



# German National Data Security Policy for Space-Based Earth Remote Sensing Systems

*Act to give Protection against the Security Risk  
to the Federal Republic of Germany by the  
Dissemination of High-Grade Earth Remote Sensing Data*

*“Satellitendatensicherheitsgesetz” – SatDSiG 23. March 2010*

# National Background

**technological advances in satellites, sensors and data processing**

**→ ability to generate data/images with very high information content**

- high spatial resolution
- spectral coverage, spectral resolution (e.g. thermal IR, hyperspectral sensors)
- active sensors such as Radar or Lidar

**TerraSAR-X satellite launched in June 2007**

**RapidEye satellite constellation launched August 2008**

**TanDEM-X satellite launch 2010**

- commercial applications
- scientific applications

**even more capable next generation systems**







# SatDSiG - German Satellite Data Security Policy

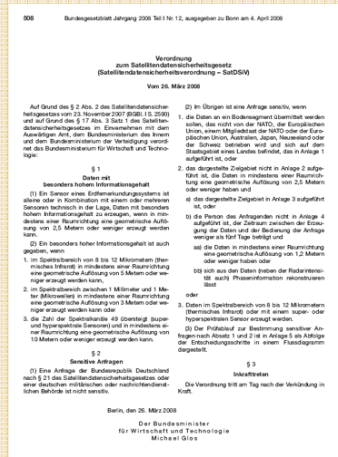
two major purposes:

- fostering the civil use and commercialization of remote sensing data
  - maximizing the data flow to scientific and commercial users
  - create legal certainty
- safeguarding security and foreign policy interests
  - German, EU, NATO, friendly or allied countries
  - peaceful co-existence of nations

SatDSiG act became effective Dec. 2007

SatDSiV statutory ordinance became effective Apr. 2008

- definition of „high-grade“ earth remote sensing systems
- algorithms, threshold values and lists for „sensitivity“ check





## SatDSiG - Area of Application is limited to

**German satellites, satellites operated by German nationals or legal persons, satellites operated from Germany**

- **non-military satellites**

- **“High-Grade” earth remote sensing systems**

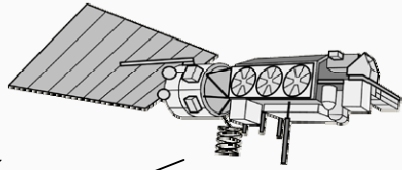
- High Grade derives from the system’s capacity for acquiring data of particularly high information content

- **first-time or primary marketing/dissemination**

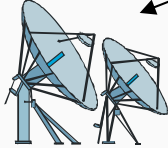
- the Act consequently pertains to primary data distributors but generally NOT to

- remote sensing service providers, value-adding firms or
    - data resellers

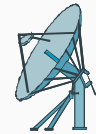
but there might be indirect effects to downstream customers



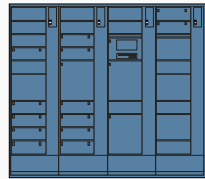
Kontrollstation



Datenempfang



Entschlüsselung



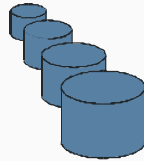
Verschlüsselung

Entschlüsselung

**Kontrollzentrum**  
Erzeugung  
der Kommandos  
für Satellit  
und Sensor

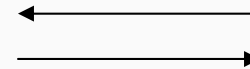


zentrale  
Prozessierung  
und Archiv



**Datenanbieter**  
Vertrieb/Verbreitung  
wissensch. | kommerziell

Beobachtungsaufträge  
(Tasking)



**Kunde**



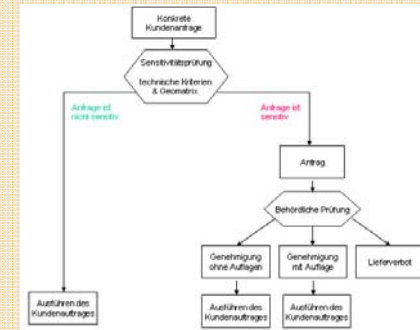
# SatDSiG - Central Elements of the Act

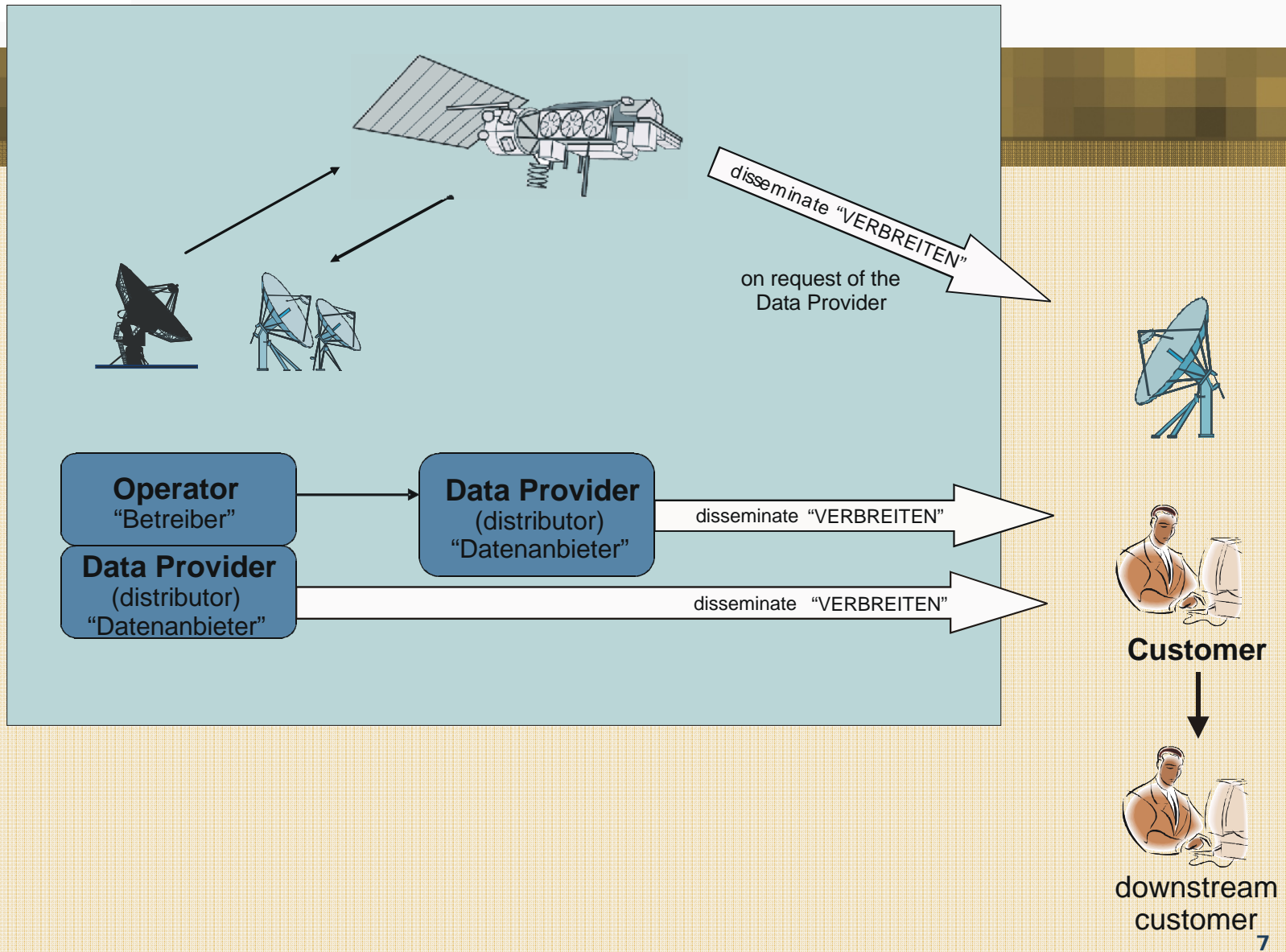
central part of the act is a  
clearly defined and transparent  
**procedure for distributing data**

**licensing requirements and obligations**

- satellite operators
- data distributors

regulations under company law concerning operators  
(acquisition of firms and stakes in firms or corporate takeovers)







# Dissemination of Data from High-Grade Satellites

**two-layered approach** for first-time/primary dissemination:

▶ **sensitivity check**

- to be performed on a case-by-case basis for any data request
- to be performed by and in the full responsibility of the data provider
- predefined procedures and criteria without any power of discretion
- requirement to document and record for possible official audit/inspection

→ in case the data request is “not sensitive”, the data provider is free to deliver the data

→ in case the data request is “sensitive”, a permit by BAFA is required

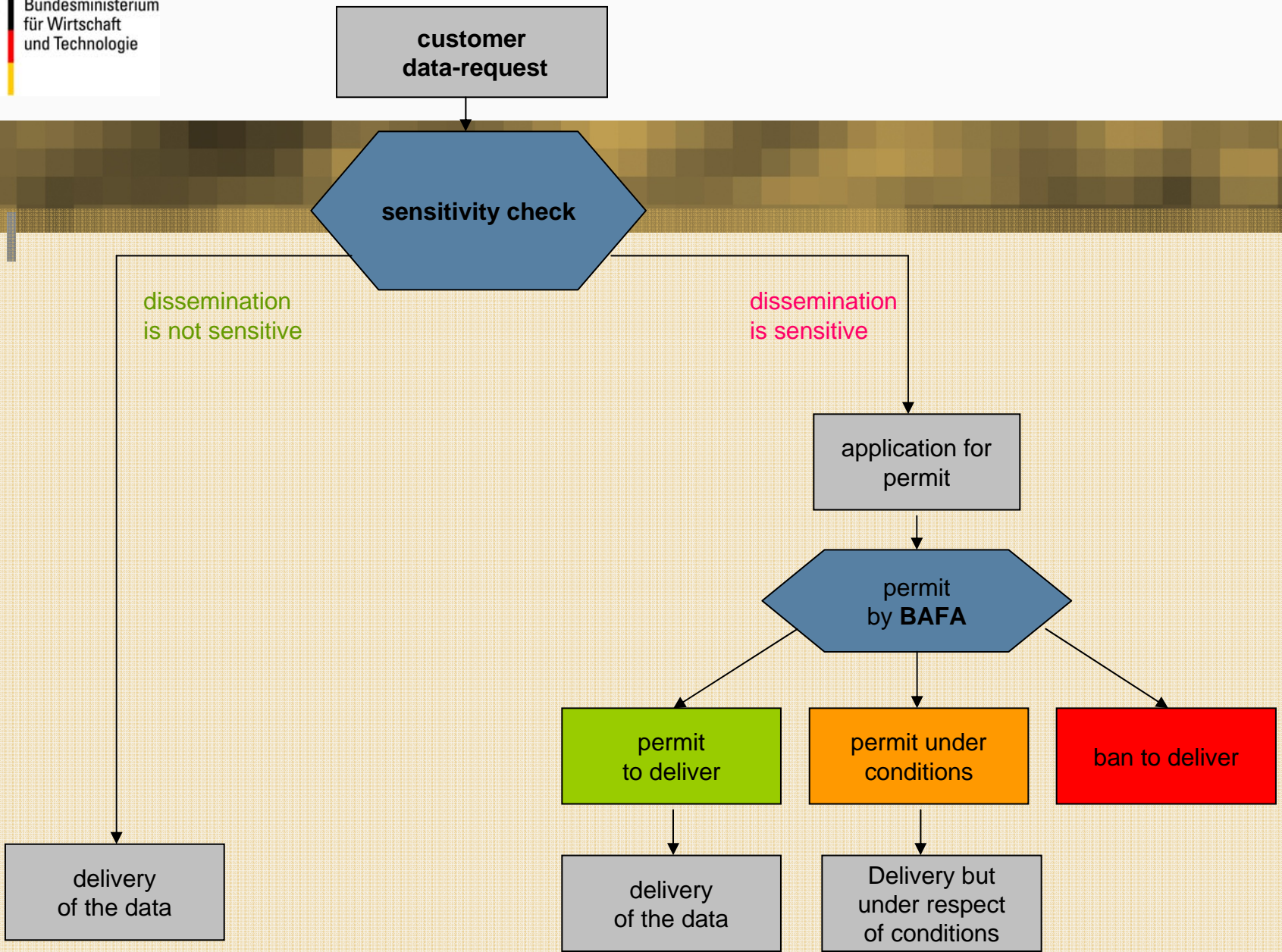
▶ **permit/refusal by governmental authority**

(BAFA, Federal Office of Economics and Export Control)

- only required if the result of the sensitivity check is “sensitive”
- decision is based on (probably classified) criteria and internal procedures









## Criteria Examined during the Sensitivity Check, § 17

sensitivity check concerns the data request by the customer and the meta data of the individual data set (never the data set itself)

### **information content of the individual data product**

- operation mode of the sensor
- processing (specification of the data product)

### **target area represented/surveyed by the data product**

### **time period between data generation and supply to the customer**

### **time of the data generation**

### **ground segments to which the data are to be transmitted**

### **Individual customer**

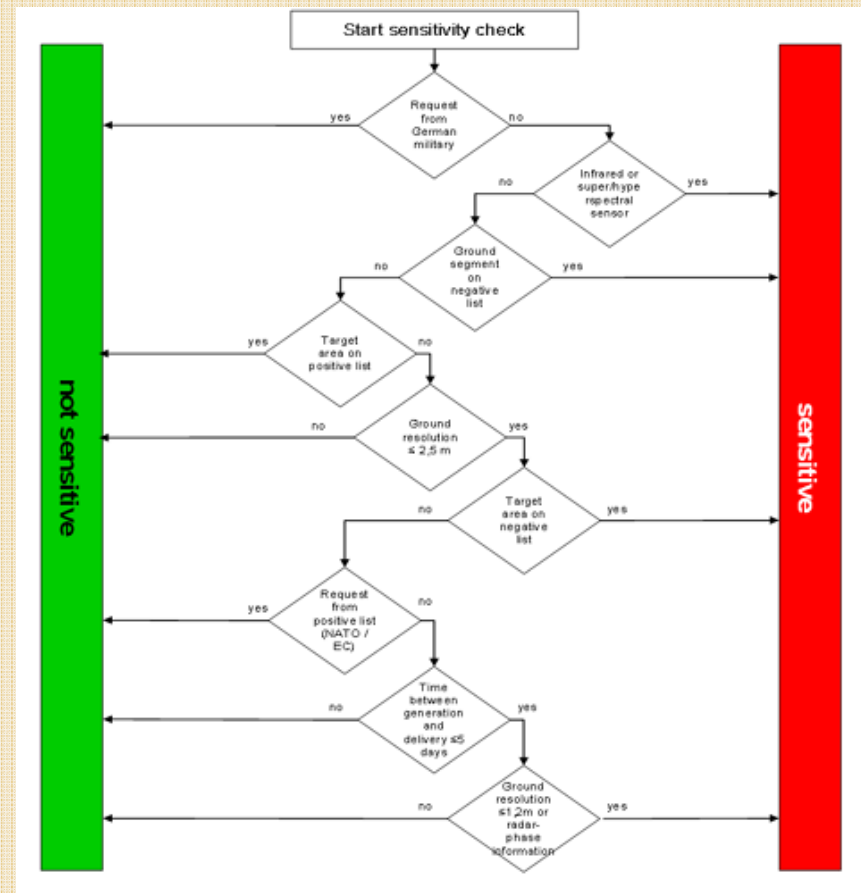




## SatDSiV – algorithm for the sensitivity check

### algorithmic definition

- ▶ combining threshold values and lists
- ▶ only meta data required
- ▶ can be executed automatically  
→ fast and cost-effective





## Informal Discussion with Partners

**to informally achieve a common understanding of risks and security levels  
we continue our discussion with partners**

**constant exchange of experience**

- e.g. EU, USA, CAN, JAP

**same level of regulation despite different regulation mechanisms**

- e.g. USA and CAN follow a license-oriented approach

- DE follows a transaction-oriented approach

**avoid “race-to-the-bottom”**





# Contact

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Additional Information:

General <http://www.bmwi.de/BMWi/Navigation/root,did=250882.html>  
SatDSiG: <http://www.bgblportal.de/BGBL/bgbl1f/bgbl107s2590.pdf>  
SatDSiV <http://www.bgblportal.de/BGBL/bgbl1f/bgbl108s0508.pdf>