

Report on the activity of the task force on: Optimizing logistic efforts in the Peninsula region

Time frame: June 2018-July 2019

Participants: Chile, Korea, Poland, Spain, Turkey

Lead by: Agnieszka Kruszewska (PO) and Antonio Quesada (ES).

Terms of reference

- Identify the grounds for improving logistics and operational information sharing
- Discuss about the creation of a new exchange tool: open digital platform
- Discuss the appropriateness of a points exchange system for logistics
- Design a timeline for next actuations within the topic

The facts

- Until now the bilateral or multilateral logistic relationships among the countries working in the Peninsula area has worked quite well, and frequent and stable joint logistic activities take place
- Every nation finds their way for implementing their logistic movements for doing science in Antarctica
- Science is frequently limited because of logistic constraints: science tries to go faster and further than logistic capabilities of single nations, as a consequence we cannot provide all the requested support
- Logistics represent the main fraction of the bill in the Antarctic activity
 - Frequently our logistic resources are not exploited 100%: our stations are not always 100% occupied, ships and planes are not always full
 - Logistics are very sensitive to unexpected failures (delays in flights, bad weather, temporal ship malfunctioning, etc)

Results

- We evaluated the shared activity between the 5 parties in last 2 summer seasons arriving to 600.000\$
- We revised the existing tool for logistic sharing – OFEG, based on a barter system
- We arranged a points system exchange (cash-free transactions), including a list of things that we can share
- We prepared a virtual scenario, 2 years back to simulate the efficiency increase obtained if we would had applied this system.
- The results of the simulation indicate that 1.5 M\$ might have been saved
- Need to search for the political support of the proposal among involved countries.

The barter system

The 5 NAP participating in this task force agreed in a points system with these values:

Facility	Value (points)
Aircraft	
Flight seat / pax (FACH, DAP, ...)	1
Cargo/Kg	0,02
Helicopter/h	7
Twin-otter	5
Ships	
R/V Araon	20
R/V Hespérides	20
R/V Sarmiento de Gamboa	20
R/V Karpuj / 5pax/ day / operation	10
Pax Transportation by ship	
Day/transport pax	1
Cargo/day/TEU	1
Cargo/m3 fuel	0,1
Cargo/ m3 water	0,1
Cargo/ m3	0,1
Stations	
Day/pax	0,5
Camp day/pax	1
Escudero / pax / logistic support for sampling	0,5
Escudero / pax / in transit	0,3

Sharing by points

BARTER ACTIVITY

	CHILE	KOREA	POLAND	SPAIN	TURKEY	TOTAL exchanged
CHILE		60,0	74,9	43	94,1	272,0
KOREA	24			40	43,5	107,5
POLAND	81,5			17	13	111,5
SPAIN	102					102,0
TURKEY	33					33,0

BALANCE

	CHILE	KOREA	POLAND	SPAIN	TURKEY	NET Balance
CHILE		36,0	-6,6	-59	61,1	31,5
KOREA	-36,0		0	40	43,5	47,5
POLAND	6,6	0		17	13	36,6
SPAIN	59	-40	-17		0	2,0
TURKEY	-61,1	-43,5	-13	0		-117,6

Simulations considering only empty seats in flights and unused containers room

+1

Sustainability improved
More international science
(with no cash exchange)

1.5 Million US\$ would had been saved



Conclusions

The system proposed represents a remarkable resource saving but also a quite intense reduction on the **C footprint** of our logistics, arriving to a **more sustainable logistic activity**.

This will benefit directly the **scientific international collaboration** which will trigger a wider and deeper scientific action in the region.

This increase in sustainability could be also enhanced when **other movements** and logistic actions are incorporated into the system.

The way forward

- New Task Force with the aim of promoting the implementation of the barter system among the 5 NAP to convert the simulations in reality through a pilot program that will be running in 2019/2020 summer season.
- After analyzing the results of the pilot program, the system will be open to those countries wanting to participate and establishing the system as routine in the Peninsula Region to be discussed along the implementation process
- In addition to the implementation of the system and the pilot test, it will be necessary to develop a software tool that facilitates the exchange of information and the coordination between the participating Antarctic Programs

Thanks!!!

