IMPORTANCE OF LOGISTICS HUBS – THE HAMBURG EXAMPLE

Prof. Dr. J. Rod Franklin, P.E.
Adjunct Professor of Logistics
Managing and Academic Director Executive Education
Kühne Logistics University
Grosser Grasbrook 17
D-20457 Hamburg
Germany
Wk: +49 40 328 707 231
rod.franklin@the-klu.org
www.the-klu.org

AGENDA

- Introductions
- Logistics hubs
  - Key success factors
- Hamburg Port
  - A little background
  - Some constraints
  - Why it is successful
- Considerations for Uruguay logistics actors
- Summary and questions

INTRODUCTIONS – ME ☺ – ROD FRANKLIN

- American
- From practice, not the academy
  - Kuehne + Nagel
  - USCO Logistics
  - Viacore
  - ENTEX Information Services
  - Digital Equipment Corporation
  - Daily Instruments
  - Cameron Iron Works
  - General Motors Corporation
- Also consulting
  - Theodore Barry & Associates
  - Booz-Allen and Hamilton
  - Arthur Young
- Academically challenged ☺
  - Case Western Reserve University
  - Harvard Graduate School of Business
  - Stanford University
  - Purdue University

INTRODUCTIONS – KÜHNE LOGISTICS UNIVERSITY

A private university founded by the Kühne Stiftung

Goal of Mr. Klaus-Michael Kühne:
"to educate the leaders in logistics of tomorrow"

The KLU is endeavoring to raise the level of knowledge in industry by

- embodying the future through our community of faculty and students,
- producing new knowledge through research, and
- disseminating knowledge through teaching.

Teaching

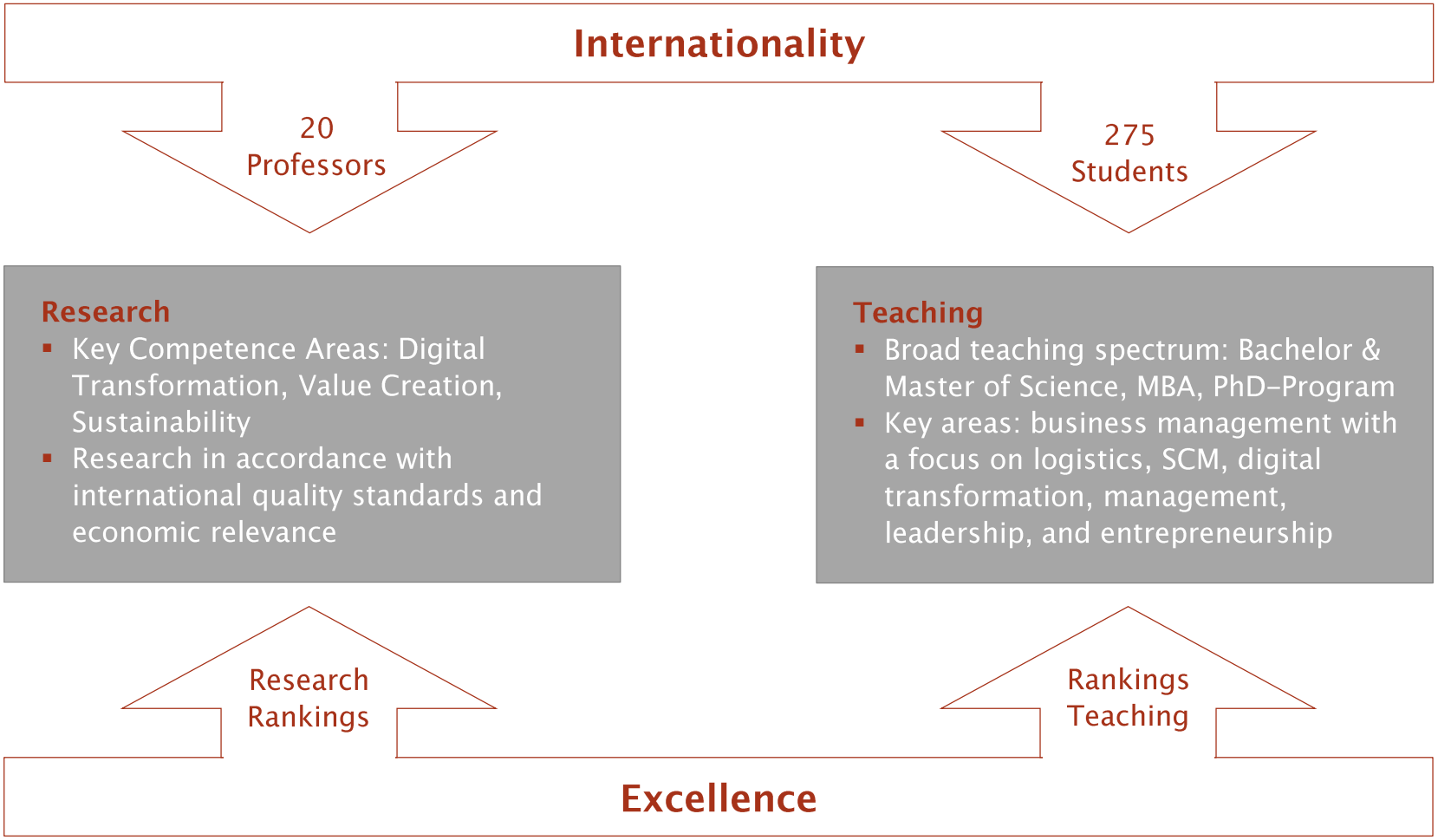
- BSc Management
- MSc Management
- MSc Global Logistics and Supply Chain Management
- Tri-continent MSc in Supply Chain Management
- MSc International Maritime Law & Logistics
- PhD Management
- PhD Supply Chain Management
- Executive Education

Research Competencies

- Digitalization
- Sustainability
- Value Creation
- Humanitarian Logistics
- Leadership
- Supply Chain Operations
- Big Data

Extensive Network of Partner Universities & Companies

KÜHNE LOGISTICS UNIVERSITY



IMPRESSIONS KLU CAMPUS

LOGISTICS HUBS HAVE COME TO BE AN IMPORTANT CONTRIBUTOR TO THE EFFICIENCY OF THE SECTOR

- Logistics hubs, whether sea ports, air ports, inland ports, etc., enable competitive advantage in logistics operations through:
  - Operational efficiency
  - Reduced handling costs
  - Increased reliability
  - Improved carrier and shipper relationships
  - Infrastructure capabilities (harbor depth, crane capacity, warehousing, modal connections, etc.)
  - Flexibility and adaptability (to shipper and carrier requirements)
  - Hinterland access
  - Service differentiation

HOWEVER, FOR A LOGISTICS HUB TO OPERATE SUCCESSFULLY REQUIRES SUPPORT FROM BOTH PRIVATE AND PUBLIC SECTORS

- Governments must help by:
  - Investing in infrastructure
  - Improving educational opportunities
  - Developing supportive regulations
  - Providing a reliable legal structure for business
  - Operating transparent border services
- Private sector companies must help by:
  - Operating in a cost effective manner
  - Investing in personnel and systems
  - Providing reliable services
  - Integrating operations to provide end-to-end transport and storage services

A RECENT ACADEMIC STUDY OF THE KEY CRITERIA FOR SUCCESS AND THEIR RANKING INDICATES THAT TRANSPORT AND DISTRIBUTION COSTS DRIVE SUCCESS

Dimension	Assessment Criteria	Rank
Cost Environment	Transport and Distribution Costs	**1**
	Harbor and Stevedoring Costs	**3**
	Land Costs	**4**
	Labor Costs	**9**
Preferential Incentives	Soundness of Investment System and Incentive Measures	**5**
	Exemption From or Reduction of Customs Duties and VAT	**7**
	Exemption From or Reduction of Corporate and Local Taxes	**8**
	Financial Assistance for Investing Companies	16
Operating Environment	Convenience of Customs Clearance Procedures	**2**
	Integration of Customs and Port Logistics Information	11
	Efficiency of Port and Logistics Operations	12
	Efficiency of Local Government Administration	19
Infrastructure Facilities	Sailing Frequency and Diversification of Shipping Routes	**6**
	Effectiveness of Port Logistics Facilities	13
	Efficiency of Intermodal Transport Network	15
	Adequacy of Port Hinterland for Logistics Functions	18
Public-Economic Environment	Economic Scale of Market	**10**
	Volume of Transshipment Cargo	14
	Stability of Political Climate	17
	Deregulation and Foreign Currency Exchange Systems	20

Source: Yang & Chen, 2016.

SIMILAR STUDIES, AND GENERAL DISCUSSIONS WITH SHIPPERS, PROVIDE GUIDANCE – IT'S MAINLY ABOUT THE COST

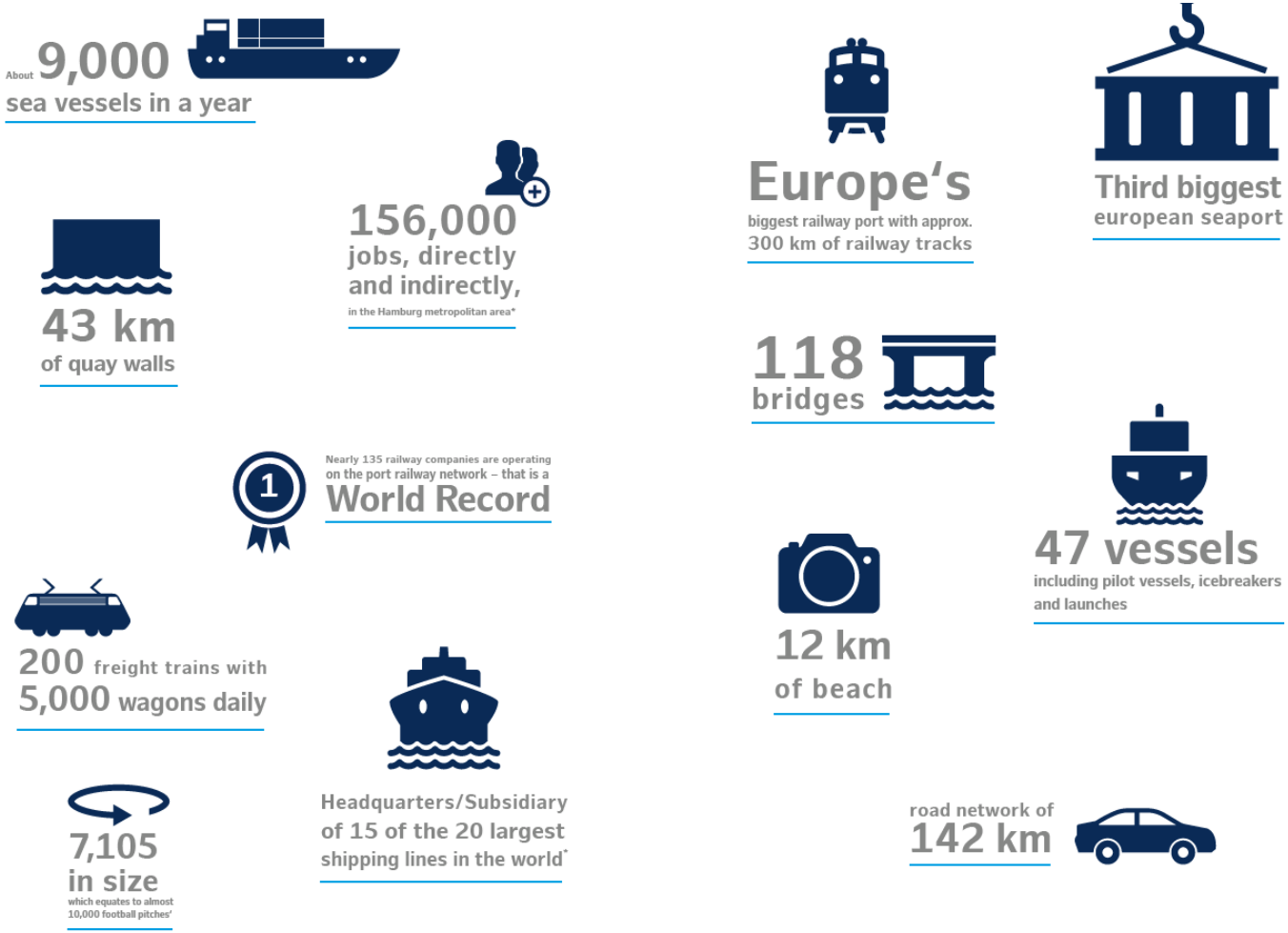
- Cost driven strategies for hubs require a focus on productivity for all elements of the supply chain
- Productivity is driven by:
  - Technology
  - Process efficiency
  - Waste elimination
  - Employee knowledge and empowerment
  - Support infrastructure
  - Adaptability and flexibility

- Lean operations and continuous flow

THE STORY OF HAMBURG AS A LOGISTICS HUB IS A LONG ONE

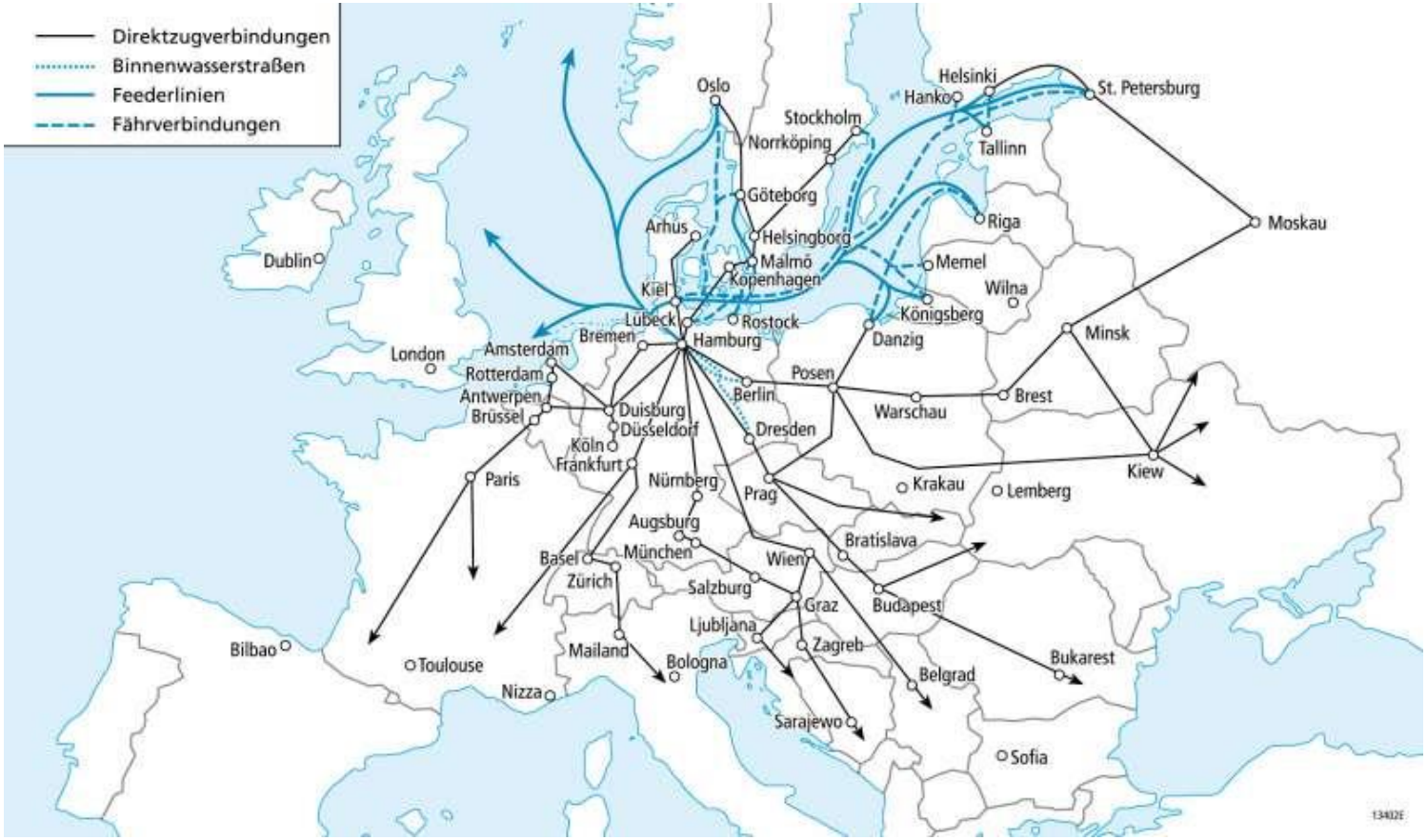
- The Hamburg port is over 1,000 years old
- Hamburg was established at the intersection of the River Elbe and the River Alster
- The port has operated continuously over this millennium
- Today the Port of Hamburg is Germany's largest port and the third largest port in Europe
- Hamburg's ability to operate as an international port arises because of its connections to the German and East European Hinterland

AS THE LARGEST GERMAN PORT, AND THIRD LARGEST EUROPEAN PORT, HAMBURG HANDLES A CONSIDERABLE VOLUME OF FREIGHT



Source: HPA Annual Report, 2016.

HAMBURG'S HINTERLAND CONNECTIONS HAVE ENABLED IT TO MAINTAIN ITS KEY ROLE IN THE NORTHWEST EUROPEAN PORT SYSTEM



Source: Dierecke.de

HOWEVER, HAMBURG'S POSITION AS GERMANY'S PREMIER PORT IS CHALLENGED DUE TO ITS LOCATION

- Hamburg is a river port, not a sea port
- Hamburg lies approximately 130 Km up the River Elbe from the North Sea
- It takes approximately 8 hours for a ship to steam up the River Elbe to arrive at the port
- There are only a few locations between Hamburg and the North Sea on the river that two ships can pass one another
- This has forced the port to develop sophisticated planning and operational software to facilitate the management of inbound and outbound ships
- The Port of Hamburg is constrained by growth around it so it can only increase throughput through automation and efficiency improvements
- Dredging of the River Elbe requires approval from numerous political and societal bodies and has hampered the port's ability to accommodate the latest EEE size vessels (max. depth 15.8m, min. required depth 16.0m)
- The cost of labor in the Hamburg area is high forcing more operations to be automated

THE CONSTRAINTS THAT THE PORT FACES HAS ENCOURAGED NEW COMPETITORS TO ENTER THE MARKET

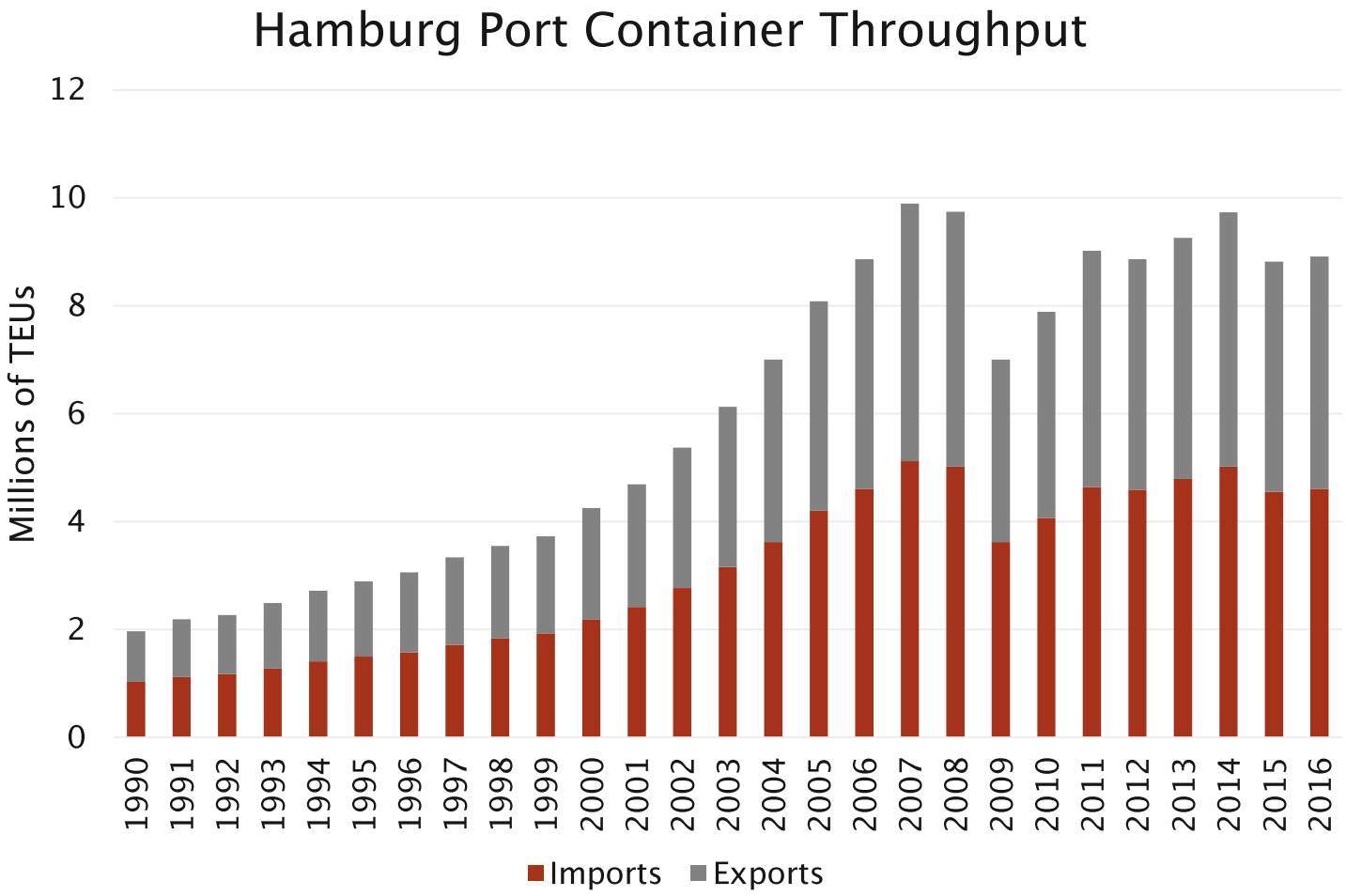
Port of Hamburg

- Founded 7 May 1189
- Covers approximately 7,200 Hectares
- Has 4 container terminals with 50 warehouses and 290 berths
- Handled 8.9 million TEUs in 2016
- Current capacity is 10.0 million TEUs
- Maximum depth of River Elbe is 15.8m
- Runs the largest railway hub in Europe with over 100 railway connections and 1,200 trains per week
- Ships 8% of volume by inland waterway, 42% by rail and 56% by road

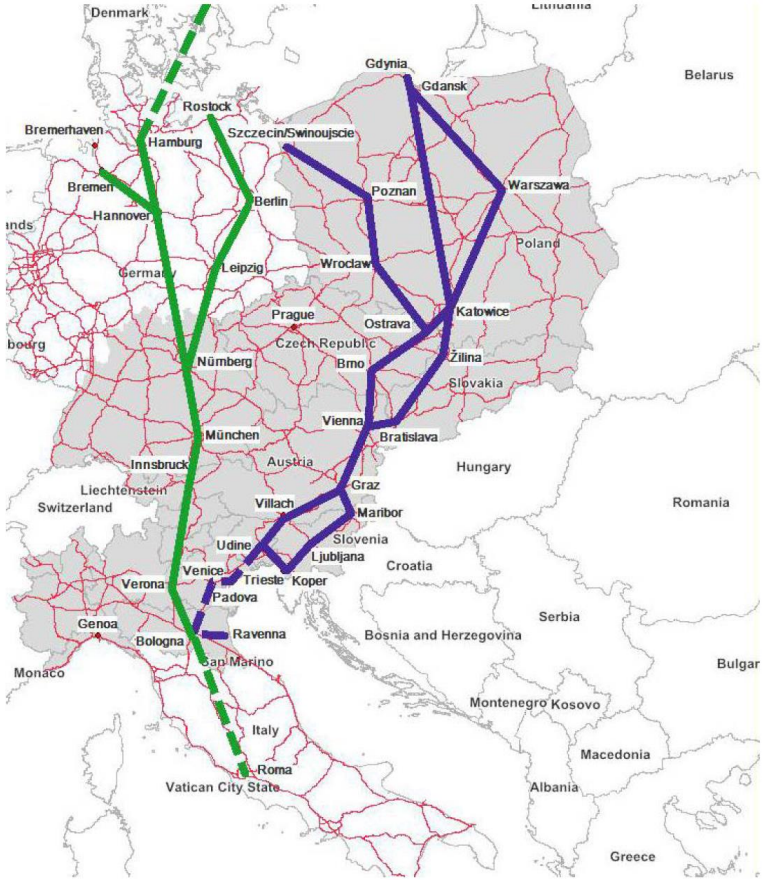
JadeWeserPort

- Founded 12 September 2012
- Covers approximately 290 Hectares
- Handled 482,000 TEUs in 2016
- Current capacity is 2.7 million TEUs
- Has a maximum depth of 18.0m and can handle any size container ship sailing today
- Has a double track rail line entering and one autobahn connection
- Partially owned by Maersk

COMPETITION AND THROUGHPUT CONSTRAINTS HAVE CAUSED HAMBURG TO SEE A REDUCTION IN FREIGHT TRAFFIC IN RECENT YEARS



ADDITIONAL COMPETITION IS EXPECTED IN THE FUTURE AS EUROPE'S TEN-T INFRASTRUCTURE PROGRAM PROGRESSES

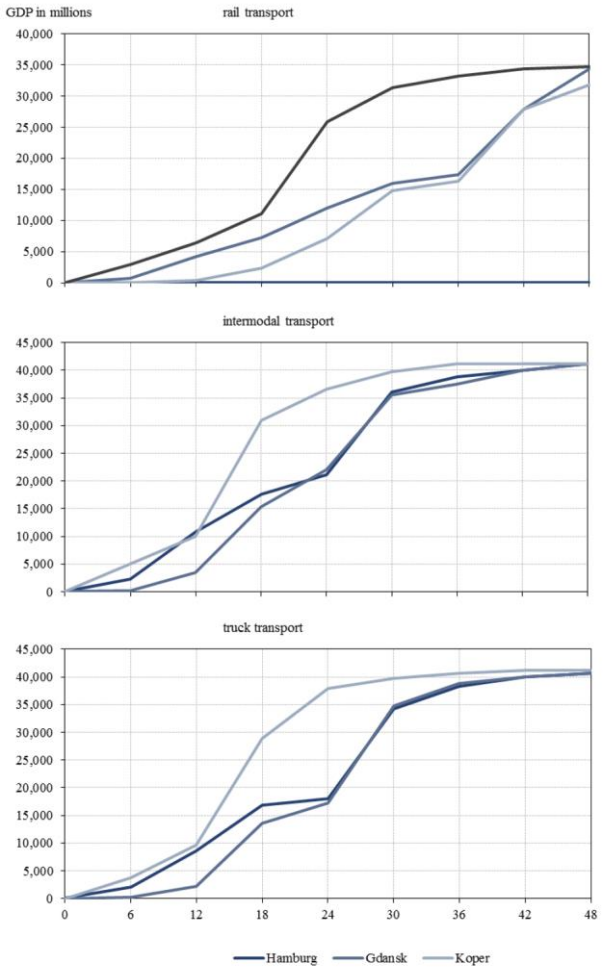


green line: Scandinavian-Mediterranean corridor; purple line: Baltic-Adriatic corridor
Source: HWWI (2016).

- Hamburg currently provides hinterland access services to Poland, South Germany and the Baltic States
- As the Ten-T program progresses the Port of Gdansk is well situated to take advantage of both Baltic freight needs and Polish requirements
- The Port of Koper on the Adriatic Sea will be able to handle Austrian, Northern Italian and South German (particularly Bavarian) freight requirements
- Improved rail service through the Hannover region will be required if Hamburg is to remain competitive

TO MAINTAIN ITS COMPETITIVE ADVANTAGE WILL REQUIRE HAMBURG TO FOCUS ON WHAT HAS MADE IT SUCCESSFUL

- Hamburg's success factors:
  - Infrastructure investments
  - Collaborative relationship between Port, City, and Port Operators
  - Logistics eco-system built around Hamburg as a logistics hub
  - Hinterland connections
  - Educated workforce
  - Focus on systems and automation
  - Solid legal environment
  - Shipper/LSP/Port collaboration
  - Flexibility
  - Emphasis on "switch to rail"
  - Connectivity (every major shipping line calls on Hamburg, and most have regional offices in Hamburg)



Source: HWWI 2016.

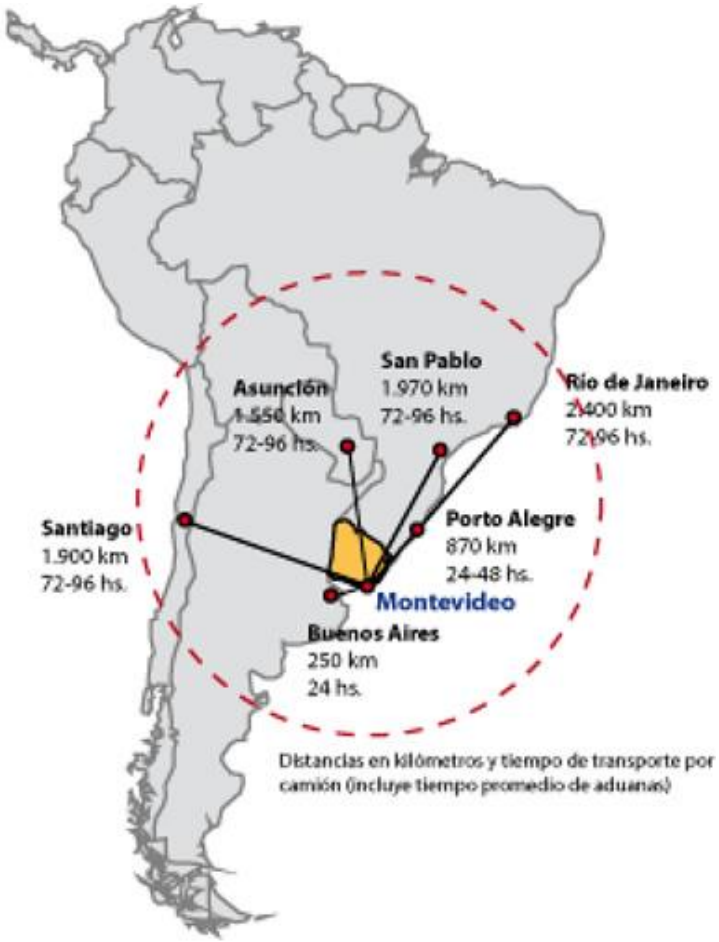
WITH URUGUAY BEING SITUATED STRATEGICALLY ALONG THE ATLANTIC COAST OF SOUTH AMERICA THERE IS SIGNIFICANT OPPORTUNITY TO OPERATE AS A LOGISTICS HUB

TO SUCCESSFULLY DEVELOP AS A LOGISTICS HUB SEVERAL KEY THOUGHTS BASED ON HAMBURG SHOULD BE OBSERVED

- Connectivity, both to the external world and to the hinterland, are key drivers for a logistics hub's success
- A focus on efficiency of operations to ensure minimum dwell time for ships, trains and trucks is critical for attractiveness
- An open, reliable and uniform customs processing approach is required
- Integrated multi-modal services are necessary for realistic hinterland operations
- An educated workforce that is flexible and quality focused is necessary (multi-lingual is also helpful)
- A logistics eco-system supportive of hub operations is required
- Good public/private cooperation must exist
- Supportive regulations are needed
- An attractive market is also needed to ensure that volumes are sufficient to attract international carriers

CLOSING THOUGHTS AND QUESTIONS

- International transport and logistics companies, as well as shippers, are driven by cost, schedule and quality of service
- For Uruguay to become a significant player in the hub and spoke model of logistics it will need to achieve relative competitive advantage in each of these areas
- This type of achievement will need to involve both the private logistics sector and governmental actors
- As Hamburg shows, collaborative relations between the public and private sectors can lead to significant advantages for both
- The opportunity is there for Uruguay, now it us up to you to make it a reality



THANK YOU FOR YOUR ATTENTION