*Host (on behalf of ASD):*

ADS is the Premier Trade Organisation for companies in the UK Aerospace, Defence, Security and Space Sectors.

# Challenges and Chances of the Integrated Product Support (IPS) approach in a fully integrated environment


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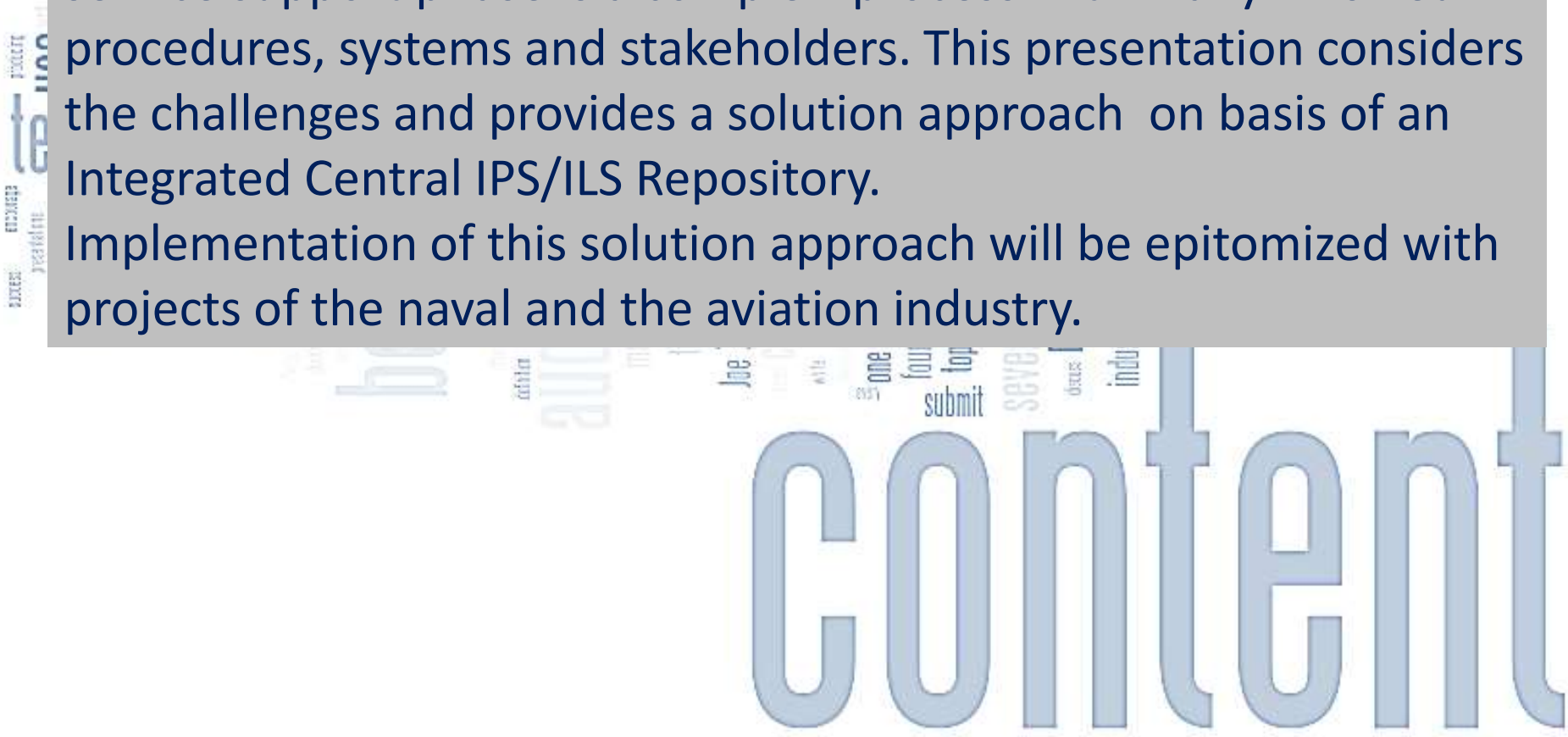
# Agenda

- Concepts and Ideas of an Integrated Product Support (IPS) Repository
- Chances and Practical Examples from ASD/AIA/ATA S1000D
- Challenges based on Customer's Experiences

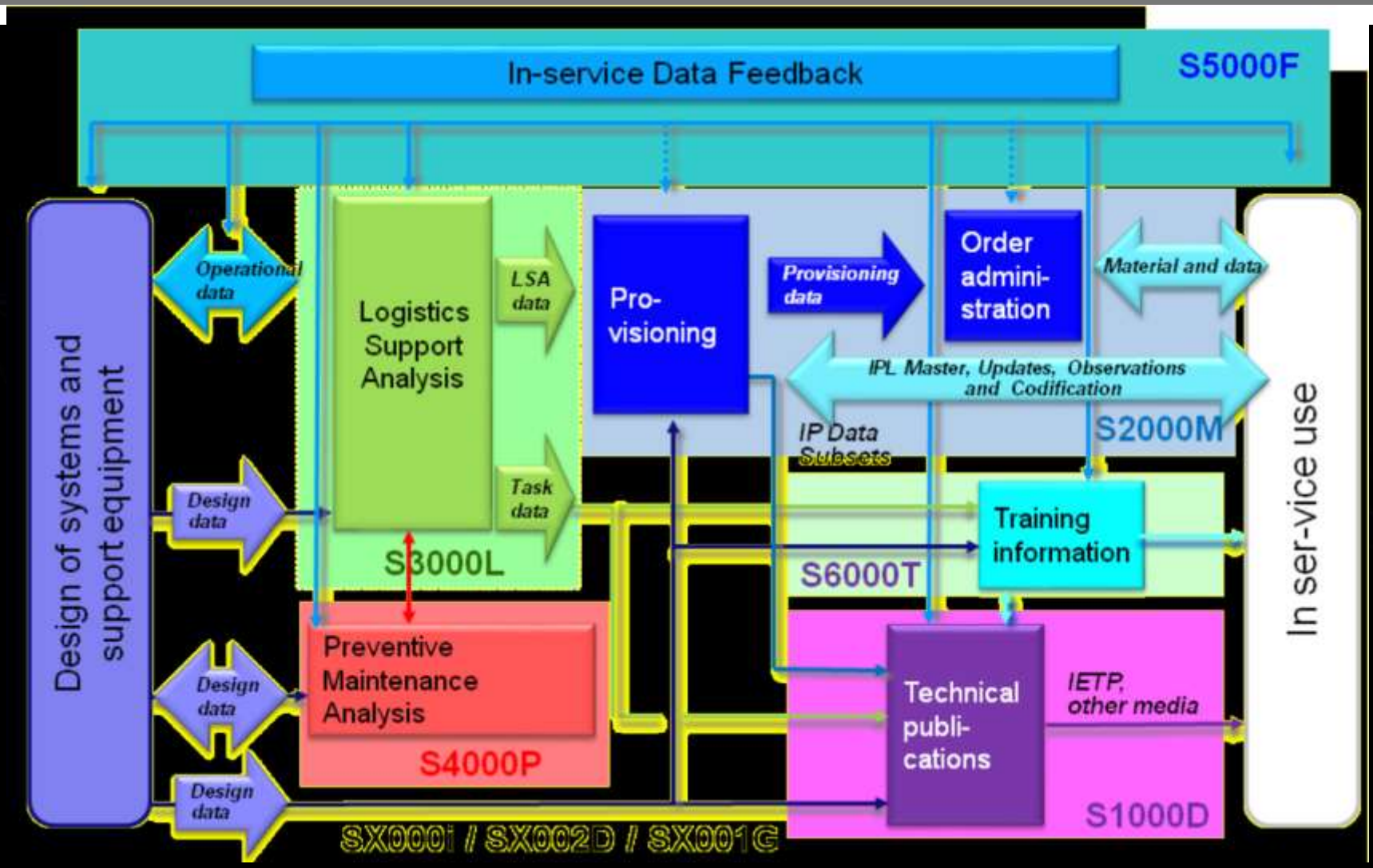
# Content of Presentation

Maintenance development from the design phase to the in-service support phase is a complex process with many involved procedures, systems and stakeholders. This presentation considers the challenges and provides a solution approach on basis of an Integrated Central IPS/ILS Repository.
Implementation of this solution approach will be epitomized with projects of the naval and the aviation industry.

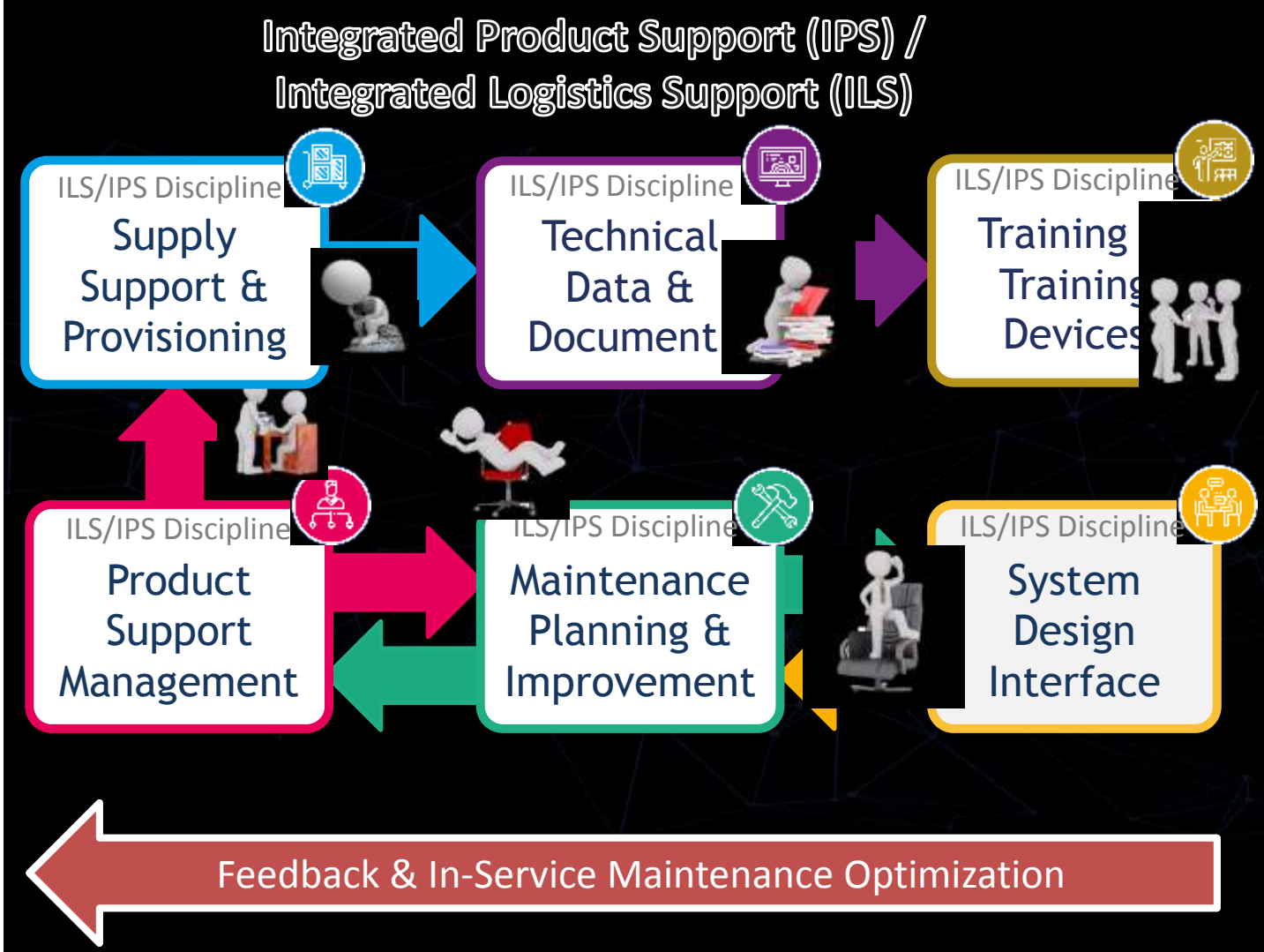


# Concepts and Ideas of an Integrated Product Support (IPS) Repository

# Approach by ASD Suite of ILS/IPS Specifications



# Integrated Product Support (IPS) / Integrated Logistics Support Process - Theory

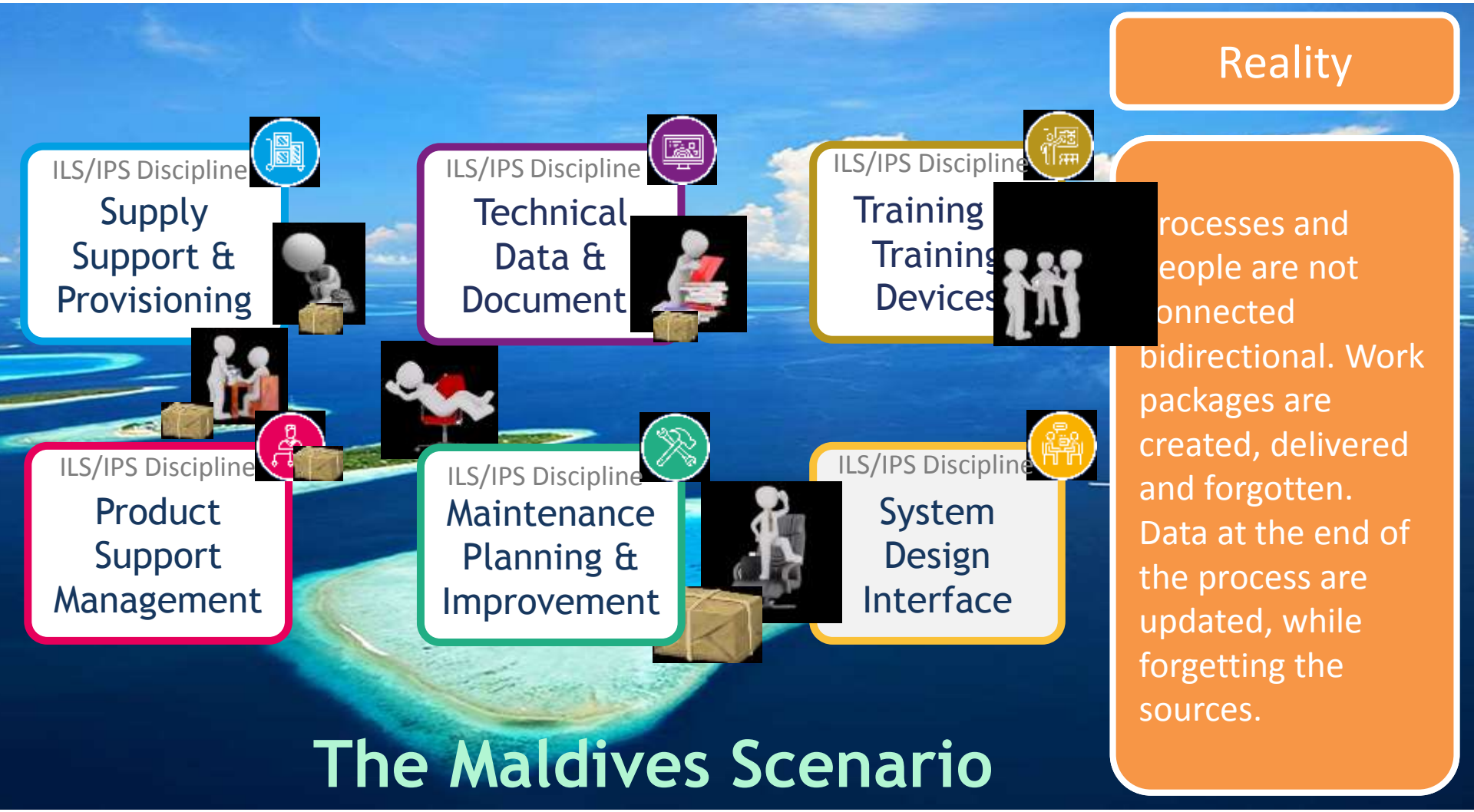



## Theory

The IPS/ILS process is a highly dynamic process with many data flows and many influencing (external) factors.

Communication
Data Consistency
Traceability

# Integrated Product Support (IPS) / Integrated Logistics Support Process - Reality




## Reality

rocesses and eople are not onnected bidirectional. Work packages are created, delivered and forgotten. Data at the end of the process are updated, while forgetting the sources.

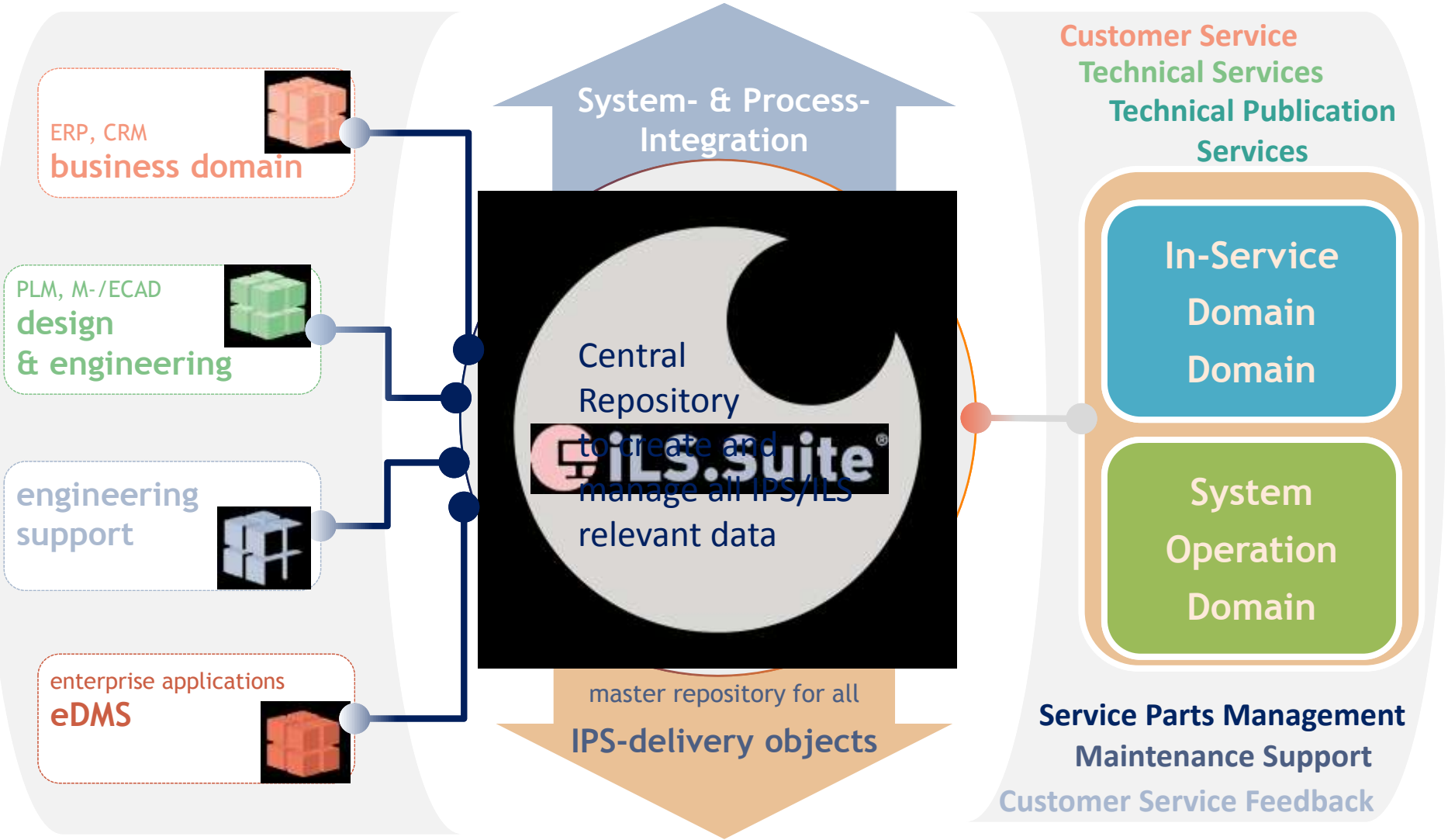
# The Approach of an Integrated and Central ILS/IPS-Repository

## The Maldives Scenario

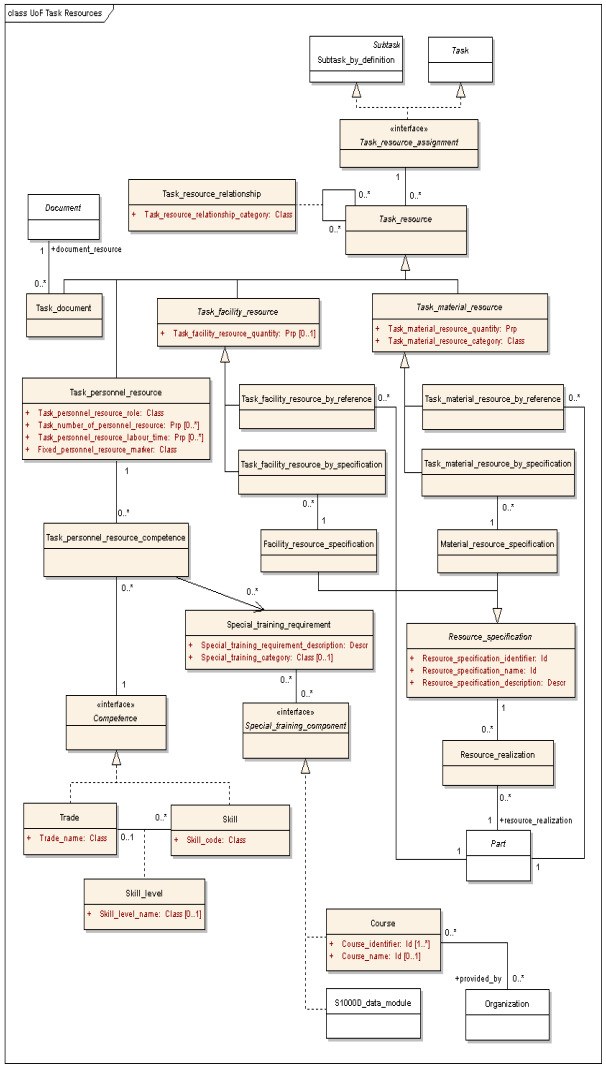
## The Integrated Approach

The integrated approach builds bridges between the different ILS-/IPS processes and people, as they all work with the same data. Bridges allow to „walk“ in both directions.

# General Definition of an Integrated Central ILS/IPS-Repository



# Important Determination in the Context of Data Models / Standard Compliance




## Determination

None of the specifications of the ASD Suite of ILS Specifications (besides ASD S1000D) forces the software developing companies to store the data in the data model defined by these specifications. The data model gives guidance for the required elements and attributes.

The objective of the schemas and data modules is the standardization of the data exchange between different software tools and parties.
The more important aspect of the ASD Suite of ILS Specifications are the defined processes.

An ILS/IPS Repository can have any database model. Standard compliance in the context of schemas and data models is a requirement for its interfaces.

Freedom to extend or reduce and data relation (especially between the different standards) especially for optimal user guidance and data traceability.

# Concepts and Ideas of an Integrated Product Support (IPS) Repository

# Central Repository for integrating IPS Data as source for In-Service Data

Design Study

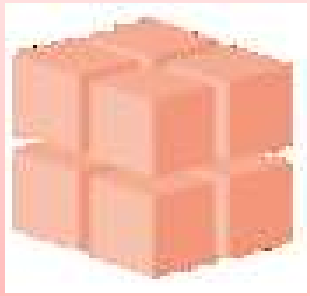
Contract

PLM

Central Integration Platform for IPS Data

IPS Repository

iLS.Suite



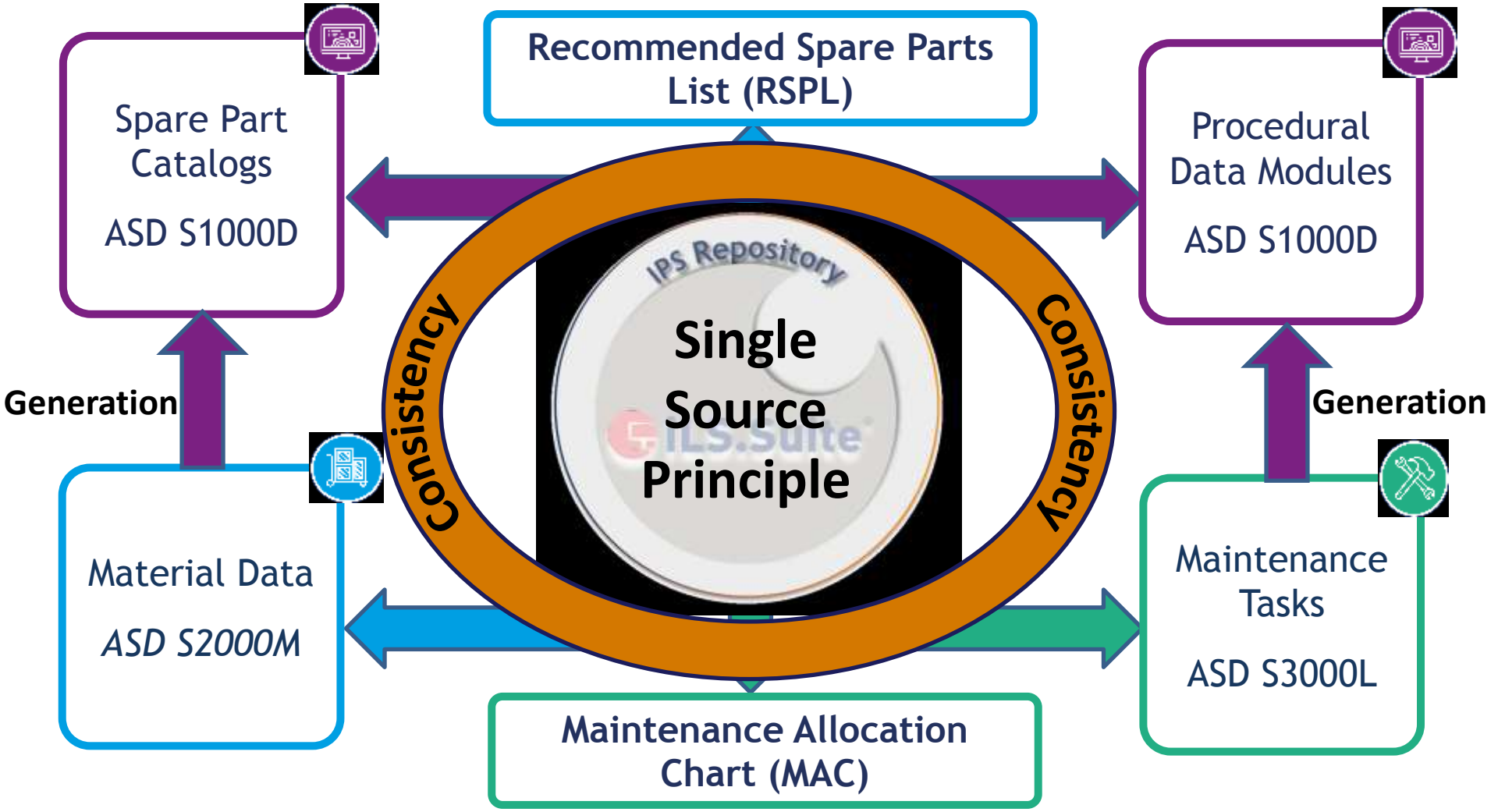
ERP

In-Service

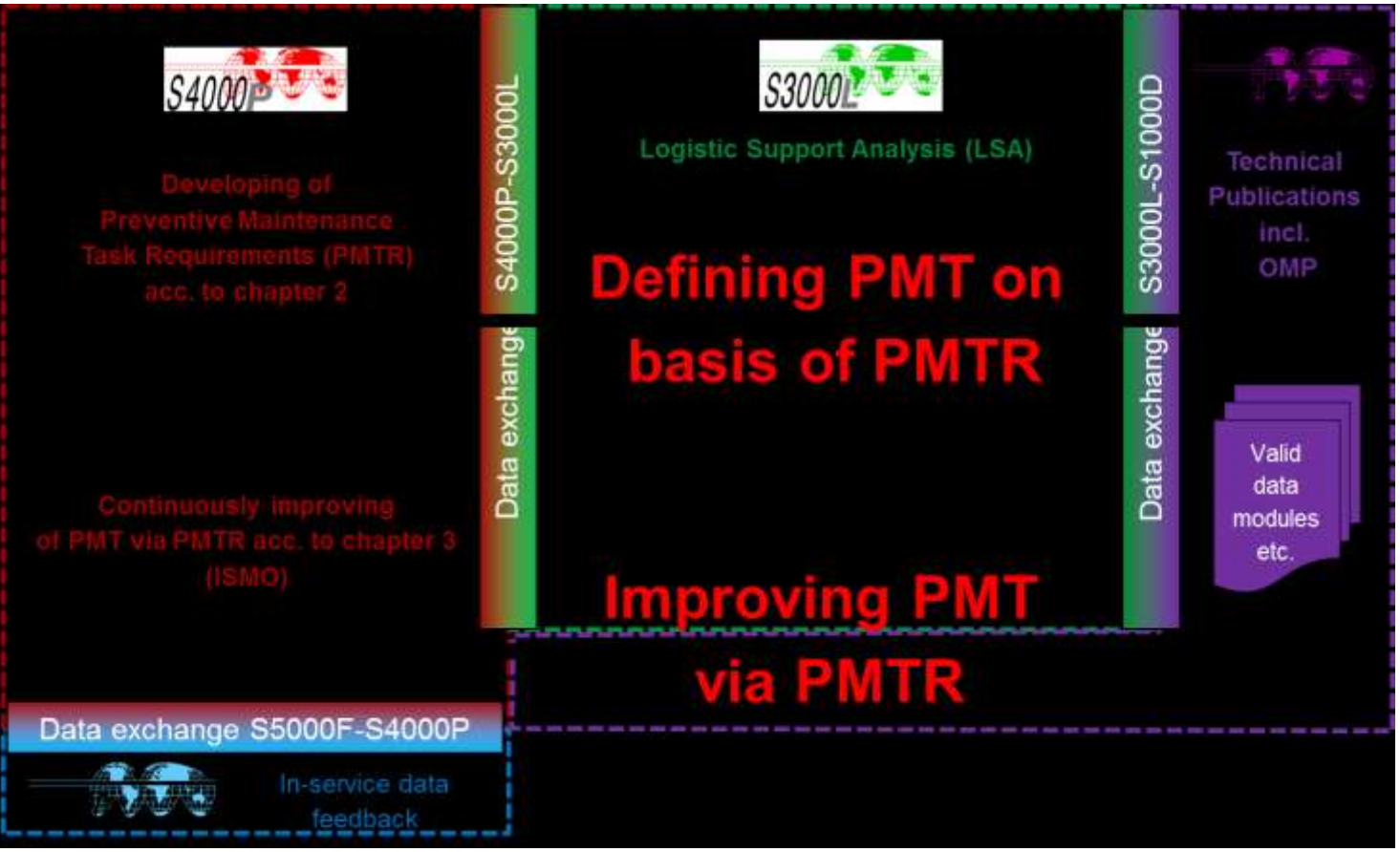
Customer Support
In Service Support
System Operation
Maintenance Support

- **IETD**
- Maintenance Management / Tracking
- …

# Consistency of IPS Products



# Traceability of IPS Products




Traceability of IPS data is massively reducing the effort during e.g. the In-Service Maintenance Optimization Process (ISMO) of ASD S400P.

As all IPS data are related, a Preventive Procedural Data Module can be easily traced back to its Preventive Maintenance Task Requirement (PMTR).

# Challenges based on Customer's Experiences

Obvious, but important!

# Tailoring according ASD SX000i

Tailoring is fundamental to the cost effective application of ILS on a project. It is the process of identifying the range and depth of ILS activities that should be carried out and depends on the scope, size, complexity, life cycle phase and contractual arrangements of a project.

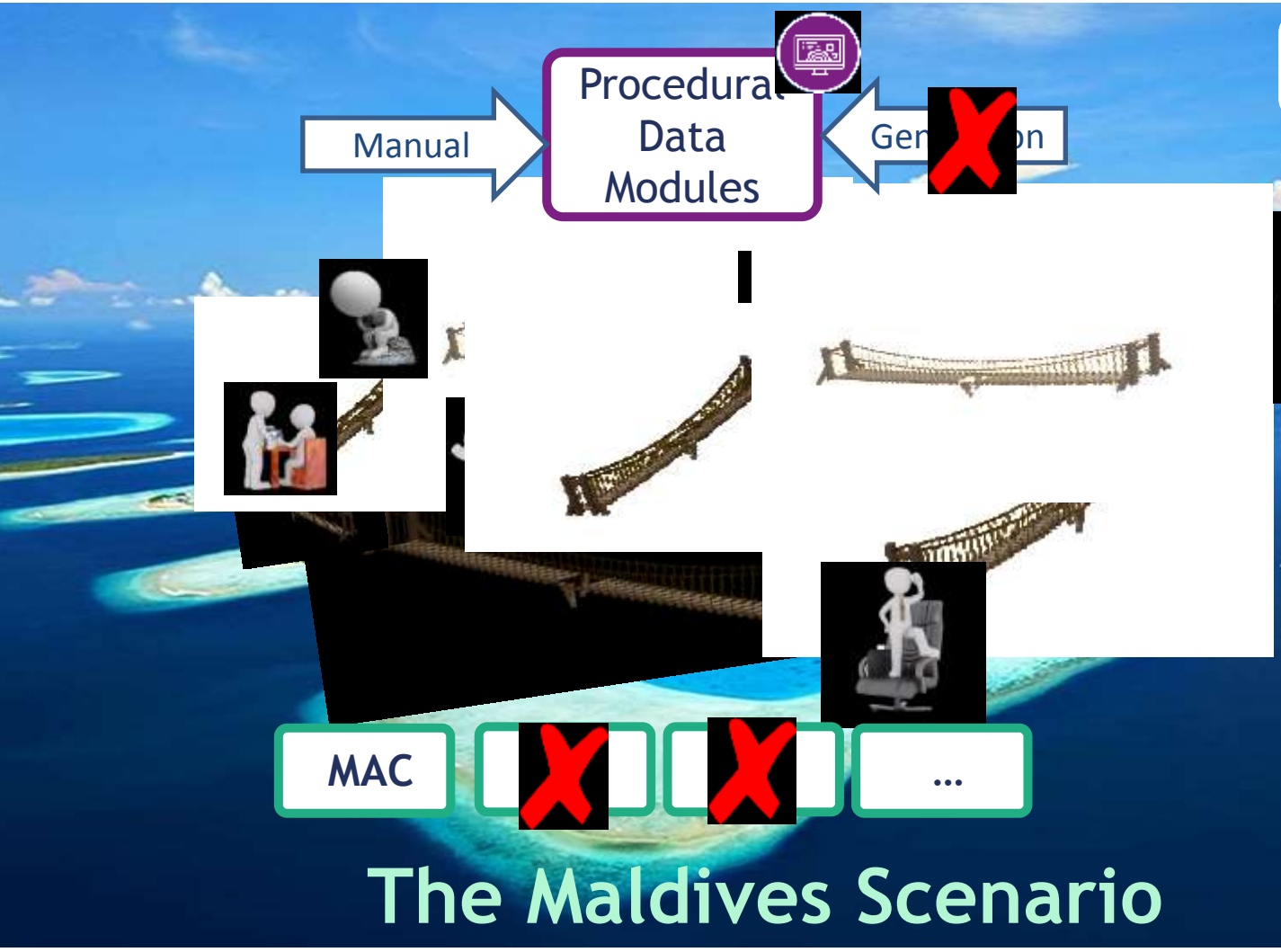
**Factors affected tailoring**

- Type of program (national or multinational program )
- Nature of project (civil or military )Phase of the project
- Type of project
- Cost limitations
- Time and resources available
- Amount of design freedom involved
- Data availability and relevancy
- Work already completed on the project
- Past experience and historical data Estimated return on investment
- Contract agreement

**Tailoring process basic activities**

- ILS activities
- Output
- Input
- Resources

# Tailoring of the IPS Process



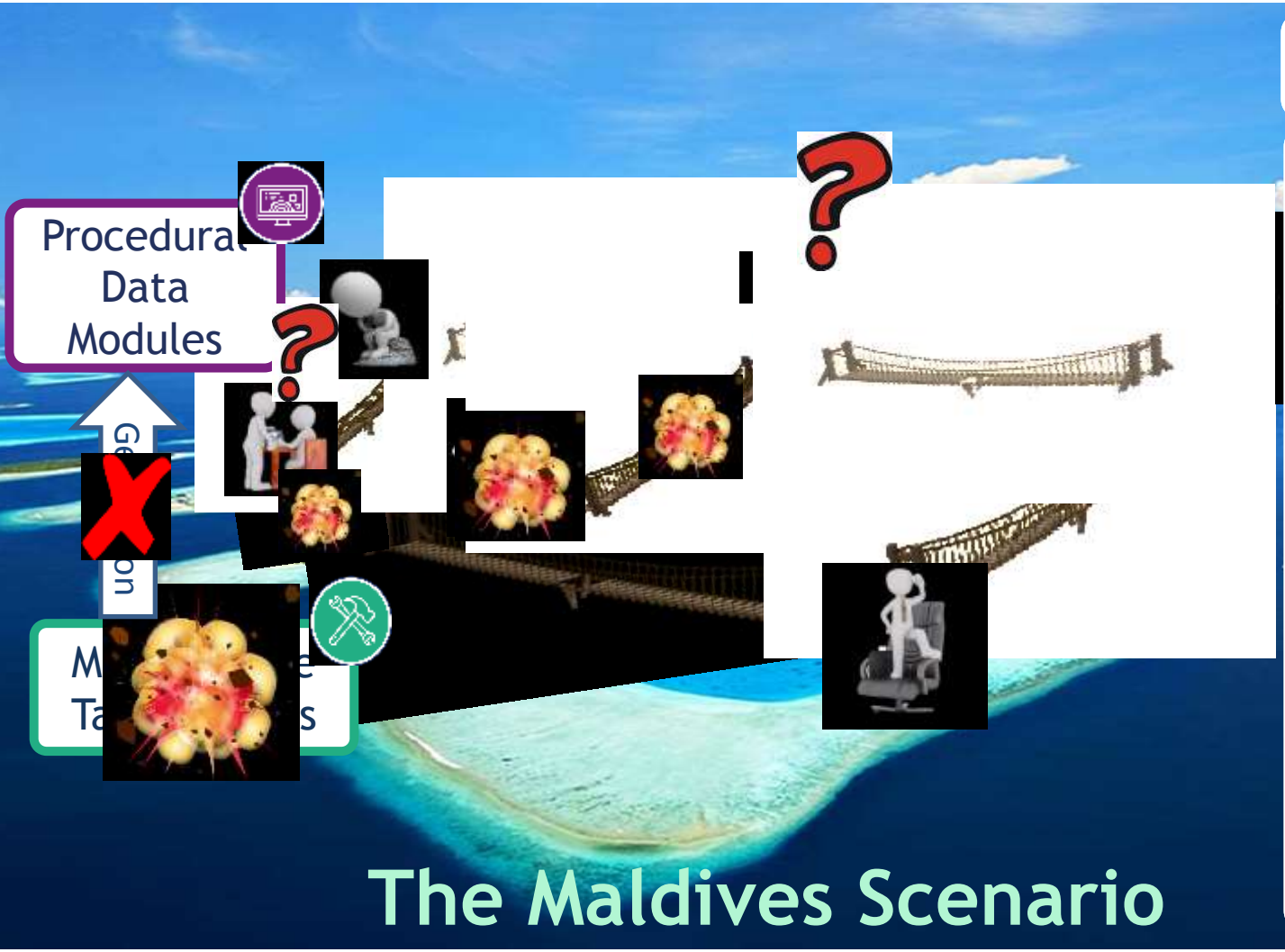

## Tailoring

Tailoring is of course also both an aspect of the IPS process and the IPS repository!

Tailoring should be conducted in early project stages to assure correct planning of work packages an resources.

Tailoring is normally contract driven.

# Tailoring of the IPS Process

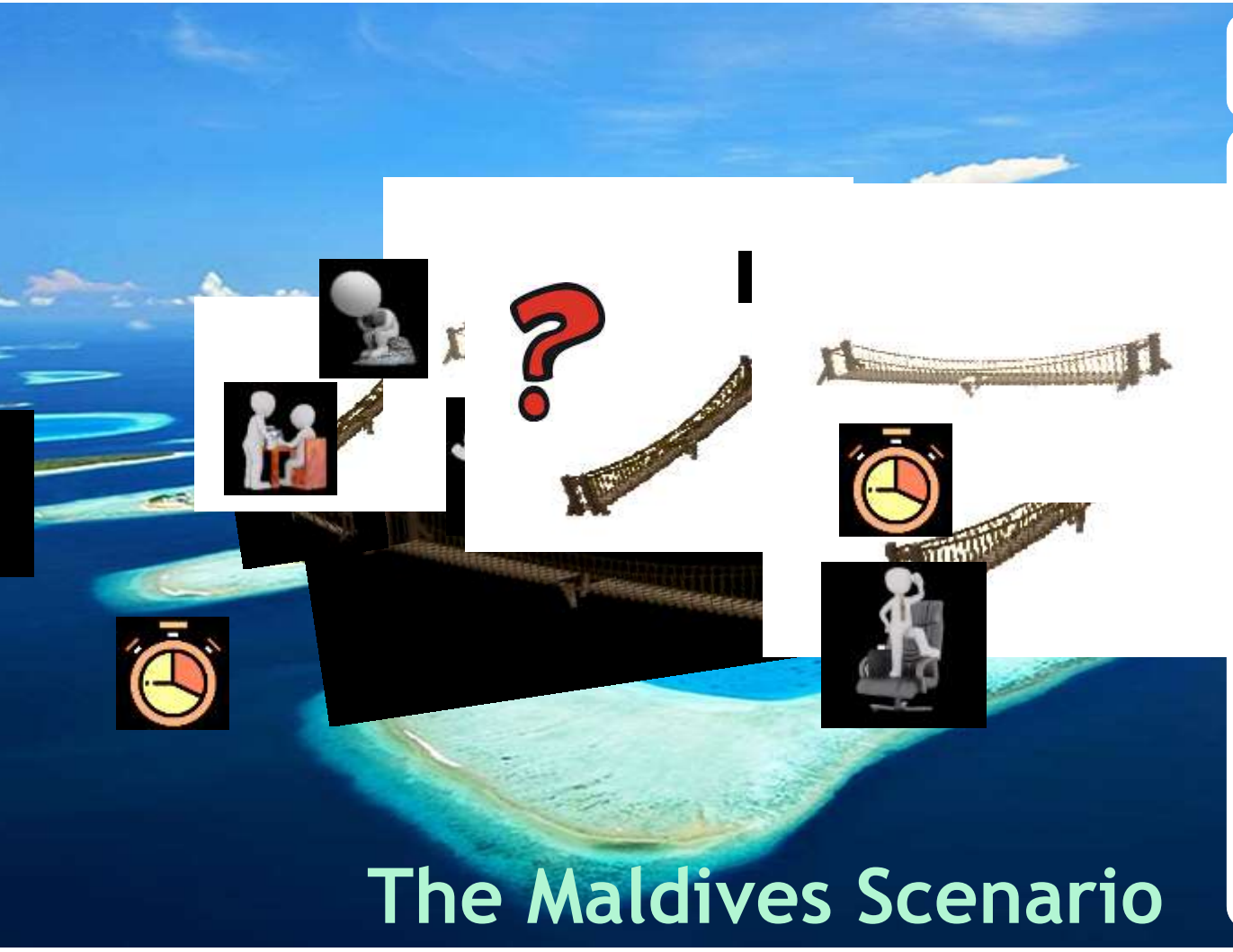



## Tailoring

Tailoring during the project, respectively cancelling IPS products should be avoided as it in general creates unplanned efforts and leads to postponements.

E.g. manual creation of procedural data modules shifts efforts and planning.

# Planning and Management of the IPS Process




## Planning

Planning, controlling and management of the different IPS activities is a continuous task. Most activities start in parallel but time shifted due to dependencies. Delays and risks need to be monitored (Plan-Do-Check-Act).

Due to traceability of all data, an IPS repository is an easy excuse.

# Tailoring according ASD SX000i

Tailoring is fundamental to the cost effective application of ILS on a project. It is the process of identifying the range and depth of ILS activities that should be carried out and ... on the scope, size, complexity, life cycle phase and contractual arrange...

**...ected tailoring**

- Type of program (national or multinational program )
- Nature of project (civil or milit...
  )Phase of the project
- Type of project
- Cost li...
- ...

**Keep it as complex as required and as simple as possible!**

**Fa...** ...the project
...historical data
...eturn on investment
...tract agreement

**Tailoring proc...**

SX000i

# Thank you

## for your attention!

# Questions?

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