
Software-Entwicklung in der Praxis

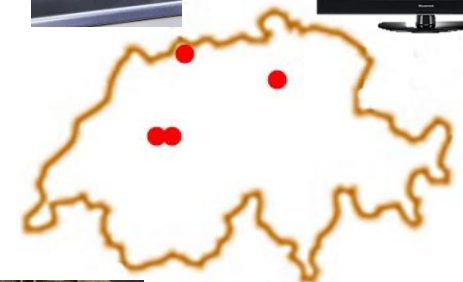
Gastvortrag Vorlesung P2, Universität Bern

Dominique Matter

dominique.matter@zuehlke.com

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**UNIVERSITÄT
BERN**







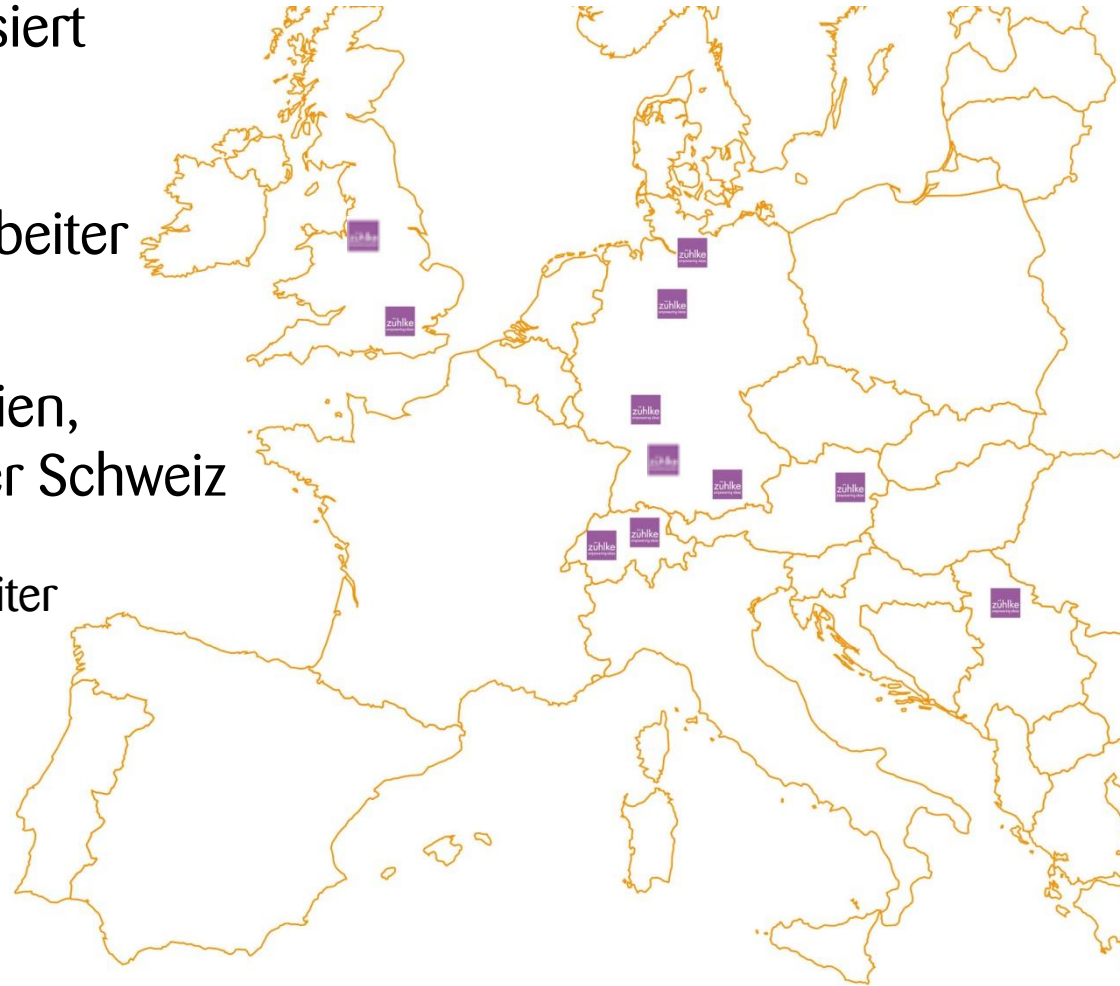
zühlke
empowering ideas

Drei vernetzte Bereiche

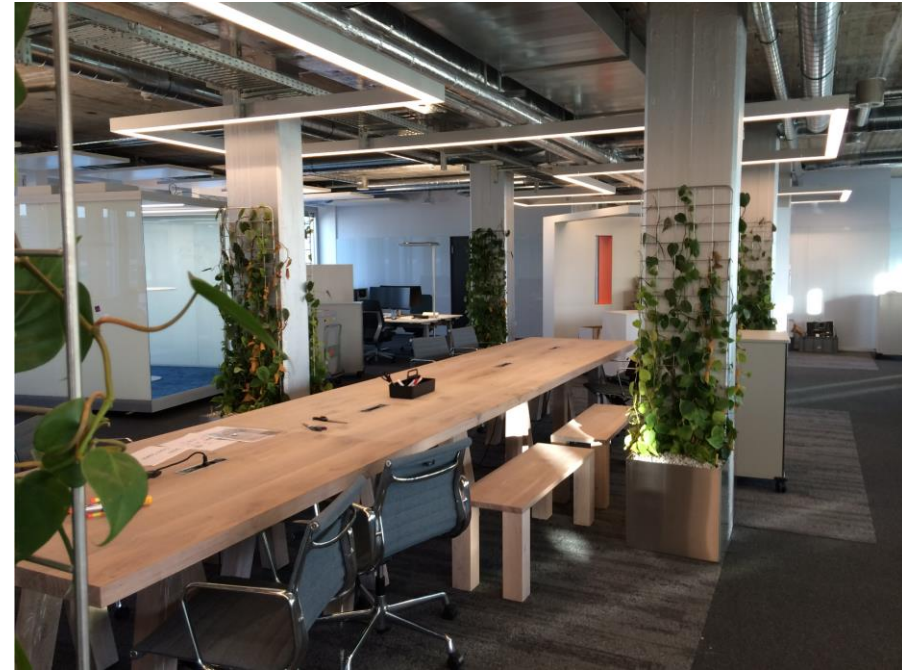
- Produkt- und Software-Engineering
- Managementberatung
- Start-up-Finanzierung



- Mehr als 8'000 Projekte realisiert
- 125 Mio. CHF Umsatz (2015)
- 700 Mitarbeiterinnen & Mitarbeiter (2015)
- In Deutschland, Grossbritannien, Österreich, Serbien und in der Schweiz
 - Bern: PostParc
~ 60 Mitarbeiterinnen & Mitarbeiter
 - Schlieren bei Zürich, Hauptsitz
- Gegründet 1968,
im Besitz von Partnern



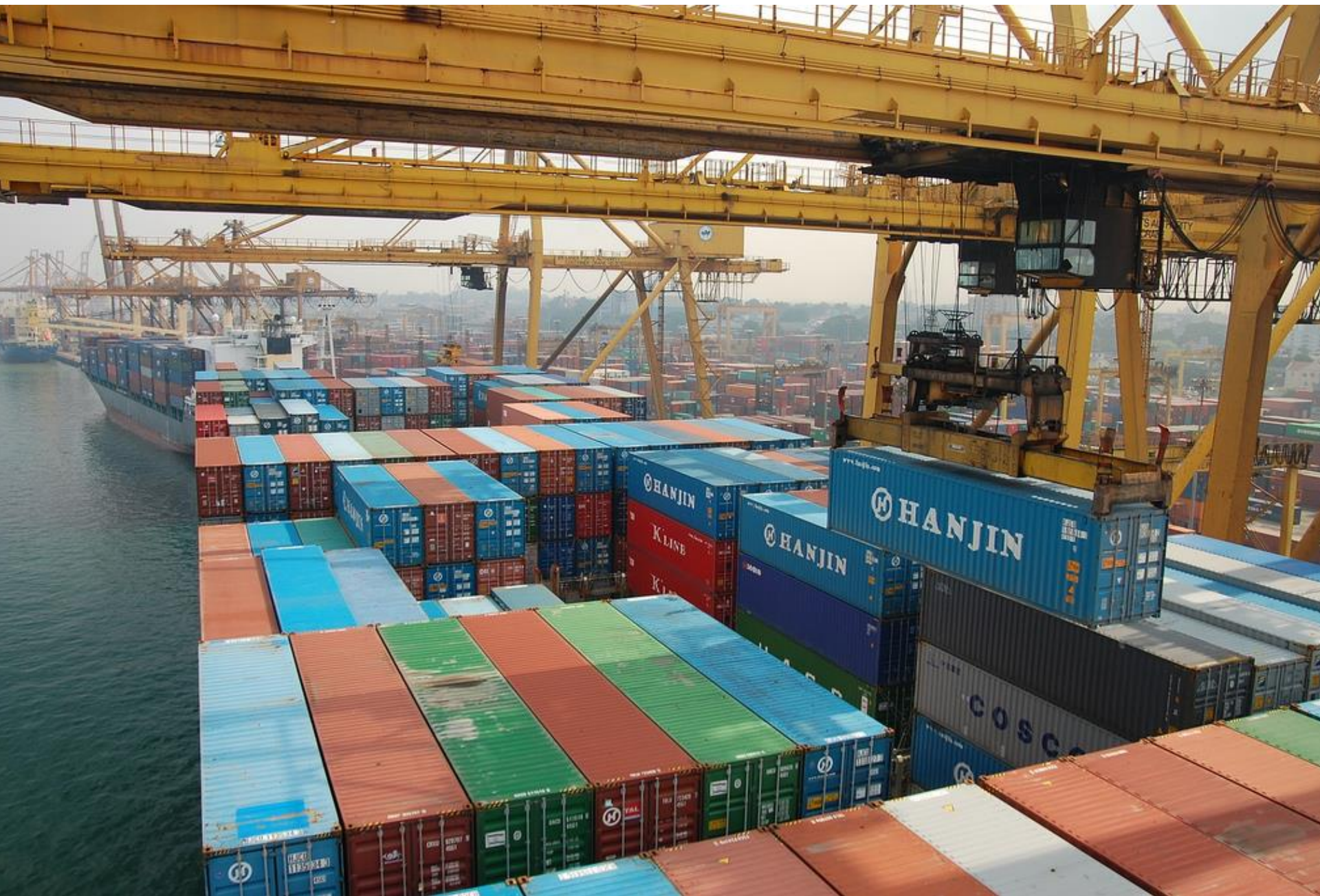
Standorte Schlieren und Bern



Planung: R&S Group, Fotograf: Arnold Weis

Software-Projekt: e-Government





Zoll Douane Dogana Customs

Schriftliche Selbstanmeldung im Reiseverkehr	Autodichiarazione écrite dans le trafic touristique	Autodichiarazione scritta nel traffico turistico	Written self-declaration in tourist traffic
<p>2.2. Informations bei der Einreise in die Schweiz</p> <p>Welche Waren dürfen eingeführt werden?</p> <p>Welche Waren dürfen NICHT eingeführt werden?</p> <p>Es bestehen für den Reisenden die Möglichkeiten, Waren schriftlich anzudeklarieren?</p> <p>Sie werden die Angaben angeben?</p> <p>Welche Folgen hat eine falsche Angabe?</p> <p>2.3. Informationen bei der Ausreise aus der Schweiz</p>	<p>Formalités douanières à l'entrée en Suisse</p> <p>Quelles marchandises peuvent être transportées?</p> <p>Quelles marchandises ne peuvent PAS être transportées?</p> <p>Quels spécifs vis les touristes transportés dans les diligences par avion?</p> <p>Comment les déclarations sont-elles faites?</p> <p>Quelles conséquences a une non-déclaration?</p> <p>Formalités douanières à la sortie de Suisse</p>	<p>Formalità doganali all'entrata in Svizzera</p> <p>Quali merci possono essere trasportate?</p> <p>Quali merci NON possono essere trasportate?</p> <p>In quali casi le merci trasportate devono essere dichiarate per iscritto?</p> <p>Come vanno indicate le merci?</p> <p>Quali sono le conseguenze se non dichiaro una merce?</p> <p>Formalità doganali all'uscita dalla Svizzera</p>	<p>Customs formalities when entering Switzerland</p> <p>Which goods may be transported?</p> <p>Which goods may NOT be transported?</p> <p>In which cases must the goods be transported by document in writing?</p> <p>How will the goods be marked?</p> <p>What are the consequences of not declaring goods?</p> <p>Customs formalities when leaving Switzerland</p>



Die Schweizer Ausfuhrdokumente dürfen für den Antrag der Steuerbefreiung nicht in die Anmeldebüxsen geworfen werden.
Les documents d'exportation suisses pour l'obtention de la détaxe ne peuvent pas être déposés dans les boîtes à déclarations.
I documenti d'exportazione svizzeri per l'ottenimento dell'esenzione dall'imposta non possono essere depositati nelle cassette delle dichiarazioni.
The Swiss export documents for tax exemption applications should not be placed in the declaration box.

Kundenservice Auskünfte: 0800 222 040 (24/24)

Assistenza clienti: 0800 222 040 (24/24)

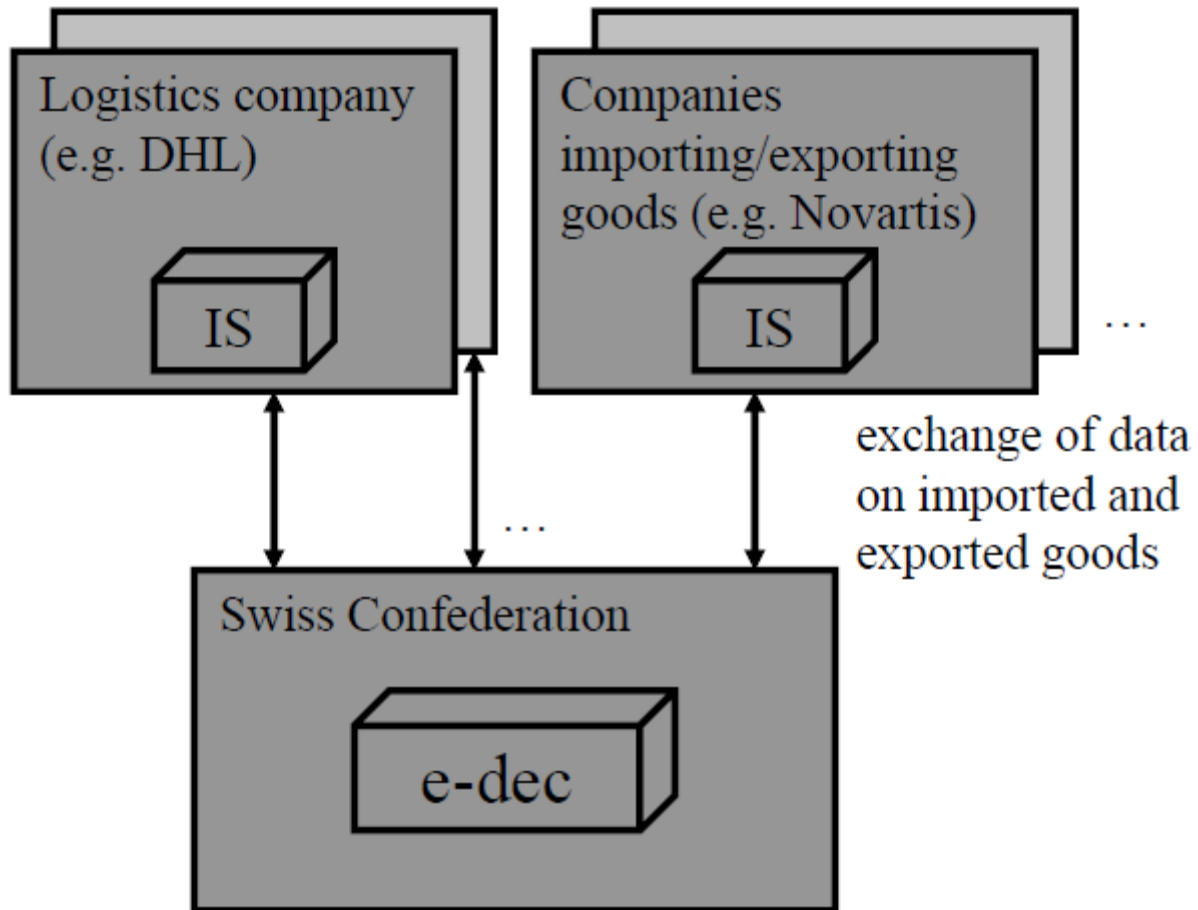
Informazioni gratuite: 0800 222 040 (24/24)

For information, please telephone: 0800 222 040 (24/24)

Formulare
Formulaires
Moduli
Forms



**SCHRIFTLICHE
ANMELDUNG**



100'000 bis 150'000 Service-Aufrufe / Tag

von **1200** heterogenen Systemen

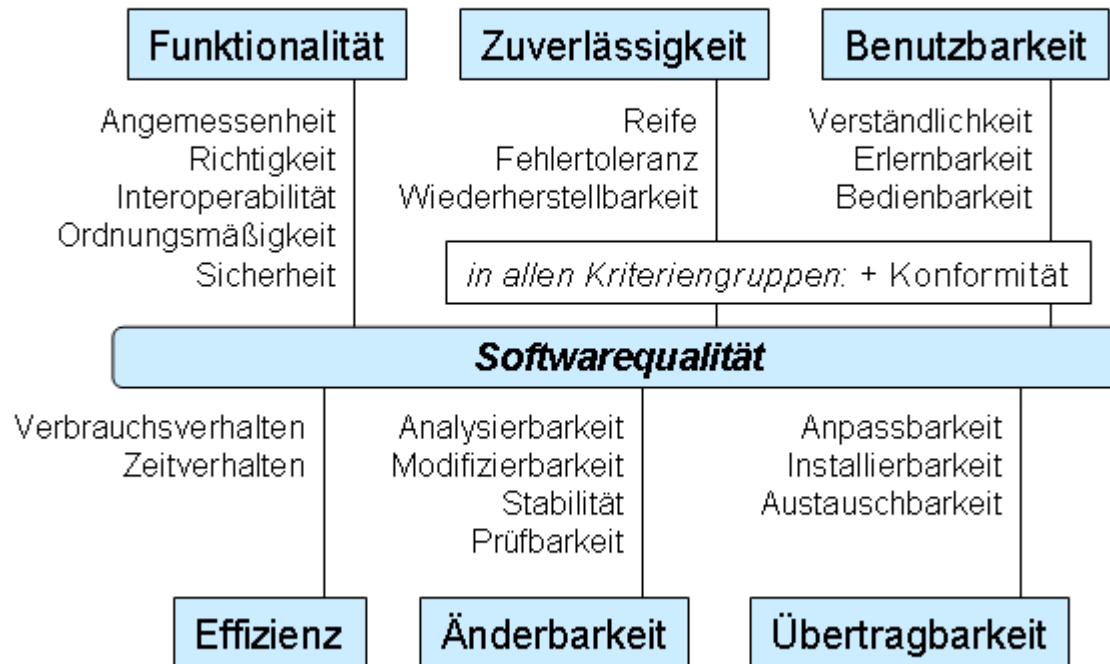
2500 Zöllner

generiert **1/3** Bundes-Budget

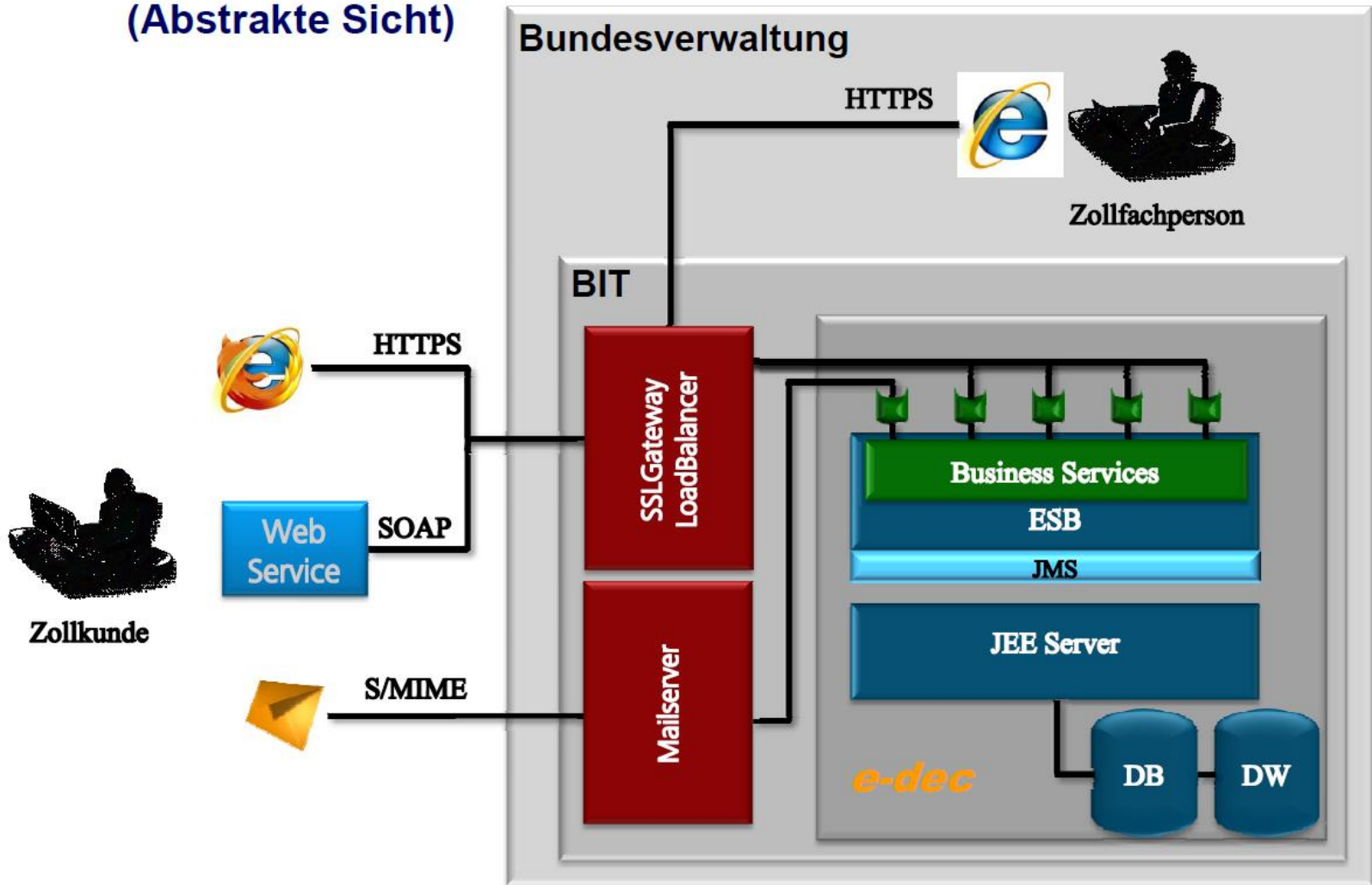
5 Jahre Entwicklung

10 Jahre Datenspeicherung

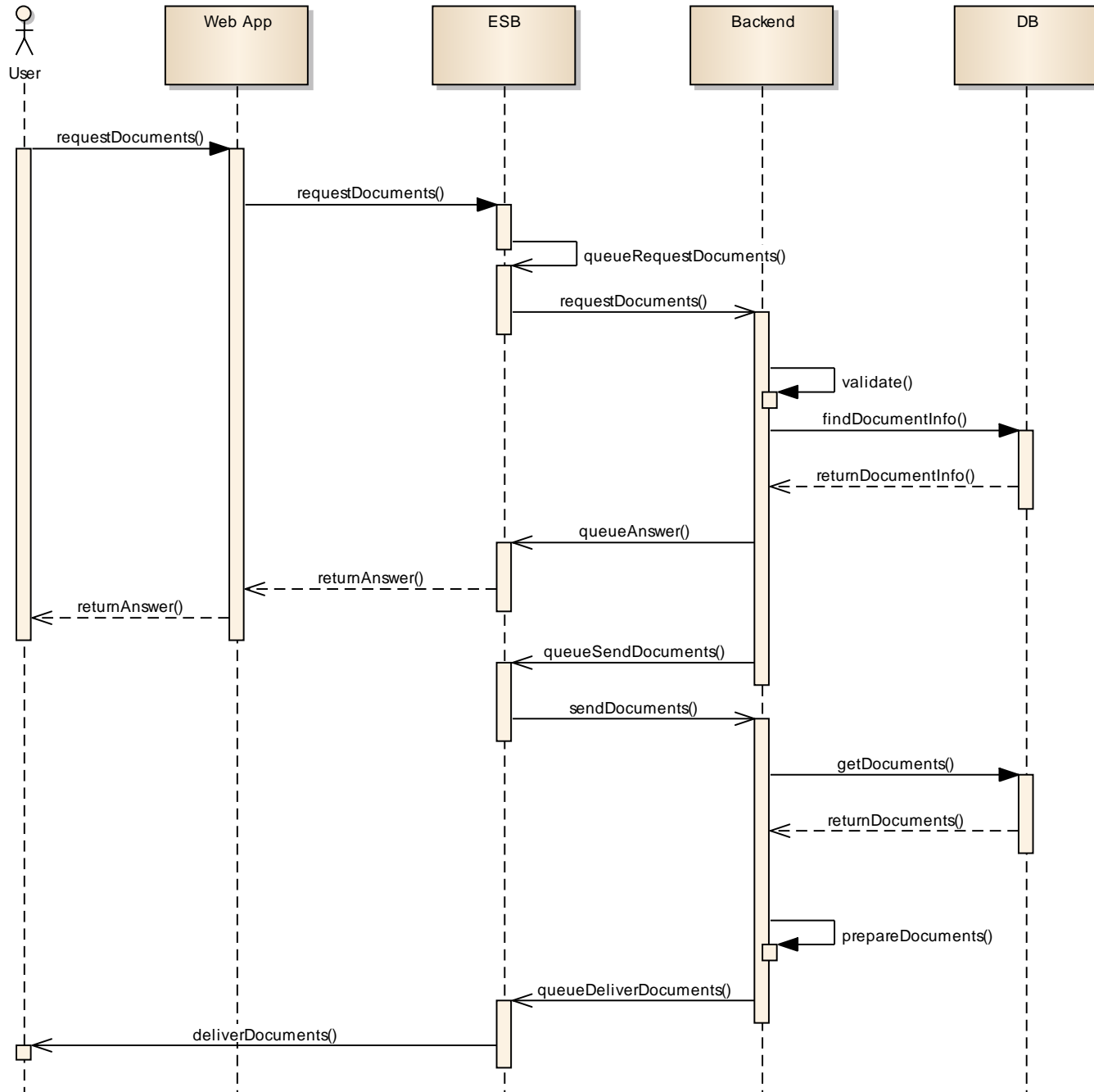
Qualitätsmerkmale von Softwaresystemen (ISO 9126)



(Abstrakte Sicht)








```

public class Zollanmeldung {

    private enum State {
        WARTEND_AUF_SELEKTION, WARTEND_AUF_MANUELLE_FREIGABE, WARTEND_AUF_AUTOMATISCHE_FREIGABE, WARTEND_AUF_INTERVENTION
    }

    private State state;

    public void release() {
        if (!state.equals(State.WARTEND_AUF_INTERVENTION)
            && !state.equals(State.WARTEND_AUF_MANUELLE_FREIGABE)
            && !state.equals(State.WARTEND_AUF_AUTOMATISCHE_FREIGABE)) {
            throw new IllegalStateException("Zollanmeldung in falschem Status: " + state);
        }

        loadPreviousVersions();

        if (state.equals(State.WARTEND_AUF_INTERVENTION)) {
            setInterventionEndUser(getCurrentUser());
            setInterventionEndReason(15);
        }

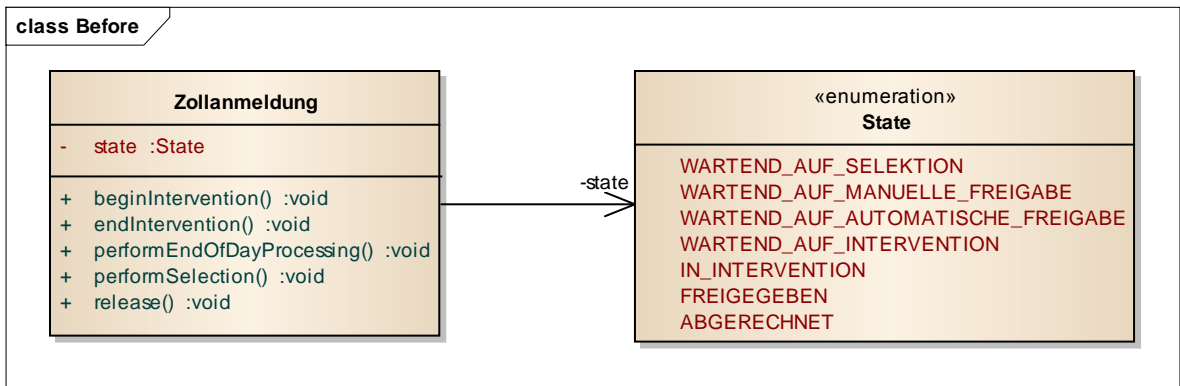
        setReleaseDate(new Date());
        setReleaseUser(getCurrentUser());

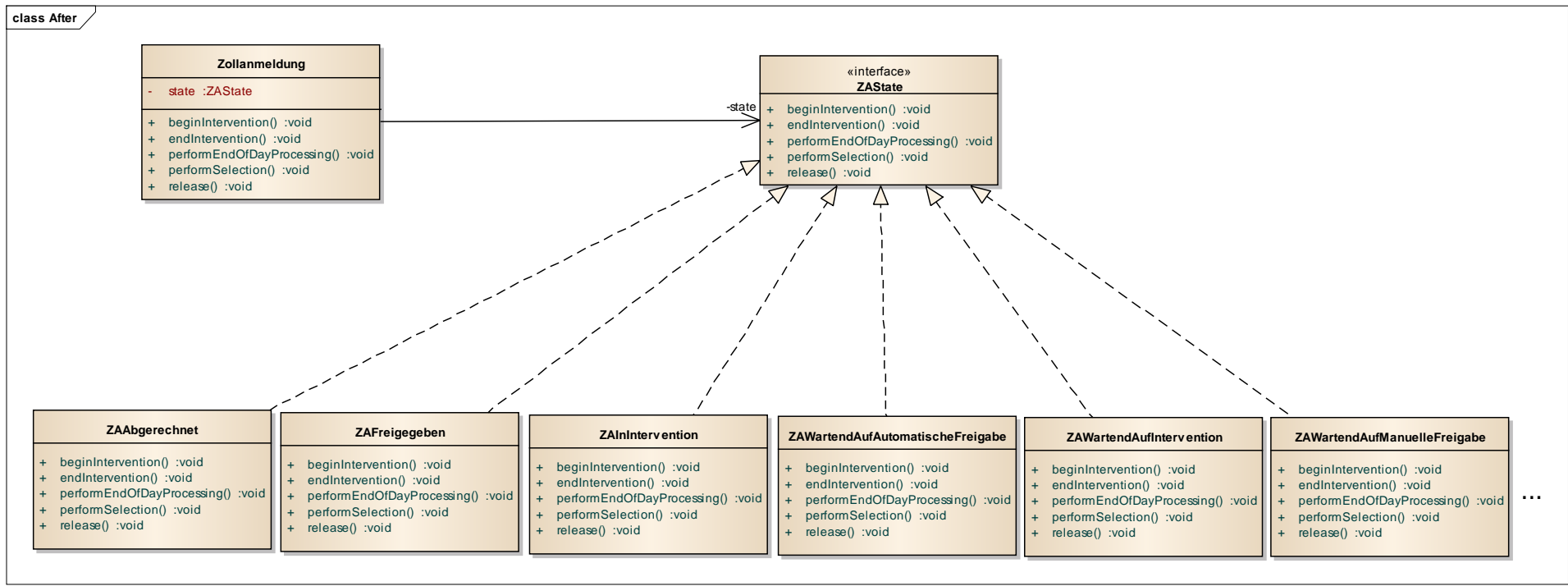
        if (state.equals(State.WARTEND_AUF_AUTOMATISCHE_FREIGABE)) {
            setTransitionTime(20);
        } else {
            setTransitionTime(5);
        }

        setState(State.FREIGEgeben);
    }
}

```

...





```
public class Zollanmeldung {  
    private ZAState state;  
  
    ...  
  
    public void release() {  
        getState().release();  
    }  
  
    public void beginIntervention() {  
        getState().beginIntervention();  
    }  
  
    ...  
}
```

```
public class ZAWartendAufAutomatischeFreigabe implements ZASState {

    private Zollanmeldung zollanmeldung;

    public ZAWartendAufAutomatischeFreigabe(Zollanmeldung zollanmeldung) {
        this.zollanmeldung = zollanmeldung;
    }

    @Override
    public void release() {
        zollanmeldung.loadPreviousVersions();

        zollanmeldung.setReleaseDate(new Date());
        zollanmeldung.setReleaseUser();

        zollanmeldung.setTransitionTime(20);

        zollanmeldung.setStateFreigegeben();
    }
    ...
}
```

```
public class ZAFreigegeben implements ZASState {
    ...
    @Override
    public void release() {
        throw new IllegalStateException("Zollanmeldung in falschem Status: 'Freigegeben'");
    }
    ...
}
```

Kennzahlen



50

Server

15

Zeilen Code

80

Klassen

26

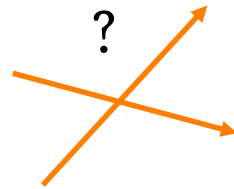
aktuelles Team

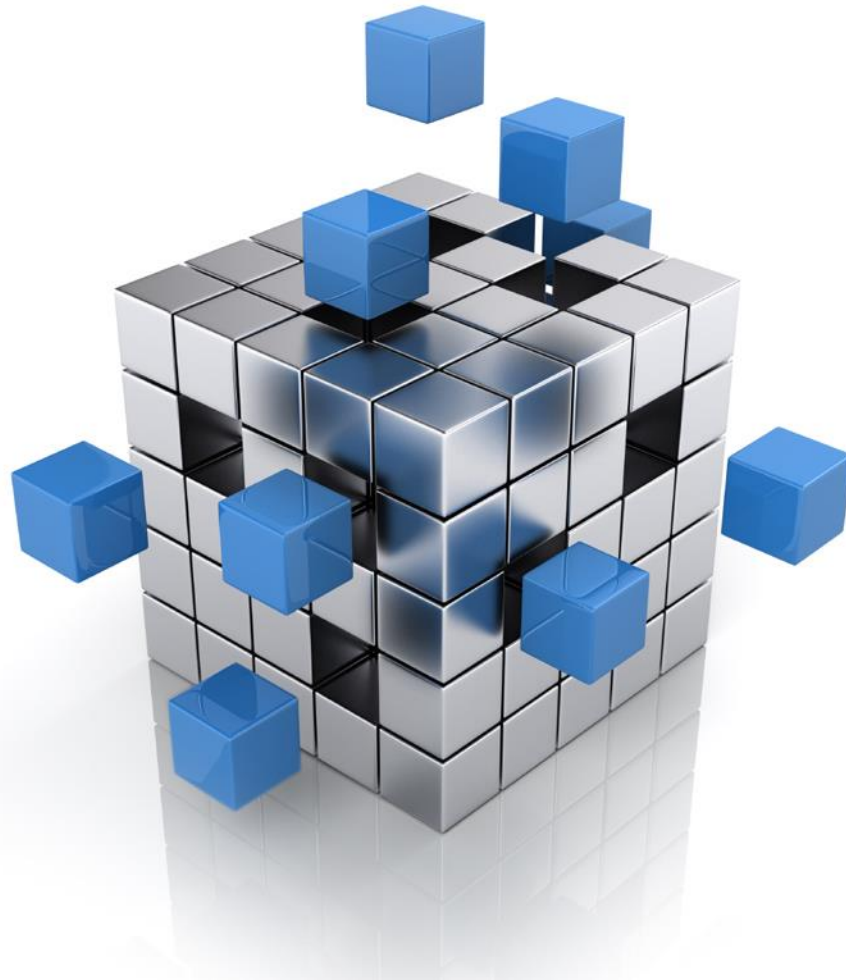
2'000

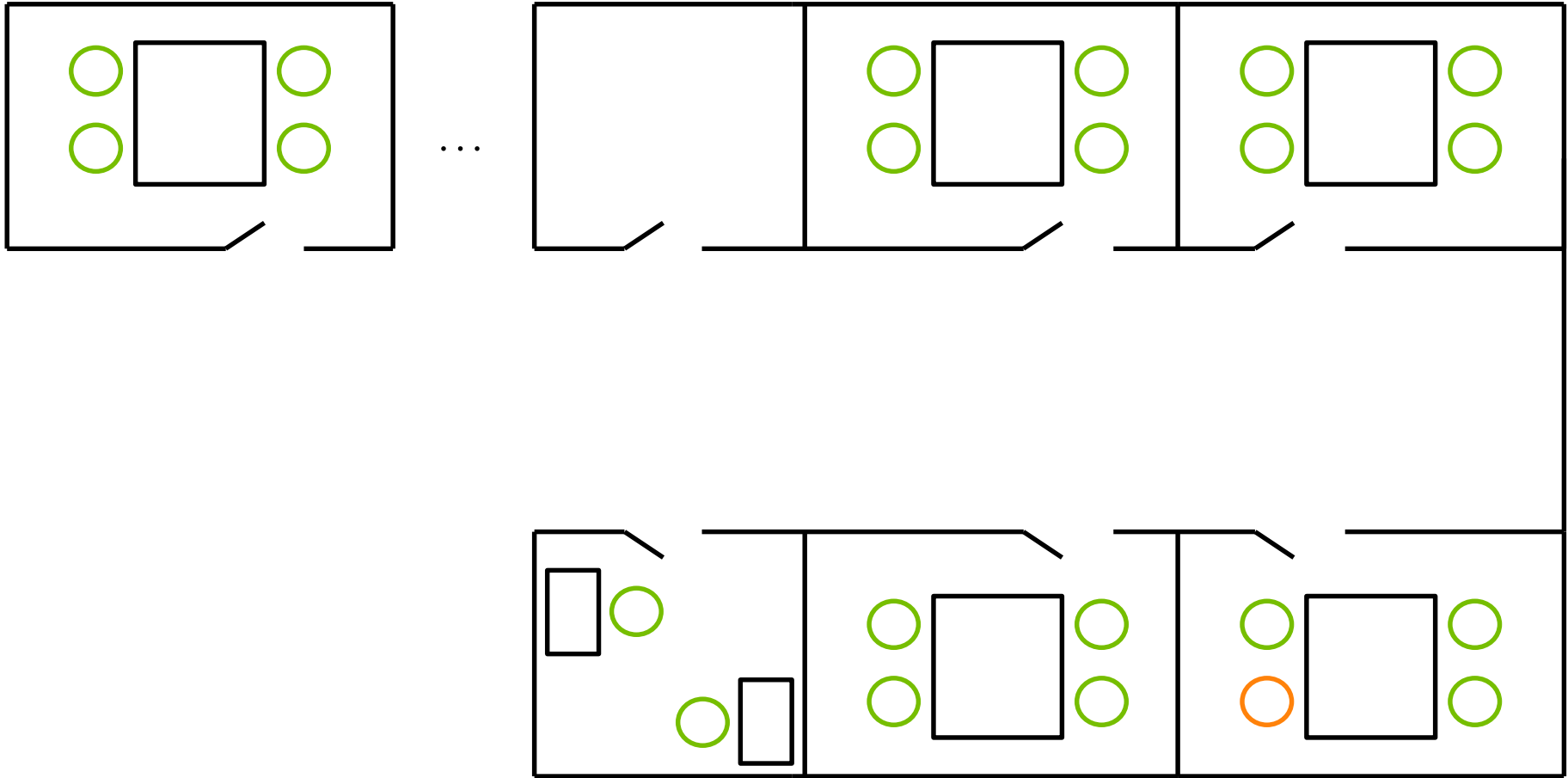
UseCases

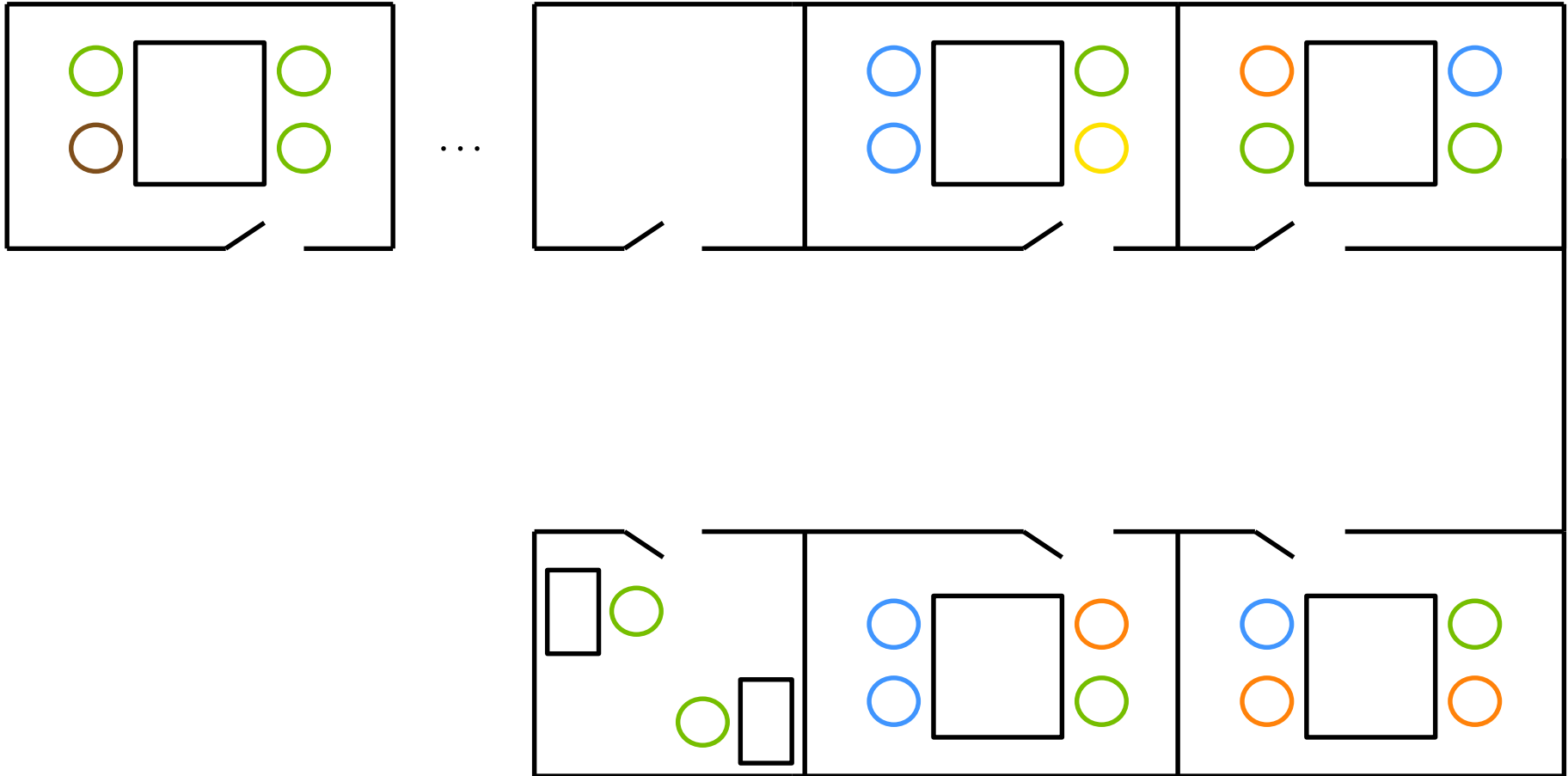
100'000

Entwickler

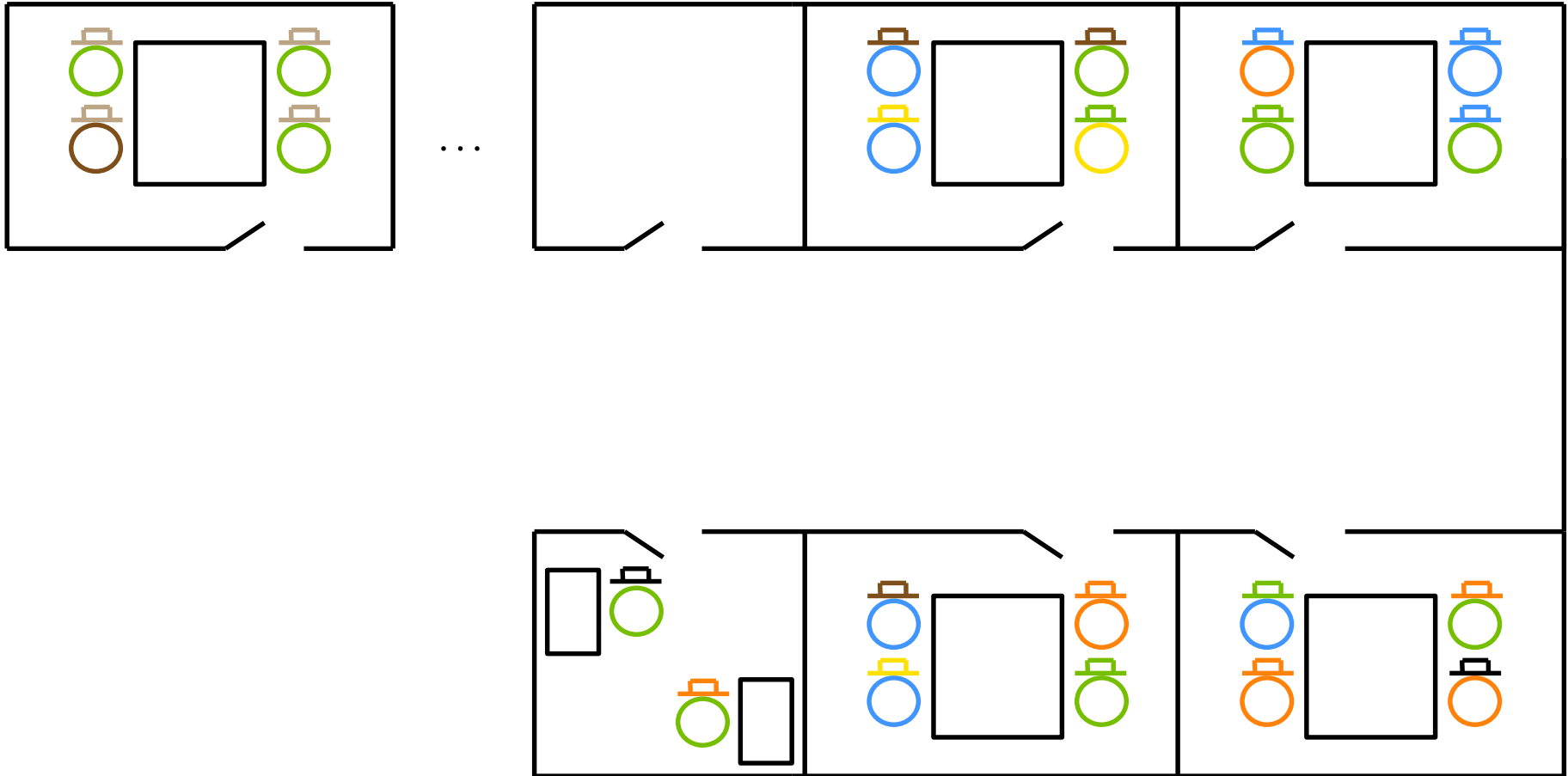






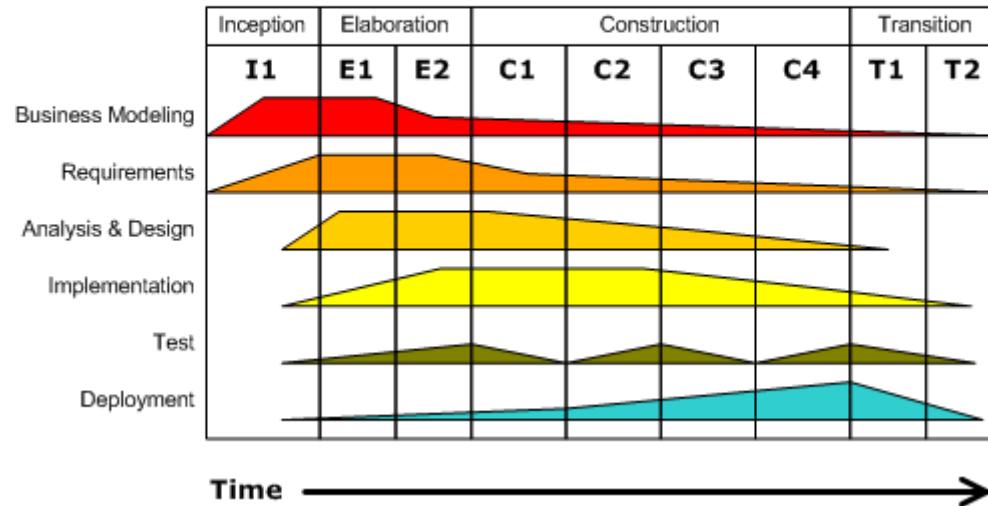


Unternehmen, Projekte

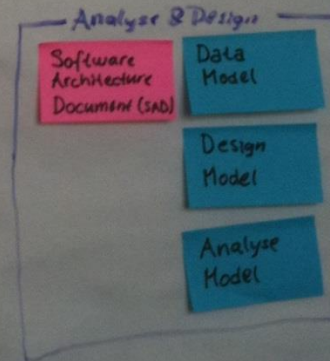
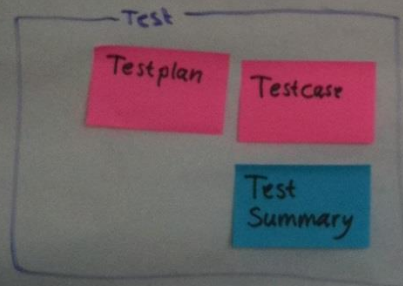
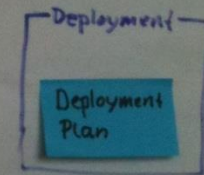
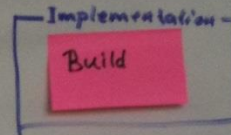
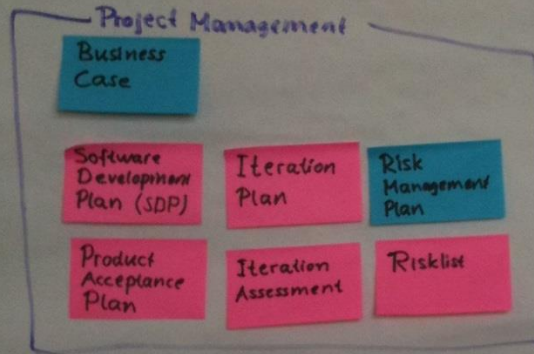
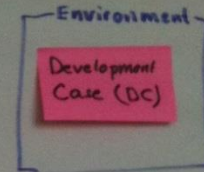
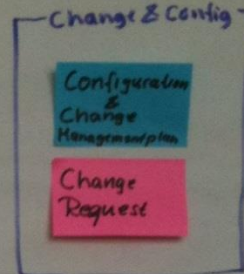
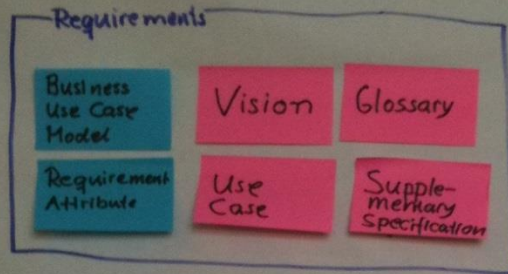


Iterative Development

Business value is delivered incrementally in time-boxed cross-discipline iterations.



Work products



Legende

Mandatory



Optional

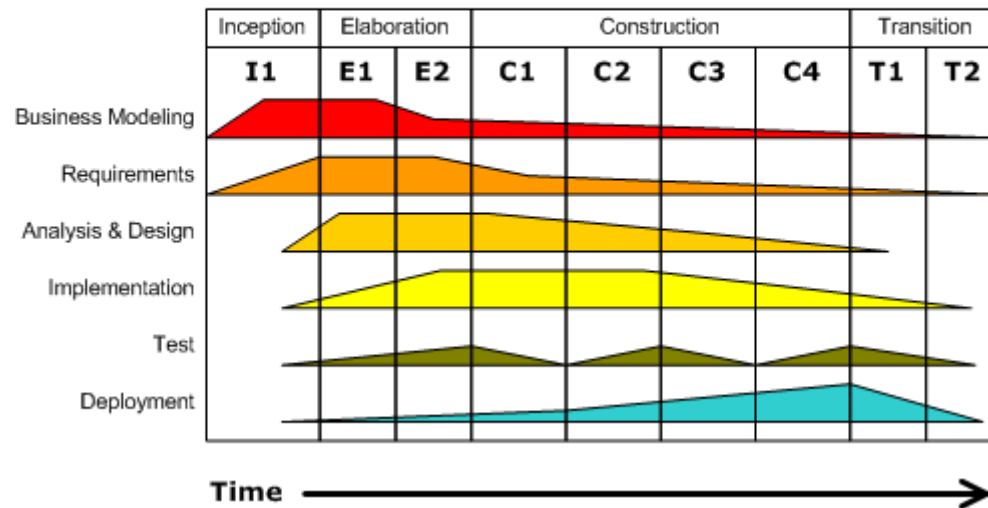






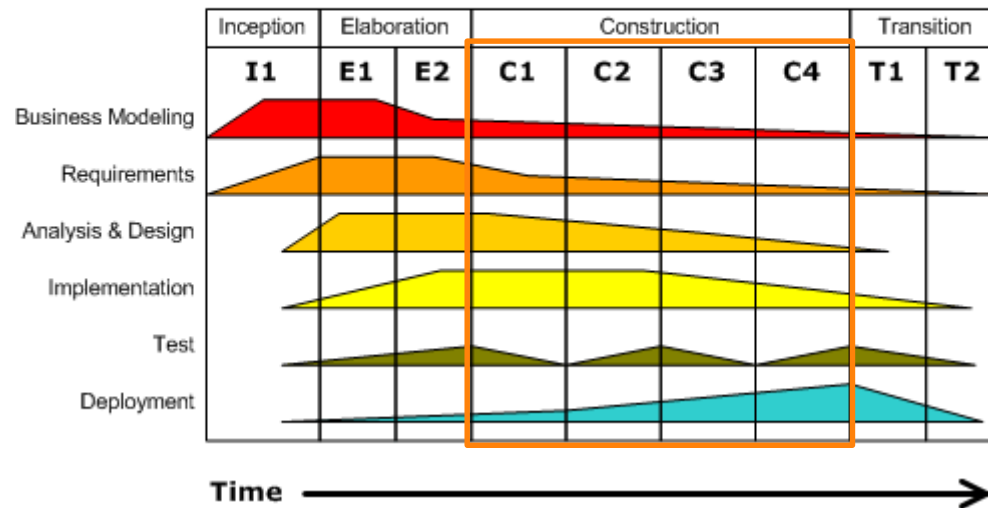
Iterative Development

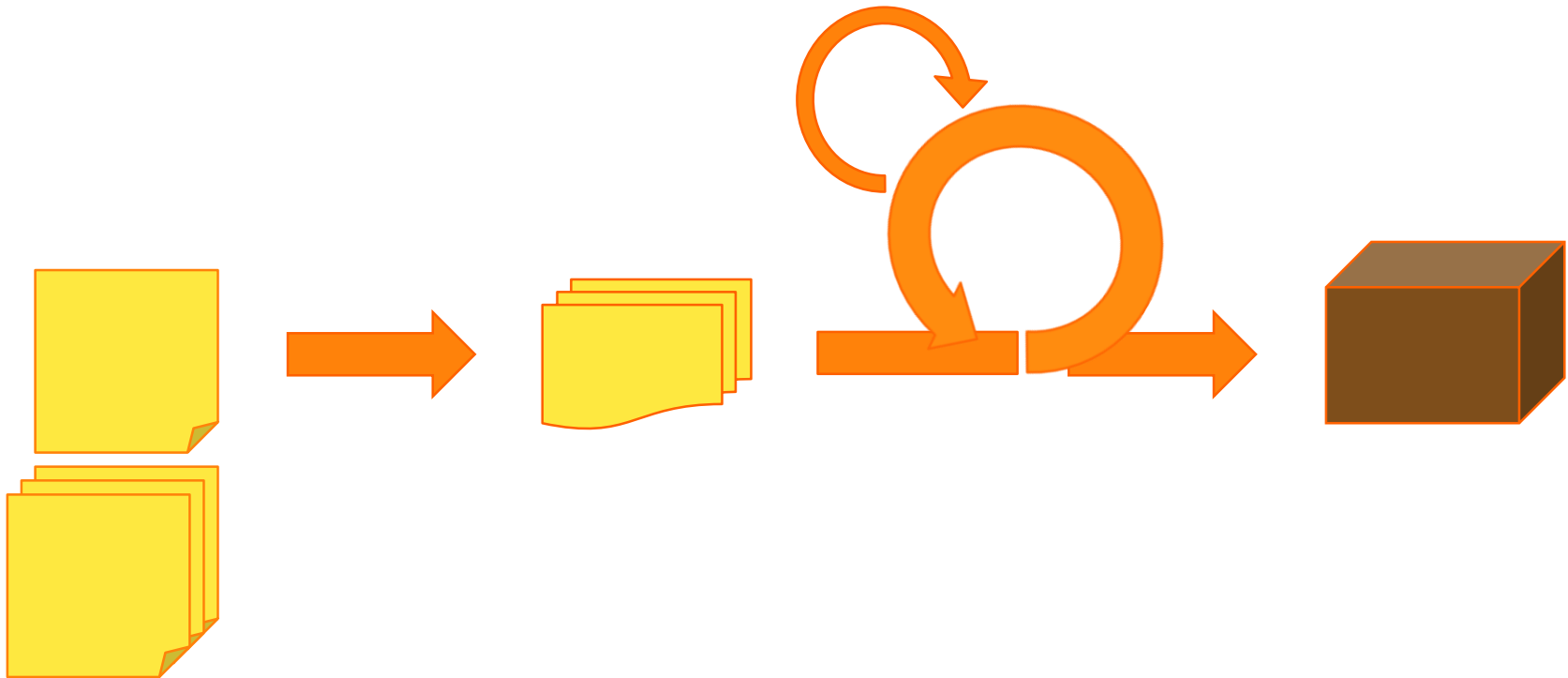
Business value is delivered incrementally in time-boxed cross-discipline iterations.



Iterative Development

Business value is delivered incrementally in time-boxed cross-discipline iterations.



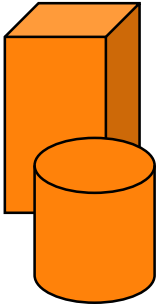






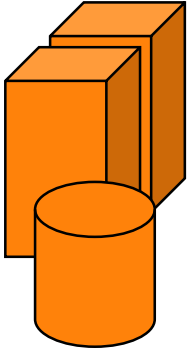


Integration



laufend

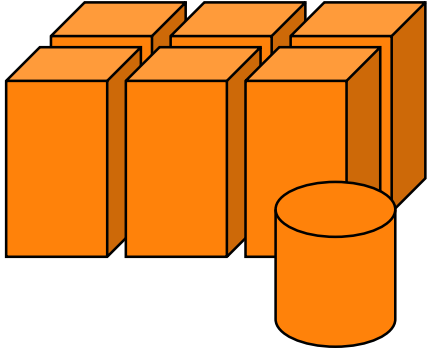
Referenz



Iteration

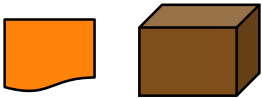
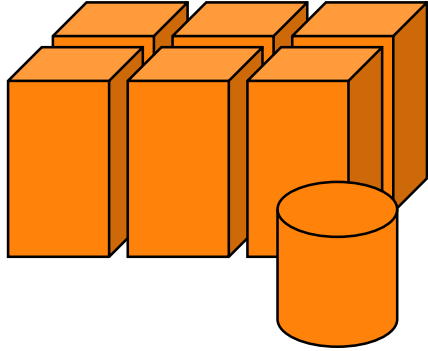


Abnahme

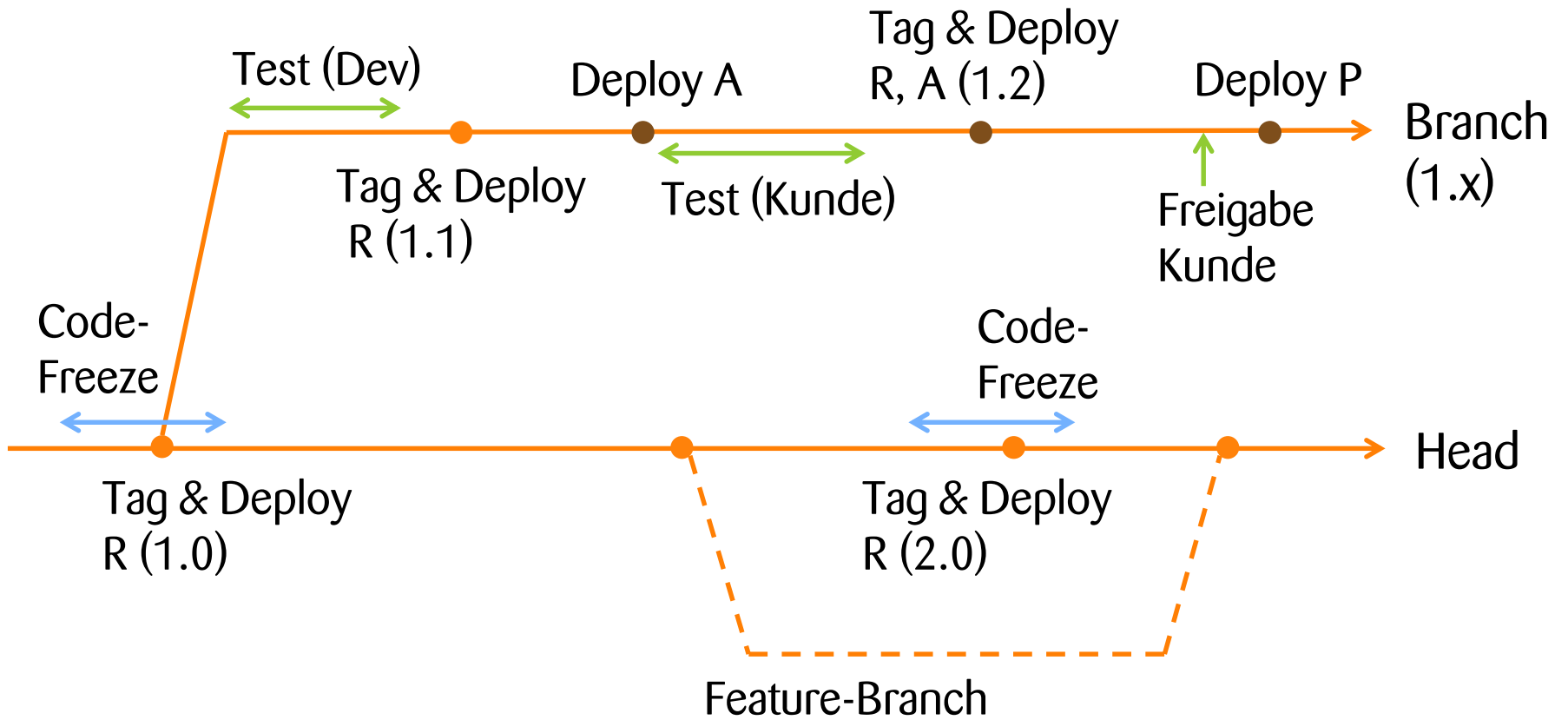


Freigabe Kunde

Produktion



Übergabe Betrieb



Continuous Integration



[edit description](#)

Build Queue	
No builds in the queue.	

Build Executor Status	
#	Status
1	Idle
2	Idle

Alle +							
S	W	Name ↓	Last Success	Last Failure	Last Duration		
●	☀	adempiere361	1 mo 2 days (#18)	1 mo 15 days (#9)	1 min 18 sec	🔄	📄
●	☀	Database	2 hr 24 min (#16)	15 days (#10)	4 min 41 sec	🔄	📄
●	☁	GermanLocalisation	N/A	15 days (#9)	53 sec	🔄	📄
●	☁	PackageFixedAssets	2 hr 3 min (#11)	12 hr (#8)	4 min 30 sec	🔄	📄
●	☀	Server2	1 hr 43 min (#103)	24 days (#44)	1 hr 37 min	🔄	📄
●	☀	Server2Stop	5 min 56 sec (#45)	23 days (#15)	0.51 sec	🔄	📄
●	☀	SilentSetup	2 hr 40 min (#15)	N/A	3 min 45 sec	🔄	📄
●	☁	TestFixedAssets	59 min (#6)	9 hr 11 min (#3)	19 sec	🔄	📄
●	☁	TestNewProductCosting	1 min 1 sec (#60)	41 min (#58)	21 sec	🔄	📄
●	☁	TestOpenbravoPOS	N/A	N/A	N/A	🔄	📄
●	☀	WebUITesting	2 hr 11 min (#173)	N/A	2 min 3 sec	🔄	📄



- Eidgenössische Zollverwaltung (EZV) - Fakten und Zahlen:
<http://www.ezv.admin.ch/dokumentation/04033/04035/index.html?lang=de>
(2016-05)
- Spezifikationen e-dec:
<http://www.ezv.admin.ch/zollanmeldung/05042/05047/05055/index.html?lang=de>
(2016-05)
- S. Hüsemann: E-Government Web Services zur Integration von Bund und Wirtschaft. Berner Architekten Treffen, Zentrum Paul Klee, Bern, Juli 2011
http://www.berner-architekten-treffen.ch/archiv/19/treffen_no19.php (2016-05)
- e-dec – service-orientiertes Import und Export System der Eidgenössischen Zollverwaltung. eGovernment Wettbewerb 2010 – Innovativste eGov Architektur 2. Platz, Berlin, 2010
<http://www.egovernment-wettbewerb.de/gewinner/gewinner-2010.html> (2016-05)