Method Park is a specialist for innovative software and systems engineering. The portfolio includes consulting and engineering services, a comprehensive training program and the process management tool **Stages**.
Stages History

2001
- Founding of Method Park Software AG

2002
- Launch of project kit
- First customers

2004
- Founding of Method Park America Inc.
Stages History

2006
- Office at Detroit;
- Worldwide first intacs Competent Assessor Course

2008
- Renaming project>kit to Stages

2010
- First Sale of Stages license in the US

2012
- Founding of Method Park Engineering GmbH and Method Park Consulting GmbH
Stages History

2014

SIEMENS

IBM Business Partner Award; KPMG: Re-Seller in India;

2013

HIRAIN: Re-Seller in China
first Stages licenses sold in China

2015

IBM Business Partner Award;
CloudOne: Re-Seller in the US;
first Stages licenses sold in India
What means 4.0?

Where are your Processes?

... in your mind?

1.0 ... on the shelf in a folder?

2.0 ... in Word, Excel, Visio, PowerPoint

3.0 ... in your Wiki or Intranet

... in stages

4.0 meta models ➔ tailoring ➔ patterns ➔ execution
Statements

Without a running product, we can't care about the processes.

Project Manager

We just care about the processes, we do not deal with the project work.

EPG Lead

We do not need processes, we have tools.

Engineering Manager

We have to harmonize processes before we can release them.

Process Responsible
Pain Points

Documentation of processes

- does not help to understand or use them
- does not include tools and how to use them
- gives proof to the “not invented here syndrome”
- does not allow to tailor
- is based on theory
- varies in granularity
- is outdated
- ...

Talk im Park 03.05.2016 - Processes 4.0 – A Methodical Approach to Success
Successful Process Management

Enable organizational development according to changing business objectives

Meet business objectives in a managed and repeatable way

Manage repeatable experience by definition of processes

Establish measurable process improvement following the changing business objectives
The Ideal Journey

1. Define Goal
2. Determine where you are
3. Define Team
4. Move
5. Monitor Milestones
Reality
The Stages Method

Define Goals
- Identify Business Objectives
- Derive Goals from Objectives

Analyze Process Capability
- Assess Current Situation
- Identify and Prioritize Changes

Define BPM Organization
- Define Process Architecture
- Establish Process Management Organization

Model Processes
- Model and Pilot Processes
- Rollout Processes

Establish Learning Organization
- Measure Process Performance
- Derive Improvement Measures
Define Goals

Goals need to be measurable !!!

You can only improve, what you can measure.

W. Edwards Deming

Everything can be measured somehow, that is better than not measuring it at all.

Albert Einstein

When you stop to improve, you stopped being good.

Oliver Cromwell
Define Goals

1) Identify goals
2) Define metrics by using GQM-Paradigm (Goal-Question-Metric)
3) Define a measurement plan (activities, roles, tools, schedule)
4) Conduct data (measure)
5) Validate data (take samples and check)
6) Analyze and interpret data
7) Store data and interpretation
Define Goals

Goal – Question – Metric (GQM) by Basili, Rombach

Each metric has to be defined by a specific goal

1) Define specific goals, 
   before the metric is defined

2) Top-down-definition of metrics; 
   define metrics based on goals

3) Bottom-up-interpretation of metrics; 
   whenever the data is captured, it is analyzed based on the goal

4) The definition and interpretation of metrics 
   has to involve all team members
Define Goals

Process Management needs always be based on Goals!
Define Goals

Process Management needs always be based on Business Goals!

ROI scenarios:
- Investment in Process Management, ...
- results in less failures in the field
- results in projects that match the budgets
- results in projects that meet their schedule

Quality of Engineering:
- less failures in the field
- stable architecture of a product
- readiness for product line engineering
- compliance to standards
Phases of Stages Method

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<th>Phase</th>
<th>Steps</th>
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Analyze Process Capability

Organization

- What is the **history** of the company?
- Which **locations** does the company have?
- Are there multiple **business units** involved?
- Is an **organizational chart** available?
- What are the **business objectives**?

**Influences**

- Process management organization
- Process architecture
Analyze Process Capability

Process Landscape

- Are **processes defined**?
- Is there a **process management tool**?
- How **detailed** is the modelling?
- Is there only one **standard process**?
- Are there **tailoring guidelines**?
- Are the processes **used in projects**?

**Influences**

- Planning and effort estimation
- Coaching approach
Analyze Process Capability

Process Management Organization

• Who is responsible for the processes?
• Who is responsible for definition, modelling and release of processes?
• Is there a CCB?
• How is it organized?
  (e.g. communication channels, meeting frequency, available time,..)?

Influences
• Stakeholder elicitation
• Communication plan
• Process architecture
Analyze Process Capability

Process Maturity

- Have audits / assessments been performed?
- What have been the results so far?
- How have the processes evolved over time?

Influences
- Effort estimation
- Coaching
Analyze Process Capability

Portfolio / Development Projects

- Which **products** are developed?
- Do **standards** like safety apply?
- Who is involved (System / Software / Hardware / Mechanics..)?
- What is the typical **size and duration** of the project?
- Which **approach** is used (e.g. V-Model, Agile)?
- What does the **lifecycle and phase** model look like?
- Is the **development distributed**?

**Influences**
- Process architecture
- Process variants
- Process modelling
- Process management organization
Analyze Process Capability

Tools

• Which **tools** are used for development? (configuration management, requirements, testing, workflow, ALM solution, ….)
• Which tools are used for project management?
• Which tools are used for process management?

Influences
• Process modelling
• Pilot and Rollout planning
### Phases of Stages Method

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| **Model Processes**                        | • Model and Pilot Processes  
• Rollout Processes                            |
| **Establish Learning Organization**        | • Measure Process Performance  
• Derive Improvement Measures                  |
Two concepts as starting points to find the right **process architecture**:

- Value-Chain Approach
- Process Variants
Principle: focus on the value-creation chains of your organization to overcome silo-thinking of departments

(assumes that you want to optimize the effectiveness and efficiency of the value creation in terms of the global maximum and not of local maxima of a department)
A company creating products has the following value-creation chains:
Process Architecture – The Value-Chain

Product Lifecycle

Mechanics, Hardware, Software

Innovation

Product Development → Production

Service Development → Service Infrastructure

IOT Services

Service Delivery → Product Return
Process Architecture – The Value-Chain

Product Lifecycle

Innovation
- Product Development
- Service Development

Production
- Production
- Service Infrastructure

Service Delivery
- Service Delivery

Product Return
- Product Return

Interfaces or Integrations?
- Project Management
- Quality Management
- Change Management
- Program Management
- Customer Care
- Purchasing
- Strategy
- Marketing
- Logistics & Customs
- Sales

MIND THE GAP BETWEEN THE SILOS
Process Architecture – The Value-Chain

Product Lifecycle

EXAMPLE GAPS:
• System – HW – SW – Mechanics
• Development – Production

Product Development

Production

System

Software

Hardware

Mechanics

Production Planning

Tool Development

Line Setup

Series Production

→ is it 5 processes or is it 1?
(consider your influencing factors)
Product Lifecycle

EXAMPLE GAPS:
- Engineering – Project Management

→ Q-Gates depend on process
→ Customer Releases depend on project

→ Architecture has to allow for increments/iterations/sprints and waterfalls and handle their interfaces at the same time
→ Solution: distinguish between process model and project instance
Process Variants based on

- Product Types

- Project Types
  - Management classification (risk, volume, strategic relevance)
  - Complexity (project, product, technology)
  - Development types (new, application, platform, component)

- Localization
  - Language
  - Culture
  - Skill levels
  - Different IT tools
  - local Law and Standards
Process Management Organization

- Steering Committee
- EPG / CCB
- Process Architect
- Process Owner
- Process Designer
- Process Authors
- Process Sponsor
- Process Responsible
- Process Owner
- Process Designer
- Process Authors

Projects
- Coach
- Project Team Member
- Project Team Member
- Project Team Member
- Project Team Member

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# Phases of Stages Method

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Model, Pilot and Rollout

Process Modelling and Rollout

Define Guidelines  Model and Define Processes  Piloting  Rollout

Establishing a consistent tool chain

Evaluation  Adaption  Piloting  Rollout

Training

Create Material  Training  Coaching
Process Definition Workflow (1/2)

Preparation
- Define Terminology
- Define Metamodell
- Define Modelling Guidelines

Use Process Architecture
- Define Process Areas
- Design Architecture and Interfaces
- (Priorize and Schedule Process Development)

Collect Existing Content
- Examples, Templates
- Process, Role and Method Descriptions
- Workflows

Define Basic Process Set
- Process Overview
- Activities, Work Products, Roles
- (Phases and Milestones)
- Reviews

Once
Per process area
Process Definition Workflow (1/2)

**Preparation**
- Common understanding of terminology
- Consistent use of terminology
- Less meta-discussion during modelling

**Use Process Architecture**
- No creation of silos
- Basis for planning & responsibilities
- Consideration of all important parts

**Collect Existing Content**
- Pragmatic reuse instead of gold plating
- Realistic content instead of ivory tower
- „Invented here“ leads to acceptance

**Define Basic Process Set**
- Process consistency
- Early stakeholder involvement

---

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Process Definition Workflow (1/2)

Preparation

- Define Terminology
- Define Metamodell
- Define Modelling Guidelines

Use Process Architecture

- Define Process Areas
- Design Architecture and Interfaces
- (Priorize and Schedule Process Development)

Collect Existing Content

- Examples, Templates
- Process, Role and Method Descriptions
- Workflows

Define Basic Process Set

- Process Overview
- Activities, Work Products, Roles
- (Phases and Milestones)
- Reviews
Process Definition Workflow (2/2)

- Specify Work Product Details
  - Easier usage
  - Simplification of day-to-day work

- Compliance and Tailoring
  - Verification of alignment with business goals
  - Understanding of the importance

- Methods, Tools and Trainings
  - Process establishment
  - Learning and understanding
  - Acceptance

- Measurement & Improvement
  - Continuous tracking against business goals
  - Establishment of a learning organization

Once  Per process area
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• Derive Improvement Measures                                                   |
Establish a Learning Organization

• Carefully design your processes ... based on value chains
• Involve the people executing the process in modelling and definition
• No process without feedback session
• No process without objectives based on business goals
• No process without measurements based on objectives
• No process without evaluation of measurements
• Allow changes ... allow improvement ... all the time
Establish a Learning Organization

- Processes capture the knowledge and experience of an organization. Therefore processes will always change, because our knowledge and experience grows everyday.

- Usually you start to do intuitive engineering of new products in order to be creative. Whenever you have been successful in engineering you try to repeat that approach for future development, i.e. you gained experience based on the knowledge you used.

- In order to repeat your success, you write down what you have done. This written down experience is called a process.
Summary

Customers Competitors Cooperations ...

Costs Deadlines Efforts ...

Technology Standards Personnel Methods Tools

Quality Assurance

Doubts, Failures, Habits, Acceptance Problems
Questions

Thank you for your attention!

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