# ARIS - Business Process Frameworks

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## General Ideas

- ARIS = Architecture of Integrated Information Systems
- A Model for describing computer-aided information systems
- A business process is a continuous series of tasks

## Business Process Modeling with ARIS

### Different Types of Information in the Business Process Description

- 4 Types of Information show different Aspects of a Business Process
- They can be displayed or not, depending on what information is needed
- Combined they display the process as a whole
- The System is based around the functions and all components interacting with it
- Systems are controlled by events (Event-Driven Process Chains (EPC))
- Classes describe the sets of information in a process
- Instances describe specific cases a process has been executed in reality

| Responsible Entities | Functions | Outputs | Information |
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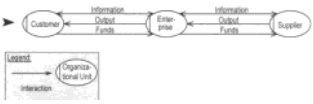
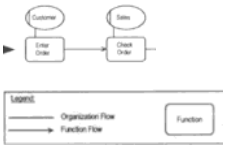
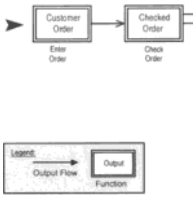
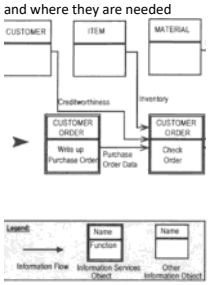
| • Organizational Units involved in the process<br>• Depicts output and communication relationships | • Activities (=functions) to be executed<br>• Depicts sequences of tasks | • Every result of a function or step | • All information needed for the process and where they are needed |




### ARIS House

= Model of the different types of levels in business processes

#### ARIS Views

- Different types of views show different entities of the process

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| **Organization View** | Describes the structure of the company and responsibilities. |
| **Data View** | Defines the information and data used in processes. |
| **Function View** | Shows what tasks and activities are performed. |
| **Control View** | Connects all other views into complete business processes. |
| **Output View** | Describes the products or services created by the processes. |

#### ARIS Phase Model

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| **1. Strategic Situation Analysis** | Examines the company's current state, goals, and environment to identify needs for change. Strategic plans are made. |
| **2. Process Design (Conceptual Design)** | All views are modeled with processes. |
| **3. System Design (Technical Design)** | Translates process models into IT and system requirements (e.g. for databeses and networks) |
| **4. Implementation** | Implementation of |
| **5. Operation and Maintenance** | Monitors results and continuously optimizes processes based on performance feedback. |

#### Business Process Management

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| **Level I Process Engineering** | Business processes are modeled.<br>Optimization, evaluation, and quality assurance. |
| **Level II Process Planning and Control** | Current business processes are planned and controlled by process owners.<br>Scheduling, capacity planning, and activity-based cost analysis. Process monitoring<br>Tracking the state of ongoing processes. |
| **Level III Workflow Control** | Objects (e.g. customer orders, insurance claims) are transferred between workplaces.<br>Pass the objects (e.g. documents) from one workplace to the next |
| **Level IV Application System** | Business process functions are executed using computer-aided applications.<br>Simple word processing to complex software modules, business objects, or Java applets. |

### Modeling Standards

#### Principles of modeling in ARIS

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| **Principle of Correctness** | • Model must follow correct syntax and semantics.<br>• Reflects real system behavior.<br>• Checked through simulations and rule-based validation. |
| **Principle of Relevance** | • Include only elements serving the model's purpose.<br>• Avoid unnecessary detail.<br>• Keep complexity and effort low. |
| **Principle of Cost vs. Benefit** | • Modeling effort must match usefulness.<br>• Focus on efficiency, value, and model lifespan. |
| **Principle of Clarity** | • Model must be easy to read and understand.<br>• Use sub-views for complex content.<br>• Support user comprehension. |
| **Principle of Comparability** | • Use consistent framework and naming.<br>• Ensure same level of detail.<br>• Align meta models for cross-language comparison. |
| **Principle of Systematic Structure** | • Integrate models from different views.<br>• Use one unified meta model for consistency. |

#### Modeling Levels

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| **Meta² Level** | • Defines the most abstract concept "object type."<br>• Contains designations used at the meta level.<br>• Serves as the foundation for defining modeling elements. |
| **Meta Level** | • Defines general classes and relationships describing business processes.<br>• Forms the ARIS information model.<br>• Provides structure and rules for modeling. |
| **Application Level** | • Represents real-world business applications.<br>• Models business processes, functions, and entities within information systems.<br>• Focuses on practical implementation. |
| **Instance Level** | • Contains specific, individual instances of business processes.<br>• Represents real data and cases executed at run-time. |

#### Phases of Business Process Optimization

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| **Preparatory Measures** | • Define project scope and preliminary goals.<br>• Set up project organization and steering committee.<br>• Train staff, document methods, and launch with a kick-off event. |
| **Strategic Planning** | • Align business processes with corporate strategy.<br>• Define strategic goals and critical success factors.<br>• Model target hierarchy and document BPO goals (quantitative and qualitative). |
| **As-is Study** | • Capture and document current processes using value-added chains and EPCs.<br>• Record organization, information objects, and systems.<br>• Identify weak points and optimization potential through criteria such as costs, time, redundancies, and bottlenecks. |
| **Target Concept** | • Develop optimized target processes based on weak spot analysis.<br>• Use reference models to speed up design.<br>• Simulate and evaluate "what if" scenarios.<br>• Define new organizational structures and qualification needs. |
| **Design Specification** | • Plan IT implementation for target processes.<br>• Create an IT blueprint balancing processes, applications, and infrastructure.<br>• Develop migration and implementation plans with timelines and resources. |
| **Implementation** | • Execute IT and process changes through sub-projects.<br>• Refine target processes and integrate them into software solutions.<br>• Use prototyping to validate design and ensure user acceptance. |
| **Regular Monitoring and Continuous Process Improvement** | • Monitor implemented processes and IT systems.<br>• Measure performance with workflow and cost data.<br>• Derive adjustments for ongoing optimization and continuous improvement. |

## Knowledge Process Reengineering Procedures

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| **Strategic Knowledge Planning** | • Aligns knowledge management with corporate strategy.<br>• Defines how knowledge initiatives support strategic goals, such as technological leadership.<br>• Focus on identifying relevant knowledge categories, improving knowledge sharing, documentation, and accessibility.<br>• Strategic targets, business processes, and knowledge categories are modeled. |
| **As-is Study of Knowledge Processing** | • Captures and models the current state of knowledge management.<br>• Business processes are modeled as EPCs, often based on existing process models.<br>• Identifies what knowledge exists, who holds it, and how it is used or documented.<br>• Model types<br>  • knowledge structure diagrams (which knowledge is relevant)<br>  • knowledge maps (who has what knowledge)<br>  • EPC (Event driven Process chains) |
| **Analyzing the As-is Status** | • as-is models<br>• to locate weaknesses and improvement potential.<br>• Reveals missing strategic knowledge areas, knowledge monopolies, unused or redundant knowledge, outdated employee profiles, and poor IT integration. |
| **Target Concept of Knowledge Processing** | • Designs improved processes and structures<br>• Adds functions for documenting, refreshing, and distributing knowledge.<br>• Defines enterprise-wide knowledge collection and sharing mechanisms.<br>• Specifies changes in organizational design and employee knowledge profiles.<br>• Establishes IT and communication system requirements to support knowledge flow.<br>• Emphasizes business-driven, not technology-driven, solutions. |
| **Enterprise and Staff Implementation Concept** | • Develops and executes training programs for new processes and systems. |
| **IT Implementation Concept** | • Defines technical requirements and structures for IT<br>• Integrates tools like intranets, groupware, and document management into one framework.<br>• ARIS models as navigation structures<br>• Establishes consistent content organization, interfaces, and services such as discussion forums and information subscriptions. |
| **Realizing Implementation Concepts** | • Executes training and system rollouts.<br>• Implements and monitors process and structural changes.<br>• Tests new systems and processes, adjusts as needed.<br>• Establishes a continuous improvement loop for knowledge processes.<br>• Keeps business and knowledge models updated to maintain transparency and adaptability of knowledge management. |