

Globalisation at Sea: Cruise Sector Growth and its Externalities

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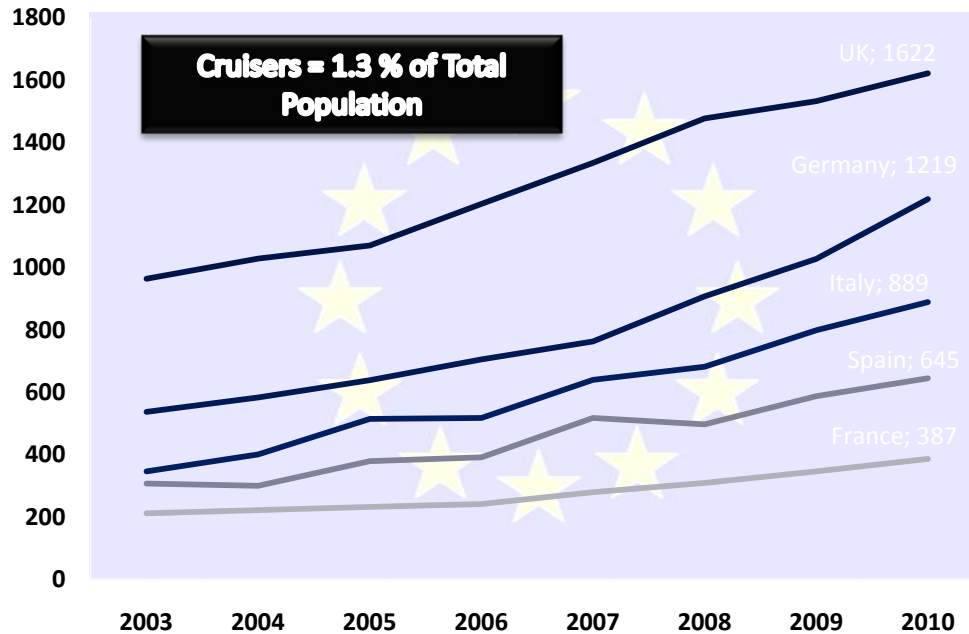


CRUISE SECTOR GROWTH

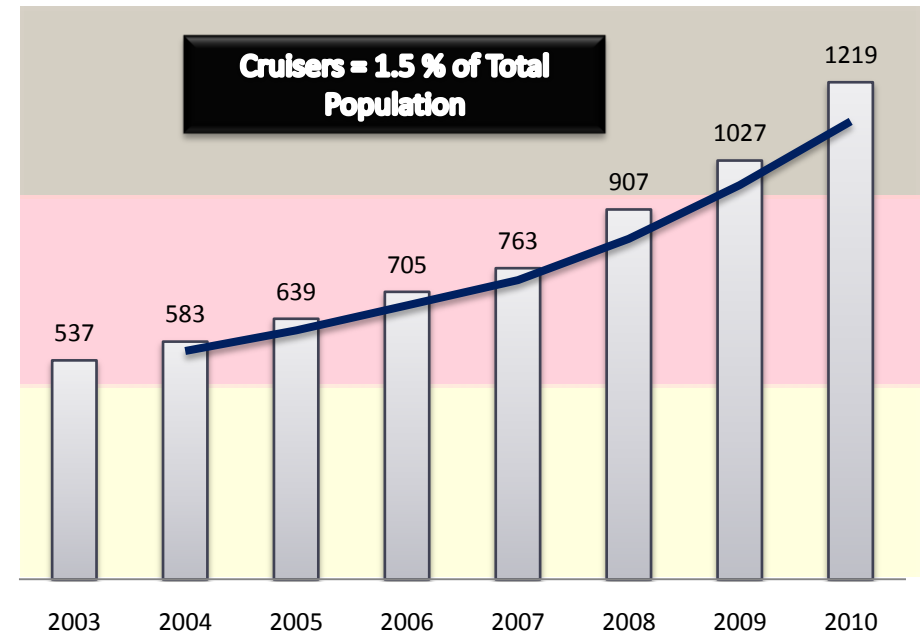
“A look into the crystal ball”

Source Market Perspective: Cruise Sector Growth & Pax Developments

European Pax Development ('000)*



German Pax Development ('000)*



European Average Growth Rate

- 2006-2010 = 11.8%
- 2009-2010 = 10%

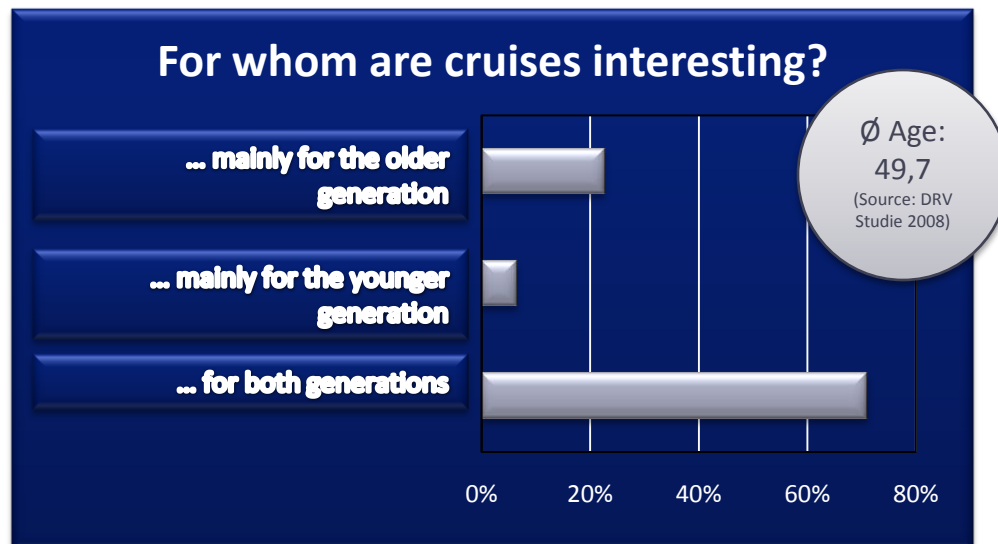
German Average Growth Rate

- 2006-2010 = 13.9%
- 2009-2010 = 19%

German Cruise Market

► German Market Potential (Source: ADAC Reisemonitor)

- 2010: 4,3% of the German population plan to take a cruise
 - 2009 & 2008: 3,9%
 - 2007: 3,2%
- **Every 3rd German could imagine to take a cruise over the next 5 years**
 - *Potential 31%*



Quelle: <http://www.web-tourismus.de> 2008 (n:93)

► Product-Related Preferences

- German-speaking cruise brands
- Popularity of club cruises
- Focus on itinerary
- Dominating distr. channel is the stationary travel agency
- Above average day rates (2009: € 183 / EU Average: € 149)
- Above average cruise duration (2009: 9.3 nights / EU Average: 9.0)

► Itinerary-Related Preferences

- 35% Med
- 16% Scandinavia
- 15% Caribbean
- 14% Atlantic Islands
- 9% Baltic

► Market Developments

- Deployment of US cruise products in Northern Europe (2009: 25 Vessels / 35345 LBs), representing a cruise supply increase of 58%

German Cruise Market

Key Indicators



Revenue

- 2010: € 2.1 B.
- 2009: € 1.9 B. (+ € 0.2 Bil. / + **10,05%**)
- 2008: € 1.7 B. (+ € 0.2 B. / + **11,7%**)
- AIDA:
 - 2010: € 883 Mil. (42% of the total German Cruise Revenue)
 - 2009 : € 722 Mil. (38% of the total German Cruise Revenue)



Average Ticket Price

- 2010: € 1,696
- 2009: € 1,881 (- € 185 / - **9%**)
- 2008: € 1,868 (+ € 13 / + **0.7%**)



Passengers

- 2010: 1.219.473
- 2009: 1.025.968 (+193,505 / +**18%**)
- 2008: 906.620 (+119,348 / +**13%**)
- AIDA Pax
 - 2010: 511.000 (41.9% of the total German Cruise Pax)
 - 2009: 414.000 (40.3% of the total German Cruise Pax)

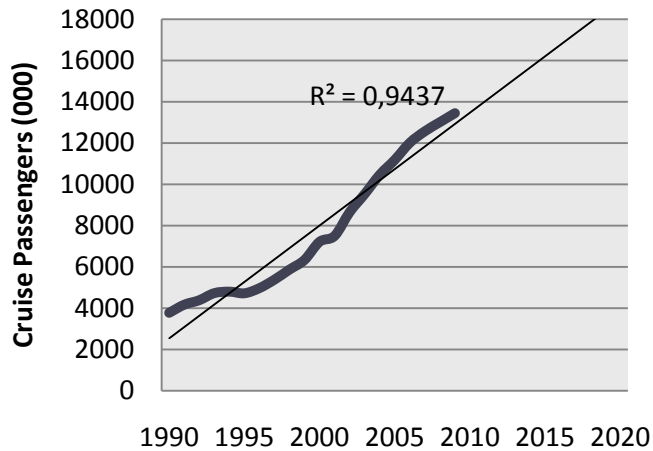


Average Cruise Duration

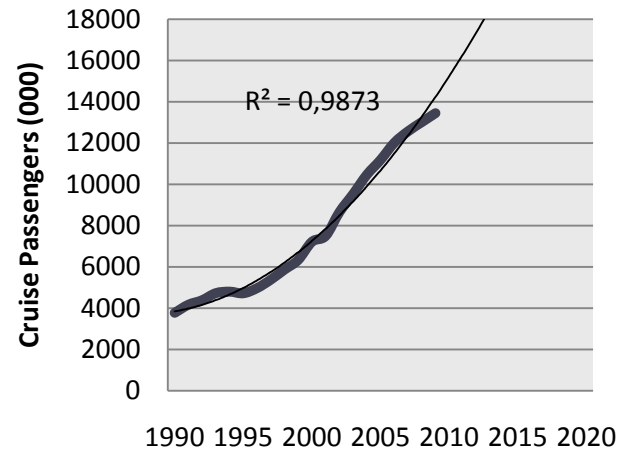
- 2010: 9,3 Days
- 2009: 9,7 Days (- 0,4 Days / - **4.1%**)
- 2008: 9,37 Days (+ 0,33 Days / + **3.5 %**)

A Critical View on Growth: Extrapolation of Historical Data

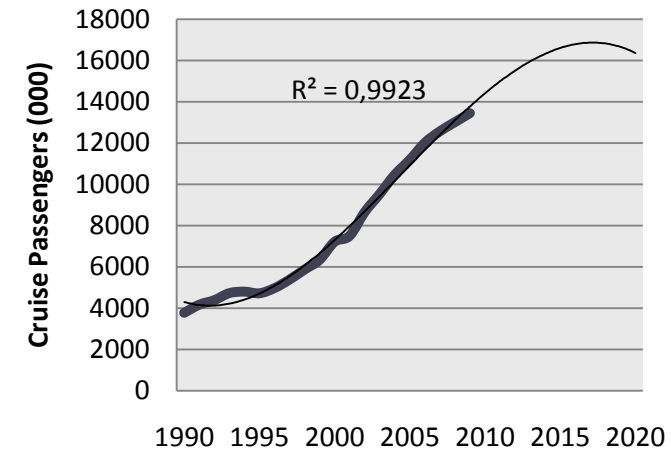
Linear Extrapolation



Quadratic Extrapolation



Cubic Extrapolation (S-Shaped Curve)



- ▶ Least data fit ($R^2 = 94\%$)
- ▶ 30 Million Pax by 2041
- ▶ Indefinite growth assumption

- ▶ Second best data fit ($R^2 = 98\%$)
- ▶ 69 Million Pax by 2041
- ▶ Indefinite growth assumption

- ▶ Best data fit ($R^2 = 99\%$)
- ▶ Compatible with the Product Life Cycle concept
 - ▶ Historically applicable for tourist destinations (Butler 1980, 2006) and
 - ▶ Tourism segments (Zimmermann 1997)

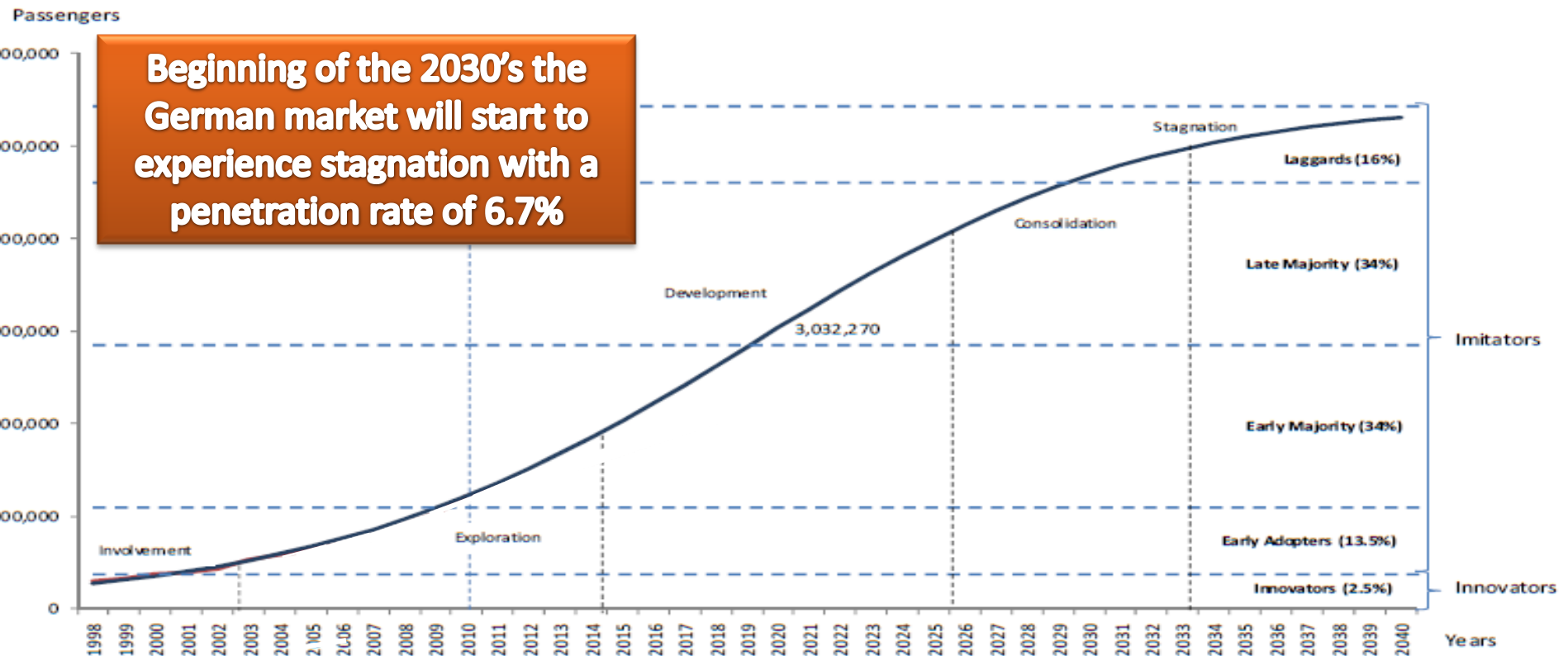
Forecast Implications?

Weak signals (e.g. ticket price reductions; mega-ships / onboard revenue)

Validity of forecasting demand on the basis of supply?

Another Forecast*

A PLC-Based Forecasting Model



- Bass Diffusion Model (1968):
 - Represents an S curve – Just like the Product- or Destination- Life Cycle
 - Can be used for forecasting the slope of the S curve, on the basis of the market potential and the degree of imitation and innovation

- Assumptions:
 - Market Potential in Germany approx. 5 million
 - Travellers spending more than €1700 on a vacation
 - Demographic structure remains the same
 - Innovation and imitation coefficients are calculated from the historical data (currently demand is determined by imitators – cruise market has left the introduction phase)

The background of the slide is a grayscale photograph of ocean waves. The waves are breaking, creating white foam and spray. The image is slightly blurred, giving it a sense of motion. A dark blue horizontal band runs across the middle of the image, containing the title and subtitle text.

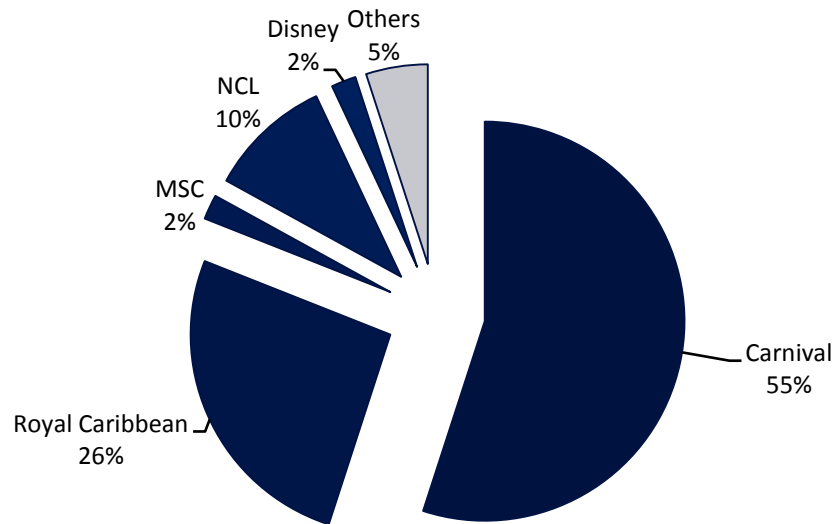
CRUISE SECTOR STRUCTURES

“Duopoly?”

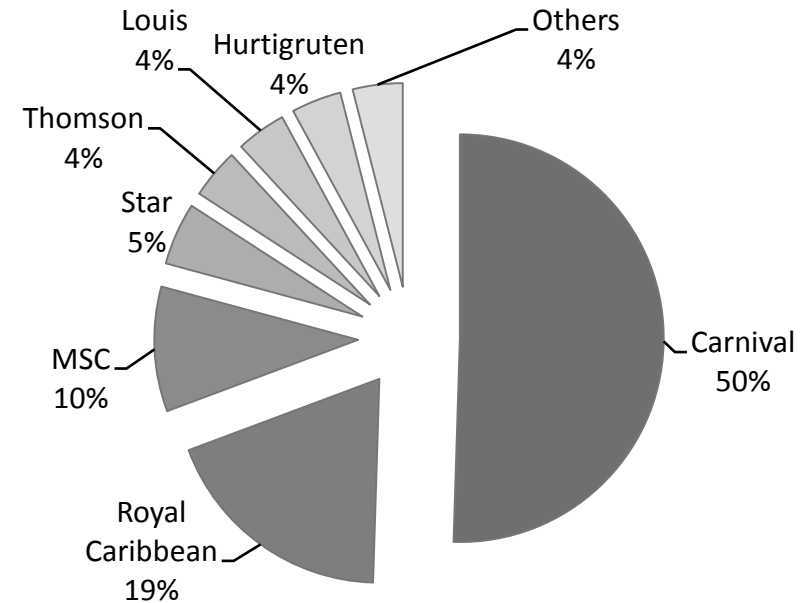
Concentration through M&A

“Cruise Sector Duopoly?”

US Market Share



World Market Share



- ▶ Leverage over suppliers & destinations
- ▶ Economies of scale
- ▶ Risk-spreading & financial reserves
- ▶ Difficult for new entrants due to shipbuilding sector concentration

Capacity Development

Mega-Ship Trend... Mega-Crowding?

► 2010*:

- Global cruise fleet 298 vessels amounting > 400,000 berths
- About half operate in Europe

► 2012-2016**:

- Total Ships: 20
- Total Berths: 57,751
- Total Order Book Value: \$13,468,000,000.00
- Average Price Per Berth: \$273,183





CRUISE SECTOR EXTERNALITIES

“Globalisation at Sea?”

Cruise Sector and the Environment

“Clean Ships?”

Main Sources:

- Incinerators
- Engines

An average cruise ship's daily emissions

- = 12.000 automobiles

401g of CO2 is emitted per Cruise Pax / Km

- 36 times more than a Eurostar Pax / Km
- 3 times more than a Boeing 747 Pax / Km
- An estimated 60,000 people die worldwide each year as a result of under-regulated shipping air emissions
- This estimated to grow by 40 percent by 2012

Black Water:

- Human Waste (Toilets, Medical Facilities)
- 30 Litres per Cruise Pax / day

Gray Water:

- Wastewater from sinks, showers, galleys, laundry, and cleaning activities
- 340 Litres per Cruise Pax / Day

Solid Waste:

- Plastic, paper, wood, cardboard, food waste, cans, glass, etc.
- 1990s: 3.5 Kg per Cruise Pax / Day
- 2010: 1.7 Kg per Cruise Pax / Day

Oily Bilge Water

- Water containing fuel, oil, wastewater from engines and other machinery
- Average cruise ship produces 8 tons in 24 hours of operation

Ballast Water:

- To stabilize the vessel during transport
- Often taken on in one location after a ship discharges wastewater or unloads cargo and then discharged at the next port of call
- Contains a variety of biological materials, including non-native plants, animals, viruses and bacteria

Cruise Employment

"24/7 for 500 Dollars a month!?"



Costs of getting a

Cruise Job*

Applicants from poor countries (Philippines, Indonesia, India)

Between \$1500-2000 to get the job

Job start with a credit

Money sent home = \$300 / month (7 months' work + 2-3 months' lay-off)

Indicative Wage levels**

F&B: Low paid, non-customer facing staff = \$350-500 / month

Housekeeping: Low paid, non-customer facing staff = \$600-800 / month

Cruise staff: Staff organising activities for passengers = \$1800-2100 / month

Working Conditions:

Long-working hours

- ... But tax free income!?

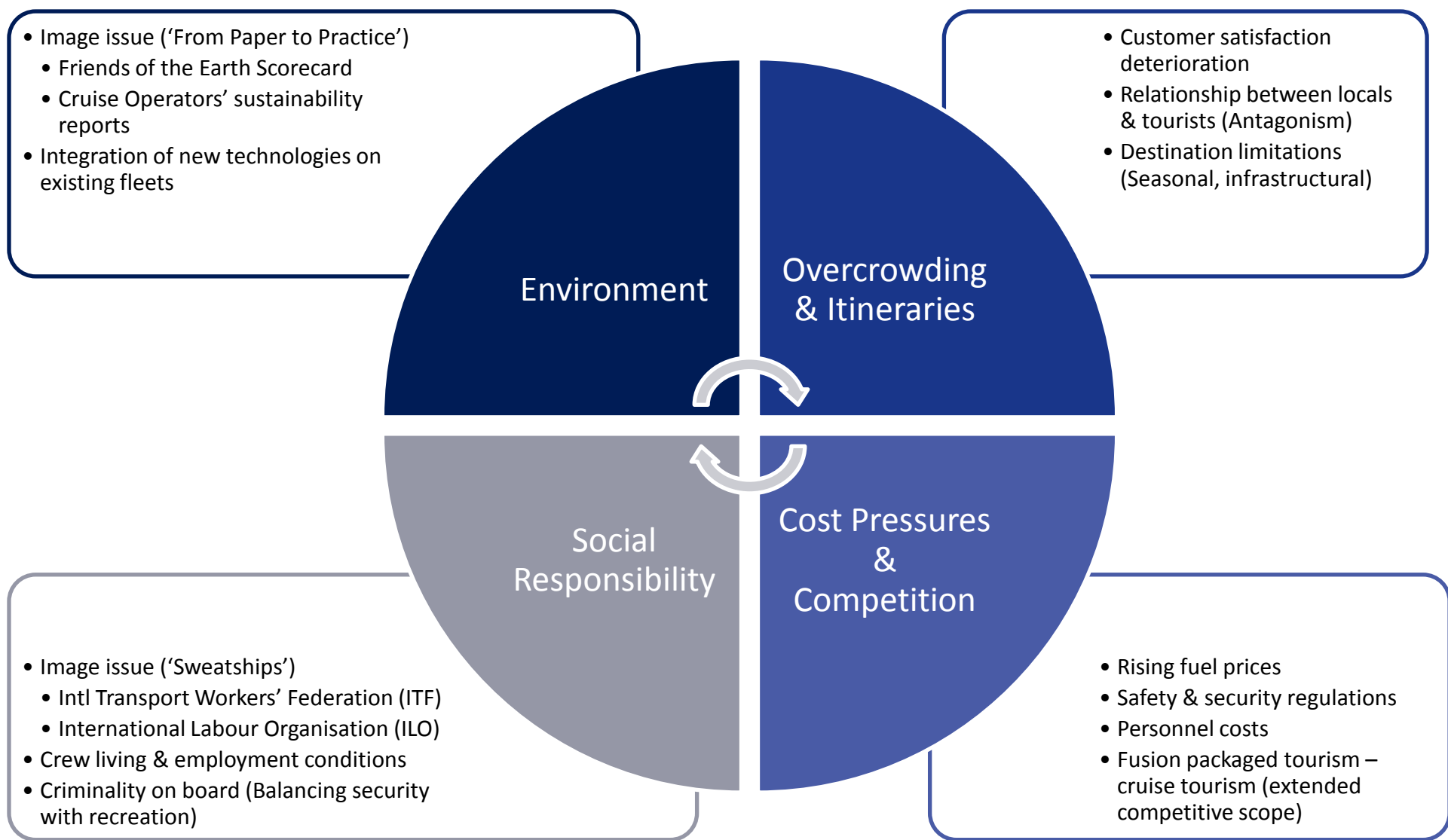
Private quarters & crew facilities – quality of life

- ... But no extra living costs (accomm & catering)

Long absence from family & friends

Cruise Sector Challenges & Externalities

“Globalisation at Sea?”



Thank You for your Attention



► Research Functions:

- Founder & Chairman of the **Cruise Research Society**
(<http://www.cruiseresearchsociety.com>)
- Co-Director of the **Institute for Maritime Tourism (IMT)**
(<http://www.imt.hs-bremerhaven.de/>)
- Editorial Board Member of the Journal of the European Journal of Tourism, Hospitality and Recreation (EJTHR) –
(<http://www.ejthr.com/>)
- Reviewer of the Tourism Management Journal
(<http://journals.elsevier.com/02615177/tourism-management/>)

► Administrative Functions:

- Dean of Studies – Faculty of Business & Economics
- Chairman of the CIM Examinations Committee
- Member of the CIM Study Affairs Committee

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BACKUPS

- *References*

Friends of the Earth: 2010 Cruise Ship Report Card*

Cruise Lines	Sewage Treatment	Air Pollution Reduction	Water Quality Compliance	Web Enviro Info*	Change From 2009	2010 Final Grade
Holland America Line	B+	C-	B+	✓	↓	B-
Norwegian Cruise Lines	A	C-	C+	✓	↔	B-
Princess Cruises	C+	A-	D+	✗	↓	C+
Cunard Cruise Line	A	F	no Alaska voyages	✗	↔	C-
Disney Cruise Line	A	F	no Alaska voyages	✗	↑ Most Improved	C-
Regent Seven Seas Cruises	C+	F	A	✗	↔	C-
Celebrity Cruises	A	F	n/a	✓	↔	D+
Royal Caribbean Int'l	D+	F	A-	✓	↑	D+
Carnival Cruise Lines	F	F	A	✗	↔	D-
Silversea Cruises	F	F	B-	✗	↔	D-
Crystal Cruises	F	F	no Alaska voyages	✗	n/a	F

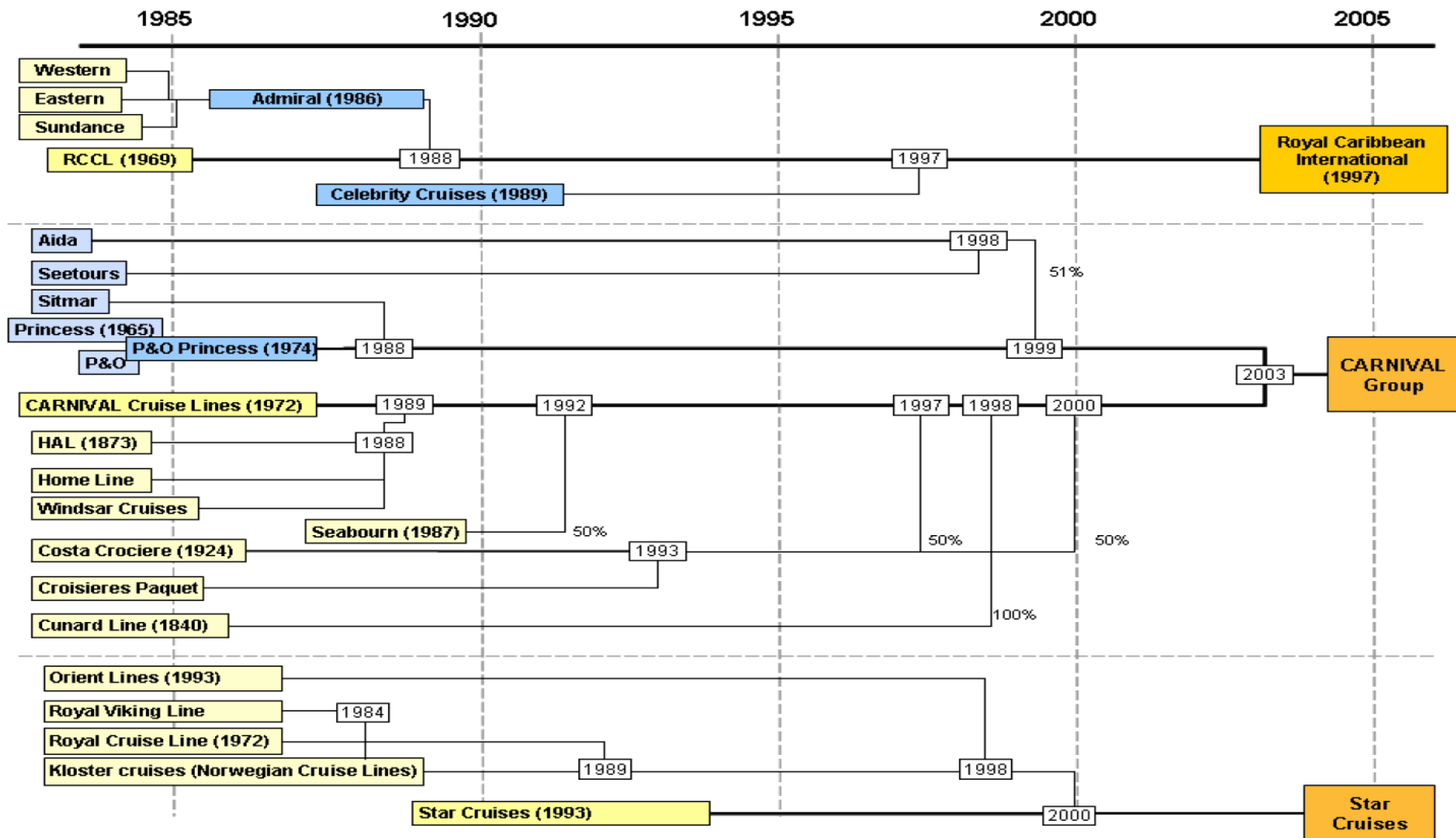
Whether a cruise line has installed the most advanced sewage and wastewater treatment systems available instead of dumping raw or minimally treated sewage directly into the water

Whether a cruise line has retrofitted its ships to “plug in” to available shore-side electrical grids instead of running polluting engines when docked

To what degree cruise ships violated 2009 water pollution standards designed to better protect the Alaskan coast

How easy the cruise lines have made it for the average consumer to find information on their websites about cruise industry environmental practices and technology

M&A Activity (1985-2005)



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