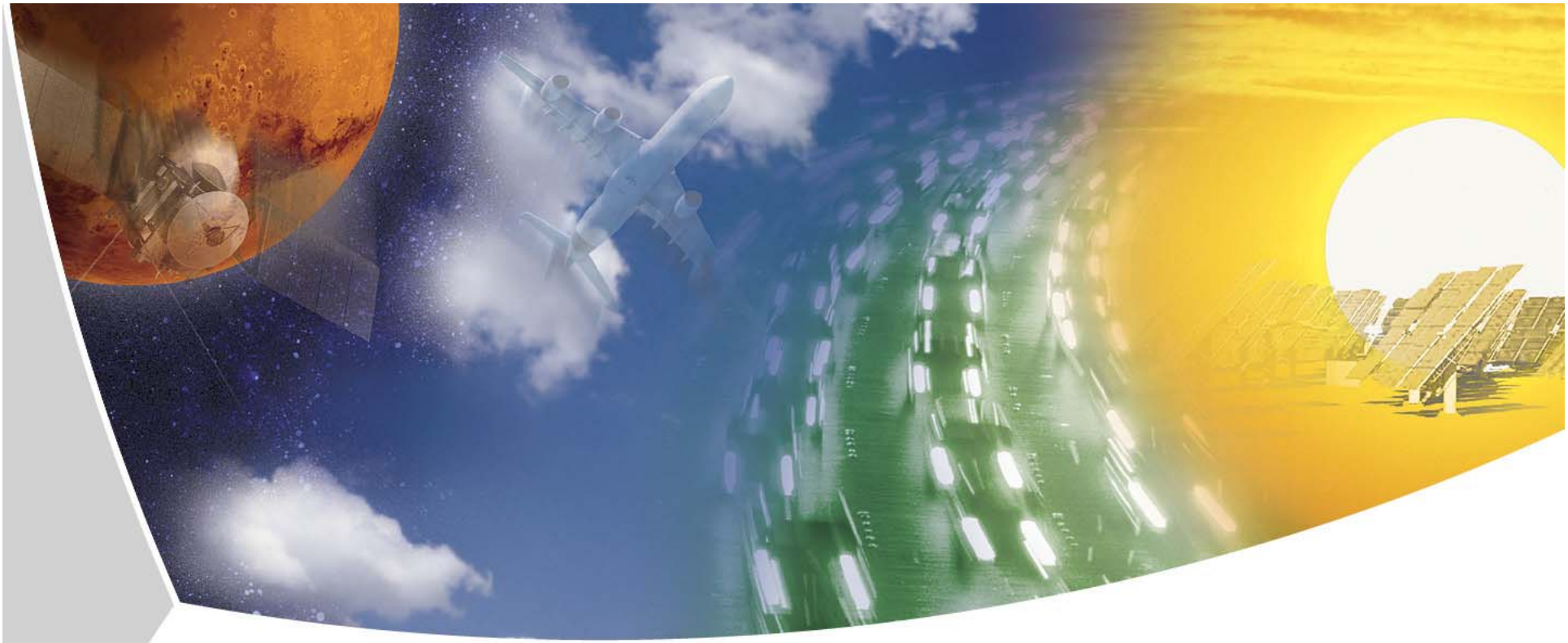


Conference on ARTES 11

Small Geostationary Satellite Programme

June 29/30 2006
Rottach-Egern, Germany

Deutsches Zentrum
DLR für Luft- und Raumfahrt e.V.

ARTES-11 History

Beginning of ARTES-11

- OHB proposes mid 2005 a Small GEO Programme in a letter to the ESA GD and
- presents a concept in the Programme Board.

Decision on ARTES-11 at the Ministerial Council 2005 in Berlin

- 8 countries subscribed 67 MEUR already:

Austria:	1	Germany:	32	Sweden:	6
Denmark:	1	Luxembourg:	10	Switzerland:	12
Finland:	4	Spain:	1		

Core Team

- OHB (Germany), Contraves (Switzerland), SSC (Sweden), Luxspace (Lux.)

A Warm Welcome at Tegernsee!

- **Most beautiful place to inaugurate a new Programme!**
- **Challenging project!**
- **Best experts in Satellite Communications!**

ARTES-11 The Small Geostationary Satellite Programme

The Motivation

- **The Small GEO Programme closes the gap in the family of European satellites at low mass and power.**
- **Europe must be able to offer the full range of globally competitive satellites and services, for the commercial and for institutional markets (2-18 kW).**
- **Europe must maintain strategic independence on satellite communication.**
- **Small satellites cover a niche market with growing importance in the institutional sector.**

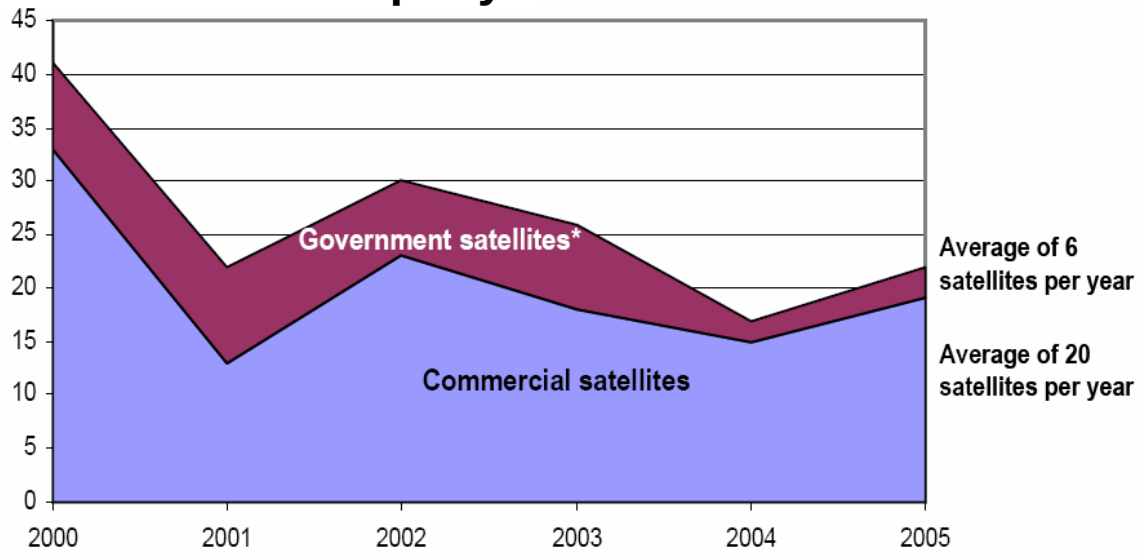
The Motivation (cont.)

- ARTES-11 opens up a unique opportunity to foster expertise in satellite systems and subsystem know-how
  - in smaller ESA-Member States
  - for Small Primes
  - for SMEs.
- The European space industry is moving toward a single European prime satellite manufacturer.
- Monopolistic structures, however, prevent competition and innovative pressure.

Market for SGEO

Market for satellites in the past

Number of satellites per year



Forecast for requests for SGEO:

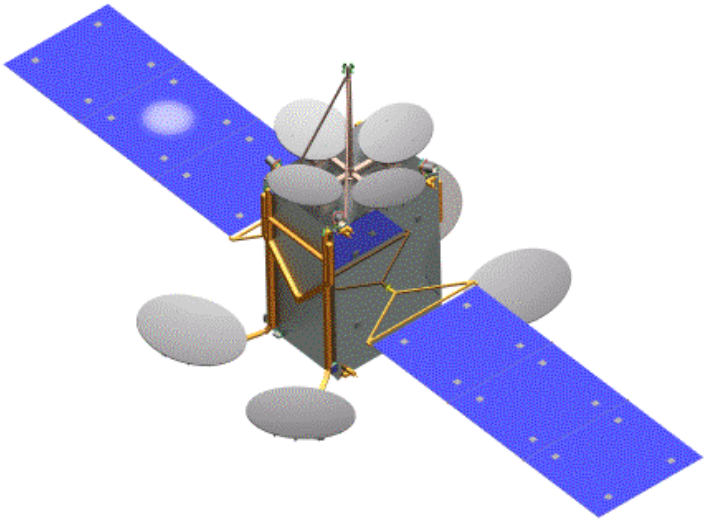
3-5 small GEO Satellites per year

The Motivation for Germany

- **Germany will set up new priorities in space towards application-oriented activities.**
- **With ARTES-11 Germany initiates another technologically ambitious programme, parallel to GMES and GALILEO.**
- **With ARTES-11 progressing, Germany plans additional investments into necessary payload developments.**

ARTES-11 The Small Geostationary Satellite Programme

The Objective:

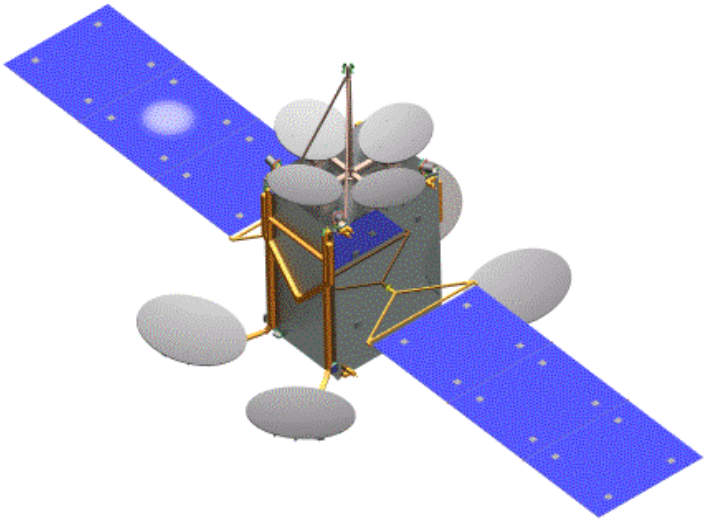


To develop a small GEO platform targeting:

- **A total payload mass of up to 300 kg**
- **A payload power of up to 3 kW**
- **A lifetime of 15 years reliability**
- **ITAR free subsystems and components**
- **A fast recurring delivery time below 18 months.**

ARTES-11 The Small Geostationary Satellite Programme

The Characteristics:



- **Flexible, cost effective, highly reliable design**
- **Innovative technologies to increase payload to platform mass ratio**
- **Compatible with different launchers**

The Goals of our Conference

- To introduce the new ESA-ARTES-11 Programme to the European Space Industry and to the Satellite Operators
- To present the Programme strategy and its structure
- To initiate a strong interaction between industry and market, early in the Programme
- To motivate and invite potential partners to bring in their best ideas
- To point out the industrial payload capacities within ARTES 11
- To stimulate networking between customers, manufacturers and Space Agencies.

Competition to give ARTES-11 a name

Who knows ARTES-9?

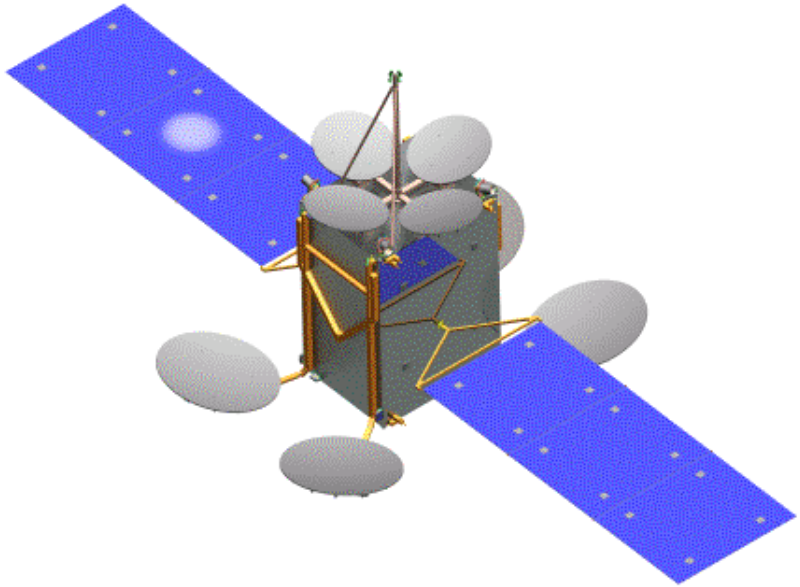
But EGNOS is well known.

Who knows ARTES-8?

But everyone knows Alphabus.

Who knows ARTES-11?

How should we call it?



Please tell us your ideas and take part in a competition.

Get prize for the best idea:

Germany is ready to make ARTES-11 a full success!

- **A challenging task lies ahead of us.**
- **Politics and industry, public and private investors, engineers and economists can make a concept a reality, with a true European identity.**
- **Bring in your ideas!**

Let´s do it.