OfficeObjects® - a Platform for Business Process-oriented Information Management

Dr Witold Staniszkis

Rodan Systems S.A.

Witold.Staniszkis@rodan.pl

Presentation contents

- Rodan Systems S.A.

- The proprietary BPM methodology

  - The BPM project roles

  - The BPM project process

  - Business process metrics

- The OfficeObjects® Platform

- Conclusions

Rodan Systems S.A.

Rodan Systems S.A. is one of Poland's most innovative IT companies. It was established in the early 1990s and since then it commenced operations which gained the confidence and trust of tens of customers, including state and local government institutions as well as medium and large corporations.
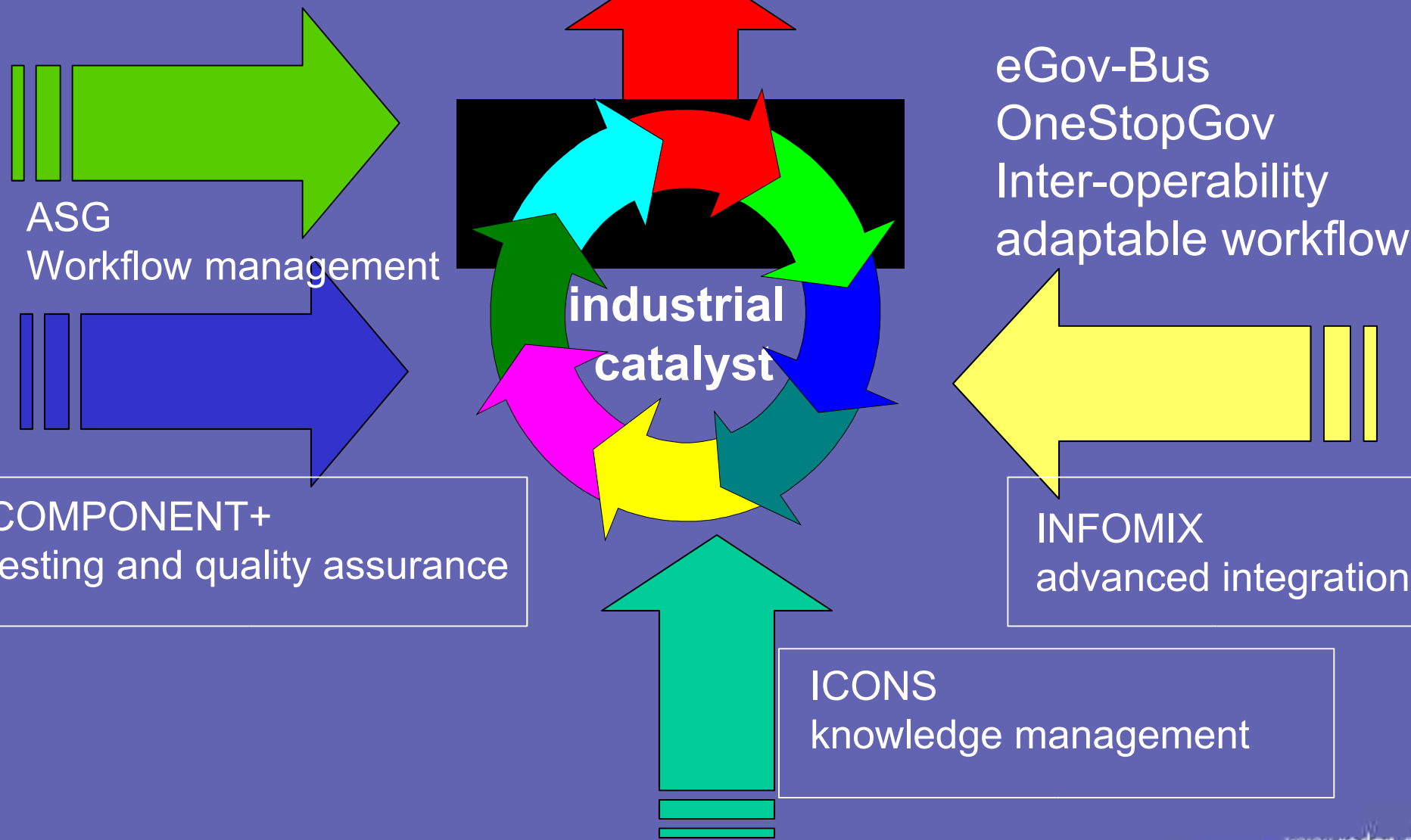
Rodan Systems specializes in the development and implementation of generalised, BPM-oriented application solutions based on its proprietary OfficeObjects® platform. Company's products are in line with current trends and technologies, are safe and deliver high quality. Research and development plays a key role in the company's operations. Rodan Systems participates in several European Research Projects.

At its headquarters in Warsaw and its Sopot, Poznan and Gliwice-based branches, Rodan employs over 80 people, all of whom are highly-skilled professionals. The knowledge, experience and products developed by Rodan Systems create a foundation for the company's continuous development geared to maintain leadership in the area of information management.

Our R&D approach

IST funding + proprietary investment

OfficeObjects® roadmap

ASG
Workflow management

COMPONENT+
testing and quality assurance

industrial catalyst

eGov-Bus
OneStopGov
Inter-operability
adaptable workflow

INFOMIX
advanced integration

ICONS
knowledge management

Why is BPM significant?

- A platform for „invasive" IT solution development leading to radical business process improvement as opposed to petrification existing modes of operation.

- Governan from precise and objective business change m

- B cation platform between information system and management fields

A survey of 7500 US companies indicates that the average IT expenditure was 3.7% of revenues, whereas int the case of the 25 most profitable companies IT expenditure average was 0.8%. Companies with highest IT expenditure were 50% less profitable then the best ones. */

- Process-oriented IS architectures lead to enhanced system flexibility, inter-operability, and maintainibility

*/ Dedrick, J., Gurbaxani, V., Kraemer, K.L., Information technology and economic performance: a critical review of empirical evidence, ACM Computing Surveys, March 2003.

The business process (a working definition)

- A **process** is a collection of interrelated **work tasks**, initiated in response to an **event**, achieving specific result for the **customer** and other **stakeholders** of the process.

- The **work tasks** inter-related within a **process** by causal relationships are commonly executed within different parts of an organisation by **process participants**, who are required to have appropriate skills and decision prerogatives

- A well-defined business process always initiates in response to an **event** and it produces a measurable and countable **result** for the process **customer**

Process performance metrics

- A business process management platform (a workflow process class + IT application support) may be viewed as a network of service centers

- Queueing theory and simulation techniques apply to process performance analysis

- Process performance metrics include:
  - Process elapsed time
  - Average number of concurrent process instances
  - Number of task instances (visits) within a process instance
  - Average task duration
  - Average number of concurrent task instances
  - Role utilisation within task
  - Average time in task queue

- Performance metric distributions as well as mean values should be available within the process meta-model

# Business performance metrics

- Analysis of business process execution patterns based on the workflow application semantics

- Metrics are defined and formally specified by the appropriate rule expressions (e.g. OfficeObjects® WorkFlow BPQL) as a part of workflow process design

- Business process metrics provide for analysis of business process behavioural characteristics (e.g. normal versus exception condition execution, fault compensation, etc)

- Metrics are stored and maintained within the extensible (application dependent) part of the process meta-model

The BPM   project inter-disciplinary team

- Non-IT project stakeholder roles
    - The Domain Expert role
    - The Management Consultant role
    - The Process Owner role
    - The Process Participant role

- IT project stakeholder roles
    - The Information System Architect role
    - The Information System Implementer role
    - The Quality Assurance Auditor role
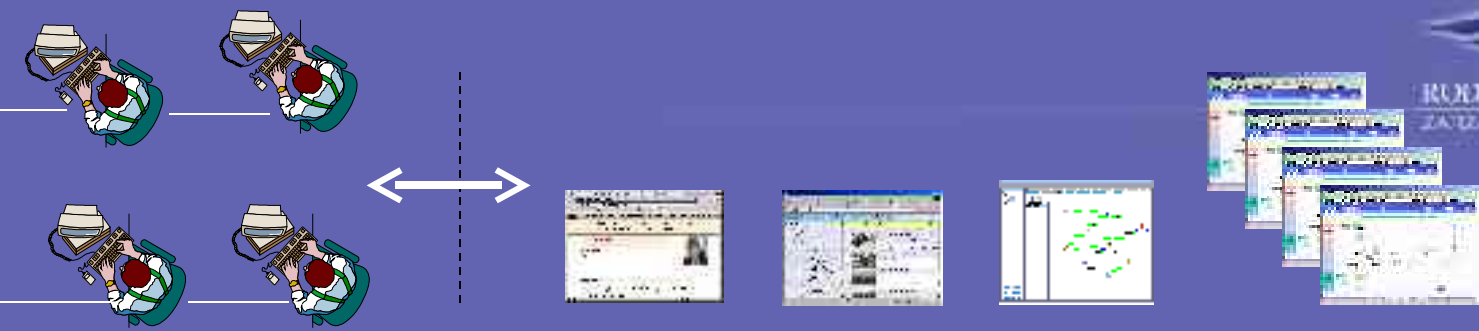   - The Information System Administrator role

The BPM project process
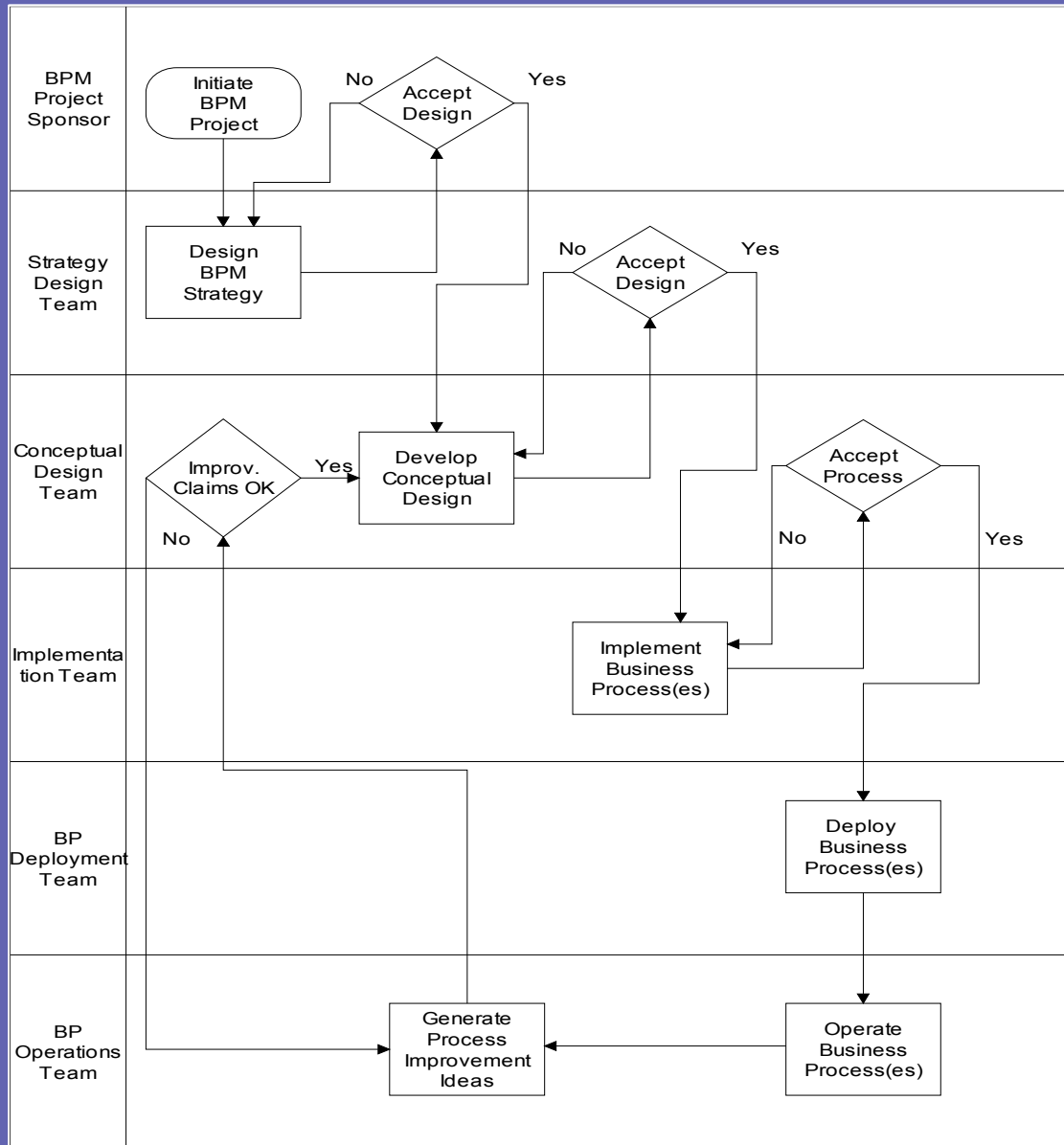
The BP conceptual desing phase
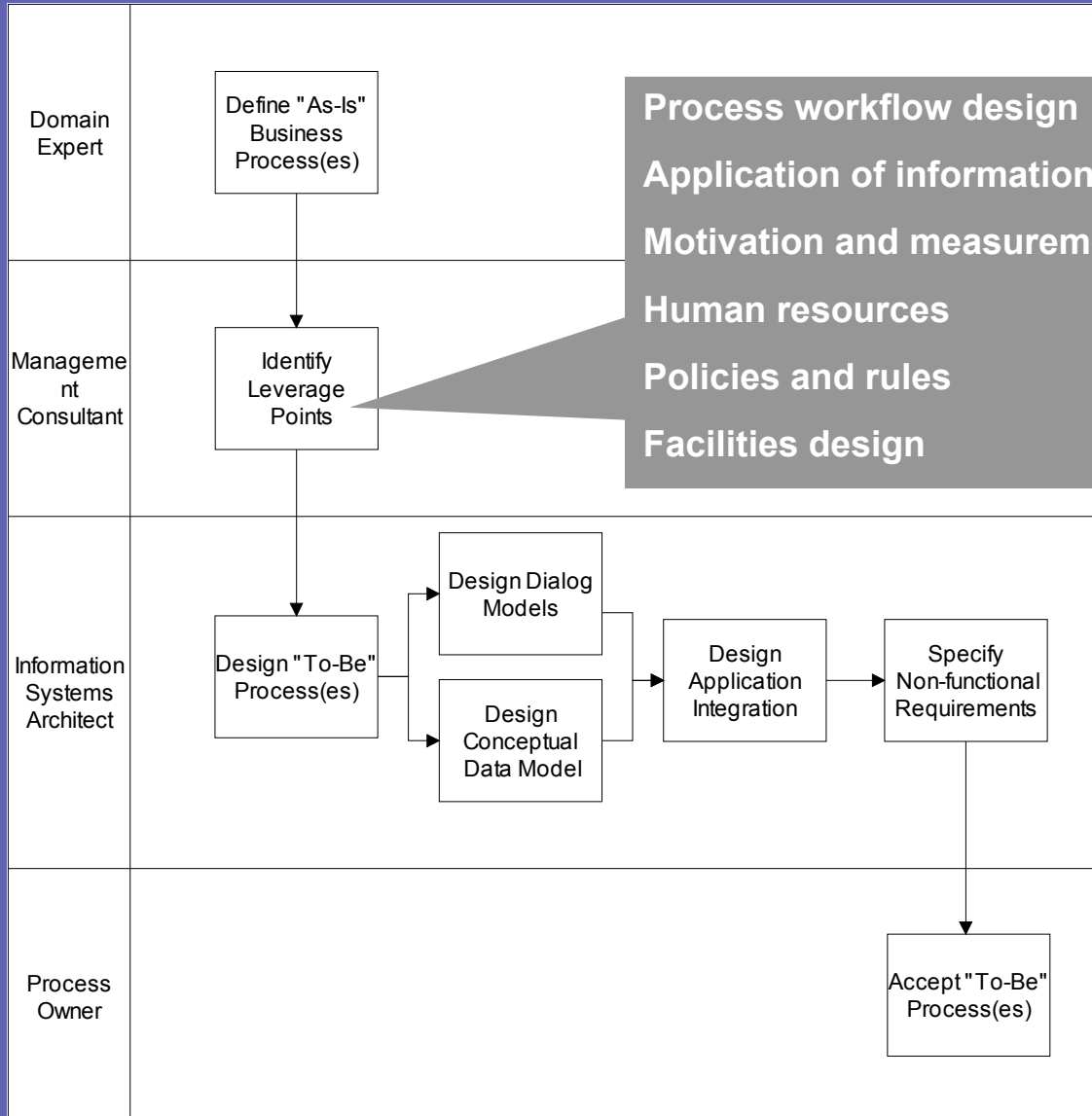
Presentation Management

Work Participant Assignment

User-visible Applicatoin Functions

Application Solution - 1

Application Solution - N

OfficeObjectsDesign Tools

OfficeObjects® Services

Web Services

OfficeObjects® Intelligent Content Manager

OfficeObjects® WorkFlow

OfficeObjects® e-Forms

Web-accessible application services

Metadata

Content Repository

Workflow Process Repository

OfficeObjects® WorkFlow

- WfMC architecture compatible
- Web-based J2EE architecture
- .Net connectivity
- 15 Workflow Patterns (out of 20)
- Formal, extensible process meta-model
- Flexible process metrics definition and analysis
- BPQL – a functional process execution rule specification language
- BPMN process design environment
- XPLD and BPEL workflow specification
- Advanced application integration features
- Generic processes via a dynamic process modification technique

OfficeObjects® Intelligent Content Manager

- UML concent repository schema
- Arbitrary complexity of content object structure
- Integration of pre-existing data and content sources
- Hierarchical storage management
- Advanced concept glossary (Topic Maps compatible)
- Electronic form management
- Content access and manipulation
  - Attribute-based search
  - Navigation – object relationships, categorisation trees
  - Full text retrieval
- Automatic text categorisation (multilingual)
- Rule-based access authorisation

OfficeObjects® eForms

- Taxonomy-based electronic form design environment
- Support of the EUD (end user computing development paradigm
- A portal-based (JSR 168), J2EE-compatible eForm publishing platform
- Full eForm range support
  - Complex financial & statistical reporting forms
  - eForms as electronic documents
  - eForms as content object rendering views
- Flexible eForm processing features (API, QbE data extraction)
- ebXML Internal eForm representation

Conclusions

- There is a strong requirement for a comprehensive BPM methodology building upon exisiting body of IT knowledge

- Existing industrial standards such as BPMN, XPDL, and BPEL4WS provide a powerful platform for workflow management system development

- Second generation workflow management systems must have sound and generally accepted formal grounds (meta-model, formal semantics, workflow patterns)

- An extensible rule language based on the process meta-model is a necessary characteristic of a second generation workflow management engine

- Provided that sufficiently powerful software tools are available, 90% of BPM critical success factors pertains to human behaviour