



Galileo - The Commercial Structure and Revenue Opportunity

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Agenda

- Overview
- Market and Business Model
- PPP Structure
- Financing
- Conclusions

Overview

Phase I - 2001:

- Galileo Operating Company

Business Plan:

- Markets and Revenues
 - Costs
 - Cost-Benefit Analysis
- PPP structure
 - Financing

Phase II – 2002:

- Designing the PPP Process:
 - Procurement Plan
 - Draft tender documents
 - Performance regime
- Revenue generation mechanism
- EGNOS Integration

Market and Business Model



Galileo Services



Open Access

- Free to air; Mass market; Simple positioning



Commercial

- Encrypted; High accuracy; Guaranteed service



Safety of Life

- Unencrypted; Integrity; Authentication of signal



Search and Rescue

- Near real-time reception; Precise; Return link feasible

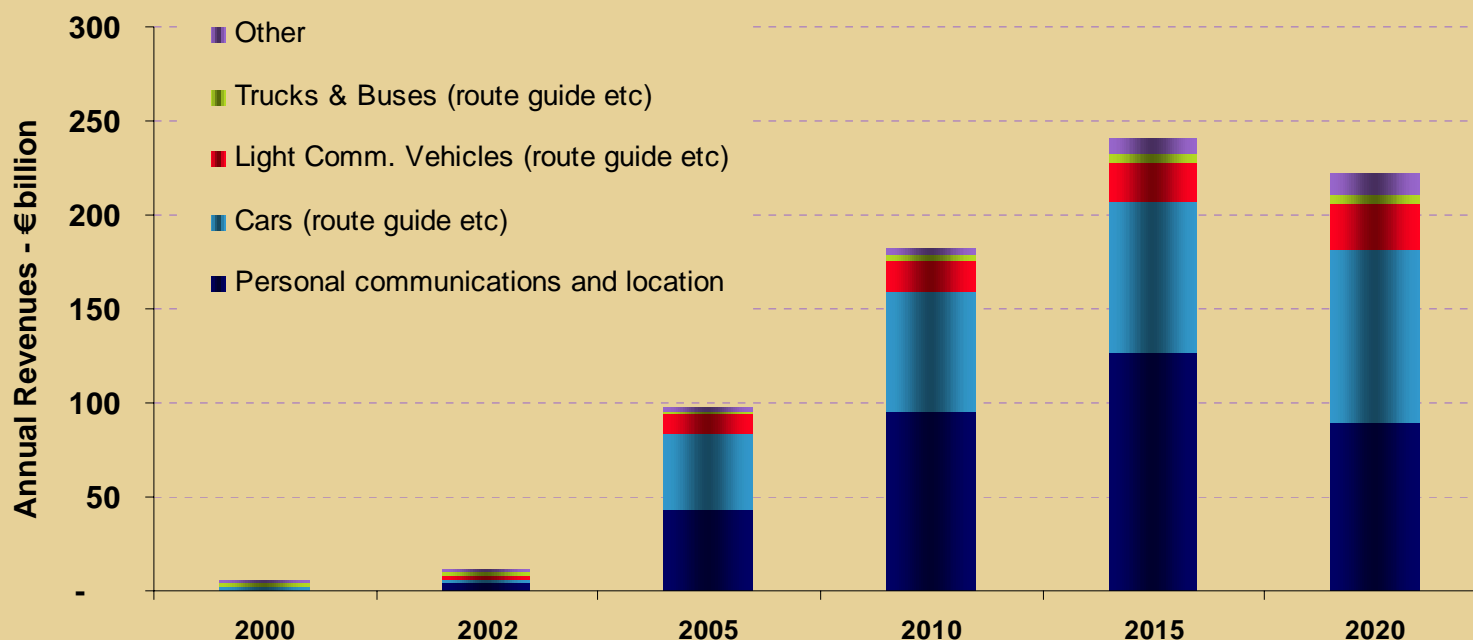


Public Regulated

- Encrypted; Integrity; Continuous availability

Projected Global Navigation Satellite Systems Market Size

Revenue by main application

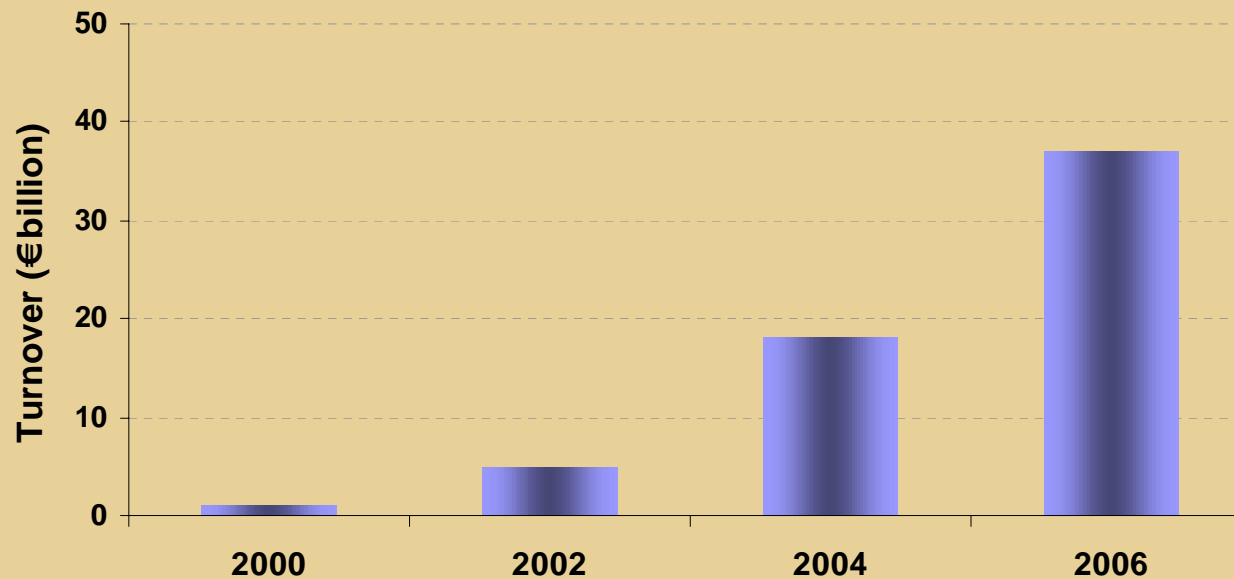


Source: Ovum Consulting

Driven principally by personal location-based services and route guidance for cars and Light Commercial Vehicles

Projected Wireless Revenue

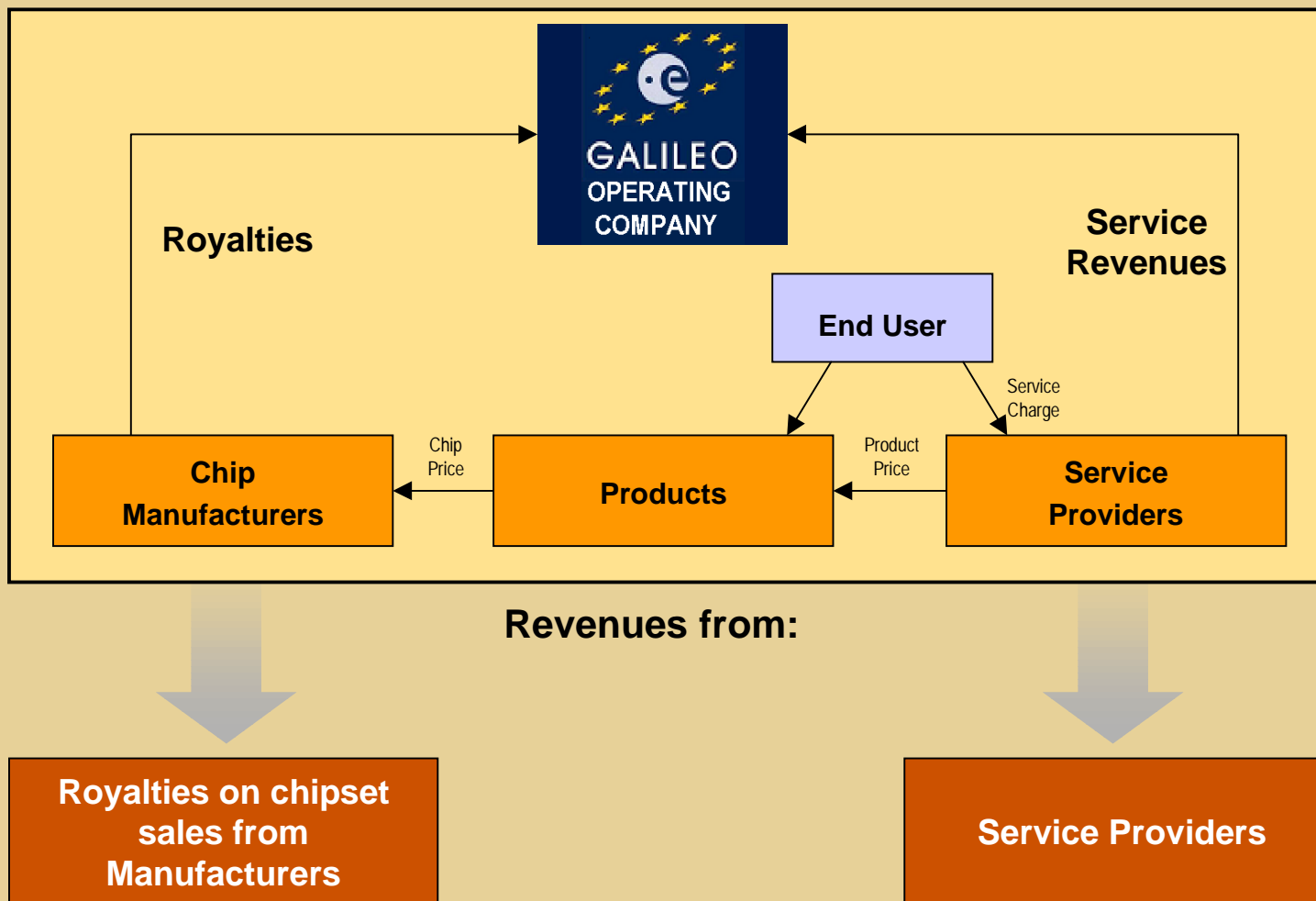
Global turnover from Wireless Location-Based Services



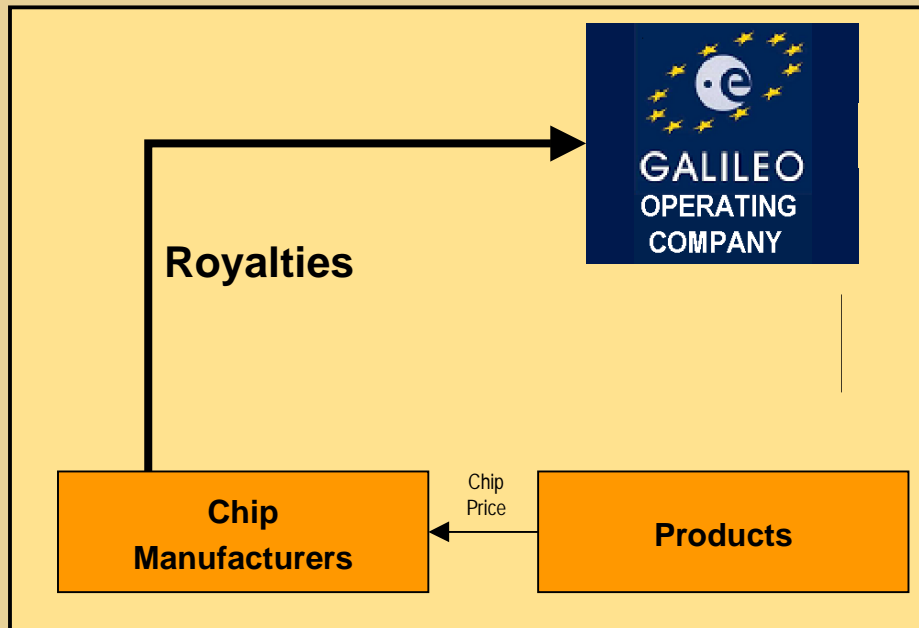
Source: EC

Personal location-based services are forecast to take off as users increase reliance on and trust of new technology

How Revenue can be Generated for an Operating Company



Royalties on Chipset Sales



- ❑ Source of revenue while maintaining free Open Access Service
- ❑ Galileo signals to be encoded: chipsets contain decoding software;
- ❑ GOC to hold copyright in software;
- ❑ Manufacturers pay royalties: up to €0.50 per chipset could be reasonable

Revenues from:

Royalties on chipset sales from Manufacturers

Service Revenues

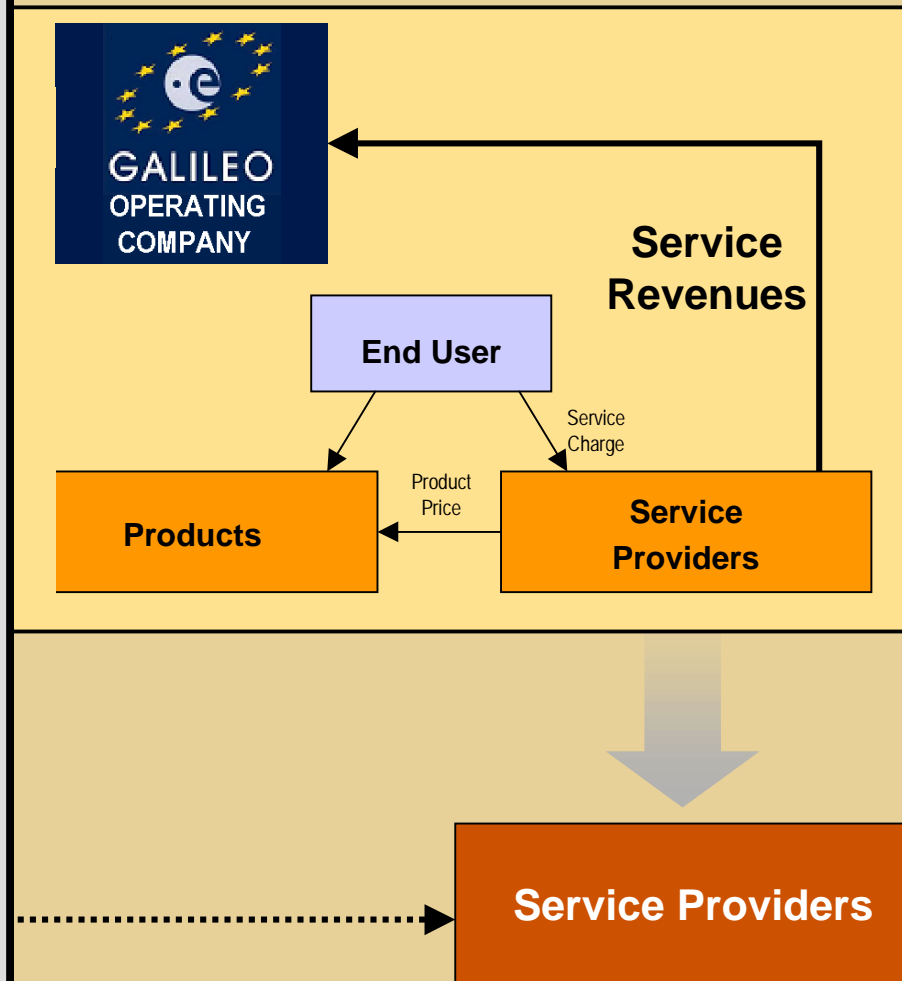
- Commercial Services



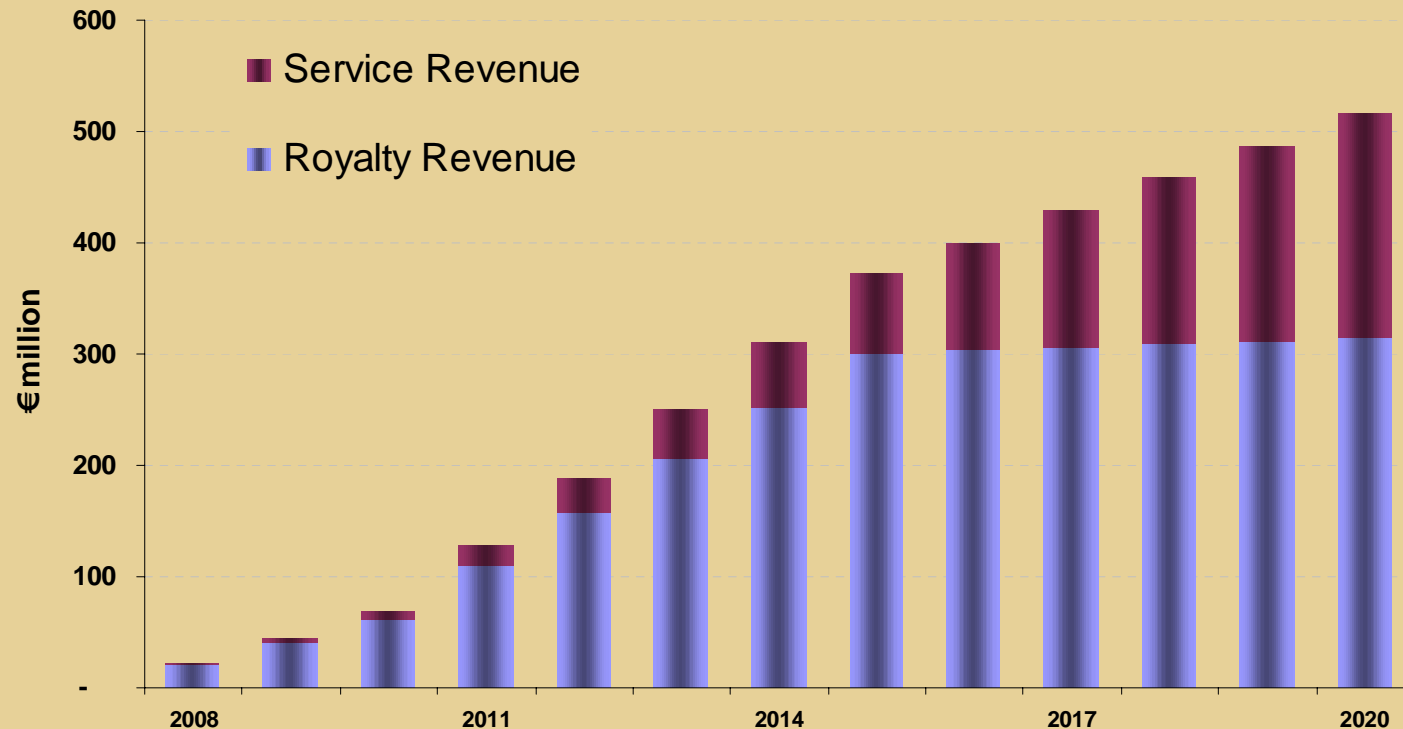
- Safety of Life Services



- Public Regulated Service



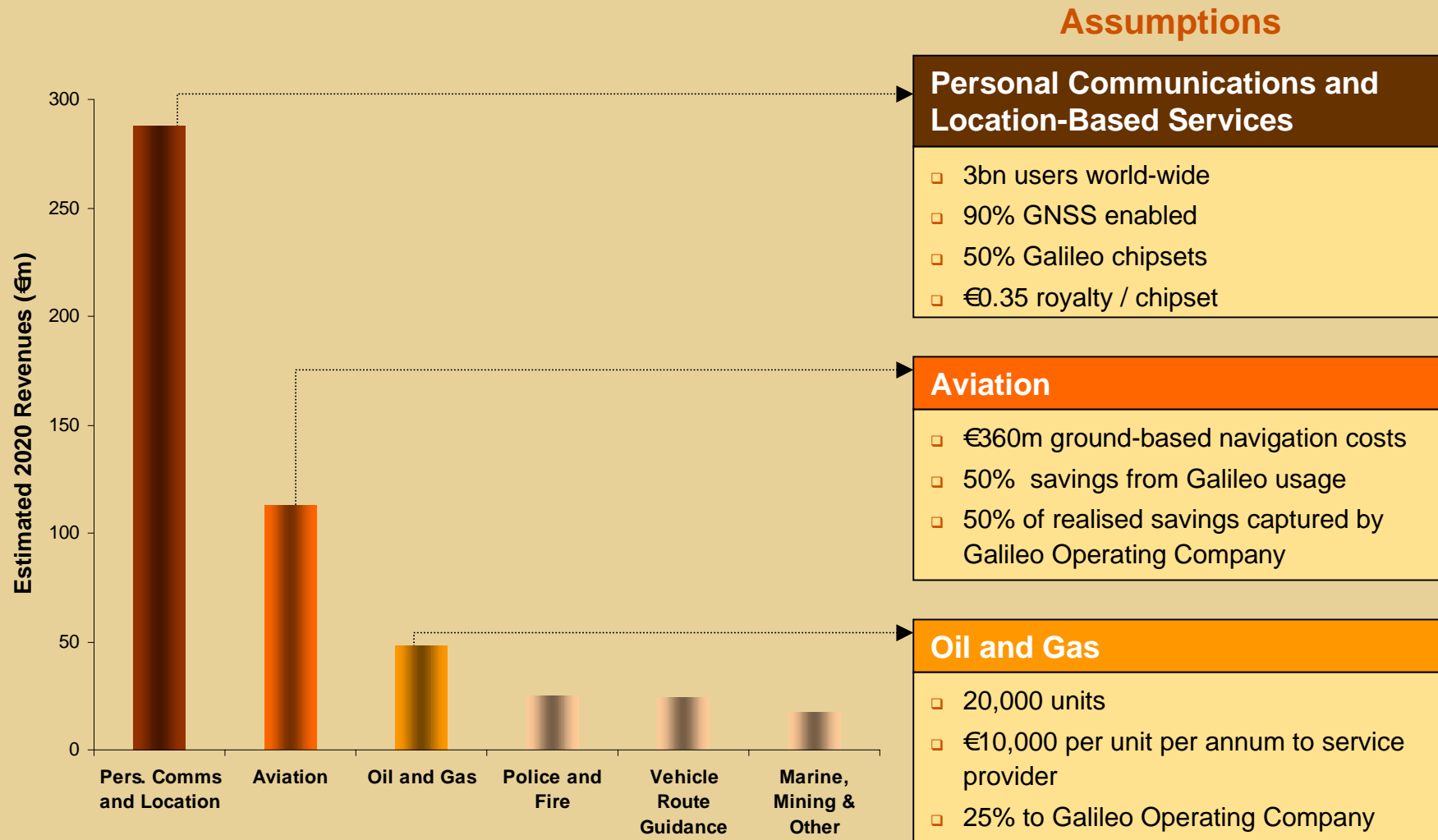
Projected Revenues for the Operating Company



Source: Ovum Consulting

**Early revenues principally from royalties.
Service revenues develop as markets evolve.**

Projected Revenue by Application



Source: Ovum Consulting

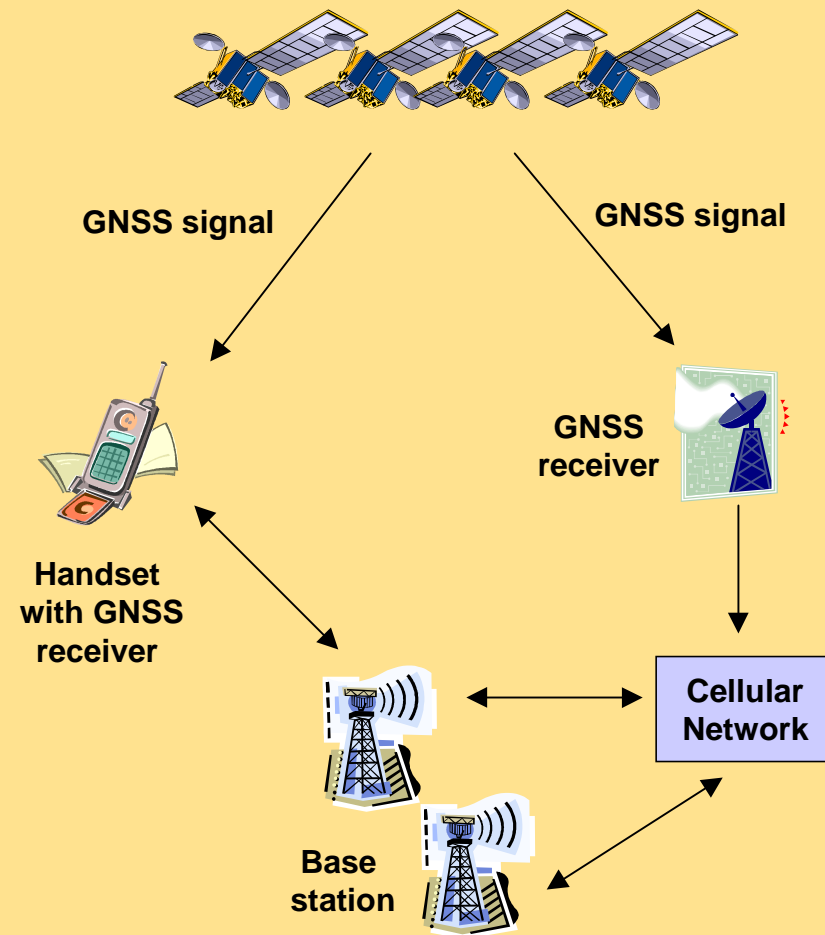


Innovative Solutions Could Boost Revenues

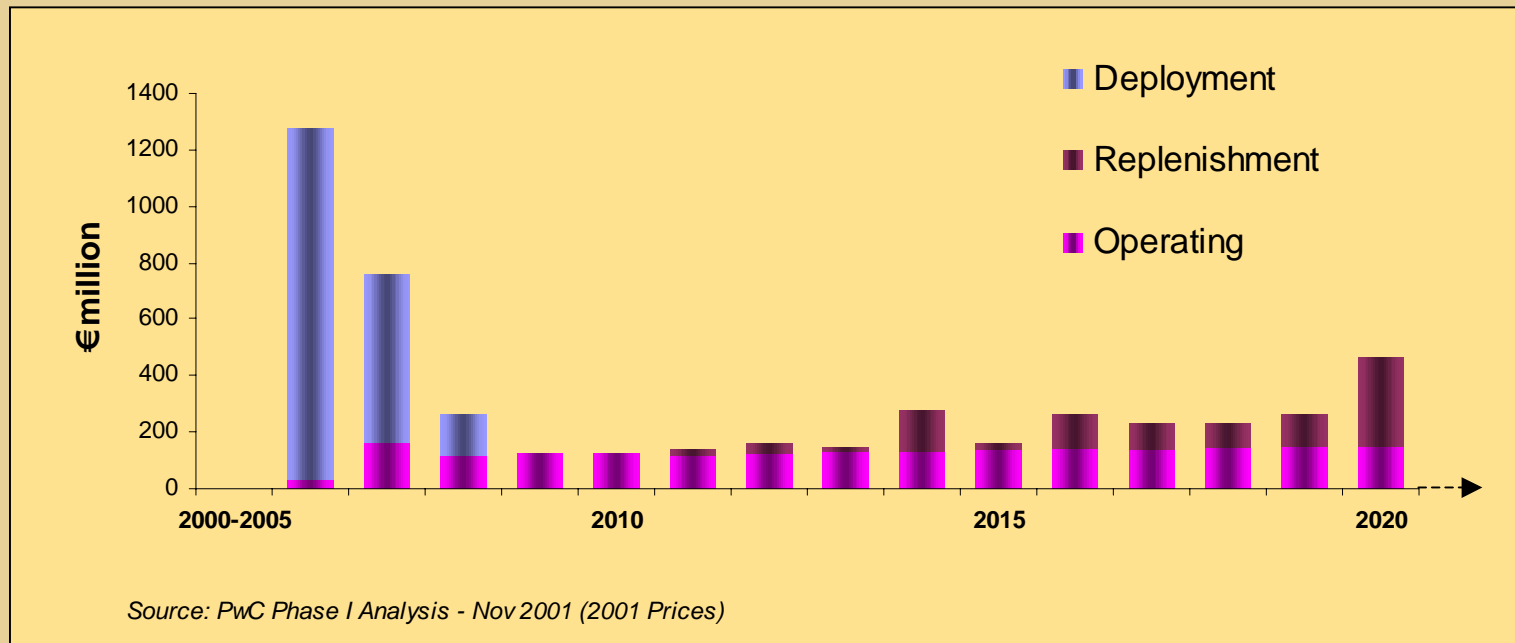
Assisted Global Navigation Satellite Systems

Combination of navigation signal and communication signal via cellular networks could achieve:

- ❑ Reduced time to position;
- ❑ Improved availability in urban areas;
- ❑ Improved battery life;

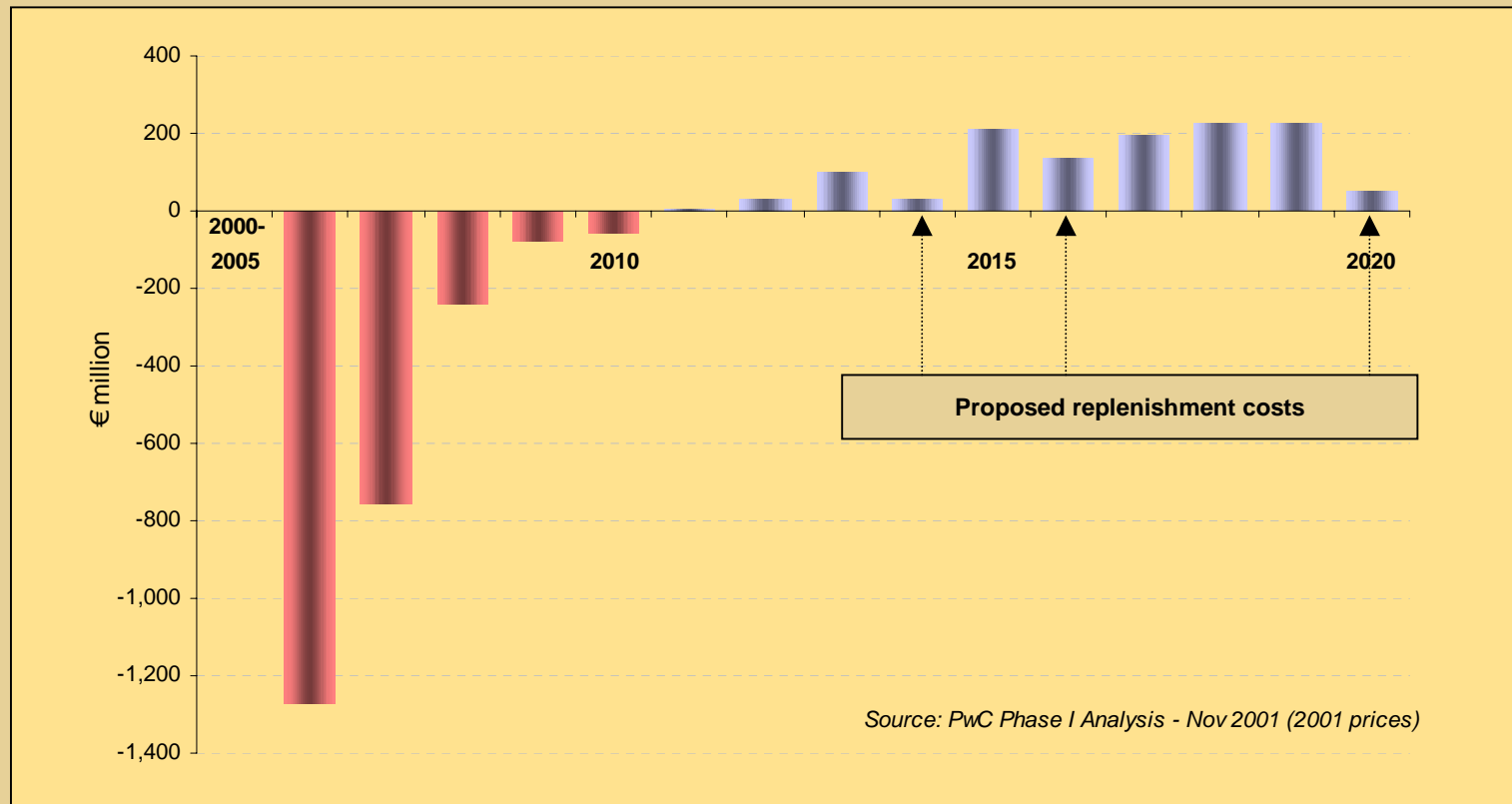


Projected Operating Company Costs



- Deployment Cost (2006-8) €2.0 bn
- Average Annual Operating Cost €135m p.a.
- Replenishment Cost (2008-27) €1.8 bn

Projected Annual Free Cashflow

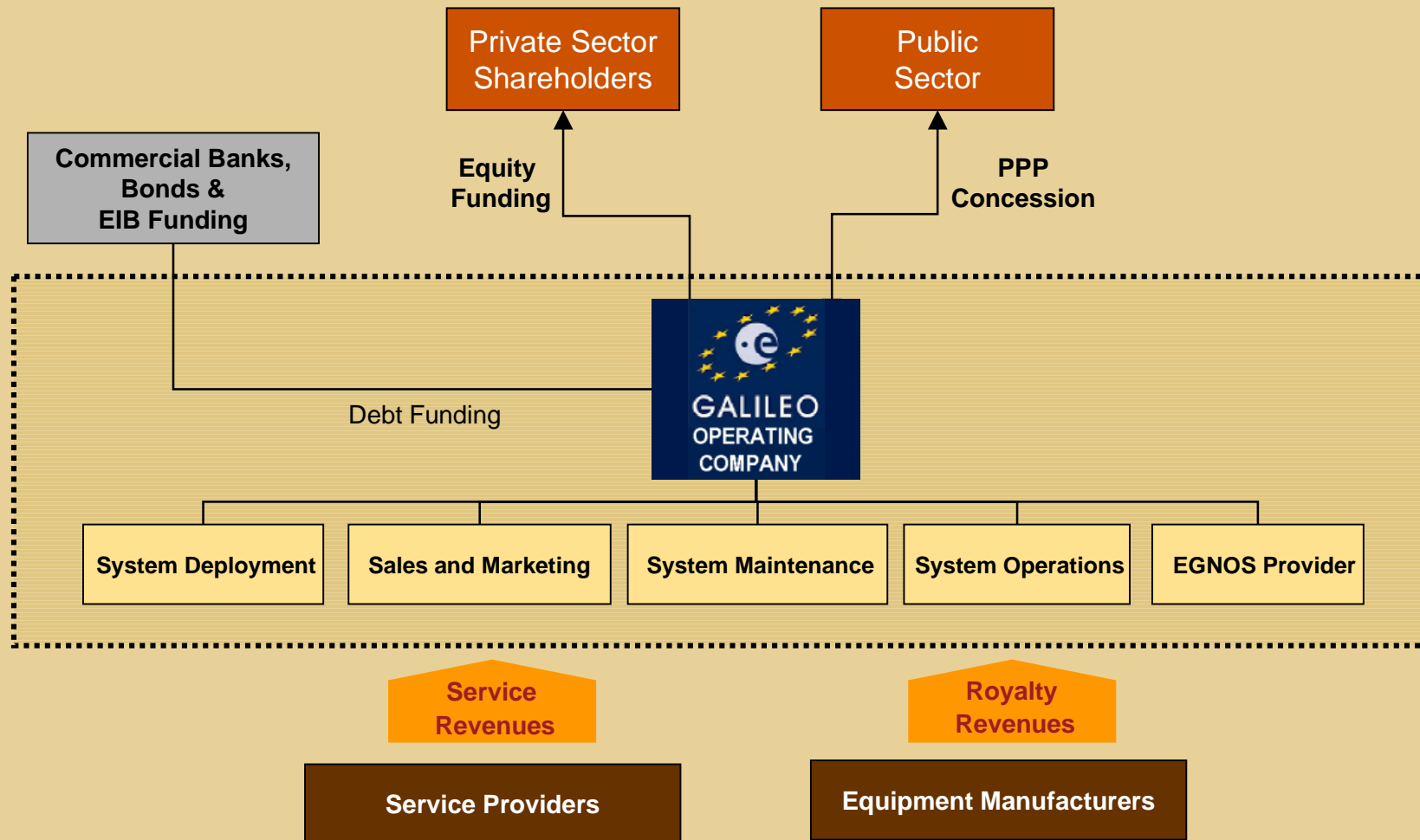


Free cashflow breakeven projected in 2011

PPP Structure



Overview of the Model



Roles and responsibilities

	Bidding	Implementation	Operations
Joint Undertaking/ Successor Body	<ul style="list-style-type: none"> □ Procure PPP □ Co-ordination with ESA Development work □ Specify performance 	<ul style="list-style-type: none"> □ Regular monitoring of deployment □ Assist with market development □ Monitor performance 	<ul style="list-style-type: none"> □ Assess performance □ Specify performance for next generation □ Support to the concession
Bidder / Concessionaire	<ul style="list-style-type: none"> □ Business plan <ul style="list-style-type: none"> • Revenue • System procurement • Financing 	<ul style="list-style-type: none"> □ System Contracts □ Financing □ System deployment and testing □ Market development 	<ul style="list-style-type: none"> □ Operate network to maintain signal performance □ Optimise revenues □ Co-operate with Regulator □ Maintain/ replenish system
	2003 - 2004	2005 - 2008	2008 +

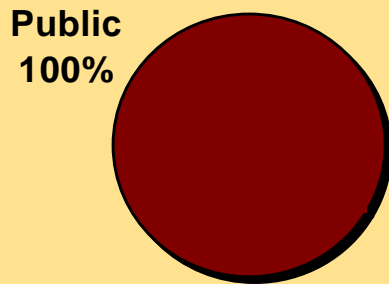


Financing

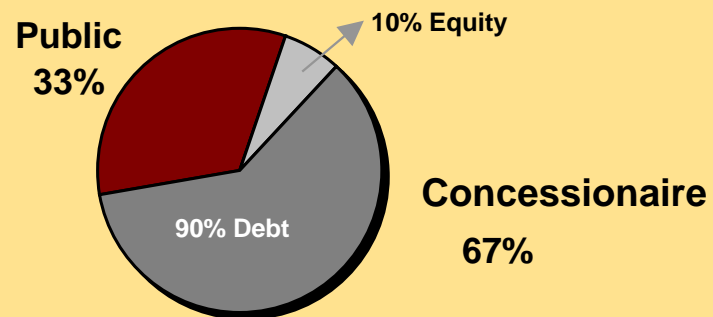


Funding Sources & Uses

Development



Deployment



- Development Phase fully funded by EC/ESA
- Deployment expected to be funded
 - Partly by the Public Sector (up to 33%)
 - Partly by Concessionaire
- PPP should facilitate
 - 90% debt
 - 10% equity

Financing Considerations

We believe Galileo can be financed on this basis through a PPP structure providing there is an appropriate and bankable risk allocation

Risks	Likely Allocation		
	Joint Undertaking	Concessionaire	System Contactor
System Completion	✓	✓	✓ ✓
Demand	✓	✓	-
Licence & Regulator	✓	✓	-
System Performance	✓	✓ ✓	✓
Political Risk	✓	✓	-

PPP procurement process will propose an appropriate allocation of risk

Conclusions



Conclusions



Strong commercial opportunity

- ❑ To capitalise on a rapidly growing market
- ❑ To mitigate risk through PPP
- ❑ To establish a financeable structure and practical process



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