World Meteorological Organization

Weather • Climate • Water

WMO Space Programme: a bridging role between satellite operators and users

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World Meteorological Organization (WMO)

WMO Congress-16 defined the WMOSP

- High-level goal to promote wide *availability* and *utilization* of satellite data & products for weather, water, climate and related applications of WMO Members
- Four main components :
  - Develop an integrated observing system
  - Data & product accessibility, interoperability and quality
  - User information and training
  - Space weather coordination
- Partnership
  - With space agencies, CGMS and CEOS
  - With international science groups
  - With other relevant international bodies

Value Chain for WMO Space Programme

Satellites & sensors → Calibrated data sets → Quality-controlled products → Dissemination & access → Awareness & training → Users

contingency plan

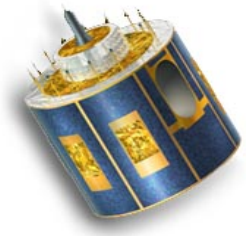
GSICS Global Space-based Inter-Calibration System

SCOPE

WMO IGDDS

VLab

Our ambition : a joint undertaking



For satellite operators

to contribute to the global picture in a cost-effective way, to meet their goals to serve users

Provide a framework for dialogue, develop a shared vision, foster interoperability, share best practices & resources

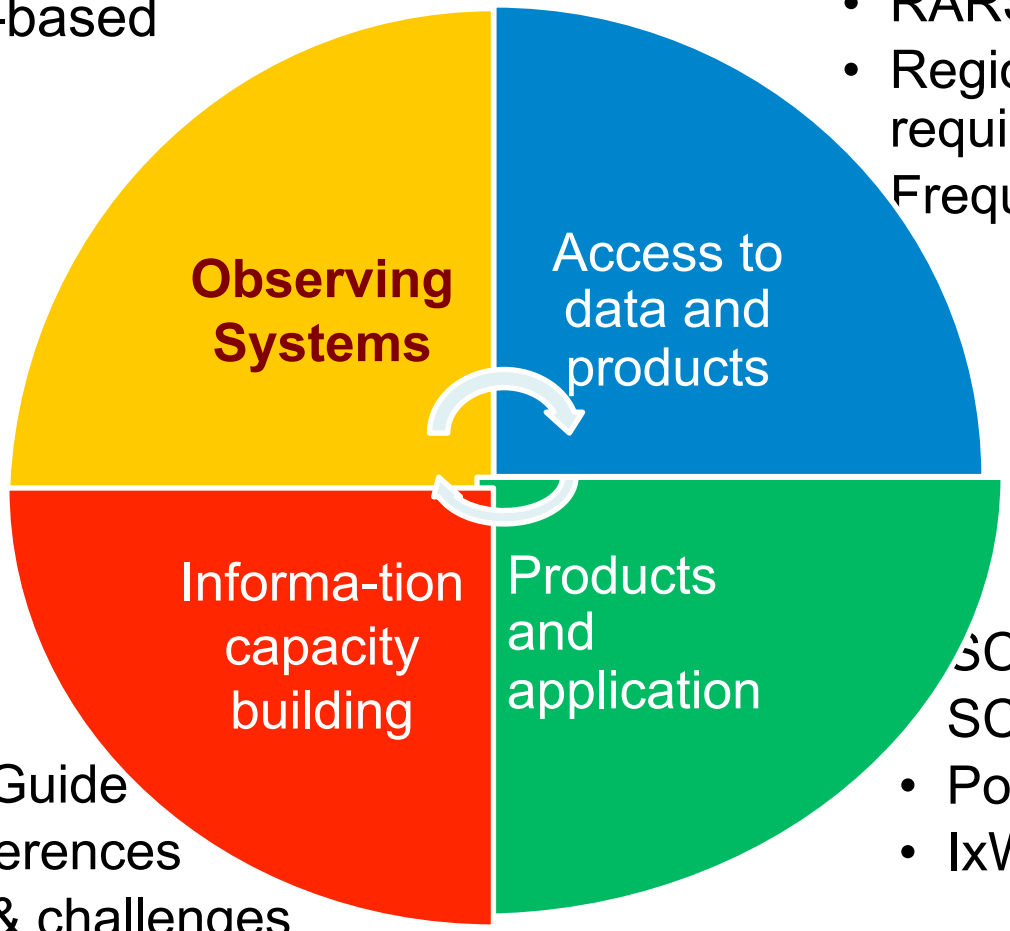
For users

to consolidate their requirements, to be informed and trained to take advantage of satellite systems

For Earth Observation and Space Weather

- Observing requirements
- Vision of space-based system
- OSCAR/Space
- Gap analysis
- Calibration

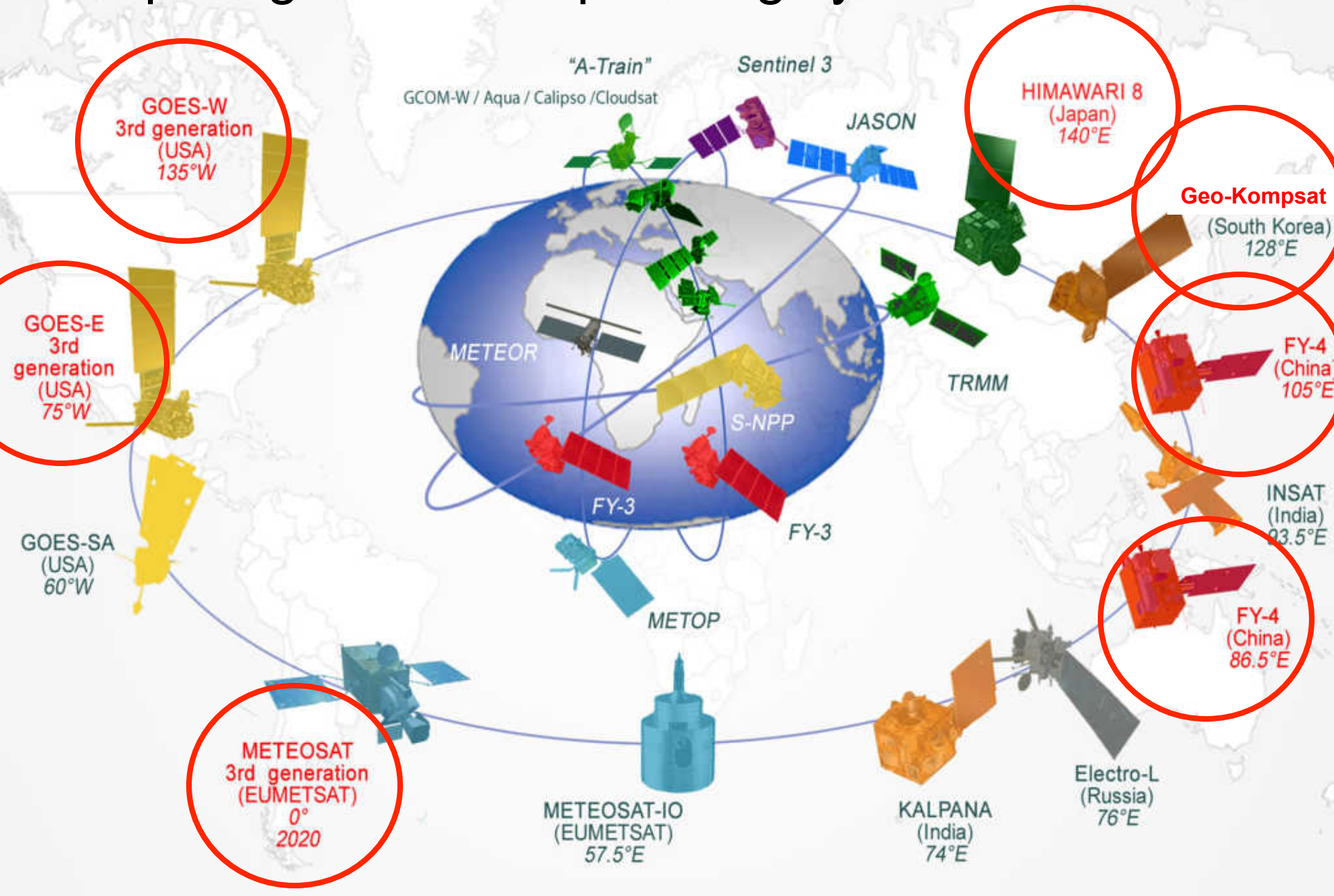
- Data access strategy
- RARS (DBNet)
- Regional data requirements
Frequencies



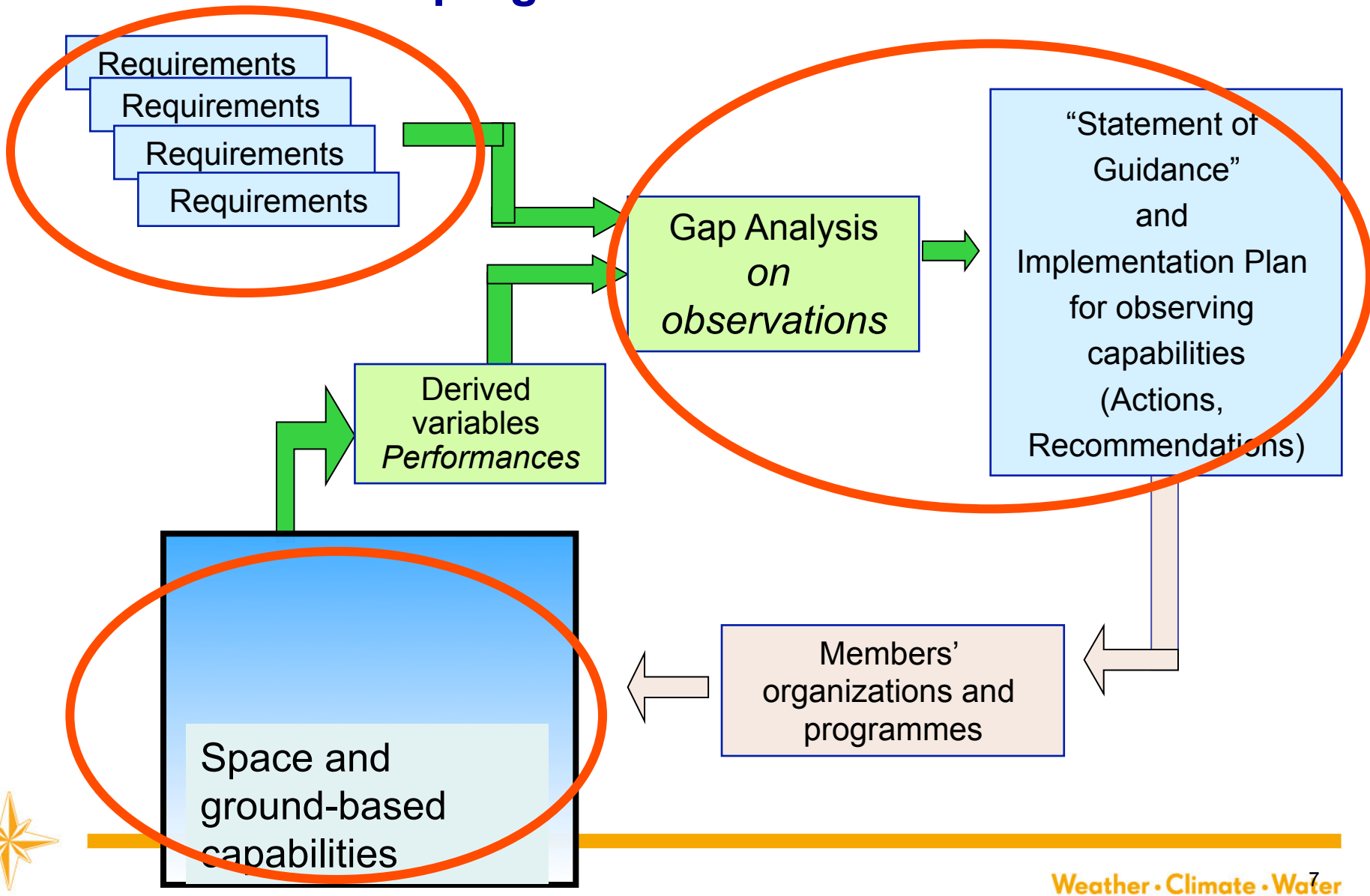
- VLab
- User Readiness SATURN
- Product access Guide
- Sponsoring conferences
- User limitations & challenges

SCOPE-CM
SCOPE-NWC
- Polar STG
- IxWG

Preparing users for upcoming systems…



WMO Standard Practice: Rolling Review of Requirements - to identify new observing requirements & gaps to meet new programmes & initiatives



Mission level: from user requirements into missions/instruments/observations/products/info

Service requirements:
Content, Presentation,
Delivery media, Timeliness,
Continuity,
User support, Training, ..

Product requirements:
Type (numerical, graphical, binary, alert),
Algorithm,
Spatial/temporal resolution,
Quality control

Observational requirements:
Geophysical variable,
Unit, Domain,
Spatial resolution,
Temporal resolution, Uncertainty …

Specifications:
Instrument type,
Orbit, Scanning mode,
Spectral bands,
Channel width, SNR, …

USERS' needs

USERS' satisfaction

Services info needs

ECV Products and climate extremes

Observation & Monitoring

Datasets

Instruments

Source, Format,
Projection,
Segmentation,
Quality flag,
Compression,
Metadata…

DRAFT RESOLUTION 4.4(2)/1 (RA I-16)
WMO/AMCOMET REGIONAL SPACE PROGRAMME FOR AFRICA

- **Recommends:**
- That the WMO/AMCOMET Regional Space Programme for Africa **build to full extent on, and strengthen**, existing satellite-related programmes and activities in the Region, and focus on key gaps identified by Members;
- That the prospective WMO/AMCOMET Regional Space Programme for Africa put emphasis on the further development of regionally-tailored applications of space-based observations to weather prediction, climate monitoring, and disaster risk reduction;
- That considerations for the prospective development of a Space Segment be based on a thorough gap analysis using:
  - The WMO Rolling Review of Requirements process;
  - The experience gained in applications of existing satellite systems; and
  - The identification of precise needs and of gaps in current and planned satellite systems;

DRAFT RESOLUTION 4.4(2)/1 (RA I-16)
WMO/AMCOMET REGIONAL SPACE PROGRAMME FOR AFRICA

- **Recommends: (continued)**
- That the development of the WMO/AMCOMET Regional Space Programme for Africa be closely connected with the AU African Space Policy and African Space Strategy developed at the request of AMCOST, in collaboration with AMCOMET and the African Union Commission (AUC);
- That the concept and elements of a Regional Space Programme for Africa be further developed in 2015;

Concluding with suggestions

- Under ONE African Space Programme framework, to kick-off the Meteorological Project, take into consideration of RA I-16 Concept paper on African Space Programme
- With the understanding that the Meteorological Project should consist of Ground Segment, Application Segment and Space Segment
- Request the Task Team to develop the Meteorological Project Implementation Plan (MPIP), with consultation to WMO Space Programme, relevant regional and international organizations and partners.

Thank you for your attention

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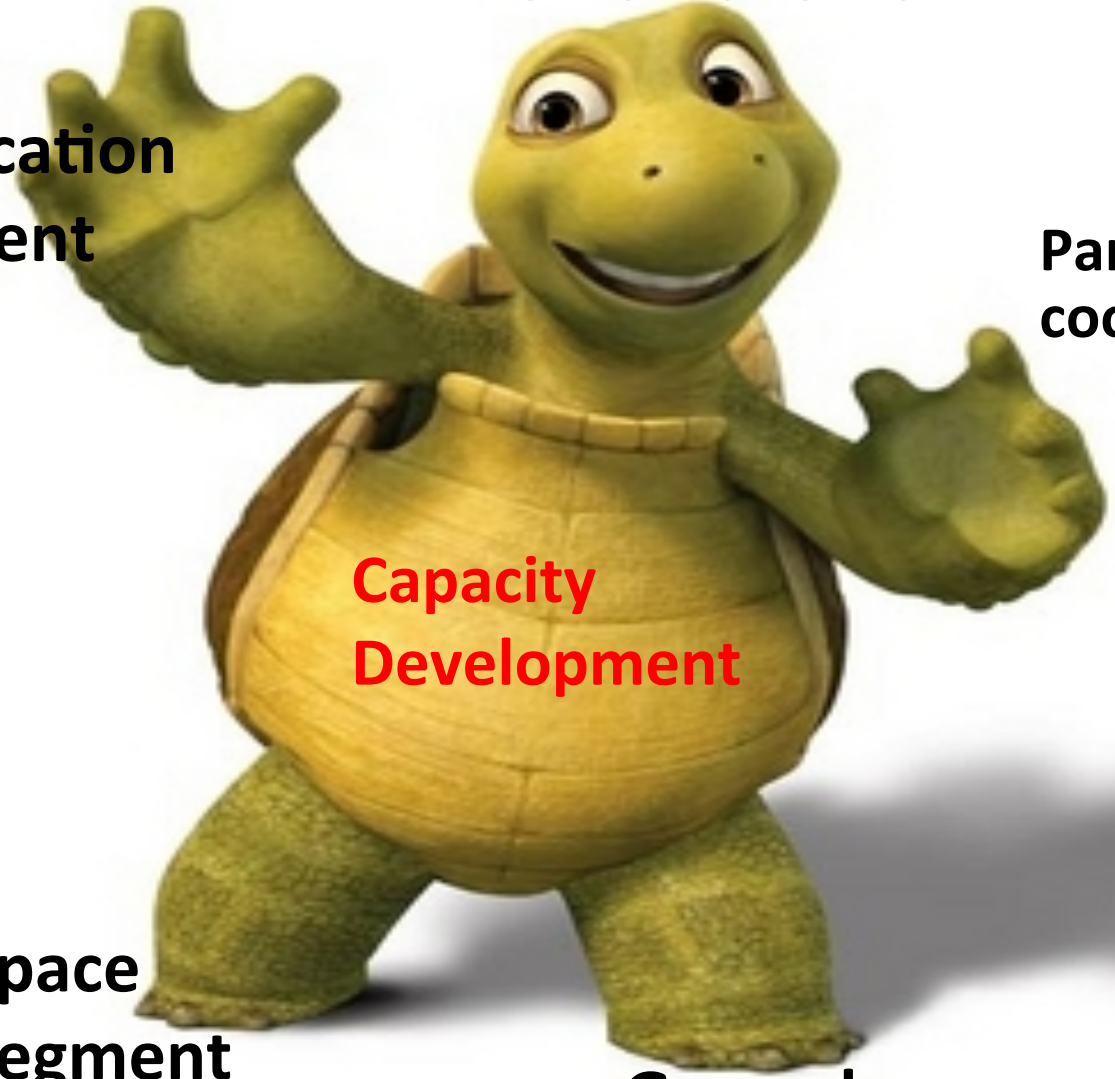
www.wmo.int/sat

Demo Benefits

Application Segment

Partnership & coordination



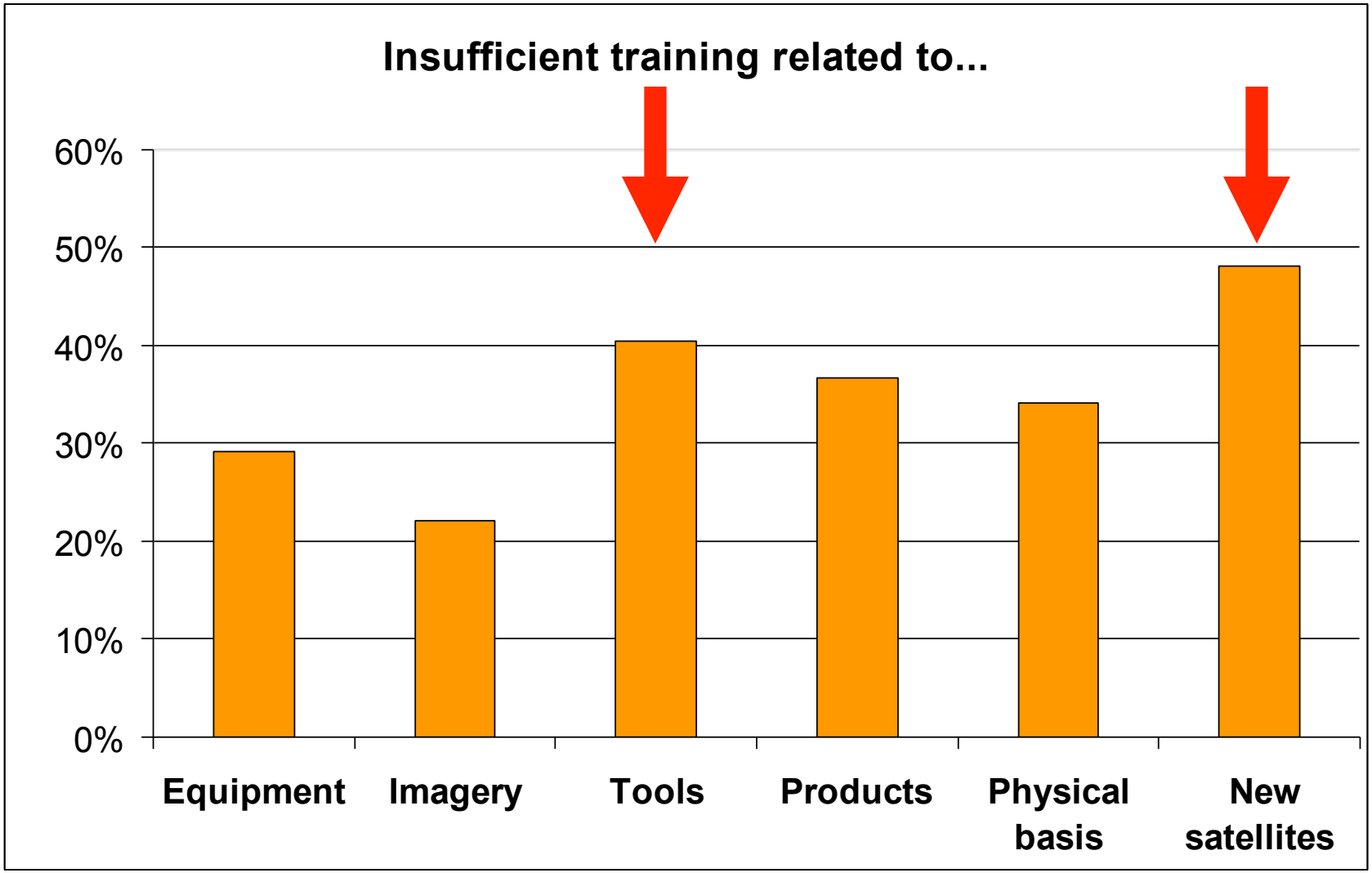
Capacity Development

Space Segment

Ground Segment

WMO 2012 Survey on the Use of Satellite Data

227 responses from 95 Members



Source:

WMO 2012 Survey on the Use of Satellite Data