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SMART BORDERS: THE KEY TO MORE RESILIENT INTERNATIONAL TRADE AND CROSS-BORDER TRANSPORTATION

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TRB 2023 – Standing Committee on International Trade and Transportation

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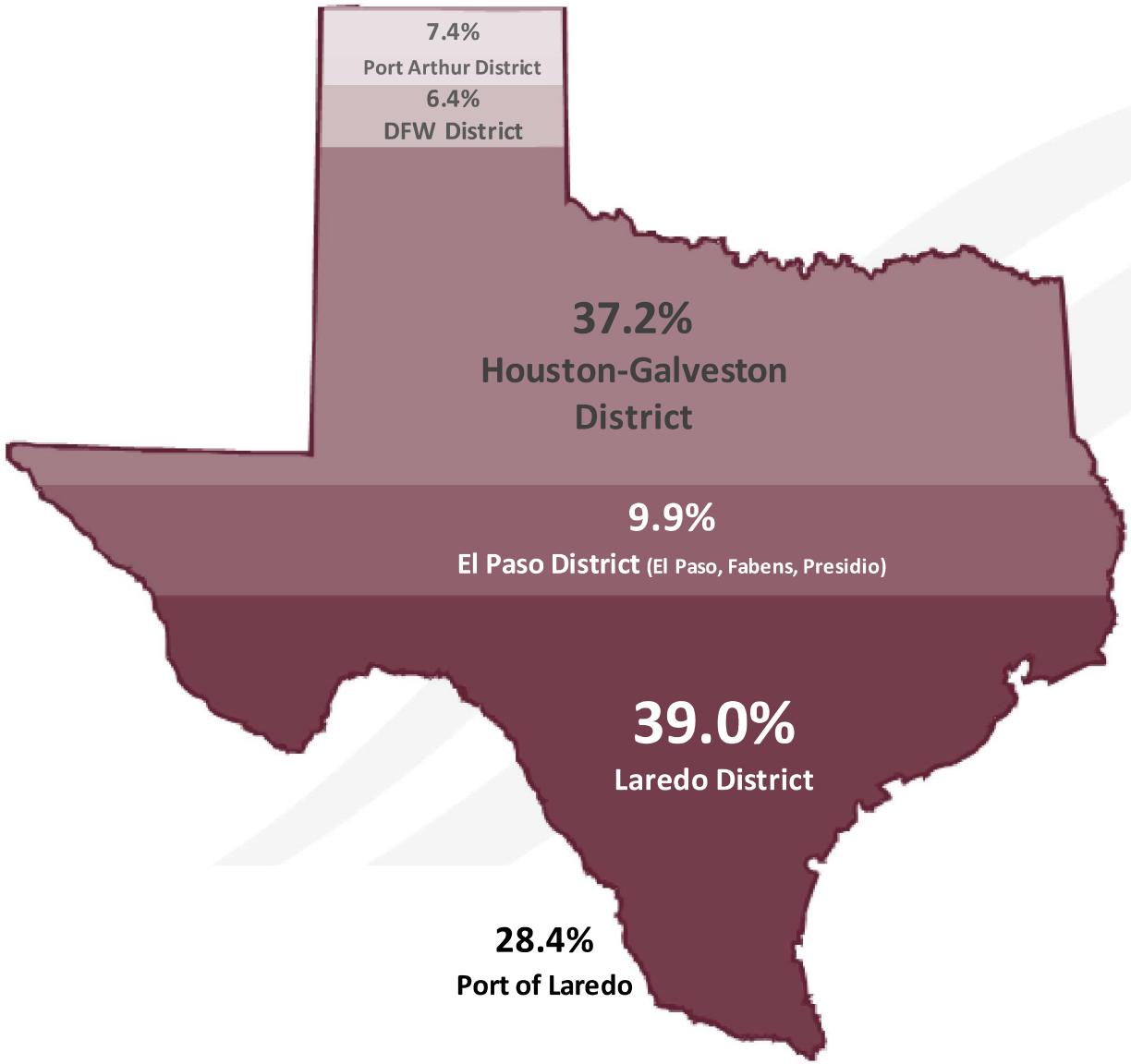
2022 U.S. WORLD TRADE

Through Texas Ports of Entry (Jan-Nov)



$967.6B
Total U.S.Trade to the world through TX POE

$474B
49% through TX-MX Border POE's

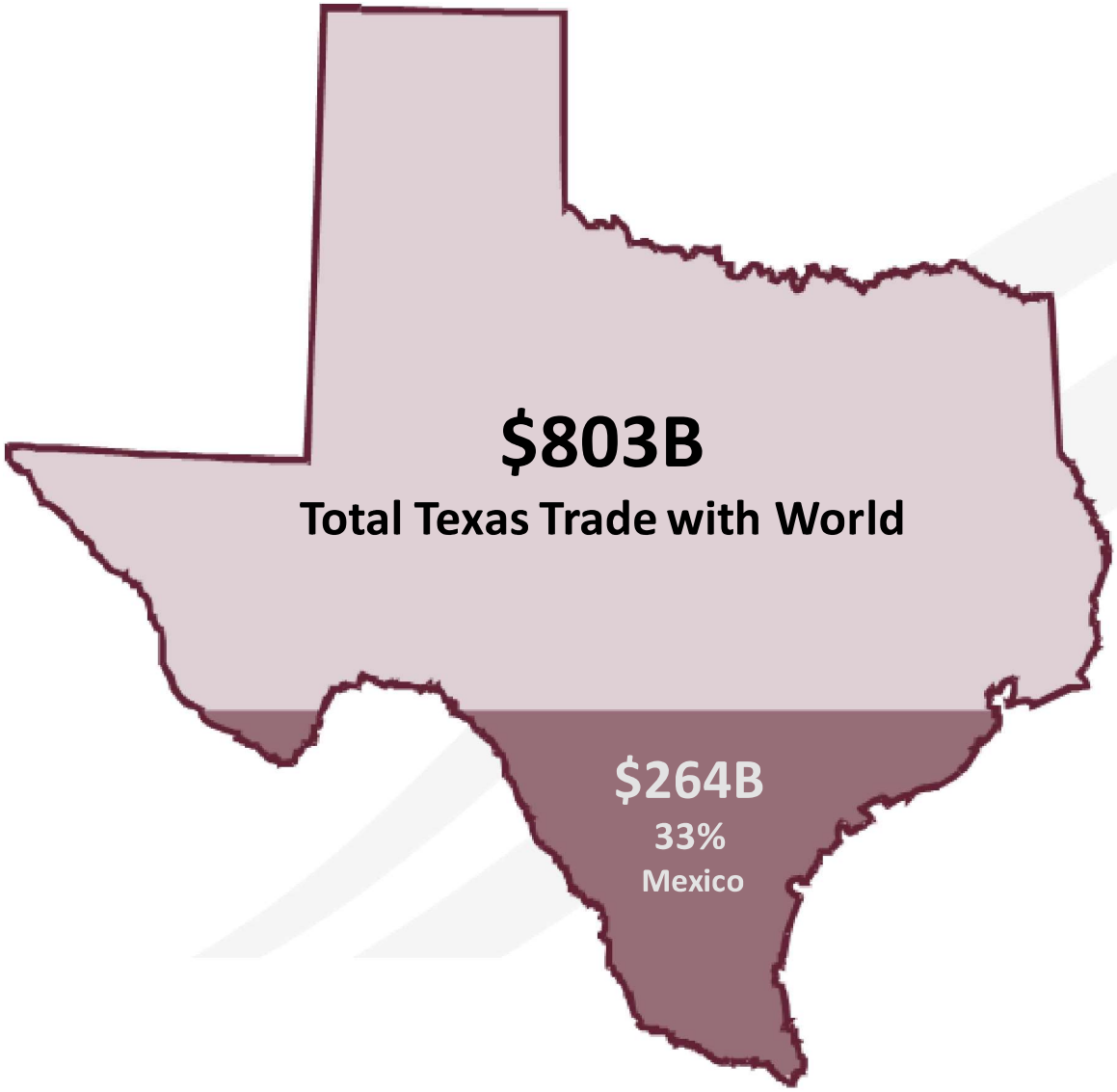
$275B
28.4% through Laredo POE

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

2022 Texas State Trade

Exported and Imported Goods from the State of Texas (Jan-Nov)



Mexico is Texas #1 Export and Import Market

$130.3B
2022 Texas Imports from Mexico

$133.5B
2022Texas Exports to Mexico

Trade With Mexico	
$56.88 B	Mineral Fuel, Oil, etc., Bitumin
$53.9 B	Nuclear Reactors, Boilers, Machinery
$48.1 B	Electrical Machinery
$27.0 B	Vehicles except Railway/Tramway
$9.82 B	Plastics
$7.09 B	Optic, Photo, Medical

Source: U.S. Census, USA Trade

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2022 Top 5 U.S. Ports of Entry

By Total Import/Export Trade Value

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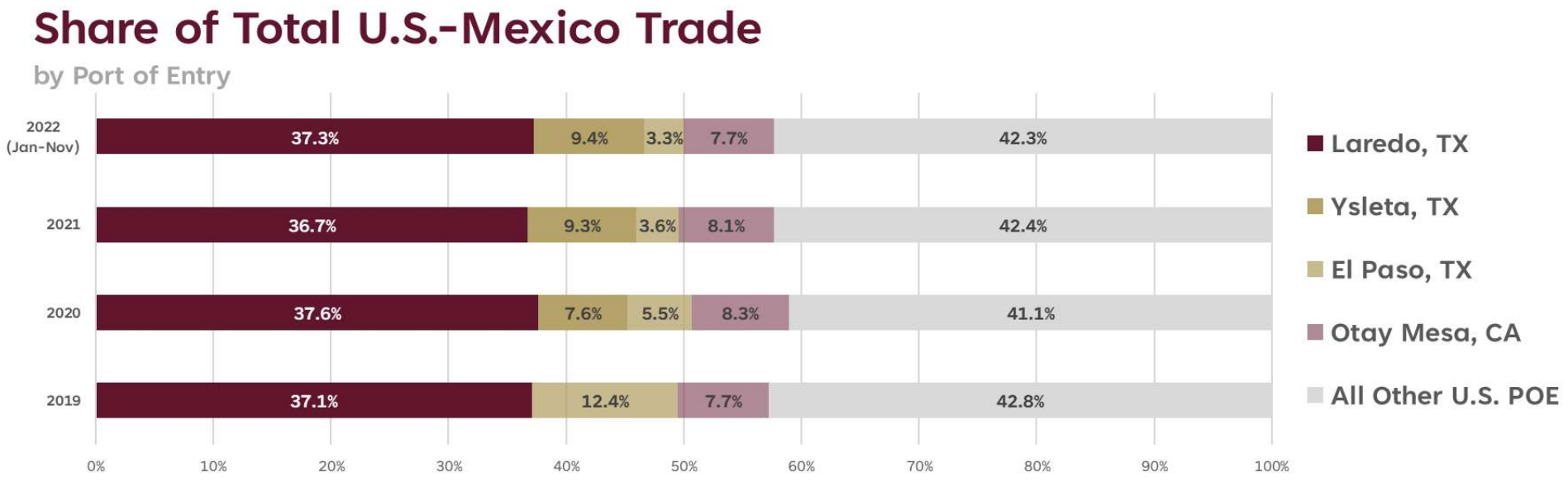
28% of Total U.S. Trade is handled through the Top 5 Ports.
(1.35 Trillion Dollars)

Source: U.S. Census Bureau: Economic Indicators Division.
Analysis by: Texas Center for Border Economic and Enterprise Development

US Land Ports of Entry: Essential Facilitators of US-Mexico Trade

- **300+** Land Ports of Entry
- Land ports of entry account for over **70%** of US-Mexico trade by value.



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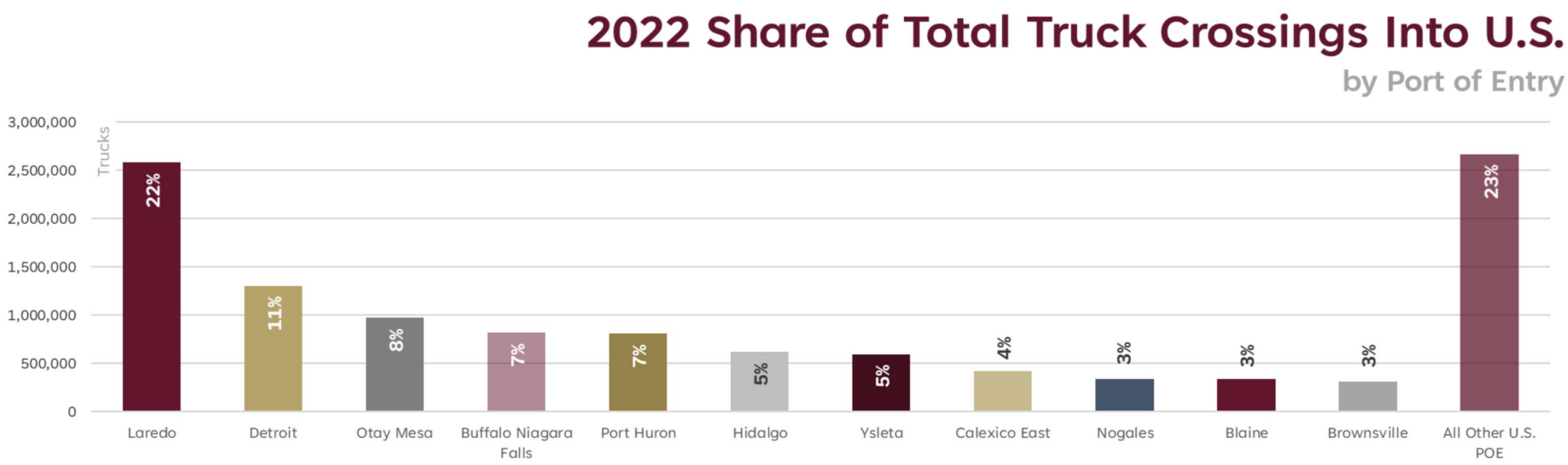
US Land Ports of Entry: Essential Facilitators of US-Mexico Trade



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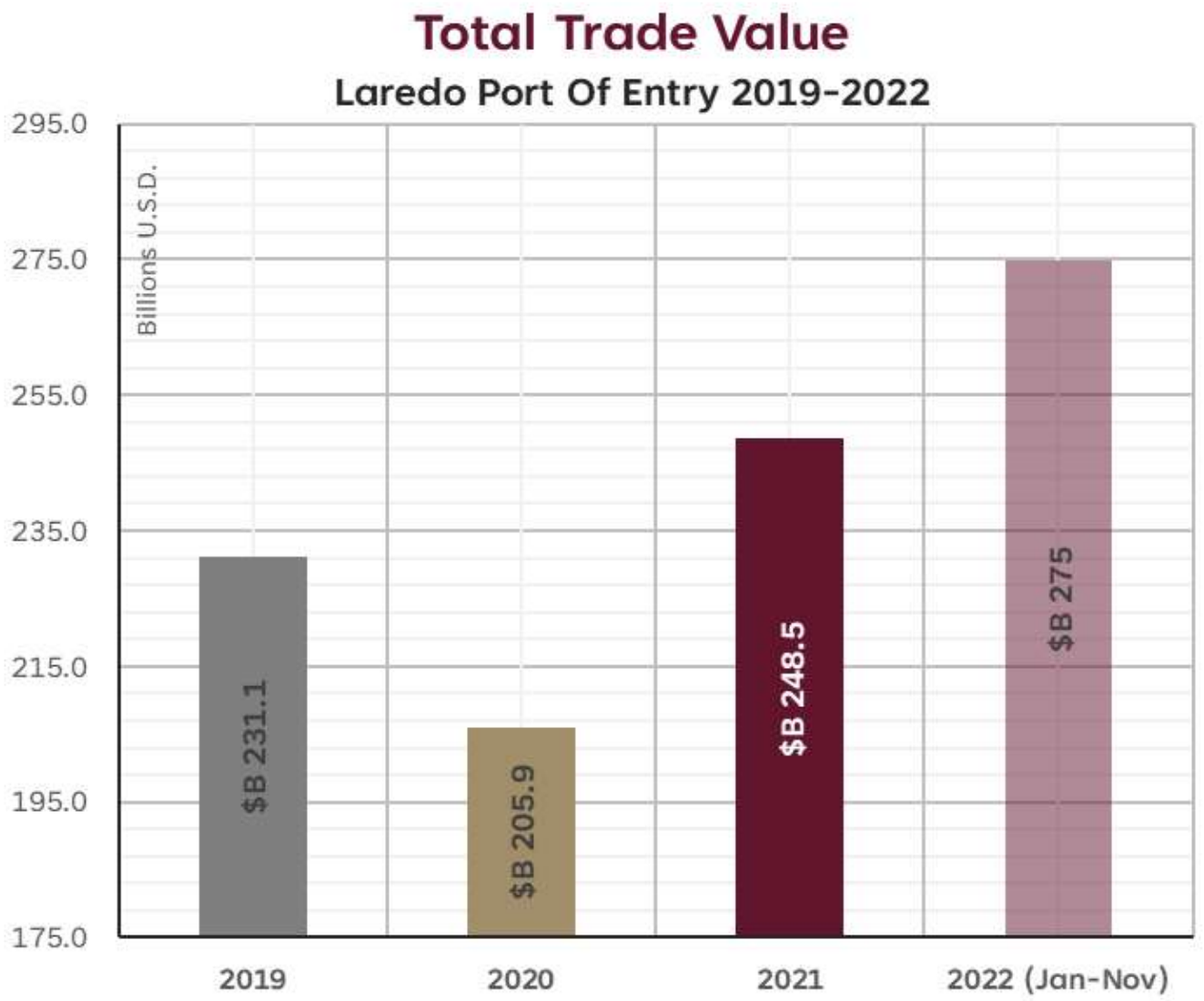
Port Laredo: The crown jewel of LPOEs



Source: U.S. Census Bureau: Economic Indicators Division.
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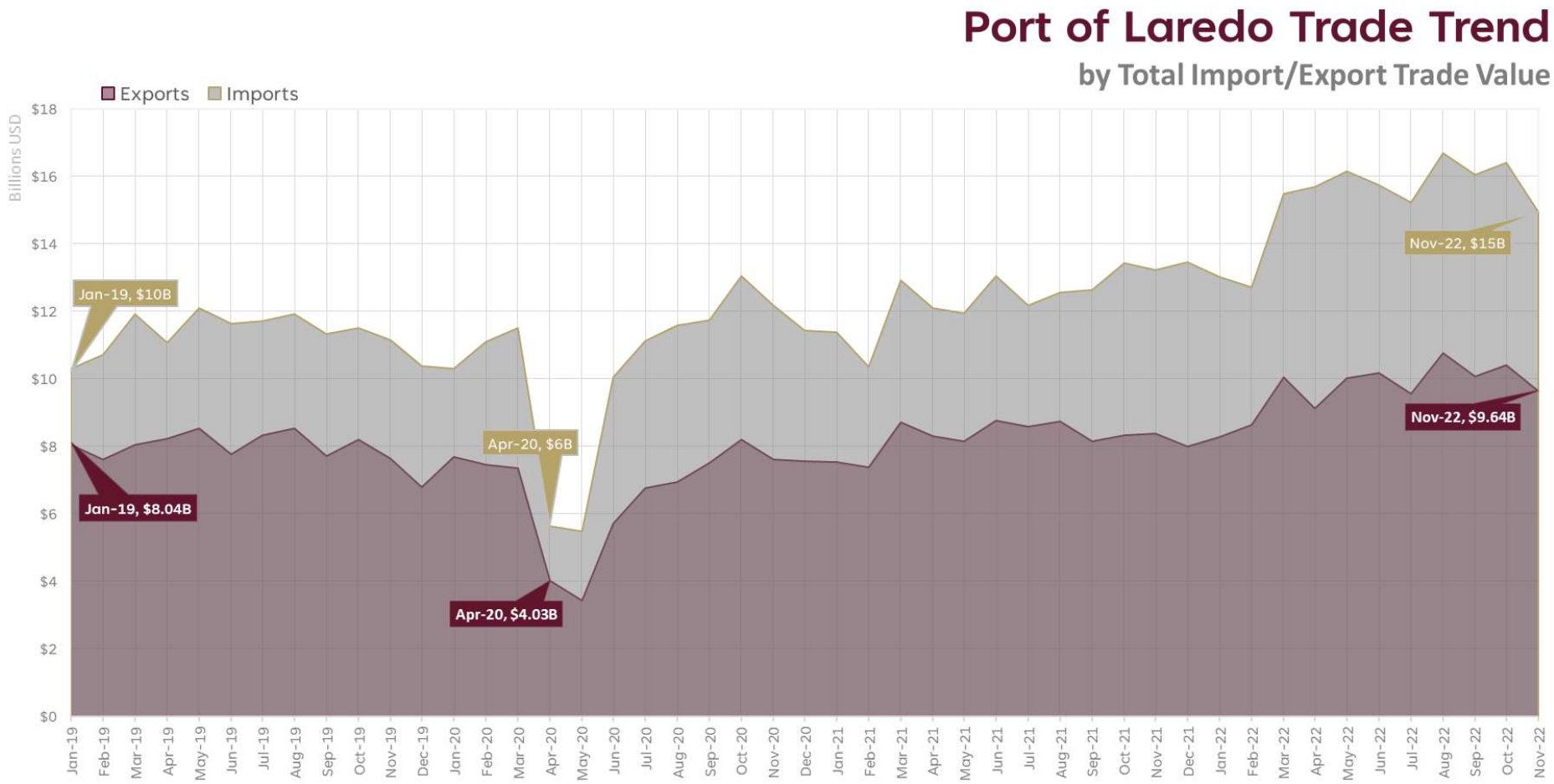
Port Laredo: The crown jewel of LPOEs



Source: U.S. Census Bureau: Economic Indicators Division.
Analysis by: Texas Center for Border Economic and Enterprise Development

Nearshoring: A Boom for US-Mexico Cross-Border Flows?

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Nearshoring: potential opportunities for increased exports, by country

Trade in goods only - US$ millions

COUNTRY	Quick Wins – United States	Intra-LAC Quick Wins	Medium-Term Opportunities	Total
Argentina	890.7	1518.0	1497.8	3906.5
Bahamas	33.2	23.8	119.9	177.0
Belize	5.9	6.3	31.7	43.9
Bolivia	50.5	60.8	14.1	125.3
Brazil	4153.0	3144.3	546.8	7844.1
Barbados	9.7	42.8	8.1	60.6
Chile	665.8	516.0	641.1	1822.9
Colombia	1498.5	886.9	188.4	2573.8
Costa Rica	918.1	539.3	87.4	1544.8
Dominican Republic	1362.9	150.2	67.6	1580.7
Ecuador	482.0	285.8	72.8	840.7
Guatemala	436.4	293.8	55.5	785.7
Guyana	23.7	370.1	6.2	400.0
Honduras	745.1	418.7	79.0	1242.8
Haiti	237.2	11.4	4.4	253.1
Jamaica	84.9	25.8	27.8	138.5
Mexico	29679.4	2628.2	2970.6	35278.2
Nicaragua	473.3	78.2	17.0	568.5
Panama	81.3	549.2	171.5	802.0
Peru	792.0	498.0	128.4	1418.5
Paraguay	43.9	181.1	26.3	251.3
El Salvador	686.4	343.6	19.9	1049.9
Suriname	25.0	18.7	14.8	58.5
Trinidad and Tobago	87.9	304.5	84.3	476.7
Uruguay	69.3	369.5	89.4	528.2
Venezuela	218.4	48.7	53.8	320.9
Latin America and Caribbean (LAC)	**43754.4**	**13313.7**	**7024.9**	**64093.0**

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Source: Inter-American Development Bank

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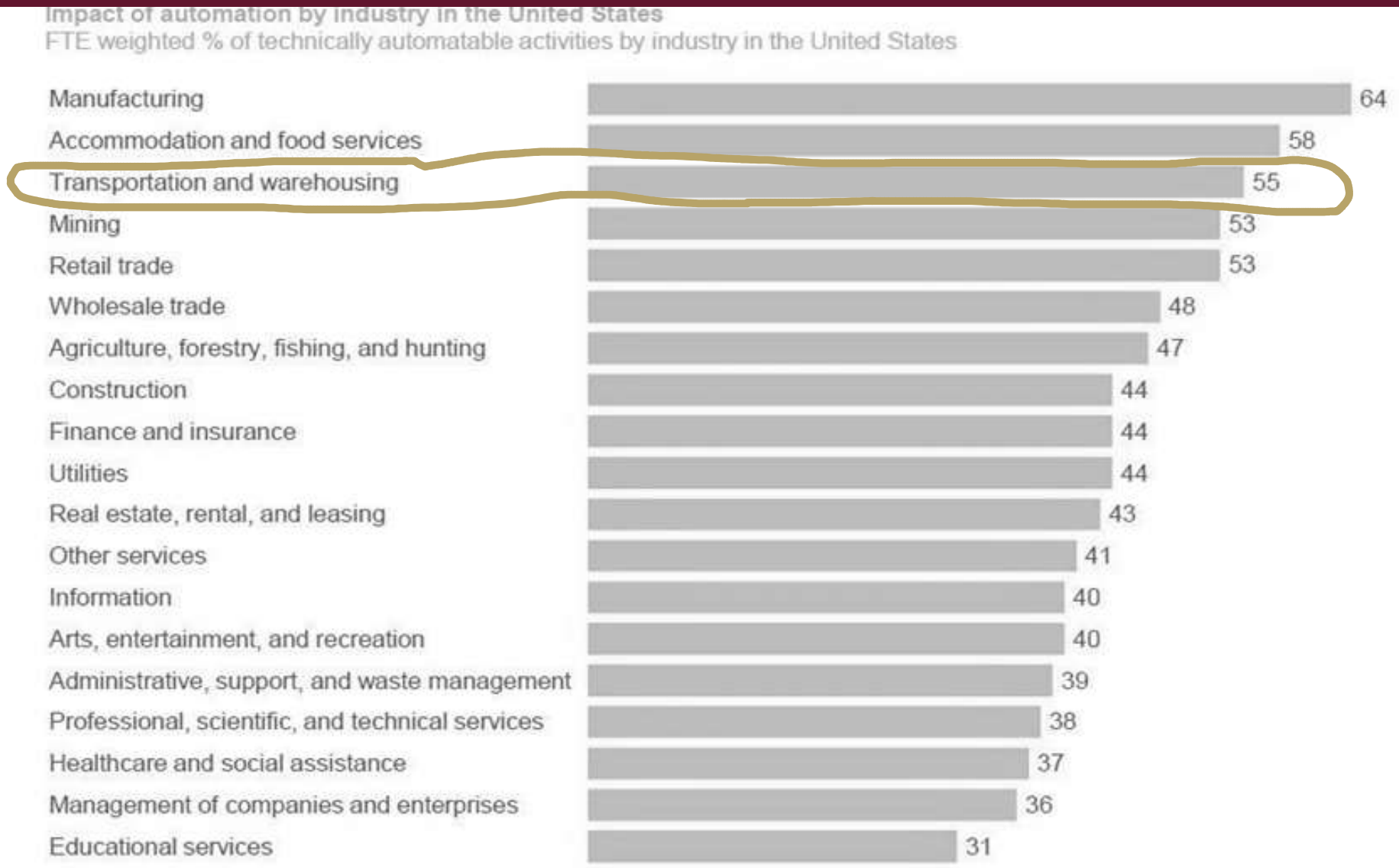
SMART BORDERS

AUTOMATIZATION BY SECTORS



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

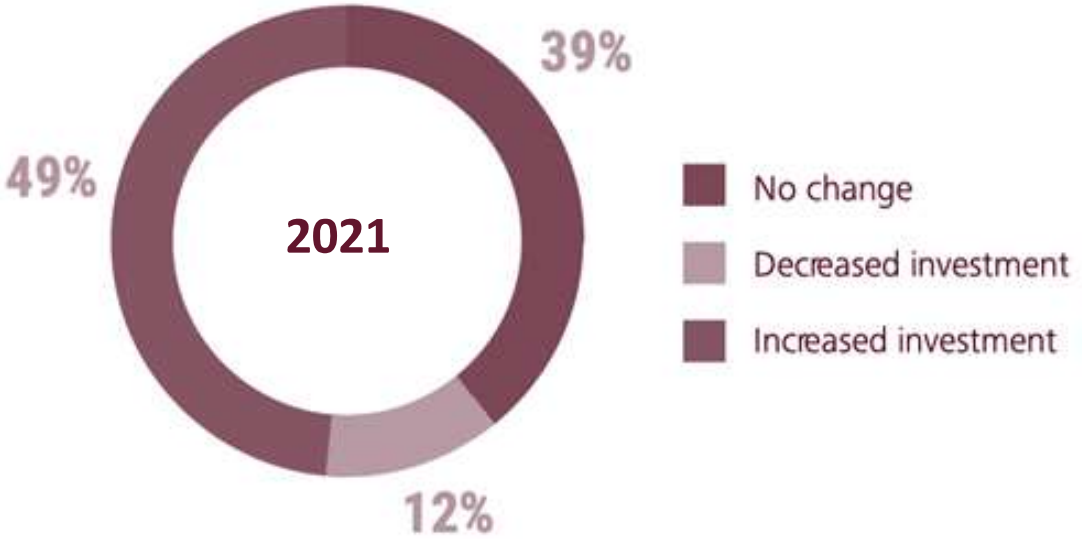
SOURCE: MGI Global Automation Impact Model; IMF; WTO; OECD; UNCTAD; McKinsey Global Institute analysis

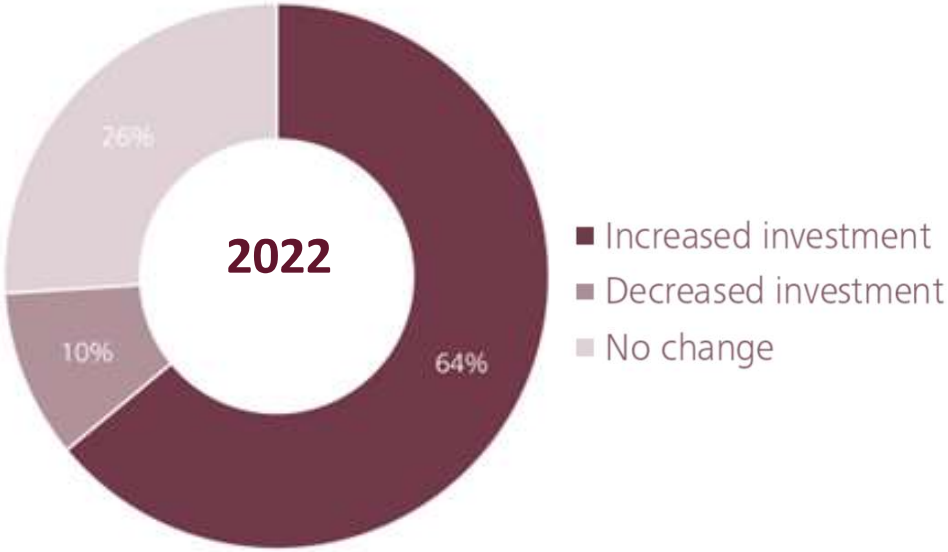
LOGISTECHS - IMPACT

Investment in Innovation in Supply Chains
(1000 companies surveyed)

say that the pandemic has altered the strategic importance of supply chain operations

say supply chain transformation has accelerated due to the pandemic





Source: MHI & Deloitte 2021, 2022

LOGISTECHS - IMPACT

PREPARING FOR DISRRUPTION

Actions taken by companies to prepare for disruption in the next ten years

Source: MHI & Deloitte 2021, 2022

LOGISTECHS - IMPACT

Money is the biggest concern in digitizing supply chains, but talent and tech also are challenges

48% Budget constraints	**30%** Difficulty getting employees and teams to work differently	**30%** Lack of understanding of business and technical capabilities	**29%** Software and hardware systems don't enable analytical and process capabilities
27% Don't have the right infrastructure in place (such as cloud-based tech)	**23%** Difficulty attracting and developing "digital native" talent	**22%** Setting performance goals for digitization	**22%** Lack of support from other areas of the business

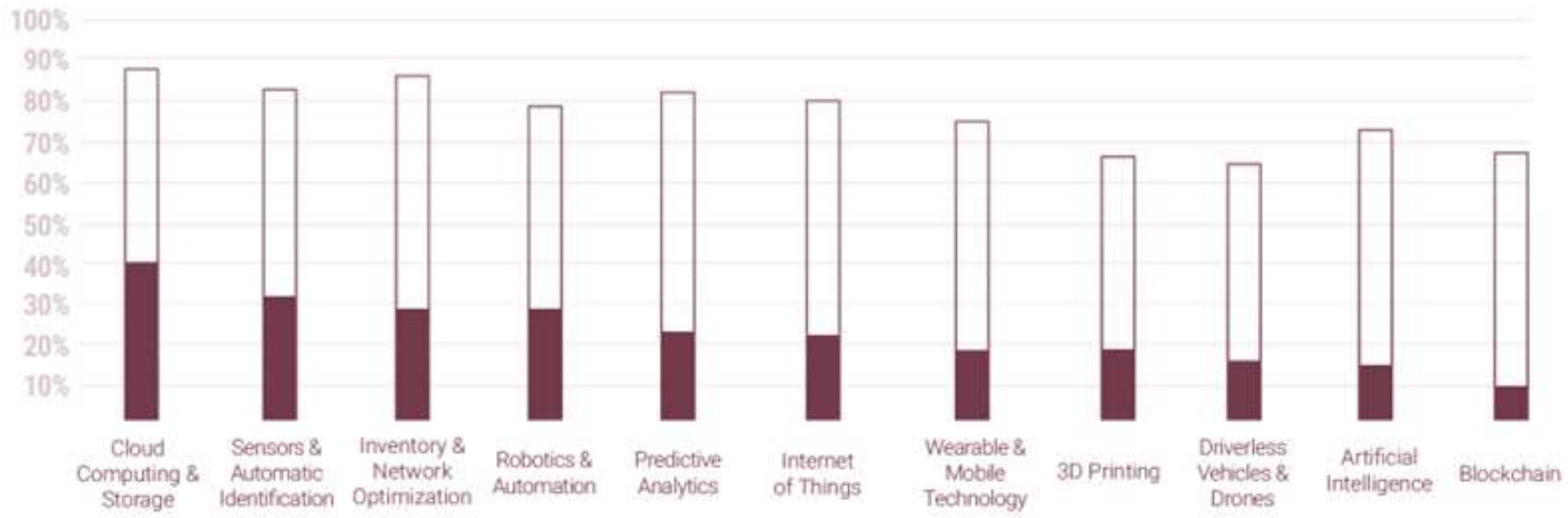
Lack of clear business case was the **#1** biggest barrier to adoption for every technology

Source: MHI & Deloitte 2022, PwC Digital Trends in Supply Chain Survey 2022

LOGISTECHS - IMPACT

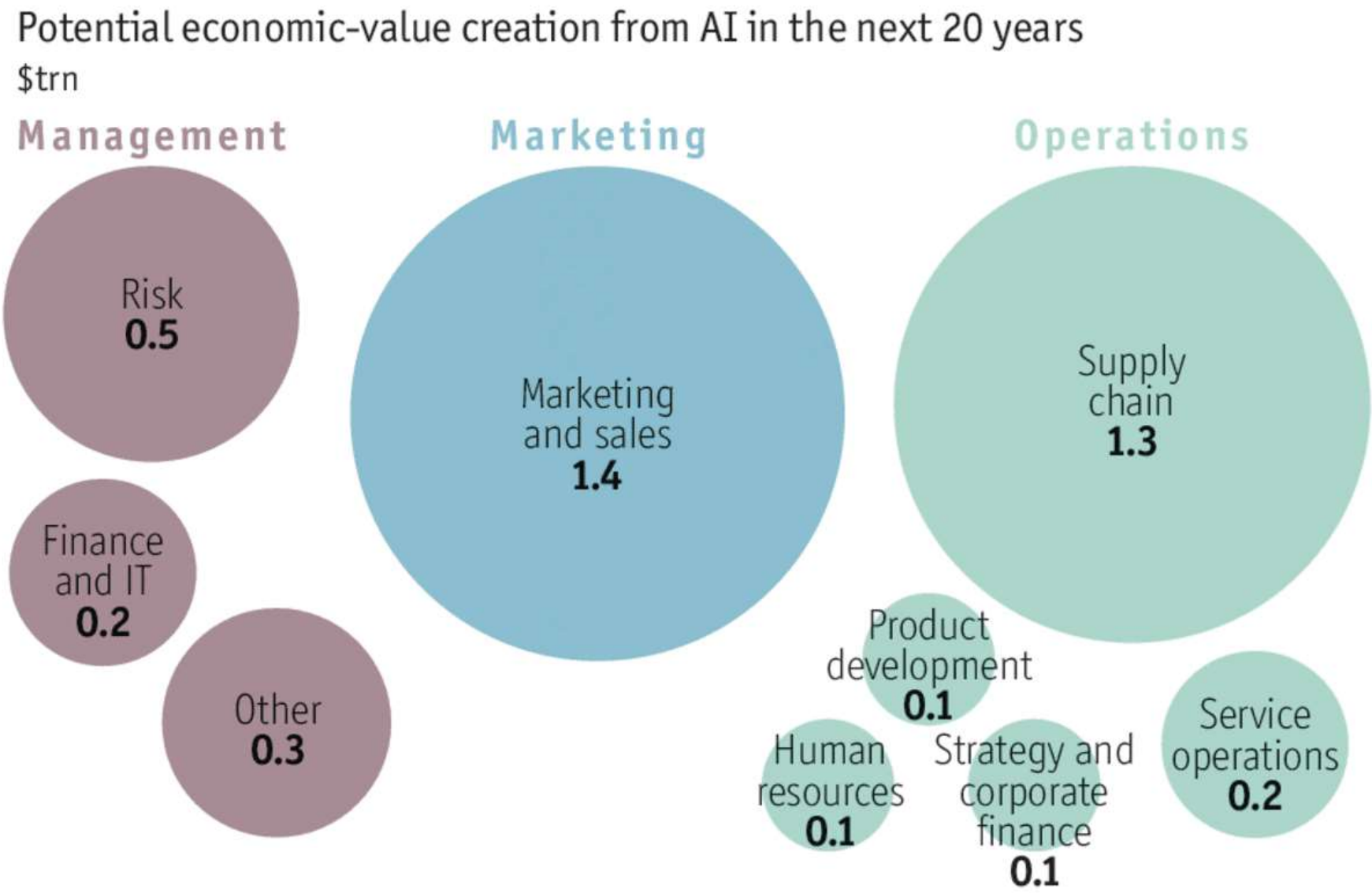
ADOPTION TRENDS - INTENDED USE

Technologies that are in use today vs. their projected use in 5 years



Source: MHI & Deloitte 2021, 2022

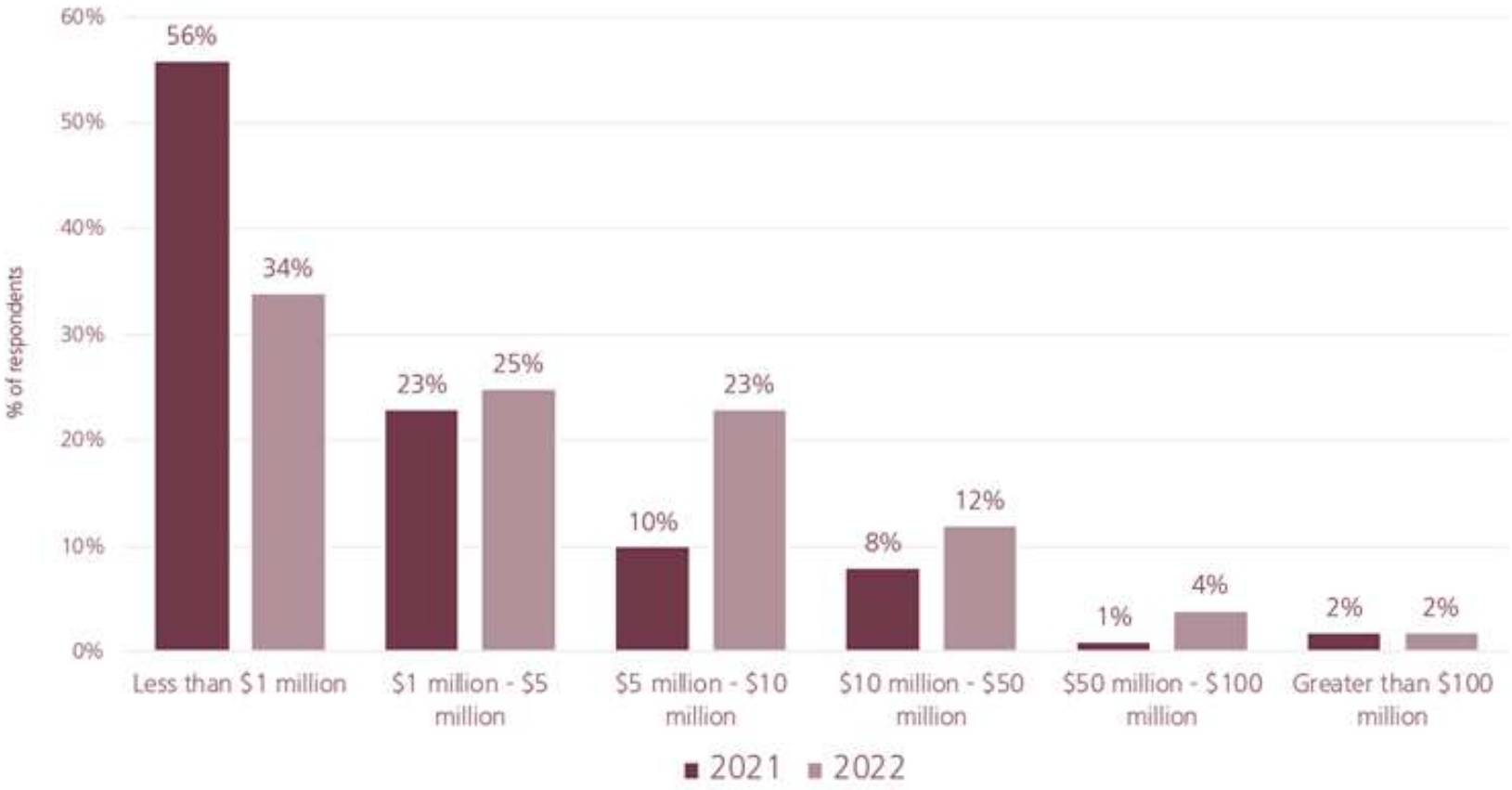
LOGISTECHS - IMPACT



Source: McKinsey
Economist.com

LOGISTECHS - IMPACT

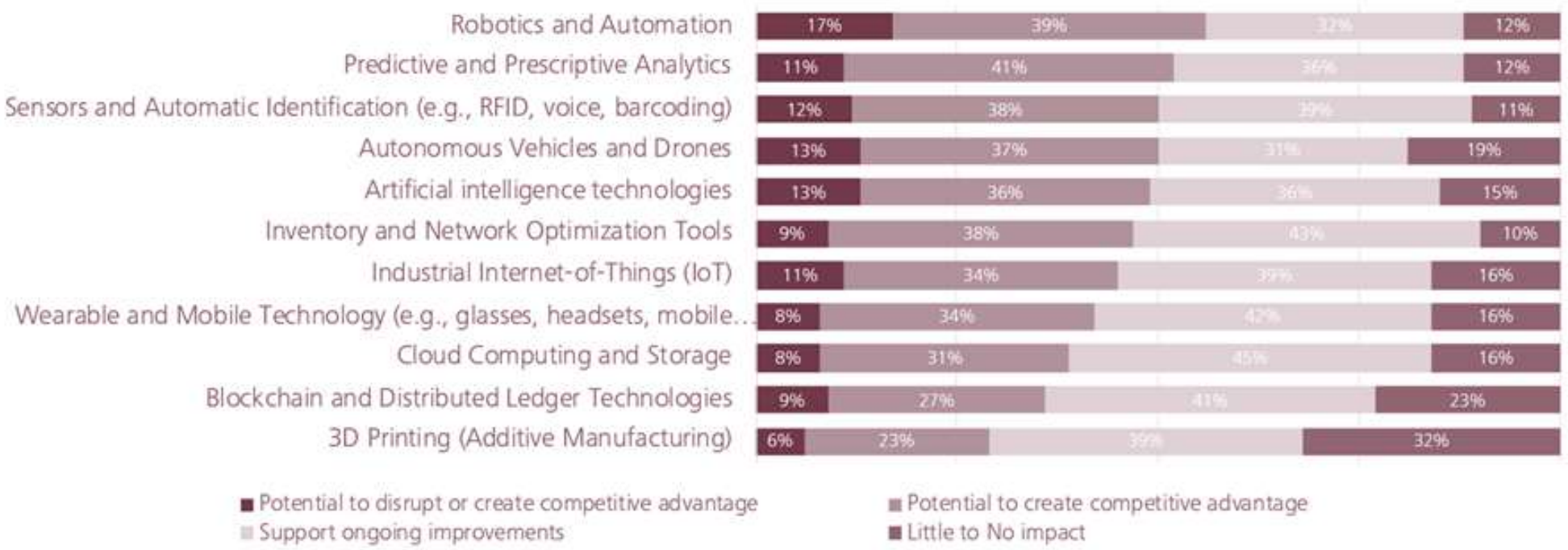
Comparison of estimates of investment in innovations in supply chains during the next two years



Source: MHI & Deloitte 2021, 2022

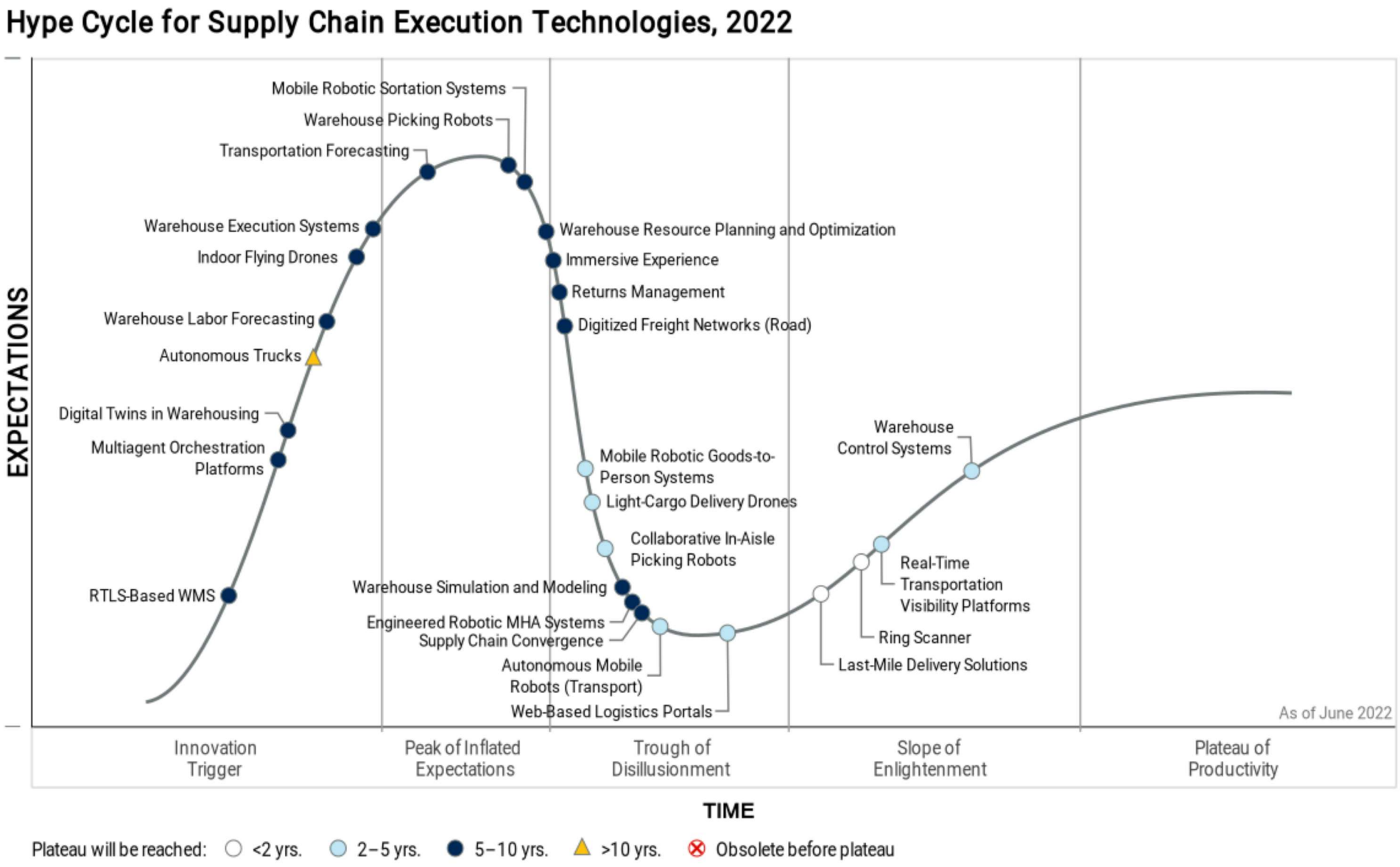
LOGISTECHS - IMPACT

Impact of Logistechs on supply chains



Source: MHI & Deloitte 2021, 2022

LOGISTECHS - IMPACT



Source: Gartner

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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.

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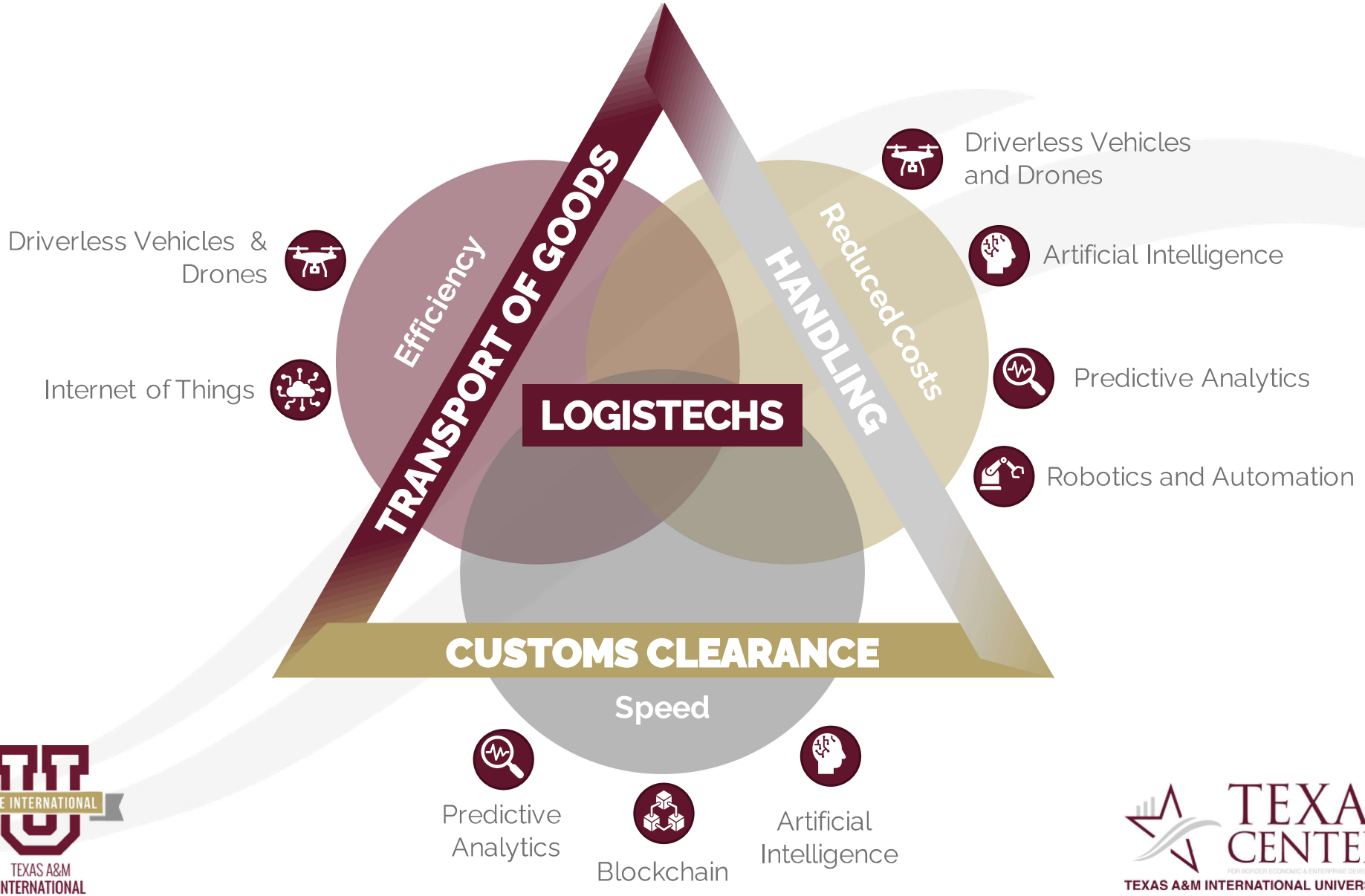
LOGISTECHS



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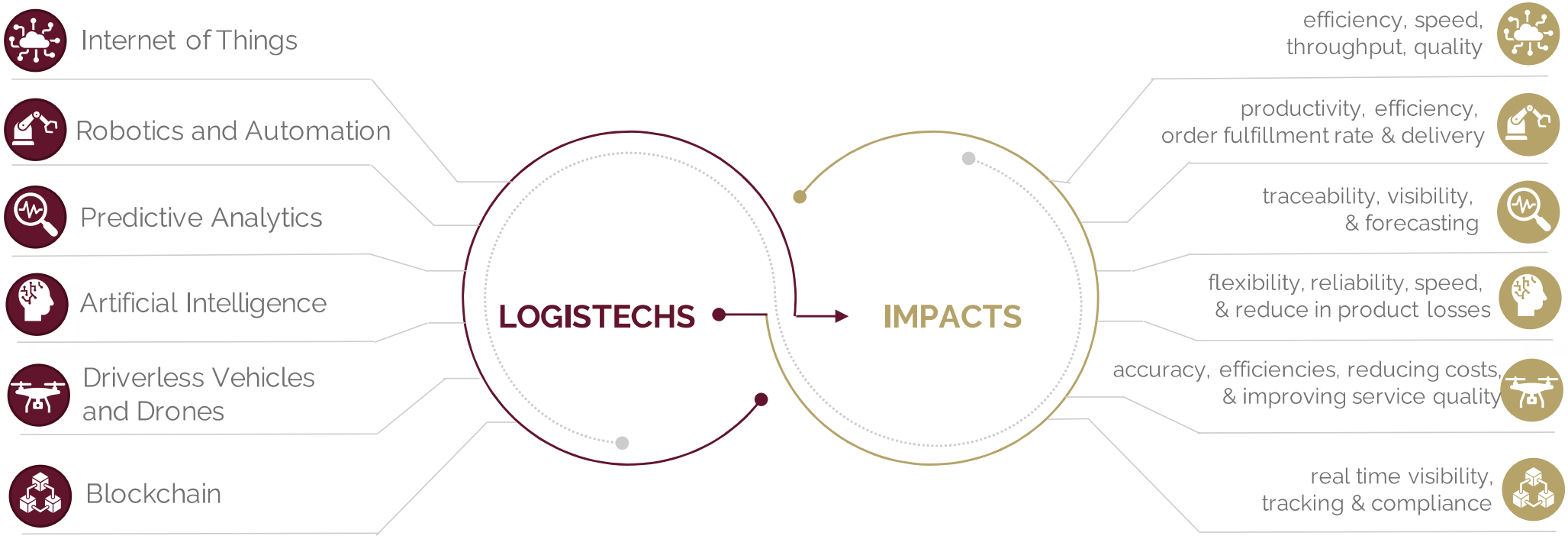

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TAMIU Logistechs Living Lab: Pilot-Test Projects

The Texas A&M International University (TAMIU) Logistechs Living Lab is a research and development facility focused on improving the efficiency and competitiveness of cross-border trade and transportation.

- **Pilot-Test Project 1: Unified Trailer Interchange Database Webapp**
- **Pilot-Test Project 2: IoT sensor comparison for Traceability**

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TAMIU Logistechs Living Lab: Unified Trailer Interchange Database Webapp

A web platform where **trucking**, **logistics**, and **freight forwarding companies** can **efficiently** and **securely** interchange trailer information to:

Enhance supply chain security
Providing better traceability

Increase speed of logistics process
by permitting faster data entry and inspection of trailers

Increase trailer lifespan
by applying predictive maintenance

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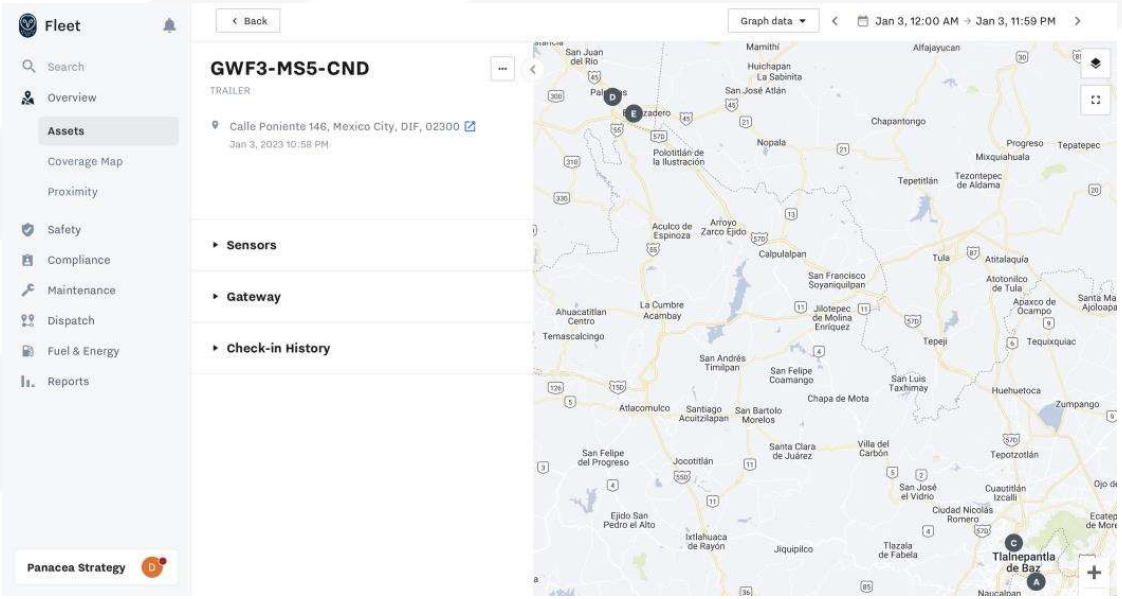
TAMIU Logistechs Living Lab: IoT sensor comparison for Traceability



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