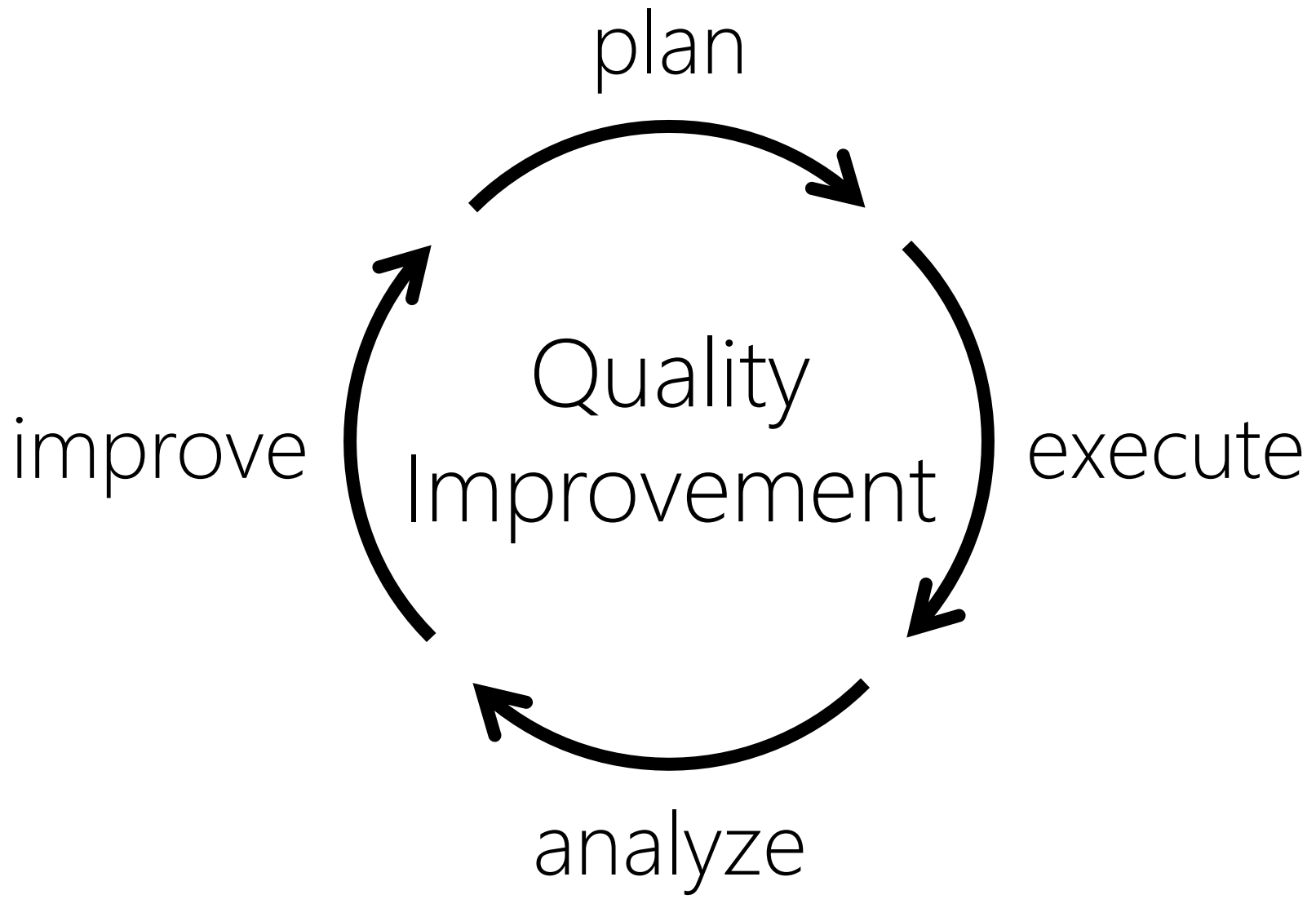


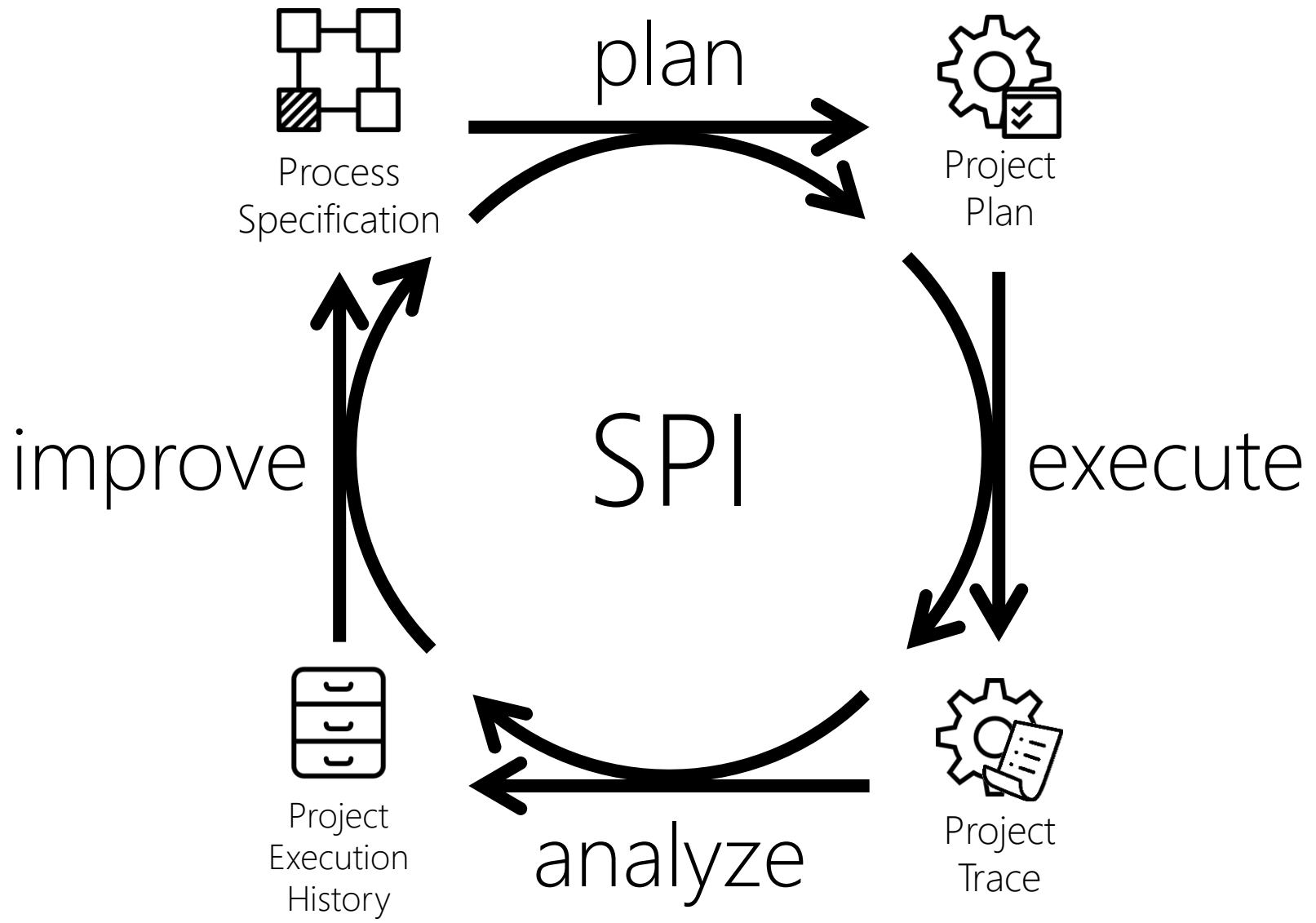


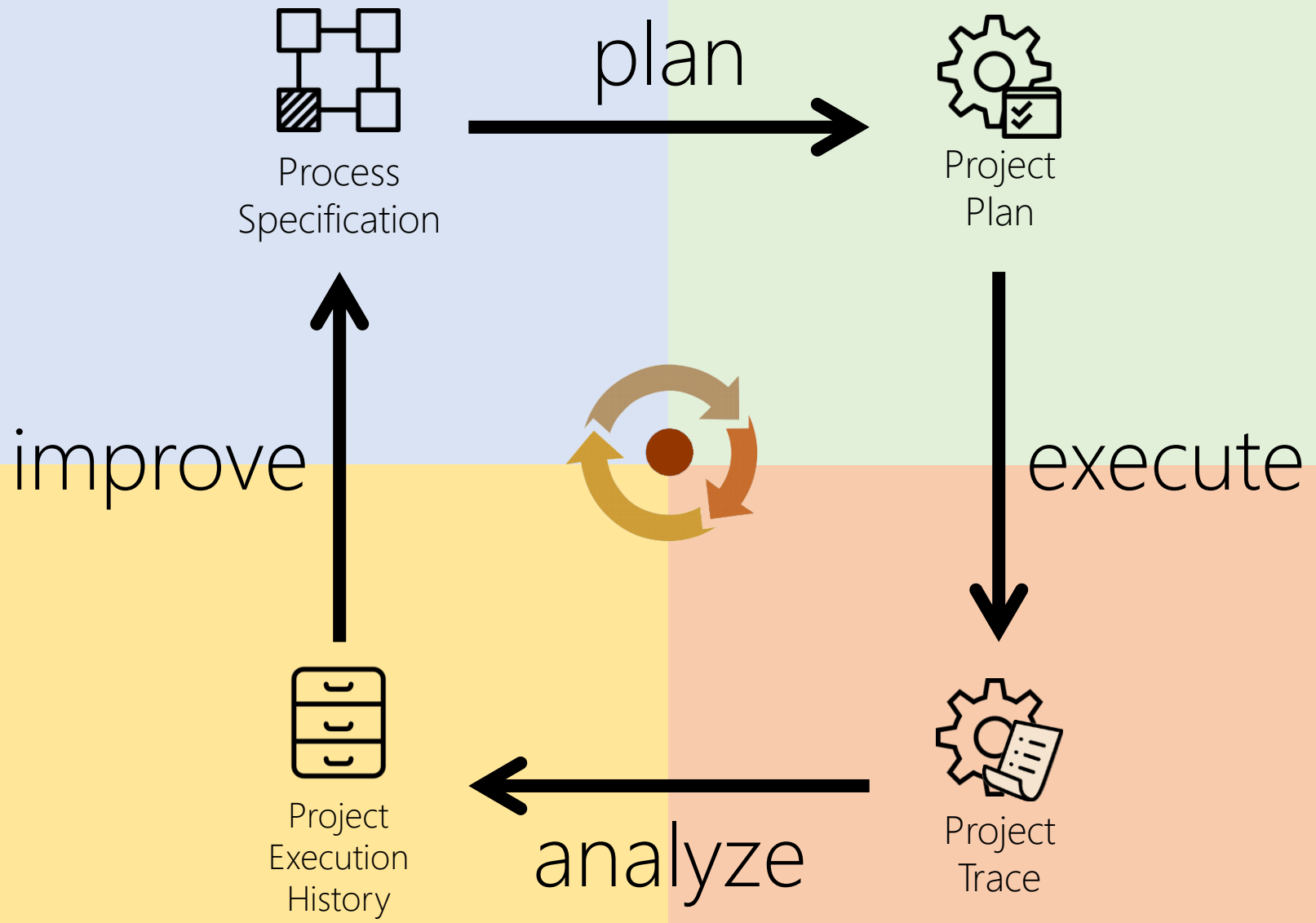
Process-based project management and SPI

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Universidad de Chile

ICSSP
Thursday, July 6th, 2017
Paris, France







motivation

the case of the
autonomous
Chilean branch
of PowerData

small software
company

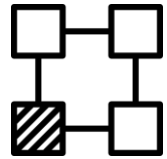
ETL projects

loss of

- 23% of earnings
- loyal customers

(2013~2015)

PowerData SPI experimental strategy



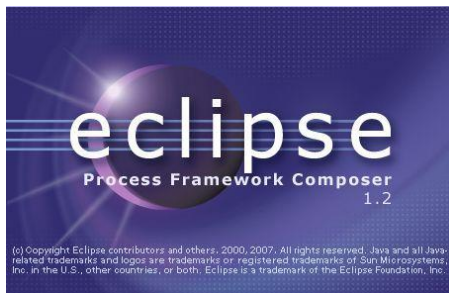
Process
Specification



Project
Plan



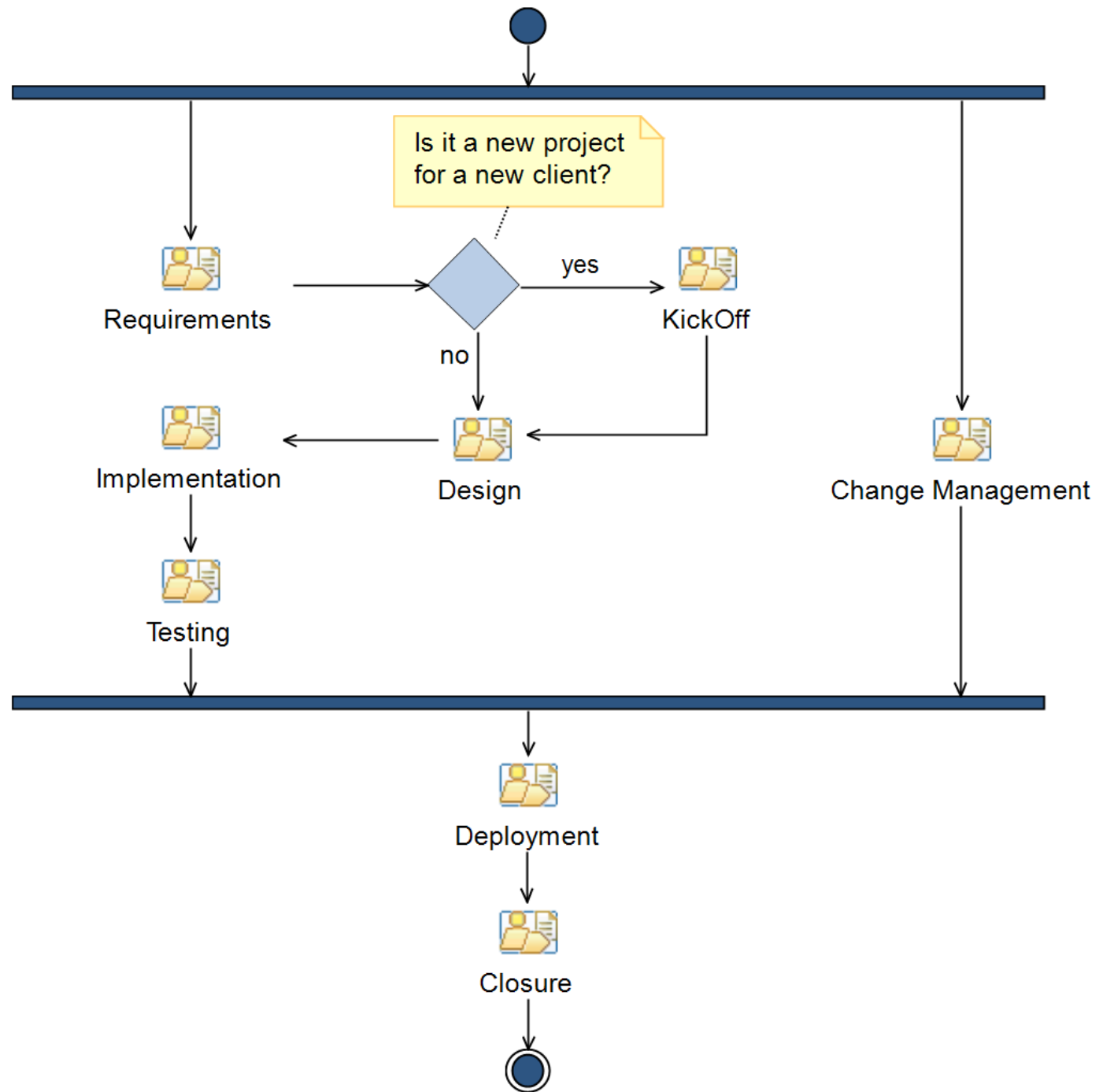
Project
Trace






















Project



process specification



process specification

Presentation Name	Index	Pred..	Type
▼  MainProcess	0		Delivery Process
▼  Requirements	1		Activity
 Analyze implementation requirements	2		Task Descriptor
 Validate requirements	3		Task Descriptor
 Verify requirements	4	2	Task Descriptor
▼  Design	5	9	Activity
 Design solution	6		Task Descriptor
 Verify solution design	7	6	Task Descriptor
 Validate solution design	8		Task Descriptor
▼  KickOff	9		Activity
 Plan kick-off meeting	10		Task Descriptor
 Kick-off meeting	11	10	Task Descriptor
▼  Implementation	12	5	Activity
 Validate development environment	13		Task Descriptor
 Coordinate implementation	14	13	Task Descriptor
 Implement solution	15	14	Task Descriptor
 Execute unit tests	16	15	Task Descriptor
 Generate document for QA	17		Task Descriptor
▼  Testing	18	12	Activity

Presentation Name
<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> Analyze implementation requirements Validate requirements Verify requirements Design <ul style="list-style-type: none"> Design solution Verify solution design Validate solution design KickOff <ul style="list-style-type: none"> Plan kick-off meeting Kick-off meeting Implementation <ul style="list-style-type: none"> Validate development environment Coordinate implementation

Nombre de tarea
<ul style="list-style-type: none"> PILOT <ul style="list-style-type: none"> BATCH <ul style="list-style-type: none"> BACTH Activities <ul style="list-style-type: none"> Analysis <ul style="list-style-type: none"> Detailed Requirements Analysis <ul style="list-style-type: none"> Analysis and Validation of Requirements Document Business Rules Analysis (Source-Target Document) Create Requirements Document MILESTONE Requirements Approval Test Cases <ul style="list-style-type: none"> Develop Detailed Test Plans Review of Detailed Test Plans Design <ul style="list-style-type: none"> Implementation Design Review and Adjustment of the Proposed Desig Review by the Architecture Committee MILESTONE - Approval by BcoEstado of the Proposed Design

manual project planning

Nombre de tarea

PILOT

BATCH

BATCH Activities

Analysis

Detailed Requirements Analysis

Analysis and Validation of Requirements

Business Rules Analysis (Source-Target)

Create Requirements Document

MILESTONE Requirements Approval

Test Cases

Develop Detailed Test Plans

Review of Detailed Test Plans

Design

Implementation Design

Review and Adjustment of the Proposed

Review by the Architecture Committee

MILESTONE - Approval by BcoEstado of

Activity

Planified days

Effective real days

TESTING PLAN PLANIFICATION

7

9

Testing plan design

5

7

Testing plan review

2

2

ANALYSIS

17

37

Implementation requirement analysis

5

12

Requirement verification

3

8

Requirement validation

8

15

Requirement book review

1

2

DESIGN

14

20

Solution desing

3

5

Solution desgin verification

2

4

Solution desgin validation

1

3

MILESTONE – Desig approval

1

1

manual project trace recording

problem statement

manually creating plans

introduces inconsistencies in task names,
structure and dependencies

manually recording traces

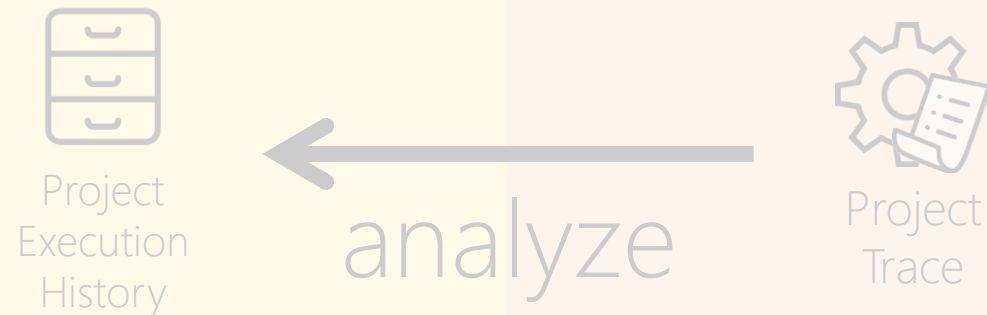
also introduces inconsistencies

integrated tool support is scarce for
coordinating processes, plans and traces

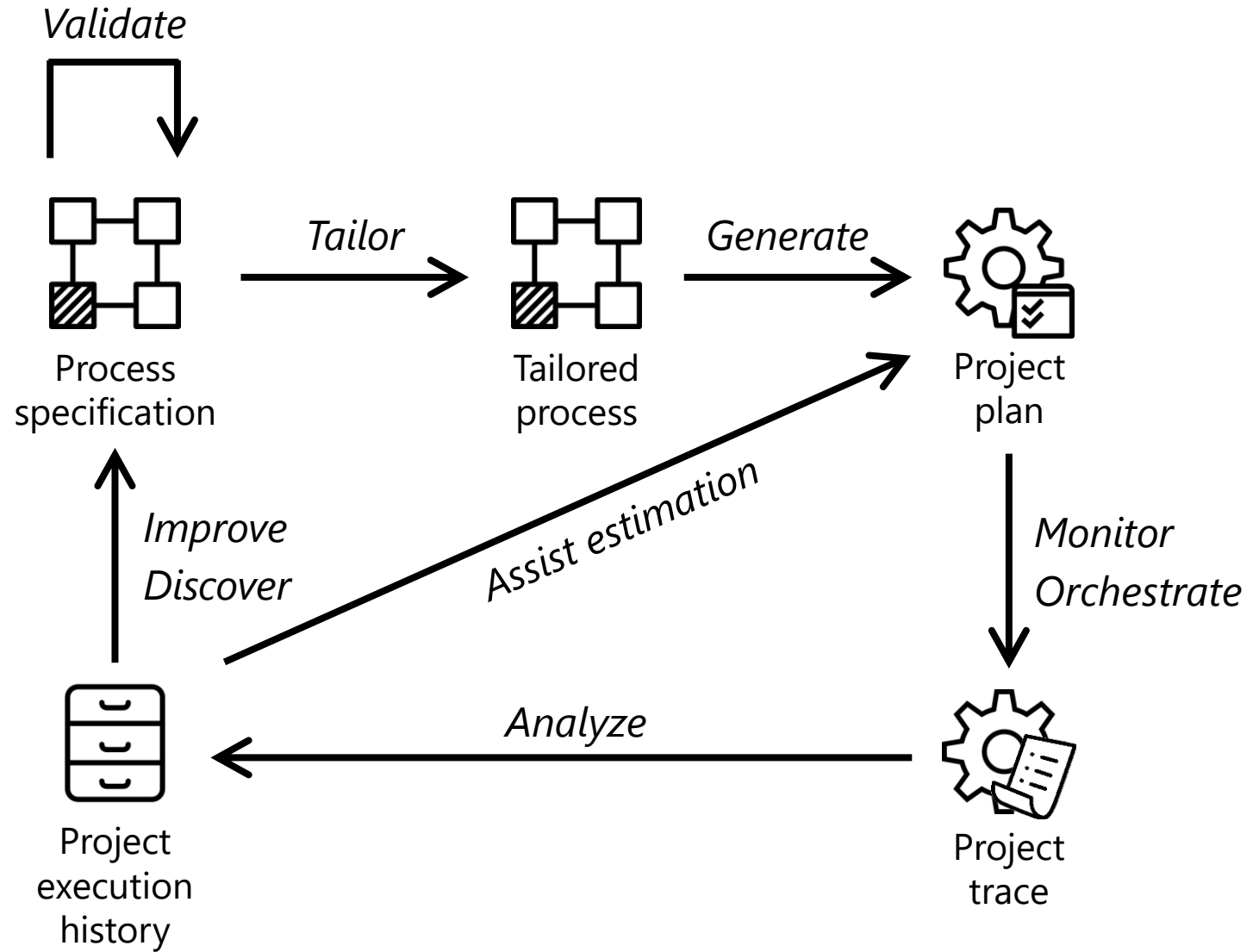
in this scenario SPI very difficult



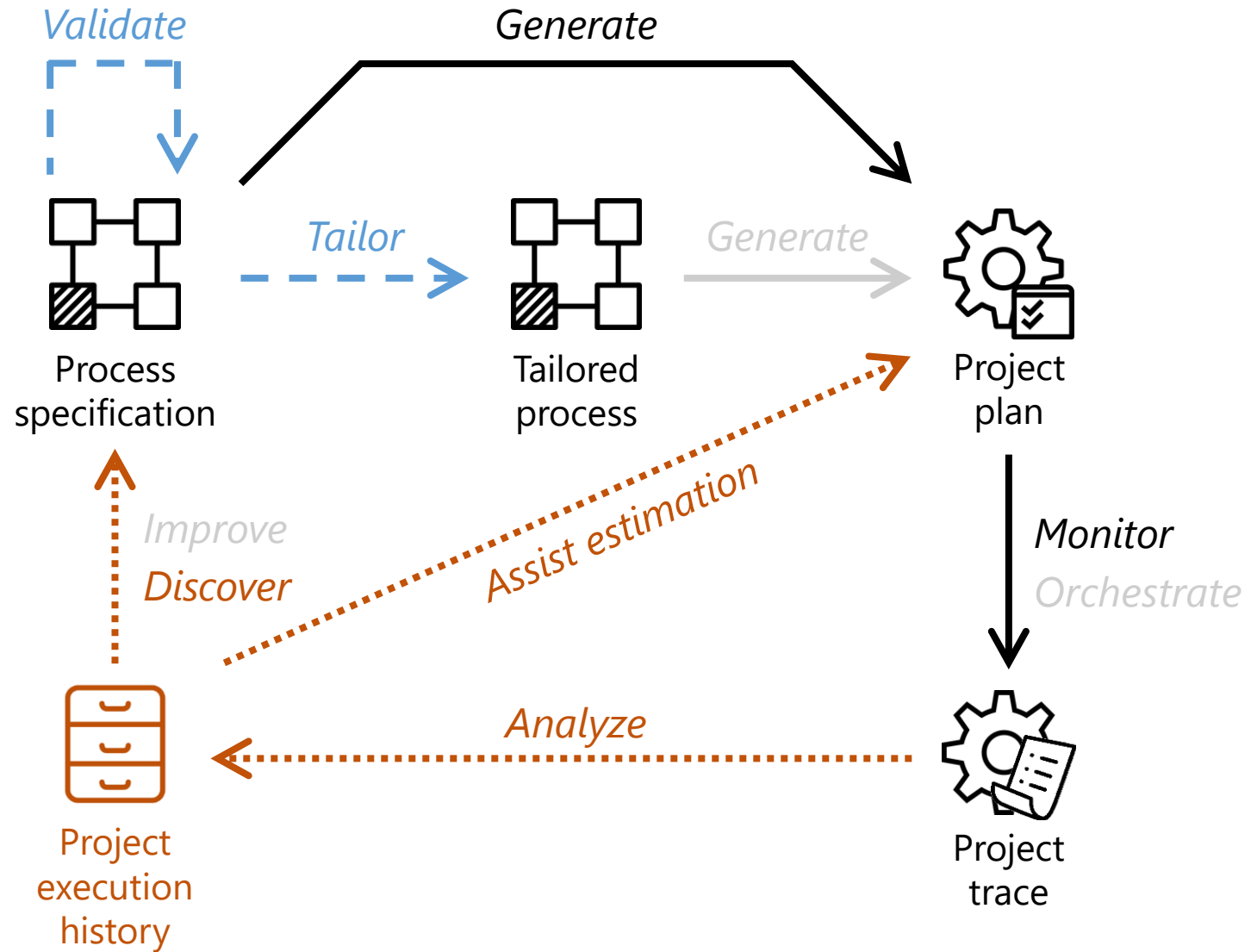
process-based **approach**
to project management



approach



ongoing research & development

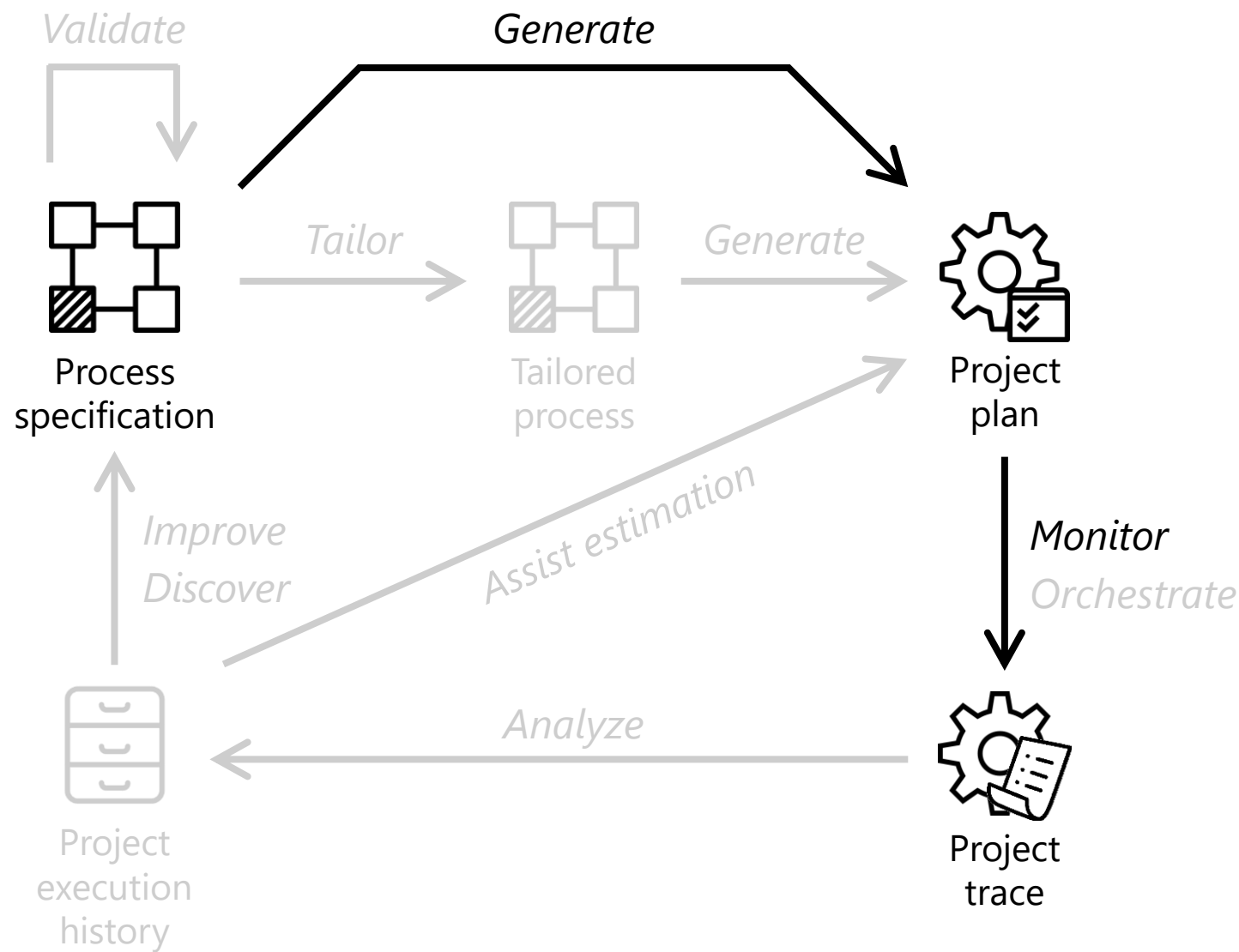


→ Integrated in CASPLE

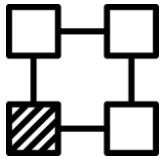
- - - → Under development

⋯ → Research prototypes

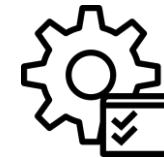
current
tool support



CASPLE



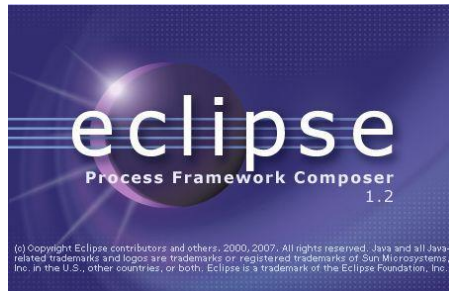
Process Specification



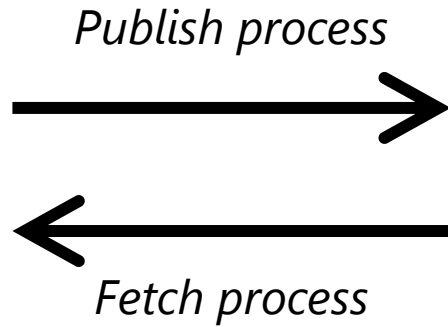
Project Plan



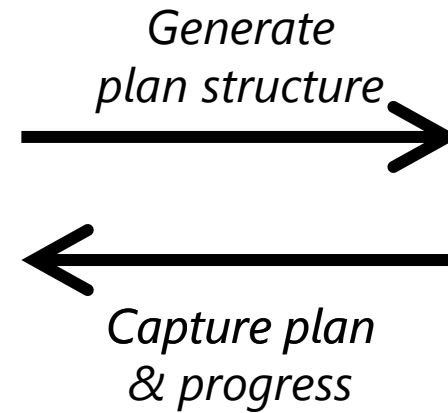
Project Trace



Improve process



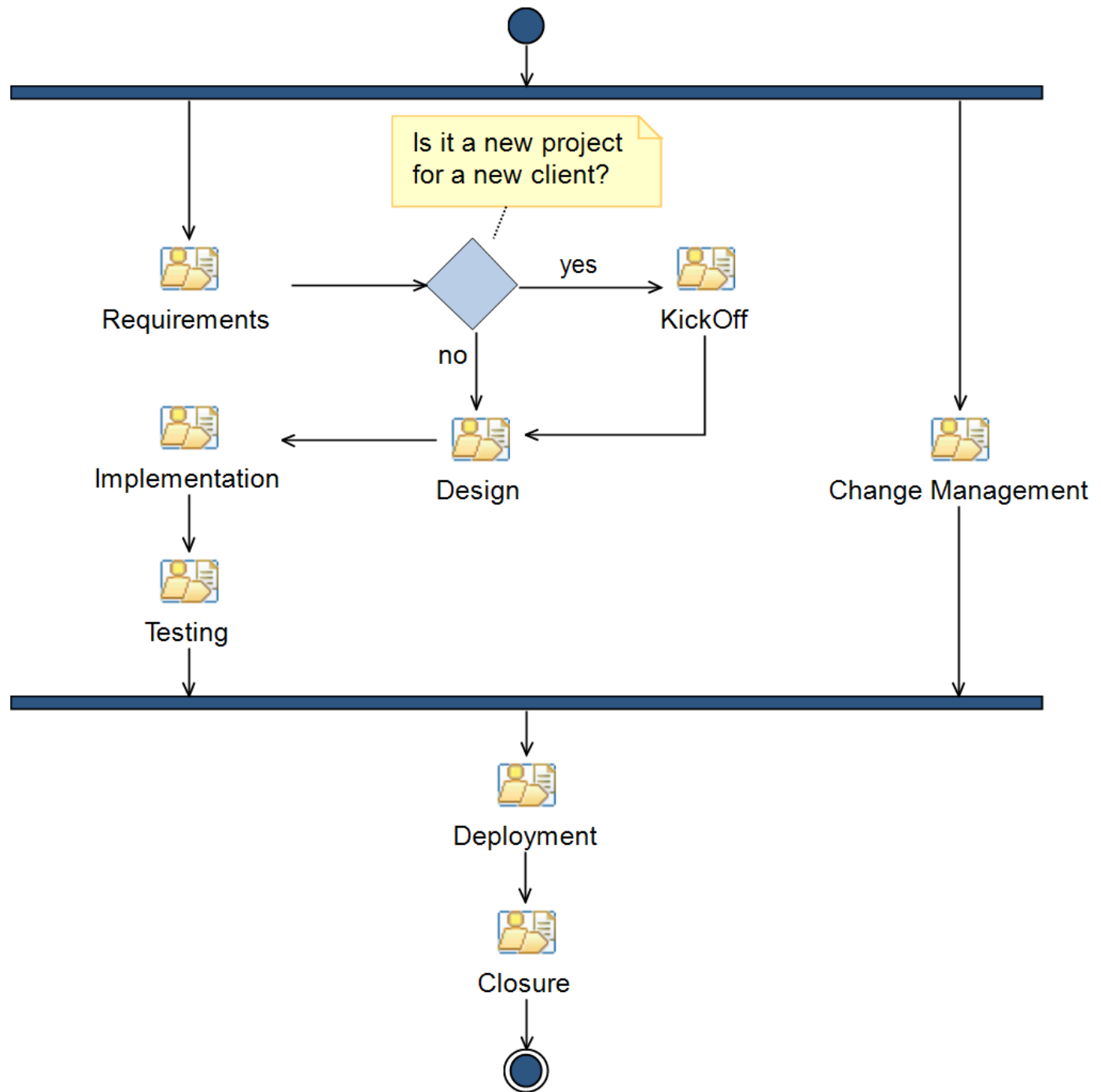
Analyze



Define & execute plan

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process specification in EPFC



process repository in CASPLE

The screenshot displays the CASPLE interface. On the left is a navigation sidebar with 'Organization', 'Process', 'Portfolio', and 'User'. The main content area shows the 'PowerData process' details. A summary card displays: 4 VERSIONS, 75% ENABLED (3), 75% ACTIVE (3), and 75% USED (3). Below this, a table lists key dates and version numbers: 18/05/15 13:53 (1.0) FIRST PUBLISHED, 27/06/15 17:19 (2.0) LAST PUBLISHED, 1.2 MOST ACTIVE, and 1.1 MOST USED. A 'Version history' window is open, showing a vertical timeline of versions 1.0, 1.1, 1.2, and 2.0. Version 1.1 is highlighted in red. To the right of the timeline is a metadata table for version 1.1.

Process	Version	Status	Name	Presentation name	Authors	Brief description
	1.1	Enabled Active Used	PowerData Process	PowerData Process	Daniel Perovich	

Multichannel Datamart

Overview Activity Issues New issue **Gantt** Settings

Gantt

Filters

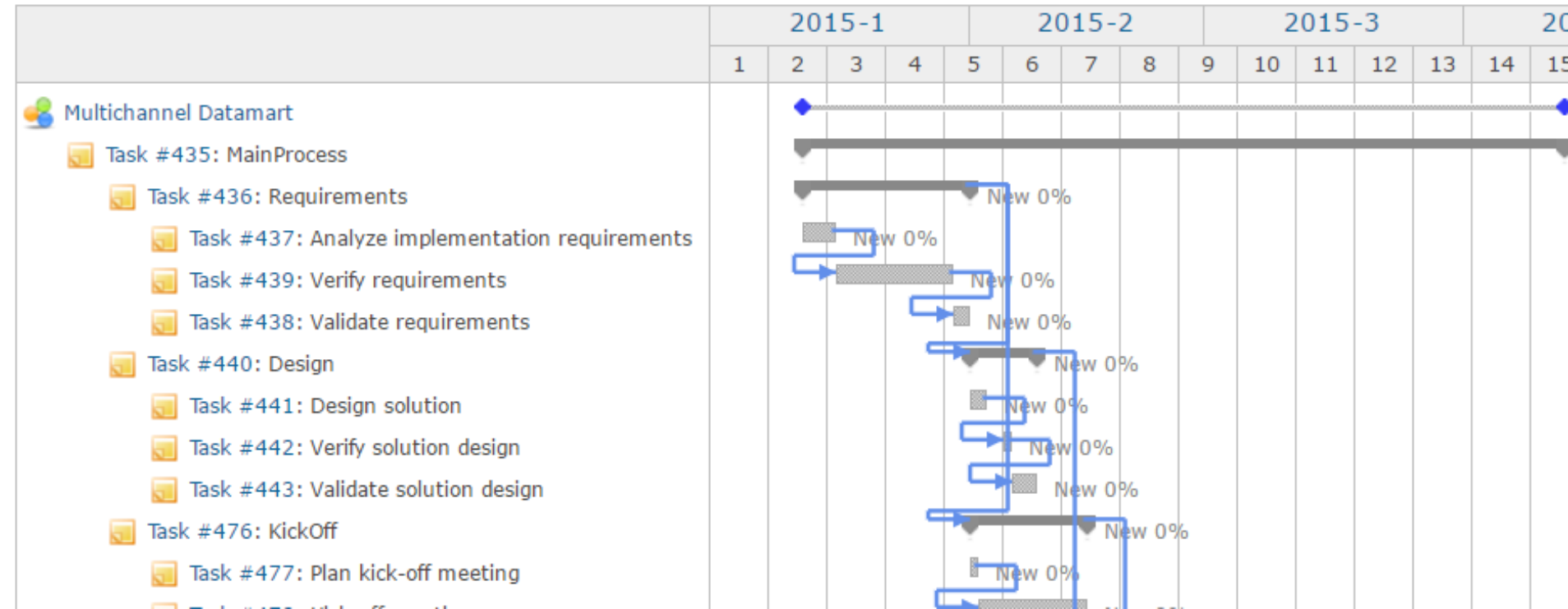
Status

Add filter

Options

months from Apply Clear Save

Zoom in Zoom out



project plan
in Redmine

tracking
process,
plan &
trace

Project Multichannel Datamart

Details

Project activities stats



Configuring

146
ACTIVITIES IN
PROCESS



Planning

29
ACTIVITIES IN PLAN

2 weeks ago
CREATED

2 weeks ago
STARTS

**2 months
from now**
FINISHES



Executing

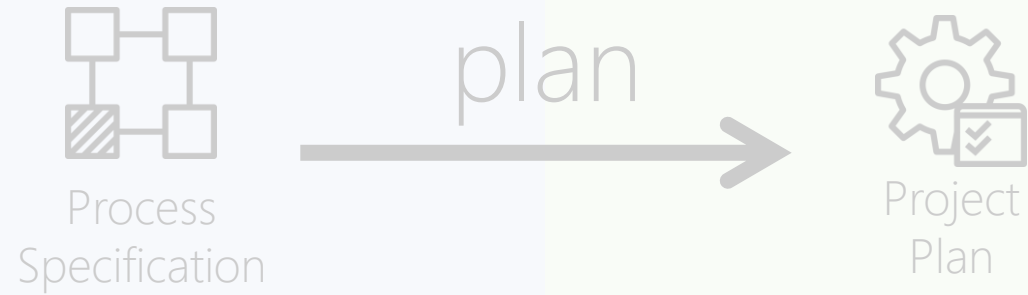
30
ACTIVITIES IN
EXECUTION

1 week ago
CREATED

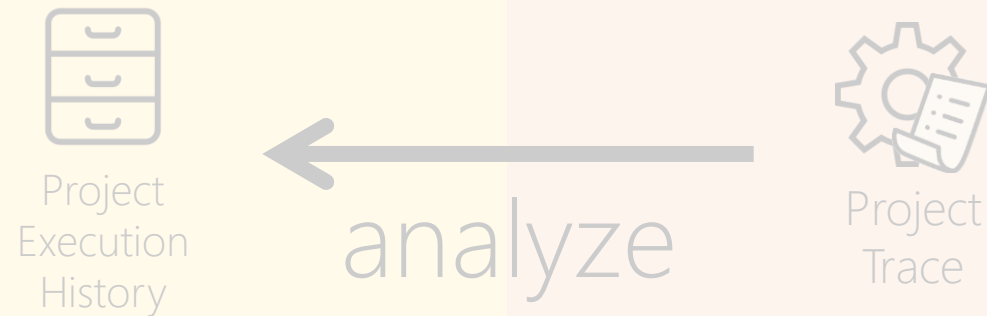
1 week ago
STARTS

**3 months
from now**
FINISHES





case study



case study

companies

four

development
process

already specified
(some in EPF)

tools for

planning and
monitoring

research questions

which are the perceived
advantages and shortcomings
of the approach and tool to
apply them in practice?

which are the perceived
limitations for adopting the
approach and tool in practice?

data collection

structured questionnaire

tool demonstration

non-structured interview

target audience

CEO/COO & technical professional

integration of various SPI
stages

tool integration instead of
tool replacement

approach

perceived
value

automatic plan generation

process, plan & trace
history and comparison

tool

demands **additional effort** from managers and developers which may not be practical for small enterprises

the full potential cannot be achieved as the **tool does not yet support** process tailoring, discovery and enhancement

limitations
for
adoption

conclusions

our approach offers consistent support for SPI

CASPLE already supports part of this activity

Industrial partners value the potential of both of them and may be willing to adopt them



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