



Early results for EGNOS Aviation CBA for South Africa/SADC



ESESA Workshop 2nd – 3rd March 2011



Agenda

- Presentation objectives
- CBA for AFI
- CBA for South Africa
- CBA for SADC
- Overview

Scope & objectives of this presentation

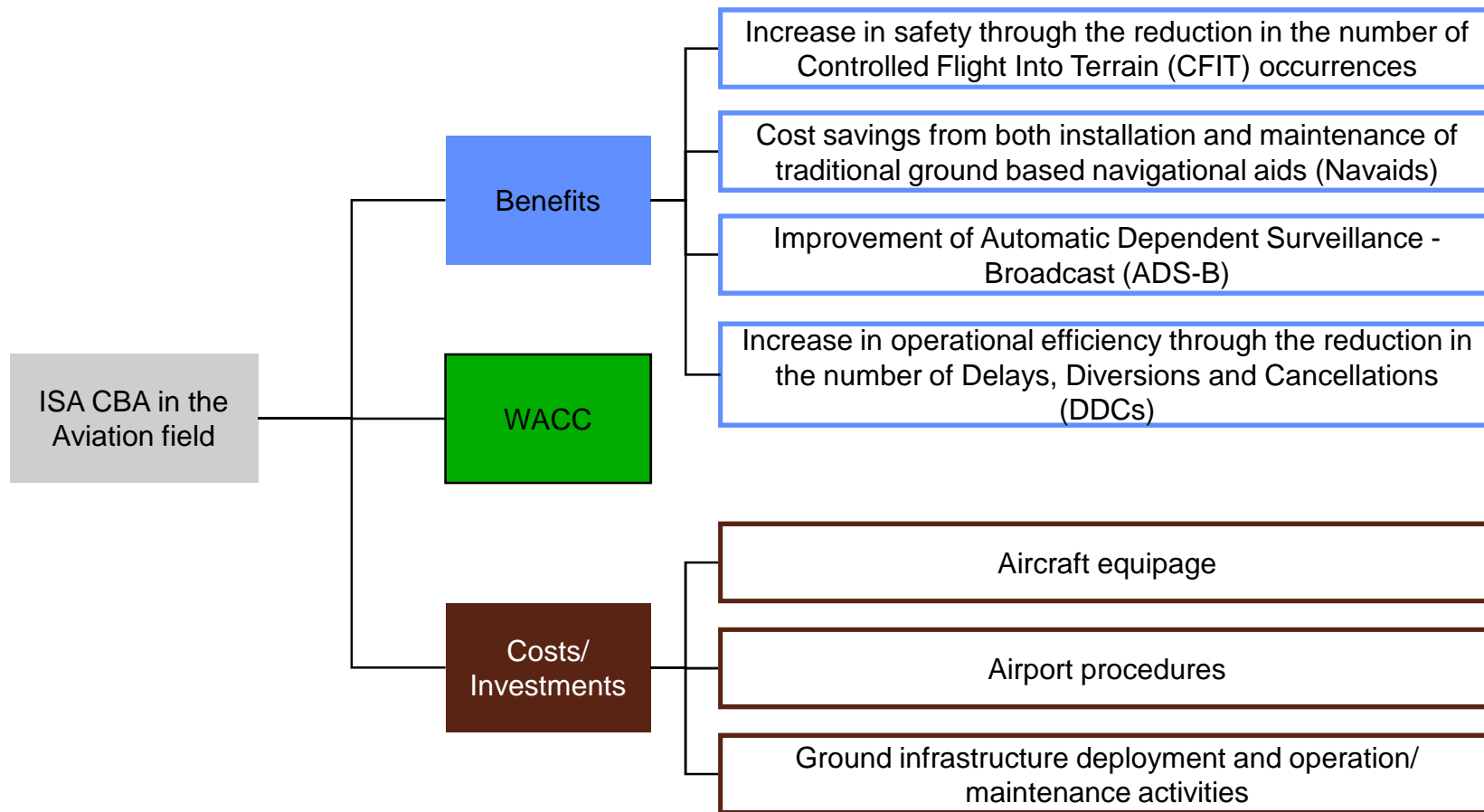
- The Aviation CBA for AFI was performed by L.E.K. Consulting in Milan, Italy for the EC and is based on the analysis of secondary sources and on interviews in order to update the previous ISA cost benefit studies
- ESESA has used this CBA model to estimate aviation benefits for South Africa/SADC
- This presentation contains the early results of the aviation CBA for South Africa and SADC



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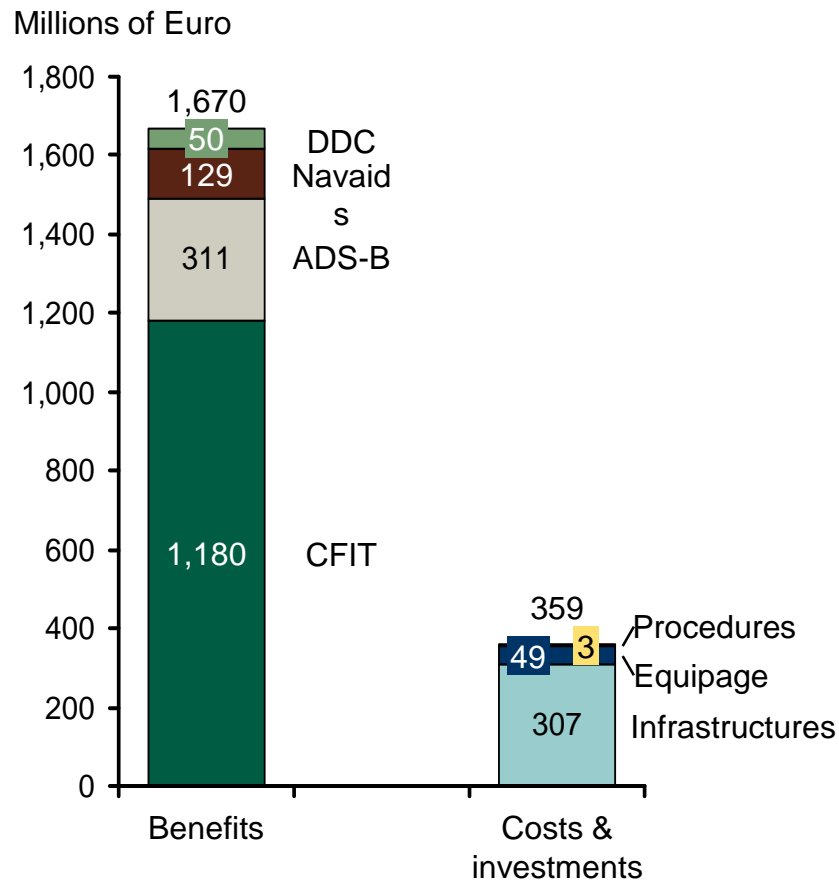
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ISA is expected to guarantee higher safety and operational efficiency to the AFI region



For the African aviation ISA benefits will amount to c. €1.7b, with respect to required investments of c. €359m

Cumulated undiscounted benefits and costs & investments (2011-41)



Benefits

- ISA will provide a series of benefits to the African aviation industry in terms of:
 - increased safety thanks to the reduction of CFIT occurrences
 - ADS-B system improvement
 - phasing out of traditional navigational aids
 - DDC occurrence limitation

Costs & investments

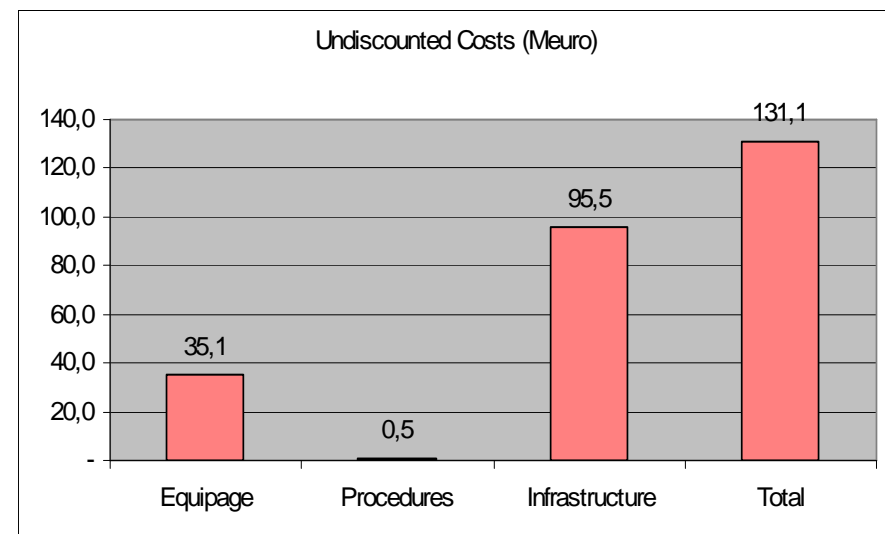
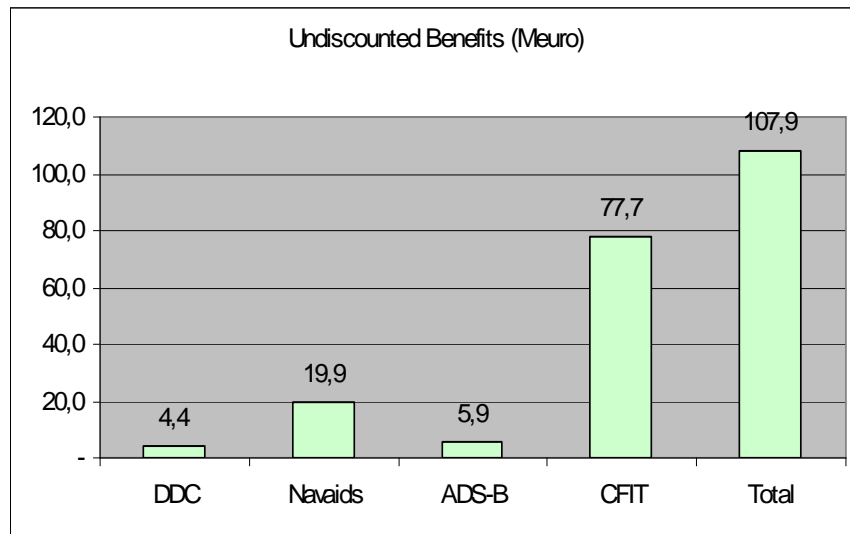
- ISA deployment will require a series of expenditures:
 - ground infrastructures
 - aircraft equipage
 - airport procedures



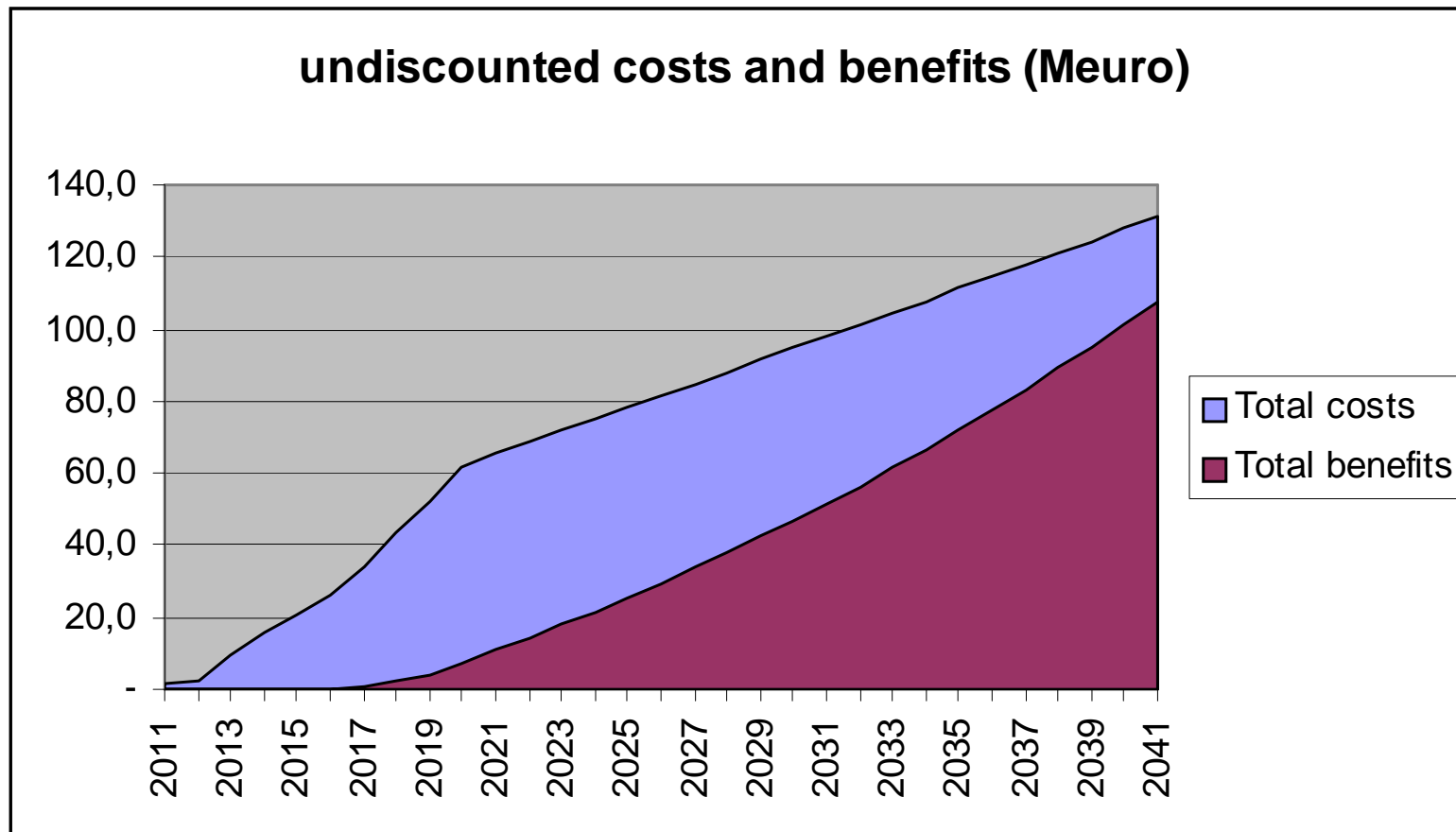
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For the South African aviation ISA benefits will amount to c. €108m, with respect to required investments of c. €131m



The economic value of the ISA benefits will be **lower** than the investments necessary for its deployment and running costs



Two scenarios have been identified considering different dates for full penetration of APV procedures and leading to different net benefit results

Full APV implementation date	2020 adoption scenario	2025 adoption scenario
	2020	2025
Total benefits		
Discounted	22	21
Undiscounted	108	111
Total costs		
Discounted	49	51
Undiscounted	131	137
Net benefits		
Discounted	(27)	(30)
Undiscounted	(23)	(26)

The following additional benefits are not included in the existing CBA model:

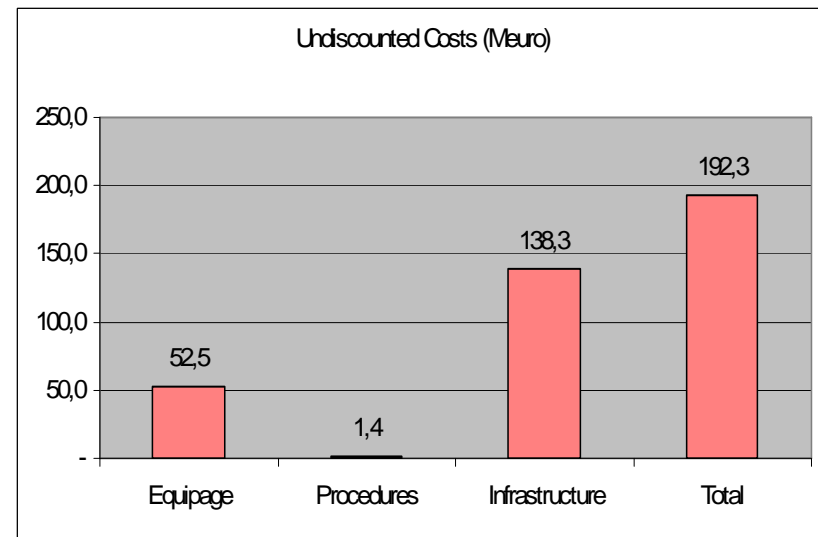
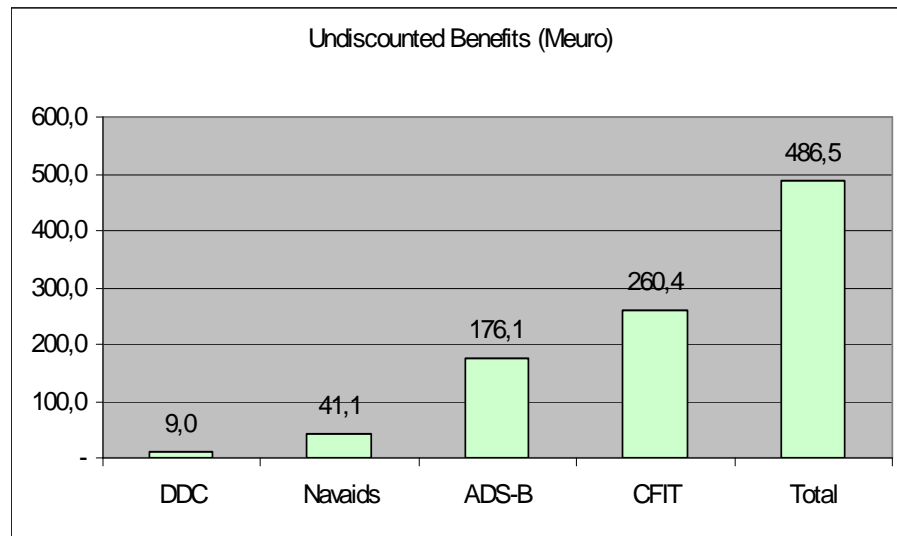
- General improvement of safety in the aviation sector in SA due to the introduction of SBAS
- Possibility to open new runway ends (which was previously not economically viable, estimated between 15-20 for SA)
- Industrial growth and economic growth
- Benefits for other sectors, like precision agriculture, rail, road, maritime, ..etc are not included.



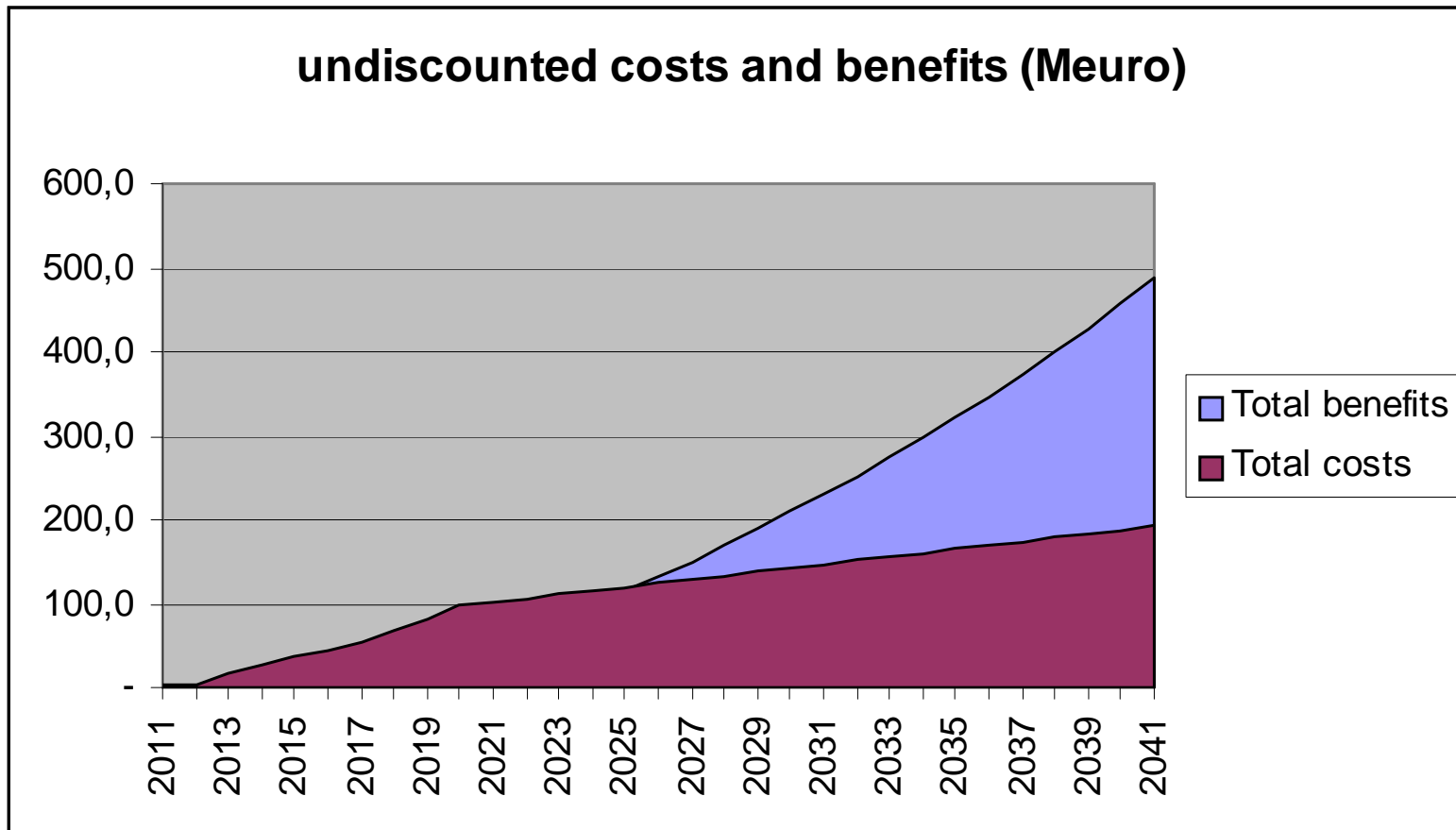
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For the SADC aviation ISA benefits will amount to c. €487m, with respect to required investments of c. €192m



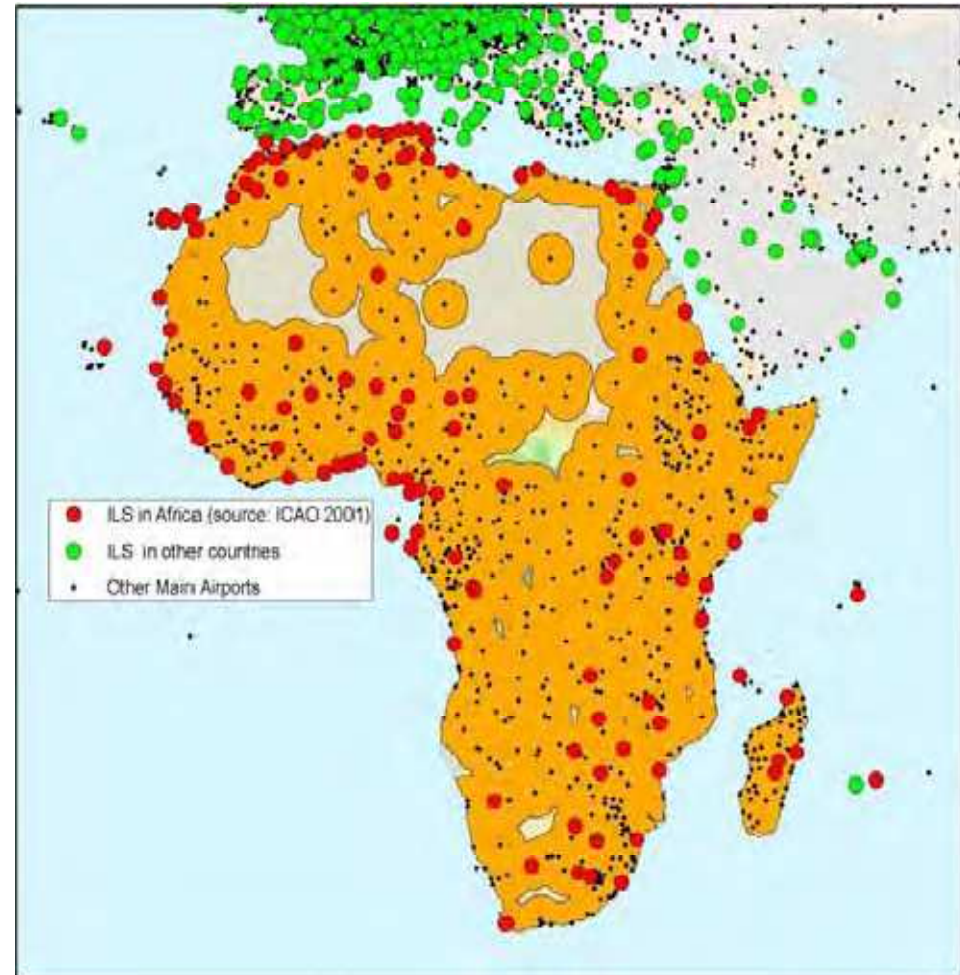
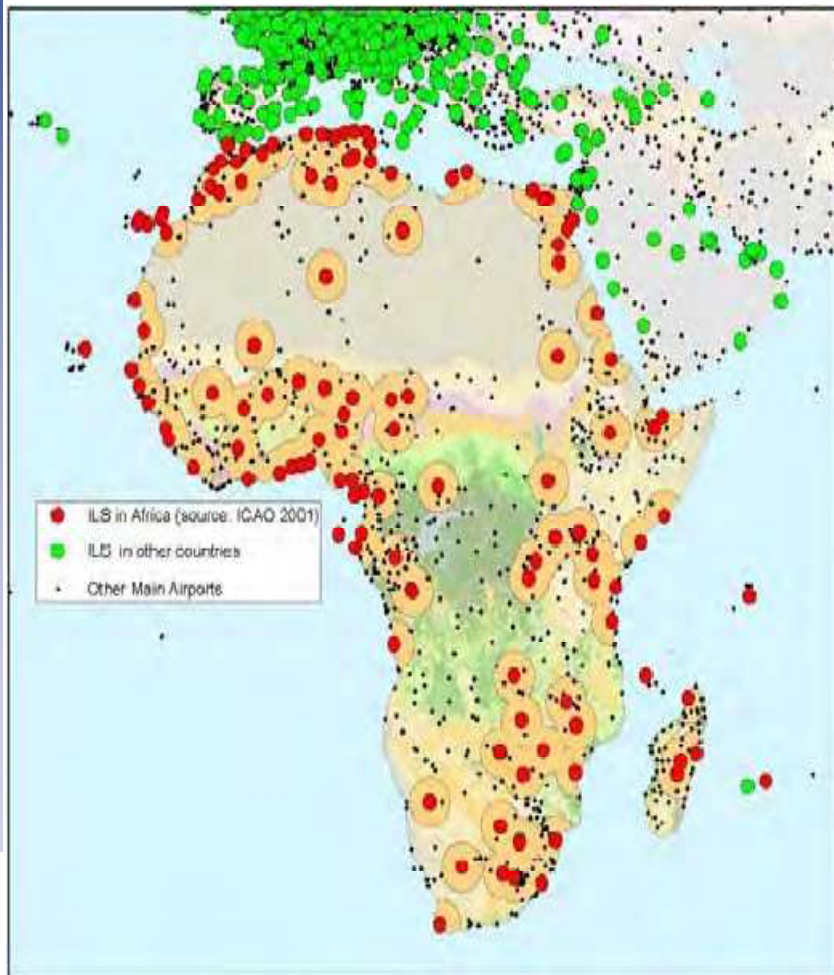
The economic value of the ISA benefits will be **higher** than the investments necessary for its deployment and running costs



Two scenarios have been identified considering different dates for full penetration of APV procedures and leading to different net benefit results

Full APV implementation date	2020 adoption scenario	2025 adoption scenario
	2020	2025
Total benefits		
Discounted	100	99
Undiscounted	487	517
Total costs		
Discounted	75	78
Undiscounted	192	201
Net benefits		
Discounted	25	21
Undiscounted	294	316

Now only 37 % of African territory is closer than 250km from an airport equipped with ILS. With SBAS 87 % of Africa will be closer than 250km from such main or regional airports.





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Overview of results for all three CBA's

	CBA for AFI	CBA for SADC	CBA for SA
Full APV implementation date	2020	2020	2020
Total benefits			
Discounted	347	100	22
Undiscounted	1.670	487	108
Total costs			
Discounted	136	75	49
Undiscounted	359	192	131
Net benefits			
Discounted	211	25	(27)
Undiscounted	1.311	294	(23)

Detailed undiscounted costs and benefits for all three CBA's

	CBA for AFI	CBA for SADC	CBA for SA
	Undiscounted Benefits (Meuro)	Undiscounted Benefits (Meuro)	Undiscounted Benefits (Meuro)
DDC	50	9	4
Nav aids	129	41	20
ADS-B	311	176	6
CFIT	1.180	260	78
Total	1670	487	108
	Undiscounted Costs (Meuro)	Undiscounted Costs (Meuro)	Undiscounted Costs (Meuro)
Equipage	49	53	35
Procedures	3	1	0
Infrastructure	307	138	96
Total	359	192	131