

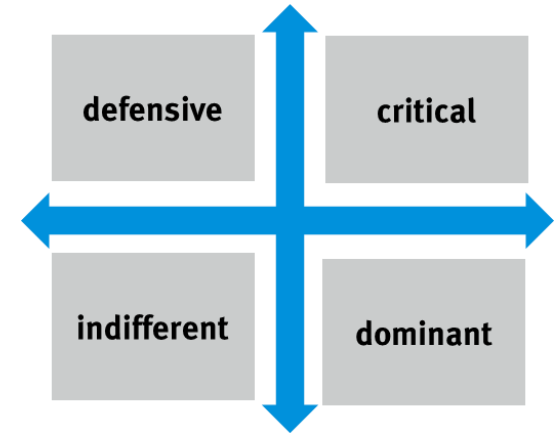
GCDA – Project dependencies, 20. Januar 2017, Steinbeis IT PM >>>



Content developed together with the **xm:institute** >>>

Content:

- (Short) Introduction Festo AG & Co. KG
- **GCDA – Goal and Content Dependency Analyse**
 - Method & implementation steps
 - Workshop concept
 - Existing example and integration at Festo
 - Lessons Learned
- Q&A and Feedback



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- **IT-PMO**
global responsible for
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[reports CIO reports 'Finance & IT' board]
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Festo in public perception – Bionic Learning Network



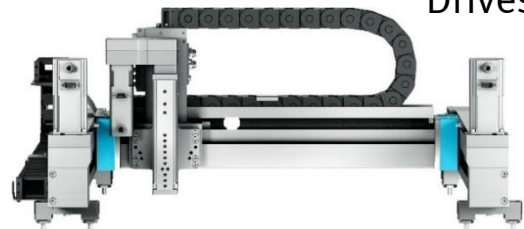
Core business – factory automation and didactic



Pneumatic Drives



Valve Terminal



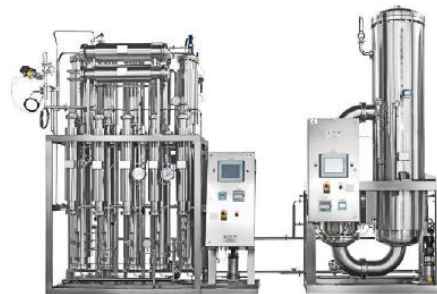
Electric Drives



Tubes



Air preparation









Process Automation



Didactic

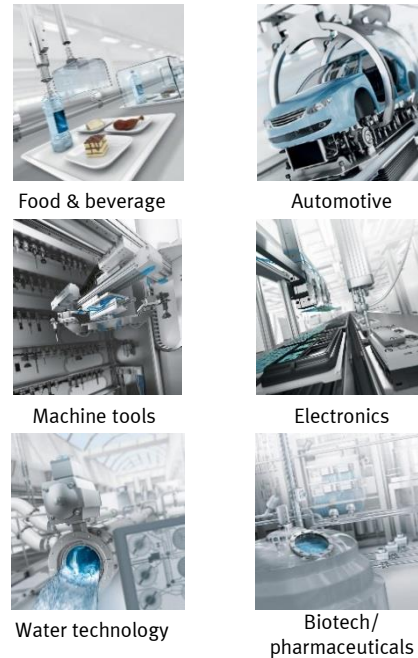
Festo – an independent privately owned company

Products

	Factory Automation		Process Automation
	Pneumatic	Electric	Pneumatic
Components			
Solutions			

› 30.000 Products

Industries (Example)



› 300.000 Customers

Service

› 10.000 customer specific solutions per year

› 24 h delivery service

› 176 countries

› 100 patents per year

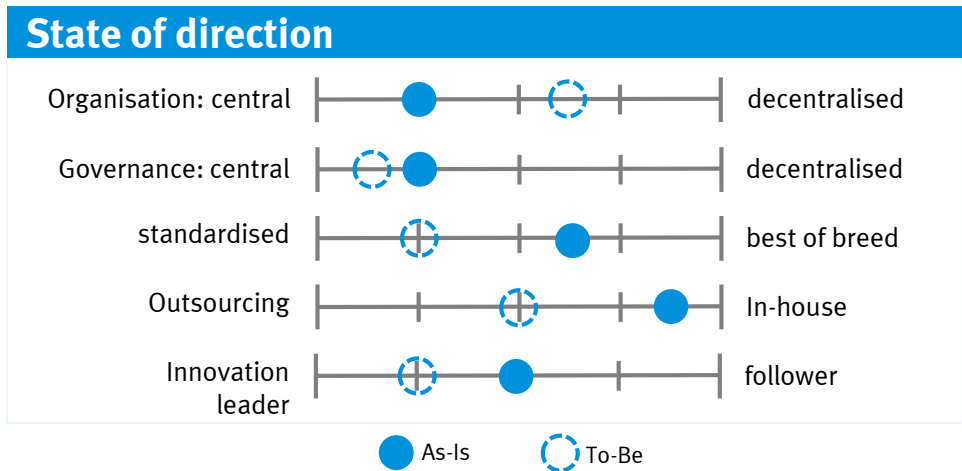
› 18.000 Employees

2,6 Mrd. Euro Revenue in 2015

Festo Global IT – Market comparable full service organisation

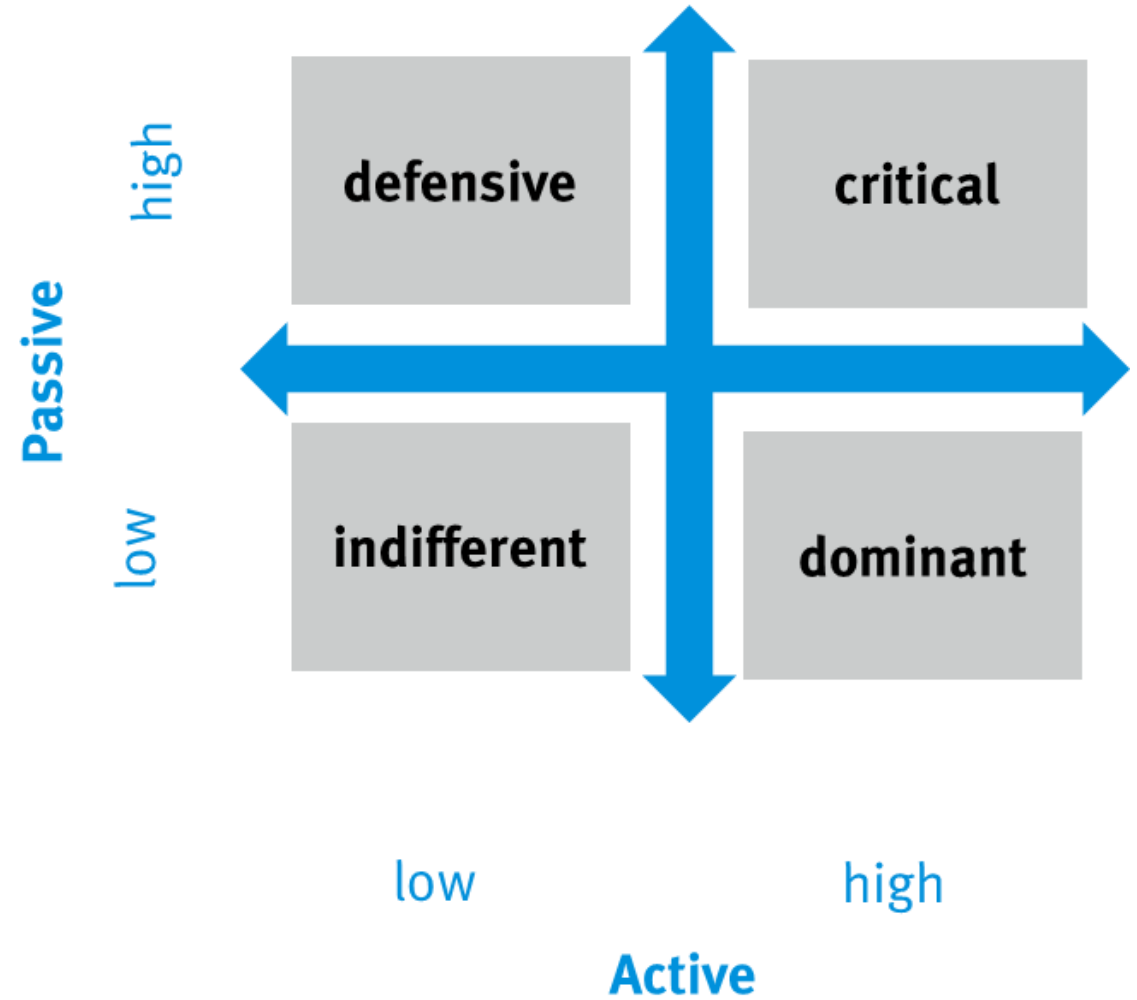
Festo Global IT	
• IT Employees	425
• Person Days IT delivery	85.000
• SAP Users	11.200
• Client Workplaces	16.000
• Mobile Devices	4.100
• Servers	1.700
• Locations	10

Demand > Implement > Operate



GCDA – Goal and Content Dependency Analysis*

Helps to identify dependencies and their impacts on the portfolio based on active or passive behavior



*Based on the “effect matrix” by Prof. Vester, Gomez & Probst

Why?

Initial situation and reason to act	Target	How? Who is involved?
<p>Open questions by the executive management regarding strategy projects:</p> <ul style="list-style-type: none"> • How can the cross-functional alignment be ensured? • How to consider interdependencies between (sub-) projects? • Do we have goal and/or content overlaps? • ... <p>➔ High IT involvement in every project!</p>	<p>Clear picture of</p> <ul style="list-style-type: none"> • Project dependencies • Effected IT applications • Data flow • Processes <p>➔ Derive clear responsibilities</p>	<p>Covered by different roles @ Festo</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Dependencies by GCDA ➔ IT-PMO <input checked="" type="checkbox"/> IT applications ➔ EAM* <input checked="" type="checkbox"/> Data flow ➔ EAM* <input type="checkbox"/> Processes ➔ GPM*...not in place yet <p>* EAM: Enterprise Architecture Management GPM: Global Process Management</p>

General types of dependencies

Type	Description
• Goal dependency	Goal conflict, goal support, goal neutrality
• Result dependency	The result of project A depends on the result of project B
• Time dependency	Project B can only start / continue when project A is ready
• Resource dependency	Project A and B use the same resources
• Content dependency	Project A partly does the same things as project B (Overlap)
... etc.	

Analysing this in detail and keep up to date???

➔ **We need the information one level higher !!!**

...mmmh, that's the job of the project manager....

GCDA – Introduction: Concept

Effect on \ Effect From	Project 1	Project 2	Project 3	Project 4	Project 5	Project 6	Total Influenced (Active)
Project 1			e.g. 9 strong effect				
Project 2							
Project 3							
Project 4							
Project 5							
Project 6							
Total Impacted (passive)							

Effect could be any dependency

- Goal
- Result
- Time
- Resource
- Content
- ...etc.

Points:

- **0** = no effect
- **1** = small effect
- **3** = middle effect
- **9** = strong effect

Project 1 strong effects on Project 3 ↑
 =
 Project 3 is highly effected by Project 1 ↓

GCDA – Introduction: 1st step - Self-perception, example “Project 3”

Effect on / Effect From	Project 1	Project 2	Project 3	Project 4	Project 5	Project 6	Total Influenced (Active)
Project 1			9				
Project 2			6				
Project 3	3	9		3	1	3	
Project 4			3				
Project 5			1				
Project 6			1				
Total Impacted (passive)							

Project 1 strong effects on Project 3
 =
 Project 3 is highly effected by Project 1

- 1st step:
- Each Project manager do a self-perception how his project
- effects/influences other projects (horizontal)
 - how his projects is effected/impacted by other projects (vertical)

- Points:**
- 0 = no effect
 - 1 = small effect
 - 3 = middle effect
 - 9 = strong effect

GCDA – Introduction: 2nd step - Consolidated result

Effect From	Project 1	Project 2	Project 3	Project 4	Project 5	Project 6	Total Influenced (Active)
Project 1		3; 9	9; 9	9; 1	0; 0	0; 0	40
Project 2	9; 9		3; 9	9; 9	0; 1	1; 1	51
Project 3	3; 3	9; 9		3; 3	1; 1	3; 3	38
Project 4	1; 1	3; 3	3; 3		0; 1	0; 1	15
Project 5	0; 0	0; 1	1; 1	1; 1		0; 0	2
Project 6	0; 0	0; 0	1; 1	0; 1	0; 0		3
Total Impacted (passiv)	26	37	39	35	3	9	

Example, different self perceptions, detail analysis needed

2nd step:

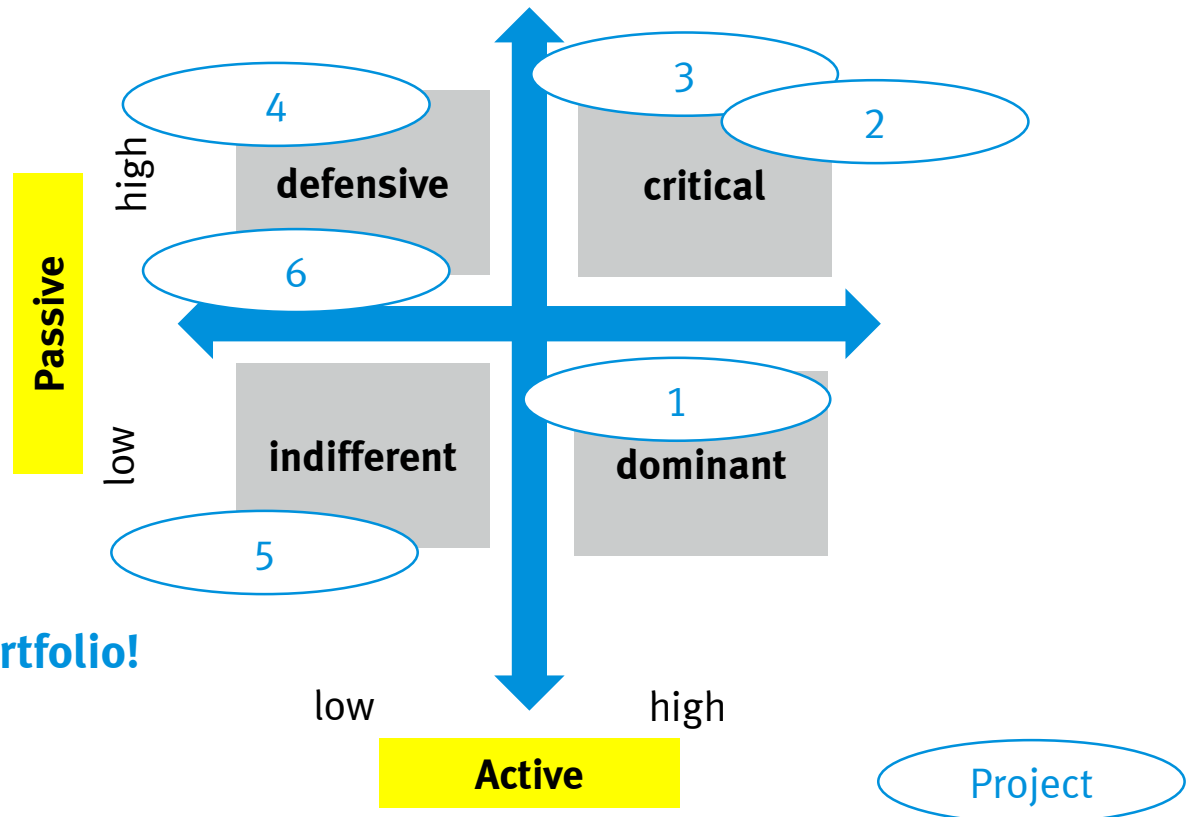
- Consolidate all self-perception in one chart
- Calculate the active and passive sums
- Check conflicts, in case of conflicts initiate bilateral discussion between project manager to solve with target to get a common view (...focus on the conflicts with strong effects, “9”...)

GCDA – Introduction: 3rd step - Categorize projects by active and passive value from the matrix

Active = influence on other elements

Passive = impacted by other elements

Category	Impact
• Critical	Key elements, changes initiate chain-reaction
• Dominant	Influences significant other elements
• Defensive	are influenced by other elements
• Indifferent	closed, autarkic, self-sufficient



→ Change on projects have different effects on the total portfolio!

Result is not an holistic view, just one piece of the puzzle!!

Also indifferent projects can have a high benefit!!

GCDA – Introduction: 4th step - Main important interfaces between projects

Effect From	Project 1	Project 2	Project 3	Project 4	Project 5	Project 6	Total Influenced (Active)
Project 1		3 9	9 9	9 1	0 0	0 0	40
Project 2	9 9		3 9	9 9	0 1	1 1?	51
Project 3	3 3	9 9		3 3	1 1	3 3	38
Project 4	1 1	3 3	3 3		0 0	0 0	15
Project 5	0 0	0 1	1 0				2
Project 6	0 0	0 0?	1 1	0 1	0 0		3
Total Impacted (passive)	26	37	39	35	3	9	

Example, relations with strong effects (= 9 points)

- 4th step:
- Identify all relations with a strong effect (“9”)
 - ➔ This are the main interfaces that must be professional managed
 - Write down the interfaces, e.g. in this example
 - Project 1- Project 2
 - Project 1- Project 3
 - Project 1- Project 4
 - Project 2- Project 4
 - ...
 - Of course the other interfaces are also important....

GCDA – Introduction: 5th step - Maturity Level of main important interfaces

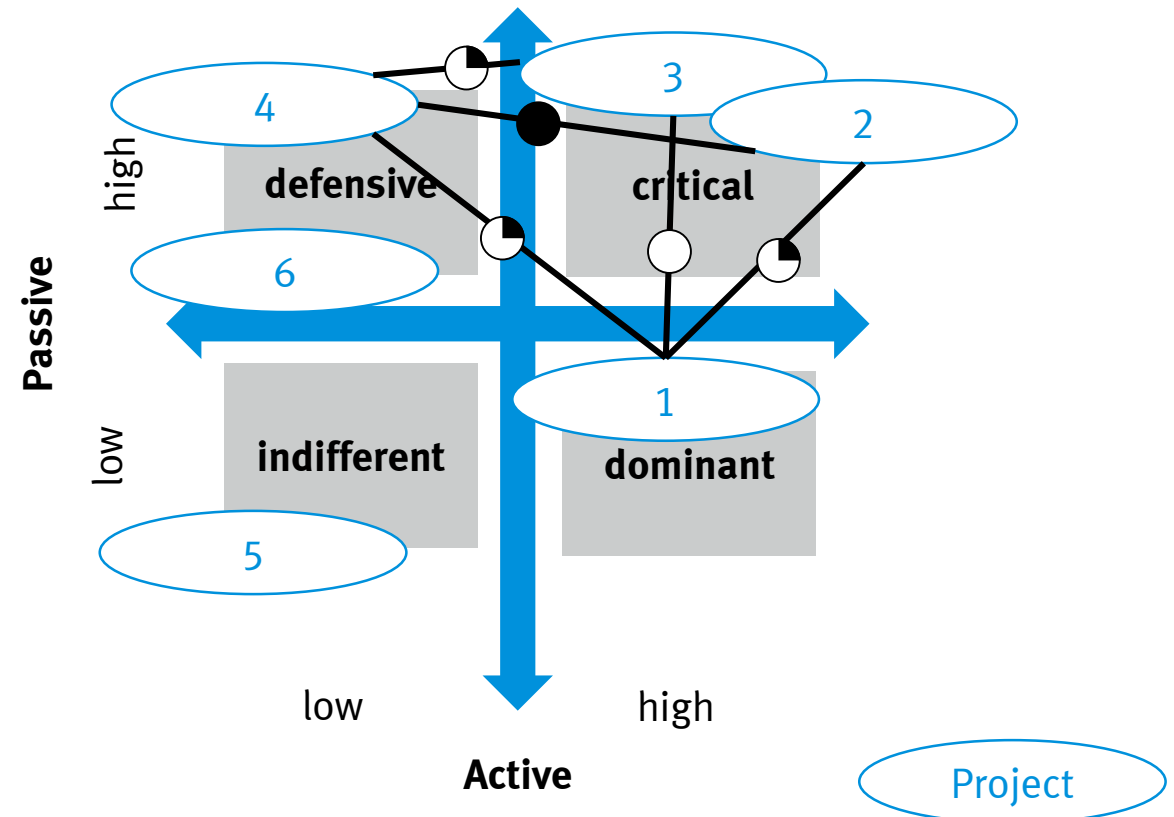
Are all main important interfaces already managed professionally? Have both Project Manager the same opinion? → Discuss!

- Project 1- Project 2
- Project 1- Project 3
- Project 1- Project 4
- Project 2- Project 4
- Project 3- Project 4

Use Harvey balls to document and describe the method with 1-2 sentences

Options to manage – finding a suitable method for each interface

- 1 dedicated person in each project team, bilateral clarification
- Interface meetings within the teams
- Project manager level
- Standard agenda point in every project meeting
-

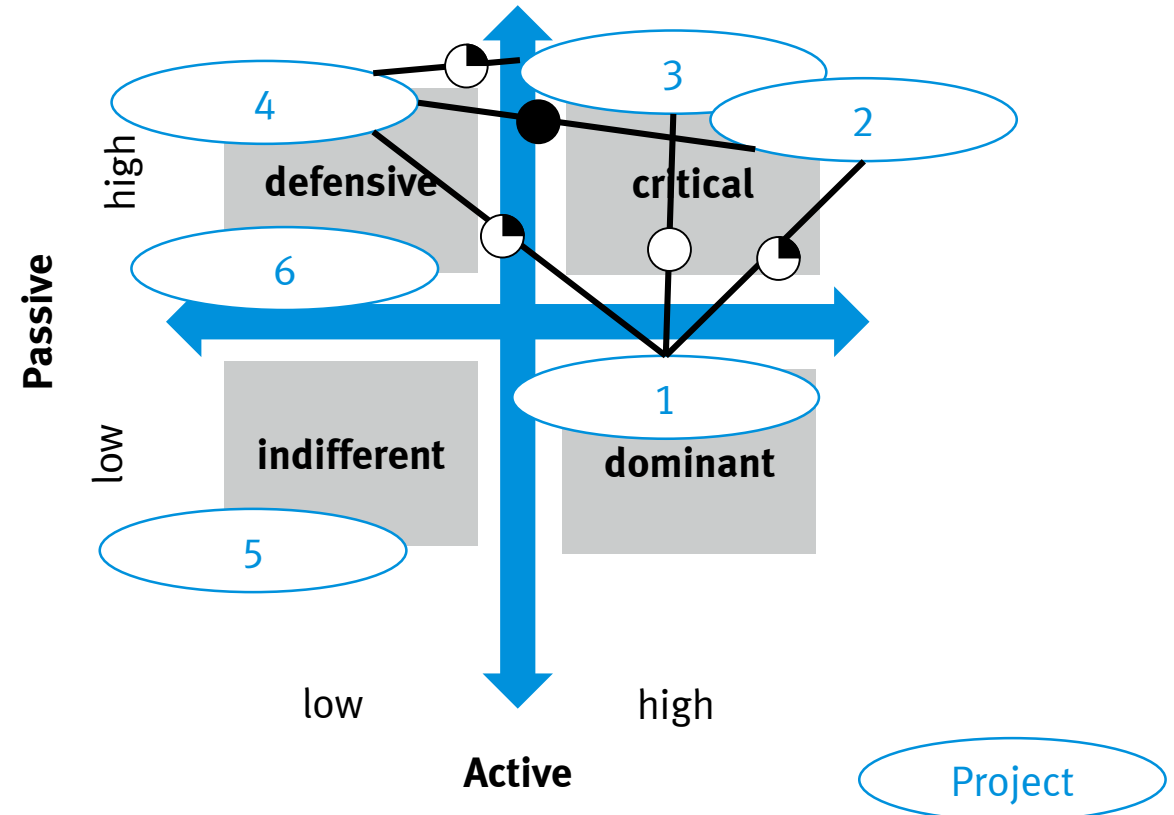


GCDA – Introduction: 6th step - Initiate regular meeting on Project Manager level

...just to bring the topics in place, not to solve them immediately

Target of the meetings:

- Unique communication to upper management
- Ensure communication, e.g. major updates from the projects and upcoming topics
- **Which topics are not covered? Identify “White spots”, e.g. out of scope in all projects**
- Are there other topics to be managed in a generic way
- Are there topics relevant for all projects
- ...



GCDA Workshop Concept – in a nutshell

Existing workshop concept could be used as a reference model for other (sub-) projects

Phase	Topic
Preparation	Identifying relevant projects and brief the Project Manager
1 st Workshop	Short presentation 15min for each project <ul style="list-style-type: none"> • Project Overview – OnePager • Project Organization • Project dependencies Self assessment by Project manager - OnePager (High Level statements regarding goal, result, time, resource and content dependencies)
	Fill out GCDA – matrix and consolidate (1 st -3 rd step)
	Identify conflicts and main interfaces (4 th -6 th step)
	Create and commit to a common picture as communication base for everyone
...follow up workshops	Monthly/regular meeting for knowledge exchange and recommendations for the steering committees <ul style="list-style-type: none"> -upcoming topics -topics not covered

Existing example and integration at Festo

Reason to act and situation in Summer 2015

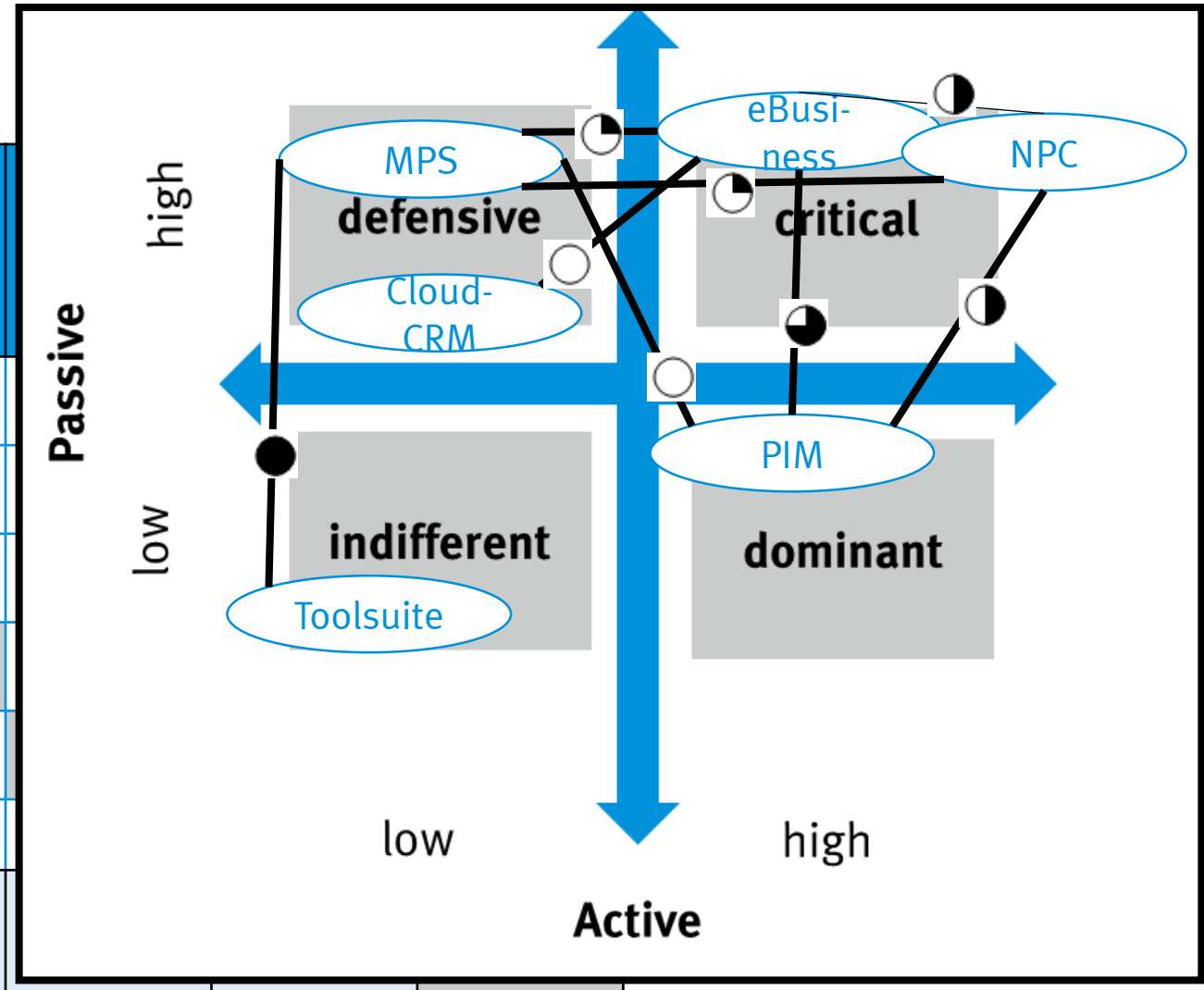
Assumption from the management:

The interfaces and dependencies from projects derived by the Strategy are not managed professionally and content overlaps!



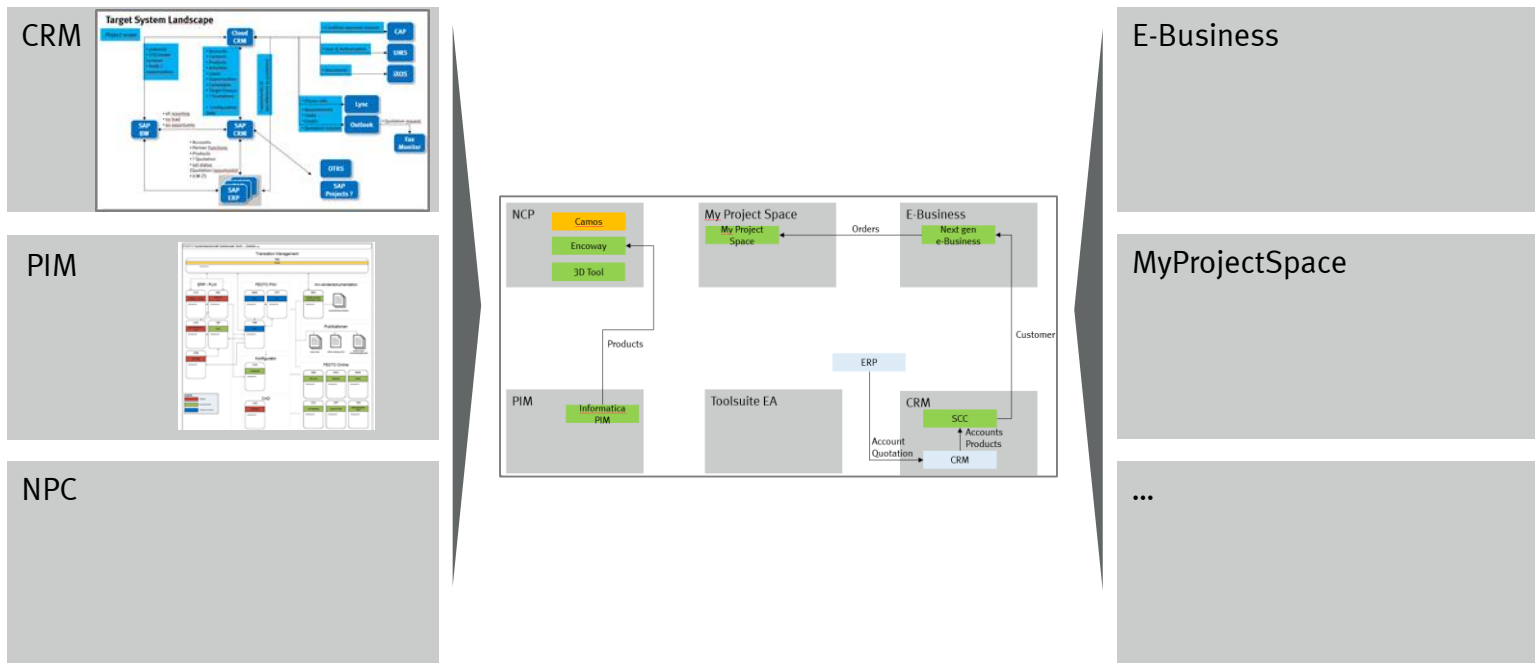
GCDA – Matrix and result, committed by all

Effect From	PIM	NPC – Configurator	eBusiness	myProject Space
PIM		69	99	91
NPC-Configurator	99		69	99
eBusiness	33	99		33
MyProject Space	11	33	33	
Toolsuite EA	00	01	10	//
CloudCRM	00	00	11	01
Total Impacted (passiv)	26	40	42	35



Integration of all IT application and data flow landscapes to one picture → One model necessary!

Target: Clear picture of project dependencies, effected IT applications and data flow



How? Who is involved?

Covered by different roles @ Festo

- Dependencies → IT-PMO**
- IT applications → EAM***
- Data flow → EAM***
- Processes → GPM***

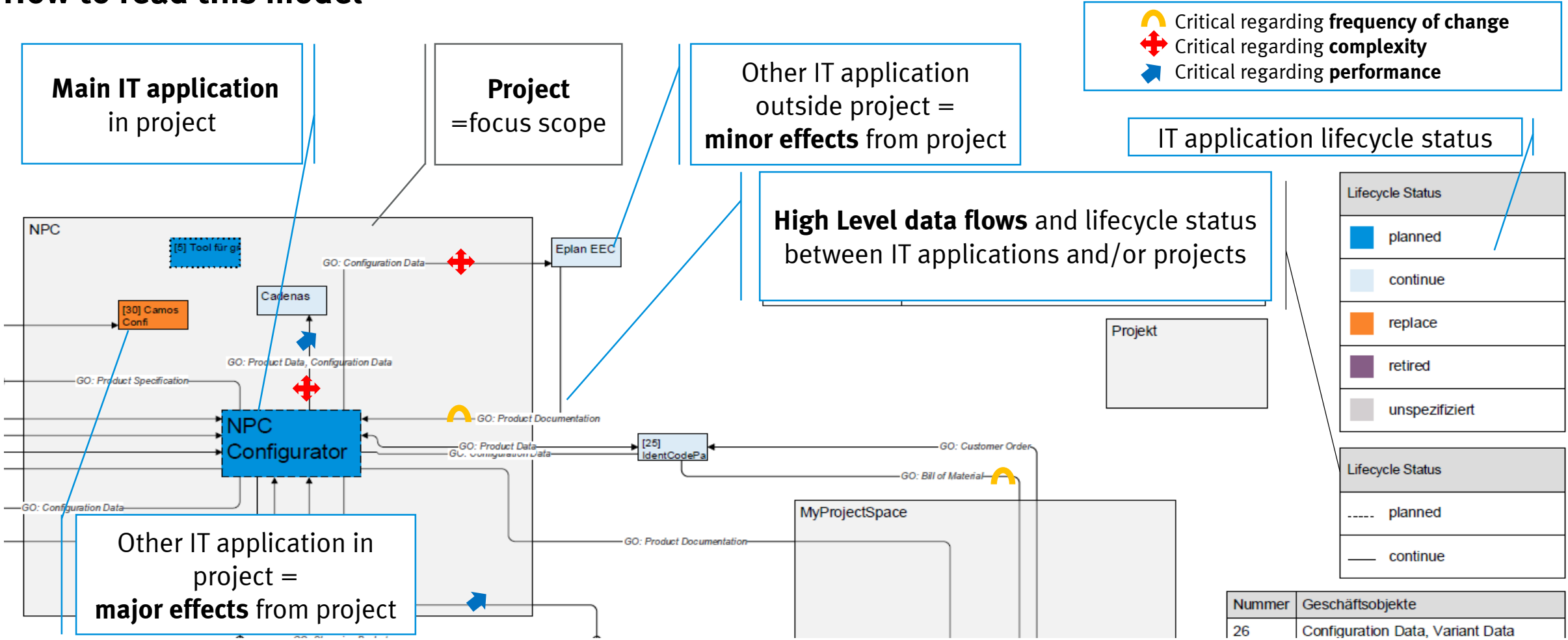
...GPM in place @Festo ...

*

EAM: Enterprise Architecture Management
GPM: Global Process Management

→ **IT Enterprise Architecture Management involvement necessary!!!**
@Festo supported with the tool **iteraplan**

How to read this model



Lessons Learned

after ~1 year practicing GCDA - Goal and Content dependency analysis

General topics

- **GCDA is quit easy to use with less efforts**, but start with GCDA with max. 10 (sub-) projects... of course it works with more but step by step...
- **GCDA ensure communication** within projects on project manager level, monthly 90 min works fine
- Common picture helps, especially for communication to upper management
- **GCDA not solves problems**, just helps to identify and initiate the next steps
- Don't try to solve the problems in the meetings, just address and follow up.
- **Integrate IT Enterprise Architecture** → Win-Win for both!!! (Projects changes the IT application landscape...)

Special findings @Festo

- Some interfaces are only managed on workgroup level, especially for main interfaces this is not sufficient
- Common picture is much more complex than expected (we mean complex, not only complicated...)
- Some topics are not covered in any project yet - “White spots”

→ Will be continued!!

Questions? Just ask!

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Feedback Welcome!



Special thanks to Dr. Oliver Mack and the xm:institute >>>

