

A Lightweight Requirements Engineering Assessment Guide



**Universität
Zürich** ^{UZH}



Fraunhofer
IESE



Slide 1
9. April 2014

A man in a dark suit stands on a balcony in front of a modern building with a complex, faceted glass facade. The building's design is highly geometric, with many triangular and polygonal panels. The sky is clear and blue. The overall scene is bright and modern.

Zühlke Management Consultants. Empowering Performance.

zühlke
empowering ideas

**requirements
are a very early occasion
to do something good
for your projects**



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Peter Spörri is the industry partner in the development of the RE Assessment.



Daniel Rapp is Business Analyst at Zühlke Management Consultants AG.

During his master's degree in business informatics at the University of Zürich, he has developed and applied the Requirements Engineering Assessment in collaboration with Zühlke Management Consultants AG and Fraunhofer IESE.



Motivation and Goal:

Lightweight and efficient assessment as starting point for micro-teachings



Structure of the RE Assessment Guide:

Influencing factors, process- and document analysis, evaluation



Application Experiences:

The application of the RE Assessment Guide in practice

Motivation and Goal

«Market Situation Summer 2012»



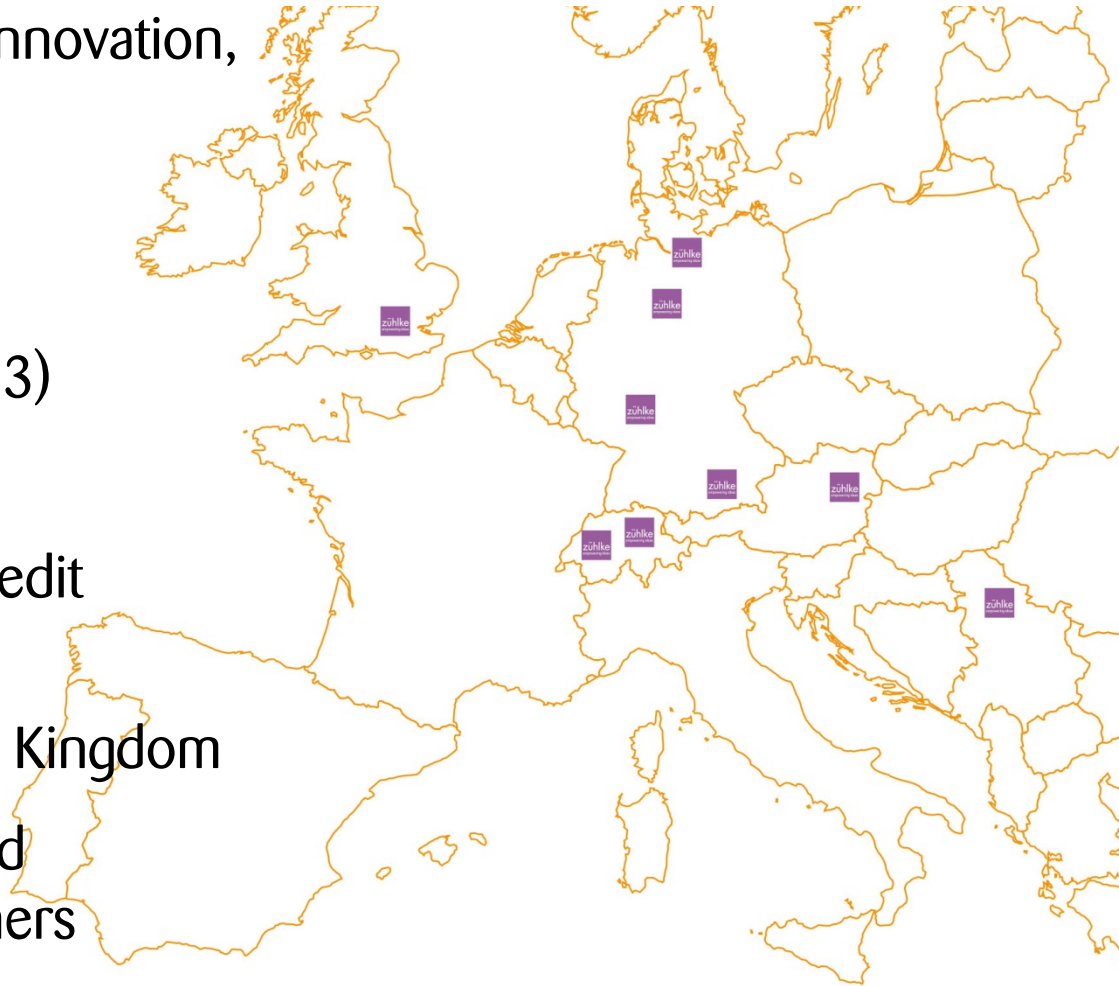
Major Industries acted in a bottom line management strategy

- «Cost cutting» was a major decision driver for Managers
- Delivery of running projects at lowest cost was the main focus
- Run the business with existing infrastructures, methods and tools was a common practice.



In order to tackle these market conditions, Zühlke wanted to explore new approaches to offer organisational development in the RE Domain for solution development projects.

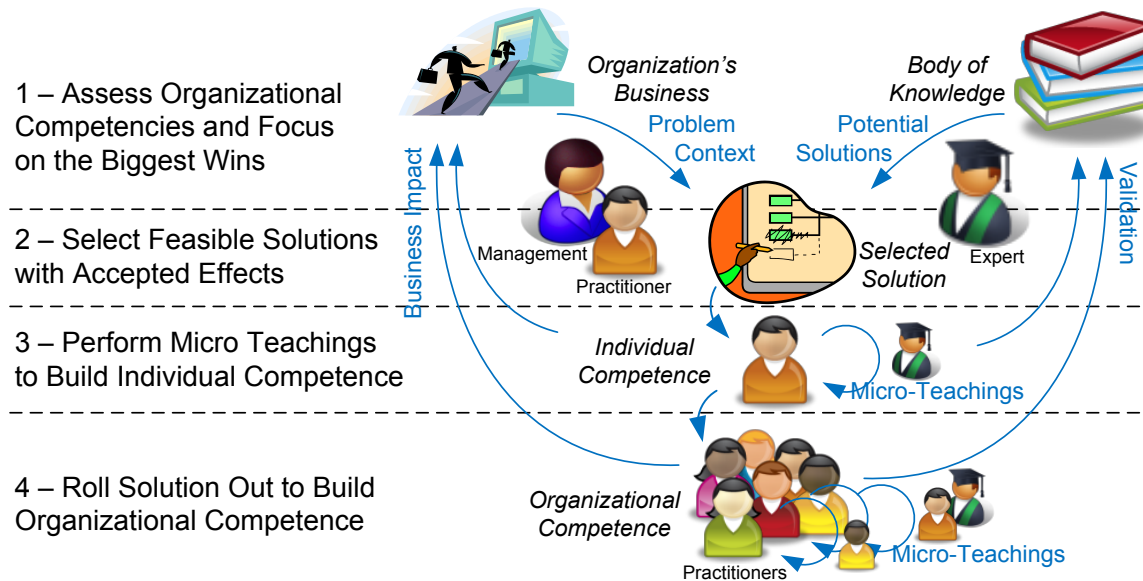
- Zühlke stands for increased innovation, productivity and growth
 - Product- & Software Engineering
 - Management Consulting
 - Start-up Financing
- Turnover 105 Mio. CHF (2013)
- 630 Employees (end 2013)
- Over 8000 projects to our credit
- In Austria, Germany, Serbia, Switzerland and in the United Kingdom
- Foundation 1968, now owned by a group of managing partners



Approach chosen by Zühlke «Concept»



Micro Teaching (as proposed by Fricker and van de Weerd) is evolutionary approach for Training:



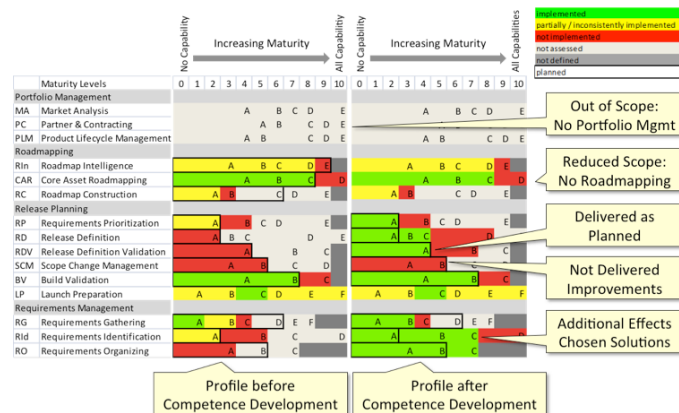
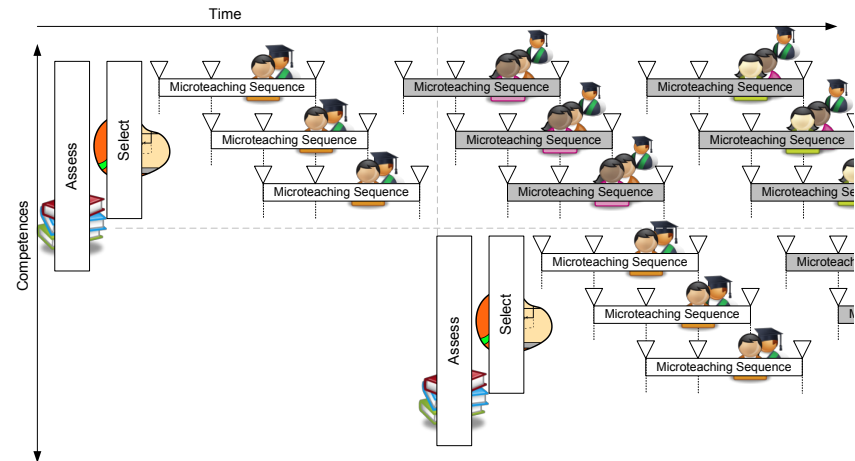
- One teaching cycle has a duration of approx. one month
- The coach has to invest approx. five person days per month

Approach chosen by Zühlke

«Plan & Control»

Micro Teaching is based on assessments

- Targeted competence development
- Controlled learning process
- Comparable results



- Fast and concrete assessment of the current RE quality
- Tailored and customised recommendations how to improve the RE



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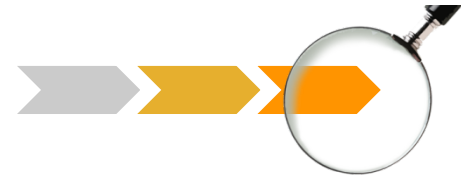
Structure of the RE Assessment Guide



Influencing factors



Document analysis



Process analysis



Subject areas including concrete assessment-criteria

Structure of the RE Assessment Guide

- CMMI
- ISO/IEC 15504
- R-CMM
- ReqMan
- SPMMM
- REM



Zühlke Engineering AG

Requirements Engineering Assessment Guide

0%  100%

2.3 Attribute einer Anforderung
Dieser Block befasst sich mit den Attributen einer Anforderung.

Eindeutige Nummerierung
Wurde jede Anforderungen mit einer eindeutigen ID gekennzeichnet?

☐ Ja, voll und ganz
☐ Eher ja
☐ Eher nein
☐ Nein, gar nicht
☐ Keine Antwort

Bitte geben Sie hier Ihren Kommentar ein.:


Erfassen des Autors
Wurde der Autor für jede Anforderung erfasst?

☐ Ja, voll und ganz
☐ Eher ja
☐ Eher nein
☐ Nein, gar nicht
☐ Keine Antwort

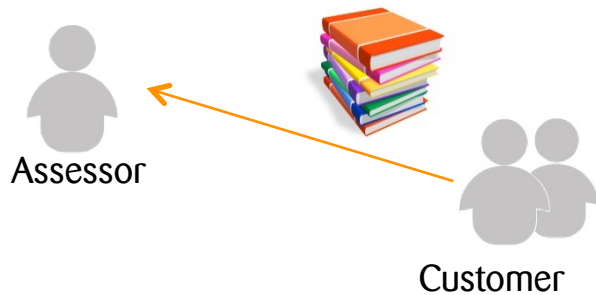
Bitte geben Sie hier Ihren Kommentar ein.:


- Toolbased
 - Dependencies between influencing factors and assessment criteria
- Tailored and efficient assessment

Conducting an Assessment



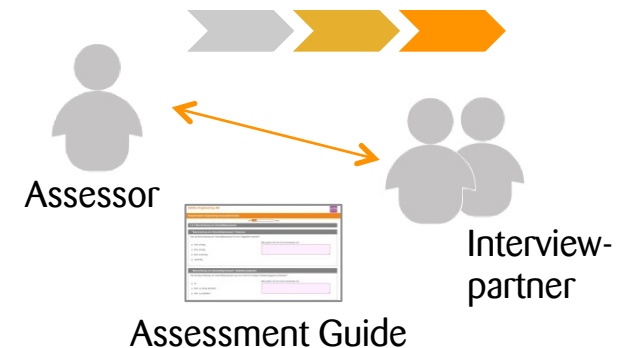
1. Kick-off and documentation hand-over



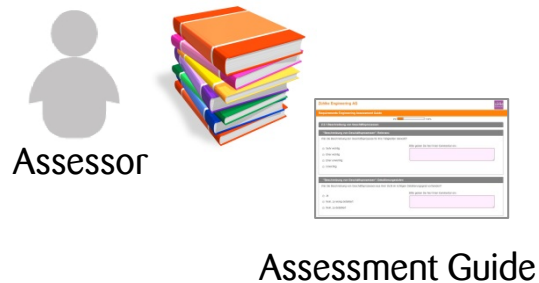
2. Initial document analysis



3. Process analyse



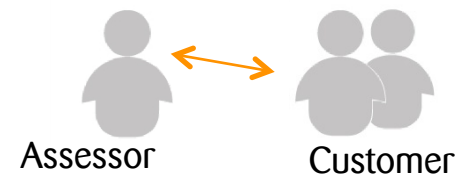
4. Detailed document analysis



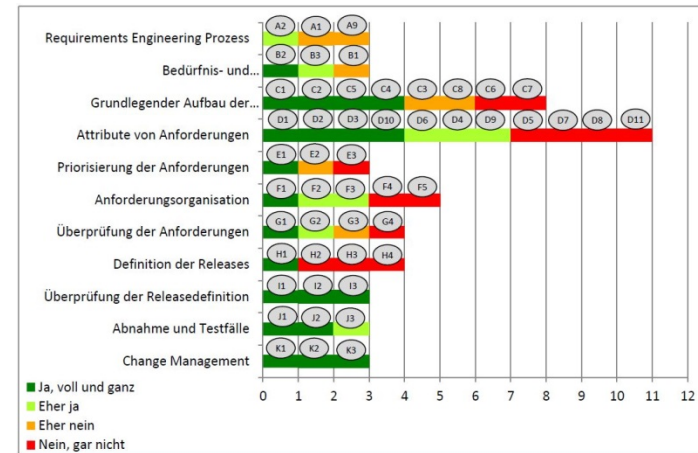
5. Analysis of the results & creation of the final report



6. Presentation of the final report



- Export of the raw data from the Assessment Guide
- Excel-Makro for processing the raw data



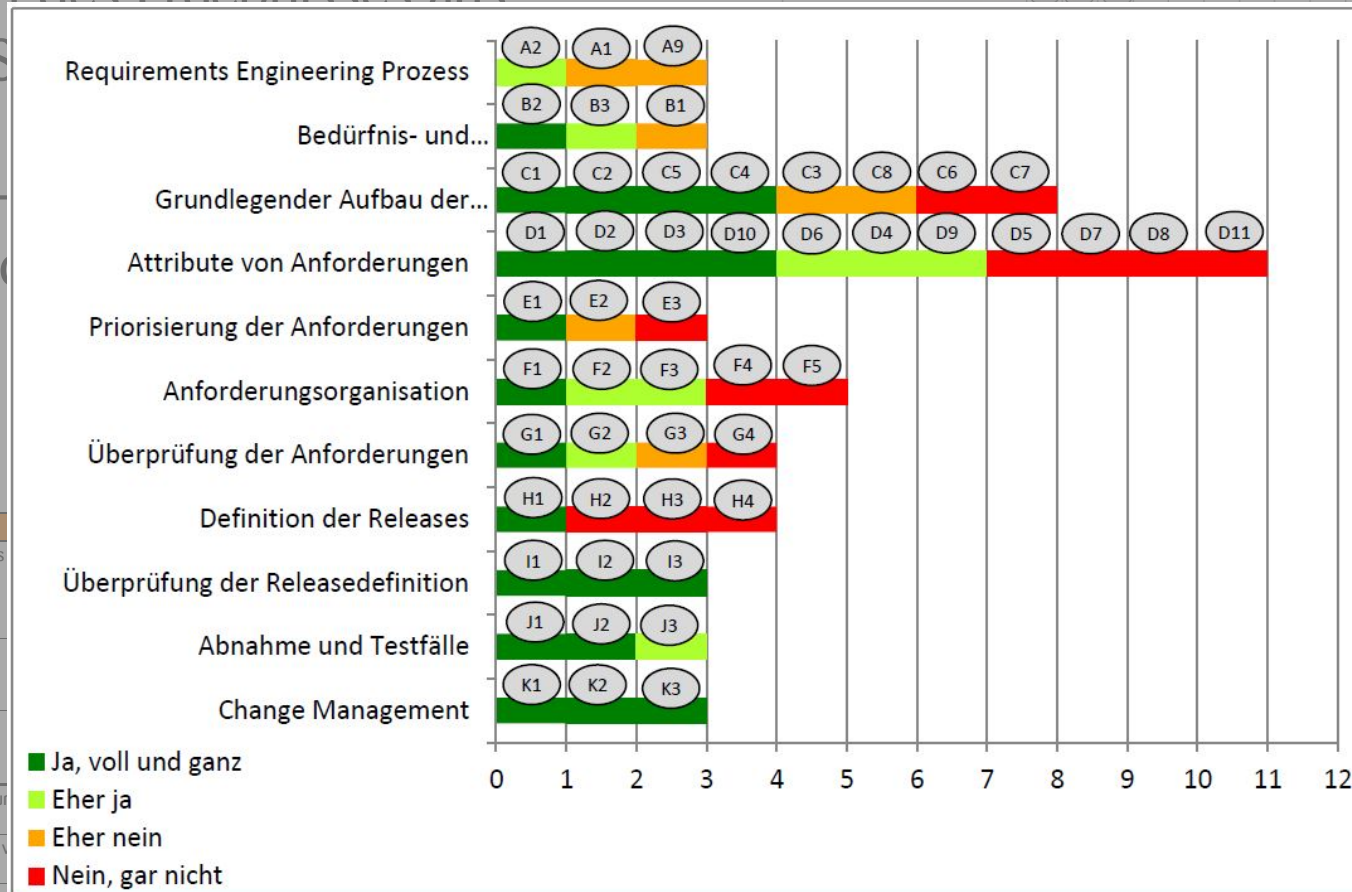
ID	Titel der Frage	Antwort	Beschreibung
A1	Definierter RE Prozess	Eher nein	Der Prozess wurde vornehmlich vom Kunden initiiert und die Anforderungen hauptsächlich direkt an die Entwicklungsabteilung weitergegeben. Dadurch wird das Anforderungsmanagement auf Seiten des ISC oftmals übergangen. Dieses Vorgehen wurde dabei nicht definiert.
A2	Identifizieren und Integrieren der Stakeholder	Eher ja	Da es sich um ein fortlaufendes Projekt handelt, bei dem die Anforderungen bereits dokumentiert von Kundenseite geliefert werden, ist der Kunde die Hauptquelle von Anforderungen und entsprechend integriert.
A9	Einhalten des RE Prozesses	Eher nein	Der definierte Prozess wird nicht immer eingehalten, da die Entwickler oftmals die Requirements Engineers bzw. Business Analysten aussen vor lassen.
B1	Grundlegende Erfassung von Anforderungen	Eher nein	Nur ein kleiner Teil der Anforderungen wurde seitens ISC erhoben, da viele Anforderungen bereits vom Kunden in die Entwicklung gegeben wurden.
B2	Zentrale Speicherung von Anforderungen	Ja, voll und ganz	Die Anforderungen und Use Cases wurden zentral auf einem Server gespeichert.

- Explanation and evaluation of each assessment criteria
- Recommendation for a concrete course of actions

- Export des Ergebnisses aus

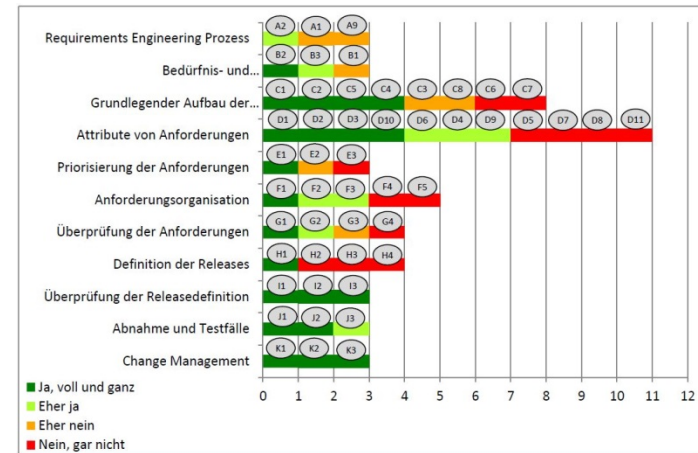
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- Excel-
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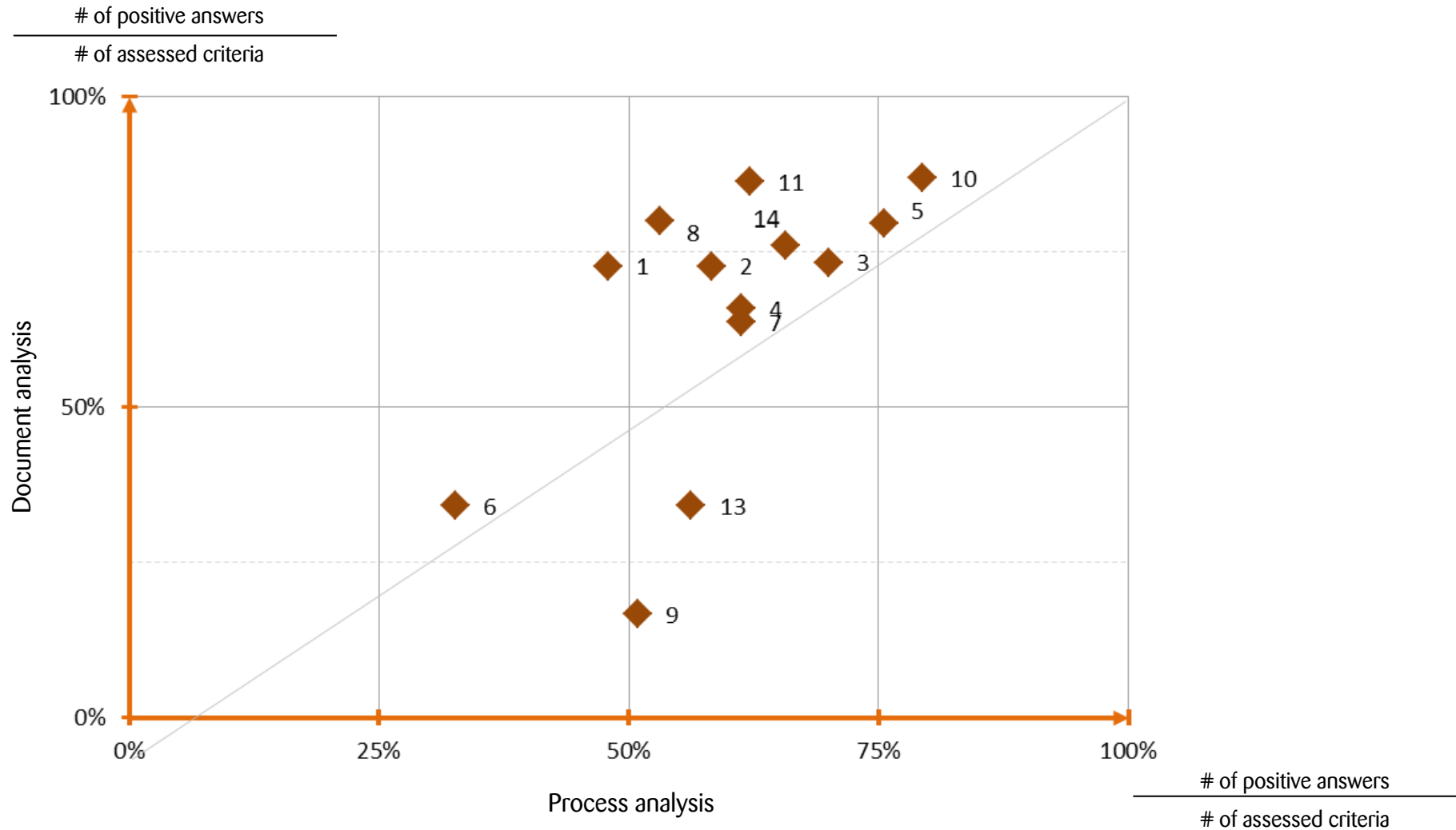
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Step	Efforts Customer	Efforts Zühlke
1. Kick-off	1 hour each participant	1 hour preparation, 1 hour meeting
2. Initial document analysis	-	4 hours
3. Process analysis	2 hours per interview	2 hours per interview
4. Detailed document analysis	-	8 hours
5. Analysis of the result & creation of the final report	-	16 hours
6. Presentation of the final report	1 hour each participant	1 hour preparation, 1 hour meeting
Sum	4 hour each participant	34 hours

In a typical project setting there are 3 team members on customer side involved. Thus the overall effort on customer side is 12 hours.



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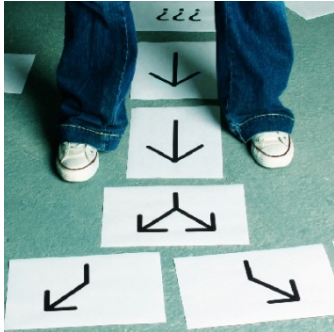
10 industrial projects

- 3 - 7 full time equivalents
- 600 - 1500 person days
- 12 - 18 months
- Iterative software development processes



27 projects in an academic environment

- Real customers from the industry
- Perform the entire software development process
- Direct and independent communication with the customer



1. Analyse current RE process – e.g. after the Elaboration phase



2. Compare how RE is performed in several software development projects within one company



3. Investigate the communication flow within the project teams

-
- Creation of the final report requires still a lot of time
 - Further refinement of possible answers of the assessment criteria would be helpful



- Assessment itself provides meaningful results and thus value to the customers
- Flexibility of assessment guide enables to tailor the assessment to customer specific needs
- Limited amount of time and resources required to conduct assessment
- Assessment delivers Helpful Micro Teachings at a major Payment Service Provider

The Experience:

A friendly and positive Approach



- Zühlke Assessments to identify room for improvement (not to blame bad Requirements)
- Recommendations are significant and used to blend “Corporate Learning Process”
- Micro Teachings are tailored to the project need
- Relevant knowhow can be applied immediately
- Project specific coaching with Zühlke RE Specialists
- Additional support with Zühlke Business Analysts to “get things done”



Choosing an assessment platform and automatisisation of the evaluation



Supporting further research projects to get more insights into the RE context



Open: how to get towards a maturity level oriented evaluation?

Thank you for your Attention!

