerate the verification processes within the logistics sector, where each part of a supply chain is connected. It is expected to bring a paradigm shift by reducing the human errors that used to occur during long logistics processes and ensure reliability at every step of the supply chain.

IoT devices and big data analytics will help vendors and customers determine inventories spread across the world. Robots will be implemented to perform simple and repetitive warehouse work. With VWS (Virtual Warehouse Systems), warehouse managers will know the current status of their warehouse remotely. Additionally, autonomous trucks, drone delivery, and other advanced technologies and services will significantly impact logistics.



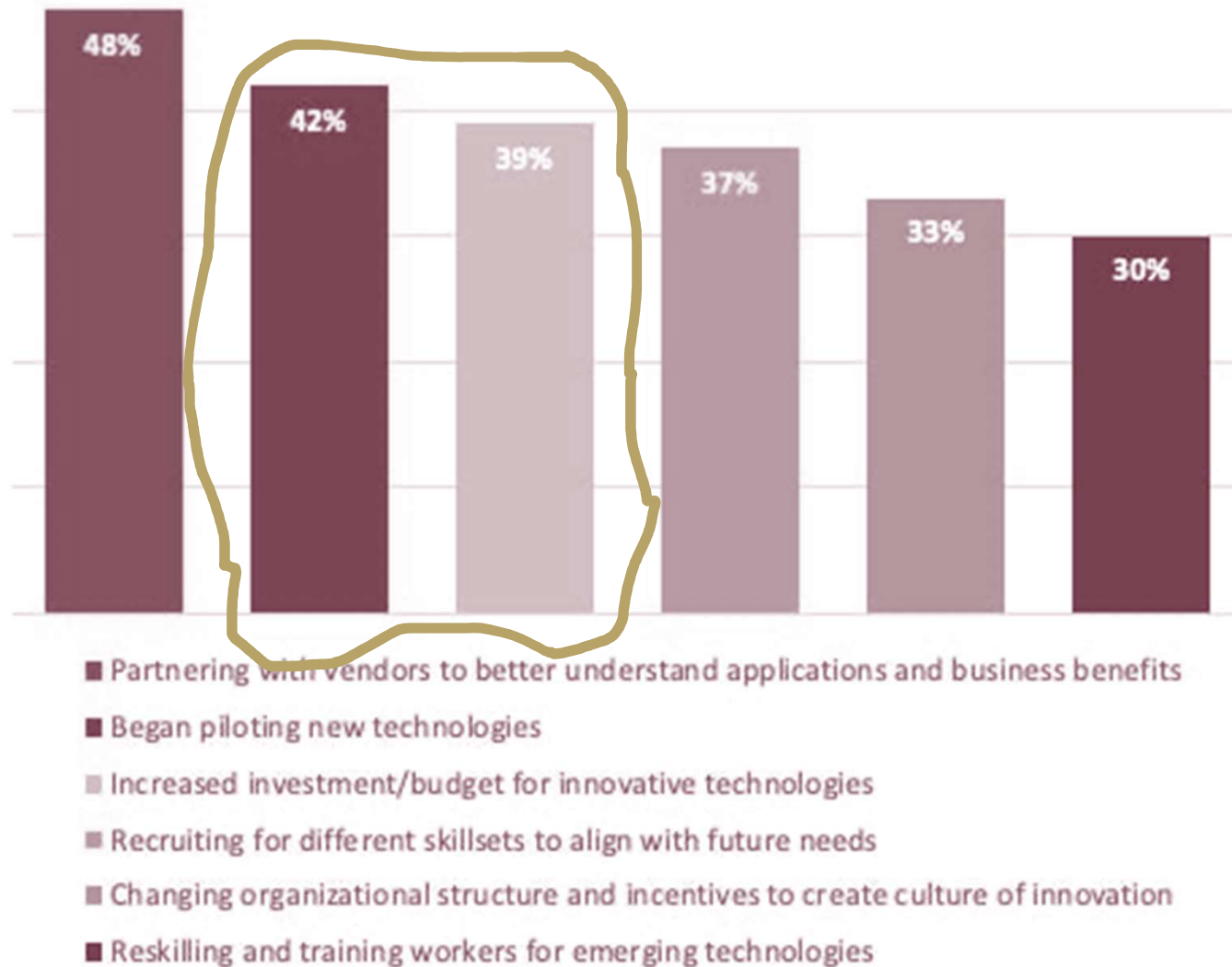
LOGISTECHS - IMPACT

INVESTMENT IN INNOVATION IN SUPPLY CHAINS



LOGISTECHS - IMPACT

SUPPLY CHAIN STRATEGIES



LOGISTECHS - IMPACT

Potential economic-value creation from AI in the next 20 years

\$trn

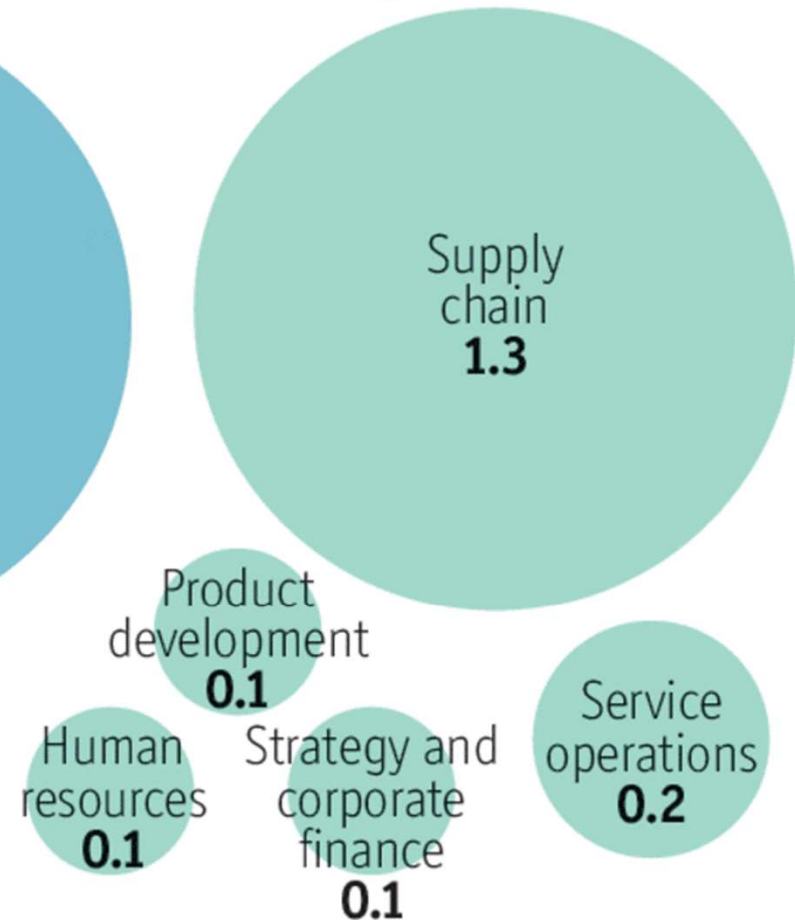
Management



Marketing



Operations

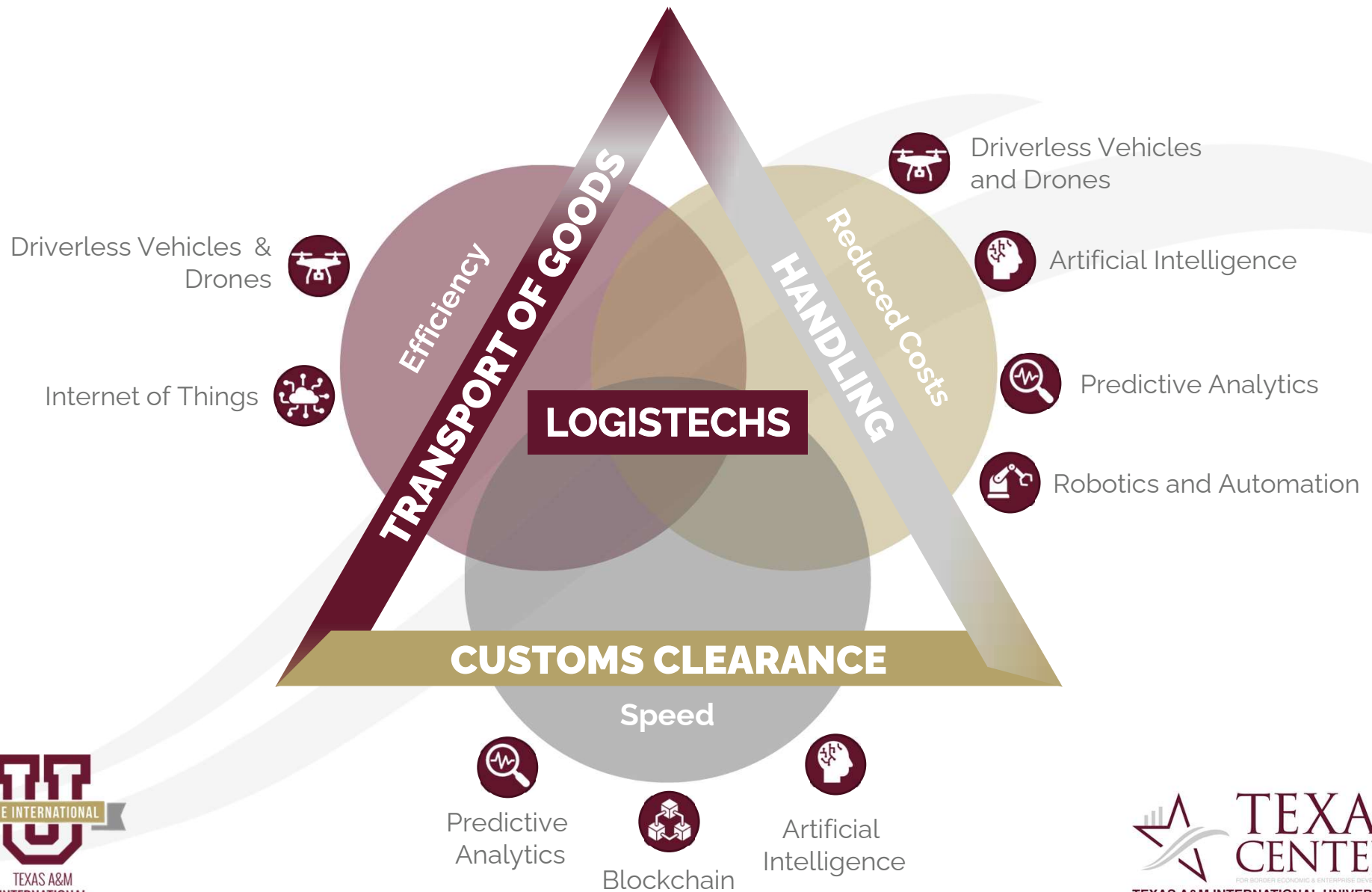




lo · gis · techs

represent the impact that exponential technologies have on logistics and can be classified as the technologies that support the transport of goods, those that improve their handling, and the ones that expedite their customs clearance.

LOGISTECHS





Internet of Things



Robotics and Automation



Predictive Analytics



Artificial Intelligence



Driverless Vehicles
and Drones



Blockchain

LOGISTECHS

IMPACTS

efficiency, speed,
throughput, quality



productivity, efficiency,
order fulfillment rate & delivery



traceability, visibility,
& forecasting



flexibility, reliability, speed,
& reduce in product losses



accuracy, efficiencies, reducing costs,
& improving service quality



real time visibility,
tracking & compliance



CONCLUSIONS

- 1.- Smart supply chains are currently being developed. Using big data analytics and artificial intelligence, companies analyze their customers' past purchase history, forecast highly accurate demand, and adjust their inventories accordingly from the start of the manufacturing process to avoid stockouts or overstocking of stocks of your final products.
- 2.- It is increasingly essential for businesses to provide global shipment visibility, manage cargo with the best quality, and offer instant delivery. They should be able to inform customers about the location and status of the shipment through real-time monitoring and supervision, using their integrated logistics platform that covers the entire logistics process. Additionally, companies should aim to provide instant delivery where the current three-day shipment is converted to a 24-hour delivery or instant delivery.
- 3.- Companies will continue to lower product prices and reduce costs by driving innovations with exponential technologies. Robots, autonomous vehicles, and paperwork and verification processes automation will eliminate simple and repetitive work scattered throughout logistics processes, leading to lower costs and higher quality of service.

Meet the Team



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