Open Joint-Stock Company
«Research Institute of Precision Instruments»
(OJSC "RI PI")

IGDIS ERS. Current State and Prospects of Development

Ovnan Tokhiyan

Head of Department of ERS Data Distribution Information Technologies

ovnan.tokhiyan@niitp.ru

CEOS WGISS-37
14-18 April, 2014. Cocoa Beach, Florida, USA

Purpose and Tasks

Purpose

Integration ERS information resources into a unified geo-information space

aim

ERS data providing for end users

Tasks

- Orbital constellation of ERS satellites application planning
- IGDIS ERS ground-based infrastructure application planning
- Information reception and processing from Russian and foreign ERS satellites
- Classification and storage of ERS products
- ERS products unified cataloging
- Access to IGDIS ERS information resources via geoportals and web-services

Functional Structure

IGDIS ERS

Planning and management subsystem

The subsystem of reception, recording and processing of ERS data

The subsystem of cataloging, storage and distribution of ERS data

Communication subsystem

The Directions of Creation

Major centers in all geographical regions equipping with unified means for reception and processing data from Russian and foreign ERS satellites

Receiving stations acquisition and placement optimization according to the characteristics of the flow of information and performance of ERS satellites

Unified geographically distributed ERS data bank creation

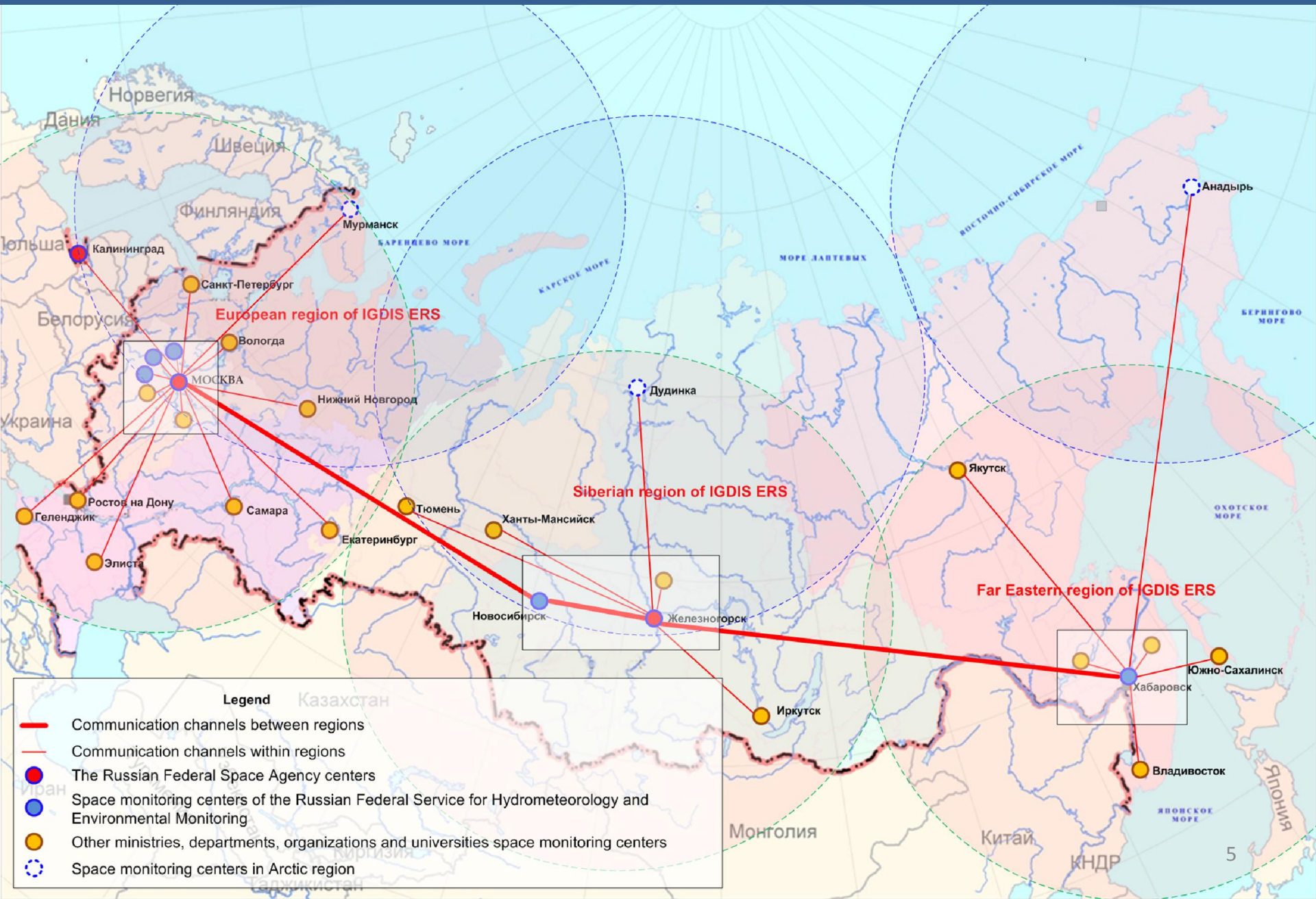
Information and linguistic support improving in the field of ERS

ERS products unified catalogue creation

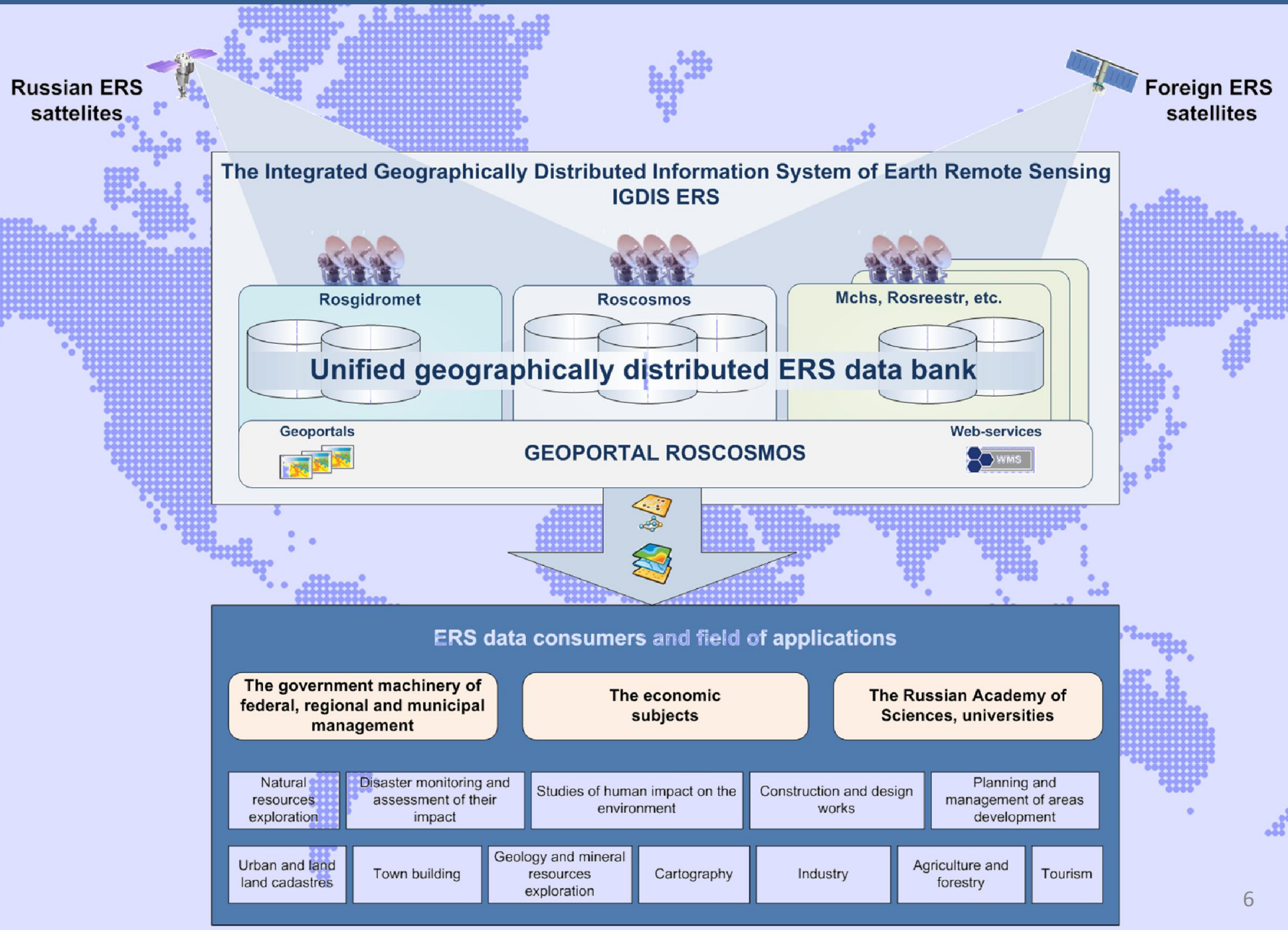
New information technologies of ERS data providing introduction

IGDIS ERS integration with informational systems of federal, departmental and regional levels

Reception and ERS Data Processing Centers



Flow Chart


Russian ERS sattelites
Foreign ERS satellites
The Integrated Geographically Distributed Information System of Earth Remote Sensing
IGDIS ERS
Rosgidromet
Roscosmos
Mchs, Rosreestr, etc.
Unified geographically distributed ERS data bank
Geoportals
GEOPORTAL ROSCOSMOS
Web-services
WMS
ERS data consumers and field of applications
The government machinery of federal, regional and municipal management
The economic subjects
The Russian Academy of Sciences, universities
Natural resources exploration
Disaster monitoring and assessment of their impact
Studies of human impact on the environment
Construction and design works
Planning and management of areas development
Urban and land land cadastres
Town building
Geology and mineral resources exploration
Cartography
Industry
Agriculture and forestry
Tourism

Informational Systems that Using Web-services of Roscosmos Geoportal

ROSCOSMOS GEOPORTAL
www.gptl.ru

SPACE SERVICES CENTERS

ROSLESHOZ
Information system of remote forests monitoring

VEGA
Satellite Service analysis of vegetation

VEGA-Lesopatolog
The satellite monitoring system of forest health

ROSGIDROMET
The system for working with the satellite data
NIC "Planeta"

НЦ ОМЗ

Dynamic catalogue of NTs OMZ data

ЕСИМО

THE UNIFIED STATE SYSTEM OF INFORMATION ON THE GLOBAL OCEAN

Sea To Sea
Oceans Satellite monitoring service

Information system of Russian Agricultural Census monitoring

Information System for remote monitoring of Kamchatka and Kuril Islands active volcanoes

The Directions of Development

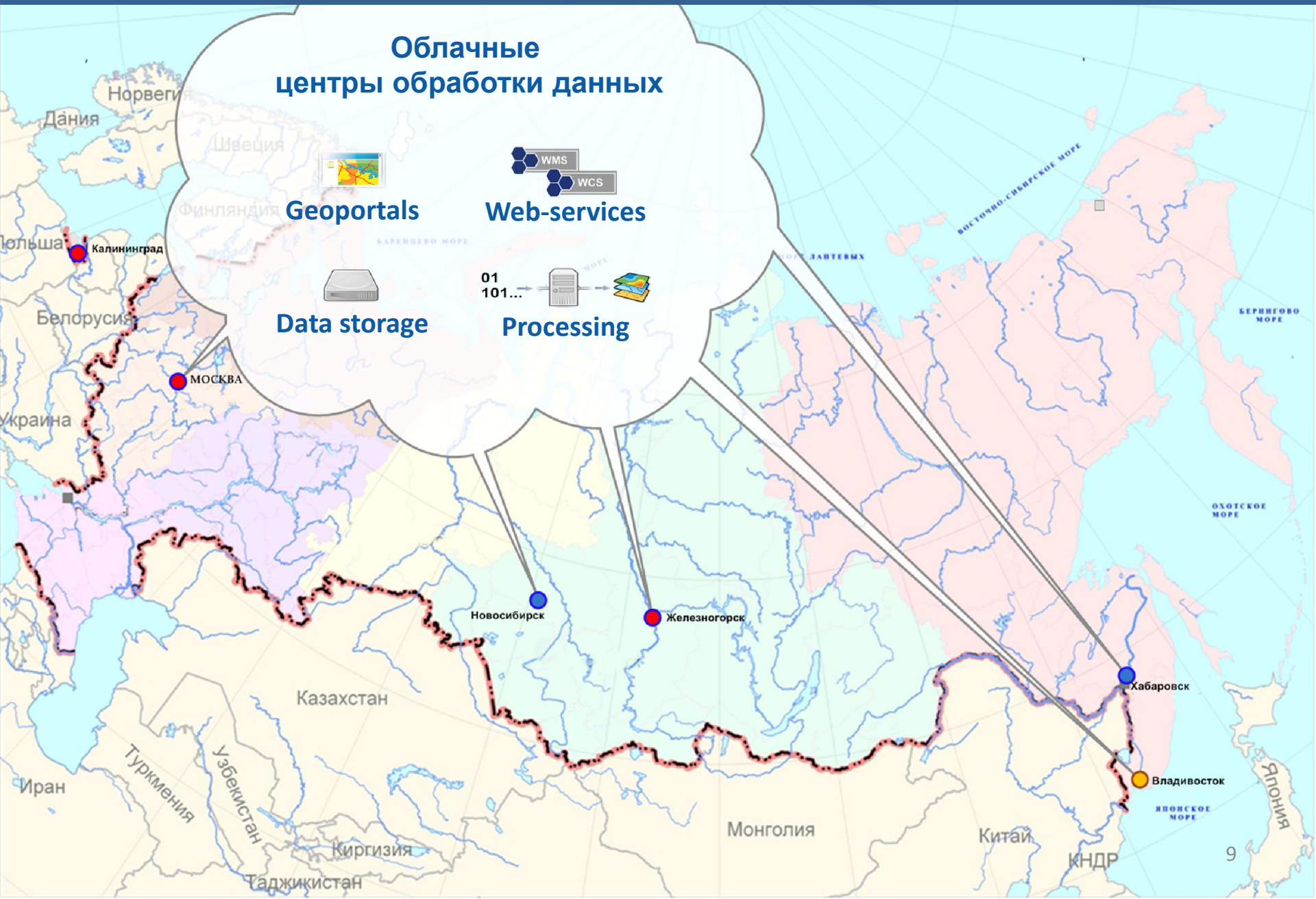
Enhancement of information reception from ERS satellites

Processing capabilities enhancement

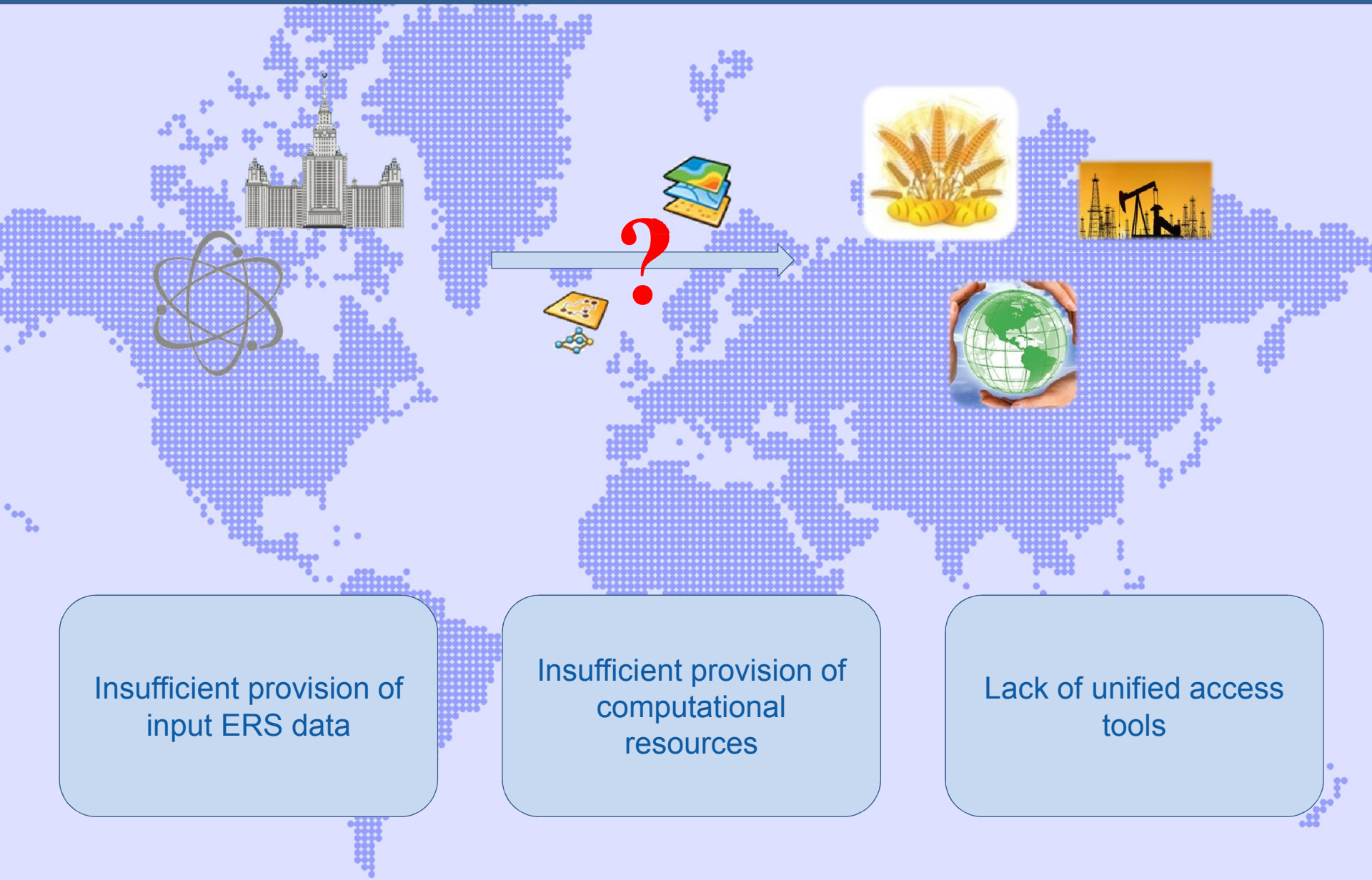
Enhancement of existing infrastructure for ERS data distribution (web-services, geoportals, etc.)

Providing wide range of ERS informational products

Creating Cloud Computing Data Processing Centers in IGDIS ERS Centers



Limiting Factors of Wide Using Technologies for Various Types of ERS Products Creation

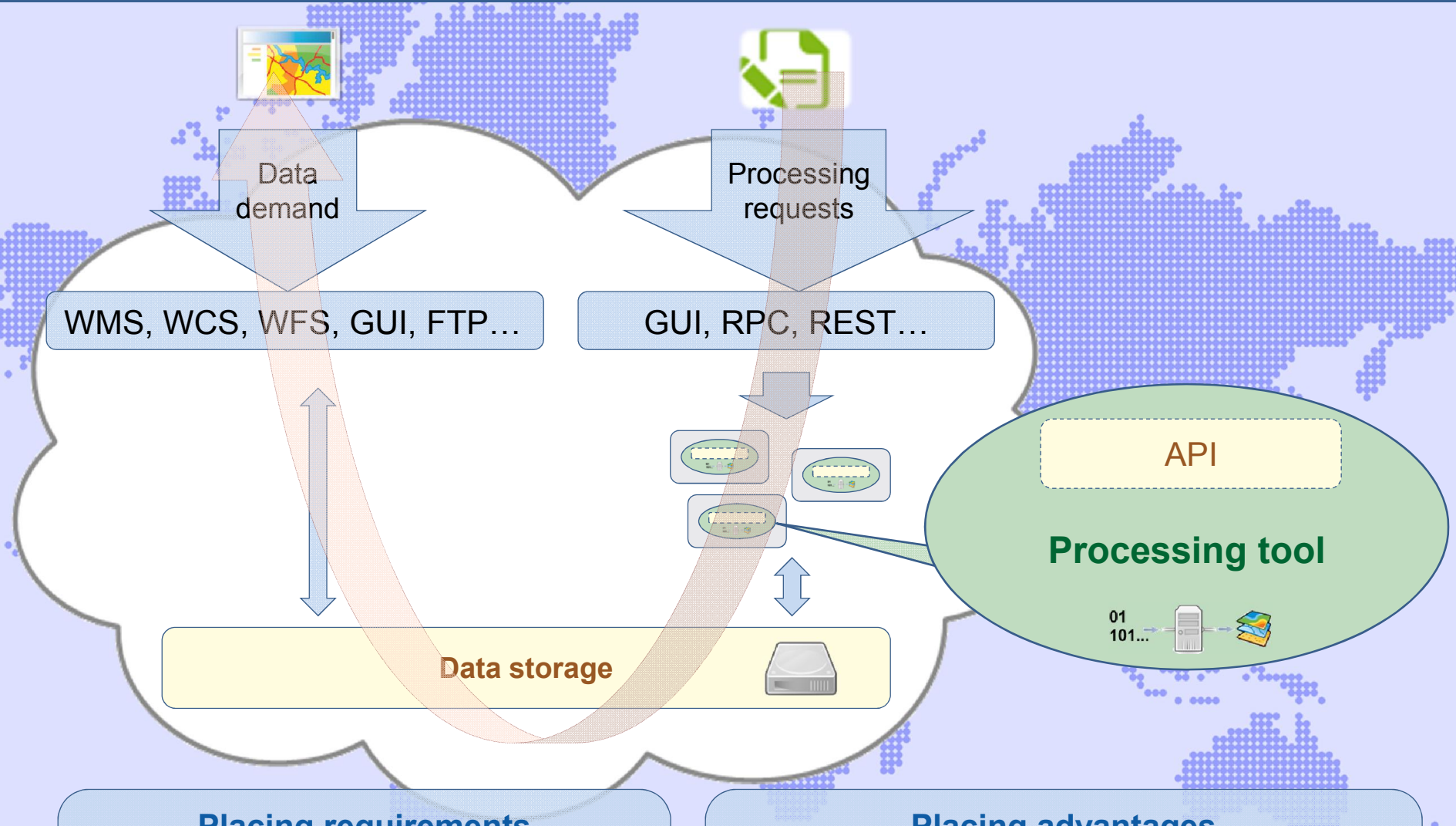


Insufficient provision of input ERS data

Insufficient provision of computational resources

Lack of unified access tools

Placing of ERS Products Creation Technologies in Cloud Infrastructure of IGDIS ERS Data Processing Centers



Placing requirements

Unified API provision

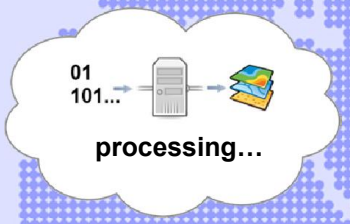
Placing advantages

- Platform independency
- Programming environment independency

ERS Data Processing Requests Execution

Processing requests

Automatically by specified schedule

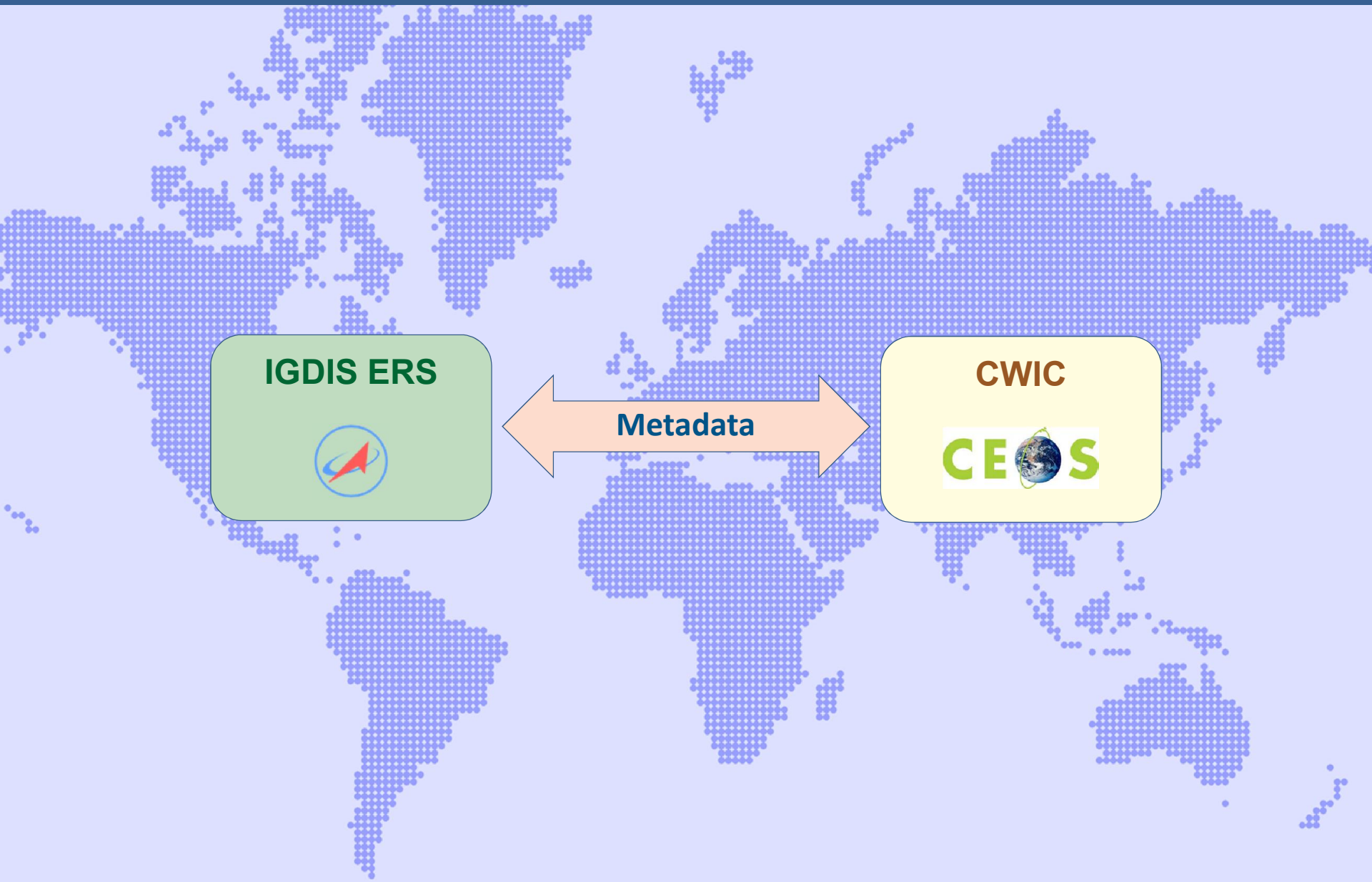


On the user's requests

Requests parameters

- spatial-temporal parameters
- input data
- product's type
- product's specific parameters

Interaction with CWIC



Thank you for your attention!