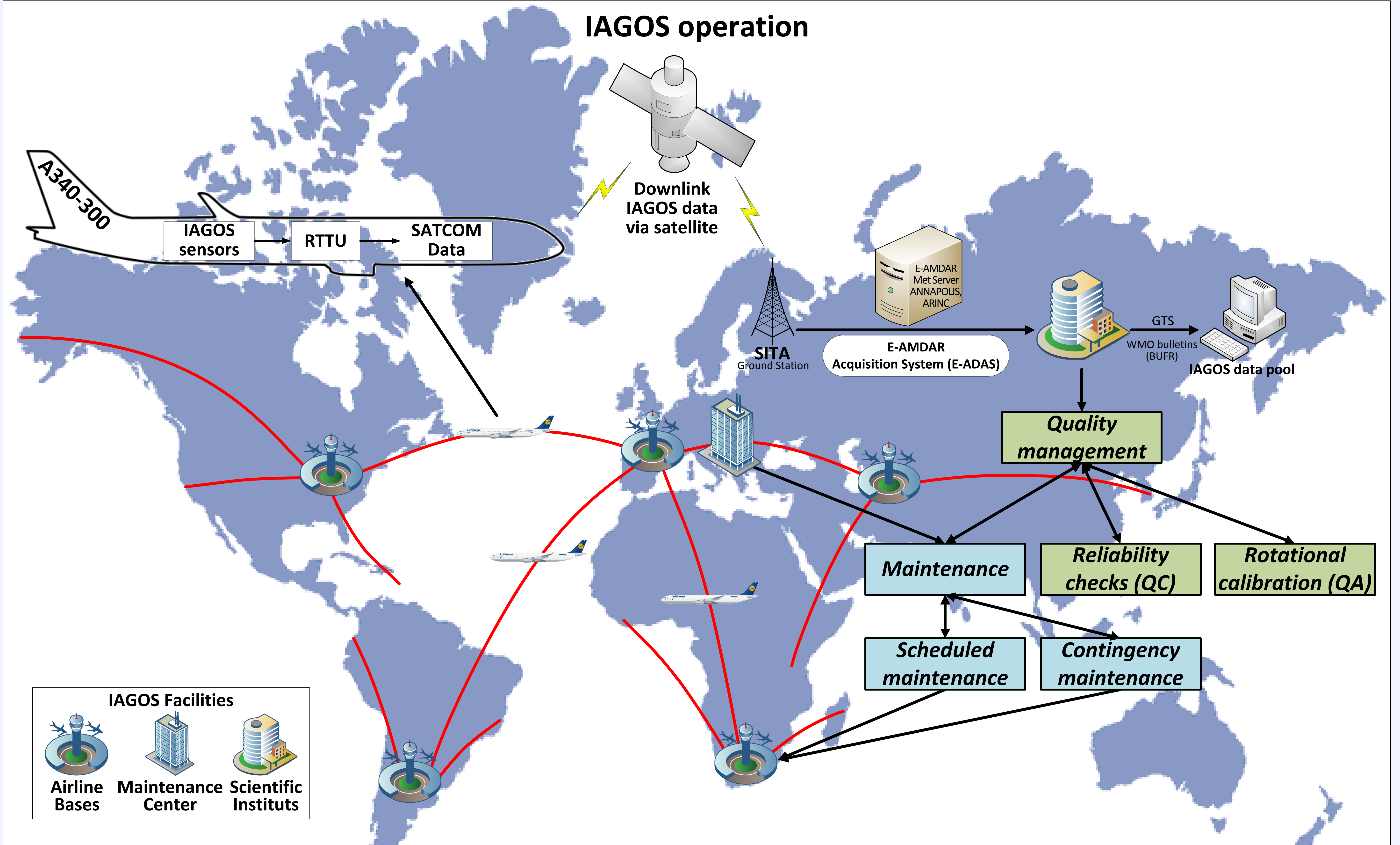




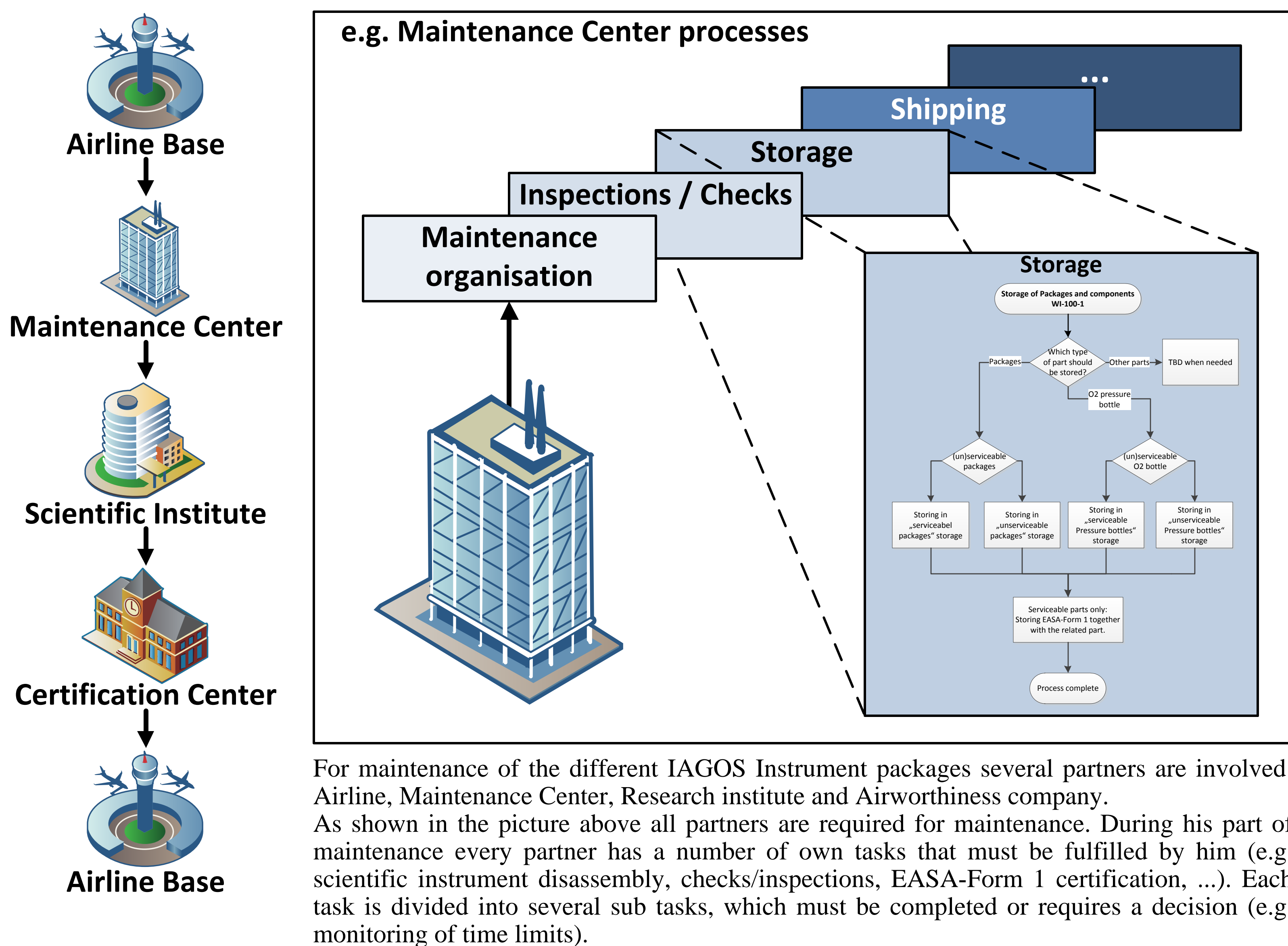
Maintenance requirements for a global distributed research infrastructure

D. Eberlei, H. Franke, enviscope GmbH, Frankfurt, Germany

IAGOS operation



Maintenance



Key activity's

- Spare part stocking
- Scheduling of maintenance actions
- Coordination with airlines
- Shipping logistics
- Permanent controls and checks
- Education and training
- Surveillance of lifetime limited parts
- Management of unscheduled events
- Contracts with external suppliers
- Release to service approval
- Data reliability checks
- Establishment of communication paths

Preparation of operational basis

- To establish a frictionless operation of the IAGOS system a quality management (QM) system must be organised, consisting of quality control (QC) processes for the received IAGOS data and a quality assurance (QA) system for the installations onboard the aircraft.
- The QA system has its focal point on the scientific instruments and related components (e.g. H2 pressure bottles). The maintenance is planned and co-ordinated by the maintenance center according to the maintenance requirements of each scientific instrument and the maintenance intervals of the affected aircraft. The maintenance facility acts as a logistical center to optimise the QA workflow.
- The maintenance process must be established for scheduled checks and calibrations, As well as contingency repairs. In any case the tasks are distributed to a number of different IAGOS facilities, each of them is self responsible for creating their single detailed processes. The maintenance center supervises the process throughout the different stages. This includes the "release to service" certificate (e.g. EASA-Form 1) issued by an approved Part-145 company in order to fulfill all airworthiness requirements.

- The maintenance chart consists of various processes at different institutions. Each individual maintenance task can be worked out by linking the single processes. For the future demands it is possible to expend the procedures for integration of new partners (Airlines and others companies/institutes as well) and further instrument packages (e.g. Aerosol and Greenhouse gases) easily.