GRENZELOZE
LOGISTIEK
Slimme grensregio in actie

pom antwerpen

Vlaanderen in Actie Pact 2020
met steun van het Agentschap Ondernemen
Europese Unie
Europees Fonds voor Regionale Ontwikkeling
Provincie Antwerpen
Interreg Vlaanderen Nederland
Europa investeert in uw regio
Flanders Logistics.be
departement Mobiliteit en Openbare Werken

Is there a future for airships?

Transportsysteem van de toekomst?

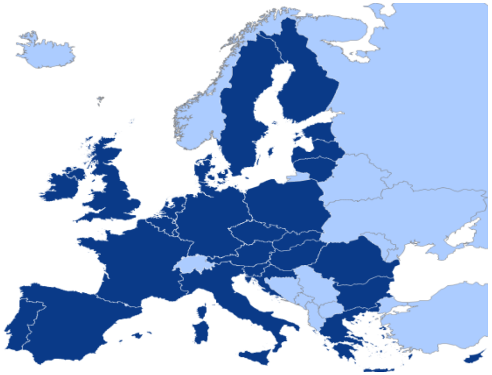
Background

- Mobility issues in many EU-countries
- Thrust towards the reduction/internalisation of external costs (environment, accidents, etc.)

EU Commission's Transport Vision 2050

- Reduction of CO^2 levels by 90%
- Shift away from road transport of 50% for freight transported over 300km

- Flexibility of transport solutions and density of transport services are key for reaching robust supply chains
- Many shippers actively pursue decarbonisation



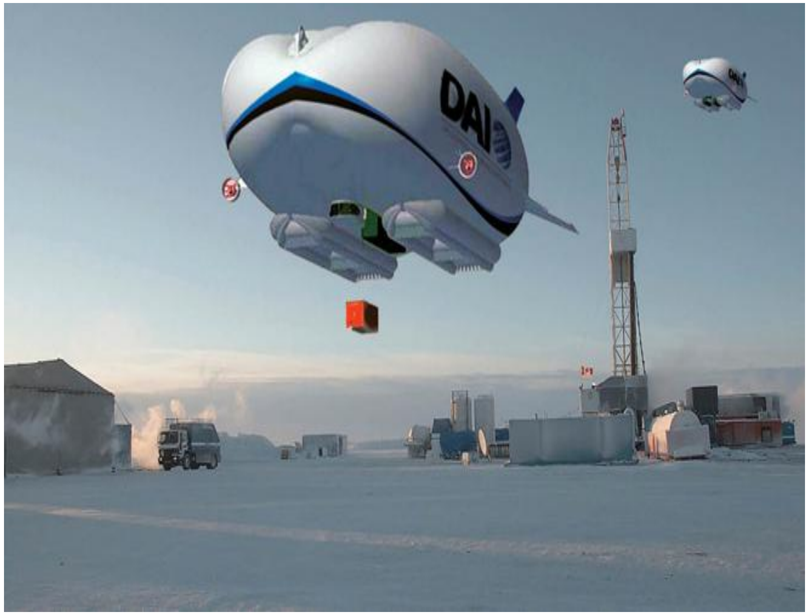
- Budgetary restrictions impact negatively on the development of new transport infrastructure
- NIMBY and a myriad of regulations constrain infrastructure projects

Conclusion

Transport and logistics companies are under increasing pressure to look at new business models and market niches

- Transport organisation becomes increasingly complex, especially for project cargo
- Transport is increasingly considered to be a commodity. Competition is cut-throat and profit margins are low

- Hybrid Airships seem to offer advantages in terms of mobility, infrastructure and changing demand
- Hybrid airships could carry freight from point-to-point without the need for infrastructure investments. They are able to avoid congested areas and could meet the need of shippers for cost-effective, reliable and low carbon transportation



Scope of the work

Identify the

- operational,
- commercial and
- market feasibility

of hybrid airships

Freight carriage: Strenghts and weaknesses

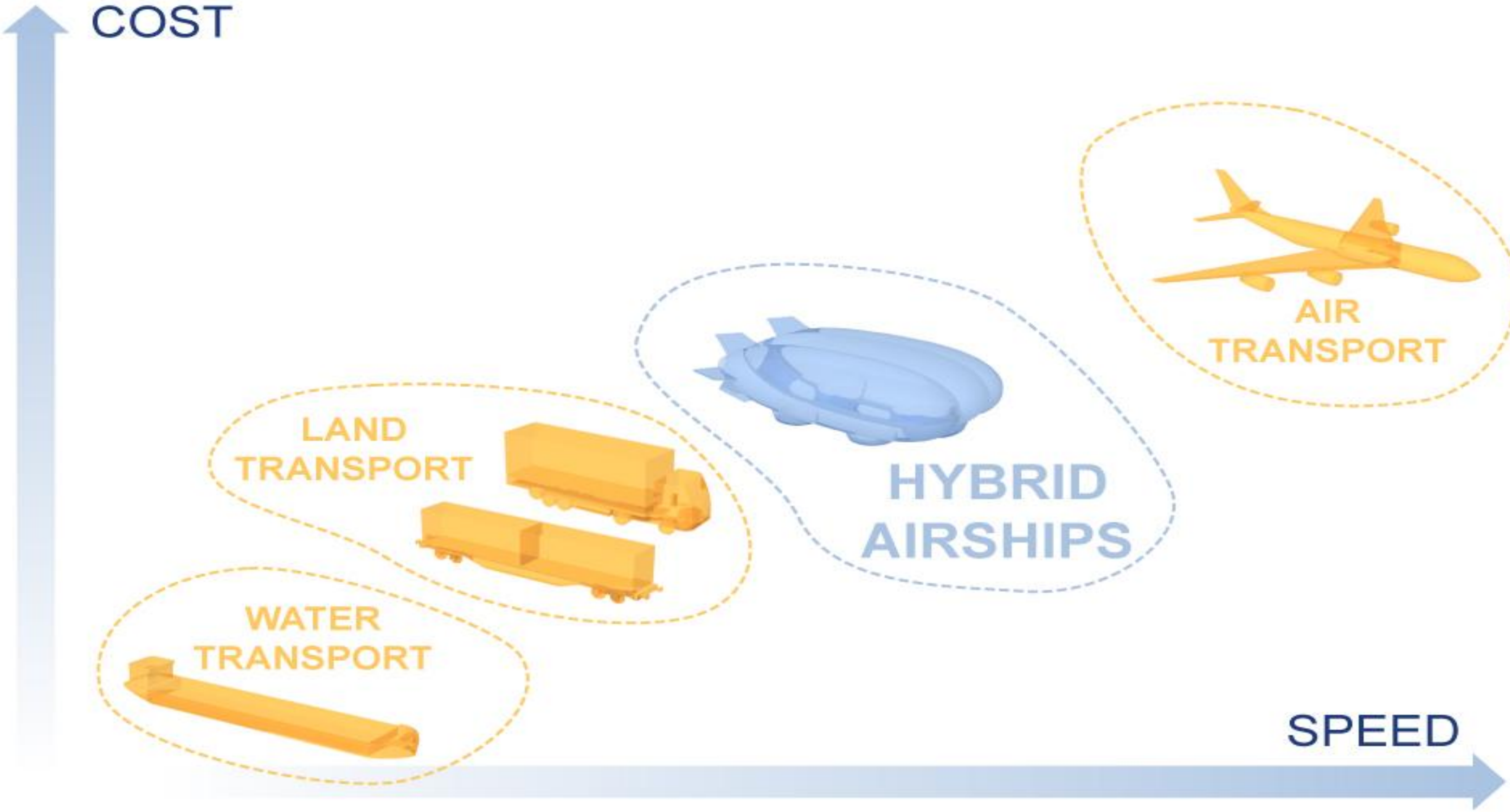
Strengths

- Substantial payload
- Ability to fly point-to-point
- Ability to land/offload at inaccessible locations
- No transfer required to other transport modes
- Faster than train or shipping
- No constraints for oversized cargo
- Facilitates the use of simple logistics solutions ⟶ factory assembly instead of on-site assembly

Weaknesses

- Slower than airplanes
- Access to metropolitan areas is restricted
- Vulnerable to weather conditions
- Legislation is currently lacking
- Market acceptance
- Difficult assessment of costs

Hybrid airships are competitively situated in between air and truck transportation and will compete with both for specific product flows

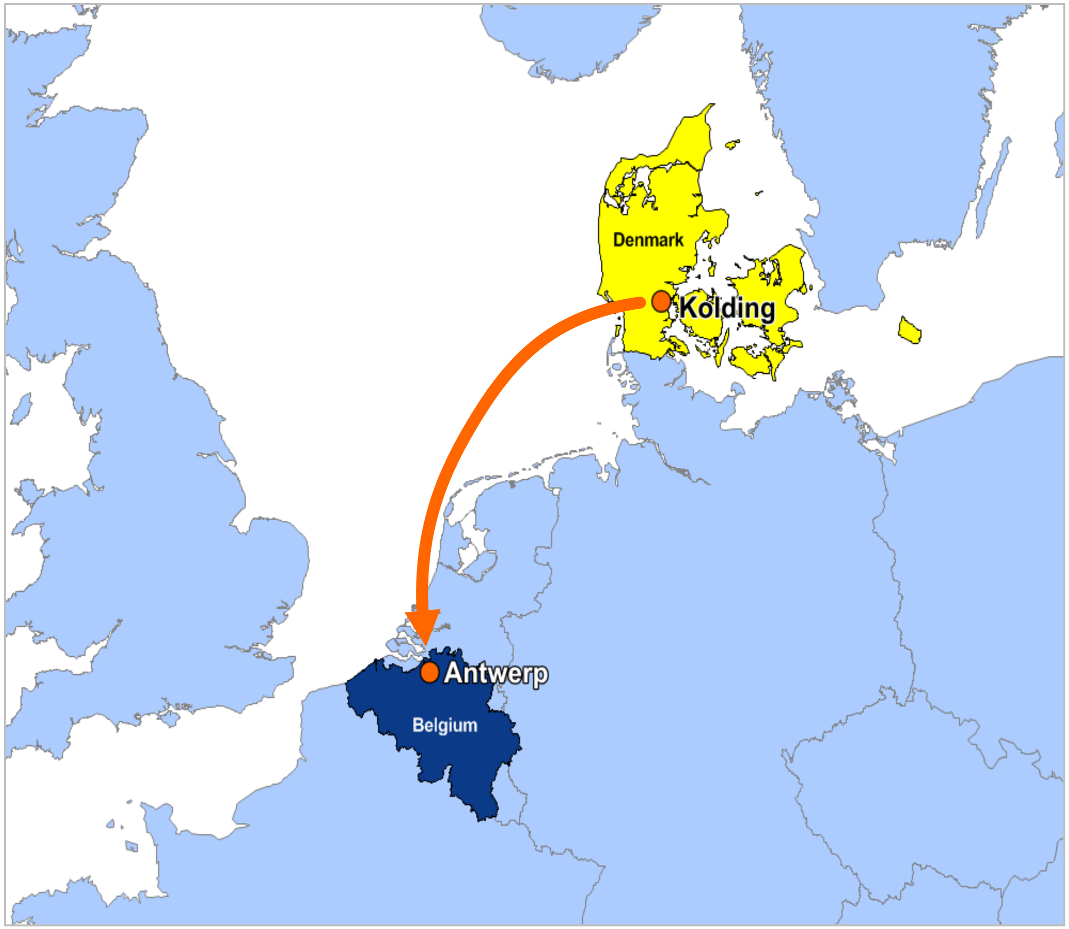

COST
AIR TRANSPORT
HYBRID AIRSHIPS
LAND TRANSPORT
WATER TRANSPORT
SPEED

Case – Project Cargo: Wind Turbines

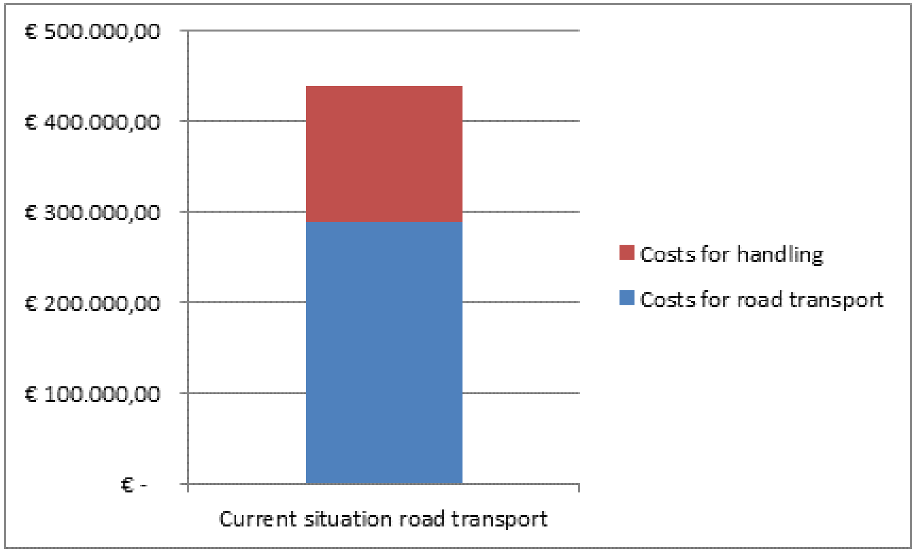
Wind turbine wings

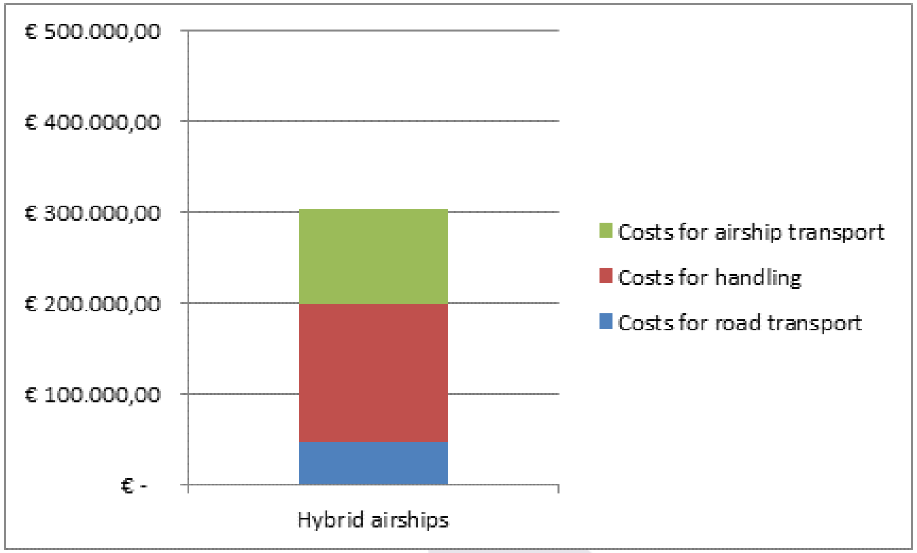
from Denmark to Antwerp

- Mode: Road transport


Denmark
Kolding
Antwerp
Belgium

- Airship less costly than truck (both for €0.10 tonne/km as € 0.15 tonne/km calculations)
- Airship transit time: -24h



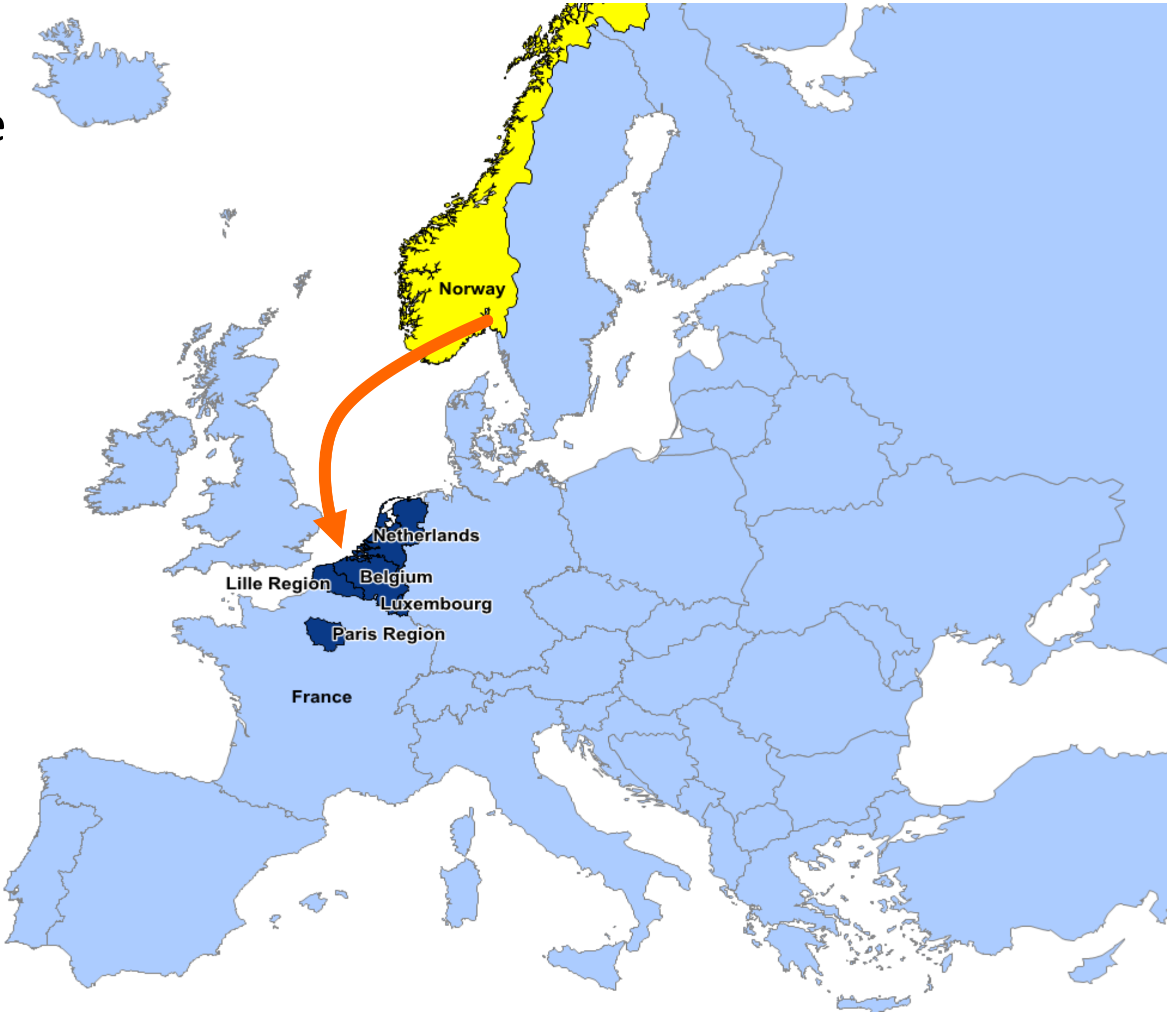


Case – Perishables: Fresh Fish

Fresh fish

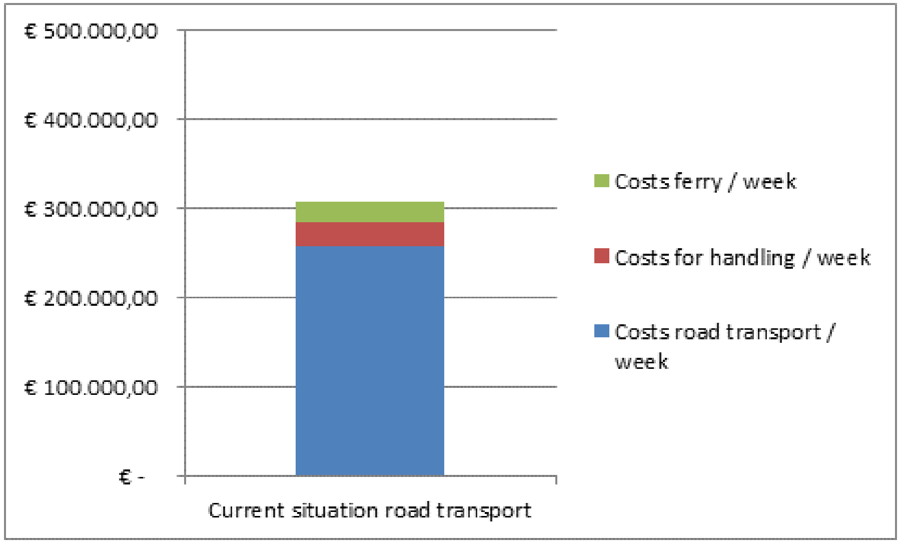
from Norway to North West Europe

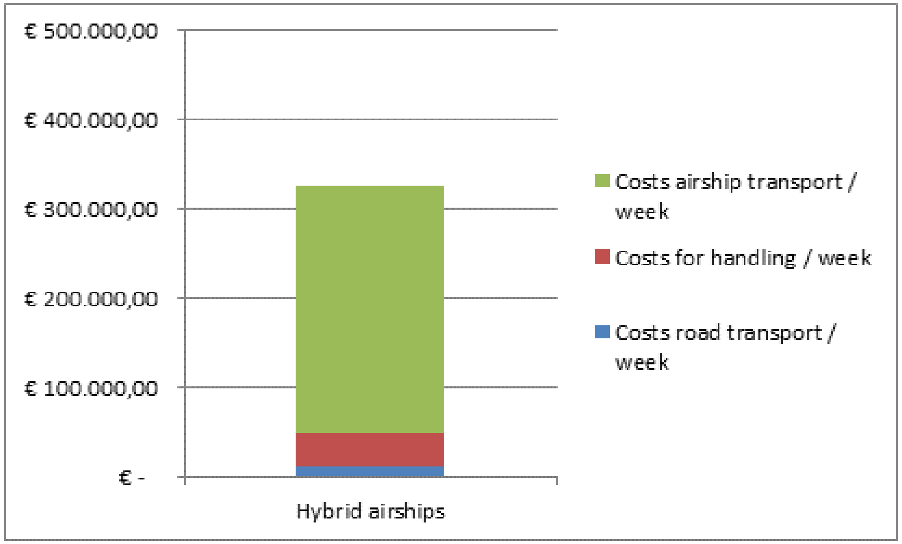
- Mode: truck and rail.
- Duration: 2-3 days
- Estimate airship: 1 day
- Potential is determined by the short shelf life of fish


Norway
Netherlands
Lille Region
Belgium
Luxembourg
Paris Region
France

Case – Fresh fish from Norway to Antwerp

- Calculations airship €0.10 tonne/km: Business case is competitive.
- Calculations airship €0.15 tonne/km: airship transport is more costly
- Airship transit time: -20h à 24h





Conclusions

- Feasibility is determined by researching technical aspects, legal aspects and business cases

Feasibility	Current status		Perspectives	
• Technical aspects, product development	🟠	• Prototypes hybrid airships are available and test flights are being made • Some technical challenges need to be resolved • Airships with higher payload are required, approximately 400 tonnes	◐	• Higher payloads seem to be realistic
• Legal aspects	🟠	• Procedures for certification of aircrafts are in place, but are not dedicated to airships • Procedures for use of airspace are unclear.	🟢	• The certification criteria need to be addressed and coordinated by relevant government institutions. • Airships can be admitted as an exception.
• Business case	◐	• At the operational level, hybrid airships are already competitive for perishables and project cargo cases • Uncertainties regarding investments for large airships exist in the overall business case	🟢	• It is expected that with the growth of payload capacity in airships the costs per tonne/km will drop, making the business case interesting for more product categories.

GRENZELOZE
LOGISTIEK
Slimme grensregio in actie

pom
antwerpen

Met de steun van:

departement
Mobiliteit en
Openbare Werken

Vlaanderen
In Actie
Pact 2020

met steun van het
Agentschap Ondernemen

Europese Unie
Europees Fonds voor Regionale Ontwikkeling

Interreg
Vlaanderen
Nederland
Europa investeert in uw regio

POM
Provinciale Ontwikkelingsmaatschappij
Oost-Vlaanderen

pom
antwerpen

POM
maakt werk van West-Vlaanderen

POM
Provinciale Ontwikkelingsmaatschappij
Limburg

POM
Vlaams-Brabant

Ministerie van Economische Zaken

Provincie Noord-Brabant

Provincie
West-Vlaanderen
Door mensen gedreven

kamer van koophandel

VIL

NV REWIN
WEST-BRABANT

DINALOG
Dutch Institute
for Advanced Logistics

zeelanc
seanort

INTERLEUVEN
ONDERNEMEND EN ONDERSTEUNEND

Brabantse Ontwikkelings Maatschappij
BOM

Flanders
Logistics

PROVINCIE
VLAAMS • BRABANT

Provincie Zeeland

Provincie
Oost-Vlaanderen
Voor ieder van ons

provincie limburg

provincie
Limburg
met steun van limburg.be

Provincie
Antwerpen