

## Knowledge Inside arKitect PMO solution

arKitect designer is a tool for developing client-server SDL applications.

- arKitect designer is ~30 times faster than other SDK
- Its use does not require software skills.
- Its extensive python API enables openness and connectivity
- User administration and configuration management are native

Knowledge Inside has been involved in several project modeling activities since 2011 and progressively developed associated libraries and data models in the automotive, space and energy domains.

## The case: AREVA multi-partner project

Areva investigated a Model Based approach for setting up the Work Breakdown Structure of a nuclear plant project performed in collaboration with other key industrial partners of the energy domain.

Problems to be solved included:

- Manage collaboration between several industrial partners having their own processes, methods and approaches.
- Generate the Work Breakdown Structure (WBS) and Work Packages Descriptions (WPD) for the project.

## Project Plan Modeling: scope and covered processes

### Input

Step 1: Build Product Breakdown Structure

- > Based on Functional Breakdown Structure
- > Product Assembly Tree
- > Including Support Systems (Integrated Logistics Support)

Step 2: Build Execution Logic From Generic Process

> ISO 15 288

Step 3: Model Organization

Step 4: Identify Key Resources & Skills

### Process

Step 5: Generate WBS

Step 6: Allocate OBS

### Output and supported processes

Step 7: Build Risk Analysis from WBS

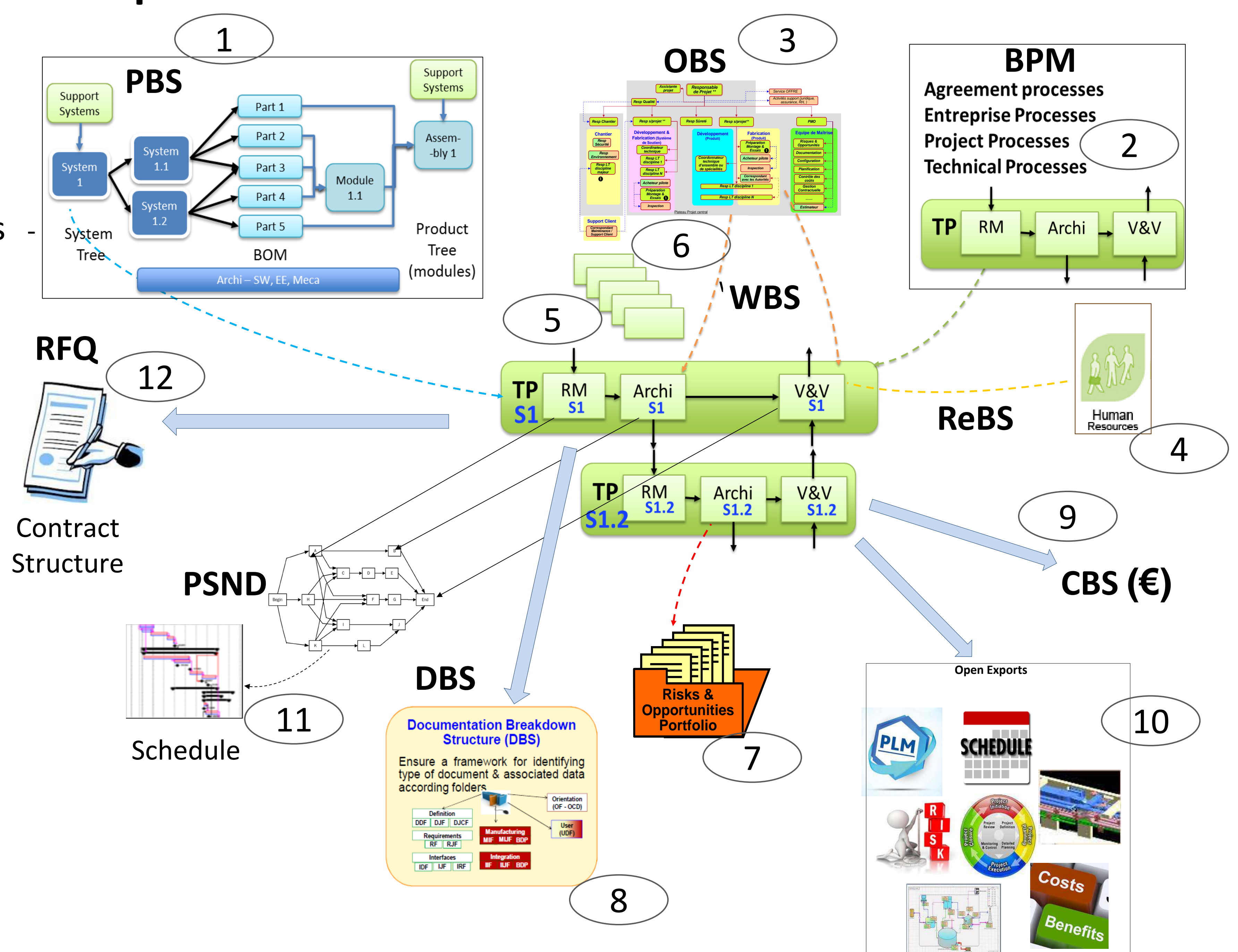
Step 8: Generate Documentation Breakdown Structure (DBS)

Step 9: Build Cost Breakdown Structure (CBS)

Step 10: Be able to implement in tools

Step 11: Build Project Schedule Network Diagram (PSND)

Step 12: Generate Work Description Sheet (WDS) frame



## Modeling benefits:

- Ensure **consistency** between all projects breakdown structures (PBS, WBS, OBS, Schedule...) enabling synchronization between all actors.
- Convergence on a set of **generic processes** to be applied together with associated **standard document** types
- Automated generation of **WBS** from the Product Breakdown Structure (**PBS**) (e.g. from a PBS with ~100 items and formalized processes, we got a **WBS** with more than 100 Work Packages and 1000 documents and items).
- Automated generation of Work packages description sheets.
- An objective and neutral support for project plan enabling more efficient collaboration

## INCOSE French chapter (AFIS)

### PjBS working group

In order to follow-up the work on this topic, A working group has been settled up in 2015 at the INCOSE French chapter (AFIS) with 25 participants including a PMP certified experts.

An outcome of the working group is the agreement of all industrial participants about the lack of consistency between state of the Art Product tree and Work Breakdown Structure and the subsequent coordination risks between Project Management and Engineering.

A working group between PMI (Project Management Institute) and INCOSE has been settled up recently with the objective to enable better coordination between Systems Engineering and Project Management.