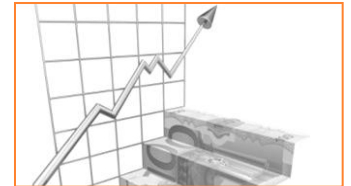


# ALPHA Consult - Expertise in GNSS/ Earth Observation



*December 2013*

# Agenda

- ALPHA Consult
- GNSS/ Earth Observation expertise
- Why ALPHA Consult?
- Selected projects

# ALPHA Consult partners with its clients to deliver tailor-made solutions that create a lasting competitive advantage

ALPHA Consult

Management consultancy boutique

Projects delivered for SME/ big companies/ public institutions

European-wide approach

Business plan  
Company evaluation  
Sales plan definition  
Company restructuring  
Cost reduction at success fee basis  
New opportunities evaluation (emerging markets/ R&D)

**DIAGNOSIS**

**THERAPY**

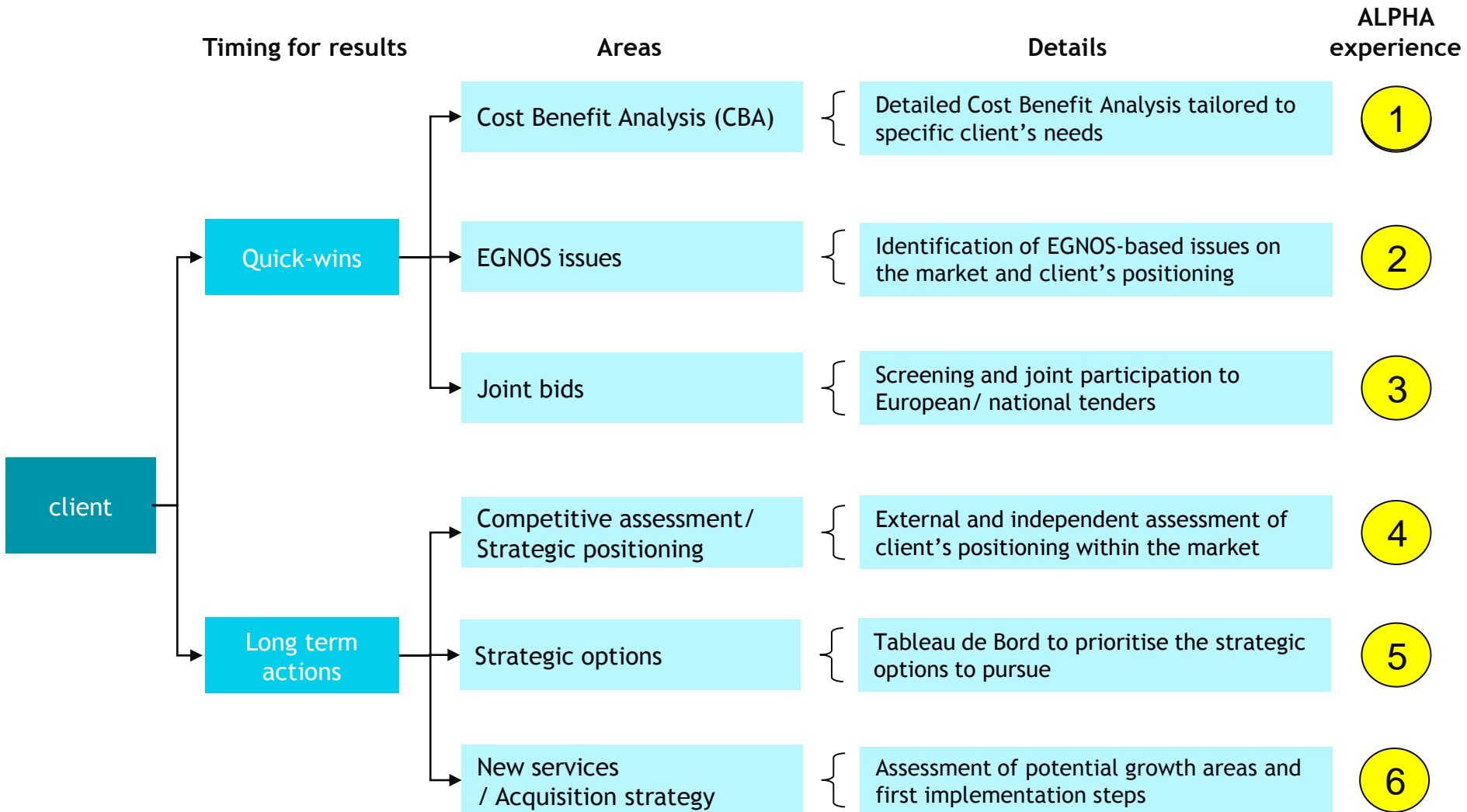
chemical utilities space TLC food transport fashion  
logistics FMCG pharmaceutical  
private-equity SERVICES banking  
medical

# Agenda

- ALPHA Consult
- GNSS/ Earth Observation expertise
- Why ALPHA Consult?
- Selected projects

# ALPHA Consult supports its clients in several areas

GNSS/ EO expertise



# Quick-wins: key questions

GNSS/ EO expertise

1

## Cost Benefit Analysis (CBA)

- Which are the benefits of implementing EGNOS in specific areas (e.g., AFI or MEDA countries) and/ or on specific segments (e.g., civil aviation)? Which are main opex and capex associated to them?
- Can EGNOS bring wider advantages on non-aviation segments?
- How to reap those benefits with a targeted approach/ with a new offer?

2

## EGNOS issues

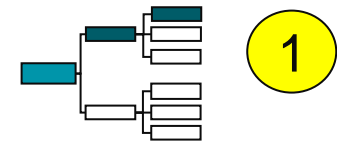
- Which will be the role of commercial services (mainly high precision and authentication services) and how can they be sold in the market? Which EGNOS services can form part of a commercial offer?
- The client has the ability to play a key role within EGNOS? How can the firm improve its corporate strategy to win a stronger power vs. competing companies?

3

## Joint Bids

- Private, EC-funded or national projects that can require ALPHA Consult competencies are currently being awarded
  - ALPHA Consult can contribute to the consortium, by adding a consultancy perspective in teams usually formed by “insiders”. Our role can be the provision of support to coordination activities (e.g., project/ financial management or roadmap definition) or can entail more specific market-oriented tasks (e.g., CBAs, Business plans, market/ competitive/ positioning assessments)

# Cost Benefit Analysis (CBA)

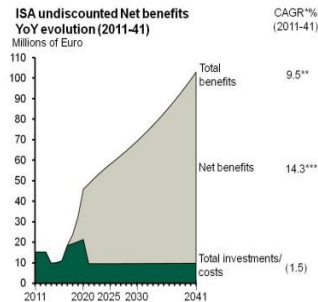


## 1. Identification of main items to analyse

Benefit/Cost	Description	ISA Relevance
<b>Benefits</b>		
CTI probability reduction	ISA will increase flight safety through the reduction in the number of Controlled Flight Into Terrain (CFIT) occurrences by offering Approaches with Vertical Guidance	High
ADS-B improvement	Supporting Automatic Dependent Surveillance Broadcast (ADS-B). ISA will allow flight routes optimization, with consequent fuel savings over ADS-B using GPS only	Medium
Traditional navigational aids reduction	ISA will determine significant cost savings related to both installation and maintenance of traditional ground based navigational aids (Navaids)	Medium
DOC probability reduction	Enabling Approaches with Vertical Guidance (APV) with consequent lower decision heights. ISA will significantly reduce the probability of occurrence of Delays, Diversion and Cancellations (DDC)	Medium
<b>Investments/Costs</b>		
Ground infrastructure	ISA will rely upon a series of infrastructure to be deployed and maintained across the African territory (Regional Extension Modules and Reference and Integrity Monitoring Stations)	Low
Aircraft equipage	African fleet needs to be equipped with SBAS receivers, either through a retrofit or forward fit process	Medium
Airport procedures	In order to support SBAS-based approaches, specific airport procedures must be defined	Low

- Key drivers and their impact on revenue, opex and capex items
- Data gathering and triangulation
- Model structure definition

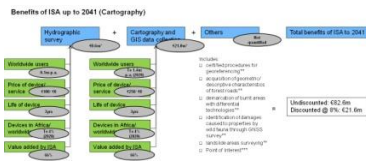
## 3. CBA assessment



- Overview on main strengths and weaknesses of the proposed solution
- Overview on market and on competitive environment
- Entry/consolidation strategy overview

- Selection of key items to analyse
- Detailed description for each of them
  - Importance
  - Trend
  - Short description
  - Main issues

## 2. Model design

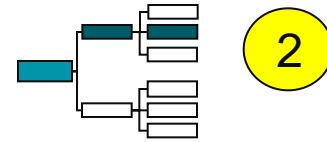


- Costs/ benefits trends by year
- WACC calculation to discount figures
- Sensitivity analysis
  - Change in key inputs
  - Scenarios: likely, optimistic, pessimistic

## 4. SWOT summary table

Strengths	Weaknesses
<p><b>Energy</b></p> <ul style="list-style-type: none"> <li>Cost effective solution with low requirements in terms of training activities</li> <li>Cartography                             <ul style="list-style-type: none"> <li>Possible for Africa to develop a system based on GPS in the short/medium term (reference base)</li> <li>Some stakeholders in the selected segment</li> </ul> </li> <li>Civil engineering                             <ul style="list-style-type: none"> <li>ISA accuracy appears too low for this segment</li> </ul> </li> </ul>	<p><b>Energy</b></p> <ul style="list-style-type: none"> <li>Can be used on a very limited range of training activities</li> <li>Cartography                             <ul style="list-style-type: none"> <li>Need to invest in order to create a dense network of reference points (GPS or other satellite)</li> </ul> </li> </ul>
Opportunities	Threats
<p><b>Energy</b></p> <ul style="list-style-type: none"> <li>Allows ISA to improve the efficiency of the civil and unpowered/semi-powered, by monitoring the system</li> <li>Cartography                             <ul style="list-style-type: none"> <li>Allows ISA to leverage existing technology to provide ground truth accuracy in the continent</li> </ul> </li> </ul>	<p><b>Energy</b></p> <ul style="list-style-type: none"> <li>Should address the economic, technical problem (e.g. in urban areas) and develop applications to increase the usability of the system</li> <li>Cartography                             <ul style="list-style-type: none"> <li>Slow adoption of single Africa reference system and technical development critical to Africa as a whole, need investment throughout the continent and complex to develop more markets</li> </ul> </li> </ul>

Detailed Cost Benefit Analysis tailored to specific client's needs

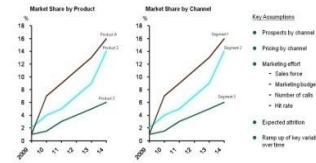


## 1. Prioritisation of key areas

Criteria for prioritising the market analysis	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6	Other segments
1a. Market size (Volume revenues)							
1b. Market growth							
2a. Benefits for end users and for the society							
2b. Benefits for the European industry							
3. Relevance for governments							
4. Differentiation potential							
Priority	High	High	Medium/Low	Low	Low	Medium/Low	High

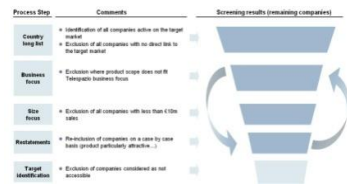
- Benchmarking of existing offer
- Potential for upgraded/ new services
- Definition of selection criteria
- Ranking of services to market

## 3. Key economics



- Key issues that could support/ prevent client's improved role in EGNOS
- Levers to be activated
- Actions and tools to utilise

## 2. Ranking of most promising services



- Overview on main areas for potential offers
- Opportunities/ risks/ barriers by area
- Trend of potential services by area

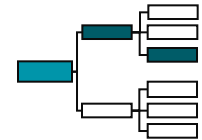
- Market potential
  - Key clients
  - Volume/ price trends
- Expected evolution
- Overview on implementation strategy

## 4. client's role in EGNOS



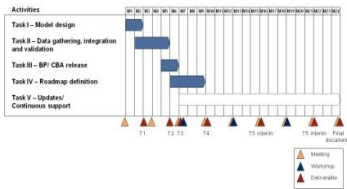
Identification of EGNOS-based services to offer on the market;  
Client's role Re-definition





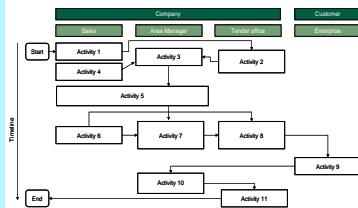
3

## 1. Coordination tasks - Project management



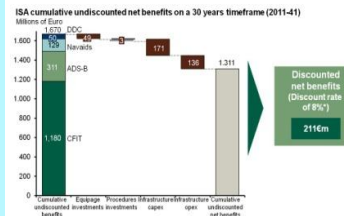
- Process screening
- Identification of dependencies/ roadblocks
- Milestone for implementation

## 2. Coordination tasks - Roadmap definition



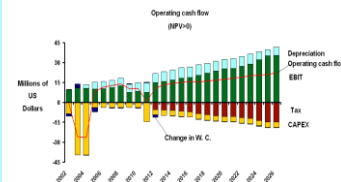
- Key tasks to be performed
  - Responsibilities
  - Deliverables
  - Deadlines
- Support to project monitoring to guarantee on-time on-budget delivery
- Progress meetings

## 3. Specific tasks - CBAs



- Identification of relevant costs and benefits
- Assessment of selected items
- Scenario analysis

## 4. Specific tasks - Business Plans



Joint participation to private/ public bids

# Long term actions: key questions

4

## Competitive assessment/ Strategic positioning

- In which segments is the client active? Which are the main underlying trends?
- Which is the client competitive advantage vis-à-vis European/ American peers?
- Emergent nations have capabilities in a number of subsystems and increasing capability in mastering the entire supply chain. How could the client defend its competitive advantage from emerging threats?
- Which are the main opportunities open given the client's strategic positioning?

5

## Strategic options

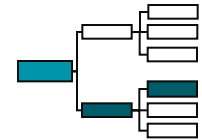
- How to maximise the client's value? Are there options for consolidation in order to improve cost-competitiveness and size of the client?
  - Is a repositioning strategy within a selected segment feasible?
  - Is there any specific market that is worth investing in?

6

## New services / Acquisition strategy

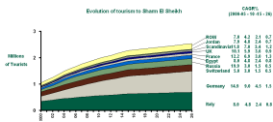
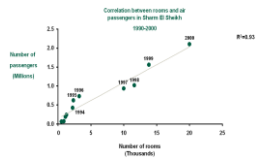
- Are there services to for niche/ mass market that fit with client value proposition?
- Which is their expected return? How to implement them?
- Which benefit could take the client from a potential acquisition?
  - How to assess and screen potential targets?
  - How could client identify a feasible firm?
  - On which basis could client conduct the evaluation and the transaction?

# Competitive assessment/ Strategic positioning



4

## 1. Market analysis



- Identification of selection/ purchasing criteria
- Ranking by clients' perception

## 3. Competitive environment

	LLA	Birmingham	East Midlands	STN	LGW
Aircraft boarding proximity	*****	*****	*****	***	**
IT car park facilities	*****	*****	*****	***	**
Security check speed	*****	***	*****	*****	**
Check-in facilities speed	*****	***	***	*****	**
Waiting facilities	***	***	***	*****	*****
Engage facilities area	***	***	***	*****	*****
Interior design and decor	***	***	***	*****	**
Runway capability (ICL, distribution)	***	*****	*****	*****	*****
Departure lounge seating	**	**	**	*****	**
Provision and range of shops	**	**	*	***	*****
Full facilities	**	*****	*****	*****	*****
Aircraft boarding arrangements	*	*****	***	*****	*****
Total	42	46	37	60	44

- Client's positioning vs its peers
- Identification of untapped opportunities
- Preliminary evaluation of the opportunities

- Market segmentation and size
- Historical/ future market trends
- Underling trends

## 2. Clients' needs

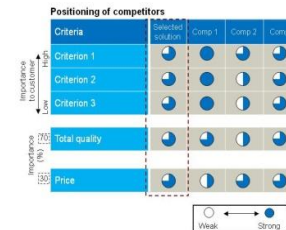
Key drivers for choice of airport - Passengers



... access is the key choice ...  
 Always  
 ... 70% of LLA's passenger live within one hour ...  
 ASA  
 ... within 1 hour LLA should have no problem ...  
 Dissonant  
 ... the IT market is very price sensitive ...  
 Clashes  
 ... the passengers are very supply driven by what is on offer ...  
 Lufthansa  
 ... the perception to get to an airport is very important ...  
 Easyjet  
 ... marketing LLA to TAs in the border zones should be a focus for LLA ...  
 Lufthansa  
 ... convenience and minimum hassle are two key selling points to the passenger ...  
 Lufthansa

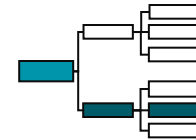
- Assessment of competitive positioning of client and its competitors
- Key strengths/ weaknesses by player

## 4. Strategic positioning



External and independent assessment of client's positioning within the market

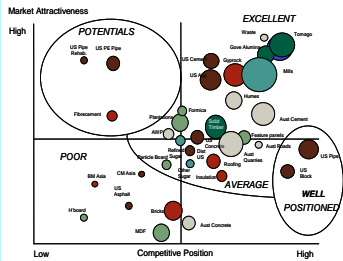
# Strategic options



5

Tableau de Bord to prioritise the strategic options to pursue

## 1. Evaluation of business units



- Preparation of a tailored portfolio strategy, following client's objectives:
  - Internal know-how
  - Business focus
  - Barriers/obstacles

## 3. Investments disinvestment areas



- Evaluation of growth potential
  - Market size
  - Future trends
  - Competitive environment
  - client's position
- Synergies/ cannibalisation with other business areas

- Past/ future performance by business unit
- Opportunities and threats by business unit

## 2. Portfolio strategy

**Portfolio focus**

- Selection of corporate and business unit goals
- Criteria for BU acquisition/divestment
- Growth platforms and vector (i.e. direction in which scope is changing)
- Synergy internally generated across SBUs through unique capabilities
- Organisational structure required to exploit these synergies
- Sum of the parts value

↓

"What markets?"

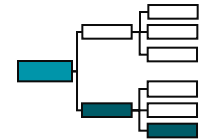
"Added value?"

- Assessment and selection of key opportunities consistent with the portfolio strategy

## 4. Strategic priorities

Potential Opportunities	Relative Size	Current Profitability	Growth Potential	Link to core business	Leverage Competencies
Manchester Airport	5	4	4	5	5
East Midlands	4	4	4	5	4
Bournemouth	1	1	2	5	2
Humberstone	2	1	3	5	2
MA Division	5	4	4	5	5
Regional Airports	3	2	3	5	4
Security	3	2	3	3	3
Engineering	4	2	3	4	4
Car Parks	4	4	3	4	4
Fire	n/m	2	n/m	5	4
RHS (ramp hnd.)	2	2	2	3	4
RHS (services)	1	4	1	3	3
MT	2	1	1	3	2
D&C	3	2	3	4	4
Estate Management	2	2	3	4	4

# New services/ Acquisition strategy

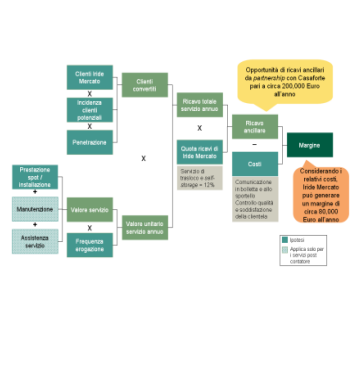


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## 1. Services benchmarking

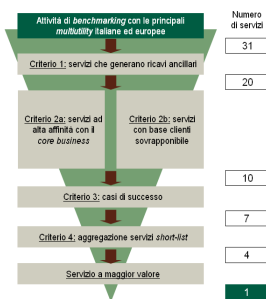
- Selection of potential service via a funnel process, considering also:
  - Feasibility
  - Fit with strategy

## 3. Business case by service



- Partners' screening
- Preliminary contacts to evaluate interest of the identified partners

## 2. Short-list by potential



- Market analysis by service to highlight potential
- Business plan for identified services

## 4. First contacts with partners

Partner	Idoneità	Interesse	Commenti
Partner 1	●	●	Interessato a rafforzare la propria presenza nel mercato di Torino e Genova con servizi di traffico e self-storage "C'è una linea interessante a sviluppare su ad obiettivi a medio termine, resta a Torino aprire una nuova sede nei prossimi mesi." - Direttore Marketing
Partner 2	●	●	Operatore focalizzato su servizio di self-storage ed interessato ad incrementare la propria base clienti a Torino "... Questo settore abbiamo aperto la nostra sede di Torino e il tipo di servizio richiede investimenti professionali per essere compreso e provato." - Direttore marketing
Partner 3	●	●	Reti locali di traslocatori locali che tramite un sito web che veicola la manifestazione di interesse su base regionale

Assessment of potential growth areas and first implementation steps

# Agenda

- ALPHA Consult
- GNSS/ Earth Observation expertise
- Why ALPHA Consult?
- Selected projects

# Why ALPHA Consult?

Why ALPHA Consult?

The distinctive features of the ALPHA Consult approach can be summarized as follows:

- Senior staff with significant strategic development, market assessment and business modeling experience
- A rigorous, fact-based and analytical approach to decision making, strategy development and market assessment
- The ability to rapidly obtain, absorb and prioritize data, and then draw out and communicate the key conclusions concisely while under considerable time pressure
- An emphasis on objectiveness and on “data-driven” rather than “ideas-driven” analysis

# Agenda

- ALPHA Consult
- GNSS/ Earth Observation expertise
- Why ALPHA Consult?
- Selected projects



# ALPHA Consult key personnel managed the definition of the European GNSS strategy for GSA ...

Selected projects



Task 1

- “Diagnostic of the European GNSS industry”

Task 2

- “Study on European GNSS strategy”

Task 3

- “Study on implementing aspects”
  - Action Plan
  - Internal Impact Assessment
  - Management Tools Development

Deliverable 1

- “To know the market”

Deliverable 2

- “To map the European GNSS industry organization and to know its main stakeholders”

Deliverable 3

- “To assess opportunities”

Deliverable 4

- “To assess risks”

## Objectives:

Definition of GNSS market segments  
 Map of GNSS Value Chain  
 Market size, growth and drivers

Assessment of competitive environment  
 Identify and interview representatives of public institutions, upstream players, representatives of European downstream industry

Identify and assess demand and supply side benefits

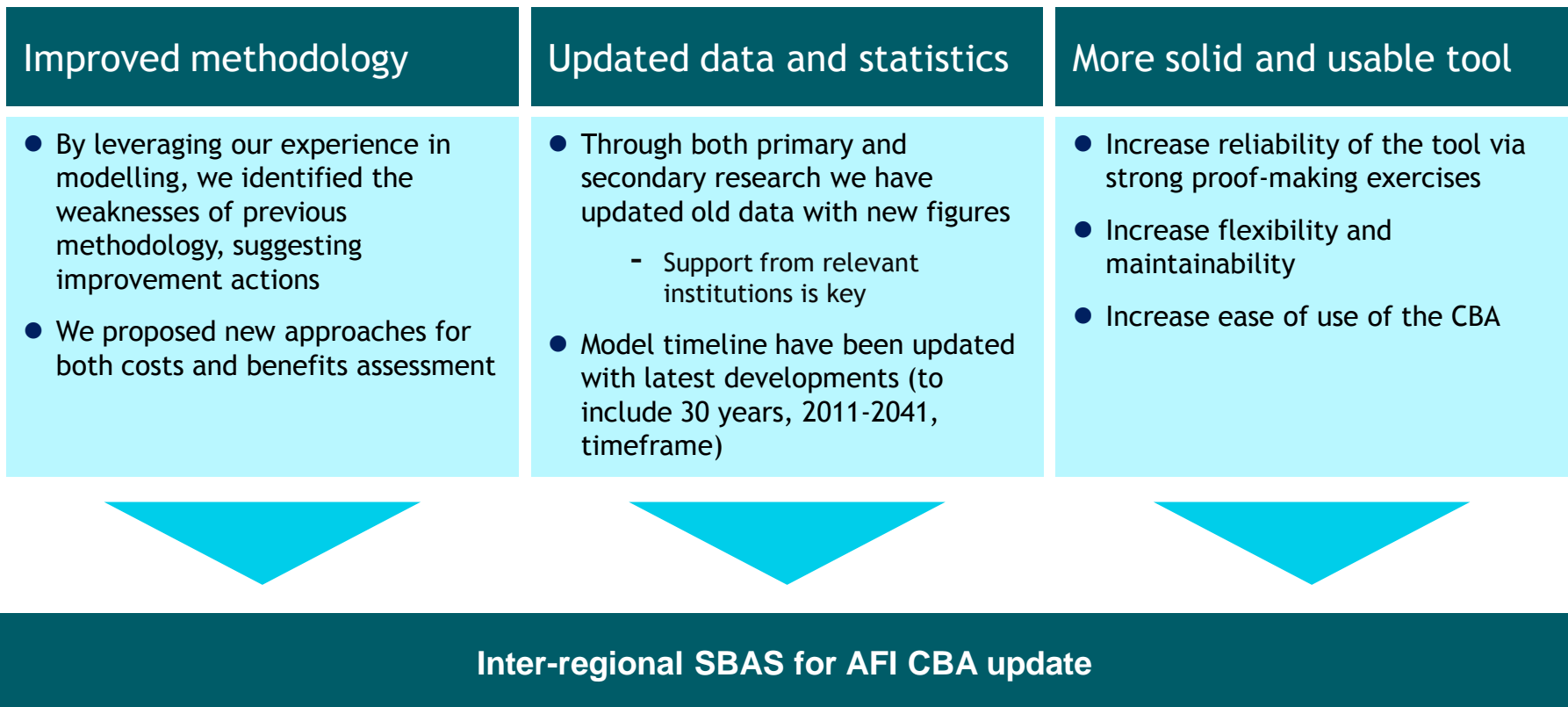
Identify and assess risks both for Galileo and EGNOS in every step of the project  
 Propose mitigation strategies

Define GNSS strategic plan, defining its position in the reference market and addressing strategic instruments and levers to overcome key challenges

Define the project action plan based on relative priorities, available GSA resources and expertise

# .... Managed a CBA for EGNOS extension into Africa for the aviation sector ...

Selected projects



# .... As well as for other sectors in Africa

Selected projects



Which is the value added brought by ISA in non-aviation segments? How can it be exploited?

Prioritise main sectors for ISA apart from aviation

- Which are the most interesting sectors to prioritise in terms of analysis? Why?
- Key characteristics of those markets, (e.g., segmentation, size, growth, geographical scope, competition, expected development)
- Main advantages related to SBAS adoption in each sector

Identify an ISA CBA for each prioritised sector

- Which are the advantages of using ISA in the selected sectors? Is there any niche segment to be exploited?
- Is there any experience of using SBAS in other regions?
- How can the ISA advantages be preliminarily quantified?

Accelerate ISA adoption in selected sector

- Which are the major roadblocks for ISA adoption in Africa by sector?
- Which are the main stakeholders that could accelerate ISA adoption/ ramp up by sector?

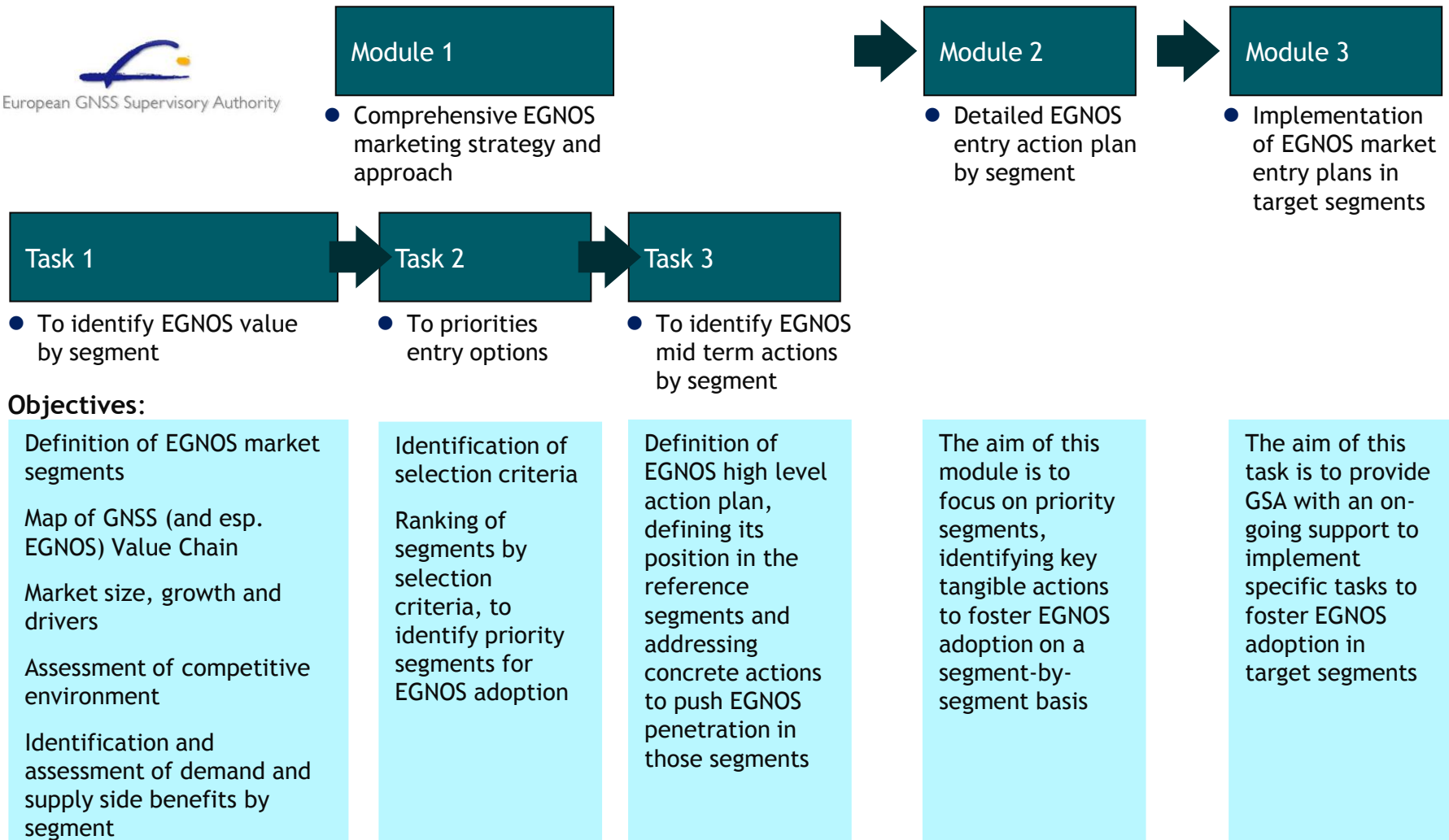
For prioritised sectors only



Three segments apart from aviation were prioritised

# ALPHA Consult has supported EGNOS market entry strategy definition and is now working on the ongoing implementation plan

Selected projects



Moreover, we have accumulated some experience in FP7 projects both as evaluators as well as consortia members

Selected projects

## FP7 evaluators

Our consultants have been in charge of several FP7 2<sup>nd</sup> call evaluations

### FP7 evaluated

- SME projects
- Education projects

## FP7 consortia members



A social web 2.0 mapping solution generating and leveraging on the brand *EGNOS Certification Inside*



SBAS awareness and training for South Africa



Integrating GMES Emergency Services with satellite navigation and communication for establishing a flood information service



TRusted vessel Information from Trusted On-board iNstrumentation