

Innovation, Technology and Sustainability in the Port of Antwerp

26th of October
2016



Agenda



- 1. Port of Antwerp***
- 2. Sustainability**
- 3. Technology and Innovation**



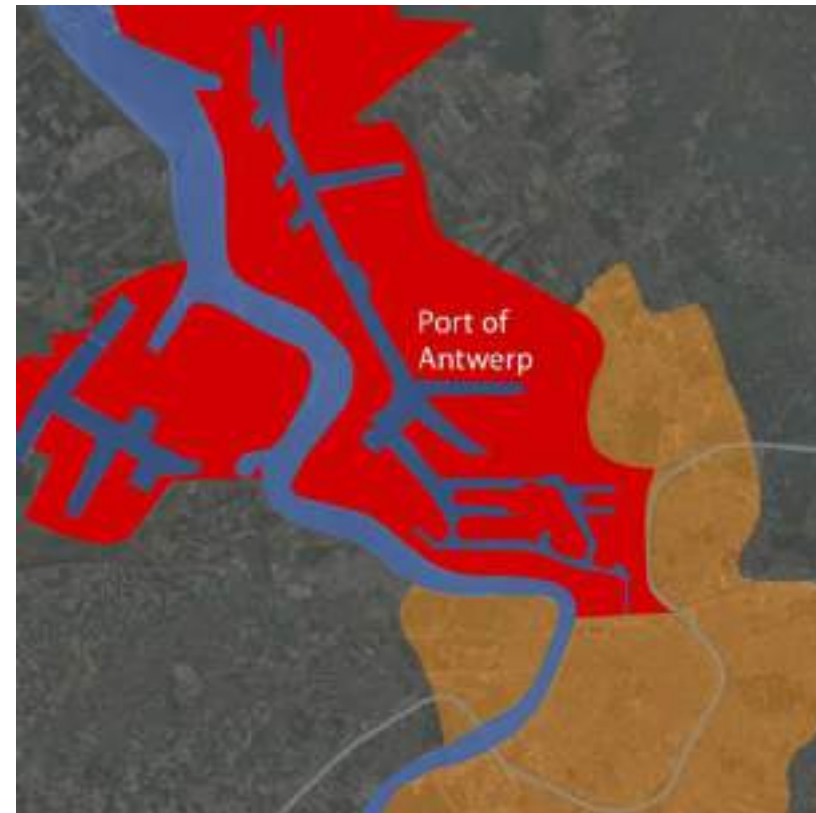
Location



The Port of Antwerp Today



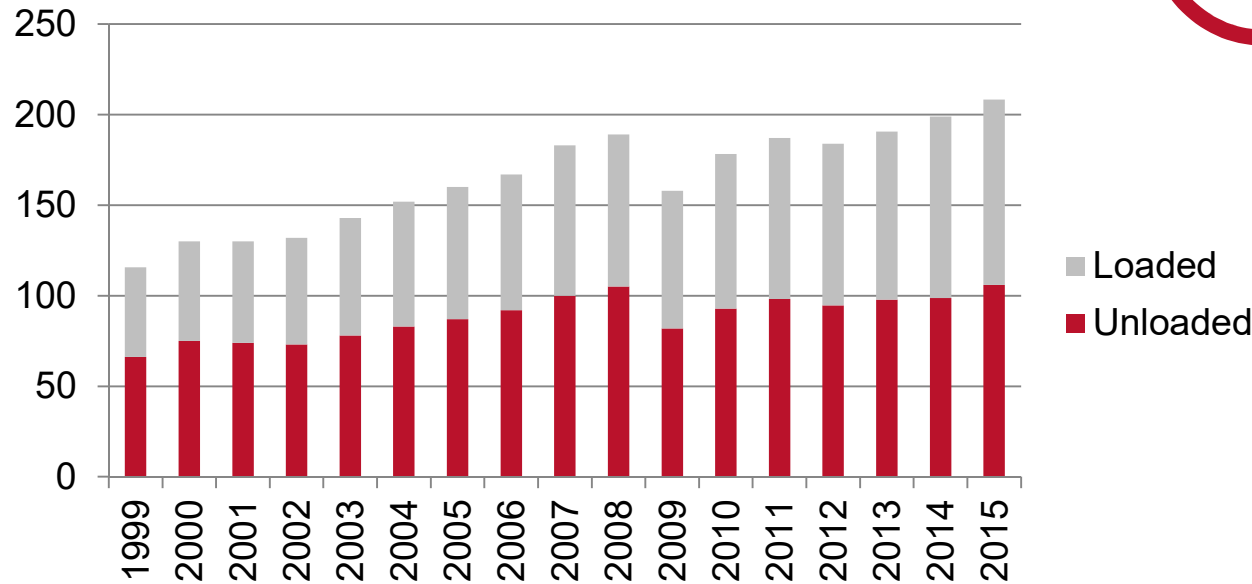
- Total area: 12,068ha
- Quay length: 172 km
- Railway: 1,061 km
- Roads: 430 km
- Covered storage space: 610 ha



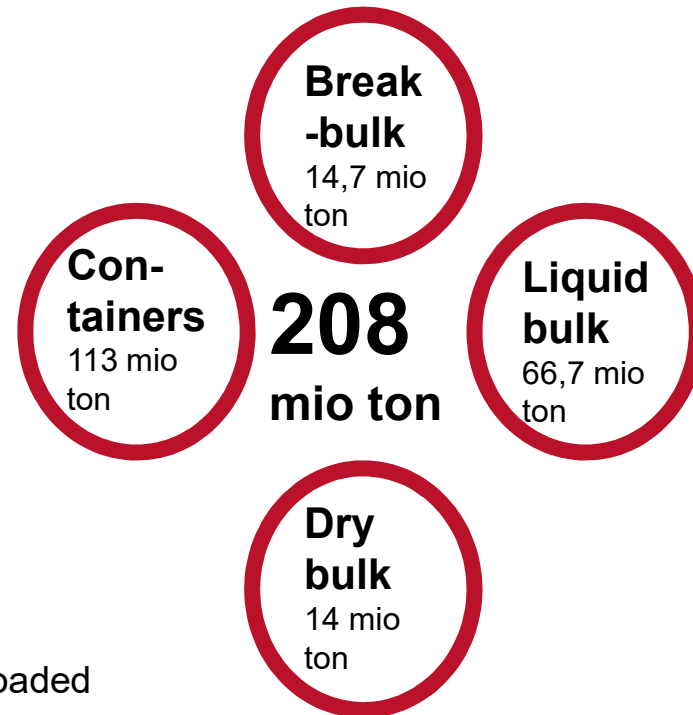
The Port in Numbers



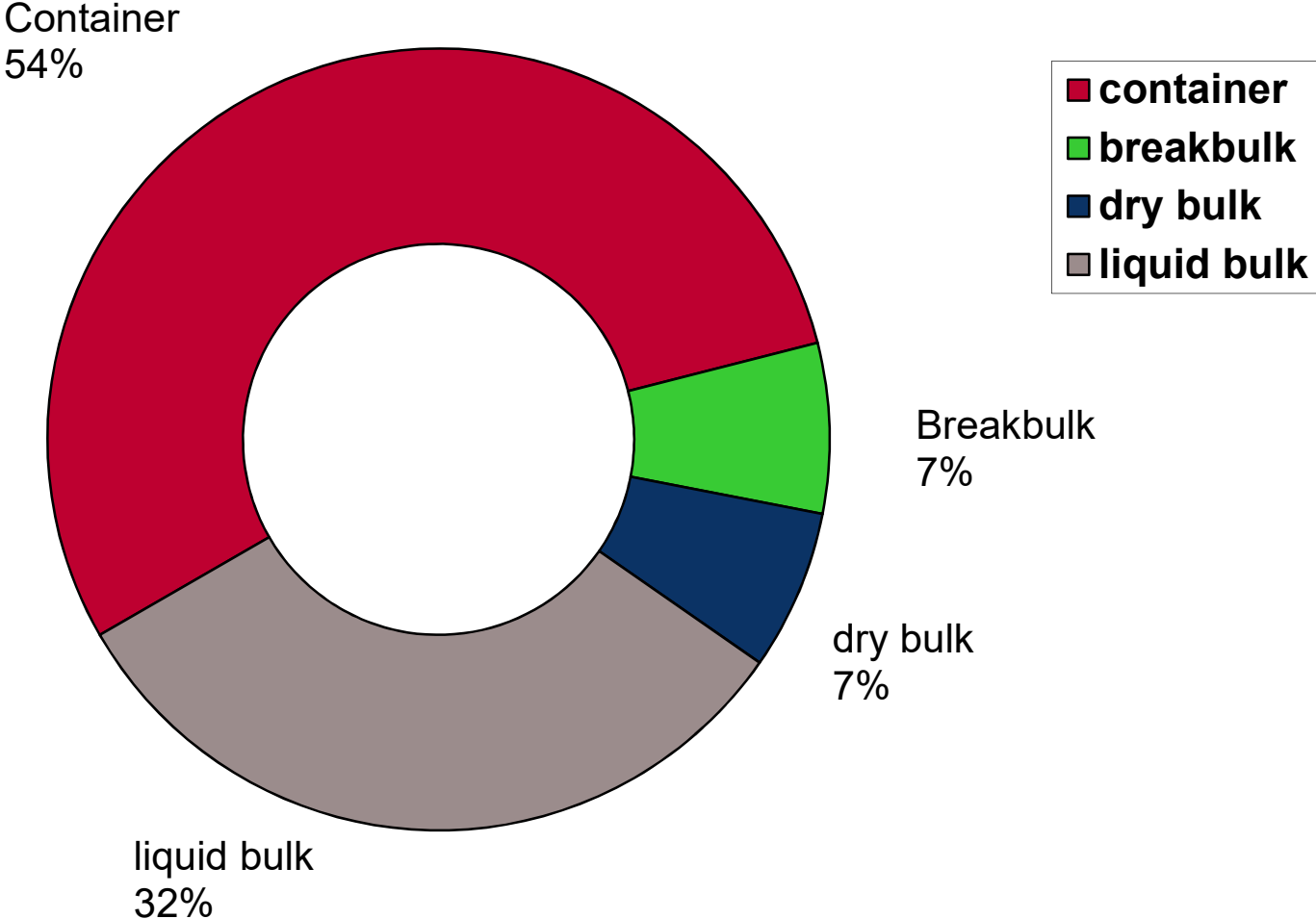
Million tons of maritime traffic



Balanced import and export flows



Maritime Cargo Transport 2015



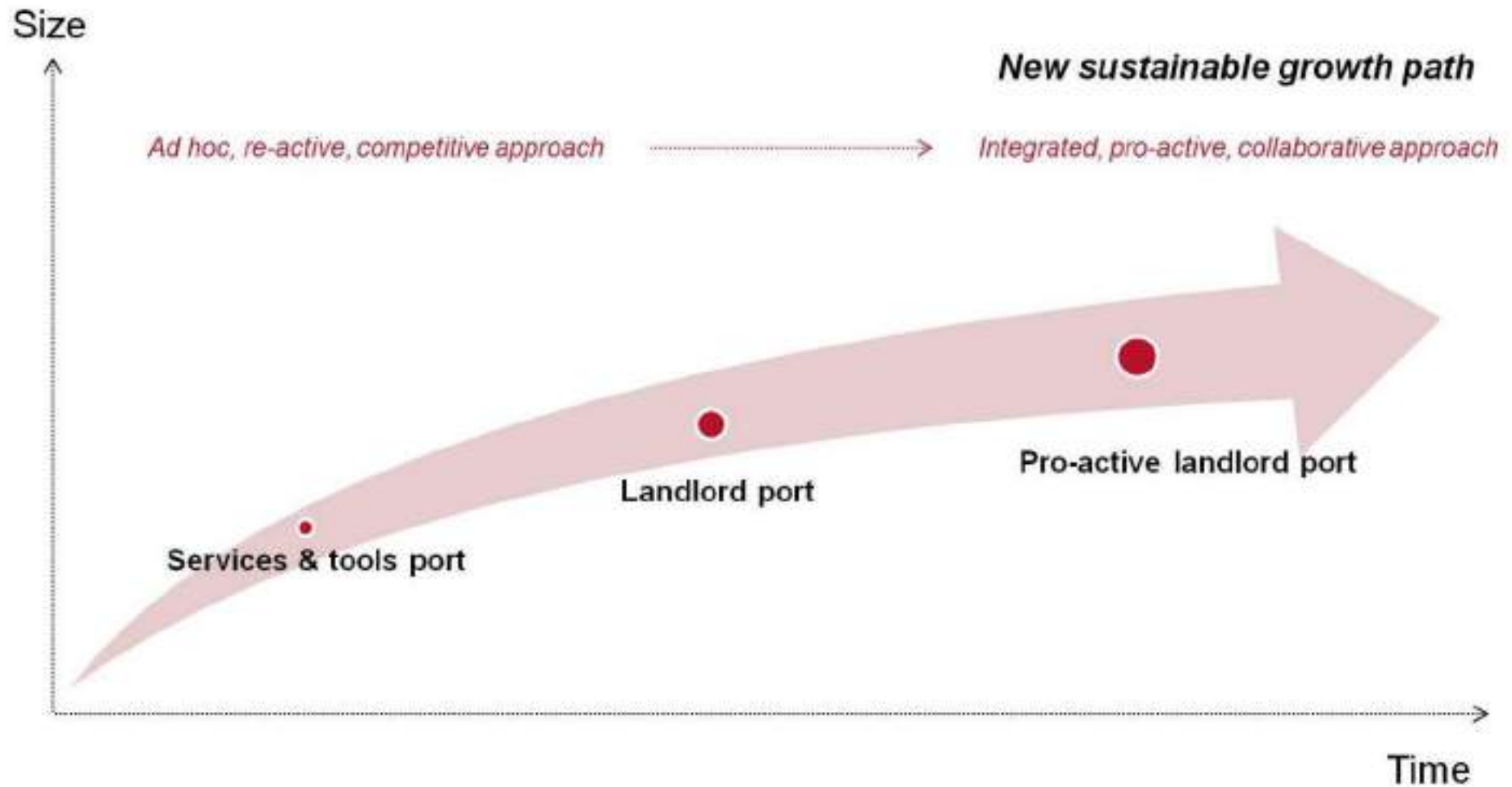
Agenda



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2. *Sustainability*
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Evolution of the port model towards an enabler and facilitator of sustainable growth



Sustainability in the Port of Antwerp

World economic crisis of 2009



Development of a strategic plan
Focus on 10 themes eg. dry bulk, liquid bulk, logistics, breakbulk, trade facilitation, mobility



'General assembly' with >600 people representing the port community



Sustainability is missing as a central theme



International Recognition



- 2012: Award for Best Belgian Sustainability Report
- 2013: Environmental World Ports Award
- 2013: IAPH Environment Award



Sustainability An Integrated Priority

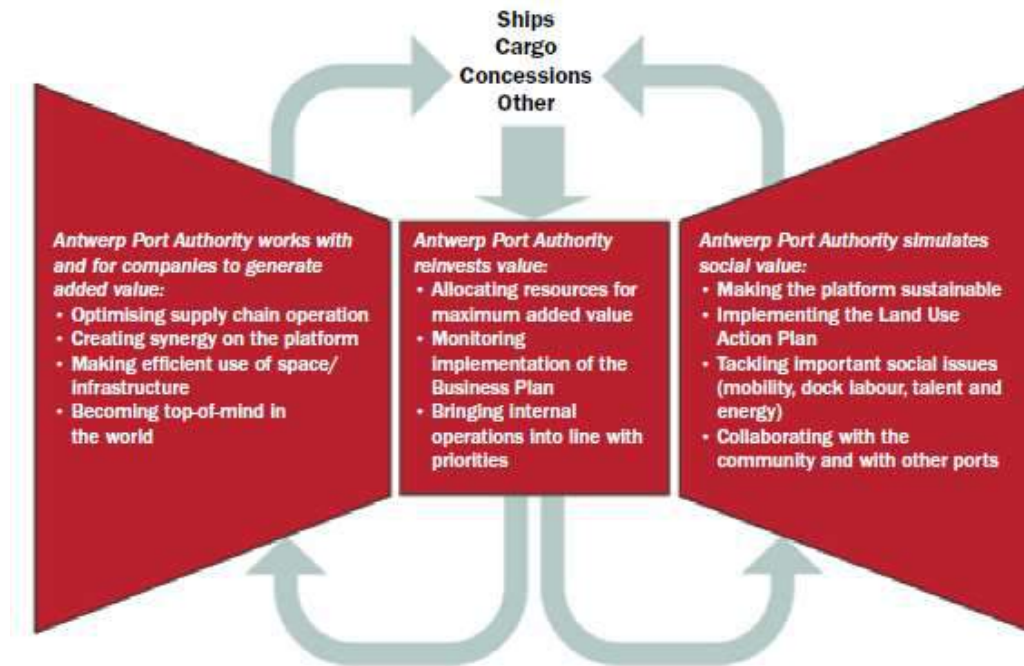


Mission in sustainability report of Port of Antwerp

The Port of Antwerp aims to remain the leader in creating sustainable added value.

Business plan of Antwerp Port Authority 2014-2018

Strategic priorities for 2014 - 2018



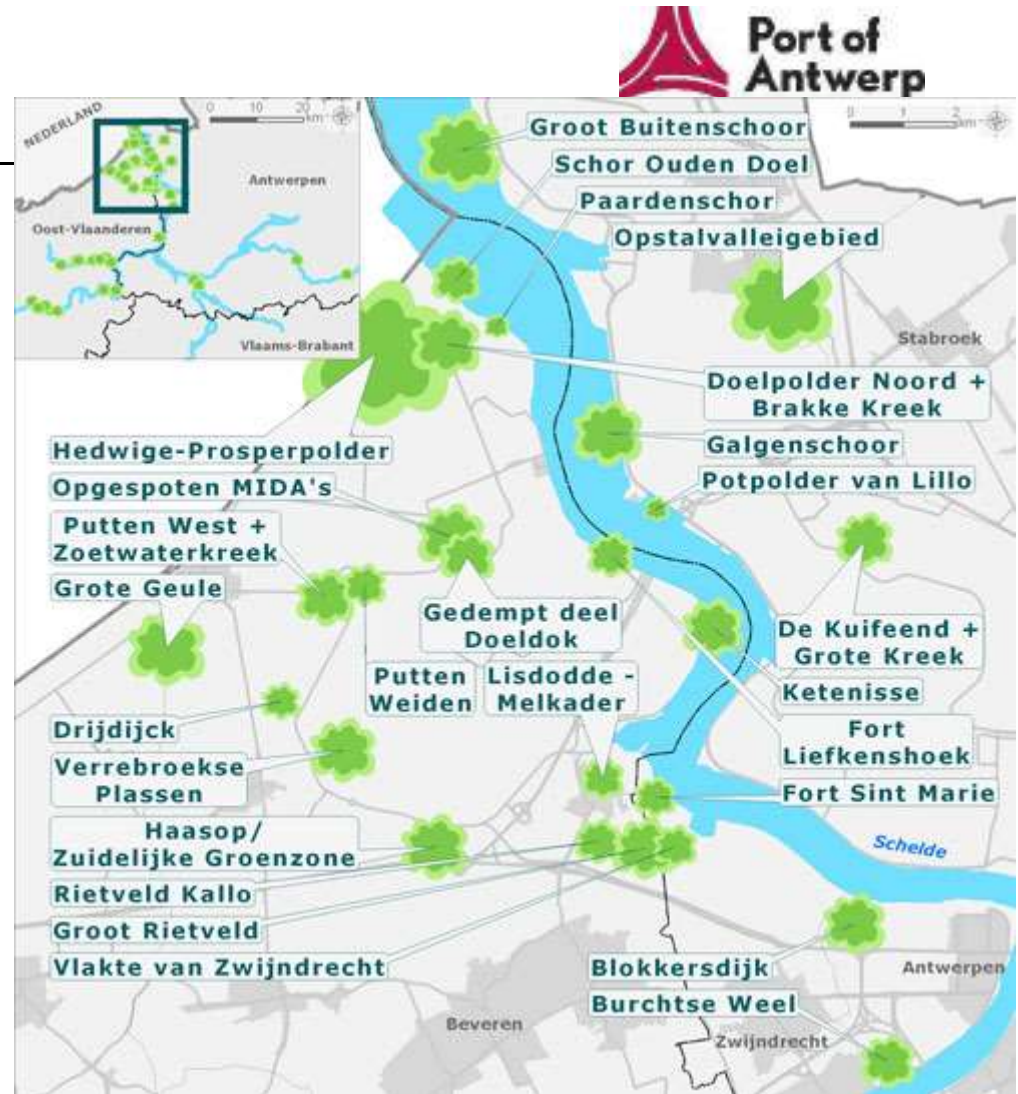
Vision 2030-2050 for the Port of Antwerp

UN Sustainable Development Goals integrated into long term vision

Deurganckdock: The Start



Deurganckdok: The Problem



Deurganckdok: Today

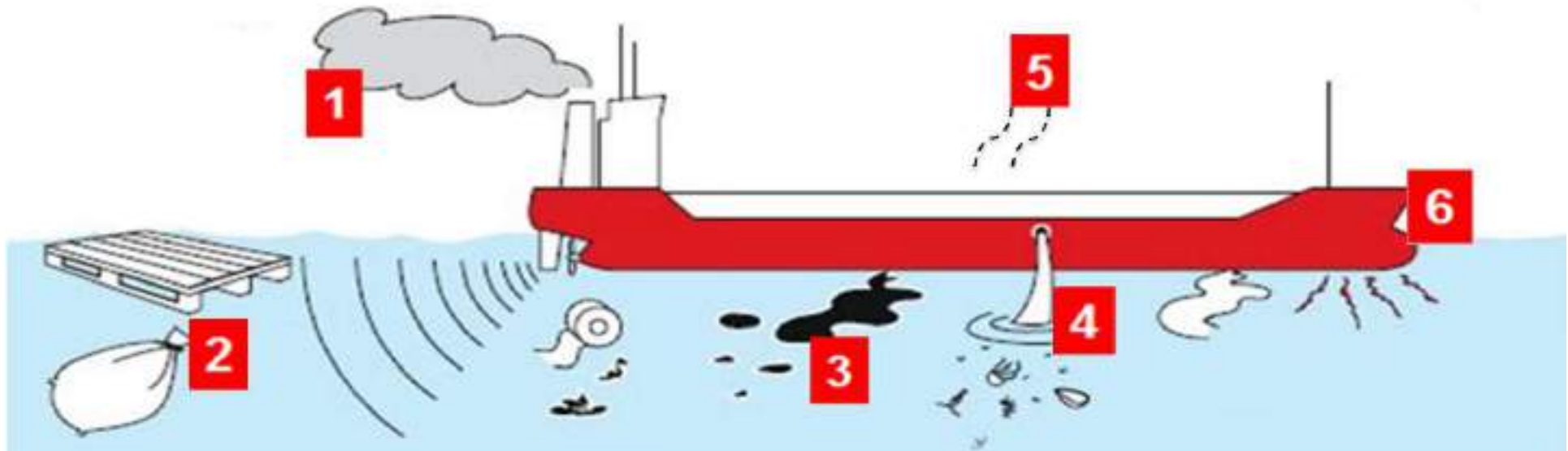


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Environmental challenges for the shipping industry

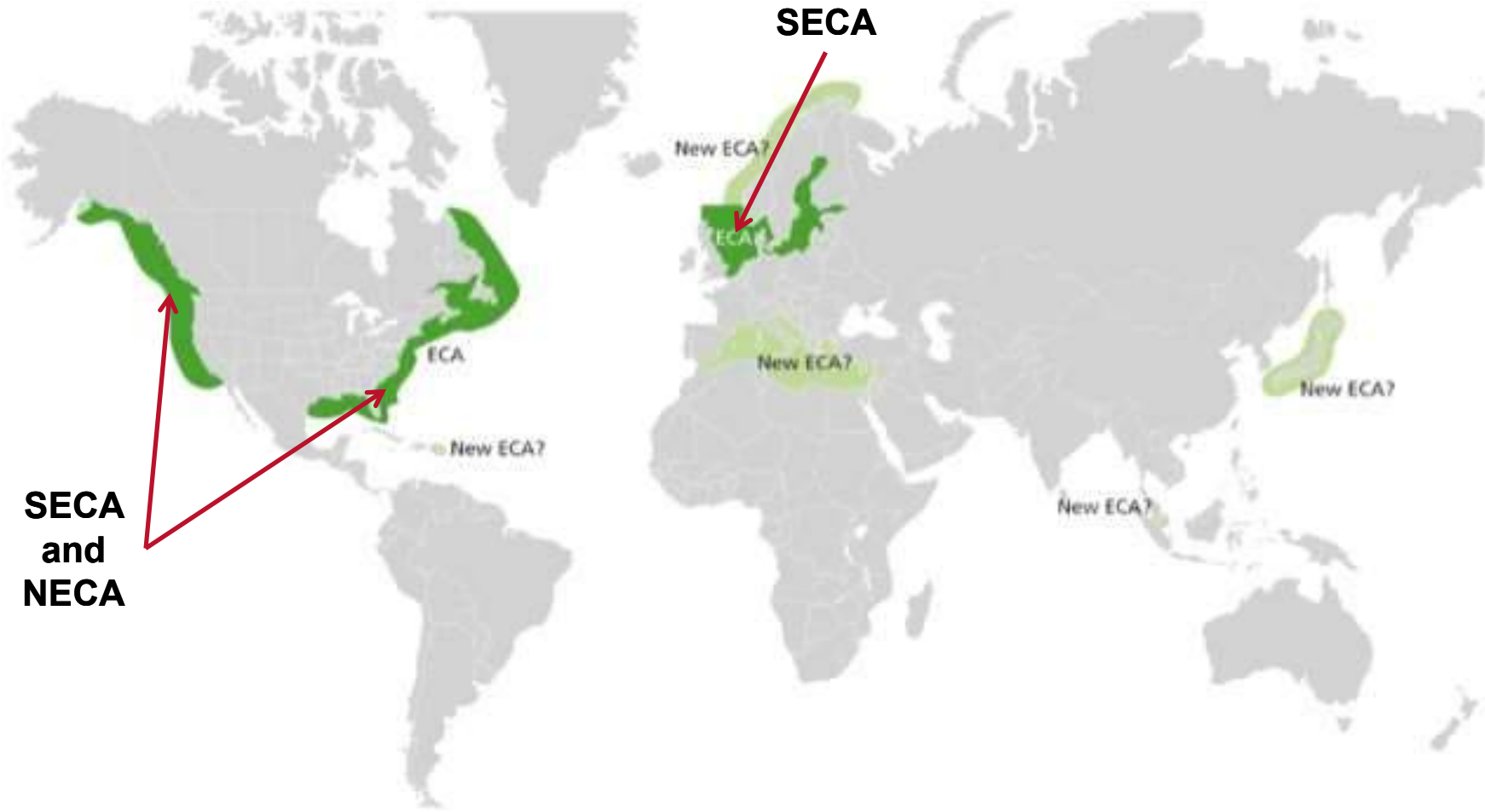


- Facilitating
- Supporting
- Developing



- ↓ Creating level playing field
- ↓ Guarantee performant services
- ↓ Creating space for investments and infrastructural developments by improving environmental quality
- ↓ Creating commercial added value as a reliable port
- ↓ Increased public acceptance for maritime/logistic activities

ECA – SECA - NECA



Regulatory Framework



1. Sulphur:

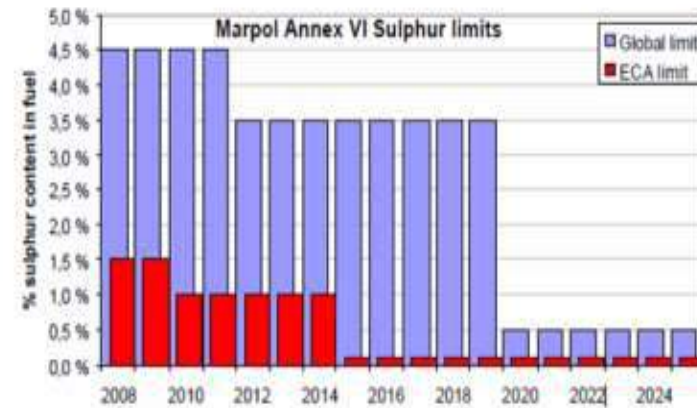
- SECA
 - Today 0,1%S
 - Globally today 3,5%S, per 2020 0,5%S

2. Nitrogen

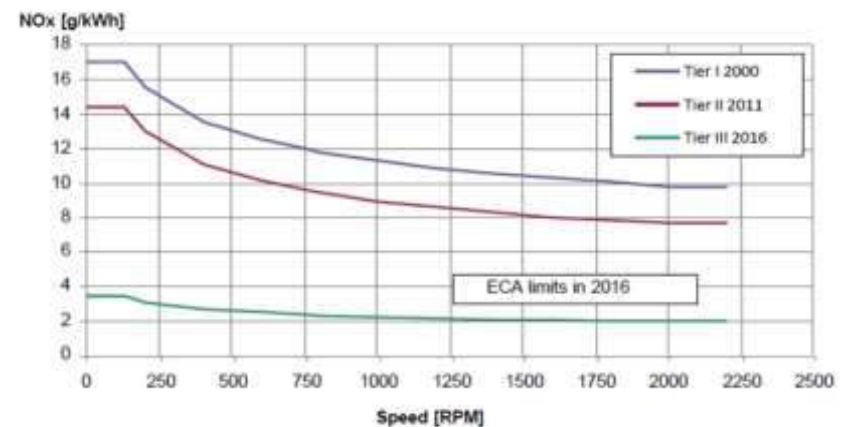
- NECA
 - Tier III limitations for all ships built after January 2016 (MEPC 66) in NECA
 - In event of new NECA date of Tier III limitation to be assessed

3. CO2

- SEEMP
- EEDI
- MRV in EU



MARPOL limits on sulphur content in marine fuels.



Facilitate: LNG as a Fuel

Alternative Energy Hub by ENGIE



Support: De-gassing



PRODUCT SHEET Environmental services for shipping

Environmental services for shipping

Degassing of ships' holds

Port of Antwerp

Degassing facilities in the port of Antwerp

In the port of Antwerp there is a total prohibition on degassing of substances that can present a danger or nuisance, since these vapours always release volatile organic compounds (VOC) that can not only cause a smell nuisance but can also be dangerous to port employees and local residents. Degassing is only permitted in special facilities intended for this purpose. Various companies in the port of Antwerp offer degassing services to deal with residual fumes from tanker ships and barges. In this way these toxic gas fumes between different vessels in a safe and environment friendly way.

International regulations

There are various international regulations that prohibit the degassing of substances that can present a danger or nuisance, since these vapours always release volatile organic compounds (VOC) that can not only cause a smell nuisance but can also be dangerous to port employees and local residents. Degassing is only permitted in special facilities intended for this purpose. Various companies in the port of Antwerp offer degassing services to deal with residual fumes from tanker ships and barges. In this way these toxic gas fumes between different vessels in a safe and environment friendly way.

There are various suppliers who position themselves fully in line with international developments regarding the prohibition of free degassing of tanker barges

Mole Boven
Gecert. CEBO

www.portofantwerp.com

PRODUCT SHEET Environmental services for shipping

List of active suppliers

All of the following are available in the port of Antwerp and can be operational within 24 hours.

NAME OF SERVICE PROVIDER	TECHNOLOGY OFFERED	COMPOUNDS	LOCATION	AVAILABILITY	CONTACT DETAILS
MO Boven	Substrate cleaned without flapping with hot air and nitrogen	• Fuel • Oil • CO and hydrocarbons • Ammonia • Sulphur	MO Boven Kruisde Kruisde 1101 3110 Sint-Gillis	Operational 24/7 Availability: Antwerp city during office hours & immediately after office hours Infoline	T +31 (0) 20 232 18 10 E info@mo-boven.com www.mo-boven.com
MO in collaboration with Mole!	Mobile nitrogen unit	• Fuel • Oil • CO and hydrocarbons • Ammonia • Sulphur	MOB At Stenoch Kruisde 1101 Kruisde 1101 3110 Sint-Gillis	24/7	MOB T +31 (0) 20 232 18 10 2020 232 18 10 service number E info@mo-boven.com www.mo-boven.com MOB! T +31 (0) 20 232 18 11
	Mobile vessels	• Ammonia • Fuel • Oil			
	Mobile or fixed response	• Fuel • Oil • CO and hydrocarbons • Ammonia • Sulphur			
	Mobile fleet	• Substances as request			
	Mobile industrial control unit	• Substances as request			
MOB Maritime Services & Port Services facility in collaboration with Borealis	Substrate cleaned without flapping Mobile unit Mobile unit Mobile unit	• Substances as request • Substances as request	MOB Maritime Services & Port Services facility Borealis facility Submarine Kruisde 1101 3110 Sint-Gillis	24/7 24/7 24/7	E info@mo-boven.com T +31 (0) 20 232 18 10 www.mo-boven.com
Ecopac B.V.	Mobile nitrogen unit	• Substances as request • Substances as request	Ecopac B.V. Kruisde 1101 3110 Sint-Gillis	Operational 24/7 24/7 24/7	E info@ecopac.com T +31 (0) 20 232 18 10 www.ecopac.com

Port of Antwerp

Support: De-gassing



Despite existing infrastructure, still room for improvement of performance of degassing infrastructure:

- Speed of degassing operation
- End-user cost
- Substance range
- Reponse time



Support programme Port of Antwerp

- Budget € 600.000 for innovative projects
- Call open till 26 September 2016
- Proposals currently under review

Support: Port Equipment



Support programme Port of Antwerp

- Cleaner port equipment quicker
- Driven by air quality

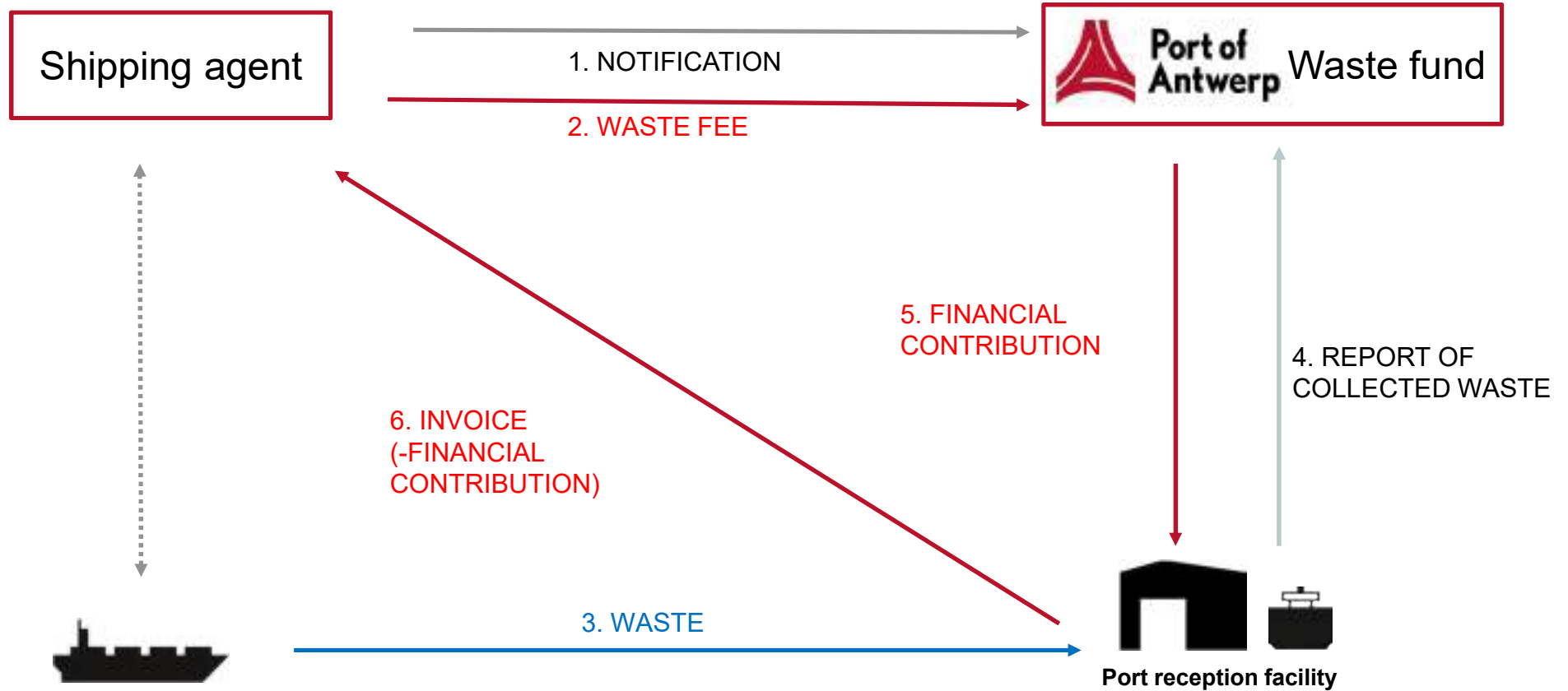
4 Projects

- Alstom
 - ✓ Hybrid energy
- DP World
 - ✓ Hybrid energy with supercaps
- Tabaknatie
 - ✓ Electricity
- GRC
 - ✓ Proactive towards environmental legislation



 Total Budget € 610 000

Develop: Waste Fee and Reimbursement System



Develop: Port Reception Facilities in Antwerp



The waste **reception facilities** of **Port of Antwerp** were identified by **EMSA** as an example for European **ports in 2014**



Environmental Challenges in the Maritime Industry



Together we move forward



**Port of Antwerp
International**

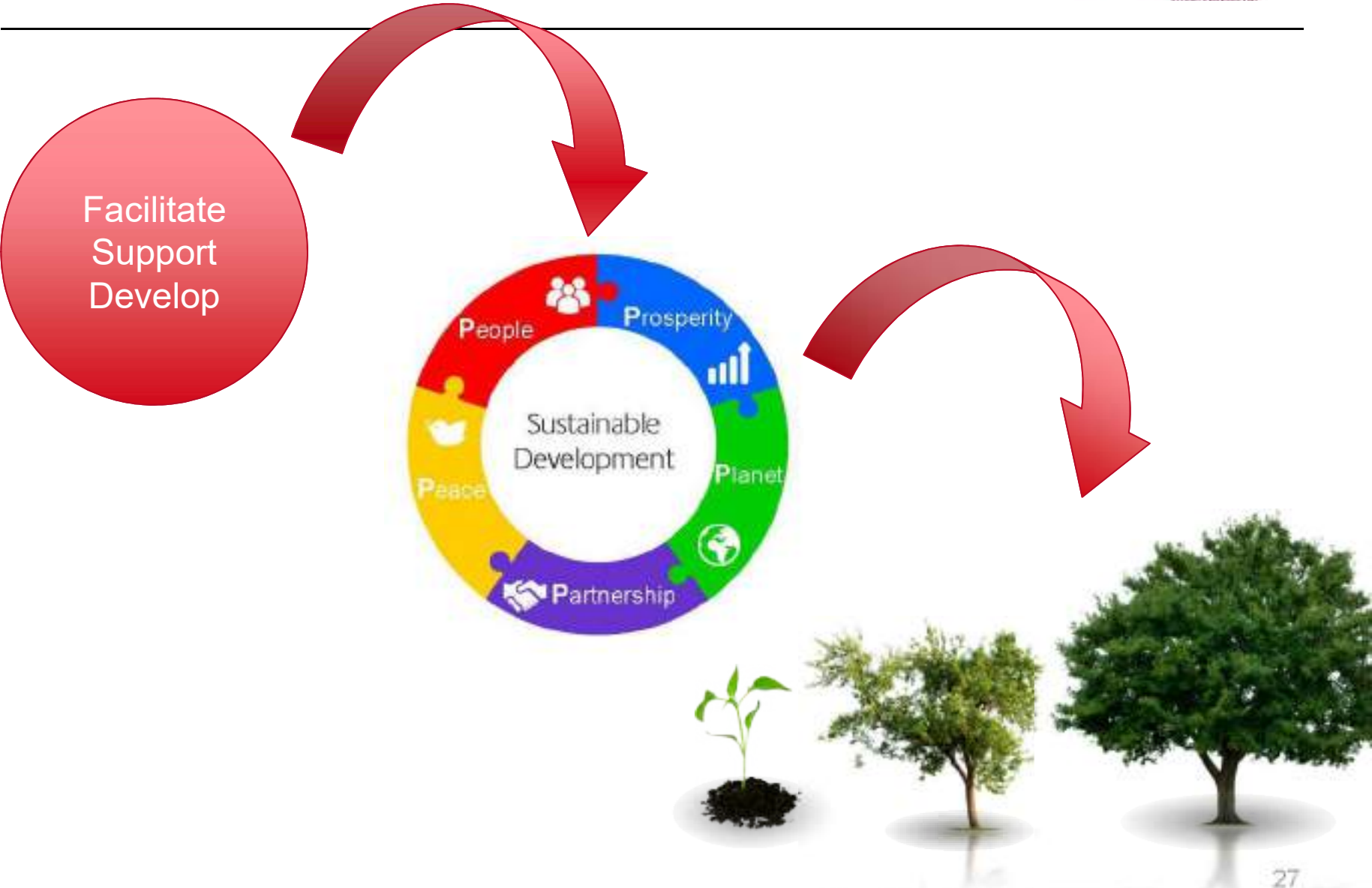
Consultancy

Participation

APEC

Training

Conclusion



New Harbour House
Zaha Hadid Architects

Website: www.pertofantwerp.com/pai

E-mail: Tessa.Major@pertofantwerp.com

Tel. +32 3 205 24 77

