MIRS Multi-Stage Process and Data Flow

-Fusion of Heritage and Advanced Products-

MIRS Development Team

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MIRS Oversight Board

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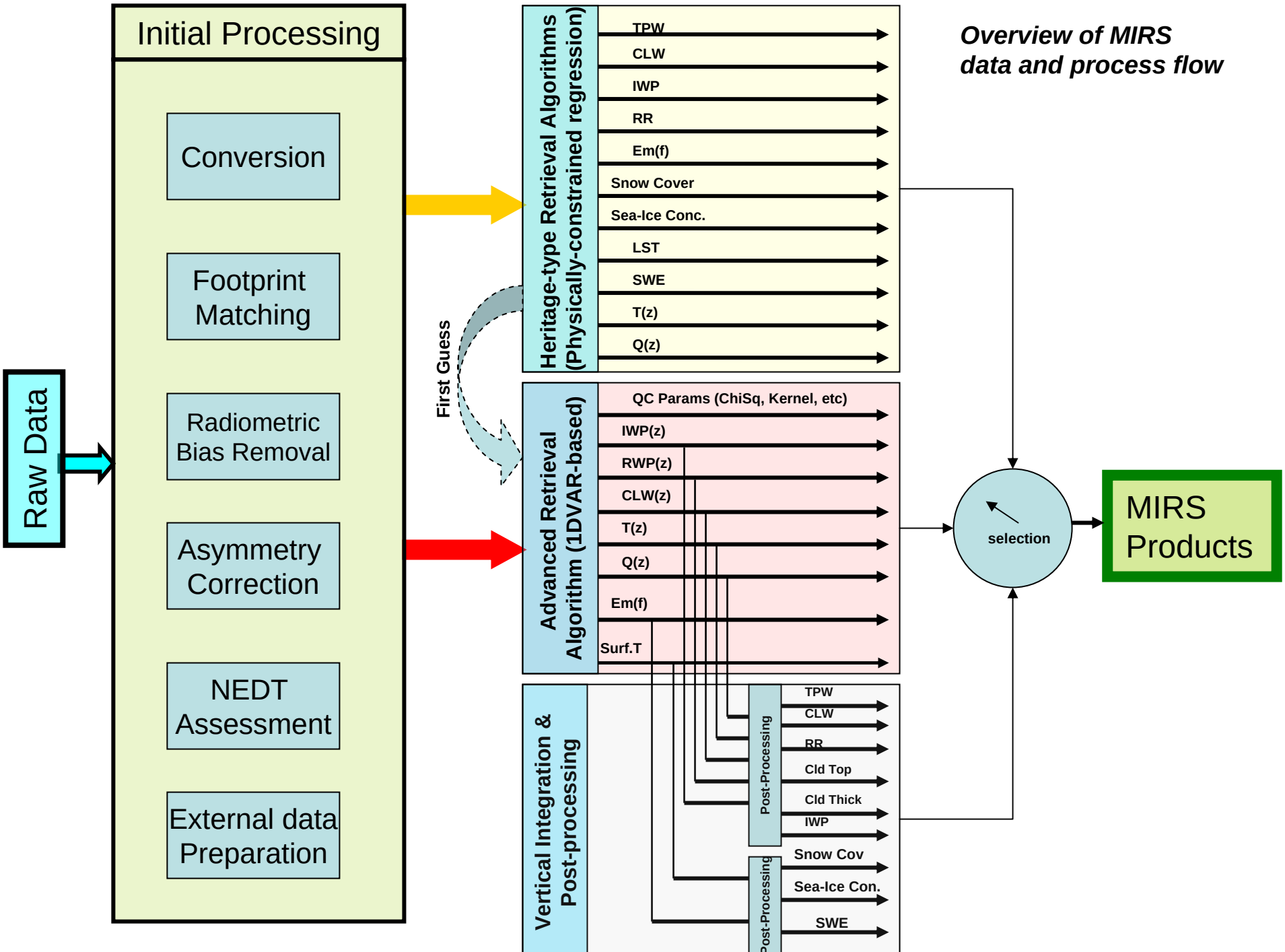
Overall Concept

- Designed for all microwave sensors
- Framework for integrating microwave algorithms, based on different technologies
- Ensure smooth transition between heritage and advanced products
- Introduction of new products
- Ease of maintenance, monitoring and operational implementation


Initial Processing
Conversion
Footprint Matching
Radiometric Bias Removal
Asymmetry Correction
NEDT Assessment
External data Preparation
Raw Data
First Guess
Heritage-type Retrieval Algorithms (Physically-constrained regression)
TPW
CLW
IWP
RR
Em(f)
Snow Cover
Sea-Ice Conc.
LST
SWE
T(z)
Q(z)
Advanced Retrieval Algorithm (1DVAR-based)
QC Params (ChiSq, Kernel, etc)
IWP(z)
RWP(z)
CLW(z)
T(z)
Q(z)
Em(f)
Surf.T
Vertical Integration & Post-processing
Post-Processing
TPW
CLW
RR
Cld Top
Cld Thick
IWP
Post-Processing
Snow Cov
Sea-Ice Con.
SWE
selection
MIRS Products
Overview of MIRS data and process flow

Smooth Transition

- The selection process is based on the validation of the products.
- This transition will be multi-phased
  - **Phase 1:** Heritage products + T profiles from 1dvar (validated)
  - **Phase 2:** Replacement of existing heritage products by advanced products when these are validated (TPW, CLW, LST, etc)
  - **Phase 3:** Introduction of the advanced novel products when they are validated: hydrom. profiles, full-emissivity spectrum, etc